CINEMATOGRAPHY

ESSENTIAL CONCEPTS

- The filmmaker controls the cinematographic qualities of the shot
  – not only what is filmed

  but also how it is filmed

- Cinematographic qualities involve three factors:
  1. the photographic aspects of the shot
  2. the framing of the shot
  3. the duration of the shot

In other words, cinematography is affected by choices in:

1. Photographic aspects of the shot
2. Framing
3. Duration of the shot

1. Photographic image

- The study of the photographic image includes:

    A. Range of tonalities

    B. Speed of motion

    C. Perspective

1.A: Tonalities of the photographic image

The range of tonalities include:

I.   Contrast – black & white; color
         It can be controlled with lighting, filters, film
          stock, laboratory processing, postproduction

II.   Exposure – how much light passes through the
         camera lens
         Image too dark, underexposed; or too bright,
         overexposed
         Exposure can be controlled with filters

1.A. Tonality - cont

Tonality can be changed after filming:

Tinting – dipping developed film in dye

Dark areas remain black & gray; light areas pick up color

Toning - dipping during developing of positive print

Dark areas colored light area; white/faintly colored

1.A. Tonality - cont

- Photochemically – based filmmaking can have the tonality fixed. Done by color timer or grader in the laboratory

- Digital grading used today. A scanner converts film to digital files, creating a digital intermediate (DI). DI is adjusted with software and scanned back onto negative

1.B.: Speed of motion

- Depends on the relation between the rate at which the film was shot & the rate of projection
- Both rates are calculated in frames per second
- In the silent era, films were shot at a variety of speeds, usual ranging from 16 to 20 frames per second, gradually getting a bit faster in the mid-1920s
- Once sound was adopted in the late 1920s, it was necessary to record both sound and image at a uniform speed, so that they could be synchronized
- The rate of shooting & projection for the sound cinema was standardized at 24 frames per second

1.B.: Speed of motion - cont

Observe that if I there are fewer frames per second than the projection rate, the screen action looks speeded up

- Slow motion: more frames per second, the projection action looks in slow motion
- Ramping: varying frame rate during shooting
- Time lapse: one frame per minute, or more time, when projected, looks speeded up
- High speed: hundreds of frames per second

1.B.: Speed of motion - cont

- For depicted movement to look accurate, then, the rate of shooting must correspond to the rate of projection

- The jerkiness of the images in a silent film is usually the result of projecting a film shot at 16 to 20 frames per second at 24 frames per second

- The filmmaker can control the rate of the film's movement through the camera

1.C.: Perspective

Perspective: set of spatial relations organized around a point of view

It comprises:

      A. Focal length - wide angle

                          middle lens

                          long lens or telephoto

      B. Depth of field and focus

1.C.: Perspective

Perspective relations can be manipulated through special effects:

- Superimposition

- Rear & back projection

- Matte work

2. Framing the image

Framing is a powerful cinematic technique

It comprises:

- Dimensions of the framing space

- Space – onscreen/offscreen

- Camera position

      Angle – straight, high, low

      Level – parallel to the horizon or canted

      Height

      Distance of framing

- Functions of framing

- Mobile framing

2. Framing

Frame dimensions & shape

The ratio of frame width to frame height is called **aspect ratio**

The rough dimensions of the ratio were set quite early in the history of cinema by Edison, Dickson, Lumière & other inventors

The film frame was to be rectangular, its proportion approximately three to two, yielding an aspect ratio of 1.33: 1, or Academy ratio

Since the 1950s, a variety of widescreen ratios have dominated 35mm filmmaking

2. Framing: Distance of framing

Framing supplies not only an angle & height and on a level plane or at a cant but also with respect to distance

It gives the viewer the sense of being far away or close to the mise-en-scène of the shot

This aspect of framing is called camera distance – the scale is the human body

Several types of shots, ranging from farthest to closest

2. Framing: Distance of framing

Types of shots according to camera distance:

- Extreme long shot
- Long shot
- Medium long shot
- Medium shot
- Medium close-up
- Close- up
- Extreme close-up

2. Framing: Types of shots

- Extreme long shot – the human figure is barely visible; framing for landscapes, bird's –eye views of cities & other vistas
- Long shot – figures are more prominent, but the background still dominates
- Medium long shots – from about the knees up; very common; they permit a good balance of figure & surrounding
- Medium shot – frames the human body from the waist up; gesture & expressions become more visible

2. Framing: Types of shots - cont

- Medium close-up – frames the body from the chest up

- Close-up – traditionally the shot showing just the head, hands, feet, or small objects; it emphasizes facial expression, the details of a gesture, or a significant object

- Extreme close up – singles out a portion of the face (eyes or lips), isolates a detail, & magnifies the minute

2. Functions of framing

The context of the film will determine the function of the framing, just as it determines the function of mise-en-scène, photographic qualities & other techniques

We must look for the functions the technique performs in the particular context of the total film

Framing can be used for emphasis, subjectivity (point-of-view shot) & motif

2. Framing: Mobile frame

Mobile frame is specific to cinema

The frame moves with respect to the framed material

Mobile framing means that within the image, the framing of the object changes

The mobile frame produces changes of camera height, distance, angle, or level during the shot

2. Framing: Types of mobile framing

The camera usually rests on a support while filming; this support is designed to move the camera

Each camera movement creates a specific effect onscreen

- The **pan** (short for 'panorama') rotates the camera on a vertical axis. The camera does not displace itself, it turns its 'head' right or left

- The **tilt** rotates the camera on a horizontal axis. The camera does not change position, but its 'head' swivels up or down

2. Types of mobile framing - cont

- **Tracking shot** (or **dolly**) – the camera as a whole does not change position; it travels in any direction along the ground – forward, backward, circularly, diagonally, or from side to side

- **Crane shot** – the camera moves above ground level; it rises or descends,often thanks to a mechanical arm which lifts and lowers it

2. Types of mobile framing - cont

Pan, tilts, tracking shots & crane shots are the most common framing movements, but virtually any kind of camera movement can be imagined: somersaulting, rolling, and so on

Remember that in both the pan & the tilt, the body of the camera does not change position; it simple swivels left or right, up or down

Remember also that types of camera movements can be combined

2. Mobile framing: Movement & machinery

Many camera movements are made with the camera on a dolly

Before the 1970s, it was standard practice to mount the dolly on rails for lengthy movements – 'tracking' shot

Today, a Steadicam is used – a camera mount, attached to the operator's body by means of a brace.

The operator can walk with the camera, guiding the framing by minimal hand movements while viewing the image on a video monitor. Another operator adjusts focus by remote control

2. Mobile framing: Movement & machinery

Sometimes the filmmaker does not want smooth camera movements, preferring a bumpy, jiggling **hand-held** image. This is achieved through the use of the camera. It became common in the late 1950s with the cinema verité documentary

Even though camera movement is the most common way of making the frame mobile, the zoom lens can also be used (the camera doesn't move – the lens creates the illusion that it is moving)

2. Functions of frame mobility

Consider how framing strategies function systematically within films – how does mobile framing relate to cinematic space & time? how are patterns created?

The mobile frame need not be subordinate to the movement of figures at all. It can move independently of them, too. Often, the camera moves away from the characters to reveal something of significance to the narrative

3. Duration of the image: the long take

It is possible to manipulate screen duration within a single shot

A take: one run of the camera that records a single shot
Long take: unusually lengthy shot

When an entire scene is rendered in only one shot, the long take is
        known by the French term 'plan sequence', or sequence
        shot

Most commonly, the filmmaker uses the long take selectively

Alternatively, the director may decide to build the entire film out
        of long takes, e.g. *Rope* (Hitchcock, 1948), with only eight shots,
        each running the full length of a reel of ilm in the camera

3. The long take & the mobile frame

The long take often replaces editing

It is frequently allied to the mobile frame: by using panning, tracking, craning, or zooming, it presents continually changing vantage points that are comparable to the shifts of view supplied by editing

A classic example of how the long take can constitute a formal pattern is the opening sequence of Welles' *Touch of Evil* (1958)

Summary

- The film shot is a very complex unit

- Mise-en-scène fills the image with material, arranging setting, lighting, costume & figure behavior within the formal context of the total film
- Within that same formal context, the filmmaker also controls the cinematographic qualities of the shot – how the image is photographed & framed, how long the image lasts on the screen

- Digital postproduction has reshaped every area of technique: editing, cinematography, sound & mise-en-scène

Films suggested as examples

- Tonality – *The Battle of Algi*ers (1967, Pontecorvo)

  Saving Private Ryan (1998, Spielberg)
- Telephoto – *Tootsie* (1982, Pollack)
- Zoom – *The Conversation* (1974, Coppola)
- Slow motion – *The Wild Bunch* (1969, Peckinpah)
- Deep focus – *Citizen Kane* (1941)
- Split screen – *Time Code* (2000, Figgis)

- Mobile camera - *Saboteur* (1942, Hitchcock)

  Young and Innocent (1937, Hitchcock)

  Notorious (1946, Hitchcock)

  Grand Illusion (1937, Renoir)
- Hand-held camera – *Primary* (1960, Drew)
- Long take – *Touch of Evil* (1958, Welles)

  Gravity (2013, Cuarón)

  Stations of the Cross (2014, Brüggemann)

  Birdman (2015, González Iñárritu)
- Steadicam & long take – *Snake Eyes* (1998, De Palma)

Source:

This outline follows the concepts on cinematography developed by David Bordwell & Kristin Thompson in their *Film Art, An Introduction* (2001 & 2010)

The list of film examples has been prepared by

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