Title of the Module:
Cinematography

The art and technique of capturing the images of objects using the mechanical device called camera is known as photography. Cinematography is the art of capturing moving images using camera. Actual cinema, or movies in real sense originated with the invention of Cinematographe, a portable motion capturing and motion projection device invented by the Lumiere brothers, Louis Lumiere and Auguste Lumiere in 1895. Thomas Alva Edison's invention of Kinetograph in 1891 was another development in cinematography. However, Kinetograph was not as successful as the Lumiere Cinematographe. In the early history of motion capturing practice, the size of the cinematographic camera was a real challenge. The heavy and cumbersome early cinematographic camera forced the cinematographer or Director of Photography (DoP) to fix the camera in a particular place. Zooming, panning and other types of camera movements were not possible in the early stage of cinematography. A knowledge of the essential features of cinematography is a necessary prerequisite to comprehend a film in a more systematic way.

Learning Objectives
To enable the learner to:

1. draw a comparison between human eye and photographic camera
2. to understand various types of cinematographic shots
3. to understand the aesthetics of different shots
4. to comprehend the visual language of a film with special reference to its cinematography

A photographic or cinematographic camera is known as a mechanical eye, which has got many advantages and shortcomings in comparison with the human biological eye. However, the basic structure of both the camera and the human eye remains similar. Both are extremely light sensitive. Human eyes have lenses which can very quickly change their focal length, or they can accommodate itself with the distance of the object from eye, to capture the sharpest image of an object. However, in the case of camera lens, focal lengths are generally manually adjusted, though automatic or default focusing is possible. The most important capability of human eye is that by default human eyesight is three-dimensional or 3D. 3D indicates three quantitative properties of an object: width, height, and depth. Images captured with photographic camera will have two dimensions only; height and width, which make the image 2D. It's through the pupil that light enters into the biological eye. In the camera, the entry of light is through the aperture, a hole or opening in the camera. Therefore, functionwise, human pupil in eye and aperture in camera are similar. In human eye, the iris decides the quantity of light entering into the eye by making it larger or smaller. Whereas, in the case of camera, quantity of light entering into the lens is controlled by the diaphragm. It is on retina, which is situated at the far end of the internal structure of eye, the images, of course, inverted, of objects are captured in human eye. In the case of camera, this function of capturing the image of the object is carried out by the film stock. The greatest advantage of the mechanical eye is that it can record the image of an object; human eye cannot record it on in a concrete form on a permanent basis. Human eye captures light and send it to brain, through electric signals, to process the light into an image. We cannot retrieve an image capture by the biological organ eye. But retrieval is possible in the case of an image captured either with the celluloid and digital camera. This much little background information on the biological organ eye and the mechanical device camera will be useful in understanding the various dimensions of Cinematography.

The word “cinematography” literally means ‘writing the movement’ which combines two Greek words “kinema” and “graphein” which mean “movement” and “to write” respectively. So cinematography is the technical process of writing movement or motion with the mechanical device camera. Camera in filmmaking replaces the function of pen carried out in the process of literary writing. That why the French Film critic Alexandre Astruc coined the phrase “camera-stylo”, which means “camera-pen”, to refer to the fresh cinematic idiom expressed in the French New Wave films of 1950s and 1960s. Three types of cinematography is possible on the basis of the method and material used to write movement. In the manual cinematography, images or texts are drawn with hand on the nitrate filmstock. In digital cinematography a kind of electronic movement writing happens; whereas in the case of film cinematography, which uses chemical filmstock, a chemical movement writing happens. Technological advancements like the availability of light-weight portable movie camera and more light sensitive image recording platforms like filmstock and digital canvas redefine cinematographic methods, styles and shot taking practices. The material platforms in which a cinematographic camera is mounted also brings aesthetically fresh shots. For example, hand-held cinematographic camera becomes more penetrative into locational or set spaces, making it possible to follow the character thereby making the shots longer. Similarly, crane mounted camera and drone mounted camera bring in visuals which are beyond the prowess of human eyes.

The range of cinematographic style is primarily experienced by the film spectator in the form of various types of shots, each type of shot having correspondence stylistic and aesthetic dimensions. Arrival of new image recording technology and new image capturing equipment extends and enlarges the number and types of cinematographic shots. A cinematographic shot is labelled on the basis of these five factors: a) distance of camera from the shot object; b) Angle of camera with regard to the position of the object shot; c) camera movement while taking the shot; d) the type of lens filters or lens covering used for taking a shot; and e) the fixing or changing of lens focus applied while taking a shot.

A. Camera Distance and Types of Shots

A cinematographic camera can be placed at different distances. This distance is measured in terms of the distance between the camera and the object shot. The longer the distance, the smaller the object is seen in the frame; the closer the distance, the larger the object is seen in the frame. The following range of shots are possible by rearranging the distances.

1. Extreme Close-up (ECU of XCU)

Extreme close-up shot is achieved by bringing the camera focal length to the maximum closest possible proximity to the object being shot. Here, a specific part of the body of the object is shot in a magnified and detailed scale, isolating it from external references. Extreme close up shot is a visual fragmentation process, which is possible with the human eyes also. Such shots are used to generate and augment terror, emotion, eroticism, repulsion etc. Any part of human body can be caught in extreme close-up shot, depending on what has to be communicated with such a shot. Female lips and breasts are caught is extreme close-up to bring in eroticism; male eyes could be shot in extreme close up to suggest anger and desire, extreme close-up of tearful eyes could suggest sadness etc. Extreme close up shots, shown in isolation, can be used to hide from the audience further information of a person or object as of now. In extreme close-up the image completely fills the camera frame occupying 100 percent of the frame space.

2. Close-Up (CU)

A Close-up shot normally features a human head from shoulder upwards. A close-up shot generates in a feeling of intimacy among audience. It places the object of shot in its immediate background, there by connecting the object with an outer reference. This shot is also called Big Close-up, which is normally used to highlight the character's facial expressions. For a film actor, Close-up shots poses extreme challenge on his performance at the minute level. A sub-category of Close up shot is the Insert Close Up Shot, which further provides the audience some more details in between long shots. The object shot in Close-Up fills in almost 50 percent of the camera frame.

3. Medium Close-Up (MCU)

Medium Close-up shots normally capture one-third of the size of the object captured; in the case of human beings, from chest upwards. This shot also places the object within a definite environment. However, the audience focus could be still on the central object captured, which fills in about 30 percent of the camera frame. Where the main character's body movement is not involved, medium close-up shots are preferred.

4. Medium Shot (MS)

Medium shot is generally used to capture dialogue sequences which involves character movements and gestures. It is also called a waist shot because human figures in this shot are captured waist upward. This shot provides more details on the temporal and spatial information within which the plot is unfolded. This shot also allows the audience to watch the actions happening around the principal object of the shot. In this shot, the surroundings, characters, setting and acting are given an almost equal focus. This types of shots could have multiple pointers.

5. Medium Long (ML)

In a typical Medium Long Shot, human figures are generally captured from knee upwards. An ML is also known as American Shot, because this type of shot was very frequently used in the American movie genre, Westerns in order to show the gangster/hero along with his gun hostlers tied in his waist. In this kind of shots, more characters can be depicted and more spatial planes can be shown. At times, the surroundings of the object shot are given preference in medium long shot.

6. Long Shot (LS or WS)

Long shot is also known as Wide Shot. Even though there is a central object captured in this shot, the surroundings dominate in this type of shot. However, identification of character, the details of their costumes, and their body movements are quite visible in this type of shot. Full body of the object/character is visible in this type of shot.

7. Extreme Long (EL or VL)

Extreme long shot provides the remotest perspective or view of a landscape where the cinematic action unfolds. In this shot, the human figures are made into insignificant things because they are dominated or swallowed by their geographical surroundings. Because of the predominance of the landscape, at times they are known as 'geographical shot'. EL shot is also known as very long shot. This is also known as the 'establishment shot' because it fixes the geographical location of the plot.

B. Camera Angle and Types of Shots

Depending on the level or height or the angle of the positioning of the camera, there are at least four possible shots. Such shot variations affected through the positioning of the camera with

respect to the positioning of the object shot, brings in different aesthetic and bodily connotations.

1. Straight Angle Shot

Straight angle shots normally match with the perception angle of human eye. Therefore it is also known as eye level shot. It is a kind of natural or neutral shot. This is the most common shot in films. It brings in an aesthetics of normality attached to the character and cinematic situation. The spectator has the feeling that the cinematic subject is directly interacting with them. To represent a factual or neutral situation, Straight angle shot is normally used.

2. Low Angle Shot

While capturing a Low Angle shot, the camera is positioned below the object, so as to make the object look larger and more dominant and in control of the situation and its surroundings. The camera can vertically be positioned right at the feet of the object or anywhere under his eyeline. In action thrillers, low angle shots are generally used to enhance the physical power of both the protagonist and the villainy of the anti-hero.

3. High Angle Shot

In the case of high angle shot, the camera is positioned above the eyeline of the object shot. This shot provides a feeling of vulnerability the object undergoes. The object caught in this type of shot conveys a sense of exposure to immediate danger or hazard. Here the object is being put under optical surveillance, or visual monitoring by some other people. In a high angle shot, the object conveys a sense of visual imprisonment that it undergoes.

4. Oblique Shot or Dutch Angle Shot

This shot is also called a tilted angle shot or oblique angle shot. An aesthetics of psychological unsettlement or territorial subversion is conveyed through an oblique shot. The horizontal and vertical axes of camera positioning are broken in this type of shot. Most of the German Expressionist movies and noir films make plenty of use of Dutch Angle Shot.

C. Camera Movement and Types of Shots

In the early history of cinema, camera movement was very limited largely, thanks to the mammoth size of the mechanical eye. Modern motion picture cinematography, especially with portable camera, makes plenty of use of the different possibilities of camera movement, whether the camera is mounted on a platform or hand-held. Based on the various types of camera movement, the following are the major types of shots found in movies.

1. Pan Shot

Generally in a pan shot, the camera which is fixed on a tripod or any other mount captures the movement of the cinematic object or captures a wide landscape moving form left to right and vice versa. Depending on the speed of the camera panning, you can either have a slow pan or a whip pan. A slow pan shot provides the maximum details of the objects shot; while a whip pan very quickly captures a scene, often bringing in an optical and psychological jerk.

2. Tilt Shot

By raising and lowering our head, we can gather a different perspective of an object, especially when the size of the object is huge. A tilt shot is achieved by raising and lowering the camera in a vertical line. In a pan shot, the camera moves in a horizontal line; whereas in a tilt shot, the camera moves in a vertical way. An upward tilt shot of an object or person, taken from the visual perspective of a character, makes the character look inferior. On the contrary, a downward tilt of the same object or person, puts the character-looker into a superior position.

3. Pedestal Shot

If the camera is fixed to a pedestal and if it moves up and down vertically or horizontally from the perspective of the subject who is looking at something, it is called a pedestal shot. With each movement, it visual brings in new details, or provides more details of the object shot.

4. Zoom Shot

In all the types of shots achieved through different types of camera movement, the camera physically moves. However, a zoom shot is achieved by reconfiguring the focal length of the camera which can bring the object shot closer to the spectator, or take the object farther to the sight of the spectator; technically known as zooming in and zooming out respectively.

5. Tracking Shot

If the camera moves backward, forward, or in circle on a track, while taking a shot it is known as a tracking shot. Often the phrase dolly shot is also used to describe such a camera movement. This movement makes it possible for the camera to follow a character or to picture the character in a circular fashion of various degrees. Shots taken with camera mounted on a moving vehicle are also considered to be tracking shots. Tracking shots bring in more movements in the frame. Shots achieved with cranes and Steadicam are also generally considered as tracking shots.

D. Camera Masks and Types of Shots

Details of a visual can be controlled by using different image filters placed in front of the camera lens. Such objects that cover, or restrict the visual plane of the camera lens are generally known as masks. Two familiar examples of mask-shots are given below.

1. Iris Shots

Traditionally Iris-in shots are used to suggest the opening of a sequence in film. On the contrary, Iris-out shots suggest the end of a filmic sequence. In the silent cinema of early era, these types of shots were frequently used. At times, an iris shot is used to focus on a particular character or object by hiding other objects or characters. To suggest a narrative flashback also iris shots were used.

2. Key-hole shots

Key-hole shots make use of the key-hole camera mask. This suggests the presence of a peeping tom or to suggest the presence of a private eye. Often the target fixing revolver viewfinder is also used as a camera Mask.

E. Camera Focus and Types of Shots

By readjusting the focal length of the camera lens the following major types of shots are possible.

1. Deep Focus

In a deep focus shot, almost all planes of the frame are given equal focus. In this type of shot, the spectators' attention is not invited to any particular point in the frame. The spectator is given a visual freedom to look at what he prefers to watch in the frame. The neutrality of camera in distributing the attention points provides a sense of freedom to the audience. Many of the shots in the American film *Citizen Kane* (1941), directed by Orson Welles are cited as classic examples of deep focus cinematography. Noted French film critic, Andre Bazin was an adamant advocate of deep focus cinematography.

2. Raking Focus

By applying the cinematographic technique of focus puller, rake focus sequences can be achieved. In rake focus cinematography, the focus is shifted from one plane to the other during the capturing of a scene.

3. Shallow Focus

In shallow focus, the blurred texture of an image is achieved. In shallow focus cinematography, any one of the foreground, midground or background can be focused making the other planes shallow or blurred.

References:

Thompson, Roy and Christopher Bowen. *Grammar of the Shot*. London: Focal Press, 2009.
Dix, Andrew. *Beginning Film Studies*. New Delhi: Viva Books, 2010.

Hoser, Tania. *Introduction to Cinematography: Learning through Practice*. London: Routledge, 2018.
Malkiewicz, Kris and M. David Mullen, eds. *Cinematography*. Sydney: Simson & Schuster, 2009

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