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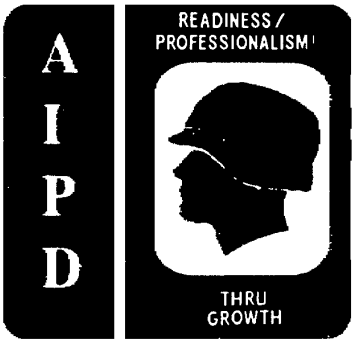
SUBCOURSE
SS0547

EDITION
6

FIELD, TELEVISION PRODUCTION

THE ARMY INSTITUTE FOR PROFESSIONAL DEVELOPMENT

ARMY CORRESPONDENCE COURSE PROGRAM



U.S. ARMY AUDIO/TELEVISION OPERATOR
MOS 84F, SKILL LEVELS 1, 2, and 3

AUTHORSHIP RESPONSIBILITY:

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FIELD TELEVISION PRODUCTION

SUBCOURSE NO. SS0547-6
(Developmental Date: 30 Jun 86)

U.S. Army Signal School
Fort Gordon, Georgia

Two Credit Hours

GENERAL

The Field Television Production subcourse, part of the Audiovisual Documentation Specialist, MOS 84F Skill Level 1 course, is designed to teach the knowledge necessary for performing tasks related to production techniques in the field. Information is provided on several tasks which are performed at increasing levels of difficulty at Skill Levels, 1, 2, and 3. The subcourse is presented in four lessons, each lesson corresponding to a terminal objective as indicated below.

Lesson 1: DEFINE FIELD TELEVISION PRODUCTION

TASK: Define field television production, describe components, functions, uses, and limitations of the Electronic News Gathering/Electronic Field Production System (ENG/EFP).

CONDITIONS: Given information and illustrations relating to field television productions.

STANDARDS: Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering television production; components, functions, uses and limitations of the ENG/EFP System.

(This objective supports STP tasks listed at the end of this section.)

Lesson 2: DEFINE PREPRODUCTION RESPONSIBILITIES FOR FIELD TELEVISION PRODUCTION

TASK: Describe preproduction activities, responsibilities, and preplanning tools.

CONDITIONS: Given information and illustrations relating to the production and preplanning tools of field production.

STANDARDS: Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering preproduction responsibilities and preplanning tools of field television production.

(This objective supports STP tasks listed at the end of this section.)

Lesson 3: DESCRIBE PRODUCTION TECHNIQUES FOR A FIELD TELEVISION PRODUCTION

TASK: Describe aesthetics of camera composition, skills of the cameraman, lighting on location, the role of audio, operator's maintenance, and safety requirements during a field television production.

CONDITIONS: Given information and illustrations relating to field television production techniques.

STANDARDS: Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering production techniques of a field television production.

(This objective supports STP tasks listed at the end of this section.)

Lesson 4: DESCRIBE LIGHTING TECHNIQUES FOR A FIELD TELEVISION PRODUCTION

TASK: Describe aesthetics of lighting techniques on location, and safety requirements during a field television production.

CONDITIONS: Given information relating to lighting techniques during a field television production.

STANDARDS: Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering aesthetics of lighting techniques on location and safety requirements for lighting of a field television production.

(This objective supports STP tasks listed at the end of this section.)

Lesson 5: DEFINE THE POSTPRODUCTION PHASE OF A FIELD TELEVISION PRODUCTION

TASK: Describe postproduction activities, viewing raw footage, editing, aesthetics, operator's maintenance, and preparing a postproduction package.

CONDITIONS: Given information and illustrations relating to postproduction.

STANDARDS: Demonstrate competency of the task skills and knowledge by correctly responding to 80 percent of multiple-choice test covering postproduction activities.

(This objective supports STP tasks listed at the end of this section.)

THE OBJECTIVES FOR THIS SUBCOURSE SUPPORT STP TASKS:

113-577-1050	Operate Electronic News Gathering System/Electronic Field Production Components (ENG/EFP)
113-577-2033	Frame and Compose Pictures for Television
113-577-4029	Operate Videotape Cassette Recorder/Reproducer
113-577-1047	Establish Lighting Requirements for a Television Production
113-577-1053	Establish Audio Requirements for Audio or Television Production
113-577-1057	Establish Personnel Requirements for a Television Production
113-577-2035	Direct a Television Production
214-177-1421	Write News/Sports Copy
214-177-1422	Write Broadcast Feature Copy

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Whenever pronouns or other references denoting gender appear in this document, they are written to refer to either male or female unless otherwise indicated.

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INTRODUCTION TO FIELD TELEVISION PRODUCTION TECHNIQUES

Field production work is demanding. Not all rules of studio television apply to field television production. Portable equipment can be used entirely for field production work. An Audio/Television Specialist requires knowledge in the use of portable television systems and associated capabilities to operate these units in the field. Personnel, lighting, power, and audio requirements in the field can differ from those in the studio. The soldier should be flexible in applying techniques to the production at hand.

LESSON 1
DEFINE FIELD TELEVISION PRODUCTION

TASK

Define field television production, define components, functions, uses, and limitations of the Electronic News Gathering/Electronic Field Production System (ENG/EFP) system.

CONDITIONS

Given information and illustrations about terms relating to field television productions.

STANDARDS

Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering television production, components, functions, uses, and limitations of the ENG/EFP system.

REFERENCES

None

Learning Event 1:
DEFINE TV FIELD PRODUCTION, THE PORTABLE EQUIPMENT AVAILABLE, ON-THE-JOB PRESSURES AND VARIOUS MISSIONS.

1. Field productions can be demanding, tough and challenging. It takes a special kind of person to work in remote, dangerous or unusual places. Field productions are on-site television productions. They can be produced outdoors, at a remote or a nearby location, or indoors, but not in a studio. A soldier may be on the road half a year or more shooting various assignments. Or a soldier could be assigned to a COMDOC team (Combat Documentation), aptly described as photography with bullets flying.

Figure 1-1. An outdoor field television production

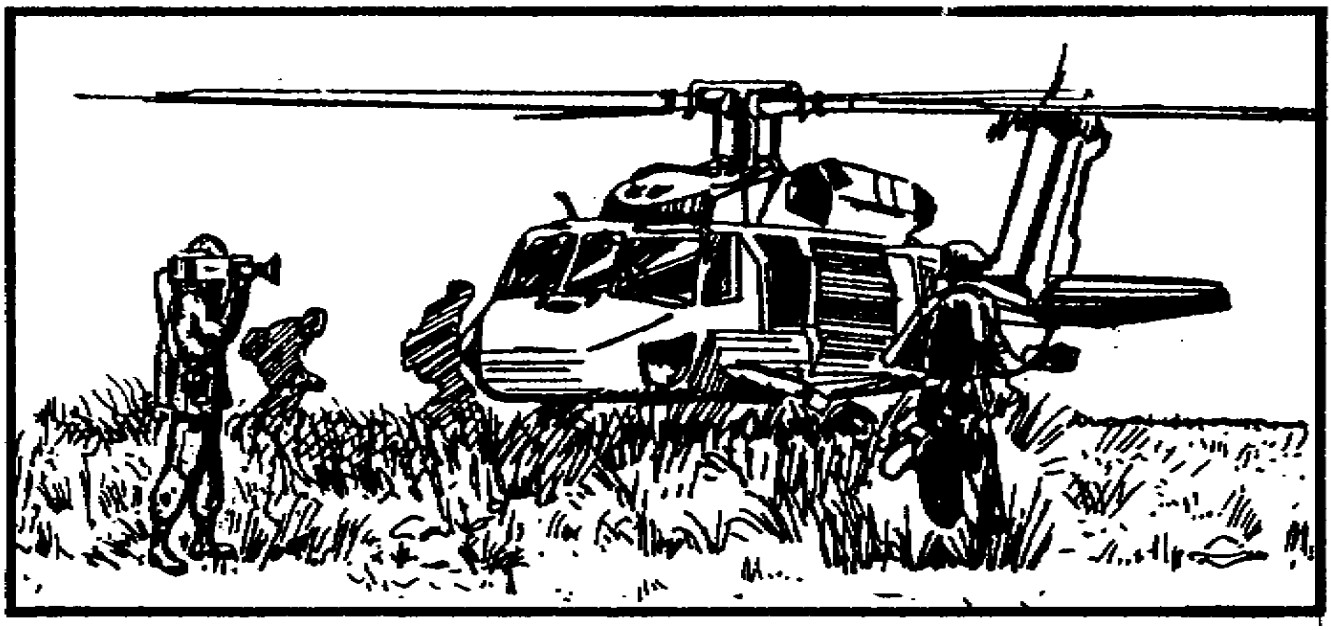

Figure 1-2. A combat pictorial detachment team member "on the road"

2. Maintaining audience interest is a challenge. Convey your dry material with a fresh and new approach, and capitalize on your unusual or exceptional

material. Remember, the production is not for the crew to watch but for the audience.

a. A field production is as truly a production as one in a studio, requiring high standards and professional attitude. The director is totally dependent on the cameraman in field productions for all-around footage. There are no retakes during spontaneous uncontrolled action. If his cameraman misses a shot in the studio, the director may switch to another camera, but this is not possible in the field.

b. Documentation teams in the military gather information quickly and efficiently. These videotapes may be used for training, briefings, or for medical or military operations. Documentation allows a commander to observe the strengths and weaknesses of his troops which may be helpful for future battlefield assessment. Medical personnel can view medical videotapes of procedures in the field. Recruiters use videotapes to brief individuals on different Army MOS and their respective schools. Some of the uses of documentations are:

(1) Videotaping field medical procedures to furnish visual and audio information of immediate value.

(2) Military police documentation for audiovisual support for investigations, and POW identification.

(3) Military operations documentation may be of value to commanders for use in generating ideas, conducting and evaluating combat or combat support, and is useful for staff studies.

(4) Technical intelligence documentation consists of coverage of items of material and equipment of intelligence value.

(5) Psychological operations audiovisual support provides suitable material essential to PSYOPS.

(6) Audiovisual combat support teams provide aerial documentation for commanders to plan and verify deployments.

(7) Training support is a primary mission in peacetime, necessary to maintain readiness.

(8) Remote equipment can be used in surveillance, recording terrain and other features or documenting a hazardous area.

(9) Briefings give personnel a rapid presentation of a particular situation. A videotape can replay pertinent data to the performance of a particular mission.

(10) Military events and ceremonies require documentation, with operation of portable equipment on location for parades, awards, retirements and special events.

Figure 1-3. Electronic Field Production

3. Technical advances have resulted in a unique market of quality portable equipment. The director has a large choice from which to choose for his field production. There are remote vans, camcorders, ENG/EFP systems, microwave links, low light level cameras and mobile units such as small vans, lightweight trucks or station wagons. Portable TV equipment is lightweight, flexible, and easily transported. It is becoming smaller and lighter. Today, the wristwatch television is a reality.

a. Sometimes it is out of the question to simulate outdoor action in a studio. Imagine recording a 30-minute documentary on white water rafting in a TV studio. Hollywood has facilities and a budget for such events. Military television facilities, however, do not have a "Hollywood" budget. As a rule, uncontrolled action is recorded outside the studio.

b. The remote van is a compact system used in outdoor productions. A small, but effective, control room has been erected inside the van (fig 1-4). Essentially a remote van is a full-broadcast facility with cameras on wheels.

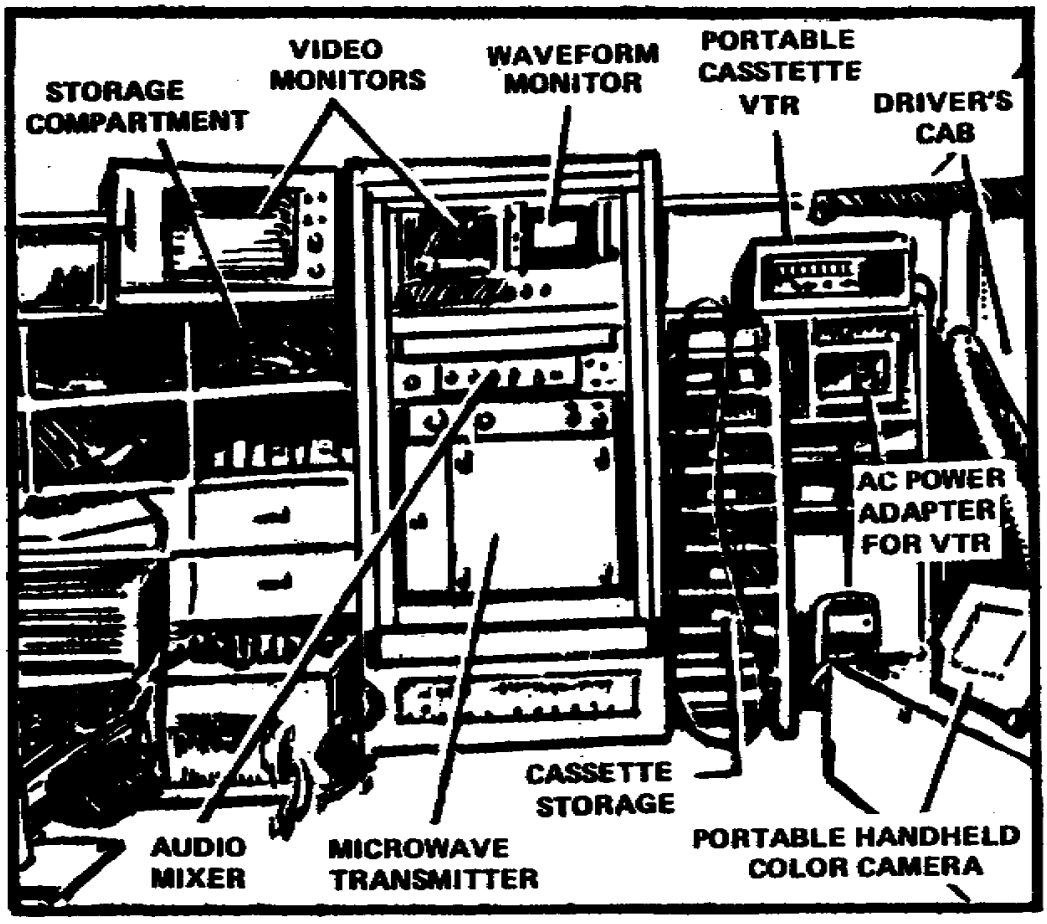

Figure 1-4. Interior of EFP mobile unit

c. The medium-sized van (fig 1-5) is easy to drive and to park. The microwave antenna atop the truck is folded for travel. Interior of the unit contains microwave transmitter, production equipment and supplies.

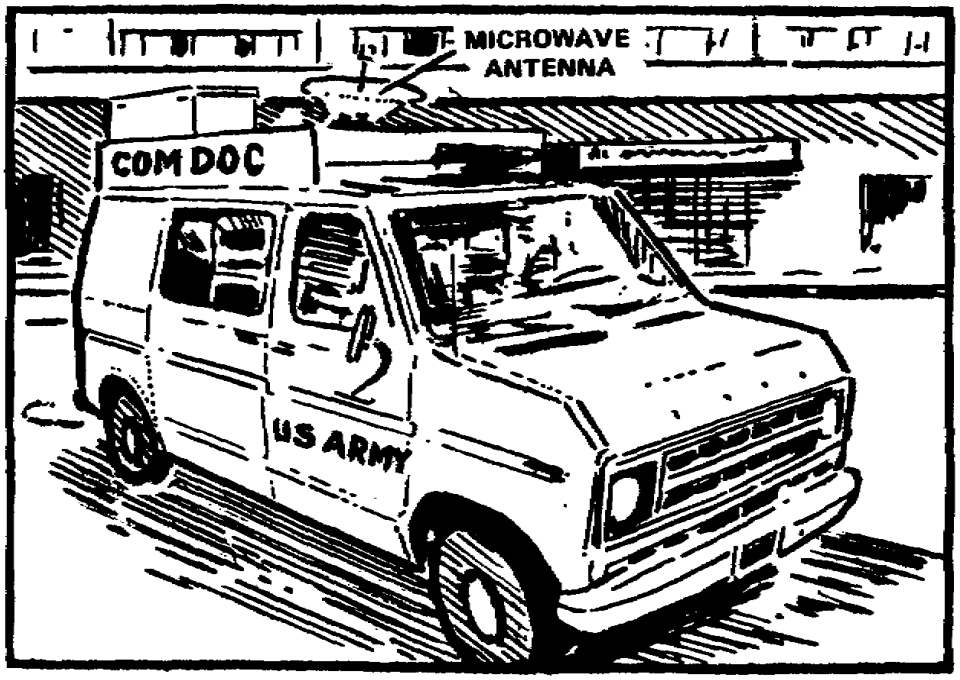

Figure 1-5. Exterior of EFP mobile unit

d. The biggest systems for remotes can be mounted in large trucks or trailers. These units provide a full broadcast standard production facility. Microwave links relay program material.

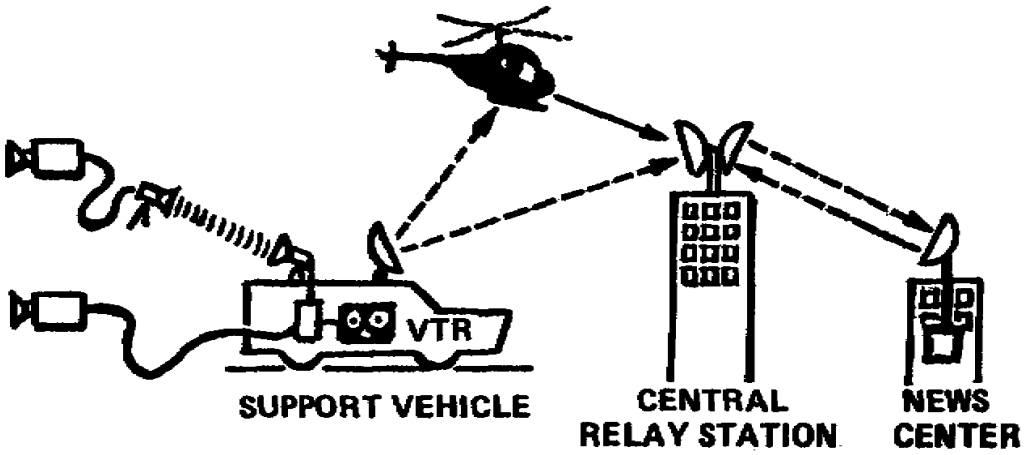

Figure 1-6. Microwave links relaying program material

e. Small van units, lightweight trucks and station wagons are an alternative to the remote van. Versatile designs often include arrangements for roof-mounted cameras. These do not have full broadcast capabilities.

f. ENG/EFP means Electronic News Gathering/Electronic Field Production. The basic ENG system consists of two components, a portable camera and a recorder, with either a side case (fig 1-7) or a back pack (fig 1-8). Field productions originate outside the studio. They are called on-site, on-location, or remote productions.

Figure 1-7. EFP system with sidecase

Figure 1-8. EFP system with backpack

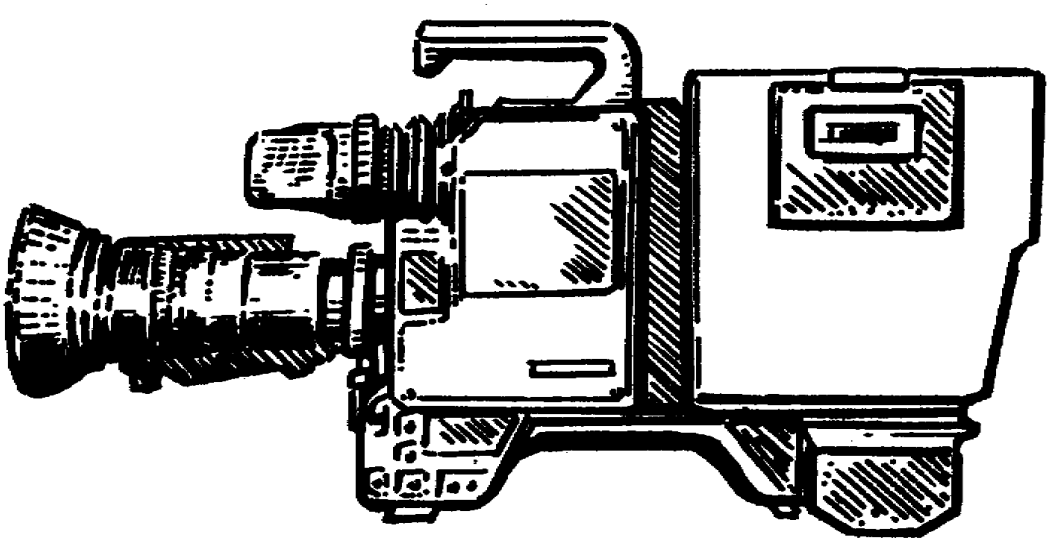

Figure 1-9. A combination camera/recorder

g. Technology has fashioned a combination camera/recorder (fig 1-9). One person can carry this one-unit, lightweight camcorder.

(1) Some of the new television applications in military training are training, briefing, and surveillance. Portable TV equipment can be an effective tool for commanders to train troops. You may be tasked to videotape training "on location."

(2) A majority of education and training situations in the military use the demonstration or "show and tell" method of instruction. For example, portable equipment can reduce the need to move troops from one part of a post to another, preventing costly maneuvers and in some cases, saving time by releasing troops quickly to perform their missions.

(3) A briefing is intended to give personnel a rapid presentation of a particular situation. For example, in a tactical situation, remote television equipment can record all pertinent data to the performance of a particular mission or task and be played back at another location with a speed and versatility that is not otherwise possible.

(4) Remote equipment can be easily adapted for surveillance in tactical situations. Remote television equipment will record terrain and other features of a given area that can be used to support troop maneuvers.

h. The Electronic News Gathering (ENG) assignment is a challenge. Civilian crews record news, e.g., the crisis, the surprise, the emergency or natural disaster. The ENG operator, on the job, tapes an eyewitness account of newsworthy events. The cameraman is like an objective reporter. Shooting uncontrolled action requires quick reflexes because the action occurs only once. Pressure is intense. Time, or lack of it, causes difficulty by increasing the psychological pressure. The need to get shots in some sequence, at the moment the action occurs, and maintaining objectivity, can generate stress.

(1) Solo, you without help must shoot the scenes in order, taking great care to obtain all key shots, necessary background shots and extra footage for editing purposes. You, alone, must quickly record or document all required footage. There are no retakes shooting uncontrolled or spontaneous action. You may shoot uncontrolled action on foot, in the air, or on water. In other words, one cameraman is doing the work of two or three individuals.

(2) ENG camera coverage usually conveys real life events. Generally, there is more emphasis on the picture or video, than the audio. How can you write a script for an explosion three days in advance? There may be just enough time to grab your camera and head for the site. ENG scripts are often written after the fact. These scripts have a straight reporting style and should be objective. The director may not have a basic storyline but may insert portions of video to complete a whole production. ENG coverage may contribute only a fragment of the entire production.

i. On the other hand, Electronic Field Productions (EFP) usually have more structure or plot than the ENG production. These include documentaries, instructional programs, documentation of medical techniques, and even enter-

tainment. Due to time constraints, production standards, in general, are higher for EFP and lower for ENG. Even though EFP productions do not require immediacy, there are time constraints.

(1) Since the EFP production is more structured, the crew is larger. The EFP crew, in the military, is generally a two or three-man team (fig 1-10).

Figure 1-10. An EFP crew

(2) Lightweight and hand-held camera equipment is usually battery powered from a rechargeable battery belt containing silver-zinc nickel-cadmium cells with options for the use of an onboard generator, an inverter supplied by the vehicle generator, a battery system, or powerlines (main supply).

(3) Videocassettes and cartridges have flooded the market, some with quad features and others using the helical format. The newest addition to the family of VTRs is the much heralded videocassette or cartridge. Born out of speculations in the education and home entertainment markets, the videocassette (cartridge) is off to a roaring success. It is a self-contained cassette or cartridge, somewhat larger than the common audio cassette which when inserted in the appropriate machine, records or plays back hours of color programming and sound through any conventional television system.

> NOTE: Be sure to insert the record button or "little red button" into the videocassette top. Without the little red button, you cannot record.

(4) The main purpose of a tripod (fig 1-11) is to hold the camera steady at the height that gives the camera a good angle or view of the scene. For this purpose alone almost any tripod will do, from the cheapest 35mm still camera tripods sold in the photo shops, and the rather overpriced tripods sold by some of the large video equipment manufacturers like Sony, to the expensive tripods you can buy from movie and TV supply houses. As a general rule, the more sturdy and expensive the tripod, the easier it is to operate. There are two important parts of any tripod, the legs, and the head, or top portion, on which the camera is mounted. Several hundred pounds of camera can be supported on substantial tripod legs, but you may be more interested in how much weight they will add if you're planning to lug the tripod around. The tripod should let you move the camera to follow or concentrate on the action in a scene. This is where the quality of the tripod head comes in. If you want to tilt the camera mounted on the tripod up or down or to the left or right, while the camera is in use, you need to make the transition smoothly. The quality and style of the head are very important in order for you to achieve smooth transition.

(5) Camera clamps. The panning head may be clamped to a firm tubular-rail structure at a vantage point (fig 1-12).

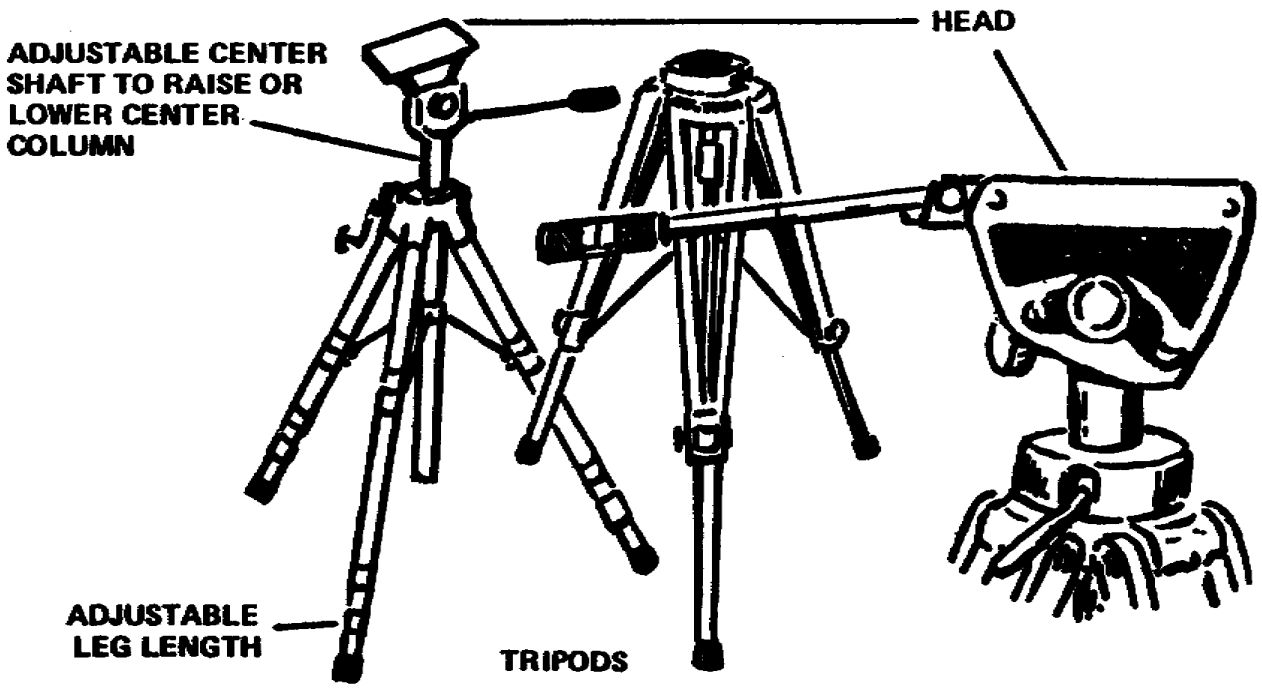

Figure 1-11. Tripods

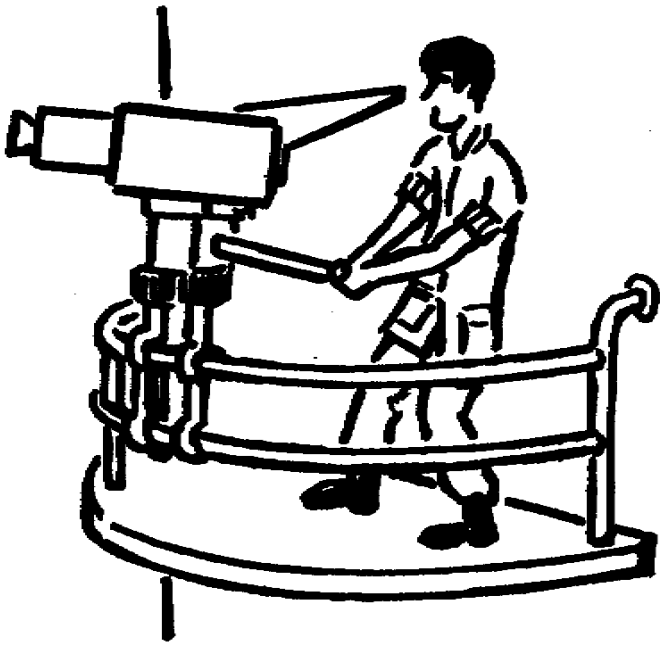

Figure 1-12. Camera clamps

Lesson 1
PRACTICE EXERCISE

1. What does ENG/EFP mean?

   a. Electrical News Guide/Electrical Frequency Presentation
   b. Electronic Newscast Graphics/Electronic Fieldgrade Performance
   c. Electronic News Gathering/Electronic Field Production
   d. Eyewitness News Group/Eyewitness Field Presentation

2. What are the two basic components of the ENG/EFP system?

   a. Camera and tripod
   b. Camera and viewfinder
   c. Video cassette and camera
   d. VTR and camera

3. What is the main role of the ENG operator?

   a. Talent
   b. Objective reporter
   c. Artist
   d. Still photographer

4. What is a term for the combination VCR camera and recorder?

   a. Camera/recorder
   b. Camcorder
   c. Recam
   d. Recordcam

5. How many chances do you have to shoot uncontrolled action?

   a. Two
   b. One
   c. As many as required by the director
   d. As many as your supply of tape allows

6. What type of events do ENG cameras usually cover?

   a. Real life
   b. Fiction
   c. Studio productions
   d. Combat footage

7. What generally powers the portable camera in field productions?

   a. VTR escutcheon
   b. RF amplifiers
   c. Nickel cadmium batteries
   d. Electromagnets

8. What is the purpose of the little red button?

   a. To protect the photoelectric surface
   b. To act as a stop button
   c. To aid in scan conversion transfer
   d. To act as a safety device and aid in recording

9. What is the purpose of the tripod?

   a. To help the operator focus the zoom lens
   b. To hold the camera steady at a height that gives the camera a good angle of view of the scene
   c. To tilt and pan
   d. To dolly and truck

10. Why should you try to convey "dry" material with fresh approach?

   a. Because protocol requires this
   b. Because it's implied in audiovisual regulations
   c. Because you need to reinforce objectivity
   d. Because boring productions will not hold audience attention

11. What are some of the equipment choices for a field production?

   a. Dimmer boards, tripods, dollies and microphones
   b. Mobile units such as small vans, lightweight trucks and ENG/EFP system
   c. Time base correctors, pedestals and AC power adaptors
   d. TV monitors, video tape players, and slide projectors

12. In terms of equipment, what is essential for video taping in a disaster area?

   a. High profile, low mobility
   b. Low profile, high mobility
   c. Fast and accurate
   d. Quick and clean

13. What are the applications of television in military training?

   a. Training only
   b. Maneuvers
   c. Furnish video and audio information
   d. Education, surveillance, and briefings

14. Which of the following elements are used in field television equipment?

a. Backpack, ENG/ENP system, remote dolly, rechargeable battery
b. Lightweight coaxial cable, pistol-grip, large-scale remote VTR
c. Microwave links, ENG/EFP system, remote vans, mobile units
d. Videocassette camera, moving vehicle, vidicon tripod

15. What allows an ENG mobile unit to relay video information?

a. Broadcast-quality closed circuit
b. Waveform monitor
c. Time base corrector
d. Microwave transmitter

16. Which of the following are terms for field productions?

a. Portable productions, hand-held
b. Mobile unit photography, generic video
c. Remote productions, on-site
d. Divisional photography, vicinity video

17. Why is a bodybrace used?

a. Safety
b. To increase stability of portable cameras
c. To prevent damage to the equipment
d. To give the director a better shot

18. Which of the following have made changes in the ENG/EFP industry possible?

a. Portable vans and videocassettes
b. Portable cameras and backpacks
c. Modern circuitry and miniaturization of TV pickup tubes
d. Minicams and instacams

Lesson 1
ANSWERS TO PRACTICE EXERCISE

1. c, Electronic News Gathering/Electronic Field Production

2. d, VTR and camera

3. b, objective reporter

4. b, camcorder

5. b, one

6. a, real life

7. c, nickel cadmium batteries

8. d, to act as a safety device and aid in recording

9. b, to hold the camera steady at a height that gives the camera a good angle of view of the scene

10. d, because boring productions will not hold audience attention.

11. b, mobile units such as small vans, lightweight trucks and ENG/EFP system

12. b, low profile, high mobility

13. d, education, surveillance, and briefings

14. c, microwave links, ENG/EFP system, remote vans, mobile units

15. d, microwave transmitter

16. c, remote productions, on-site

17. b, to increase stability of portable cameras

18. c, modern circuitry and miniaturization of TV pickup tubes

LESSON 2
DEFINE PREPRODUCTION RESPONSIBILITIES FOR
A FIELD TELEVISION PRODUCTION

TASK

Describe preproduction activities, responsibilities, and preplanning tools.

CONDITIONS

Given information and illustrations relating to the preproduction and preplanning tools of field television production.

STANDARDS

Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering preproduction activities, responsibilities, and preplanning tools of field television production.

REFERENCES

None

Learning Event 1
DESCRIBE PREPRODUCTION PLANNING, THE NEED FOR PLANNING, STATING THE OBJECTIVE IN A MISSION STATEMENT AND/OR TREATMENT AND THE DIRECTOR'S ROLE

1. Planning is the first step in your production. Without proper planning time, money and manpower will be wasted. Lack of planning translates into confusion, even crisis, resulting in inoperable equipment, inadequate crew or illogical scripting. Preproduction is the time prior to production when the director selects equipment and personnel, outlines a tentative schedule, and ensures that a script or shooting outline is written. The director visualizes and develops camera shots. Preproduction can require more time and effort than production itself. There are three questions the director must answer: Who is your audience? What will the tape be used for? Will you use a script or a shooting outline?

2. The director must also have an equipment inventory, a meticulous list of all equipment and accessories. The checklist must be 100 percent accurate. Without adequate operational equipment, you cannot videotape a production. If the crew is careless, or in a hurry, vital equipment may be left behind. Once you are on site, it is not possible or practical to return to the shop. If the equipment is missing or inoperable, you are out of luck.

Figure 2-1. The director is "the boss"

3. The director must be a forceful and creative individual to survive. It is on his ambition and authority that things happen. Television production is a "team effort" with one boss (fig 2-1). That boss is the director.

a. In preproduction, the director has the bulk of preproduction responsibilities. Key responsibilities include developing an equipment inventory and checklist, selecting personnel, and ensuring script or shooting outline is written. If practical, the director will perform a remote survey or on-site survey. After the script or shooting outline is finished, the director begins to visualize his key camera shots. He literally pictures the production in his mind.

b. A mission statement is a clearly stated objective. It defines the purpose, goal, or objective. The director answers the question, what is the mission? When writing the mission statement, know what the tape will be used for and what the message will be. The director must know what the viewer will be able to glean from the final tape; information, instruction, or entertainment. A program works best when it gives a combination of all three.

c. In preproduction meetings, the director will explain the mission to the crew. One purpose of this meeting is to give the cameraman a scene-by-scene breakdown of the footage expected. Plan preproduction strategies during the meetings. Time frames, deadlines, visual style, and standards will be spelled out; a briefing given on the location, equipment to be used, and personnel on the crew. During preproduction meetings, the script or shooting outline is a rough sketch of what the cameraman will videotape. The director then outlines a tentative schedule. If, however, your director is very general about what is expected; then you are on your own. At times like that it is best to shoot for who, what, where, why, and how.

d. A remote survey describes in detail the remote site and discloses general conditions. Scouting the location before hand is an excellent idea. The following is an example of pertinent questions to ask:

(1) Where is the exact location? (Address or grid coordinates.)

(2) Where is the nearest telephone, if any?

(3) Who is the Point of Contact (POC)?

(4) When is the production to be shot?

(5) What are the power requirements?

(6) What are the camera positions, cable runs?

(7) What are the lighting requirements?

(8) Does available light need to be supplemented?

(9) Is a portable lighting kit needed?

(10) Are there large objects or buildings blocking the camera's view?

(11) What will be the location of the sun?

(12) Where will the major action areas be shot?

(13) Is a generator needed to power the lights?

(14) What are the transportation arrangements?

(15) Is it necessary to make arrangements for meals, overnight accommodations or overnight security for the equipment?

(16) If applicable, what are the room measurements?

e. The director goes through a process where he reads through and marks the script or shooting outline. This is called the read-through. At this time the director pictures or visualizes the camera angles and camera positions.

(1) Determining camera angles requires a process called visualization. The director must picture the production in his mind scene by scene. This is thinking in images, in pictures.

(2) Choosing personnel generally means choosing the best. A good director knows the strengths, weaknesses, and potential of his crew.

f. The director starts the creative process. He must develop a story board (if needed), and put together a script or script outline. The kind of script chosen will depend on the type of program.

(1) To shoot a particular scene, the director must arrange camera and audio coverage for the shots. The director will mark the camera positions needed and locate the mikes. The resultant rough production plan (camera plan), together with the script-margin action notes or sketches, form the basis for the production. Even the biggest productions can be analyzed into shots or sequences in this way.

(2) Once a remote survey has been prepared it is time to examine the production treatment: evaluate, discuss, anticipate practical problems and so on. The outlines should also propose other contributions such as lighting treatment and audio effects. Other considerations are documentation, cost, manpower, scheduling, and equipment selection.

(3) Much depends, of course, on the type of show you are considering: how it is to be recorded, elaboration of treatment, any special setups, and editing facilities, etc.

Learning Event 2
DESCRIBE THE STORY BOARD AND WHY IT IS USED

1. One tool in preplanning is a story board. It is a group of 3- by 5-inch cards pinned to a bulletin board. Each 3- by 5-inch card includes a simple sketch, an important or key scene on the left, and a space for narration on the right. Stick figures are acceptable. The story board can include simple sketches, photos, illustrations and/or graphics.

a. Storyboards are useful for collecting, generating and/or organizing visuals. Arrange your cards in sequence, grouping cards with similar scenes. This aids the director in seeing, scene by scene, the final production.

b. Storyboards can be used as a reference point for the script.

c. Storyboard approach. Where systematic planning is practical, a director may use a storyboard for selected key shots only, or for scene-by-scene treatment. Here we are concerned with the shot significance, salient features, a mood or style. Storyboard methods involve analyzing the script, deciding on composition of each scene and then working it out. Prerehearsal planning must be realistic. Most directors dislike rigid planning methods, preferring a more flexible approach.

2. Shot organization is a part of preplanning. It takes time to experiment with camera shots. Shots must be appropriately chosen; only the director is in a position to do this.

a. Brainstorming is useful for generating creative ideas. After brainstorming, write down likely and unlikely ideas. Later group cards together with similar ideas. The planning board is useful for organizing ideas.

b. Together the storyboard and planning board can be a reference point for writing the script. However, simpler production may not require in-depth planning. It may require a shooting outline.

Learning Event 3:
DESCRIBE A SCRIPT, HOW IT IS PREPARED, AND ITS VALUE TO THE DIRECTOR

1. A script should have unity, or wholeness, and logical development. Reinforce the basic idea. Research your materials. Consult subject matter experts. Develop and expand the key ideas of the script.

a. Although a script is open to interpretation, it does give a general direction and guidance. Think of your script as a guide. The script influences your choice of camera shots and camera angles. It indicates lighting, audio, power, and talent requirements, pacing, and style. Suppose the script specifically tells you that a man is dying. You, as director, choose a shot of the soldier's face. An extreme closeup of the face, expressing pain and imminent death, would be very powerful. Again, a script implies setting, major action, and style. How might a training tape on a field medical procedure differ in style from a documentary on California bikers?

b. The type of script depends on the complexity of the subject and the production capabilities. The director has the final say as to the simplicity or complexity of the final copy. A script should be well written and organized. Say what you want to say, as simply as possible, with the fewest number of scenes. The style should be informal, natural-sounding and quickly grasped. Do not clutter the dialogue and narrative with too many facts and figures. Some suggested steps to writing a script are: research, brainstorming, outline, treatment, and finally, the scenario.

(1) If you are writing a script on drug and alcohol abuse, research the existing literature on drug addiction and alcoholism. Collect your research material, then evaluate. This is the fact-finding stage of scriptwriting.

(2) Brainstorming can generate creative thinking. It is playing around with ideas. Write down whatever ideas come to your mind, as bizarre or outlandish as they may seem to you. Don't be afraid to be innovative. Narrow down your usable ideas through discussion with the production team.

(3) An outline is a general description or explanation of material, listing major steps or points. Outlining is arranging topics into major categories. An informal outline can provide a sufficient framework from which to write.

(4) A treatment is a scene-by-scene description of the proposed script. It answers such questions as: Will the production be in the studio or in the field? What production modes will be used? What are the results of the audience analysis?

(5) There are several kinds of scripts: news, documentaries, training tapes, or fictional. The news writer must objectively report the news. The information should be clear and concise. The training tape should be accurate and interesting. The documentary must parallel reality. Spot announcements should be attention-getting.

(a) An audience analysis should be done before the script is written. Factors such as age, sex, rank, MOS, education level, reading level, ethnic background, religious beliefs, and knowledge of ideas presented should be considered.

(b) The TV script writer should know the limitations and capabilities of cameras and the audio recording equipment. Understanding the range of audio and visual special effects is necessary to produce a program that can be technically acceptable.

(c) The following are a few questions to ask yourself while writing: Where are you going to put your emphasis?

Is the script practical to produce?
Are the scenes easy to visualize?
Is the format correct?
Is the dialogue narrative realistic?
Is the style natural?

c. The full script is divided into two vertical columns, one is double spaced for spoken narrative (audio), and one for video. The audio column has all narrative. Music and sound effects are identified as well as directions for talent. Narrative is double spaced, using upper and lower type. Directions, however, are capitalized and single spaced. For less complex productions, the full script is not necessarily a rigid document inhibiting all production personnel. It simply tells you what is expected each moment of production. This can be modified. The full script is a plan and details are added as the production develops.

2. For some productions, the shooting outline or outline script is sufficient. To include detailed information for lighting would be pointless. If a dialogue and/or action is spontaneous, there can be no script, only a shooting outline. As a director you must be technically and factually prepared. It is important to ensure that the subject is neither too broad or too narrow and that there is sufficient time. After researching, the idea may prove to be unworkable or dull. The sooner the producer decides that an idea is workable, the better. A promising idea does not always result in a promising production.

Lesson 2
PRACTICE EXERCISE

1. What is the first step in any professional production?

   a. Select crew
   b. Write script
   c. Lighting
   d. Planning

2. What is preproduction?

   a. Down time prior to production
   b. Time prior to production to plan power and lighting requirements
   c. Time prior to production director reads through and marks script
   d. Time prior to production when director selects equipment, personnel, ensures script is written and plans camera shots

3. Who is the final authority in a TV production?

   a. Audience
   b. Senior NCO
   c. Director
   d. First cameraman

4. What is a shooting outline?

   a. Remote survey
   b. Another term for script
   c. Scouting the location beforehand
   d. Rough sketch of what cameraman will videotape

5. What is the purpose of a remote survey?

   a. To determine visual style
   b. To give cameraman scene by scene breakdown
   c. To outline a tentative schedule
   d. To provide details of the remote site

6. What is visualization?

   a. Planning visual style
   b. Thinking in pictures
   c. Marking the script
   d. Organizing thoughts

7. What is a storyboard?

   a. 3- by 5-inch cards pinned to a board, each containing a key scene
   b. A specific guide
   c. Another term for planning board
   d. Outline for a story

8. What does the script influence?

   a. Unity and logical development
   b. Research
   c. The critique
   d. Camera shots and camera angles

9. Which of the following best describe a full script?

   a. It is prepared in a horizontal format
   b. It is an outline of spontaneous action
   c. It is capitalized and single spaced
   d. It is divided into two vertical columns

10. What is an equipment inventory?

   a. General outline of equipment
   b. List of all equipment and accessories
   c. List of vital equipment
   d. List for maintenance

Lesson 2
ANSWERS TO PRACTICE EXERCISE

1. d, planning

2. d, time prior to production when director selects equipment, personnel, ensures script is written, and plans camera shots

3. c, director

4. d, rough sketch of what cameraman will videotape

5. d, to provide details of the remote site

6. b, thinking in pictures

7. a, 3- by 5-inch cards pinned to a board, each containing a key scene

8. d, camera shots and camera angles

9. d, it is divided into two vertical columns

10. b, list of all equipment and accessories

LESSON 3
DESCRIBE PRODUCTION TECHNIQUES FOR A FIELD TELEVISION PRODUCTION

TASK

Describe aesthetics of camera composition, skills of the cameraman, lighting or location, the role of audio, operator's maintenance, and safety requirements during a field television production.

CONDITIONS

Given information and illustrations relating to field television production techniques.

STANDARDS

Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering production techniques of a field television production.

REFERENCES

None

Learning Event 1:
DESCRIBE SKILLS OF THE CAMERAMAN

1. As a rule, pedestals support the camera in the television studio. Camera movements in the field, however, may require hand-held camera technique. Professional cameramen possess the grace and skill of an athlete. You have to adapt to the physical demands of the camera. In the field, you will be required to brace the camera against your body (figs 3-1a, 3-1b). The camera then becomes an extension of your body. The steady-hold technique requires calm and considerable strength. Shaky camera shots result in unusable footage. Mastering the steady-hold is a part of being a competent cameraman. Flexibility of movement is an advantage to the cameraman who can work without a tripod.

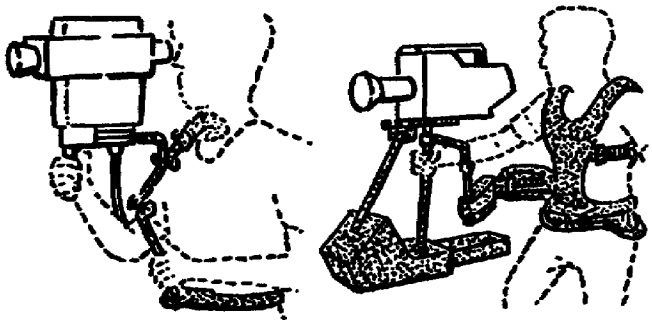

Figure 3-1a. Bracing the camera against the body

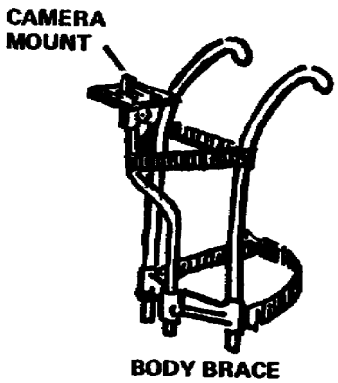

Figure 3-1b. Closeup of body force

2. Camera movements include the pan, tilt, dolly, truck, and arc.

a. A pan is a horizontal movement of the camera lens, to the left or right, often used to follow action (fig 3-2). In a pan left, the camera lens goes to the left. Panning should not be overused because it can make the audience "dizzy." It is desirable to precede the pan with a brief, non-pan shot.

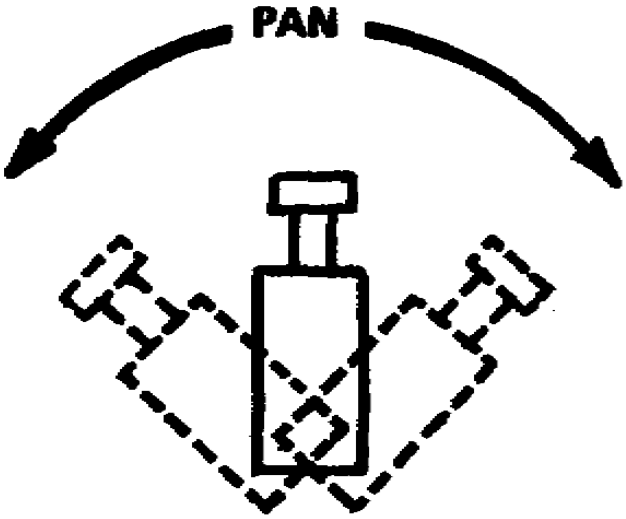

Figure 3-2. Panning with the camera

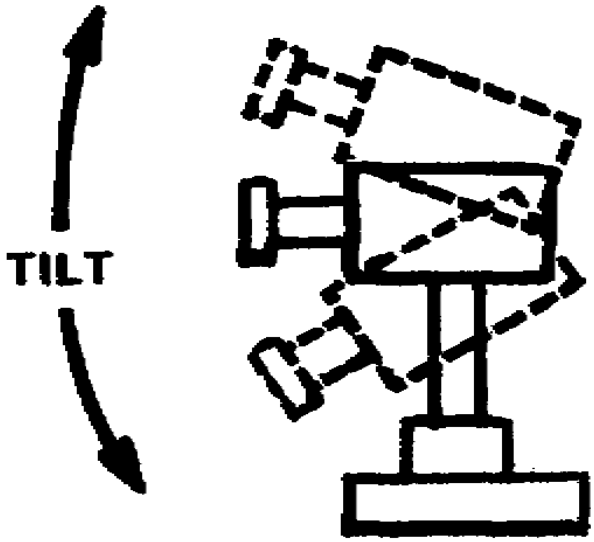

Figure 3-3. Tilting with the camera

(1) There are two reasons to pan. The first is to cover large areas of terrain or nature (the word pan comes from panorama). The second reason to pan is to follow action.

(2) Sometimes it is necessary to get a bird's-eye-view of the action. When following action, a pan is effective. The cameraman could zoom out and follow with a long shot, but that would not be as effective, since television is a closeup medium. Closeup shots are effective for television since the screen is so small.

b. A tilt is a vertical movement of the camera head, up or down (fig 3-3). It is used to follow vertical action, such as a man standing up or sitting down. A cameraman may tilt from head to foot of a stunning model to show the outfit she is wearing. Proper speed in tilting is important. If the camera tilts while the talent is standing up, the talent's-head will vanish too soon. Both a pan and tilt are used to redirect the viewer's attention.

(1) Except when following action it is best not to pan or tilt. It is generally better to avoid panning or tilting a static object. If the object is too large to be entirely included in the viewfinder, zoom to a wide angle shot (fig 3-4) or back up to a greater subject distance. When it is necessary to pan or tilt the camera over a static or stationary subject, move the camera slowly. Otherwise, the motion will appear rough and fast on the TV screen.

Figure 3-4. Using a zoom lens

(2) When panning or tilting, a long-recognized technique is to begin and end with the camera stationary. Stop the camera movement at the completion of the pan or tilt, and end the scene with the camera motionless. Do not follow one panned (tilted) scene with another. Follow shots are acceptable, panning can be covered up by having someone walk through the scene and follow.

c. A dolly is a camera movement toward the talent or away from the talent (fig 3-5). To dolly in, the cameraman moves in; to dolly out, the cameraman moves away, in a vertical line, from the action or talent.

d. A truck is a lateral movement of the entire camera, to the right or to the left (fig 3-6).

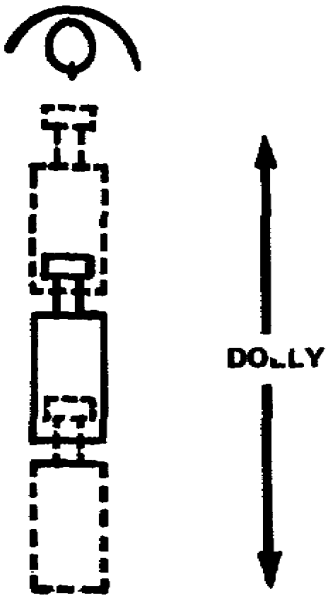

Figure 3-5. Dolly movement

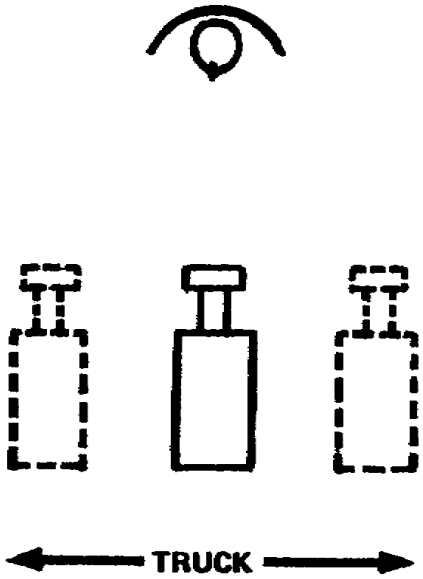

Figure 3-6. Trucking movement

e. An arc is an arched dolly or truck movement of the entire camera (fig 3-7).

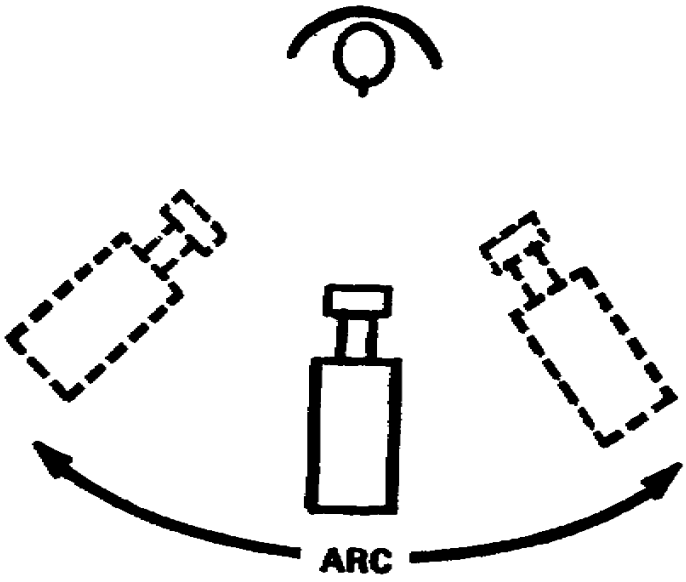

Figure 3-7. Arc movement

3. The technique for hand-held operation is basically the same for all cameras; size and weight are the main differences.

a. Success or failure in hand-held camera operation depends primarily on the proper stance. You must stand with your feet about 18 inches apart for good support, thus preventing body sway.

b. Hold the camera with both hands and use any aids which may be provided by the manufacturer. Many cameras are made to rest naturally against your forehead as you look through the view finder, providing another point of support.

c. Pull in your elbows and press them firmly against your sides, if you can, while videotaping the scene.

d. Practice the proper stance while holding a camera and see just how steady you can be. It will help if you can hold your breath while taping, provided the scene isn't too long. This eliminates the rise and fall of your chest. Try to relax, being tense can cause the muscles to jerk, producing jerky footage.

e. You must strengthen your skills as a cameraman. If it is possible, practice your skills as follows:

(1) Maintain subject size as a talent walks towards or runs past camera.

(2) Maintain focus, follow a moving object, maintaining focus as a subject approaches or moves away.

(3) Practice finding, focusing and composing a scene during unfolding action. The purpose is to find the object, focus and compose quickly and accurately.

(4) Practice tracking, following an object, such as a horse, while maintaining good composition. The horse should be properly framed with proper lead space.

(5) Practice steady-hold. Hand-held camera work can only be done by a calm person who possesses adequate strength.

(6) Find as many interesting shots as possible from a single camera position.

(7) Look for difficult shots.

4. Types of transitions. A simple method of going from scene to scene is a transition. These include the cut, blackout, swish pan, fade-to-black, defocus/refocus, and black surface. There is also the sound transition and montage. The director creates an appropriate transition.

a. Black out. Talent walks toward the camera until the entire picture is blacked out from lack of light. The next scene may start with the talent walking away from the camera.

b. Swish pan. A swish pan is used to show a change in time or a change in place, between scenes. A swish pan is a quick pan where everything blurs. After the swish pan, cut directly to the next scene. Or cut to a quick pan, stopping directly on the new subject. Its success depends on the right speed and smooth movement.

c. Defocus/refocus. Defocus the lens. The image becomes blurred. Start next scene out of focus. Go into focus. This implies a change of time or scene.

d. Black surface. Using a black surface or uniformly colored surface, zoom in and then cut. Zoom in to a blue wall, cut to the next scene. Again start on the blue wall.

Lesson 3
Learning Event 1
PRACTICE EXERCISE

1. What generally supports the TV studio camera?

   a. Body brace
   b. Spring harness
   c. Pedestal
   d. Grip

2. Which of the following is the term for bracing the camera against the body?

   a. Steady state
   b. Bracing technique
   c. Pan
   d. Steady-hold

3. What is a pan?

   a. Cookery for an FTX
   b. Vertical movement of the camera head
   c. Horizontal movement of the camera lens
   d. Camera movement toward the talent

4. What is a tilt?

   a. Bird's-eye view
   b. Lateral movement of entire camera
   c. A shaky movement resulting in unusable footage
   d. Vertical movement of the camera head

5. What is a truck?

   a. Movement in a vertical line
   b. Slow steady movement
   c. Follow shot
   d. Lateral movement of entire camera

6. What is a transition?

   a. Tracking without a tripod
   b. Simple method for going scene to scene
   c. Abrupt change in script style
   d. Sudden change in viewpoint

Lesson 3
Learning Event 1
ANSWERS TO PRACTICE EXERCISE

1. c, pedestal

2. d, steady-hold

3. c, horizontal movement of the camera lens

4. d, vertical movement of the camera head

5. d, lateral movement of entire camera

6. b, simple method for going scene to scene

Learning Event 2:
DESCRIBE FRAMING THE PICTURE

1. Good framing is fundamental to a good picture. Without good framing techniques, everything else is useless. For instance, tight framing emphasizes the screen's confines. Head movements can pass out of the frame, requiring catch-up panning, an obtrusive operation (fig 3-8).

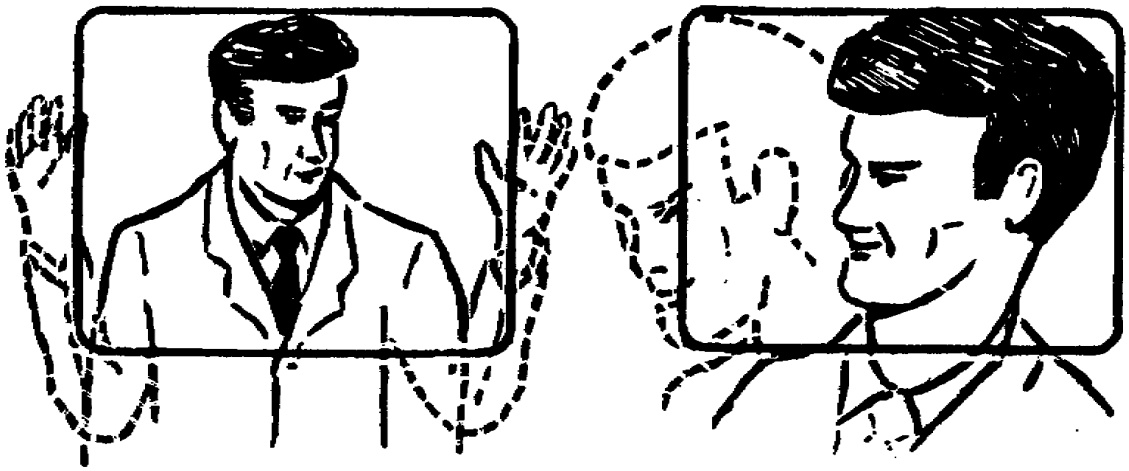

Figure 3-8. Avoid tight framing

a. Allow enough headroom for the subject. Too little headroom creates tension within the TV screen. For good vertical balance, avoid the cramping effect of insufficient headroom or a bottom-heavy effect of excess room. The compositional elements can become incidental borders, depending on how they are formed (fig 3-9).

Figure 3-9. Appropriate and inappropriate headroom

b. The natural cutoff lines for people (fig 3-10) are:

(1) Eyes, nose, or mouth line

(2) The chin

(3) The bust

(4) The waist

(5) Hands at sides

(6) Hemline (for females)

(7) Knees

(8) Ankles

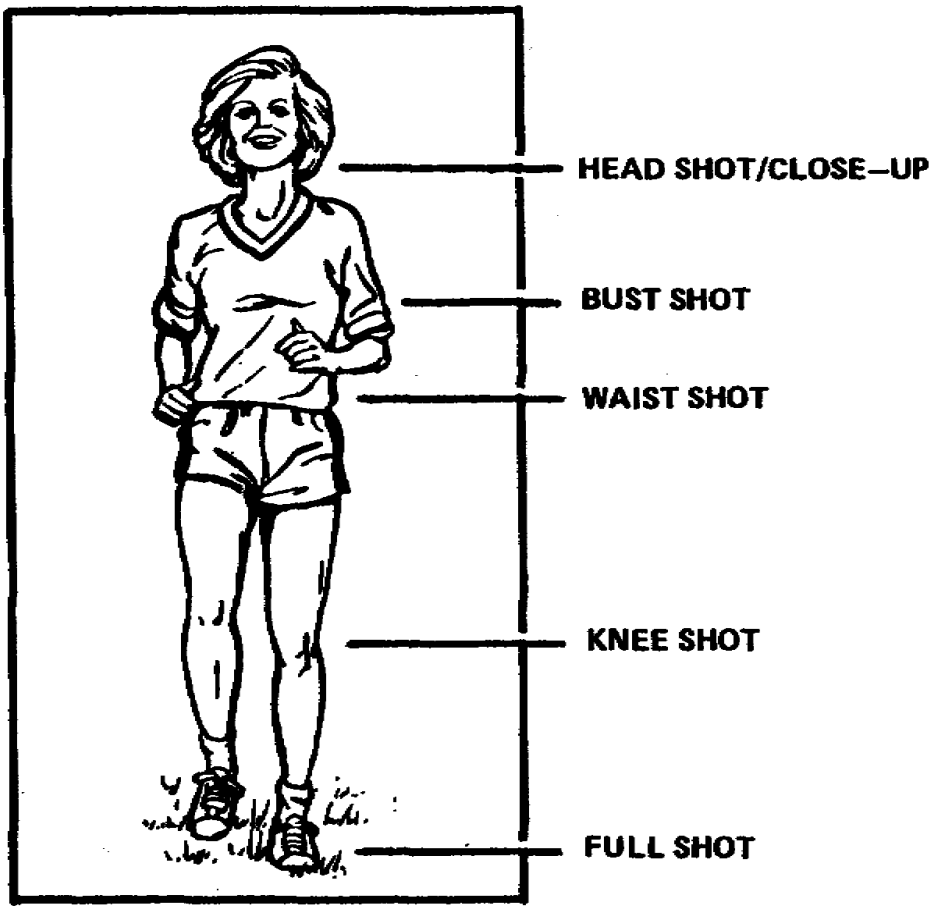

Figure 3-10. Cutoff lines

c. There is a transmission loss of about 10 percent when framing. To compensate, you need to assume that 10 percent of video around the edges will be lost (fig 3-11).

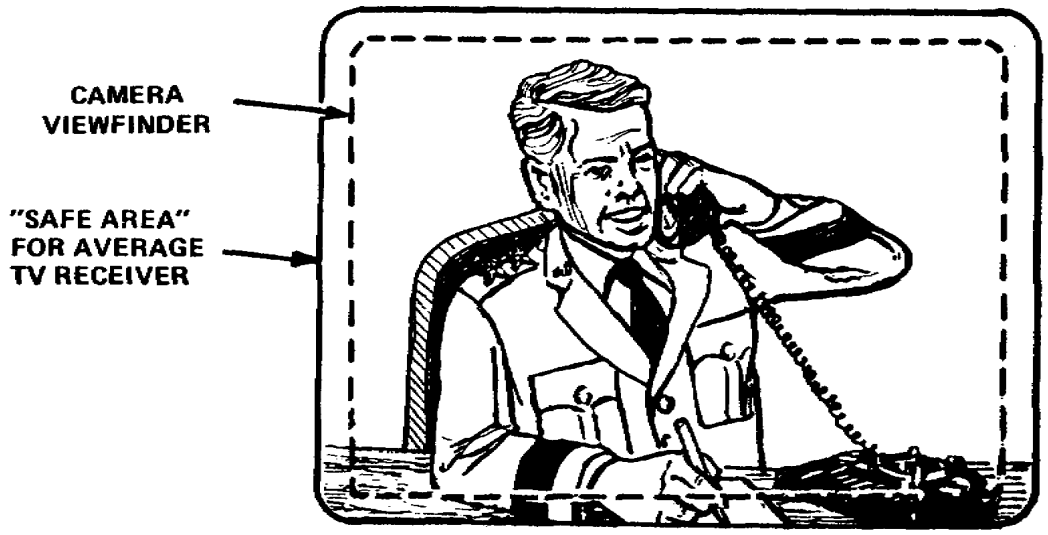

Figure 3-11. Transmission loss

d. When following the action of a person or object, provide enough lead room (fig 3-12).

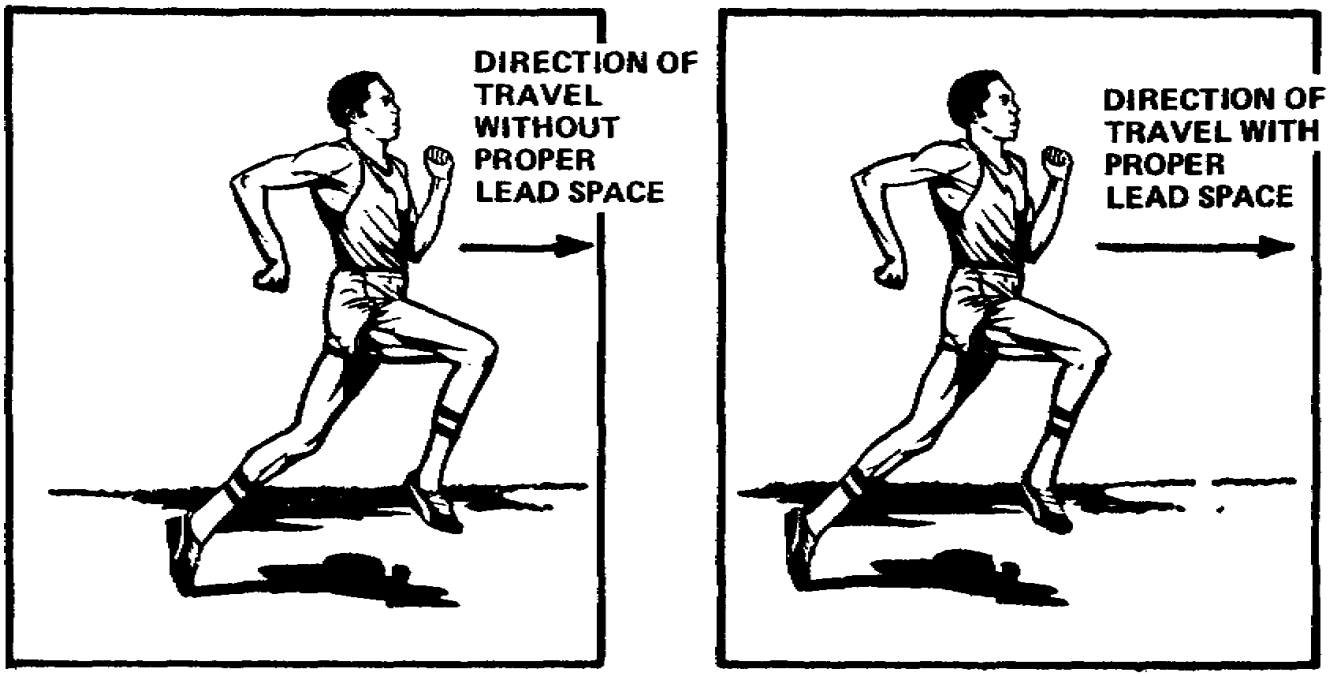

Figure 3-12. Lead room

e. Nose room. Whenever subjects look offscreen, frame them with more room in the direction of the look. In the first frame (fig 3-13a) the subject looks as though she is being pushed by the right side of the TV frame. In the second shot (fig 3-13b) the additional room produces a more effective composition.

Figure 3-13a. Nose room, incorrect positioning

Figure 3-13b. Nose room, correct positioning

f. Placing the subject at the edge of the screen creates tension, unless a dramatic effect is required (fig 3-14).

g. Frame a person or object towards the center or near center of the screen for stability (fig 3-15).

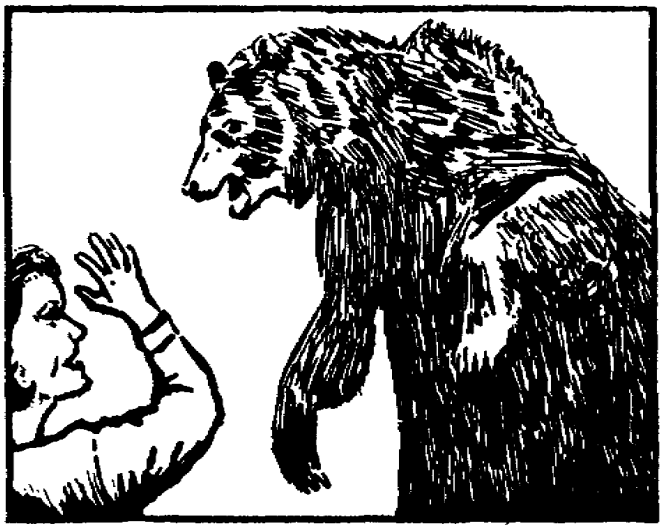

Figure 3-14. View with subject at edge of screen

Figure 3-15. Subject near center of screen

h. Putting them exactly in the center of the screen can cause a certain amount of boredom in the audience, especially over a period of time. Unless required for dramatic effect, putting a person in the exact center of the screen should be avoided (fig 3-16).

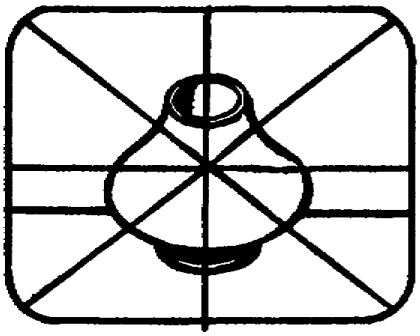

Figure 3-16. Subject in exact center of screen

i. Avoid juxtapositioning subjects and objects. If you place a talent in front of or beside a set or prop in such a way that it appears to grow out of their side, head, or body, that is juxtapositioning (fig 3-17).

Figure 3-17. Juxtapositioning, poor placement of talent in relation to sets or props

2. Every photograph should have one definite center of point of interest which is supported by the remaining elements. The placement of the principal subject or action to gain its center of interest allows the viewer to use all the meaning of the photograph more clearly and quickly. To locate the ideal site for the center of interest, consider the scene as a tick-tack-toe board. Place the principal subject on one of the intersections (fig 3-18).

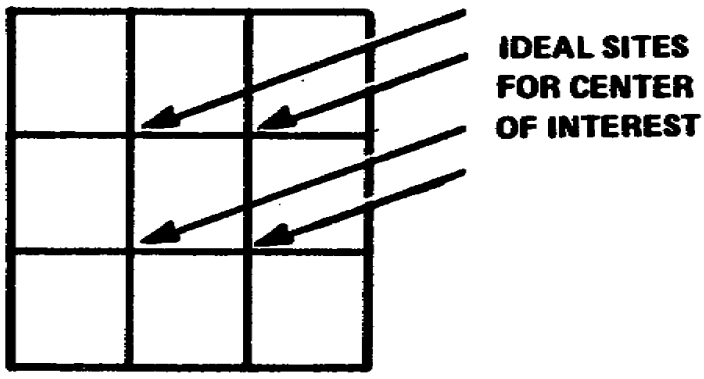

Figure 3-18. Ideal sites for center of interest

a. Another point to consider is on which of the four intersecting points to place the principal subject. The following rule should help. If the subject is facing right, place it on one of the two points on the left (fig 3-19).

b. If facing left, place it on one of the two points on the right (fig 3-20).

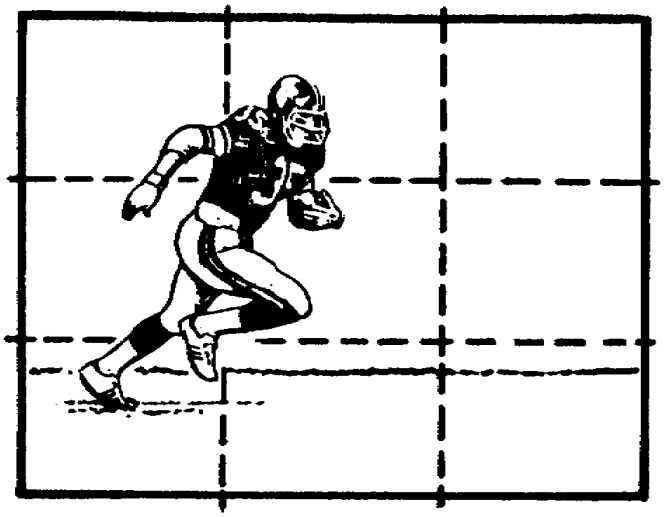

Figure 3-19. Subject facing right

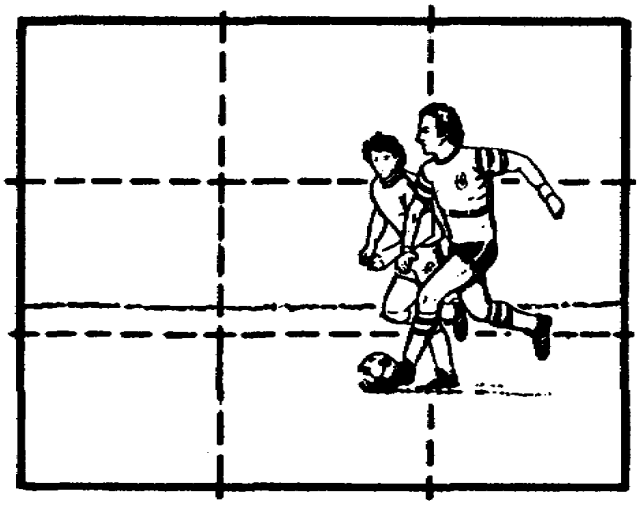

Figure 3-20. Subject facing left

c. If the subject is looking up, place it on one of the bottom two points (fig 3-21).

d. If subject is looking down, place it on one of the top two points (fig 3-22).

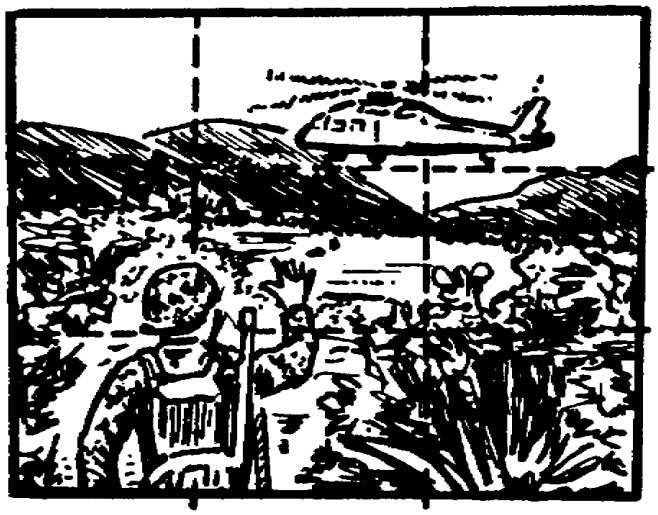

Figure 3-21. Subject looking up

Figure 3-22. Subject looking down

(1) The rule of thirds states that the ratio of the length of the smaller part of a line to the larger part of that line equals the ratio of the larger part of the whole line. This ratio of 2:3 is used to locate the placement of the center of interest. It works out that this point of placement is 2/3 of the picture width from either side and 2/3 the picture height from top to bottom (fig 3-23).

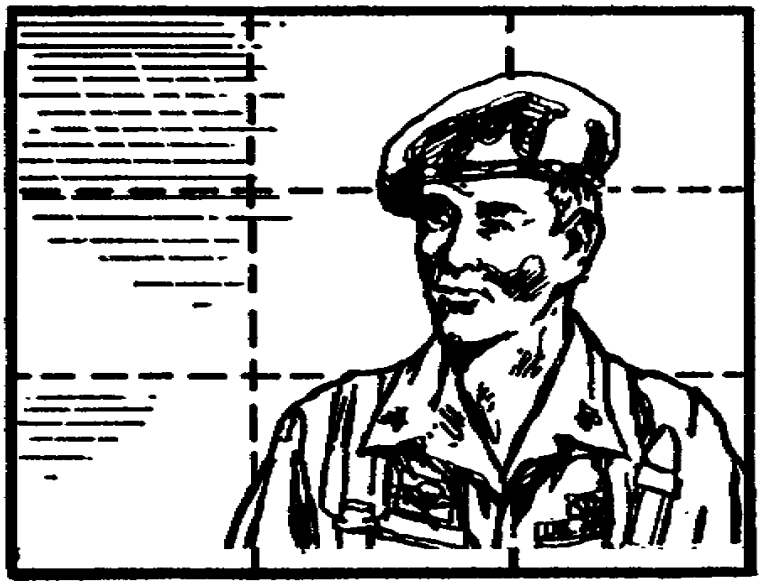

Figure 3-23. Using ratio of 2:3 to place center of interest

(2) The center of interest should never be located at dead center of the scene. This creates a hypnotic effect on the viewer. The viewer's eye goes directly to the center almost immediately and will stay there. The viewer will see only that one point. The rest of the photograph is lost. The command of the viewer's attention is also lost if the center of interest is placed near the edge of a photograph. This brings the viewer's gaze to the edge of the picture and might move his attention away from the picture completely.

e. When framing two people, center them (using the vertical and horizontal lines) from the rule of thirds (fig 3-24).

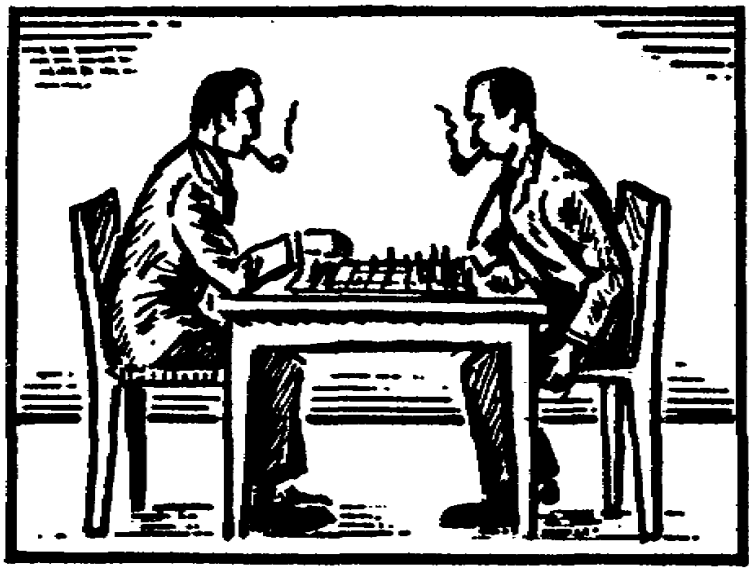

Figure 3-24. Framing and centering two people

f. Placing two subjects too close to each other or too close to the edge of the screen creates tension and a lack of balance. Note in Figure 3-25 the subjects are positioned along the edges of the screen and the most important central screen space is empty. The solution is either to move the subjects closer together or to change the camera angle to reduce the central space.

Figure 3-25. Too much screen space

Lesson 3
Learning Event 2
PRACTICE QUESTIONS

1. What is the effect of too little headroom?

   a. Tension within the TV screen
   b. Emphasizes confines of TV screen
   c. Bottom-heavy effect
   d. Oppressive overhang

2. What are natural cut-off lines in shooting persons?

   a. Above waist, above knees
   b. Compositional elements along border
   c. Chin, bust, waist
   d. Within safe action area

3. What is noseroom?

   a. More room in direction of look
   b. Space between eyebrows and mouth
   c. Extreme closeup of face
   d. Using a natural cutoff line

4. Do not place a subject at the edge of the screen unless

   a. A dramatic effect is desired
   b. Stability is required
   c. Juxtaposition is desired
   d. There is too little screen space

5. What happens if the talent is placed dead center in the screen?

   a. Absolute symmetry
   b. Boredom
   c. Dramatic effect
   d. Command of viewer's attention

6. What is the term if a prop appears to grow out of a talent's head?

   a. Rule of thirds
   b. Diagonal matrix
   c. Special effect
   d. Juxtapositioning

7. Why should you frame a subject near the center of the screen?

   a. To create tension
   b. For stability
   c. To reduce space
   d. To avoid cluttered look

8. Why is the rule of thirds used?

   a. For dramatic effect
   b. To frame two subjects
   c. To locate placement of center of interest
   d. To follow the action of a person or object

Lesson 3
Learning Event 2
ANSWERS TO PRACTICE EXERCISE

1. a, tension within the TV screen

2. c, chin, bust, waist

3. a, more room in direction of look

4. a, a dramatic effect is required

5. b, boredom

6. d, juxtapositioning

7. b, for stability

8. c, to locate placement of center of interest

Learning Event 3:
DESCRIBE THE RELATIONSHIP BETWEEN THE BASIC SEQUENCE AND CONTINUITY

1. Continuity is the logical development of scenes. Continuity means keeping the production simple, not cluttering it up with distracting shots, ideas, or dialogue. Continuity means developing a single theme, idea or concept. It requires a certain amount of simplicity and clarity. Simplicity does not mean insulting the intelligence of the viewer, but visually sticking to the point. Don't go off on a tangent.

a. In a television production every minute detail or every action can not be shown. It would take too much time and the viewer would have to sit through hours and hours of videotape. The mind of the viewer naturally fills in the details and time lapses if the production is well done. This filling in the blanks is called psychological closure. The foundation of good continuity is the basic sequence. To tell your story, you must combine a wide variety of shots to obtain smooth visual flow of the action. The basic sequence is a most important technique. Continuity can be relayed through the basic sequence. The basic sequence is a related series of shots and is a fundamental unit in continuity. It has three simple elements, i.e., the long shot, the medium shot, and the closeup (fig 3-26).

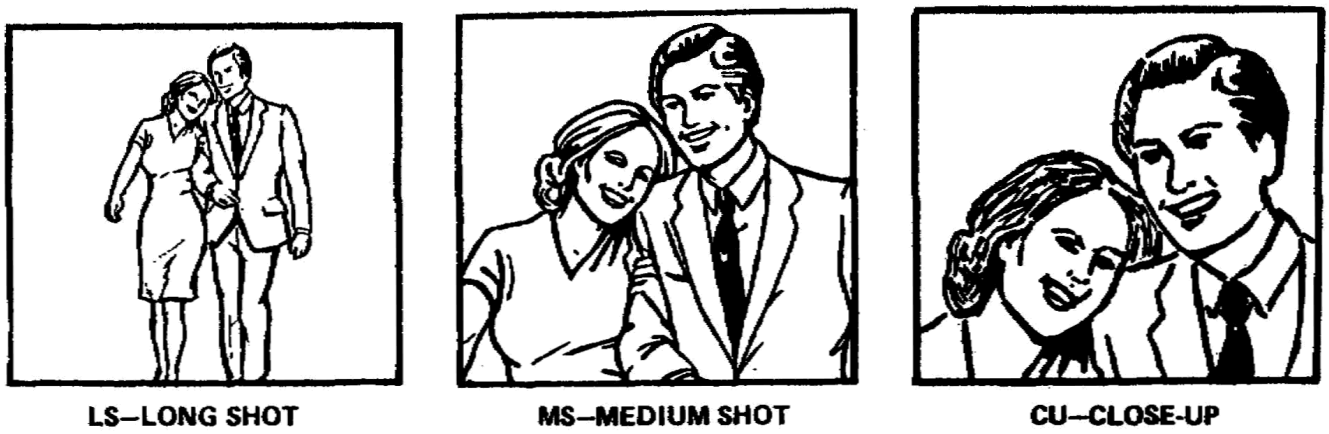

Figure 3-26. Sequence showing continuity

(1) The long shot establishes the scene, environment, location or locale of the action. It is an overview or bird's eye view of environment (fig 3-27).

Figure 3-27. Long shot

(2) The medium shot is the midway transition. It moves in a little closer to the action, building up the subject, allowing audience to begin to zero in on the action (fig 3-28).

Figure 3-28. Medium shot

(3) The closeup shows detail of the subject matter, creates an atmosphere of intimacy and knowledge of the subject with the audience (fig 3-29).

Figure 3-29. Closeup

b. It is important that shots in the basic sequence and its variations should portray a story or idea that makes sense. You don't want to confuse the audience. The story or documentary is developed with the long shot, medium shot, closeup, and variations. Important or key ideas are not to be left up to the imagination of the audience.

(1) Every TV production is made up of one or more sequences. A sequence is a series of related scenes composed of the long shot, medium shot, and closeup technique. Each sequence is a complete story within itself. In recording activity, the need for sequences becomes apparent.

(2) Closeups are the most interesting and important shots in the basic sequence. Television has been described as a closeup medium because of the small screen size. What may look good on the motion picture screen may not look good on the television screen. Once you have obtained what you feel are the necessary introductory long shots and medium shots, move in for the closeups. Screen-filling closeups are extremely effective and interesting and are used for emphasis when a normal closeup might fail to achieve the vivid impression desired.

Lesson 3
Learning Event 3
PRACTICE EXERCISE

1. What is continuity?

   a. Psychological closure
   b. Absence of time lapse
   c. Logical development of scenes
   d. Area and viewpoint of the camera

2. What is the fundamental unit of a related series of shots?

   a. Script
   b. Closeup
   c. Overview of the environment
   d. Basic sequence

3. What are three elements of basic sequence?

   a. Scenes, shots, and single photograph
   b. long shot, medium shot, and closeup
   c. Logical development, continuity, and psychological closure
   d. Consecutive order, coherent relationship and main and subordinate parts

4. Which shot generally establishes the scene?

   a. Long shot
   b. Bird's-eye view
   c. Locale shot
   d. Key shot

5. What does a medium shot generally do?

   a. Creates an atmosphere of intimacy
   b. Portrays emphasis
   c. Moves in a little closer to the action
   d. Gives audience time to react

6. What is a sequence?

   a. Series of related scenes composed of long shots, medium shots, and closeups
   b. A relationship between main and subordinate shots
   c. Shots building towards a climactic event
   d. Use of simplicity, clarity, and refining

7. When you use the basic sequence, what should not be left up to the imagination of the audience?

   a. Long shots
   b. Medium shots
   c. Closeups
   d. Key shots

8. Which shots are the most interesting and important in the basic sequence?

   a. Long shots
   b. Medium shots
   c. Closeups
   d. Keyshots

9. Which shot shows detail of subject matter and creates an atmosphere of intimacy?

   a. Long shots
   b. Medium shots
   c. Closeups
   d. Key shots

Lesson 3
Learning Event 3
ANSWERS TO PRACTICE EXERCISE

1. c, logical development of scenes

2. d, basic sequence

3. b, long shot, medium shot, and closeup

4. a, long shot

5. c, moves in a little closer to the action

6. a, series of related scenes composed of long shots, medium shots and closeups

7. d, key shots

8. c, closeups

9. c, closeups

Learning Event 4:
DESCRIBE CAMERA ANGLES

1. Choice of camera angles is fundamental to style. Position the camera for the best view of the talent or action at that moment. Camera angles have power. They can manipulate audience attention and reactions by controlling what the audience sees and how they see it. Changing angles can evoke a definite attitude or emotion. The general rule states: When shooting a new scene, change the size of the image, or change the angle, or both. A change of image size only would be a long shot, a medium shot, and a closeup from the same angle. A camera angle is defined as the area and viewpoint recorded by the lens. Placement or positioning of a camera determines the area to be included in the picture and the viewpoint from which the viewer will observe. Do not forget the relationship between camera angle and viewer. Four factors determine the camera angle; camera height, angle of subject, position of camera and image size.

a. Audience reaction may be manipulated by the camera height.

(1) A normal camera angle is eye level with the subject. A normal camera angle is generally not as interesting as a high angle or low angle shot.

(2) In a high angle shot, the camera (and thus camera lens) is positioned above the eye level of a subject or above an object. The camera is looking down at the action or subject. This gives the illusion of "humbling" the subject, reducing him in size or stature. It can also give the illusion of slowing down motion. Psychologically, a high angle may suggest a loss of power or even loneliness. To show a subject in a position of inferiority, have the camera shoot down on the subject (fig 3-30).

Figure 3-30. Shooting down on the subject

(3) In a low angle, the camera is below eye level of the subject. The camera is low to the ground, looking up at the subject. The low angle dramatizes height and appears to speed up motion. This creates the illusion that the subject is powerful and dominant. Advertising often uses this angle on products for the psychological effect (fig 3-31).

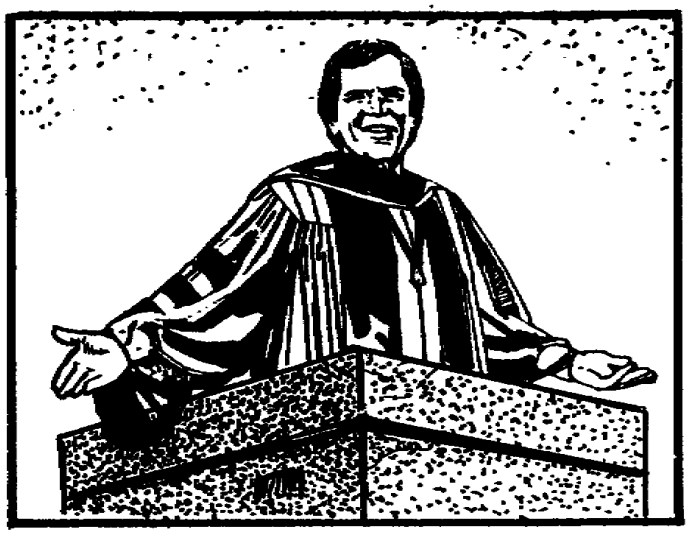

Figure 3-31. Shooting up at a subject

b. The camera position determines several angles.

(1) The flat angle or head-on shot should not be used, in general, when the subject is still or stationary. There will be no illusion of depth. The flat angle can be used when the subject is running at you, head-on, toward the camera. This angle can carry the motion well (fig 3-32).

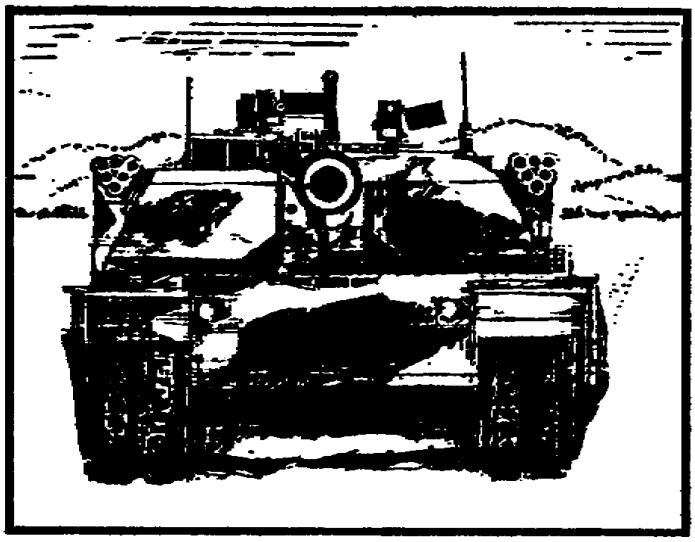

Figure 3-32. Flat angle or head-on shot

(2) The side angle is valuable for giving depth and perspective to people, objects, action. Imagine how powerful a racing thoroughbred appears from a low angle, side angle (fig 3-33).

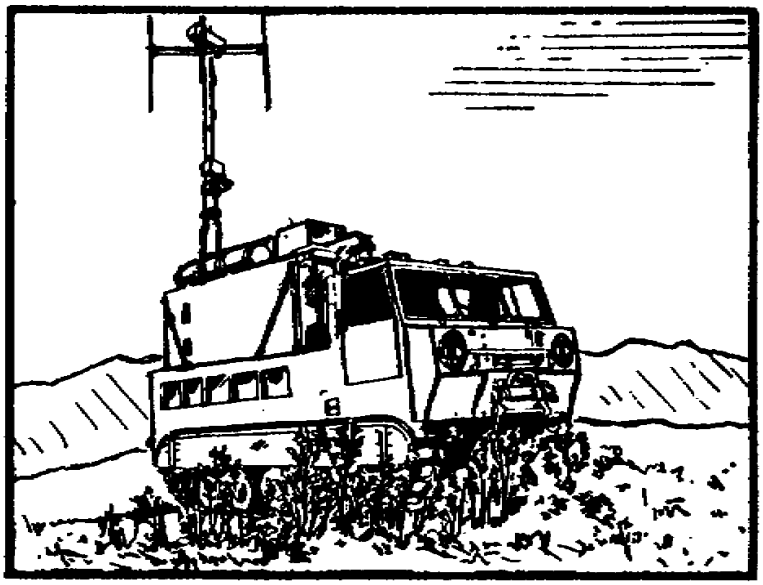

Figure 3-33. Side angle shot

(3) The reverse angle shows the viewer opposite viewpoints (fig 3-34).

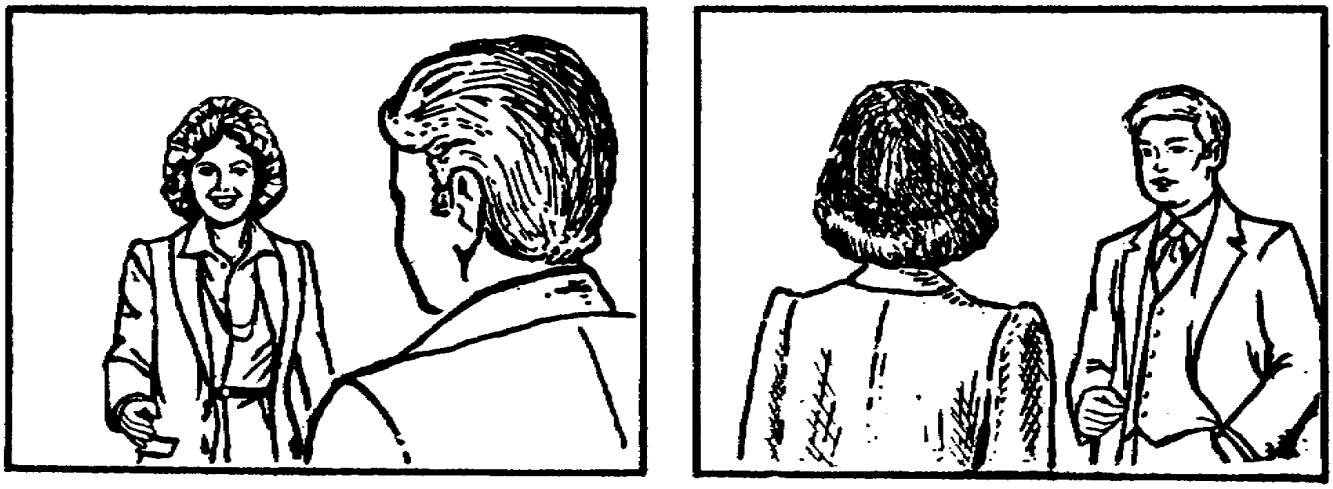

Figure 3-34. Reverse angle shot

(4) A canted angle is used very little in the military. This is accomplished by tilting the camera on its horizontal axis (fig 3-35). This angle suggests instability and excitement. Use sparingly.

c. Subject angle affects camera angle.

(1) Subject or object viewed head-on shows height and width, not depth. It has the appearance of some flat cartoon figures. That tall building viewed from an angle appears three-dimensional.

(2) A human face is best when the subject is turned 45 degrees to the camera. If lighting is good, the face, side of face, and eyes are fully on display (fig 3-36). In other words, if the camera is at the side of the subject or object is at an angle, there is more three-dimensional effect, or depth. This three-dimensional effect is also supported by good lighting and good color.

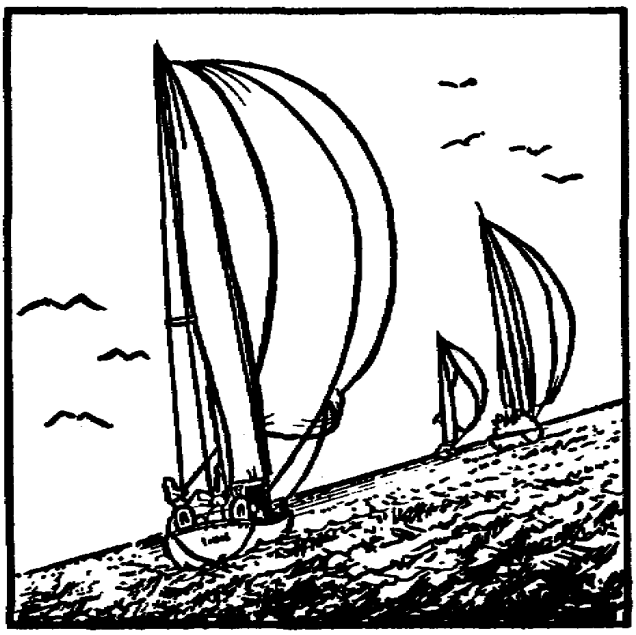

Figure 3-35. Canted angle shot

Figure 3-36. Excellent facial shot

(3) Overlapping planes is an effective way to increase the three-dimensional effect (fig 3-37).

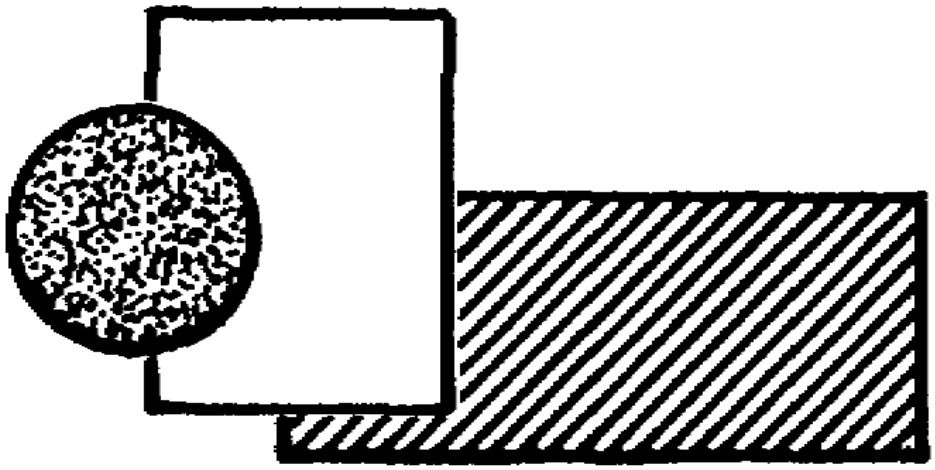

Figure 3-37. Overlapping planes

d. Subject size or image size affects the camera angle. When the camera is close to the subject, the image will be larger, and when the camera is further away from the subject, the smaller the image or subject size. A good way to think of change of image size is long shot, medium shot, and closeup (fig 3-38). However, this is not inclusive, there are many types of shots.

Figure 3-38. Changing image size

e. Often camera angles are described in shots. These would include the two-shot, the three-shot group shot, the over-the-shoulder shot, and the reaction shot, the cut-in shot and the cut-away shot.

(1) A two-shot is two talents, e.g., a boy and a girl, the good guy and the bad guy. There are many types of two-shots. The most interesting is the two-shot in which the subjects sit or stand facing each other (fig 3-39). One of the two may dominate due to lighting, a more favorable angle to the lens, or better position or one is physically taller.

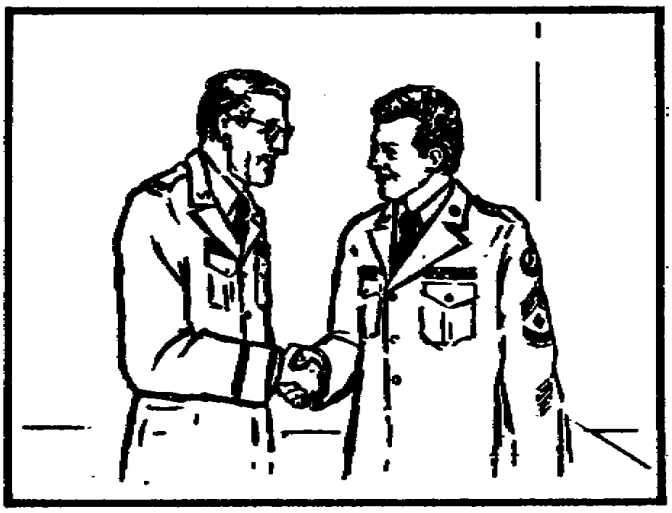

Figure 3-39. Two-shot camera angle

(2) A three-shot defines the type of scene. It also identifies the number of people; this aids in further identifying what is expected (fig 3-40).

Figure 3-40. Three-shot camera angle

(3) An over-the-shoulder shot (fig 3-41) is an effective shot, establishing a relationship between persons; it enhances the depth in the shot.

Figure 3-41. Over-the-shoulder shot

(4) A cut-in shot cuts into a portion of a scene (fig 3-42).

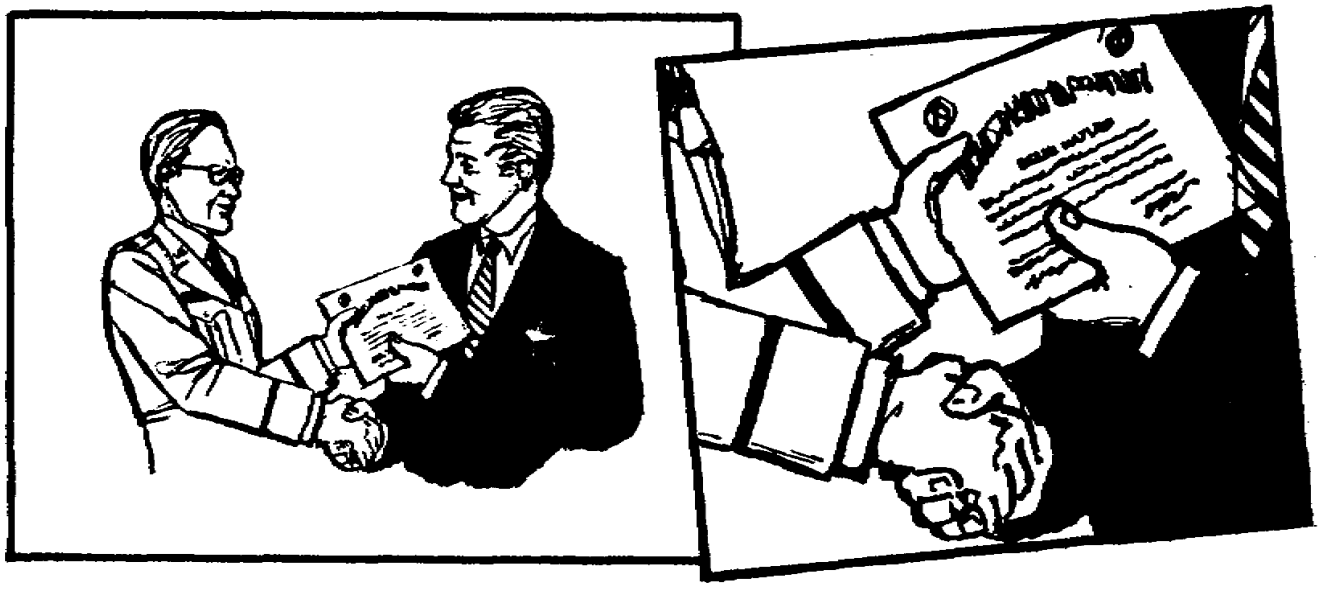

Figure 3-42. Cut-in shot

(5) A cut-away shot is a secondary action elsewhere, a few feet, miles or another location (fig 3-43).

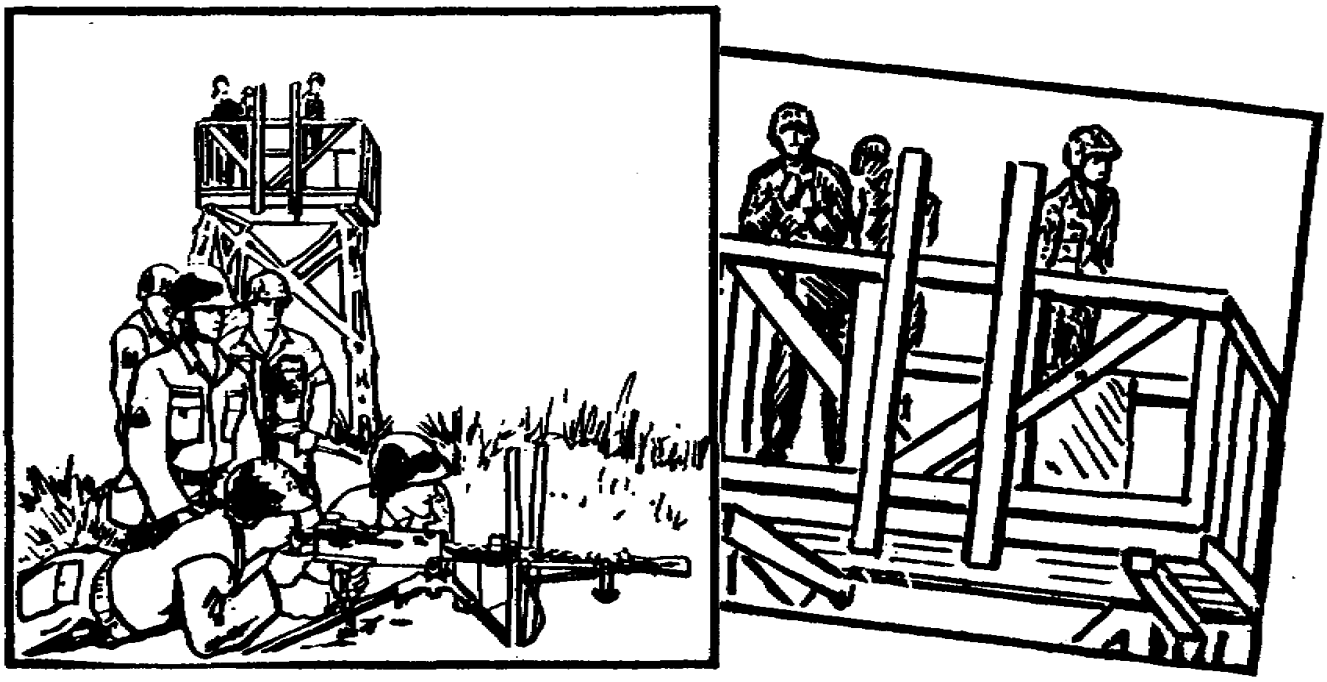

Figure 3-43. Cut-away shot

(6) A reaction shot is a shot of a player reacting. He may be reacting to what someone says or does, or react to some action, such as a tornado (fig 3-44).

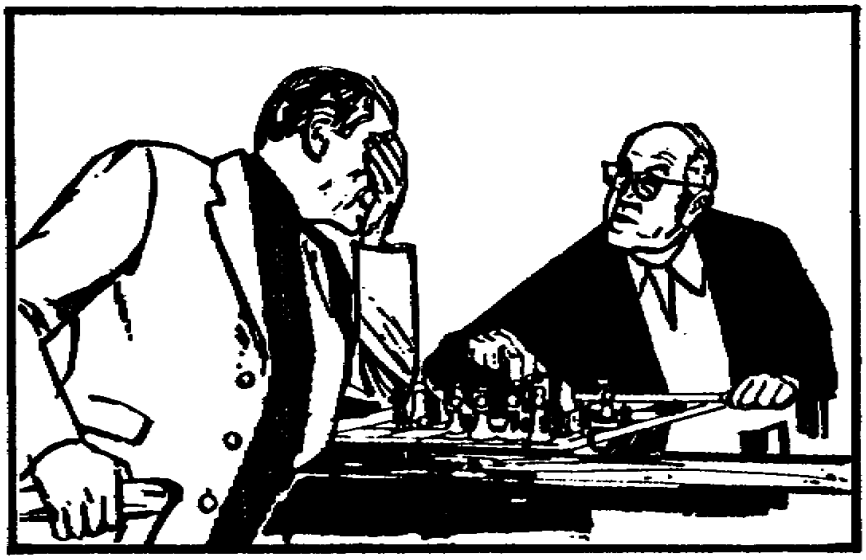

Figure 3-44. Reaction shot

g. Camera angles can also be defined in terms of objective and subjective.

(1) A subjective camera angle gives the viewer the illusion of personal experience. The camera acts as the eyes of the audience. The viewer feels as if he has traded places with the talent in the production and sees the event through the talent's eyes. The camera acts as the eyes of the audience. Think of the personal involvement of the subjective camera on the roller coaster. This gives the audience the illusion that he is in the scene. In other words, the camera exchanges places with the talent (fig 3-45).

(2) An objective camera angle gives the viewer the illusion that he is on the sidelines (fig 3-46).

Figure 3-45. Subjective camera angle

Figure 3-46. Objective camera angle

Lesson 3
Learning Event 4
PRACTICE EXERCISE

1. Which of the following defines camera angle?

   a. Relationship between viewer and camera
   b. Illusion of depth
   c. What the audience sees
   d. Area and the viewpoint recorded

2. Which may be directly related to camera height?

   a. Flat angle
   b. Audience reaction
   c. Point of view
   d. Horizontal axis

3. A normal camera angle is:

   a. Head on
   b. A medium shot
   c. Eye level with the subject
   d. Valuable for showing depth

4. Where is the camera positioned for a high angle shot?

   a. Above eye level of a subject
   b. Below eye level of a subject
   c. Tilted on its horizontal axis
   d. In a helicopter

5. What is another term for head-on shot?

   a. Low angle
   b. Straight angle
   c. Subjective angle
   d. Flat angle

6. What may a low angle suggest?

   a. Power
   b. Loss of power
   c. Instability
   d. Excitement

7. Why is a side angle valuable?

   a. For depth and perspective
   b. For height and width
   c. For personal involvement
   d. Easier to light

8. What does reverse angle show?

   a. Instability
   b. Perspective
   c. Opposite viewpoint
   d. Reverse image

9. There is more depth if:

   a. Camera is tilted on its horizontal axis
   b. Object is at an angle
   c. The shot has detail
   d. It is over-the-shoulder

10. Which angle is best for depth in a face?

   a. Head-on
   b. 45 degrees
   c. Reverse angle
   d. Longshot

11. What is another word for image size?

   a. Proportionate dimension
   b. Graphic dimension
   c. Overlapping planes
   d. Subject size

12. The further away the camera:

   a. The smaller the image size
   b. The larger the image size
   c. No change in image size
   d. Gives the viewer the illusion he is on the sidelines

13. A cut-away is:

   a. Switch pan
   b. Subjective angle
   c. Secondary action
   d. Dominate due to lighting

14. Which angle gives the viewer the illusion of personal experience?

a. Objective
b. Subjective
c. Over-the-shoulder
d. Reaction shot

Lesson 3
Learning Event 4
ANSWERS TO PRACTICE EXERCISE

1. d, area and the viewpoint recorded

2. b, audience reaction

3. c, eye level with the subject

4. a, above eye level of a subject

5. d, flat angle

6. a, power

7. a, for depth and perspective

8. c, opposite viewpoint

9. b, object is at an angle

10. b, 45 degrees

11. d, subject size

12. a, the smaller the image size

13. c, secondary action

14. b, subjective

Learning Event 5:
DESCRIBE CAMERA SKILLS AND PRINCIPLES OF COMPOSITION

1. Composition is the creative arrangement of the subject, objects, and action. Good composition will stimulate a positive viewer response. It is an artistic blending of shape, forms, and patterns. Composition is the heart of production techniques. Composition, good composition, should give the scene an emphasis and should manipulate viewer response. You as director cameraman need to train your eyes and mind to work together to evaluate your scene's composition. Why should it be necessary to arrange the subject or objects in a picture? Why not point the camera in the general direction of the action? The explanation is this: once a frame has been placed around a scene, it matters very much how the subjects/objects of that scene are arranged within the frame.

a. There is a main point of interest in every picture. If the picture is not composed, the eye is distracted from this center of interest. There goes the audience interest. If a picture is correctly composed, it is balanced. There are no disturbing empty spaces and the eye does not have to wander over the scene looking for a focal point. There are no hard and fast rules that apply to something as creative as composition. What is good composition to one person may not appeal to another. However, there are classic guidelines. Strict devotion to these guidelines would result in stereotype camera style. Combine these principles with ingenuity and expression, and the results will be creative and stunning. Artistic composition is improved when you develop your ability to observe. The following are guiding principles to help you develop an eye for good composition:

1. Illusion of depth
2. Movements
3. Center of interest
4. Balance
5. Lines
6. Forms
7. Mass

The cameraman should master these principles of composition.

b. An important principle of composition is achieving the illusion of depth. The television screen has a horizontal format. That means the screen is 3 units high to 4 units wide. It is wider than it is high, i.e., the format is horizontal as opposed to vertical. The TV screen has no depth, only height and width.

(1) The illusion of depth must be created or the production will look flat; this will be disconcerting, or not realistic to the viewer and you will lose your viewer.

(2) The illusion of depth can be created by use of overlapping planes. This requires positioning of subjects and objects in overlapping foreground, middle ground, and background (fig 3-47).

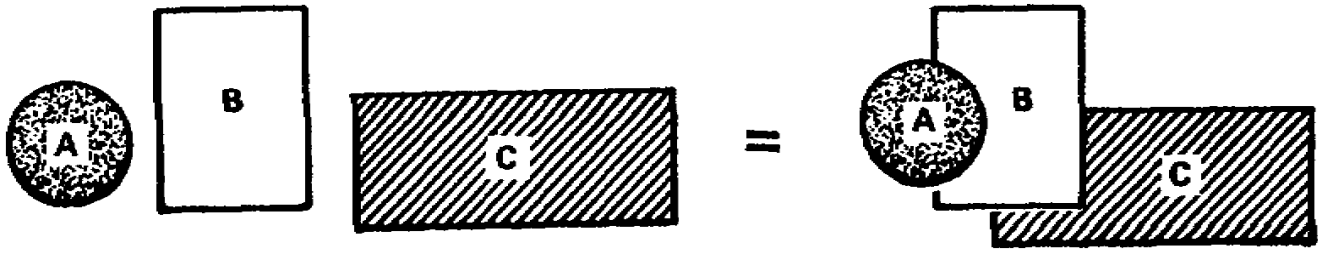

Figure 3-47. Overlapping planes

c. Compositional movements are a particularly important aspect of motion picture and television photography. Movements may be only suggested in still photography. Movements may be suggested and shown in motion pictures. Movements can have a psychological effect on the viewer. Movements may change during a shot, or a sequence of shots, to match the change of mood or pacing. Meanings of various compositional movements may be described as follows:

(1) Horizontal movements (fig 3-48) suggest momentum or impetus. Reading from left to right allows the audience to follow left to right with little effort. Right-to-left is stronger, because it goes against the grain. Right to left movement is stronger, for opposition shots such as the good guy moving toward the bad guy.

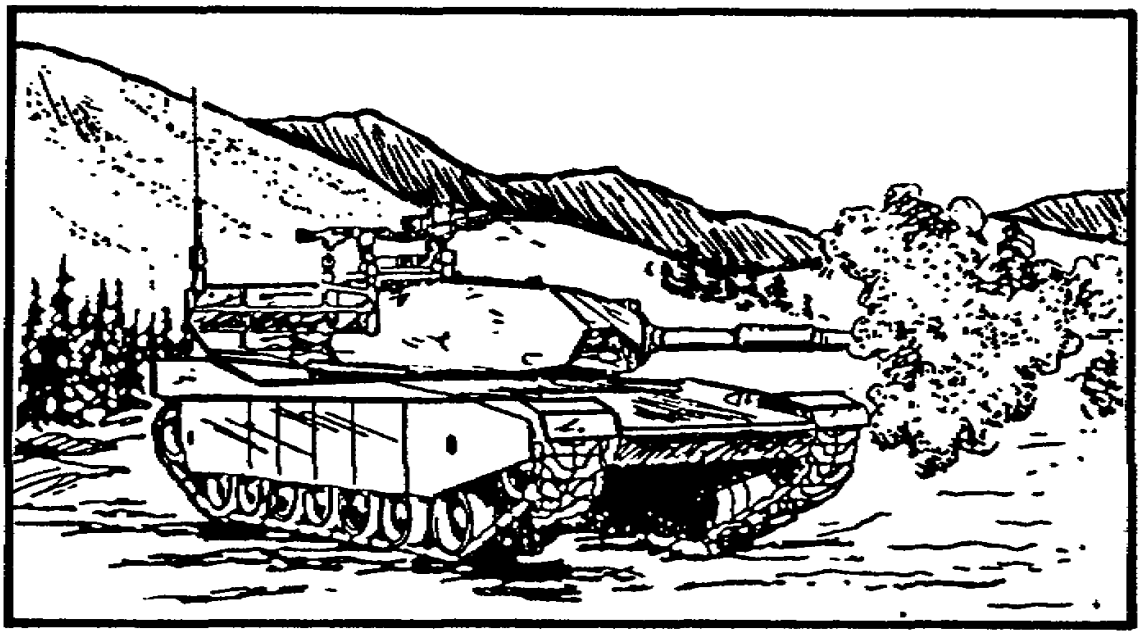

Figure 3-48. Horizontal movement

(2) Upward-rising movement or ascending vertical movement suggests elation or freedom from earth weights. Free flight may be inferred by an upward-rising missile (fig 3-49).

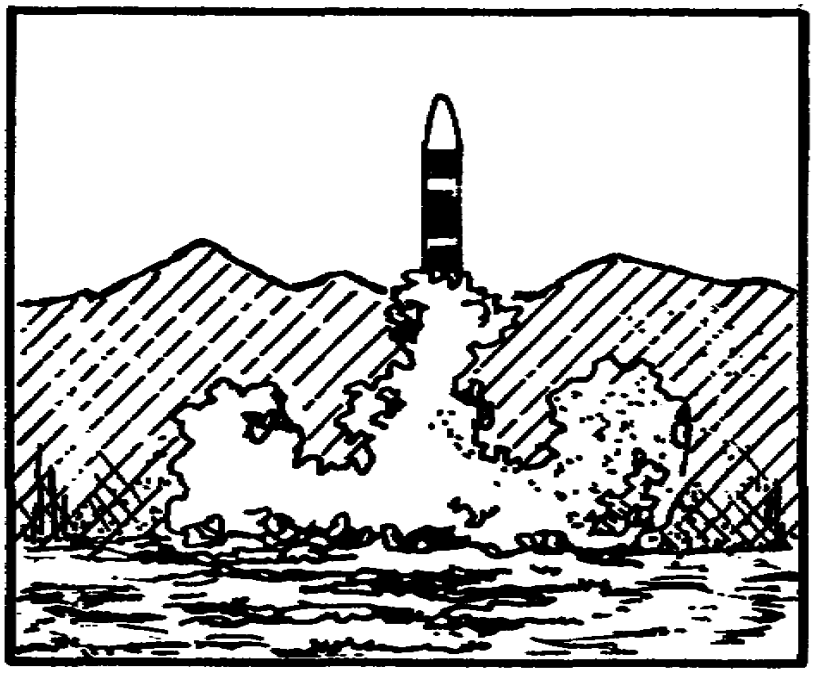

Figure 3-49. Ascending vertical movement

(3) Movement directed downward, a descending vertical movement, may imply impending doom, e.g., an avalanche (fig 3-50).

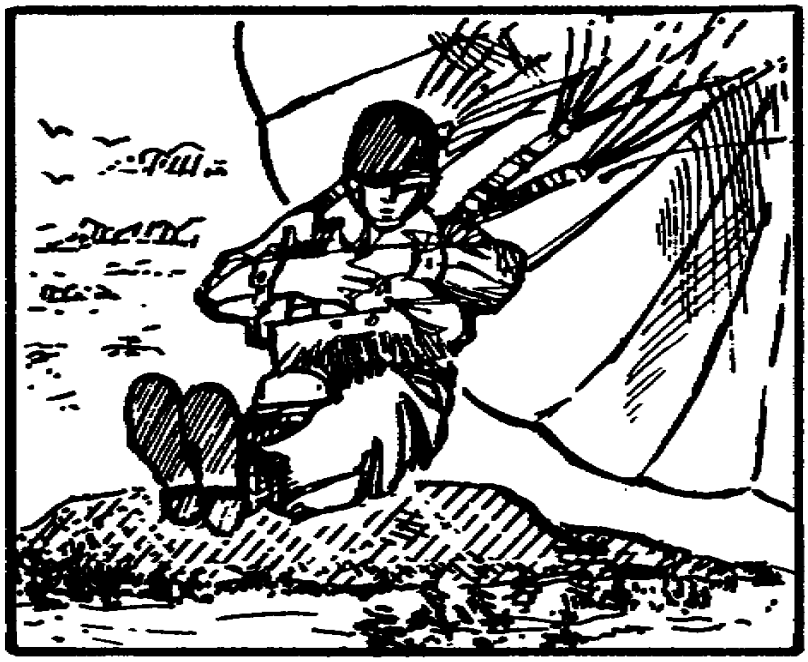

Figure 3-50. Descending vertical movement

(4) A diagonal movement is most dramatic; it gives the impression of overcoming obstacles by force in battle scenes. Climbing a mountain should be shown by a left-to-upper-right diagonal. Crossed diagonals suggest opposing forces; an example would be crossed swords (fig 3-51).

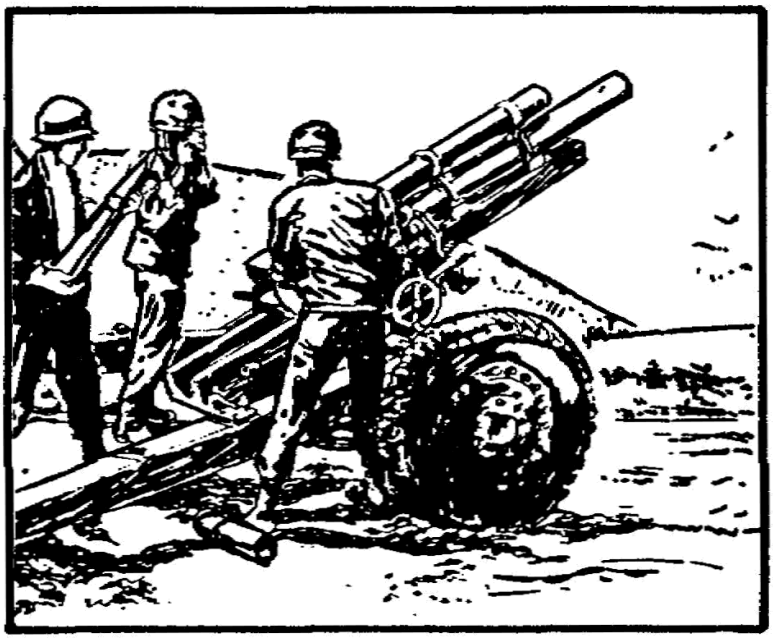

Figure 3-51. Diagonal movement

(5) Curved movement such as a curved snake suggests fear (fig 3-52).

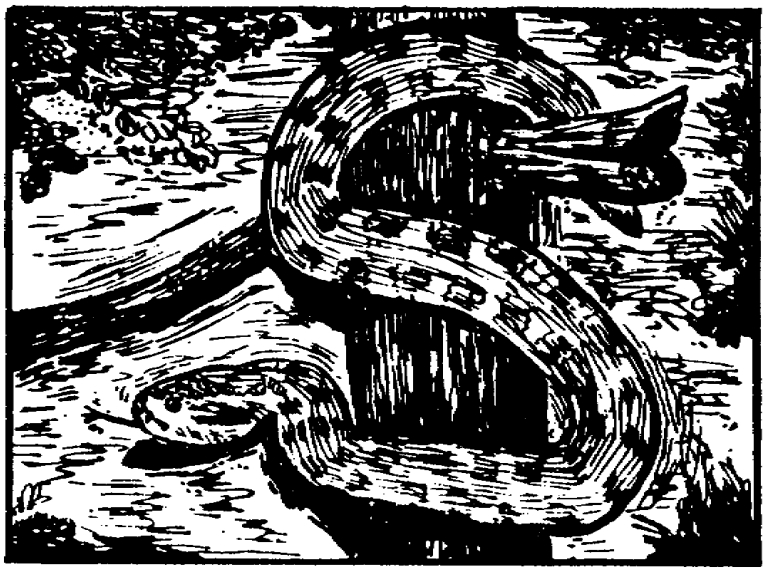

Figure 3-52. Curved movement

(6) Movement that changes direction attracts the eye of the viewer more than movement in one direction.

d. Shape is an important concept in composition, used to create balance or tension. Use the contour of an object or subject to your advantage. A single shape against a plain background can be striking. A dark form against a light background adds contrast to the scene. Several shapes, combining in a cohesive whole, result in a strong picture. Avoid scattered, non-unified forms.

(1) Regular shapes appear heavier than irregular shapes.

(2) The location of a shape inside the frame can change the picture weight. If an object or subject is lower in the frame, this implies heaviness. Higher in the frame renders a feeling of lightness. If the object or subject is centered, there is stability.

e. Lines lure the viewer's eye to the center of interest.

(1) A vertical line implies formality or dignity.

(2) Horizontal lines imply breadth or inactivity.

(3) A curved line suggests rhythm.

(4) Diagonals imply conflict.

(5) Well-defined lines are very strong, whereas a curved line is softer. The well-defined line suggests excitement, whereas the softer line suggests peacefulness.

(6) Irregular lines can be more interesting. You will need to discern what form and what line to use to best emphasize the center of interest.

f. Texture adds realism to a subject or object, adding character or special qualities. Closeups best reveal texture.

g. Depth can be suggested by proper use of the foreground and background. Whatever is in the foreground is usually dominant. For a different effect, change this dominance. Some variations of the foreground-background effect are the over-the-shoulder shot and the foreground positioning, i.e., positioning talent in foreground specifically to frame background elements.

h. A precise balance results in formality. No balance is unstable. Informal balance is generally preferred, unless you want either a formal or wild effect. There should be balancing in planes in depth, e.g., foreground and background, balance in perspective and balance in angles.

Lesson 3
Learning Event 5
PRACTICE EXERCISE

1. What is composition?

   a. No disturbing spaces
   b. Arrangement of the subject in the picture
   c. Hard and fast rules that apply to creativity
   d Pleasing array of lines

2. What are some basic principles of composition?

   a. Illusion of depth, center of interest, balance
   b. Horizontal format, height and width, balance
   c. Long shot, medium shot, and closeup
   d. Horizontal, vertical, and diagonal

3. Horizontal movements suggest:

   a. Travel, momentum
   b. Aspiration, growth
   c. Heaviness
   d. Opposing forces

4. Diagonal movements suggest:

   a. Crushing power
   b. Overcoming obstacles by force
   c. Swiftness
   d. Relentlessness

Lesson 3
Learning Event 5
ANSWERS TO PRACTICE EXERCISE

1. b, arrangement of the subject in the picture

2. a, illusion of depth, center of interest, balance

3. a, travel, momentum

4. b, overcoming obstacles by force

LESSON 4
DESCRIBE LIGHTING TECHNIQUES FOR A FIELD
TELEVISION PRODUCTION

TASK

Describe aesthetics of lighting techniques on location, and safety requirements during a field television production.

CONDITIONS

Given information relating to lighting techniques during a field television production.

STANDARDS

Demonstrate competency of the task skills and knowledge by correctly responding to 85 percent of multiple-choice test covering aesthetics of lighting techniques on location and safety requirements for lighting of a field television production.

REFERENCES

None

Learning Event 1:
DESCRIBE LIGHTING PRINCIPLES AND TECHNIQUES

1. Good lighting techniques are critical to all TV productions. Lighting is much more than aiming a single light source. In fact, a single light, straight on, will give a flat picture, i.e., no depth. To achieve the desired result, TV production personnel must be aware of technical and artistic reasons for lighting.

a. Technically, TV cameras require a certain level of light, except for those with charged-coupled device (CCD) capabilities. The ENG/EFP cameras you will be using in the field will not function without proper light. There must be light sufficient to reproduce detail and resolution. Technically, the camera requires: (1) enough light for the camera to function and, (2) enough light for detail. There is a minimal light level necessary for technical operation; on the other hand, there is a maximum level of light the camera will accept.

b. Artistically, lighting must create the illusion of depth, space, and form; ultimately, a sense of reality. Good lighting can simulate time of day, weather, environment, atmosphere or style. Distracting features can be reduced and appealing features enhanced.

2. Television is a two-dimensional medium. That is, television shows height and width. Lighting will add the depth needed. With depth, a scene appears three-dimensional. This illusion of depth is further enhanced by proper use of camera angle, set design, color, placement of talent and set pieces. Lighting alone does not provide an illusion of depth, but without it your scene will have an amateurish flat, look.

3. Light can be described as either hard or soft.

a. Hard light is highly directional; a single stream of light pointing in a definite direction (fig 4-1). The hard light defines features well; however, the result may be harsh (fig 4-2). Hard lighting casts definite shadows which need to be diffused by another light source. Texture and form are revealed under a hard lighting source. Hot spots are a problem with hard light, causing glare.

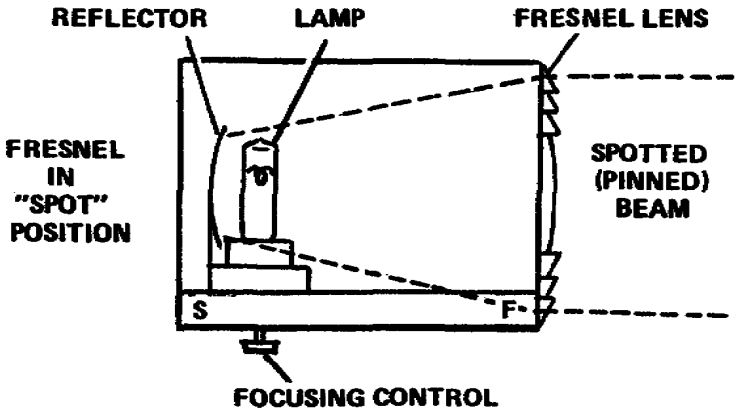

Figure 4-1. Fresnel light in the "spot" position produces hard light

Figure 4-2. Effect of hard light

b. Soft light is diffused or scattered (fig 4-3). It is not highly directional like hard light, but nondirectional. Soft light does not create distracting shadows. Misuse of soft light will make the subject look flat, i.e., no depth. Soft, directionless light will spill over into an undesired space. It is difficult to control soft light.

c. Dense shadows can be reduced with a soft light source (fig 4-4). Remember, you do not want to eliminate shadows entirely. A good way to describe lighting is the proper use of light and shadow in proportion to each other. Good lighting means good contrast.

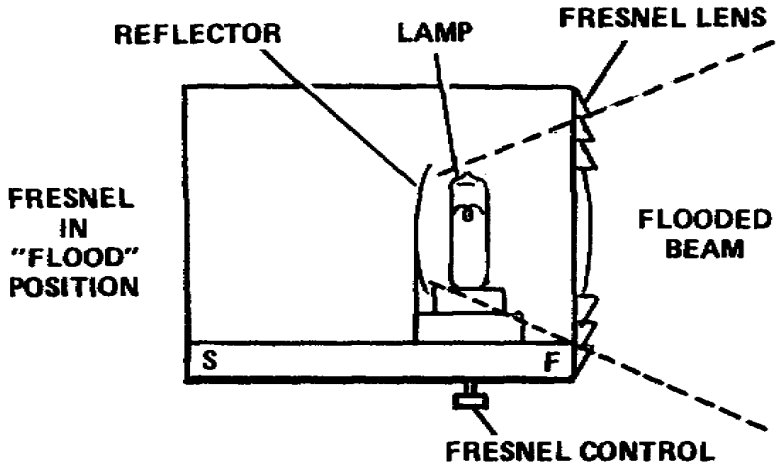

Figure 4-3. Fresnel light in "flood" position produces soft light

Figure 4-4. Effect of soft light

4. Direction is another part of lighting. When we talk of direction we mean the direction of light falling on a subject, not the direction the subject is facing. When you alter the direction of the light, you alter the appearance of the subject or object you are lighting. Lights may be positioned in front of, in back of, or to the side of an object or subject. With each new position, the appearance of the subject is altered.

a. Imagine you are using a clock and the light is positioned at 6 o'clock and the subject is in the center (fig 4-5). This is frontal lighting.

(1) The appearance of the subject is flatter

(2) Texture is diminished

(3) Frontal lighting creates needless shadows

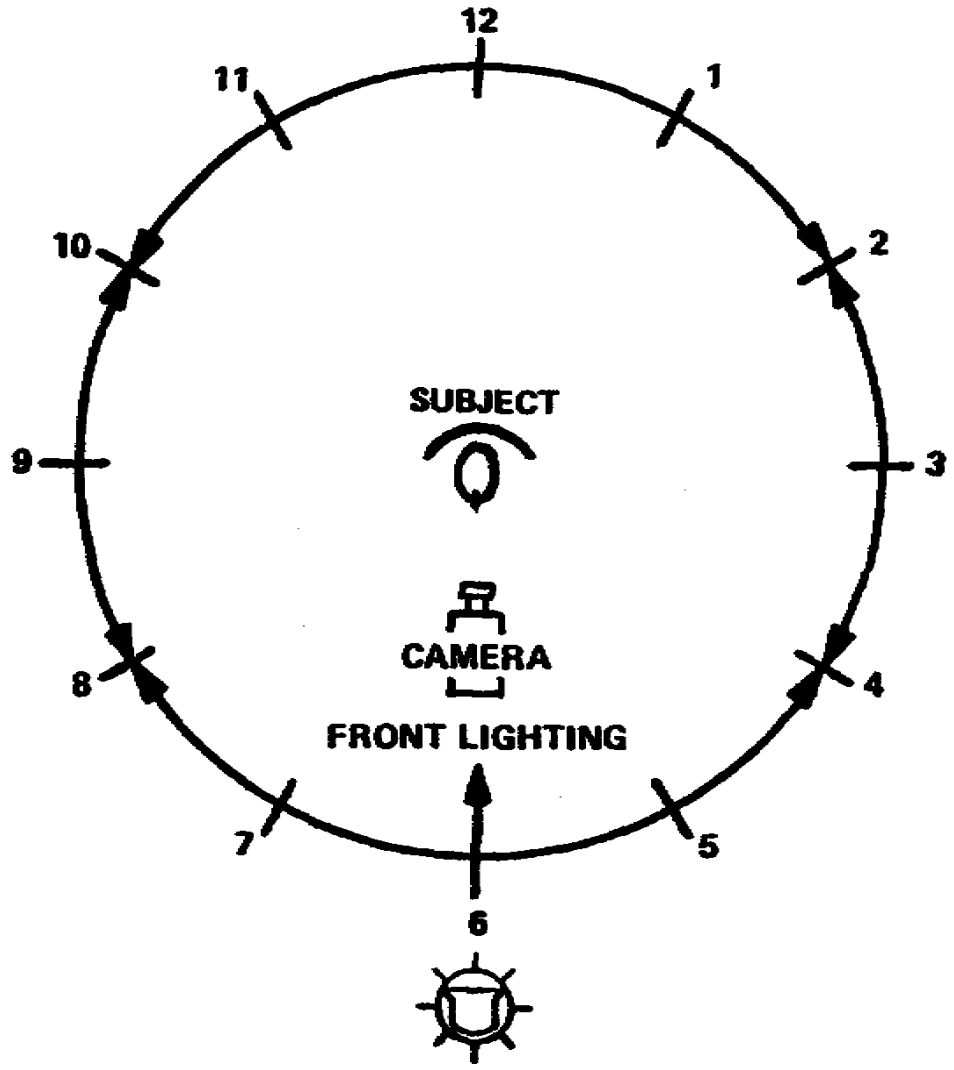

Figure 4-5. Frontal lighting

b. Back lighting has different results. The back light will silhouette sides of the subject (fig 4-6). This can cause a high contrast between highlights and shadows.

(1) A back light outlines all or part of the subject. This rim of light appears to separate the subject from the background.

(2) It can illuminate areas that are in shadows, although that is not the purpose.

(3) If the back light is too high the result will be stilted.

(4) Rimming caused by a back light should be used appropriately (fig 4-7).

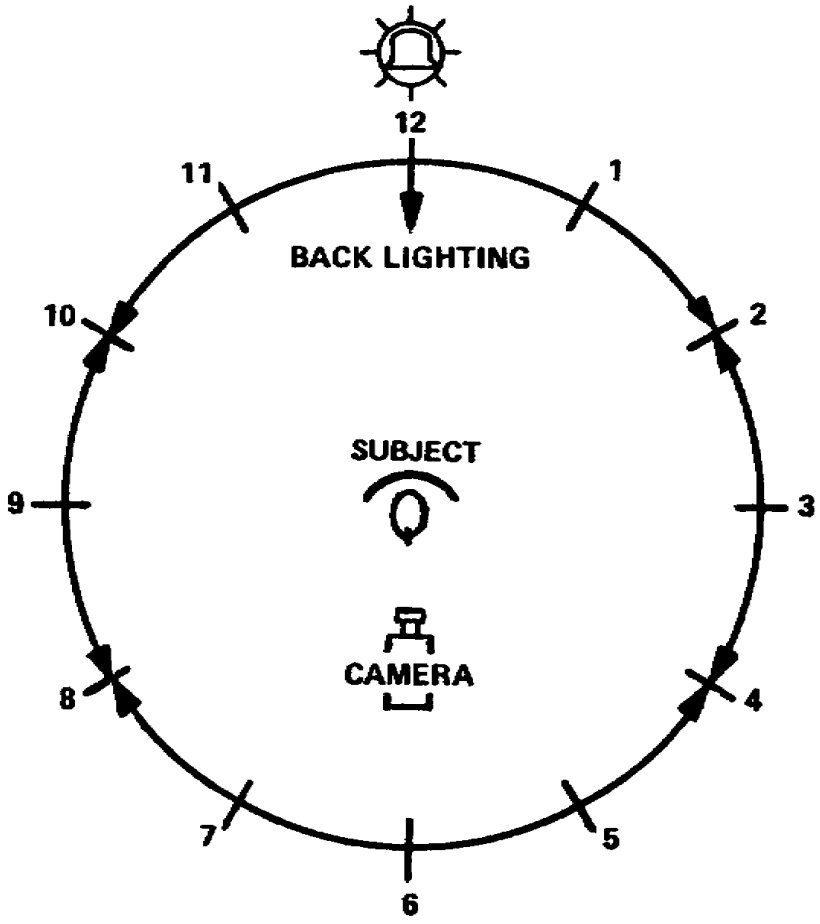

Figure 4-6. Back lighting

Figure 4-7. Rimming or halo effect by using back lighting

c. Side lighting, often called edge lighting, is to the side of the subject or object (fig 4-8). Using a side light in conjunction with the front light will reduce the harsh shadow areas. General shape will be emphasized if the light is at the 3 o'clock position or the 9 o'clock position. Side lighting can caricature as well as emphasize detail and distort it.

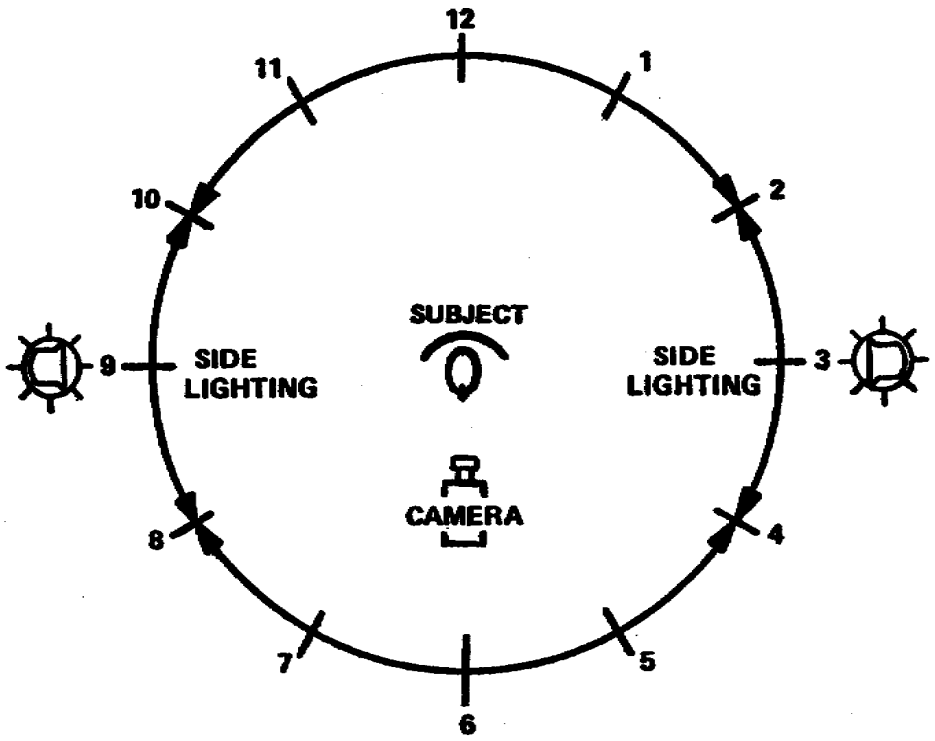

Figure 4-8. Sidelighting

5. Intensity is varied by changing distance between light and subject or object. Intensity can be changed by using another size light or by using dimmers. However, too much dimming will affect the color quality.

6. Do not forget shadows.

a. Avoid positioning the talent directly in the sun. The sun should be behind the camera. Shady areas with indirect lighting are good for outdoor shooting. An even distribution of light cuts down on too much contrast.

b. Lighten the very deep shadows with fill lights. If the overall baselight is not too low, you should not have a problem with sharp difference between the shadows and the lit areas.

7. There are three main lights, key, back, and fill, used in three-point lighting. The first is the key light.

a. The key light is the principal source of directional illumination falling upon a subject or area. As the main or source light, the key should dominate whatever its direction. The key light develops desired shadows.

(1) The normal position of the key light is in front of and to the side of the subject (fig 4-9).

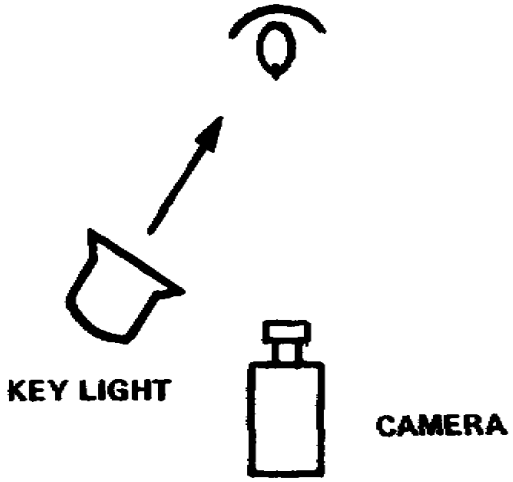

Figure 4-9. Key light

(2) Position and angle of key can be other that in front of and to the side. The choice of position and angle depends on the emphasis and appearance desired (fig 4-10).

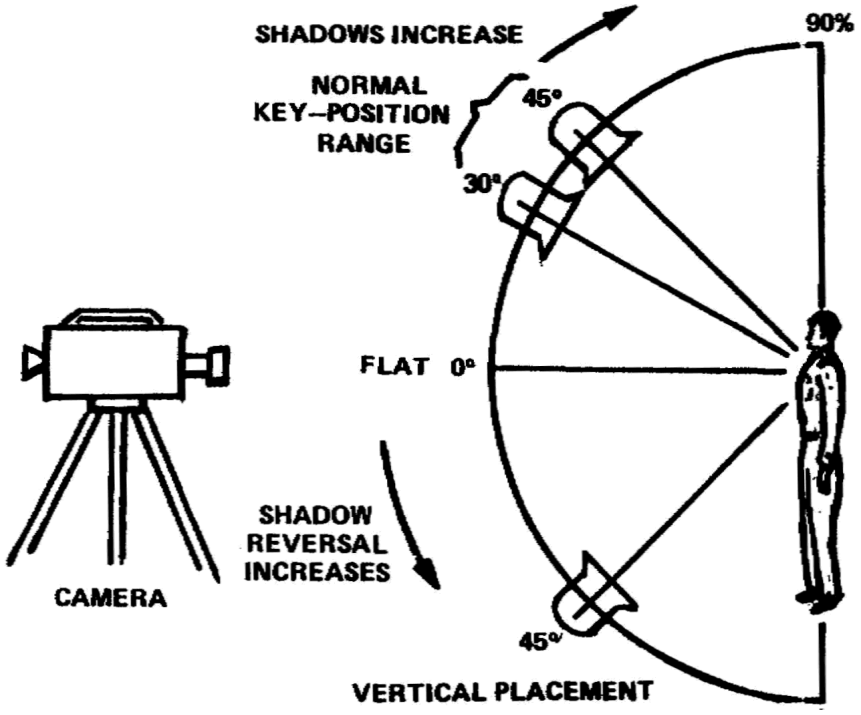

Figure 4-10. Key light positioning

(3) Because it is the strongest light, the key light gives well-defined modeling of features. However, a soft light will be required to subdue harshness and unwanted shadows.

(4) Key light is a hard light; it is easily controlled and beam is easily focused.

(5) Key light is the basis for facial lighting. The eyeline is an imaginary line projecting out at eye level at 90 degrees angle (fig 4-11). Set key light 20 degrees to either side of eyeline.

(6) If there is too little key light, both sides of the subject's nose will have shadows.

(7) If there is too much key light, the contrast between light and shadow will be excessive.

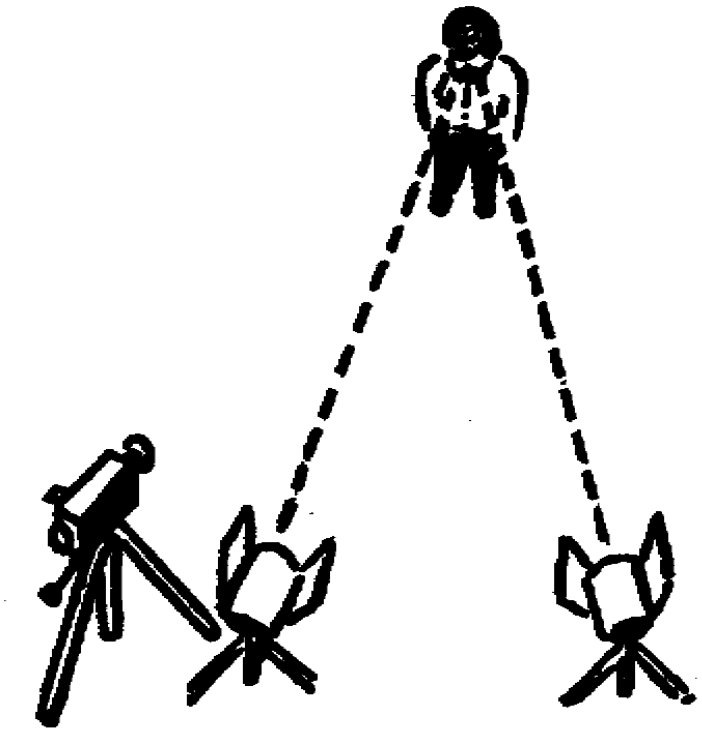

Figure 4-11. Key lighting using the eyeline concept

b. Back light is behind the subject and pointing towards the camera (fig 4-12).

(1) Hard light is generally used for a back light.

(2) Back light adds a rim or halo. This rimming separates subject from background which gives the illusion of depth.

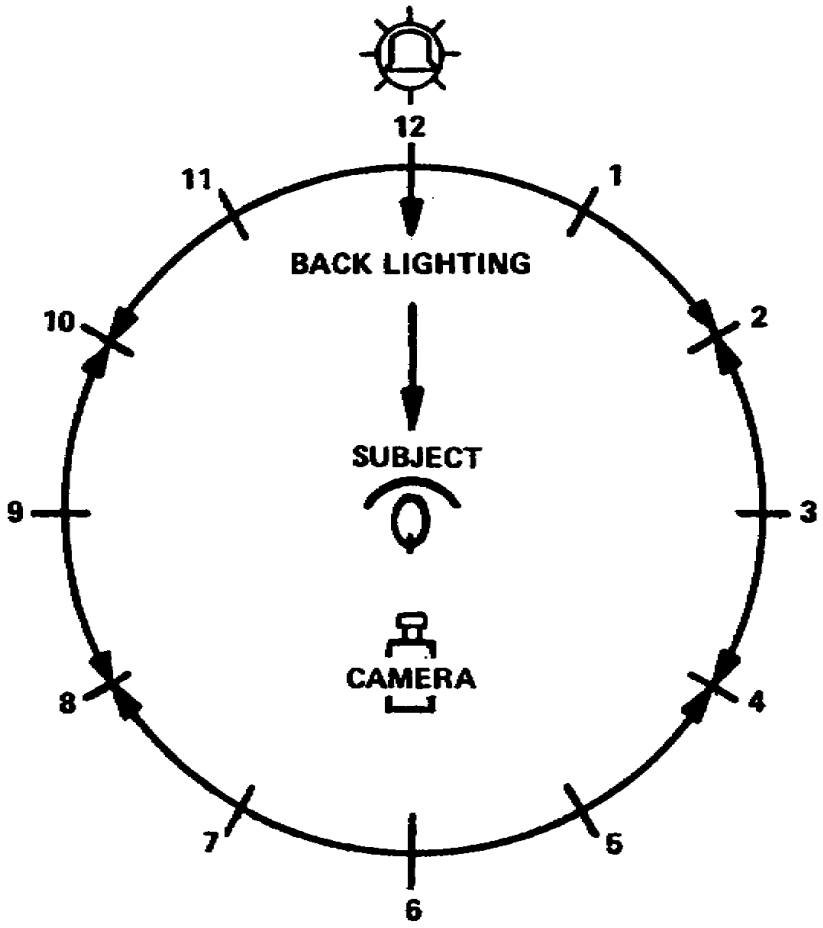

Figure 4-12. Back lighting position

(3) The camera is at 6 o'clock position and subject is in center. Backlight should be positioned at 12 o'clock at a 45-degree angle.

(4) Too much back light causes a halo effect.

(5) With too little back light it appears that the subject blends into the woodwork.

c. Fill light softens undesired shadow densities. Reduce contrast between shadows and light. Supplementary illumination reduces shadow or contrast between highlights and shadows (fig 4-13).

Figure 4-13. Fill light

(1) A fill light is generally a soft light.

(2) Position fill light at 30 degrees.

(3) Too much fill subdues facial features, e.g., cheeks, nose, and area above eyes. Subject's face will look flat (fig 4-14).

(4) Too little fill and the key will dominate; the effect may be a harsh look or be shadowy.

Figure 4-14. Fill intensity too high

8. Sunlight changes throughout the day. The position of the sun changes constantly with the hour. Remember the sun's direction and elevation when videotaping.

a. If the area is relatively small it is possible to supplement sunlight, picking out certain detail, creating patterns of light and shade.

(1) For many outside shots, there is no way to change the natural lighting conditions. You may have to change camera viewpoint or shoot from another location offering better lighting angles.

(2) If it is bright and the area is large, supplementary lighting may be ineffectual. The large daytime areas will swallow up even larger lights. On a bright day, in larger areas, it is difficult to fill in the daytime shadows.

(3) For closer shots, tungsten halogen lamps may be used as shadow fillers. However, a high power light source requires adequate power.

(4) A scrim (a gauze or mesh panel diffuser) may soften or reduce excessive sunlight (fig 4-15).

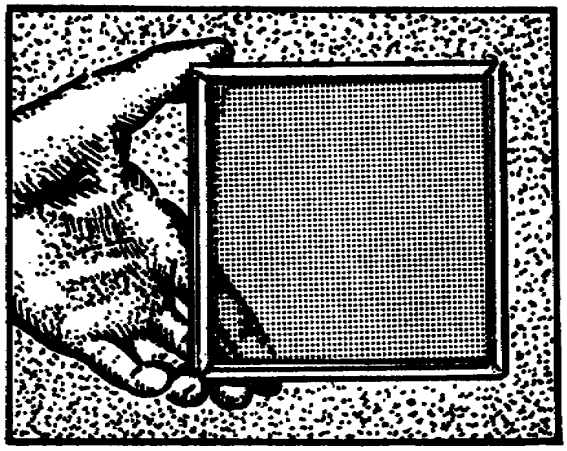

Figure 4-15. A scrim

(5) Strong frontal sunlight behind the camera has a generally flat, hard effect and may be used if that effect is sought. Colors on the subject may appear coarsely saturated.

9. Portable lighting. A portable light can be used either indoors or outdoors. If there is no AC power for hookup then a generator or batteries can be used. Quartz-halogen light sources make good portable lighting equipment by reducing the size and weight of equipment. Portable lighting usually comes in a suitcase-packed kit. It is excellent for use on small location

sites and includes lamps which can be moved to spot or flood positions, and accessories which include barndoors, metal flaps in front of a spotlight to control the light; full and half scrims, and cucalorus (kookie), a special cutout placed in front of a spotlight (figs 4-16 and 4-17).

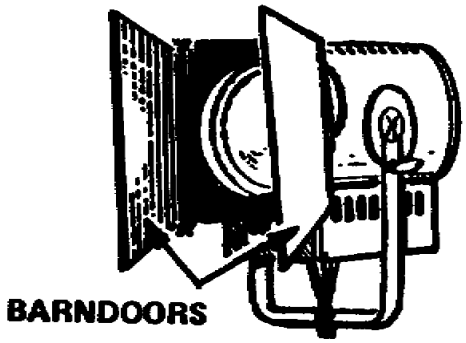

Figure 4-16. Barndoors

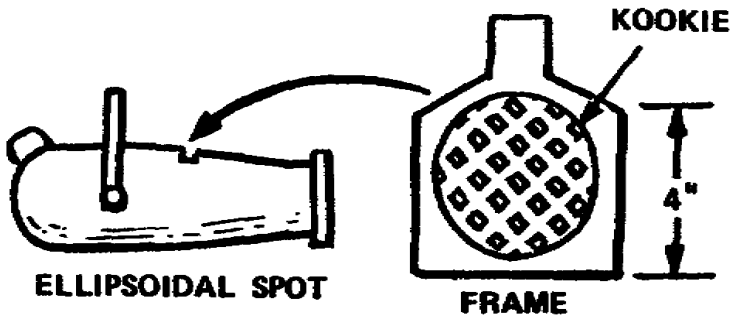

Figure 4-17. Cucalorus (kookie) inserted in front of a spotlight

a. A battery-powered light can be used anywhere.

b. Photoflood lamps are excellent for on-site shooting; they can be attached to lightstands or a bracket.

c. Tungsten halogen lamps are smaller lamps and emit constant color temperature in spite of age.

d. A portable sungun is a hand-held battery-powered light. It can be used in television news gathering. The battery has a built-in charging device and will operate between 20 and 30 minutes (fig 4-18).

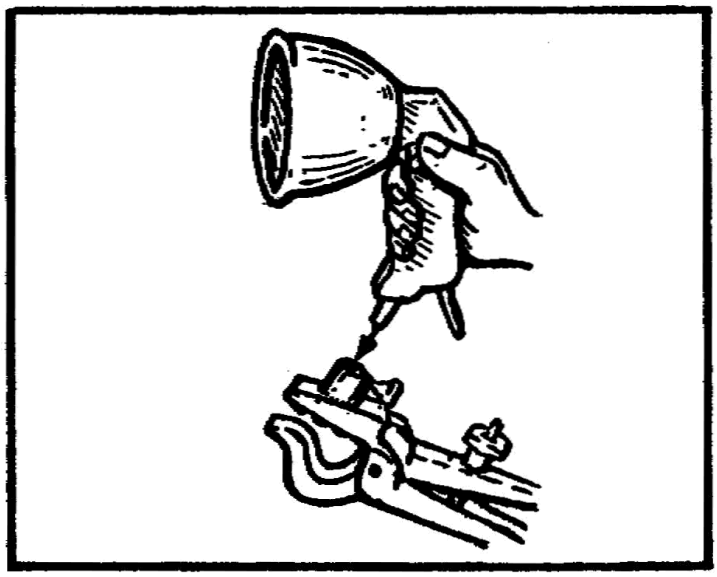

Figure 4-18. A sun gun can be held or clamped

f. Night lighting is possible with the portable lighting kit or lights for a smaller area.

g. If the location is naturally lit, campfire, moonlight or streetlights, lighting treatment is built up from these directions.

Lesson 4
Learning Event 1
PRACTICE EXERCISE

1. Which attracts greater viewer interest?

   a. Continuous movement
   b. Receding movement
   c. Movement that changes direction
   d. Movement in a constant direction

2. What happens if the picture is not composed correctly and the eye is led from center of interest?

   a. There will be disturbing empty spaces
   b. Persistence of vision will fill in the gap
   c. There are no hard and fast rules
   d. The value of the shot could be minimized

3. What is the effect of a single light straight on?

   a. Helps create the illusion of depth
   b. A flat picture with no depth
   c. Simulates an environment
   d. Enough light to function

4. What is a two-dimensional medium?

   a. One that gives the illusion of depth
   b. A normal camera angle
   c. One that is technically and artistically correct
   d. One that shows height and width

5. Which light is highly directional?

   a. Fill light
   b. Side light
   c. Soft light
   d. Hard light

6. A hard light defines features well, however:

   a. It is not highly directional
   b. It may make features appear harsh
   c. It reduces dark shadows
   d. It spills light into undesired space

7. What is a result of soft lighting?

   a. Can have an abrupt effect on talent
   b. Reveals texture
   c. Is scattered
   d. Causes rimming

8. What is one way to describe lighting?

   a. Changing intensity
   b. Proper use of light and shadow
   c. That which is scattered to give a wide angle of illumination
   d. Well defined modeling of features

9. Which of the following is true concerning shadows?

   a. Should be eliminated entirely
   b. Should not be eliminated entirely
   c. Remove with proper back lighting
   d. Always create an unprofessional look

10. How do you reduce dense shadows?

   a. Pinning the beam
   b. Highly directional lighting
   c. Positioning light in front of, in back of, or to the side of heavy density shadow
   d. Soft light source

11. How does the term "direction" apply in lighting?

   a. Direction subject is facing
   b. Single stream of light
   c. Direction of light falling on a subject
   d. Redirecting soft, directionless light

12. What is high relief?

   a. High contrast between light and shadow
   b. High separation between subject and background
   c. High degree of illumination
   d. Position and angle of key

13. What is a key light?

   a. Three lights used in three-point lighting
   b. A light that softens dense shadows
   c. One that reduces hot spots
   d. Principle source of directional illumination falling upon a subject

Lesson 4
Learning Event 1
ANSWERS TO PRACTICE EXERCISE

1. c, movement that changes direction
2. d, the value of the shot could be minimized
3. b, a flat picture with no depth
4. d, one that shows height and width
5. d, hard light
6. b, it may make features appear harsh
7. b, reveals texture
8. b, proper use of light and shadow
9. b, should not be eliminated entirely
10. d, soft light source
11. c, direction of light falling on a subject
12. a, high contrast between light and shadow
13. d, principle source of directional illumination falling upon a subject

Learning Event 2:
DESCRIBE LIGHT METERS

1. A light meter is accurate under many types of lighting conditions. Vision, alone, might not allow the cameraman to gauge the lighting. Resultant exposure could vary remarkably between individuals. Poor lighting can ruin even the most common or easy camera angle or shot. The intensity of a single small area cannot contrast too greatly from overall intensity. This contrast could be very obvious to the audience.

a. During the early part of the 1930's, science placed light meters in the hands of photographers. This light meter, also called exposure meter, or photoelectric exposure, measures light intensity or brightness. The meter measures the intensity of light falling on an object or subject or reflected by that object or subject.

b. Light strikes the light-sensitive surface of the meter. That surface reacts to light by generating a current. The current is in proportion to the light; the greater the light the greater the current.

c. The "meter" is simply a galvanometer, i.e., an instrument for detecting small electric current. The galvanometer movement causes a needle or light value indicator to deflect across the face of the meter scale (fig 4-19).

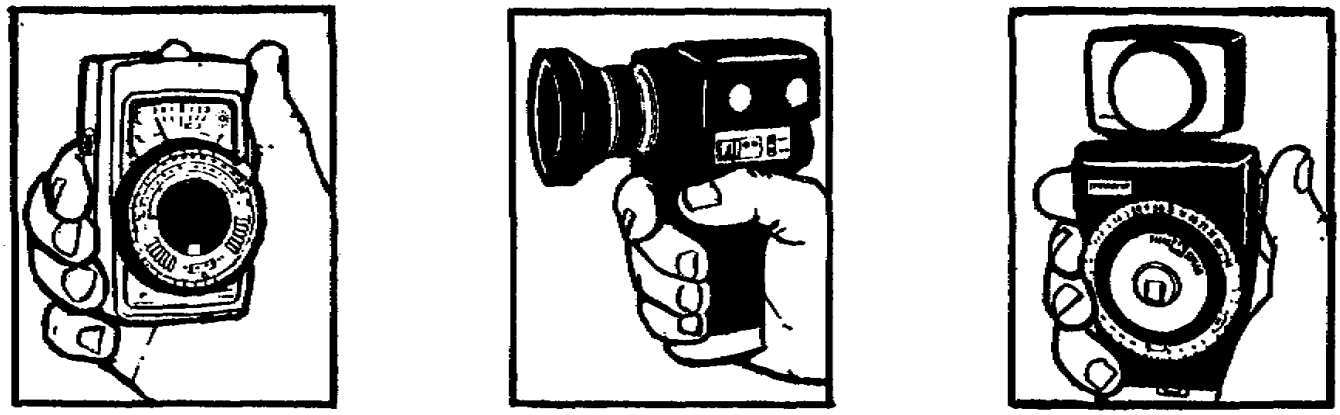

Figure 4-19. Types of light meters

2. Types of readings. Reflected light readings are measurements of the intensity of the light reflected from a scene or object and generally are more accurate than incident light readings, except when the prevailing light is low level (fig 4-20).

a. Use the near-object position when certain details are to be emphasized and surrounding light is in definite contrast to that reflected from the pertinent area. Hold meter near object or portion of the scene or object to be emphasized. Be careful not to cast a shadow on the object while a reflected light reading is being taken.

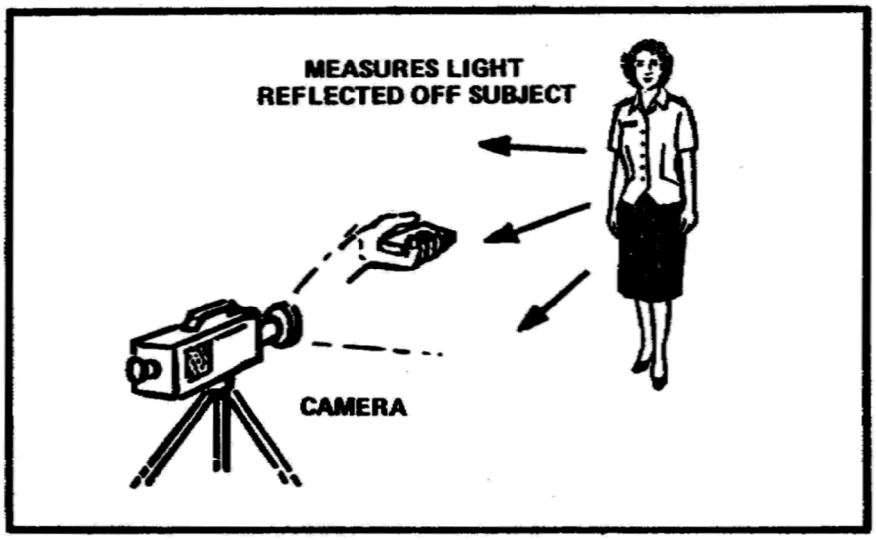

Figure 4-20. Reflected light meter reading

b. Incident light readings are measurements of the intensity of the light by which a scene or object is illuminated (fig 4-21). Use incident light readings to determine the best average exposure when the general illumination is at a low level. Hold meter near the object or the center of the scene and aim the meter toward the camera, in direction of the light. If the light comes from one side, point meter about halfway between the light source and the camera. Never point the exposure meter directly at the sun.

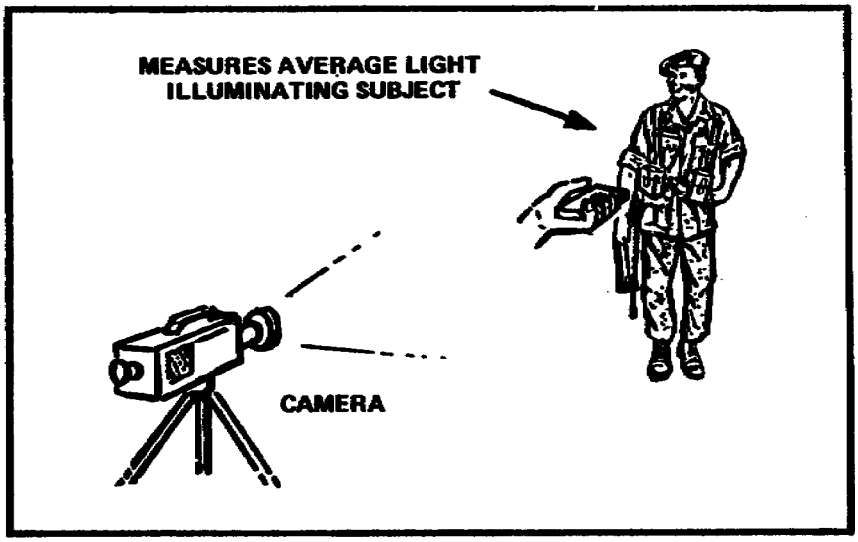

Figure 4-21. Incident light meter reading

3. Selecting suitable method for reading. Use average brightness method when scene has no outstanding or dark area and no details are required for special emphasis. Take reflected readings from camera position or near-object position.

a. Use brightest-object method when both the brightness of the darkest object and the average brightness of the scene are below range of light meter, when complete detail in the brightness portion of the scene is required and when light reading of the brightest object is required to determine the average brightness of a scene. Hold meter close to the brightest object in which full detail is desired. Disregard incidental bright spots such as a window in an interior scene or a patch of bright sunlight in an otherwise shaded area.

b. Use a reflected light reading when most important object in a scene is very dim or has adjacent reflections or bright spots unrelated to the subject and when a light reading of the darkest object is required to determine the average brightness of the scene. The method may be used for any scene.

c. Use the substitution method when it is impractical or impossible to take reflected light readings from the near-object position because the actual objects or most important are inaccessible. Take reflected readings from nearby objects that are lighted in the same manner as the inaccessible objects. Be sure the substitute object and actual object are lighted in the same way.

4. A light meter will last for a long time if you do not drop it or abuse it. Consider the following:

a. Always handle meter correctly since quality of video depends on correct readings.

(1) Do protect meter from bumping against other objects. Carry meter in your pocket or camera case when not in use. The meter case is not adequate in extreme conditions.

(2) Do not subject photoelectric cell to extreme light intensities. These intensities cause indicator needle to bounce at the high end of the scale and eventually cause damage.

(3) Do not subject the meter to extreme hot or cold.

b. Care in arctic areas. Extreme cold, i.e., subzero temperatures, and sudden changes in temperature, are both detrimental to the mechanism of the meter.

(1) Protect meter by placing meter inside jacket or in a packet and store in a warm but not hot place after use.

(2) In cold, dry weather, the window may receive a static charge that will deflect the pointer and cause a false reading. Breathe on the window to remove the static charge before taking light readings.

c. In desert regions protect meter from dust, extreme heat and sudden temperature changes. Always enclose the meter in its case when it is not actually in use and store in a cool place.

(1) Never leave the meter exposed to the direct rays of the sun.

(2) Temperatures of 125 degrees Fahrenheit and over may cause permanent damage to the light-sensitive area or to the photoelectric cell.

d. In the tropics, follow light meter readings exactly because tropical sunlight, although extremely bright, may have less effect than weaker sunlight of the moderate temperature zones.

(1) Shield exposure meter from extreme heat at all times and store it in a cool, dry, well-ventilated place when not in use.

(2) Clean frequently to prevent corrosion caused by high relative humidity.

Lesson 4
Learning Event 2
PRACTICE EXERCISE

1. When is a light meter accurate?

   a. In sunlight
   b. Indoors, under tungsten halogen lights
   c. Seldom
   d. Under many types of lighting conditions

2. What does a light meter do?

   a. Measure intensity of light falling on an object
   b. Measures intensity of light reflected by an object or subject
   c. Both a and b
   d. Measures reflected readings of inaccessible objects

3. The current inside the light meter is in proportion to what?

   a. Temperature and humidity
   b. DC output
   c. AC output
   d. Light

4. What is a reflected light reading?

   a. Measurement of sun striking a subject or object
   b. Measurement of the intensity of light reflected from a scene
   c. Measurement of key light minus back light in a 2 to 1 ratio
   d. Measurement of illumination without shadow density

5. What is a galvonometer?

   a. Instrument for measuring best average exposure
   b. Instrument for detecting small electric current
   c. Instrument for transposing current values into footcandles
   d. A light-sensitive surface

6. What is an incident light measurement?

   a. Measurement of intensity of light by which a scene is illuminated
   b. Measurement of fill light
   c. Measurement of average brightness of a scene
   d. Measurement of incidental bright spots

7. Which of the following is true about light meters?

   a. Clean frequently in arctic temperatures
   b. Place meter inside jacket in tropics
   c. Temperatures of 125 degrees Fahrenheit and over do not damage light meter
   d. Never leave meter exposed to the direct rays of the sun

Lesson 4
Learning Event 2
ANSWERS TO PRACTICE EXERCISE

1. d, under many types of lighting conditions

2. c, both a and b

3. c, AC output

4. b, measurement of the intensity of light reflected from a scene

5. b, instrument for detecting small electric current

6. a, measurement of intensity of light by which a scene is illuminated

7. d, never leave meter exposed to the direct rays of the sun

Learning Event 3:
DESCRIBE REFLECTORS

1. Field productions have produced their own lighting problems. Have you noticed the deep shadows on the talent's face when sunlight comes from the side or back? How to fill in the shadows with appropriate light is a problem generally solved by reflectors which will compensate for the extreme differences in light level and lighten up the shadows. Reflectors serve the same purpose as fill lights in a studio situation. Tinfoil or aluminum foil is used for homemade reflectors.

2. Reflectors, also called reflector boards, are an inexpensive and convenient way of reducing shadows (fig 4-22). They redirect light to the subject. Reflectors bounce sunlight into areas of shadow that won't photograph well, supplying light to an area that needs more light for detail. Artificial light as well as sunlight can be reflected.

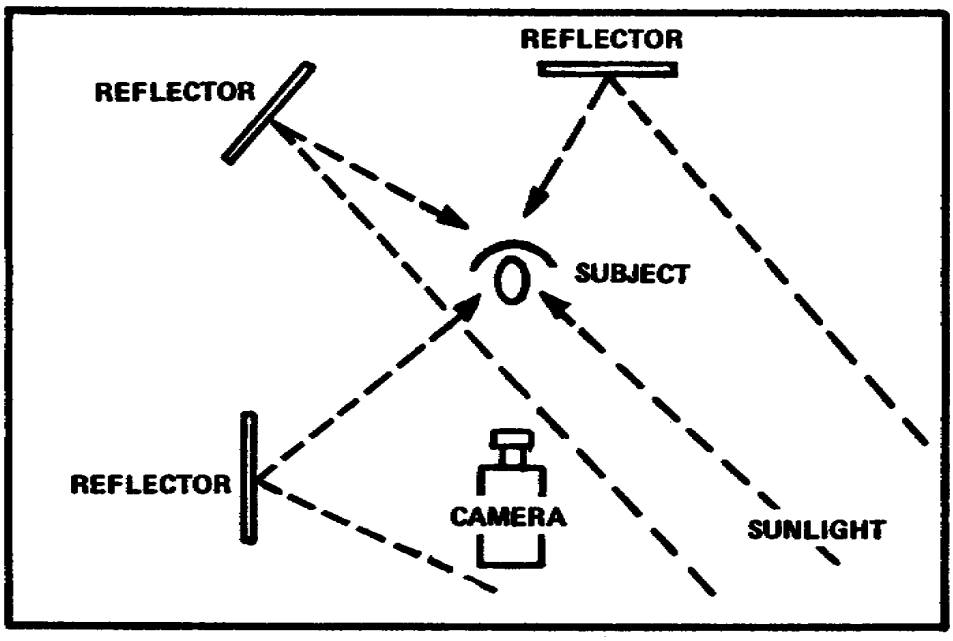

Figure 4-22. Reflector boards

a. When talent is back lit using sunlight as the keylight or dominant light, the amount of light reflected from the subject's face may be insufficient. The face is in its own shadow. In closeups, facial detail is more prominent than a long shot. To compensate for the facial shadows and define detail in the face in a closeup, use a reflector which will help balance contrast.

b. Remember, as you increase the distance from the reflector to the reflected area, any movement of the reflector is magnified. The reflector should be stable and steady. Movements due to wind or any kind of vibration

should be minimized. Mount reflector on a stand or have it secured by yourself or another person, just as you would do with a camera.

c. Monitor the position of reflectors because as the sun moves, it may make the reflector ineffectual.

3. Many varieties can be purchased. It may be easier or cheaper to make your own reflectors.

a. Use polystyrene for one side and put crumpled tin foil on the other side. The polystyrene will give you hard light reflectance and crumpled tin foil will give you soft light reflectance.

b. If you do not have polystyrene, use a piece of a cardboard or plywood for backing material. Glue smooth foil to one side and crumpled foil to the other.

c. Use white paper or possibly newspaper if you do not have tin foil.

d. Use a piece of cardboard or plywood or something similar for backing. Crumple foil and partially smooth it, then glue to backing. Smooth foils give hard light, crumpled foils produce diffused light. A crumpled foil reflector is preferred to avoid hotspots.

4. Types of reflection. One type of reflector has two sides, one with smooth silver paper and the other silver leaf. The two sides offer specular and diffuse reflection. With specular reflection (the smooth side), the rays are hard and parallel, casting sharp, well-defined shadows. Diffuse reflection (the silver leaf side) is the type seen on a cloudy, overcast day. The rays are soft, scattered and not parallel. It results in flat lighting and poorly defined shadows.

a. With a homemade reflector, the smooth foil is spectral light or harder light. The crumpled foil side produces a diffused light. The chance of hot spots is minimized with the crumpled foil.

b. When using polystyrene for one side and tin foil for the other, a variation on the foil reflector, the polystyrene will give you hard light reflectance and crumpled tin foil will give you soft light reflectance.

5. Other uses for reflectors. For a very bright spot of light, use mirrors or polished tin for distant objects or special effects. A reflector isn't usually required for a long shot, since detail is not important in faces; the person is small in comparison to overall picture.

a. Silver reflectors are used as back lights or cross lights or illuminating a dark background.

b. Polished tin or mirrors can be used for distant objects or special effects where an extremely strong light is required.

Lesson 4
Learning Event 3
PRACTICE EXERCISE

1. What problem do reflectors solve?

   a. They form necessary hot spots
   b. They fill in shadow areas on a subject's face
   c. They are used in emergencies to signal the director
   d. To replace back lights

2. A reflector is often compared to which light source?

   a. Key light
   b. Fill light
   c. Back light
   d. Side light

3. Which type of light will you get from the crumpled foil side of a reflector?

   a. Hard
   b. Special effect
   c. Diffused
   d. Not spot

4. Which of the following is true about a reflector?

   a. Smooth foil is preferred to avoid hot spots
   b. Use for facial detail in long shots
   c. It is unnecessary to monitor position of reflector
   d. Be sure the reflector is steady

5. How do you compensate for facial shadows and define detail on the face?

   a. Use polished tin
   b. Use silver reflectors
   c. Use of the soft light reflectance
   d. Use of specular reflection

Lesson 4
Learning Event 3
ANSWERS TO PRACTICE EXERCISE

1. b, they fill in shadow areas on a subject's face

2. b, fill light

3. c, diffused

4. d, be sure the reflector is steady

5. c, use of the soft light reflectance

LESSON 5
DEFINE THE POSTPRODUCTION PHASE
OF A TELEVISION FIELD PRODUCTION

TASK

Describe postproduction activities, viewing raw footage, editing, aesthetics, operator's maintenance, and preparing a postproduction package.

CONDITIONS

Given information and illustrations relating to postproduction.

STANDARDS

Demonstrate competency of the task skills and knowledge by correctly responding to 80 percent of multiple-choice test covering postproduction activities.

REFERENCES

None

Learning Event 1
DEFINE EDITING AS A CREATIVE ACTIVITY, LIST THE PRINCIPLES OF EDITING

1. Editing is an art. Art implies aesthetics, i.e., is the product well made, does it possess excellence, value, and quality? A production can be assembled indifferently or ruthlessly, with no regard for quality. It would be easy to assume that editing is a matter of throwing scenes together. To the craftsman, this is the perfect way to mutilate quality camera footage. Editing requires a competent craftsman, one with an aesthetic sense. Without care, the final product is the same old thing. If the editor has pride, the production will reflect excellence.

2. Each editor has a different editorial approach. There are no set rules for editing. Editing is a creative affair requiring the editor's judgment. Editorial judgment reflects a sense of timing, personal preference, and emphasis.

a. The editor can be meticulous with his product or he can be lazy and thoughtless of the audience. The editor has it in his power to enhance or destroy quality footage that the cameraman has worked hard to produce, or a conscientious editor may be pressured to "save" mediocre footage from an incompetent cameraman. Many cameramen prefer to edit their footage to ensure a quality product.

b. Reviewing original or raw footage is not a laid-back job; it is analyzing, not just viewing. A good editor will mentally visualize 75 percent of the edits to be made, with most of the planning accomplished in one session. Before editing, review and note all footage for the following:

(1) Video quality (good, fair, bad, unusable).

(2) Type of shot (closeup, medium shot, long shot) and subject.

(3) Identify shots used for cut-ins and cut-aways.

(4) Audio quality.

(5) Time and length of each shot.

(6) Log all counter numbers.

(7) Maintain quality check or control track.

(8) Note inadequate lead-in of control track.

(9) List all shots or scenes to be reshot.

3. Beginning the tape. Before editing any of your work, there are some signal requirements that you must be aware of. You will implement these requirements during your editing exercises.

a. Video test signal. The video level of the VTR normally is automatically controlled as it is often not possible to adjust for rapid changes in video levels manually. Typically, you record one minute of video consisting of color bars. The color bars provide you and the video engineer with a reference used to set up other video equipment during playback.

b. Audio test signal. The audio test signal recorded is a 1000 Hz tone used to set the VTR volume levels. You set the levels in the manual mode, not the automatic gain control (AGC) mode, as the AGC will cause hiss and roar as it seeks a signal during quiet portions of the program. Once you set the VTR audio levels with 1000 Hz tone, leave the controls alone. All subsequent audio level adjustments are done at the audio console.

c. After the test signal, there is a short section of "black," possibly a leader or countdown from ten to two seconds, one second of "black," then the opening of the program.

4. Editing principles are not rules, they are suggested techniques. Two fundamentals of editing are continuity and aesthetics. We must maintain audience attention by keeping their interest, by not boring them, by not confusing them. Be thoughtful of the audience while editing.

a. A rule of thumb is be aware of where the audience's attention is located on the screen before and after each edit. Good editing includes smooth transitions.

b. Continuity is fundamental. Are sequences coherent? Do shots parallel the script?

c. Avoid jump cuts. Do not edit two shots together in such a way that an obvious movement is deleted. Subject will appear to jump.

d. Avoid double action. Redundant action destroys continuity and action doesn't flow.

e. Don't change screen direction without explanation.

f. Don't cut or edit too soon. Don't lose confidence in the scene too soon. The effect may be jerky.

g. Match action.

h. Edits are often motivated by a causal relationship.

i. Edits can also be a bridge or transition.

j. Cut in on action. Cut action a fraction after the beginning of movement.

k. Avoid cutting from one shot to a shot of an irrelevant detail. You must capture the audience's attention; the production should carry itself. Audiences must not have to fight to follow the action. They should not be aware that they are being manipulated by good editing technique.

l. Use re-establishing shots any time something, someone, or somewhere new is introduced to the production.

m. Be alert to scenes that are supposed to be happening at the same time of day but were shot at different times or days.

n. Use cut-ins and cut-aways to help audiences forget former scenes.

5. Aesthetics are important. Smooth transitions are foremost; set pace and mood. Maintain quality throughout.

a. Good timing is good editing.

(1) Short cuts result in fast tempo, that is, one scene right after another, right after another.

(2) Long cuts result in slow tempo.

(3) Is scene length appropriate?

(4) Editing can compress time.

(5) Editing can lengthen time.

(6) Edit for the appropriate moment.

b. Use cut-ins and cut-aways of the same quality as overall scene.

c. When choosing from a variety of like shots, select the one with best composition, focus, color, and least distracting foreground or background.

d. Ensure that special electronic effects have a purpose and enhance the program.

e. Use appropriate change of angle. The shot should be different enough to avoid boredom but angle should not be so different as to be confusing or give a jerky effect.

f. Use sufficient close-ups. Television is a close-up medium. Closeups look better on small television screens.

g. Never cut just for the sake of it. Intercut different angles, juxtapose, begin to build up complex sequences. Establish pace and mood. Did you use a script? Do the shots parallel the script? Does audio support the video? Are the shots in order? Is there continuity?

h. Don't always edit for video. Sometimes it is necessary to edit for sound, e.g., one might edit at the end of a powerful dialogue as opposed to the middle of a conversation. However, strong video, in general is more effective than strong narrative.

6. The professional editor must first understand the process behind how the audience sees. The human mind has the capability to fill in information omitted from the basic sequence. A cut from a long shot of the cowboy on the horse, to medium shot of a closeup of his face, is psychologically acceptable to the audience. The audience requires key information.

a. The specific details must be emphasized. The general impression leaps into the specific. At the fitting moment, the editor will cut from a general view of the whole to the specific. The editor does not show every detail and movement. By cleverly editing together scenes of the basic sequence, the editor gives an impression of the real.

b. The director exercises his right to select details which he deems significant, those details which best portray his story or documentary. A 1-hour show on television may cover a 2-week period in a man's life. There is not time to show everything that happened in that 2-week period; only key events, in sequence. The mind will fill in the rest. What a tedious affair it would be if it took 2 weeks to watch a story about 2 weeks in a man's life.

7. For smooth continuity, the actions of two consecutive shots in a single scene should match. Another rule is to keep background consistent throughout.

a. In shooting a production, the cameraman changes image size. The editor uses appropriate change of angle between two consecutive shots. It must be done well or the spectator will get the impression that a subject or object has inexplicably shifted. The viewer will be aware of the change; the edit will not be smooth.

b. To cut to an insignificant detail would be irrelevant. Do not confuse your audience with meaningless detail. It is necessary to preserve screen direction if continuity is the editor's purpose.

c. If there is a new development which alters the situation, the scene usually must be re-established. At this point, the editor must edit in a long shot to re-establish the situation and retain continuity. The cuts must be smooth and continuity consistent.

d. There must be a reason for a cut. An idea may need to be carried across to another spot or the edit can mark a new subject or action. An edit can re-establish. An edit can be a transition or a bridge. Good editing means the key action or significant events are included, and inessential, superfluous movements deleted. Not every action is necessary, but there must be enough action to imply with the audience mentally filling in the unsaid, closing up time and condensing space. Good editing is dependent upon a competent editor.

Lesson 5
PRACTICE EXERCISE

1. Which of the following statements is true?

   a. Editing is a matter of throwing scenes together
   b. Editing is a low-level skill
   c. Editing is a science
   d. Editing is an art

2. Which best describes editing?

   a. Reviewing original footage in a laid-back manner
   b. Mentally visualizing and analyzing
   c. Identifying unusable footage
   d. Going by the set rules of aesthetics

3. When you are reviewing original footage, what do you look for in video quality?

   a. Audio quality
   b. Closeup, medium shot, long shot
   c. Cut-ins, cut-aways
   d. Good, fair, bad, unusable quality

4. Which of the following is true?

   a. Identify type of shot in terms of long shot, medium shot, and closeup
   b. Identify type of shot in terms of color or black and white
   c. Identify type of shot in terms of transitions
   d. Identify type of shots in terms of powerful dialogue

5. What is the purpose of color bars?

   a. Variety
   b. Enhance video signal
   c. Provide video engineer with a reference
   d. Administrative procedure

6. What tone is used to set VTR volume levels before editing?

   a. 25 footcandles
   b. Cardoid pattern
   c. 1000 KHz tone
   d. 1000 Hz tone

7. Which best describes principles of editing?

   a. Assemble raw footage
   b. Editing principles are not rigid rules
   c. Follow rules rigidly
   d. Forget the audience temporarily at this point

8. What is a jump cut?

   a. Raw footage is jerky
   b. Cutting in on action
   c. One edit in a series of non-parallel actions
   d. An obvious movement has been omitted

9. What is double action?

   a. Two talents moving simultaneously
   b. Repeated actions that destroy continuity
   c. Two similar shots back to back
   d. Psychologically powerful action

10. What may happen if you cut from one shot to another too soon?

   a. Effect may be jerky
   b. No causal relationship
   c. Irrelevant detail
   d. Compression of time

Lesson 5
ANSWERS TO PRACTICE EXERCISE

1. d, editing is an art

2. b, mentally visualizing and analyzing

3. d, good, fair, bad, unusable quality

4. a, identify type of shot in terms of long shot, medium shot, and closeup

5. c, provide video engineer with a reference

6. d, 1000 Hz tone

7. b, editing principles are not rigid rules

8. d, an obvious movement has been omitted

9. b, repeated actions that destroy continuity

10. a, effect may be jerky