VIDEO TUTORIAL

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Introduction

In this tutorial, I have compiled technical tips from four reference books: *The art of technique: an aesthetic approach to film and video production* by John S. Douglass and Glenn P. Harnden, *Cinematography: Image Making for Cinematographers, Directors and Videographers* by Blain Brown, *The Techniques of Film Editing* by Karel Reisz and Gavin Millar and *Cinematic Storytelling: The 100 Most Powerful Film Conventions Every Film-maker must know* by Jennifer Van Sijl. General knowledge present in any reference book is not referred to a particular book. When a book made a particular point not seen anywhere else, I point to the exact reference.

This tutorial is aimed at video artists and makers of short experimental films with a low budget and minimal crew (or working alone) therefore it focuses more on mood, atmosphere and the look of the film than on traditional narrative, and techniques involving high budget and /or large crews are not discussed (complicated lighting set ups, camera moves requiring expensive equipment and such).

I have written this tutorial mostly for myself, that's why it is currently presented as a series of notes. I may write it down properly later if I have spare time and enough people find it useful.

I very much hope this tutorial will be useful to many people, however, it took me a lot of work to write it therefore all content is copyrighted to me. You are welcome to use the information, quote etc... but please refer to the source as:

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Many thanks and have a good read!

Note: sound design section is currently incomplete.

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I) Conceptualising the piece of moving image

I.1) The concept of Treatment

Treatment = the implicit or explicit point of view/opinion/subjectivity through which the artist sees their theme/subject.

Treatment influences technical choices.

Ex: disturbing/upsetting → extreme angles, distorting lenses (close camera and very short focal length), unstable composition, disjointed patterns, drab or garish colours.

Short focal length: depth of field, distort features.

Long focal length: shallow depth of field, soft focus on the background.

Strength: bold colours, straight lines, upward shapes (trees, impressive buildings)

Anxiety: irregularly paced shots, canted angles, unbalanced compositions, unclear point of view.

I.2) The concept of Mood

'Creating and controlling the mood of the film or video is a weaving together of all the elements of the scene or production – not only the action of the performer or subject of the film or video, but also the location, the design elements of the frame, the lighting, cinematography, editing, and sound. It's the building of a well-textured, emotional foundation for the audience on a nonrational level that supports the linear communication of story and information on a rational level.' (Douglass & Harnden, 1996, p71)

Beware of using too many literal symbols.

Make a familiar place unfamiliar by showing it at unusual time or under unusual circumstances.

Psychological implications derived from basic design principles.

I.3) Principles of design

'Good composition reinforces the way in which the mind organizes information. In some cases it may deliberately run counter to how the eye/brain combination works in order to add a new layer of meaning or ironic comment.' (Brown, p30)

Design principles (Brown, p31):
  – unity: the frame must be whole, self-contained and complete

- balance: each element has a visual weight that can be organised into a balanced or unbalanced composition
- visual tension: the interplay of balanced and unbalanced elements create visual tension
- rhythm: patterns of repetitive or similar elements. Our brain recognises a repetition as a pattern when he sees it 3 times (not just twice). (Douglass & Harnden, 1996, p222). This principle is also important in editing.
- Proportion (Golden Mean, Rule of Third)
- Contrast (of light, colour, texture)
- Texture
- Directionality: key element of visual weight. Anything that is not symmetrical is directional.

Symmetrical composition: subject in the middle of the frame or 2 balanced subjects so that they are of equal size and weight on each side of the centre line, usually in profile (Ingmar Bergman used this device to reinforce the formal nature of a relationship). Symmetrical composition are static, enclosed. The eyes are drawn towards the middle of the frame, away from the edges. They may convey enclosure, imprisonment or stability, a self-contained world.

Dynamic compositions balance uneven size and mass in the frame to lead the eye away from the centre. A lighter weight can counterbalance a heavier weight if placed further from the centre.

How to create the illusion of depth in a 2 dimensional picture:
- Overlap (typical OTS shot)
- Relative sizes
- Vertical location
- Horizontal location
- linear perspective
- Foreshortening: optics of the eye. Objects closer to the eye appear larger. Visual distortion of an object gives cues to depth and size
- Chiaroscuro: gradation of light and dark within the frame. Concept from baroque painting (Caravaggio)
- Atmospheric perspective: When filmed through fog, cloud, water, smoke, further objects appear hazy.

Forces of visual organisation (Brown, p37):
- sinuous line
- The compositional triangle: 3 objects at 3 points of a triangle, with their distance and placement proportional to their sizes.
- horizontals, verticals, diagonals
- Horizon line and vanishing point
- Edge of the frame: objects close to the edge of the frame are more associated to it than objects in the middle because viewers are subconsciously aware of the frame itself.
- Negative space: large bits of frame empty of elements of interest, left empty on purpose to create an unbalanced frame and give more visual weight to the important objects.

- Open or closed frames: open frames have elements that push or cross the edge. A closed frame has all its elements comfortably contained within it and the eye is not led off-frame.
- Because we read from left to right in Western culture, viewers tend to scan the frame left to right, top to bottom in a clockwise fashion. This influences which elements are perceived first. Japanese viewers may scan the frame the other way round.

I.4) Design for Mood: Colours, textures, patterns

Reds: enclosed, richness, anger, eroticism, emotional arousal, degeneracy, warmth.

Blue: cold, austere, emotionless, cruelty, intellectualism, freedom, liberation, ethereal, spirituality, calm, peace.

Shift of colour between scenes → shift in mood.

Fog filter: surreality, a character does not belong here, imminent death.

Hard surfaces: tough, brutal.

Silky textures: sensuality, decadence.

Jagged, broken lines: tension, chaos, nervousness, anger.

Curved and flowing lines: calm, harmony, equilibrium, flight, liberation.

Organic vs. Geometric shapes.

Tight, intricate patterns vs. broad, simple patterns.

Vertical vs Horizontal lines: dramatic tension vs. peace/calm.

Dark frames: mystery, danger, romance, sadness, loss.

Bright frames: cheerful, stark, glorious.

I.5) Location and Set Dressing

Tight frame can show interesting bits of a buildings without its disappointing surroundings.

Psychological and social connotations of objects judiciously placed within a carefully composed frame.

Theatre costumes are exaggerated so that they can be seen from the back row. Film costumes must be believable in CU and therefore look more like normal clothes.

I.6) Narrative/Storytelling

Point of view: is the narrative told as seen from a particular character or an omniscient narrator.

Storytelling: plot elements that will be used later (such as a character's personality trait or skill) need to be introduced at the beginning so that they seem 'natural' rather than a cheap trick to the audience. In the same way, stylistic conventions used in the film need to be introduced from the beginning, so the audience enters the world of the film and is not shocked out of it by the technique.

Story beats: the big points of conflicts, the big decisions. The beats pace the story.

When writing dialogue sentences, the important information needs to be an the end of the sentence. → you can reverse the rule in order to 'bury information' that will pass unnoticed for most of the audience, yet will have been formally introduced so that when it is used later, it does not feel like a cheap trick.

Establishing expectations: a character looks off screen quickly-> the camera cuts to the object they looked at.

The rules of threes: logical series of three sentences leading to a conclusion.

A page of script usually equals one minute of screen time.

I.7) Performance

Sometimes, the mood of a performance can run in counterpoint to the mood of visualisation.

I.8) Symbols

Connotative and denotative Symbolism:
1) denotative meaning: explicit, conceptual. Mostly independent of context.
2) Connotative meaning: suggestive, felt. Dependent on context. 'Connotative meanings are the emotional subtext and texture of the production, usually dealing with characterisation, mood, atmosphere, theme and inner conflict. (Douglass & Harnden, 1996, p254).

External and internal symbols (Douglass & Harnden, 1996, p257):
1) External Symbols: coded language tha make up a set of common references, derive from the cultural vocabulary of icons we all understand from our shared literary and visual heritage (beware of not overestimating how shared a particular heritage is, or you'll exclude part of your audience).
2) internal symbols: created from features of the story that are developed within and are organic to the drama (ex: ceiling fan in Twin Peaks)

How to create internal symbolism:

- establish the object as important by repetition, placement n the frame, CU, arrested or emphatic pacing, swelling music or sound effect.
- Denotative symbolism of an internal symbol may be linked to an hidden trait (usually dark) trait of a character). Decrypting the symbol means discovering the character's dark secret (In Maltese Falcon, the statue is linked to the machinations of the Femme Fatale).
- Obscure association of an object and a word, that becomes clear later (Citizen Kane: snow globe and word 'rosebud').
- Associate an object with a character or a state of mind. The object can then act as a substitute for flashback, dialogue when we need to express what goes in the mind of the character.
- The object may be a particular sound or sequence of music too, not just a visual item!

Coherency: nothing is extraneous to the production, everything in it is intentional, relevant and meaningful.

Venetian Blinds are an hallmark image of film noir.

Visual foreshadowing (Van Sijll, p86): a visual symbol, planted early, suggests an action that will take place later.

Ernest Lindgren (Reisz & Millar, p44): the visual symbol is always more powerful when it is internal to the story.

II) Cinematography

II.1) Types of shots (by frame size)

WS = wide shot (landscape, establishing shots) taken using a wide lens.

LS = long shot shows a similar frame composition as WS but uses a long lens rather than a wide lens.

FS = Full shot, show an object, person or building in full.

MWS = medium wide shot (or MFS = Medium full Shot), shows human figures typically cut off from just above or below the knees.

MS = medium shot (show both facial expression, action and surroundings. Typical example: 2 people from waist up).

MCU = medium close up, head and shoulder shots typically.

CU = close up . Typically a face with a bit of neck or an object.

ECU = extreme close up, just the eye or mouth or a detail of an object.

Video typically contains more MS and CU than film because a video frame is smaller (this includes films shot for TV).

II.2) Types of shots (by function)

Establishing shots

Character shots

Over the Shoulder shots (OTS):
  − Answering shots in a dialogue scene must match the shot they are answering in focal length, focus distance, lens height (allowing for adjustments if one wants to cheat about the actor's respective heights) and horizontal angle. (Brown, p22)
  − When the camera moves closer to the 'back' actor's shoulder, it must get closer to their eyeline.(Brown, p23)

Cutaway: to a detail part of the main scene other than the main characters:
  − reaction shot
  − insert: islotated, self contained piece of a larger scene
  − practical insert: convey information (clock)
  − emphasis insert: on a significant detail (for example, detail of a movement)
  − atmosphere inserts: contribute to mood (lots of them in moody films such as *Angel Heart*)

Connection shots:
  − for example, shots of character looking away to justify a POV shot
  − show 'a piece of something from the previous shot' in order to maintain geography and connection (Brown, p16)

II.3) Camera angles

Typical angles on the horizontal plane:
  − Frontal
  − Three quarter front
  − Profile
  − Three quarter rear
  − rear (or tail-away)

Three quarter front MS typically used to show expression (opens up the face).

Avoid shooting straight facing a wall, it gives no sense of depth in the frame and flat compositions. Angling shots into walls produces receding perspective and a sense of depth.

Typical angles on the vertical plane:
  − high angle (from above eye level to overhead)

- eye level
- low level (from below eye level to underfoot)

Low angles: subjects loom over us, impressive and dominant

High angles: diminish subjects, become small and vulnerable

Camera slightly below eye level usually flatters a person.

Canted angles (horizon not parallel to the bottom of the frame): unbalanced view of the world, psychological imbalance, unstable or chaotic world.

II.4) Camera movements.

Camera movements:
- Pan: camera rotates horizontally.
- Tilt: camera rotates vertically.
- Dolly shots (Move in or Move out): the camera moves backwards or forward on wheels.
- Trucking shots: the camera moves sideways.
- Pedestal or crane shots: the camera is raised or lowered.
- Canting shots: the camera is rocked sideways.

A wheelchair is the poor man's dolly. Also a tripod mounted on a sheet of plywood on wheels! (Use large diameter wheels to even out irregularities in the floor)

Garfield: mount which goes on a wheelchair to allow mounting a steadicam on it.

'Dutch tilt' or 'Dutch angle' (Brown, p58): unusual vertical position to create paranoia, confusion, mystery, anxiety.

Not strictly camera moves because they are based on lens manipulation rather than camera movement:
- Zoom shots: the focal length of a zoom length is lengthened or shortened.
- Rack-focus shots: a shallow depth of field is shifted from foreground to background or vice versa by a shift in focus (also called follow-focus when a subject moving forward or away from the camera is kept in focus).

Combination of Dolly in and zoom out can create dramatic effect: Image size stays relatively the same but dramatic change of perspective and background (Brown, p65)

A cut from an object to another will appear more natural to the audience than a move because it emulates more the way the eye sees: as the human eye moves, it shifts focus from one object of attention to the next, it does not focus on the space in between while it travels as in a pan shot. Therefore all camera moves must be motivated.

Motivated camera moves:

- reveal: camera move to show something of importance previously hidden.
- Tracking: the camera follows the subject
- Countermove: the camera moves in opposite direction to the subject (therefore the background appears to move twice as fast) or across the subjects line of travel.

It is awkward to cut to or from a moving shot before the movement has ended. Therefore a long camera move more or less forces to use the whole sequence at the editing stage.

It's better to hold a steady composition and let the action move through the frame than move the camera around to keep the subject centred.

A move starts on a steady frame held for several beats (one beat is approximately one second) and ends on another. Execute the move at several speeds if in doubt (a slow move may be 5 beats while a fast move is 2 beats).

A particular move to avoid WS on a small video screen: the subject moves from screen left to screen right. The camera trucks left against the movement of the subject but pans right to keep the subject in frame. This shows us first where he's coming from, then where he's going.

Longer focal length magnify camera shaking and therefore require steadier camera mounts.

When shooting hand-held, use your body as tripod: pan, tilt and zoom, but only walk when strictly necessary.

Point of View (POV) shots are shots from eye level of the subject and often hand-held.

II.5) Frame composition

Headroom: space between the top of a subject's head and the top of the frame. When framing, give subjects enough headroom but not too much. The top of the head must not touch the top of the frame.

Lead space (or noseroom): space between a subject's eyes and the edge of the frame in the direction in which the subject is looking. As the subject moves, maintain lead space so that they appear to always be moving into an empty area in the frame rather than running into the edge of the frame.

Beware concentrating on the subject so much that the background is badly framed (either distracting objects or patterns are visible, or the background is uninteresting and ruins the composition.

When trying to show 2 objects (like a subject and an interesting background element), move the camera so that the composition is pleasing.

The number one rule is to always see the whole of the frame as we shoot, not mentally concentrate on the main subject only and oversee other elements in the frame or unwanted consequences of technical choices that may ruin the final result (ex: select a short focal length for depth of field and not realise it distorts the actors' faces!)

A CU with a long lens is interpreted by the audience as taken from a distance whereas a CU with a normal or short lens is recognized as taken from close to the subject. The audience reacts differently to the 2 shots.

In *Barry Lyndon*, Kubrick uses carefully framed static shot to reflect the rigid social structure of the times (Brown, 2002, p9).

Hitchcock's rule: the size of an object in the frame should equal its importance in the story at that moment. (Brown, p25)

Never cut people's feet. Cut at the waist or knees, or show the feet.

Don't cut off hands at the wrist

Never cut through a face. If a background character is unimportant, it's OK to show from shoulders down, but not to cut mid-face.

II.6) Establishing the geography: screen direction

Establishing shots to show where a scene takes place.

Match pieces of set:
– windows and door open the same way from inside and outside

Match directionality of movements:
– a character exiting the frame screen right before a cut must enter the frame screen left after the cut
– one direction (screen left to screen right or the opposite) must be established as 'towards town/home/etc...' and the opposite direction will be 'away from town/home/etc...' Once the convention is chosen, you must adhere to it and all vehices driving and people walking on screen must respect it.

Screen direction (also called action axis or axis line) is the line that divides the set following the main line of force in the scene: that may be the direction in which 2 characters are moving or on the contrary the line joining their gazes depending on the drama. The line may shift during a scene if a new character enters or the power play changes. The line may shift constantly during a fight scene.

Anybody standing on one side on the line will see things from the same orientation: A on the right, B on the left. Anybody standing on the other side of the line will see things in the reverse direction: A on the left, B on the right. Therefore, to preserve a continuous sense orientation in a scene so as not to confuse the audience, the camera may move anywhere in the 180° space that is one side on the screen direction line and the shots will cut together.

Exception where you may cross the line:
  – we see something has moved (ex: a moving car crosses the line)
  – we cut away to something else. We can cut back filming from the other side of the line.
  – The camera crosses the line during a continuous movement: at the moment it crosses the line, we have a neutral shot where the movement is directly facing or away from the camera.
  – Move the camera to accommodate somebody else entering the frame. It's OK if there is a strong element of décor that preserve directionality and prevents the audience from being confused.
  – You deliberately want the directionality to be confusing (ex: chase scene at beginning of Godart's *Breathless*)

Turnaround for OTS shots (see diagram rule in Brown, p88 when needed)
Rule: The OTS CS should always be filmed so that the characters in them look in the same direction as they did in the MS 2 people shot (Reisz & millar, p187)

In Western Europe we read from top to bottom, left to right. Therefore, a movement left to right is perceived as comfortable, right to left uncomfortable (Van Sijll, p3) and bottom to top difficult, top to bottom easy (aided by gravity). In consequence:
  – the good guy ususally enters the frame screen left, the bad guy enters the frame screen right.
  – For movement within the screen frame (Van Sijll, p8), the direction perceived as easiest is top left to bottom right. This direction make events appear ineluctable, fated. Then less easy top right to bottom left, hard bottom left to top right, very hard bottom right to top left. Those can be used to express characters struggling against circumstances.

II.7) Exposure

f/stop = Focal length of a lens / Diameter of the entrance pupil.

The f/stop of a lens measures the lens' ability to pass light. A decrease of one f/stop means there is half as much light. An increase of one f/stop means twice as much light reaches the film or sensor.

Doubling the ISO means the film/sensor is one f/stop faster.

Human brightness perception is logarithmic. Graphically, overexposure appears as a shift of the logarithmic brightness range (log E) to the left (underexposure shifts log e to the right). A scene with a 7 stop brightness rang typically fits well on the curve if we place the exposure in the middle.

Ansel Adams 10 zone exposure measurement system: Middle grey is defined as 'Zone V' on an exposure meter. Pure Black is Zone 0. Zone IX is pure white. For reference, average Caucasian skin is Zone VI.

Types of light meter:
- incident meter: light on the scene
- spot meter or reflectance meter: light on the subject, which is a combination of light on the scene and reflectance of the subject.

II.8) Depth of field

Depth of field depends on:
- Focal length of the taking lens: the shorter the focal length, the more the depth of field.
- The aperture of the lens: the smaller the aperture, the greater the depth of field.

Apparent focus: objects in the frame that appear to be in focus, but strictly are not optically.

Circle of confusion: how large the image of a projected point can be before it appears unacceptably out of focus.

As a general rule, depth of field is distributed 1/3 in front of the plane of critical focus and 2/3 behind.

Depth of field in close up work:
- DOP decreased as magnification increases
- DOP decreases as focus distance decreases
- DOP doubles by closing down the lens 2 stops.

II.9) Focal length

Short Focal length (also called Wide lenses)

Effect on depth of field:
- foreground and background in focus, subject is surrounded by the details of their environment.
- Eye does not naturally sees huge depth of field. An element of design is needed to tell the audience where to focus their attention.
- Camera can move easily within the frame because everything is in focus. French Nouvelle vague: long take, deep focus, flowing camera moves, few cuts.

Effect on perspective:
- Perspective lines converge more quickly than normal: exaggerate the length of a hallway, the height of a building, how high we are looking down from or the size of a room. → Called Wide angle lenses.
- Near objects seem larger, far objects seem smaller. → shooting inside a cinema or theatre: the rows of spectators diminish more than in reality, therefore the cinema/theatre looks larger.

- Exaggerate the size of a room makes interiors look opulent and expansive (Citizen Kane).
- Accelerates speed of moving objects such as car (either camera mounted on object or object moving towards camera)
- Also exaggerate how tall people are.
- Shoot a sitting person while standing and it looks as though they are shot from the ceiling.
- Very short focal length grotesquely exaggerate a character's features (Douglass & Harnden, 1996, p117)

Long focal length

Long focal length require more space, more set up time and better camera mounts.

Effect on depth of field:
- space surrounding the subject out of focus, becomes a diffuse pattern of light, colours, shade.
- Shallow focus may be used to isolate a subject in space and give an impression of detachment, isolation.
- If very long focal length used for CU, the eyelashes may be in focus while the nose and ears aren't. If ¾ shot, only one eye is in focus, the other isn't.

Effect on perspective:
- Flatten perspective: perspective lines converge more slowly than normal.
- Compress space: claustrophobic atmosphere, confrontation or intimacy between characters.
- Long focal length flatten the face (effect is flattering or rough depending on people) (Douglass & Harnden, 1996, p117)
- slow down the speed of moving subjects, they may appear suspended in space, going nowhere. Image appear static. May be used to express the abstract idea of movement rather than show actual movement.

Kurosawa subverts the use of long lenses, using them with small f-stop and huge quantities of light in order to achieve deep focus and get unusual compositions that would not be achievable with a wide lend (Brown, p51)

Middle focal length: background is discernible but details are suppressed.

Normal length render perspective the same way our eyes see it (50mm in 35 mm film, 25mm in16mm film. Check what is is on my DV camera!) Shallow focus like human eye.

'focus pulling': the focus is kept on the subject as the subject moves within the frame. The subject remains in focus while various parts of the background shift in and out of focus as the subject moves.

'rack focus': the focus changes from one subject to another, usually from the foreground subject to another subject in the background.

'Punch in': sudden lens change gets closer into the frame with shallower focus, high energy cut.

Beware! Change of focal length coinciding with change of framing (CU with long focal lengths, MS with normal lens, WS with short focal lenses) may make an actor's face look very different in the 3 shots! Solution: move the camera closer and keep the same lens.

The shorter the focal length, the more the linear distortion. A fisheye lens is an extreme wide angle often used to show drug hallucinations.

Optical objects such as a glass ball may be introduced in the scene to distort only a part of it. The camera may also shoot through optical objects such as a window or water.

II.10) Colour theory

The Purkinje effect: In dim light, blue appears brighter than red whereas in bright light, red appears brighter than blue. Therefore the eye perceives moonlight as blue even it is physically the same colour as daylight (moonlight is reflected sunlight). To follow this perception, moonlight scenes are traditionally lit blue.

Colours have 4 properties:
- hue: wavelength
- chroma: saturation. Strength and relative purity of colour, its dullness or brilliance, how much grey is added to it.
- value: lightness/darkness. Pure violet is darker than pure orange: not all colours have the same scale of possible values. A lightened colour is a tint (white added to the colour). A darked colour is a shade (black or complement added to colour).
- Temperance: relative warmth or coolness or a hue.

In *Barry Lyndon*, Kubrick uses warm colours when Barry moves upwards socially, cold colours in his decay (Brown, p134). Hottest Darkest Colours advance while coolest colours retreat.

Colour harmonies:
- monochrome
- analogous: hues touching one another on the colour wheel
- triadic: equidistant colours
- complementary: opposite colours
- split complementary: a colour and the 2 colours adjacent to its complement.
- Discordant.

Some perception rules:
- Degradation of colours (Brown, p137): one colour adjacent to another colour will give a tinge of its complement to the other colour. Consequently: two

adjacent complementary colours brighten each other, but two adjacent non complementary colours will make each other duller.
  – Dark hues on dark ground which is not complementary will appear weaker than on complementary ground.
  – A bright colour against a dull colour of the same hue will futher deaden the colour
  – when a bright colour is used against a dull colour, the contrast will be strongest when the hues are compementary.

Colour temperature tells about the blue/orange component of light, but gives little indication of its magenta/green component. Colour balance of light may be corrected with a camera filter.

II.11) Lighting

Lighting design: the pattern of light and dark on the frame.

Lighting set up: the types and number of lamps and instruments (reflectors, diffusers etc...) used and their position.

II.11.1) Lighting design

Sharp edged shadows and hard lighting: glamour, meagre existence, danger.

Soft lighting with delicate shadows: innocent playfulness, tranquillity.

Low key lighting design (typical of film noir) = frame darker than middle grey.

Film noir low key: Dark background and illuminated subject or subject silhouetted against backlight, use of side light for chiaroscuro effect creating negative space in the frame.

German Exressionism low key: oddly angled shots, chiaroscuro, wedges of light and shadowy mazes, silhouettes of foreground objects, harsh light bouncing off water, mirrors, polished objects. (Brown, p160)

High key lighting designs = frame lighter than middle grey. Often associated with 'the ordinary' but other possibilities:

  – hot backlighting and glaring background may suggest psychologically oppressive reality.
  – Hot backlighting with very subdued tones and no glare: warmth, glamour
  – very flat with no backlight: sterile, bland, depthless.

Neither high nor low key: frame mostly in grey tones: dismal misery. (Bergman overcast exterior in Through a glass darkly)

Placement of key light on character's face affect how we perceive their expression (Douglass & Harnden, 1996, p114).

Bonny and Clyde (Douglass & Harnden, 1996, p 127): stark daylight contrast with somber action. Feeling of exhilaration over mayhem.

Direct sunlight can be harsh and produce stark shadows.

Magic hour (about one hour): warm glow of late afternoon. Golden light with angle that etches textures and shapes.

Contrast Ratio: how dark or light the shadows are on the subject. Lighting that looks normal to the eyes will have more contrast on film or video.

Lighting Ratio: degree of darkness of the background compared to the illuminated subject.

Soft light desaturates colours, hard light emphasizes contrast and colour saturation. Fog, dust in the air or smoke desaturate colours. Primary colours desaturate less noticeably than paster colours: skin tones are pastel and therefore will turn grey faster than primary colours in the frame.

II.11.2) Lighting set up

Hard light: small, bright light source with a tightly focused beam. Creates sharp shadows such as the Venetian blind pattern typical of film noir or Nosferatu's shadow in the stairs.

Soft light: light emanating from a large area, typically light diffused by passing through a diffuser such as clouds or fabric, or bounced of a reflector such as a photographer's umbrella, a wall, a portable reflector. A cheap reflector can be made from sheets of styrofoam (art or office supplies). Soft light create softer shadows or no shadows. A Chinese lantern (white paper shade) is a cheap soft light.

Scrims are screens od wire mesh placed in front of a light to tone it down.

Hard lighting emphasizes textures (skin, fabric) whereas soft lighting diminishes three-dimensional rendering of textures (Douglass & Harnden, 1996, p229)

Hard lighting can be done with fewer lights and instruments. I heard that cost saving was a factor in the look of film noir and German expressionism (though no 'serious' book confirmed this). In any case, it may be relatively easy to replicate the film noir or expressionist look I like in low budget video thanks to this.

Colourized version of film noir (opening scene of Chinatown, Lynch films).

Usually hard light are used for key light (main light on the subject) and soft lights for fill lights (secondary light to soften shadows on the unlit side of the subject). (balance key and fill to obtain a desired contrast ratio on the subject).

Lighting ratio (difference in lighting between lit subject and background). For a typical film noir look, lit subject is 3 f-stop brighter than background, the lighting ratio is 8:1 (8=2*2*2).

Lighting set ups are defined by how the key light is placed:

1) narrow lighting set-up: the key light is placed on the side of the subject opposite to the camera. Sculp the subject three-dimensionally. Used to obtain low-key lighting designs. Difficult to create in a small room with white walls due to reflection. Solution: hang dark fabric or black paper or use a soft key light. One soft key light close to the subject may be enough with no fill ina small space due to wraparound (cheap and simple!) Keep action away from walls. If high key design required, light the background separately.

2) Broad lighting set-up: key light on same side of the subject as the camera. Produces frames flatter in space. Usually used for high key design.

The audience seek details in a CU therefore the contrast ratio is usually decreased for closer shot. Usually double the ratio (one f-stop difference less) when going one shot size further (CU to MS) or cut it in half when movin closer (MS to CU).

Backlight create 'snap' to a frame, but usually need to be attached high up near the ceiling (so expensive complicated set up for big crews). The back light should be at least as bright as the key light. Bright back light create glamorous halo on subject's hair (if CU, may not be so complicated to set up the lamp).

Lighting for moving subject:
1) wall-lighting: constant light on the subject's path from multiple overlapping lighting instruments.
2) Pools of light: lit space where the action will pause, leave unlit the space in between.

Exterior lighting: midday on sunny days: the shadows obscure a person's face.

Motivated lighting: any light that would naturally exist in the world depicted by the frame (visible lamp, window). Unmotivated light has no visible source in the frame.

II.12) Camera filters

Types of filters:
- Diffusion: make the image softer and more diffuse, less contrast. Make the female star appear more glamorous.
- Exposure (Neutral density): reduce overall exposure without affecting colour rendition.
- Focus (diopters and split-diopters)
- Colour balance
- Colour alteration
- Effects

– polarisers remove the light in one direction (useful to eliminate the glare when shooting through glass)

III) Editing

III.1) General editing principles

2 creative stages in moving image:
  1) building up material: filming
  2) selecting and discarding: editing.

Jump-cut: cutting away a piece of action while keeping the same camera set up. In consequence, discontinuities appear around the cut. Jump-cut is forbidden in traditional cinema but used by the French Nouvelle Vague in the 60s.

  5 ways to avoid jump cuts:
  1) on-screen and off-screen action: let the subject exit the screen before the cut and enter the screen after the cut, so that there is an empty frame before and after the cut. It may be preferable to shot in CU than WS so that the subject does not have to travel long distances to exit the fame (otherwise it may get too slow)
  2) cutaways: shots that cut away from the main action. Include: CU motivated by a character's eye movement (Point of View (POV) shots) and reaction shots in a dialogue scene.
  3) cross cutting: intercut parallel actions
  4) cut_ins or inserts. Cut ins that are closer shots emphasis an important detail from the scene of the main action. It's better to change angle after a cut-in rather than revert to original camera set-up o they may look artificial.Cut in can be motivated by character eye movement too to make them look more natural.
  5) match cuts: provide the illusion than nothing has chaned on the scene even though he camera angle has moved. Requires careful set up: not only the set design but the actor's positions and movements must match exactly before and after the cut (though one may get away with a little cheating).

Dialogue scenes: cut to the reaction of the second character while the 1st is still speaking. Dialogue scenes appear more dynamic and natural when the sound and picture cuts are not done at the same time (overlapping edit or split-edit). A good place to cut away to the reaction shot is just before the speaking character says the important point of their dialogue line.

Rules for a smooth cut:
  1) the framing of the image should change enough in size: one full size from CU to MS or MS to LS. More than one full size could create a shock, so better avoided unless this effect is sought (smash cut)
  2) The angle of the camera should change at least 30 degrees of arc (or 20%) around the subject. Match reverse angles appear particularly smooth.

A lesser change may appear as a jerk rather than a change proper to the audience.

A sharp sound over a visually imperfectly smooth cut may camouflae the visual imperfection.

Cutting on the beat: cutting after the action is performed. Gives a regular, steady rhythm to a sequence.

Cutting up_beat: cutting while an action is mounting rather than after it has been performed. A match cut will appear smoother if the cut is made when 1/3 of the movement has been made and 2/3 of the movement remain for after the cut. We cut when the action is speeding up rather than slowing down.

Up beat cutting for shock effect. Ex: Hitchcock's psycho. Series of cuts on the beat (after the action is performed) as a man ascends stairs, sudden cut up beat to show the maniac that comes to stab him.

Shooting strategies for editing:
1) Master scene approach (traditional Hollywood method): shoot the whole scene once from WS, then shoot 'coverage' (MS, CU, reaction shots, cut-ins) from various camera angles.
2) 'By-threes': shot each shots with three shots in mind: itself, the one before, the one after. Editing is planned more thoroughly from the filming stage.The camera moves around the action rather than the opposite. Method used in long take style.

Montage sequences: cut between actions without continuity, but it differs from cross-cutting in that the goal is to convey an idea or a mood rather than build up dramatic tension. To preserve some kind of visual continuity, Frame Design elements (Shapes and movements) may be matched or cleverly contrasted in the two unrelated shots before and after the cut.

Warning! Some people refer to cutting between 2 unrelated scene while preserving an element of purely visual continuity over the cut (different objects of similar shapes) as 'match cut', whereas other people refer to 'match cut' as disguising a cut in a piece of continuous action. People who use the first definition of 'match cut' call ths second type of cut 'zero cut' (cut disguised as not happening).

Elliptical cut: a cut that masks time that has passed where the action is not shown.

Pace control: whether a climax is anticipated or comes as a surprise, it must be planned from some way back: either by planting cues and build up the suspense, or on the contrary by deliberately leading the spectator away from it so it comes as a surprise.

2 elements for pacing:
   – the mechanical rate of cutting
   – the inherent interest of the story at this point
The 2 can work in counterpoint (Hitchcock's unnervingly slow moving suspense scenes, chase scene in a dull western or action film)

Each shot should remain on the screen just long enough to be understood. The necessary time depends on the image size, its content, level of detail and the context (new element or something familiar).

To keep a sustain impression of rapid action, it is usually better to vary the pace rather than continuously keep a maximum action rate. The acceleration of tempo gives a stronger impression of rapidity than a constant maximum cutting rate.

3 kinds of editing compositions:
- cumulative effect of a series of unconnected images
- effect achieved through a direct contrast
- effect achieved through reiterating a single theme.

The following sections on editing for particular types of films are taken from *The Techniques of Film Editing* by Karel Reisz and Gavin Millar.

III.2) Editing theories in the silent film era

2 schools:
- Pudovkin and Kuleshov. Pudovkin's Film Technique rationalises the intuitive work of D.W. Griffith.
- Eisenstein. Eisenstein says that Griffith tranfered to screen the techniques of the novelist, in particular Dickens (cross cuttin, flashback, close up, dissolves)

But while Giffith staged long shot scenes and inserted details, Pudovkin believed a sequence purely made of significant details was more efficient. Pudovin is more interested in the sidelights and overtone of the story than in the drama itself.

Eisenstein: Intellectual montage. Eisenstein is more interested in social comment than plot. 'While the conventional film direct *emotions*, intellectual montage suggests an opportunity to direct the whole *thought process* as well.'
- heavily uses symbols from outside the story world to make political comments
- juxtaposing shots as a series of shock, no interest in smooth continuity
- classify the various effect of the pcture that could be varied to produce shock around a cut: composition, scale, depth of field etc...

III.3) Editing in the early sound film

Early sound films became dialogue obsessed and forgot the visual creativity of the best silent films, and purely synchronised sound reduced the possibilities for creative ordering of shots.

Later, the possibilities to play sound in parallel or counterpoint to the picture was explored.

A continuous sound can give continuity to a sequence of fast cuts between visually different images.

There can only be accelerando in sound when the sound itself remain constant in kind (p42)

III.4) Action Sequences

Griffith's classical cross cutting chase sequence.

A close shot is left on the screen more briefly than long shot because long shots have more elements for the audience to take in.

III.5) Dialogue sequences

It is better not to cut the dialogue track at the same point as the visual.

Important to try and make it more visually interesting than a succession of action and reaction close shots.

The lengthening of a pause or the sharpening of a cue may make a huge difference. That's why it may be counter productive to cut out bits of an actor's performance to speed up a sequence, a good actor precisely times their performance.

III.6) Comedy Sequences

2 methods:
  – Joke on a character: tell in advance the joke that is about to come so the audience waits sadistically for it.
  – Joke on the audience: something unexpected happen. More efficient if misleading elements are put before to really prepare the audience for false expectations, then shatter their expectations with the joke.

Some elements not funny in themselves can be made amusing when put in an unexpected context (Twin Peaks jokes)

III.7) Montage sequences

Not Eisenstein's intellectual montage with ideological aim, but montage sequence used in classic narrative film: a series of visual shots usually used to convey the passage of time.

Interested in a pleasant looking continuity rather than shock juxtaposition, contrary to Eisenstein.

Citizen Kane's famous sequence showing the gradual disintegration of a marriage:
  – each sequence is implicit in the previous one

- the words are carried over the visual and time cuts
- the music is continuous but subtly changes to convey the deterioration of mood (discordant final)

III.8) Documentary reportage

Exposition of a theme rather than development of a plot: editing is more important than in fiction film.

Alteration of mood and tempo to present facets of the theme: creative use of sound, eloquent shot juxtaposition.

Control and distort the factor of time to make a natural event arresting and life-like: ironically, strictly following the natural timing may not work on screen. May need to shorten or lengthen by showing the same action under different POV.

Sometimes a fake visual effect looks more 'natural' than the real event (true in case of explosions).

III.9) Imaginative documentary (before the 60's)

ex: Flaherty's *Louisiana story*

Imaginative documentary uses 'natural' (unstaged) footage in order to express an emotional atmosphere, rather than for instructional or informative purpose. It is the closest genre to what I've made so far.

Each shot in itself is neutral in content: it is by putting them together that we can buld a mood/atmosphere.

How to edit together shots to create a mood/atmosphere in imaginative documentary. Put them in sequence according to:
- subject matter
- spatial movement and its direction
- tonal value (colour and light)
- emotional content

Some tricks:
- match shapes or movements between unrelated images
- camera movement matches movement of an object in the frame → creates a sense of direction between thematically unrelated shots.
- The duration a shot is kept on screen is decided by building up the mood only, there is no need to 'time it' so that the audience gets a particular bit of useful information.
- Sounds associated to elements, including mechanical ones to give them 'life'. When a sound associated with an object falters, the audience will automatically think of impending threat to the object.

III.10) Documentary film of ideas (before the 60's)

Basil Wright's *Song of Ceylon*. Based on Eisenstein's intellectual montage principles:
 – editing on a dialectical plus emotional basis
 – juxtaposition of images to each other
 – juxtaposition of images and soundtrack, soundtrack sometimes in counterpoint to images (ex: mechanical sound to organic images but the rhythm matches to link them).
→ the spectator may not understand the implied meaning, the ideological connotations but he feels them.

Another method based on continuity rather than shock (*Diary for Thimothy*, H. Jennings):
 – Interweaving 2 factually unconnected sequences, using cuts on sounds and images to create implied idea links between them. Smooth out all transitions rather than create collision of shots.
 – Sounds may carry over the image cut, or different sounds from the different visual sequences are linked ironically so they appear to answer each other.
 – Use of suggestive rather than descriptive commentary to avoid the potential difficult understanding of films using Eisenstein's method.

III.11) Documentary and the use of Sound

Commentative sound: usually unrelated to the images, throw oblique comments on them instead (counterpoint).

Not using actual sounds may be forced by the inherent visual discontinuities in the documentary genre. When particular sequences allow to use actual sounds, they may be a powerful tool to create the mood.

Trick to arouse audience interest: using actual sound from just outside the visual frame.

Documentary often shows inanimate objects: such shots have no inherent rhythm, it is the editing that solely creates the rhythm.

Matching rhythm in beats of the word commentary, images (inherent rhythm of shots and cutting rate between them) and music.

Dissolves do not create a beat while cuts do.

The sound may be used to give the images a rhythm they do not have in themselves.

In imaginative documentary, you can create the soundtrack to the images or the opposite in order to create a rhythm. The 2 work together, the soundtrack is not a secondary adjunction.

III.12) Educational Films

Goal:
– clarity, logical exposition
– correct assessment of the audience's receptivity, the time they need to understand complex ideas while not boring them by being too slow.
– Smoothnes of presentation so as not to distract the audience from the content

Instructional film: show 'how to' do a procedure.
– The order of sequences is forced by the procedure.
– Something in each shot must carry the eye over to the next one with a different view so that the audience is never confused.
– Every change of view must be motivated by a deliberate action or camera movement.
– Diagrams must be linked to the real thing they represent (possibility to do this using a match dissolve)
– The comment draws the spectator to important details and keep the flow of thought in the right direction, but should never replace what could be best expressed visually.

Teaching film: explain complex, sometimes abstract ideas.
– Ordering of sequences guided by the logical progression of an argument.
– Commentary usually written first, then images fitted to it, then commentary slightly amended to fit the images. Perfect timing of images and commentary is crucial.
– The function of the commentary is to keep the audience thinking in the right direction, not describe what is visible on the images.
– Tip: when mentioning a new point in the commentary, make it coincide exactly with its introduction in the visuals.
– Complex timing of shots: enough time for audience to understand the point, yet quick enough not to become dull. Consequently: as a subject develops, it tends to become more complex and the tempo must be reduced accordingly. Contrary to fiction film, teaching films tend to get slower towards the end. Common complaint from audience that the film gets dull.

III.13) Newsreel (out of date but principles may be useful for web clips)

Loud music and strong commentator's voice smooth over visual transitions.

III.14) Compilation Film

Documentary made from images collected from various sources. The soundtrack unifies the different visual styles.

Dziga Vertov (Kine truth, Kine Calendar)

Peter Baylis(Reisz & Millar, p164): 'the deeper the cinematic content of a shot lies, the more difficult it is to perceive it and therefore to place it in its correct position.' The cinematic content may not be the straightforward image depicted on the frame but rather a connotation attached to it that the editor 'feels' but cannot immediately nail in words.

Metaphor or figure of speech in the commentary may spring from the visuals to give unity.

Common shapes or movements between conceptually unrelated objects each side of a cut may link them unconsciously in the spectator's mind.

III.15) The invention of Widescreen

The frame is larger therefore there is more space for developing action witout loosing sight of details and therefore less need for close up: this led to a new style of film in the 50's using more long takes (Neo-realism).

Widescreen is particularly suited to diagonal and horizontal compositions. But it's acceptable to mask off a part of the frame (with walls, a character's back) for smaller compositions.

The possibility to keep distance between 2 characters while having them both in CU (heavily used by Lynch in *Lost Highway* to show distance between Fred and Rene Madison).

III.16) Cinéma-Vérité and documentary film of ideas in the 60's

Does not mean it's truer because it uses unstaged sequences: a Vérité director must be very careful not to misrepresent people by their selection and organisation of shots.

Chris Marker's *Le Joli Mai* relies more on style than the average Vérité film*:*
– carefully composed dolly or car shot. Long elegant tracking shots that lull the viewer into accepting commentary ideas.
– hand held work including walking tracks, backwards, forwards, sideways
– hand held long interviews
– random street encounters
– extensive use of found graphic material on walls
– acceptance of deliberate public participation
– synchronous and unsynchronous tracks
– intuitive flexibility responsive to hints in the interviewees voices or behaviours
– counterpoint between images and commentary

The consequence of spontaneous filming is that the picture is occasionally under or over exposed.

When he wants to chop off a bit of interview, marker cuts in irrelevant visuals (images of cats are his trademark).

When explaining complex ideas at the end of the film, marker does not make the mistake of trying to visualise complex intellectual ideas and resort to heavy and pompous symbolism. The commentary carries the idea and combines with the immediate sensuous impact of the visuals.

Marker uses Eisenstein's method but adapt them for personal rather than generalised expression.

Geore Franju's Hotel des Invalides uses Eisenstein's methods very directly, but his symbolism is totally internal, the symbols are always naturally present within the place he films rather than irrelevant images artificially cut in like Eisenstein's. It gives his symbolism more impact and less artificiality.

III.17) Personal cinema in the 60's: Caméra-stylo

Nouvelle Vague

Nouvelle Vague starts in France in 1958-1959. Writer-Director creatively responsible for conception and execution of his project.

'Cinema of Appearance', essay in Sight and Sound by Eric Rhode and Gabriel Pearson:
   – ' A world in which all appearances are equally valid is a world of discontinuity. The self is a series of events without apparent connection; its past and future are a series of actions, but its present is a void waiting to be defined by action. The self is therefore no longer seen as stable. It is without an inner core, without essence.
   – Only objects - i.e. things with an essence – can be understood. People remain mysteries.
   – Since there is no longer a stable reality, traditional morality proves untrustworthy. It seeks to essentialise appearances, order them so that they can be predicted, and so conceal from men their true condition in a discontinuous world – utter isolation.
   – Morality must be an endless, anguished process of improvisation. To initiate one's own self discovery is the only "moral" goal left. Hence action is necessarily opportunistic.
   – Motiveless act = l'acte gratuit.

In consequence of the zeitgeist of the 60's, cinema relies less on plot and smooth visual continuity.

Ironic development: increased use of the long take (visually) at the same time as philosophy of fragmentation.

Other Irony: the 60's once more use Eisenstein's clash of images. But while Eisenstein used it to present a rigid philosophical world-view, 60's director use it to record the disintegration of certitudes.

François Truffaut:
- uses long unbroken medium shot lasting as long as possible
- sometimes chop off a bit in the middle
- disguised jump cut
- prefer to keep the same set up for continuity rather than use a new set up after cut
- *Shoot the pianist*: increasing close up of a doorbell show a temps mort and the character's timidity. The character is often seen in a mirror over his piano: fragmented self. Use of a dissolve between 2 pans in opposite directions.

Jean-Luc Godard:
- frequent jump cut
- angles, length of shots do not tell which character to identify with.
- The logic of the author who shared his knowledge with us is replaced, for better or worse, by the logic of the passer-by who knows as little about it as we do (Reisz & Millar, p296)
- tragic ending of *Vivre sa vie* filmed in one long take with moving dolly and no close up: the distant viewpoint forces cold detachment on the viewer, we are not allowed pathos, to identify with the victim.

Alain Resnais:
- images have ambiguous degrees of truth (event, dream, wish, will) and unexplainable visual discontinuities represent a switch from one plane of truth to another (see my research paper)
- For writers of the Nouveau Roman, traditional novel distorts the world because its description is biased depending on the character's state of mind. *Last year in Marienbad* made in collaboration with Nouveau Roman writer Alain Robbe-Grillet can be seen as direct illustration of this theory: the images show the world as distorted by the character's mindset.
- In *Hiroshima my Love* written by Marguerite Duras, travelling shots through Hiroshima and Nevers (the heroine's hometown) blend together, as do the image of her current Japanese lover and her dead German lover.
- In *Marienbad*, the camera is very mobile, principally for the sheer sensuous pleasure of moving shots. The camera seems more alive than the static, frozen characters.
- Quick camera moves causes bits of travelling shots to be underexposed or overexposed.

Michaelangelo Antonioni:
- the environment is a character in itself (so many LS of landscape). The landscape reflect the state of mind of the characters (*L'avventura*)
- tragedy = 'character as destiny' → 'environment as destiny'
- shots go on absurdly long after the action is over
- some dialogue scene as shot from afar with no close up to keep distance between the character and the viewer

- uses a lot of long takes (long takes in which nothing happens and nobody looks at anyone else, some critics have said :)
- most significant emotional decision happen during the 'temps morts' between deliberate gestures
- disposition of characters in groups and direction of their glances show their relationship. Change of camera angles reflect shifting power play.
- Widescreen to show both the important environment and the characters
- *La Notte* (1961): more fragmented images, shorter sequences
- *L'Eclisse* (1962): recurrent images of objects and empty places associated with the lovers' former meetings.

IV) Sound Design

Sound effects

Synchronous sounds have a visible source in the images. Non synchronous sounds have no visible source.

City noises are augmented during moments of distress and confusion and faded out during moments of intimacy and serenity.

Also manipulate tonal quality and dynamic range of voices to make them sound huskier, sexier, more menacing.

V) Video encoding

4 frame rates:
- 24 fps (USA)
- 25 fps (Europe)
- 30 fps Non Drop
- 30fps Drop frame.

In 25 Hz video (all country that do not use NTSC) there is an excat number of frame in each second therefore drop frame is not necessary. There is no drop frame in 24p HD video.

Tips for shooting HD video and get a 'film look':
- interlace always has a 'video look'.
- If you can't nail exposure, err towards underexposure rather than overexposure because video tends to see into the shadows much more than film
- Biggest problem is too much depth of field (loss of storytelling and frame composition tool)

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