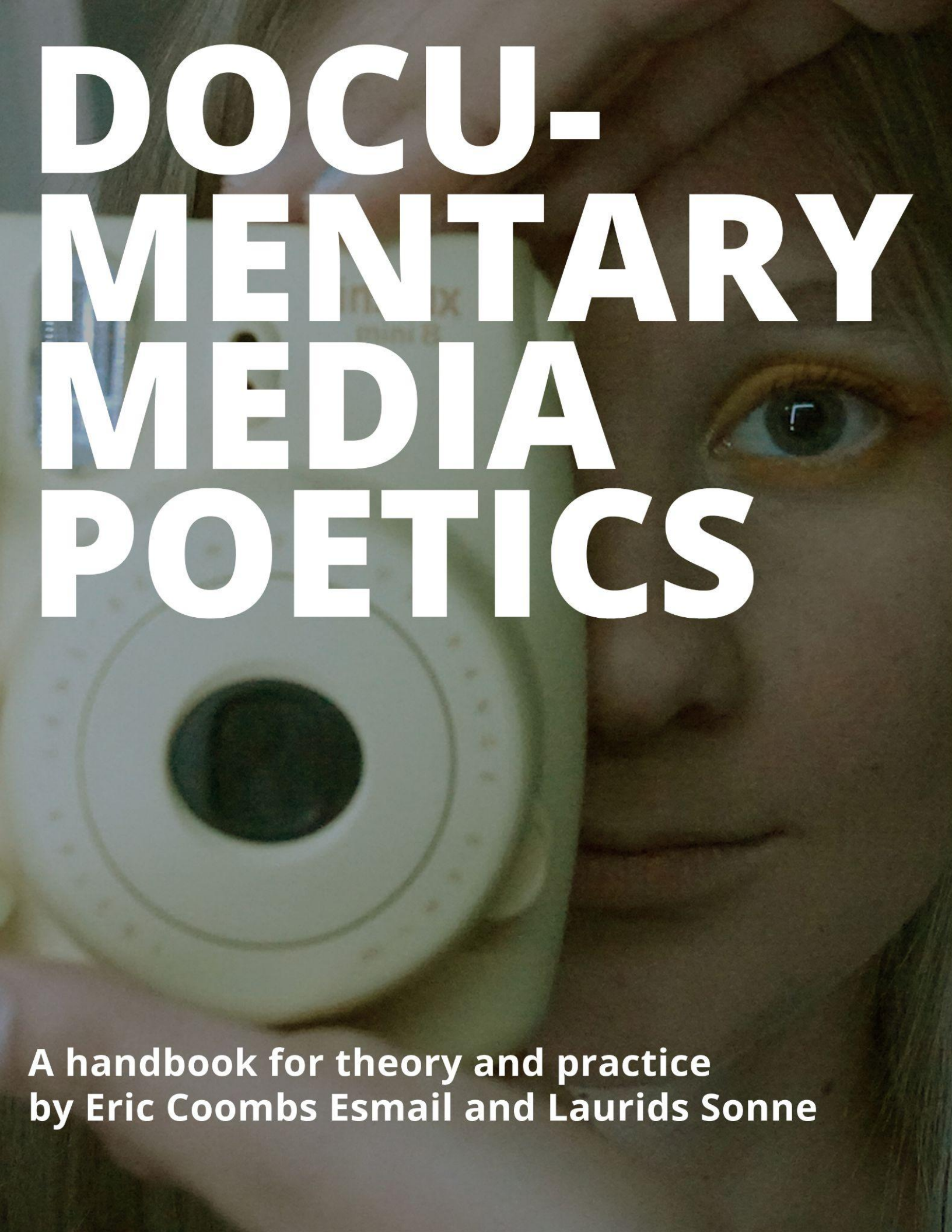

DOCU-MENTARY MEDIA POETICS

A handbook for theory and practice

by Eric Coombs Esmail and Laurids Sonne

DOCUMENTARY MEDIA POETICS

A handbook for theory and practice

version 1.0

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"It is both the glory and the shame of poetry that its medium is not its private property, that a poet cannot invent his words."

-W.H. Auden

"...an observation also true when applied to photography and the photographer's inability to invent his 'worlds.'"

-Tod Papageorge[1]

[1] Papageorge, "Tod Papageorge on Robert Adams."

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Documentary Media Poetics: A Handbook for Theory and Practice

PART I
INTRODUCTION TO DOCUMENTARY MEDIA POETICS

Notes on theory

1.0 – Documentary Media Poetics

"Poetry is not a museum-object to be observed from afar, but a dynamic medium that informs and is informed by the history of the moment." - Philip Metres[2]

Documentary Poetics are the study and practice of documentary arts as a method for building and transforming our world. Documentary Poetics help us to recognize the *documentary impulse* inherent in all art. The documentary impulse is driven by our experiences of the world. It informs everything that we make, from early cave paintings to virtual reality. Rather than trying to make documentaries more poetic, we instead follow this impulse to enter into documentary through poetry.

Documentary Poetics are characterized by what the poet Philip Metres calls *double-movement*. This is when a work of art invites us into its own constructed world, while simultaneously allowing the outside world in. In this way, documentary both informs and is informed by its historical moment, and helps to create the possibility for new moments by making knowledge.

Media are the methods we use to create documentary artworks. They can take the form of any form of communication, including text, painting, performance, sound, moving images, and beyond.

To better understand and analyze how Documentary Poetics actually work, we can separate them into two major categories: **Objectivism** and **Lyricism**. When taken together, these methods become the basis for what scholar and documentarian John Grierson called *the creative treatment of actuality*.

[2] Metres, "From Reznikoff to Public Enemy."

1.1 – The Documentary Impulse

Documentary Media Poetics

> *"...the historical sources – Herodotus and Eratosthenes – show, [the Trojan War] was generally assumed to have been a real event."*
>
> - Daisy Dunn[3]

The documentary impulse can be traced back to the earliest forms of art and poetry. When Homer recited the Iliad to his fellow ancient Greeks, they believed that he was talking about something that actually happened. Today, we might question whether or not the Trojan War was a real event. To read the Iliad this way is to read it as *evidence*. Similarly, the ancient cave paintings at Lascaux in France do offer some evidentiary value (like the kinds of animals early Europeans saw and hunted) but they also gives us something more: they show us the perspective of the people who painted them, revealing something about their experiences, giving us a glimpse into their hopes, desires, principles, and beliefs.

Documentary Poetics has an altogether different *documentary value* than mere evidence. Poems are not often used in a court of law, nor are they works of conventional journalism. Documentary Poetics are not just *reportage*, or the factual representation of events. Rather, they are the documentation of experience, which is valuable because they can inform our own experiences, even thousands of years later.

The impulse to document the world is to capture our experiences and communicate them to others. When we do this, we actively create our own histories and participate in a shared humanity across time.

[3] Dunn, "Did the Trojan War Actually Happen?"

1.2 – Lyricism

Documentary Media Poetics

> *"And I'll judge everyone, one by the one*
> *Look here comes the judge, watch it here he come now*
> *(Don't sentence me judge, I ain't did nothin' to nobody)*
> *I can only guess what's happenin'*
> *Years ago he woulda been the ship's captain"*
>
> -Public Enemy[4]

Chuck D, a member of the hip-hop group Public Enemy, has famously been paraphrased as saying "rap is the CNN of the ghetto". When we take the documentary impulse into account, we might interpret his idea as rap filling a fundamental deficiency in CNN's coverage. The album *Apocalypse 91… The Enemy Strikes Black* (1991) might not replace journalistic reportage, but rather, it might fulfill the impulse to document the lived experiences of Black people in the United States through poetry.

Public Enemy's single, "Can't Truss It" describes the historical connection between the US criminal justice system and slavery in the verse quoted above. Writers Carlton Ridenhour, Stuart Robertz, Gary "G-Wiz" Rinaldo, and Cerwin "C-Dawg" Depper use **lyricism**, which comes from a documentary impulse that is at once historical and experiential, exemplifying the dynamic double-movement of documentary poetry.

In a lyricist approach to documentary, the artist produces text, images, and sounds based on actual events and lived experiences. Therefore, we can define **lyricism** as *the material transformation of history and experience into documentary poetry.*

[4] Channel ZERO, *Public Enemy - Can't Truss It (Official Music Video)*.

1.3 – Objectivism

Documentary Media Poetics

> *"Betty was about eleven. She had no regular work at the mill*
> *but did one thing and then another*
> *and sometimes would take shirts to a table*
> *attached to a mangle.*
>
> *That morning the machine had not been started*
> *and when she had placed the shirts on the table*
> *[she] rested her fingers on the rollers;*
> *and another little girl who also worked in the mill*
> *started the machine:*
> *it caught Betty's arm and crushed it."*
>
> -Charles Reznikoff[5]

Charles Reznikoff was a 20th century poet who wrote *Testimony: The United States 1885-1915: Recitative*. The text is a multi-volume tome that Reznikoff wrote while working at a legal publishing house in New York City. His job was to edit and reformat courtroom records for publication, but in the process he discovered he could use the text to create works of documentary poetry.

In the example above, Reznikoff tells the story of child laborers who work in dangerous conditions. By recontextualizing courtroom records using formal techniques like excerpting and editing, adding line breaks, and creating new rhythms, the result is a new composition that transforms evidence into documentary poetics. This is **objectivism**.

Unlike lyricism, **objectivism** finds the poetry inherent in testimony and events, or in text, images, and sounds that were made for other purposes. We can define it as *using formal techniques to recontextualize history, experience, and evidentiary material as documentary poetry.*

---

[5] Reznikoff, *Testimony*.

1.4 – Objectivism + Lyricism cont'd

Documentary Media Poetics

William Zanzinger, who at twenty-four years
Owns a tobacco farm of six hundred acres
With rich wealthy parents who provide and protect him
And high office relations in the politics of Maryland
Reacted to his deed with a shrug of his shoulders
And swear words and sneering, and his tongue it was snarling
In a matter of minutes, on bail was out walking
-Bob Dylan[6]

More examples of **lyricist** documentary poetry include Bob Dylan's song "The Lonesome Death of Hattie Carrol" about the murder of a Black hotel worker by a wealthy white man; Patricia Smith's book of poetry *Blood Dazzler* documenting personal experiences of Hurricane Katrina; and works of documentary media like Chris Marker's *Sans Soleil* (1983).

"And now the Galápagos Islands—
hideous black lava
The shore so hot
it burned their feet

through their boots
Reptile life
Melville here later
said the chief sound was a hiss"
-Lorine Niedecker[7]

More examples of **objectivist** documentary poetry include "Darwin" by poet Lorine Niedecker, and works of documentary media like *The Black Power Mixtape 1967-1975* (2011) by Goran Olsson, *Our Nixon* (2013) by Penny Lane, and Shola Lynch's 2012 film *Free Angela and All Political Prisoners*.

[6] Bob Dylan, *Bob Dylan - The Lonesome Death of Hattie Carroll (Audio)*.
[7] Foundation, "Darwin by Lorine Niedecker."

1.5 – Creative Treatment of Actuality

Documentary Media Poetics

> *Documentary, or the creative treatment of actuality, is a new art with no such background in the story and the stage as the studio product so glibly possesses.*
>
> – John Grierson[8]

In his "First Principles of Documentary" John Grierson sets the pillars of the budding new art form. In the **first principle**, Grierson makes a turn from the primarily staged or reenacted cinema at the time and instead argues that documentary relies primarily on *observation* of the raw and "natural" world (actuality). In his **second principle**, he argues that documentary requires engagement with the *lived experience* of the people represented. The subjects are filmed in their environment, where their lives are unfolding and where the action is happening. This makes room for the spontaneous to occur. Grierson believed this would give a more accurate interpretation of the modern world and the lives of people in it. In his **third principle**, Grierson argues that *creativity* in the artistic aspects of documentary media has the potential to tell and shape transformative stories. He believed that these stories have the power to affect social change.[9]

Grierson was one of the first thinkers to identify documentary as an art form. Even in those early days, documentary was more than simply reporting about the world. Rather, it is a way for the artist to observe reality, to engage with lived experience, and to use creativity to inspire positive change in the world. Taken together, these principles form what Grierson called *the creative treatment of actuality*. These ideas now provide the foundation for Documentary Media Poetics.

[8] Grierson and Balcon, "The Documentary Producer."
[9] Grierson, "First Principles of Documentary."

2.0 – Documentary Modes

In his book *Introduction to Documentary*, Bill Nichols analyzes the history of the field and coined the **six modes** of documentary.

Nichols developed the six modes in order to understand different trends in documentary production over the history of documentary cinema. Rather than focus on individual directors, he found that there were tendencies toward certain modes of production. As documentary artists, understanding these modes can help us to form ideas, develop our projects, and identify our own techniques.

The six modes are: **Poetic**, **Expository**, **Participatory**, **Observational**, **Reflexive**, and **Performative**.

These establish a loose framework of affiliation within which individuals may work; they set up conventions that a given film may adopt; and they provide specific expectations viewers anticipate having fulfilled.[10]

[10] Nichols, *Introduction to Documentary*.

2.1 – Poetic and Expository

Documentary Modes

The **Poetic mode** is denoted by tending toward a subjective interpretation of documentary content. The poetic mode often explores patterns and associations involving temporal rhythms and spatial juxtapositions using dialectical montage rather than following the conventions of continuity editing. "*This mode stresses mood, tone and affect much more than display of knowledge or acts of persuasion. The rhetorical elements remain underdeveloped.*"[11] Even as some films within this realm employ more classical perceptions of the poetic, a prominent feature of the **Poetic mode** is the attention to the fragmented and ambiguous – it asks open-ended questions of what constitutes documentary knowledge.

The **Expository mode** is characterized by the use of an "objective" Voice-of-God narration directly addressing the viewer, and there is a direct relationship between the images/sounds and what the voice-over is articulating. Interviews are used as a way to support the argument that the film seeks to present. The **Expository mode** is characterized by a conventional narrative structure. The project's narrator may also appear as a 'character' or a host.

[11] Nichols.

2.2 – Participatory and Observational

Documentary Modes

The **Participatory mode** is distinguished by an acknowledgment of the presence of the camera and the crew. The artist speaks directly to her/his subjects and there is an emphasis on monologues and dialogues. The **Participatory mode** gives weight to the representation of multiple viewpoints. The interaction between the artist and subject is present in the project, and meaning is created in collaboration or through confrontation. The artist becomes a social actor even as they maintain some authority by controlling the means of representation (i.e. the camera and/or sound equipment). The editing maintains continuity, and the presentation of multiple viewpoints, often leaving the film without a definitive argument and letting the audience decide.

The **Observational mode** seeks a non-interventionist or fly-on-the-wall style of presentation. This is characterized by unobtrusive camera work, appearing to offer a slice of life, as experiences though long takes connoting that nothing has been removed from the recorded sequences. In cinema, the **Observational mode** employs handheld shooting, often using zoom lenses, that follows the actions. The editing in the **Observational mode** gives the impression of lived real time experiences. Sonically, the **Observational mode** is characterized by the strict use of synchronous sound. On or off camera speech will be heard that is neither directed to the camera or the audience. The music heard in the project will only be diegetic – it originates in the film and is not added after the recorded events.

2.3 – Reflexive and Performative

Documentary Modes

The **Reflexive mode** is characterized by an acknowledgment of the recording medium to problematize its representational role. The problems of making the documentary work are openly discussed within the film itself. The process of representation takes an explicit role in the film, along with an overt discussion of hierarchical and institutional implications. The **Reflexive mode** is characterized by its unique capacity for critique and for building trust with subjects and viewers alike.

The **Performative mode** emphasizes truth as a relative concept. Much like the poetic mode, it raises questions around what we perceive as knowledge by questioning general notions of truth. This mode relies on embodied knowledge in specific social situations as an entryway into understanding larger social structures and processes. The **Performative mode** emphasizes the subjective and affective, and the artist is often the main subject of the film.

3.0 – Media of Truth

Media of Truth

The 20th century saw a surge of activity in documentary theory and practice. Many of these ideas centered on how documentary arts could be more true to their subjects, their viewers, and to the artists themselves. While documentary could be understood as the creative treatment of actuality, could we rely on documentary projects to represent the truth?

In answer to this question, documentary artists like Dziga Vertov, Jean Rouch, the Maysles brothers, Kazuo Hara, and others developed theories for producing *media of truth*. The theories we will explore in this section are ***Kino-Pravda,*** **Direct Cinema**, ***Cinéma Vérité***, and **Action Documentary.**

3.1 – Kino-Pravda

Media of Truth

> *I am eye. I have created a man more perfect than Adam. . . . I take the most agile hands of one, the fastest and most graceful legs of another . . . and, by editing, I create an entirely new, perfect man.*
>
> –Dziga Vertov[12]

Kino-Pravda ("cinema truth") was a series of 23 newsreels conceived by the Russian filmmaker Dziga Vertov, running from 1922 to 1925. With the philosophy of ***Kino-Pravda***, Vertov was more interested in making statements than reporting the news. His goal was for these newsreels to not only show events and experiences but to explain them. He believed he could accomplish this using the camera's ability to see things differently than the human eye.

Vertov abstained from staging and scripting common to contemporary cinema and literature of his time. Instead, he believed that cinema had untapped potential. By constructing a new visual language, he could construct a new visual reality, which could create a new social reality. With this belief Vertov made use of juxtapositions of filmed fragments – called *montage* – through editing, to show the true nature of life within Russia.

Kino-Pravda highlighted the social relations involved in the events and experiences of the Soviet Union in the 1920s, and through documentary he shaped these chaotic fragments into an image of a communist truth.

[12] Nichols, *Speaking Truths with Film*.

3.2 – Direct Cinema

Media of Truth

> *...I only object to the breaking of the rules of a "non-privileged camera" where the film is implicitly saying that "this is the way it is." As soon as your film ceases to say that, then you can do anything you damn please.*
>
> – Richard Leacock[13]

Direct Cinema is a documentary strategy, that much like ***Kino-Pravda***, and ***Cinéma Vérité*** seeks to present events objectively. **Direct Cinema*,*** contrary to ***Cinéma Vérité*** does not rely on the filmmaker as a social subject themselves, but instead relies on the camera's capacity for observation to reveal the truth**. Direct Cinema** was heavily influenced by technological development in portable film cameras, as well as synchronous sound recording, which allowed for a smaller film crew to better follow the action and get closer to the subject matter.

Direct Cinema sets itself apart from ***Cinéma Vérité*** by believing the documentarian to be an objective observer. The artist records events as they unfold and is completely passive, rather than acting as a director or a participant. In **Direct Cinema**, the goal is for subjects to become so involved in the moment that they forget about the camera.

Direct Cinema is a strictly observational approach to documentary art, without intrusion. Examples of Direct Cinema include *Don't Look Back* (1967) by D.A. Pennebaker and *Salesman* (1969) by Albert Maysles, David Maysles and Charlotte Zwerin.

[13] Leacock and Blue, "ONE MAN'S TRUTH."

3.3 – Cinéma Vérité

Media of Truth

> *…from the beginning, the camera was equally revealed to be a "thief of reflections."*
>
> - Jean Rouch[14]

Cinéma Vérité (film truth) is a documentary strategy formulated by Jean Rouch and Edgar Morin in the 1960s, inspired by Vertov's ***Kino-Pravda***. The goal of ***Cinéma Vérité*** was to bring natural dialogue and authenticity to the action and narrative. This would be achieved by having the artist participate in the film as a character themselves – as subjective observers, in dialogue with their interlocutors.

The artists and the participants are both aware of the camera and the cameraman, which this style acknowledges and embraces. ***Cinéma Vérité*** can, to a certain extent, involve facilitated scenarios (or "staged" events), and interventions or provocations, which was thought to make the participant reveal their true selves. By making participants more aware of the camera, ***Cinéma Vérité*** seeks to make them more aware of themselves.

With ***Cinéma Vérité***, Rouch and Morin wanted to reveal the camera's process of capturing improvised events, while also noting its tendency to organize those events.

Cinéma Vérité combines the participatory with the observational mode of documentary.

[14] Rouch and Feld, *Ciné-Ethnography*.

3.4 – Action Documentary

Media of Truth

> *"The past is useless…move forward from an action in the present."*
> -Kazuo Hara[15]

Kauzo Hara and his partner, Sachiko Kobayashi, pioneered **Action Documentary** in the 1970s and 80s. This style takes the participatory ideas of ***Cinéma Vérité*** one step further, and situates the camera and documentarians as intruders into the world of their subjects.

The obtrusive style of the **Action Documentary** purposefully places the camera in uncomfortable situations. Hara writes "when I take up the camera…I must aim it at the world of feelings within individuals…I have no choice but to cross into the realm of privacy."[16] In **Action Documentary**, the camera is used as a tool to "pry open" relationships to reveal social dynamics through intimacy, hyperfocused on the individual as the primary site for investigation.

One technical hallmark of the **Action Documentary** is the *one-meter rule*. This is when the cameraperson stands a maximum of 1.5 meters away from their subject. Hara believes that this closeness creates a relationship that puts the artist and the subject at mutual risk. He says, "that closeness is the distance of being able to attack someone, which means they can attack you back."[17] He believes this dynamic allows the documentary to express a person's inner feelings by creating a "nervous energy" in the documentary process.

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[15] Hara, *Camera Obtrusa*.
[16] Anderson, "The One-Meter Rule: An Interview with Kazuo Hara and Sachiko Kobayashi."
[17] Anderson.

3.5 – Summary: Media of Truth

Media of Truth

> *"...with documentary, these intentions that we hold are constantly being broken down by reality...that is the real essence of documentary..."*
>
> -Kazuo Hara[18]

Like **Direct Cinema** and ***Cinéma Vérité*** , **Action Documentary** relies on mobile camera techniques and small crews, and similar to ***Kino-Pravda***, relies on montage to investigate social issues. Where **Direct Cinema** might use these methods to attempt to remove the influence of the documentarian, **Action Documentary** purposefully puts the camera in the way. Where ***Kino-Pravda*** focused on the collective experience of the Soviet Union in the 1920s, **Action Documentary** is preoccupied with the individual. ***Cinéma Vérité*** casts its subjects as collaborators and the documentarian as subjects, while ***Kino-Pravda*** sees its subjects as material for making statements in the editing room. **Action Documentary** prioritizes the relationship between the documentarian and the subject, while **Direct Cinema** is concerned with the subjects' interactions with each other.

Whatever the methodology, all of these systems are attempts to develop techniques and styles for creating media of truth -- images and sounds that speak to their audience with a sense of openness, honesty, and subjectivity. As Kazuo Hara says above, no matter the intentions of the artist, reality will always intervene. As documentarians, we incorporate the unexpected into our work by refining our methods so we are always ready for our expectations to be challenged. These theories provide blueprints for meeting those challenges and for developing our own ways of creating media of truth.

[18] Anderson.

4.0 – The Three Realms

"In poetry of witness, the poem makes present to us the experience of the other, the poem is the experience, rather than a symbolic representation…we are marked by it and become ourselves witnesses to what it has made present before us."

-Carolyn Forché[19]

In a 2015 essay, Sandra Beasley ruminates on documentary poetics and poetry of witness. In doing so, she articulates three realms of poetically engaging with the real: The **Personal** (Lyrical), The **Political** (Oratorical), and **Witness**, a third realm that exists between the Personal and Political, which could be called the Social realm.

The **Personal** realm is the realm of self-expression, focusing on intense emotions, often suggestive of music (lyric comes from the name of an early stringed instrument, the *lyre*).

The **Political** realm uses rhetoric and evidence to speak to a public or group (oration is the act of speaking publicly), usually to convince them of an idea or prove a point.

Witness, the space between the oratorical and the lyrical, is a space for *conversation*. As Forche writes above, poetry of witness is not just a representation of events, but rather it invites the audience into the documentarian's experience and asks them to become witness to the poem itself, not just the events it describes.

Works of Documentary Media Poetics are often created within one or even all three realms. They provide foundational principles for how to approach documentary projects without being mutually exclusive. Considering the Three Realms can help us to understand whether to employ lyric, oratorical, or conversational techniques in our own work.

[19] Beasley, "Sandra Beasley."

5.0 – Documentary Ethics

Do we shrink in our seats or lean forward toward the screen? Do we cover our eyes or peek through our fingers? Do we stare at the vision before us or watch from the corners of our eyes? Do we sit there deciding to act on what we've seen once we're outside of the theater,or do we shrink a bit, knowing we will do nothing but watch what is presently before us?

-Vivian Sobchak[20]

For the documentarian, ethics and ethical behavior are central to the artform. There are logistical reasons why a project may become ethically challenging, like financial pressures, time constraints, and the often difficult circumstances of intrepid documentary filmmaking. Ethics are also fundamental to the creative aspects of documentary, and must be navigated in all aspects of a project's formation, including narration, aesthetics, social context, truth, and the treatment of subjects.

As a general rule, considerations of ethical responsibility in documentary art should be given to **subjects**, **viewers**, and to the **artistic vision** of the documentarian(s).

This section discusses ethics first as a set of professional standards and practices, then as a question of access and exploitation (to and of subjects), and finally, as a synthesis of creative practice and audience reception.

[20] Sobchack, *Carnal Thoughts*.

5.1 – Standards and Practices

Documentary Ethics

> *Documentary filmmakers identified themselves as creative artists for whom ethical behavior is at the core of their projects. At a time when there is unprecedented financial pressure on makers to lower costs and increase productivity, filmmakers reported that they routinely found themselves in situations where they needed to balance ethical responsibilities against practical considerations. Their comments can be grouped into three conflicting sets of responsibilities: to their subjects, their viewers, and their own artistic vision and production exigencies.*
>
> -Patricia Aufderheide, Peter Jaszi, and Mridu Chandra[21]

Standards and practices (S&P) are professional codes of conduct shared across an industry or discipline so that participants can relate to each other using common language.

The field of documentary is broad, and it is not defined by any one industry, methodology, or practice. As such, documentary ethics are often addressed in an ad-hoc manner on a case-by-case basis. While this provides a tremendous amount of flexibility for artists, it also creates the possibility of ethically mistreating our subjects, our viewers, our crew, or even ourselves.

As we continue to navigate this field throughout our careers, it is our responsibility to continue to have conversations about professional standards and practices, create new definitions, and hold each other accountable for ethical missteps.

As Aufderheide, et al. indicate above, documentarians typically address three conflicting sets of responsibilities on every documentary project: subjects, viewers, and their own artistic vision.

[21] Aufderheide, Jaszi, and Chandra, “Honest Truths.”

5.2 – S+P Cont'd: Subjects

Documentary Ethics

The following principles and tactics apply to standards and practices for the treatment of documentary subjects:

Do no harm, protect the vulnerable. This principle is often held when the documentarian is privileged and holds power over their subjects. This includes being honest with subjects, ensuring they are legally and physically safe when participating in the project, and preventing the exploitation of their image by others. It may not be appropriate to reveal a subject's real name or location if it would compromise their safety, release forms can be crafted to protect subjects as much as documentarians, etc.

Share decision-making. This means allowing subjects to influence the outcome of their contributions, taking their ideas and suggestions into consideration, and sometimes even sharing control over the fine cut of the project.

Paying subjects. This is a contentious issue and should be openly discussed with producers and collaborators. Subjects are often contributing time and labor to documentary projects, and it may be appropriate to compensate them. Some documentarians, however, believe that compensation will always negatively influence a documentary, and that only freely given information will stand up to scrutiny over time.

Deception. Sometimes, it may be appropriate to deceive, manipulate, or lie to subjects in order to get necessary material. Some documentarians categorically believe this is wrong. Others feel it might be appropriate when the subject is more powerful than the documentarian, has caused harm to others, or may be preventing access to important information.

5.3 – S+P cont'd: Viewers/Audiences

Documentary Ethics

The following principles and tactics apply to standards and practices for the treatment of documentary viewers/audiences:

Honoring trust. Documentarians have an obligation to their subjects, but also to their audiences and viewers. When applying the label of "documentary" on a project, there is an expectation that what is presented is an honest effort to represent actuality faithfully, without manipulation or lies.

Framing, editing, and narration. The way documentary projects are framed contributes to building trust. When editing recorded materials, it is important that they are not manipulated to say something other than what was originally intended, unless it is made explicit that it is being done for rhetorical purposes. The way stories are told is *narration*. This includes voice-over, but also refers to the overall structure of the story and how it unfolds. For example, purposefully withholding crucial information may build drama, but could also lead to viewers/audience distrusting the project.

Staging and re-enactments. Whenever events in a documentary are staged, it should be made clear that they are not representative of actual events. Re-enactments are often an important part of communicating documentary information, but if viewers/audiences are unaware that these are staged, the project can easily be dismissed as inaccurate.

Using archival materials. Viewers/audiences often assume stock footage and archival materials relate directly to the subject matter. If these materials are taken from an entirely different context, this should be clear. Viewers/audiences should not be left thinking that they've seen archival proof of something that is actually not related to the subject being represented.

5.4 – Access and Exploitation

Documentary Ethics

> *"I usually enter people's lives at a time of crisis. If the tables were turned, God forbid, I would never allow them to make a film about my tragedy. I am keenly aware of the hypocrisy of asking someone for access that I myself would probably not grant."*
>
> -Joe Berlinger[22]

> *I was afraid that I would burn my fingers and my reason, afraid of the obstacles presented by my subjectivity…As for neutrality, it does not exist. It could only be false.*
>
> -Chantal Akerman[23]

Documentary has a long-standing history of exploitation, whether of individual people for their situation/identity, or entire subcultures, genders, sexualities, and ethnicities. Gaining access to a person or a community does not give the documentarian *carte blanche* to record and edit without further ethical considerations.

In the first place, gaining access must not be seen as purely logistical. Access to subjects is part of the documentary process, and provides opportunities for creativity as well as risk of ethical pitfalls. **Cultivating authentic relationships** with openness and honesty is an important, albeit subjective skill that all documentarians must develop.

To cultivate these relationships, we must not give in to the fear of expressing our own subjectivity that Chantal Akerman describes. This means we must know our own place in the world, understand our own identities and biases, and make them present in the work.

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[22] Aufderheide, Jaszi, and Chandra.
[23] Youmans, "Ghosted Documentary: Chantal Akerman's Là-Bas."

5.5 – Access and Exploitation Cont'd

Documentary Ethics

> *"Jennie Livingston approaches her subject matter as an outsider looking in. Since her presence as white woman/lesbian filmmaker is "absent" from* Paris is Burning *it is easy for viewers to imagine that they are watching an ethnographic film documenting the life of black gay "natives" and not recognize that they are watching a work shaped and formed by a perspective and standpoint specific to Livingston. By cinematically masking this reality…Livingston does not oppose the way hegemonic whiteness "represents" blackness, but rather assumes an imperial overseeing position…By shooting the film using a conventional approach to documentary and not making clear how her standpoint breaks with this tradition, Livingston assumes a privileged location of "innocence."*
>
> -bell hooks[24]

Jennie Livingston's 1991 documentary *Paris Is Burning* remains an ethically controversial project. Over seven years, the film documents ballroom culture in New York City. bell hooks elaborates on the implications of Livingston's efforts, demonstrating how even a sympathetic artist can easily fall into ethical pitfalls. hooks's argument can be summarized as two common *ethical failures* that may result in exploitation.

1) **masking the artist's identity.** This results in the viewers/audiences being unaware of the specific perspective of the documentarian, which provides important context for understanding how we represent others.

2) **invoking the privilege of innocence.** When documentarians cast themselves as innocent observers, the viewers/audiences are allowed to adopt a similarly disconnected position. The documentary becomes a spectacle to be gazed upon as if we do not know any better, providing comfort to both documentarians and viewers/audiences at the expense of subjects.

---

[24] hooks, *Black Looks*.

5.6 – Ethical Practice and Reception

Documentary Ethics

> *"At minimum two viewers are ethically implicated in their relations with the viewed event, both the filmmaker viewing the event of death through the camera and the spectator viewing the film that makesthat death visible. Thus, responsibility for the representation of death by means of the inscribed vision of cinema lies with both filmmaker and spectator—and in the ethical relationship constituted between the vision of each."*
>
> -Vivian Sobchak[25]

In her essay "Inscribing Ethical Space" Vivian Sobchak contends with Amos Vogel's claim that "death remains the one last taboo in cinema." She uses this idea to articulate an ethical condition of nonfiction cinema, which historically struggles with meaningfully representing death in an ethical way.

Sobchak, in the quote above, makes it clear that both the artist and the viewer/audience are *ethically implicated* in documentary representations. In this way, documentary is not only a communication of information or facts from the artists/subjects to the viewer/audience. Indeed, it goes beyond even an affective or emotional relationship to become an *ethical relationship*. This mutual responsibility means that ethics cannot be considered outside of the documentary process, but as part of what constitutes a documentary project. As Sobchak says, "before the nonfictional screen event of an unsimulated death, the very act of looking at the film is ethically charged, and this act is itself an object of ethical judgment."[26]

[25] Sobchack, *Carnal Thoughts*.
[26] Sobchack.

5.7 – Practice and Reception Cont'd

Documentary Ethics

> *"Documentary space is constituted and inscribed as ethical space: it stands as the objectively visible evidence of subjective visual responsiveness and responsibility toward a world shared with other human subjects."*
>
> -Vivian Sobchak[27]

In Greg Youmans essay *Ghosted Documentary*, he analyzes Chantal Akerman's 2006 video *Là-bas*. He writes, "…I must work against the usual ways ethics is discussed in relation to film and video: that is, as something that occurs at the stage of production, *before* viewing, and which a viewer or critic then evaluates and adjudicates *after* seeing the work."[28]

Youmans identifies what Sobchak also argues, that documentary ethics do not exist outside the work, but rather, they *are* the work. The process of documentary production is fundamentally an ethical process, which is a site for creativity as well as critique.

He goes on to say that, "the video orchestrates a confrontation between the ethical demands of an exterior documentary space and the self-contained reflexivity of an interior art-cinematic space." Youmans argument, after Sobchak, is that documentary takes place "in the life-world that the viewer shares with both the documentary maker and the onscreen subjects."[29]

This idea mirrors the *double-movement* of documentary poetry - ethics and poetics are engaged in a parallel effort in which the work both informs and is informed by its historical moment.

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[27] Sobchack.
[28] Youmans, "Ghosted Documentary: Chantal Akerman's Là-Bas."
[29] Youmans.

PART 2
THE ART OF DOCUMENTARY MEDIA POETICS

Notes on practice

6.0 – The Documentarian's Notebook

As documentarians, we must constantly practice to improve our craft and keep our sense of observation and awareness sharp. The simplest way to do this is to **take notes**. Start a Documentarian's Notebook and add text, images, and/or sounds every day.

The Affect of Observation

Take notes on everything. Record *what* you observe, but also note *how you feel* when making observations. Take note of all of your senses, not just sight and hearing, and try to put them into words. Documentary note-taking is an *affective response* as well as an intellectual exercise. This means that the process of observation affects our bodies and causes us to feel emotions. This **affect** is part of the reason documentary poetics can be so powerful, so we must learn to identify it.

Reading the News

Journalistic reporting is an important tool for the documentarian. Treat the news as if it is another way of observing the world. Note your affective response to recent stories, connect them to your own experiences, and draw parallels between them and your own observations.

Research Broadly

As you continue to draw connections, start to locate where they sit on an **epistemological plane**. All knowledge, including affect and emotions, exist within context. As documentarians, it is our responsibility to understand the context in which events take place, to recognize the histories associated with our observations, and to develop a broader understanding of our subjects.

6.1 – Developing a Project

The Documentarian's Notebook

Project development is about synthesizing your experiences, observations, and notes into a coherent idea. For topical and narrative elements, this should be done using a written framework that can be adapted for grant proposals and pitches. For aesthetics, tone, and mood, development can be done using visual, sonic, and/or textual collage.

Catalyst Board

A catalyst board, mood board, or lookbook is a sensory tool for communicating your aesthetic inspirations for the project. Collect images, sounds, and text that represent the impetus for your interest in the subject matter, your personal experiences, documentary work that your project references, current events, and history. These materials can be sourced from your past work, current work on the project so far, and from the work of others.

Use these materials to create a collage that aesthetically represents your vision for the project.

Written Development

The most important parts of your project's development are its written components. These help communicate your idea to potential funders and collaborators, allow you to conceptualize your project in different ways, and provide the foundation for The Pitch and for preproduction.

The following elements represent a guide for how you might approach the written development of your documentary project:

Topic Statement

In a few short sentences, describe what your project is about, your position on the issue, and why it is important.

Historical Background
Detail the historical background of your project's subject matter, with a focus on why it is relevant today.

Theoretical Framework
Articulate the theories you will implement in your project. These can be documentary theories, or theories from fields relevant to your project's subject matter, such as sociology, anthropology, science and technology, etc. This section should also detail your ethical approach.

Aesthetic Strategy
Explain how your project will look, sound, and/or feel. Detail your aesthetic sensibilities as an artist, and discuss how they are appropriate to the subject matter at hand.

Technical Implementation
Describe how you will execute your project idea, what technologies you plan to use, and how your technical approach will add to the impact of your project.

Project Outline
Create an outline of your project from start to finish using story diagrams, scene cards, or a standard written outline.

Synopsis
Using the information from the rest of your development materials, craft a synopsis for your project. The synopsis is a succinct and direct summary of what your project is about, why it is important, and how you will address it.

Logline
The logline is a catchy, 1-2 sentence statement that captures the central idea of your project. A good logline often includes who the primary subjects are, what the central conflict is, and the action those subjects will take to address that conflict.

Title

Even if you are using a working title, all projects should have a name. The title should be evocative of your subject matter, but should also be informed by your personal stance on the issue.

Treatment

The treatment is a complete summary of your entire project, and should be built from the development materials you have already generated. Treatments can be anywhere from 2-60+ pages long, and should include your project's Title, Logline, and Synopsis. The remainder is an extended narrative, usually written in the present tense, of how your project will unfold. Documentary treatments are often written and rewritten as the project is made, especially when additional funding is needed.

When writing your treatment, *describe situations in detail* - do not use general terms or make assumptions about what your reader will understand. *Use the active voice* - do not use qualifiers and never suggest that your project might not happen. *Be direct and creative* - do not offer superfluous information, but at the same time ensure that you use vivid language to communicate your idea.

6.3 – The Pitch

The Documentarian's Notebook

The Pitch is used to communicate your project to a general audience for funding, approval, or support. The Pitch Deck is a slideshow used during your presentation and should be built from your development materials. The Pitch Deck should include the following elements, streamlined for presentation, in roughly 20 slides:

1. Title, Logline, and Synopsis
2. Historical Background and Contemporary Relevance
3. Aesthetic Strategy and Catalyst Board
4. Bios of Key Creative Personnel
5. Target Audience(s)
6. Budget Overview and Funding/Resources Required
7. Timeline (a streamlined production schedule)

Your Pitch should answer the following questions in **less than 10 minutes**:

1. **What** is your project about? What is the story?
2. **How** will you tell it? What are your methods and style?
3. **Why** is it important? Why is it urgent?
4. **Who** is making it? Why are you the right person/people?
5. **Who** is it for? Who will benefit? Who is your audience?
6. **When** will the project be completed? What is your plan?
7. **What** do you need to get it done? How much will it cost?
8. **How** can potential supporters or collaborators help?

Remember: The Pitch is a performance. Include relevant quotes, provocative imagery/sounds, and incisive writing to clearly and directly communicate your point. Practice, practice, practice!

Whenever you pitch your project, have copies of your treatment on hand, as well as your contact information so potential supporters can learn more and follow up.

7.0 – Preproduction

Preproduction is everything you do before you actually start recording or creating any documentary material. Preproduction in documentaries often extends in the production process. To limit this as much as possible:

Make lists. You should have a list for everything. A list of participants, crew, contact information, equipment needed, shots or recordings required, locations, allergies and dietary restrictions for your cast and crew...you get the idea.

Scheduling. Schedule everything. Create schedules that make sense to your participants and your crew. Follow-up with everyone and confirm they can be there.

Locations. You may need approval to shoot in the location you need. Contact the owner or manager of the location and ask for permission well in advance of the day you need it.

Secure releases. To protect both yourself and your participants, everyone appearing or heard in your project should sign a release form that allows you to use their name and likeness in the project. Examples can be found in Part 3 of this handbook.

Maintain a budget. Keep a running tally of what everything costs, and cross-reference it with the budget you created for your pitch. If modifications need to be made or more funds need to be raised, you should determine this well in advance.

Check the Preproduction Resources in Part 3 of this handbook for examples.

8.0 – Documentary Photography

"The moment {a} fact is transformed into a photograph it is no longer a fact but an opinion. There is no such thing as inaccuracy in a photograph. All photographs are accurate. None of them is the truth."

-Richard Avedon[30]

Perhaps the predominant way that we document the world is through photography. Documentary recordings often have an *indexical relationship* to their subjects. This means that the image a camera records strictly corresponds to what it is depicting. Because of this, photographs become indexes of the world. However, a photograph is a real object in itself, and while it may *point to* something else in the world (the subject), it is not the thing itself.

The portrait photographer Richard Avedon wrote the above quote in his photo essay *In the American West*. This series of portraits featured characters from various walks of life shot against a white backdrop on location. Avedon allowed them to pose in whatever they were wearing at the time, and the result is a vision of the West without its iconic landscape, focusing instead on its people.

What Avedon recognized was that while photographs have an indexical relationship to the world they represent, they are also taken from a specific perspective in a specific context. When we create works of documentary photography, we are not creating facts - instead, we are using the indexical quality of documentary recording to refer to the world through the lens of our subjective experience.

What follows in this section are just a few examples of the traditions within documentary photography.

[30] Goldberg, "ART; In the Portrait Game, the Photographer Wins."

8.1 – Street Photography

Documentary Photography

> *"If a photograph is to communicate its subject in all its intensity, the relationship of forms must be rigorously established. Photography implies the recognition of a rhythm in the world of real things. What the eye does is to find and focus on the particular subject within the mass of reality; what the camera does is simply to register upon film the decision made by the eye."*
>
> -Henri Cartier-Bresson[31]

Street Photography is a documentary practice that grew from realist traditions of painting. When cameras became small enough and portable enough, photographers began to follow the impulse to document everyday life "on the street". It was taking photos on the move that led the great street photographer Henri Cartier-Bresson to the idea of capturing the "decisive moment." This is when the relationship between the subject, the environment, the camera, and the photographer aligns. He writes, "In photography there is a new kind of plasticity, the product of instantaneous lines made by movements of the subject. We work in unison with movement as though it were a presentiment on the way in which life itself unfolds. But inside movement there is one moment at which the elements in motion are in balance.

Photography must seize upon this moment and hold immobile the equilibrium of it."[32]

[31] Kim, "Henri Cartier-Bresson."
[32] Kim.

8.2 – Street Photography Tips

Documentary Photography

Street Photography is an excellent way to practice skills like composition and exposure on the fly, and for learning to relate to people as a documentarian. Strategies for Street Photography include:

Pack lightly. Taking photos on the move requires minimal setup and small camera packages. Consider a small camera, prime lenses, and shooting handheld.

Smile. A smile goes a long way when photographing a stranger. If they notice you, thank them. Always ask permission before photographing children. If someone asks you not to photograph them, apologize and honor their request. If someone asks you to delete a photo of them, you should seriously consider it.

Go fishing. Locate a place where you can create a composition with dynamic lighting and preemptively frame the environment. Wait for subjects to enter the frame and capture the image.

Shoot from the hip. Practice shooting without your eye to the viewfinder, and without using a flip-out screen. Learn how your lens works by feel, and you can capture images quickly and accurately that you might otherwise miss.

Keep shooting. The only way to become a better street photographer is to keep practicing. Be bold, be respectful, go out with whatever camera you have (including your phone) and hone your craft.

8.3 – Landscape Photography

Documentary Photography

> *"...without a camera we stand in the middle of a field and after turning full circle must decide what part of the horizon to face."*
>
> -Robert Adams[33]

Landscape Photography has been part of the documentary tradition since its beginnings. Depicting the world around us as a landscape is a method of working, rather than a practice with a predetermined result.

Landscapes and how they change over time convey important information about history, events, and the human experience. In his series *The New West*, Robert Adams documented the construction boom around his home town to describe social change through landscape photography. Where painters from the romantic tradition may have depicted scenes of grandeur, Adams is compelled to document the human impact on the landscape with a sense of melancholy.

In determining the documentary value of a landscape photograph, we can follow the three truths of landscape photography that Robert Adams defines. **1) Geography** - where the photograph was taken?, **2) Autobiography** - who took the photograph and why?, and **3) Metaphor** - what does the photograph mean and represent outside of the first two truths?

Taken together, he writes that "the three kinds of information strengthen each other and reinforce what we all work to keep intact - an affection for life."[34]

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[33] Adams, *Beauty in Photography*.
[34] Adams.

8.4 – Landscape Photography Tips

Documentary Photography

Landscape Photography is a fundamentally different process to Street Photography. This style is excellent practice for creating considered compositions over a long period of time, focusing on every area of an image, and working alone.

Bring a tripod. No need to pack lightly. Landscape photography relies on adequate stabilization to create careful compositions. Ball-head tripods, gorilla pods, small jibs, and mechanized sliders for time lapse work are all useful in landscape photography.

Check the weather. Successful landscape photography relies on understanding how light and weather patterns affect the places where you work. Take note of sun position, time of day, time of year, and common weather conditions in the area.

Take your time. Creating considered, detailed compositions can take time. Getting to the ideal spot to take a photo takes time. Getting back to your car or bike takes time. Plan your day carefully so that you arrive when the light is best, and leave enough time to get home safely.

Bring the megapixels. Landscape photography often requires a high level of detail, color depth, and the ability to enlarge your photographs for print. Ensure that you bring a camera and lenses with the appropriate specs for landscape work.

8.5 – Portrait Photography

Documentary Photography

> *…taking a photograph of a person is like holding jelly in your hands. You can feel its weight, but where is its center?*
>
> Phillip Prodger[35]

Portrait Photography is a great tradition in photographic practice, and a cornerstone of the documentary photographer's toolkit. Phillip Prodger is a leading curator of portrait photography, offering the view that portraiture is not about capturing the totality of a person in one photograph. Rather, he argues that portrait photography is not about "identity" but about "image". He writes, "Photography excels at splitting seconds, not surveying lifetimes. It is by nature mechanical and distant, not warm and knowing. On paper, it is the worst possible tool for portraiture. Yet there is something undeniably magnetic about photo portraiture that defies easy explanation. I often wonder whose identity is revealed to me in a portrait that speaks to me. Is it really the sitter, or is it something internal to me, that maps onto my memory in a powerful way? [36]

Portrait photography is about capturing a split-second in someone's life that reflects both the sitter (the person appearing in the photograph), but also the relationships between them and the photographer. This relationship is a human interaction with which the viewer can identify. The process of identifying with both the photographer and the sitter is personal and specific to each viewer. In this way, a portrait is not a fact about a person, but a complex series of relationships that reveal something about what it means to be human.

[35] Strecker, "Fleeting Truths."
[36] Strecker, "Fleeting Truths."

8.6 – Portrait Photography Tips

Documentary Photography

Develop your relationships. If portrait photography is about relationships, it is important to develop your relationship with the sitter. Do you research, prepare, and get to know the sitter. This is the essence of what you will capture and communicate in the photograph.

Consider the mise en scène. This is a French term for “placing in the scene”. It refers to the idea that everything is placed in your scene, from the clothing and makeup your sitter is wearing to the elements of their surroundings. The mise en scène will reflect the nature of the relationships being documented.

Lighting. While all photography is essentially the capture of light on the subject, portrait photography is particularly sensitive to light falling on the sitter. Use lighting to create contrast that highlights the features of the sitter you hope to feature, and that captures the mood of their affect and your relationship with them.

Use the right lens. Different lens lengths cause distortions of your sitter’s features. Wide-angle lenses will expand those features while telephoto lenses will compress them. Choose a lens that bests suits what you are trying to communicate about the person and your relationship with them.

The pose. Portrait is all about spending the time to capture the pose and the expression that best represents what you are trying to say. Often, when you allow your sitter to pose for the camera, they reveal more about themselves than if you only capture “candid” shots. Cultivate a sense of trust by having a conversation with your sitter, and learn how they express themselves by giving them the opportunity to strike a pose.

9.0 – Documentary Sound

Acoustemology conjoins 'acoustics' and 'epistemology' to theorize sound as a way of knowing. In doing so it inquires into what is knowable, and how it becomes known through sounding and listening."

-Steven Feld[37]

Documentary sound recording, editing, and mixing, while in existence for over 100 years, is a frequently underappreciated art form. As documentary media has developed, especially in the 21st century, sound recording has received more and more attention.

Steven Feld, in his essay "acoustemology", coined the titular term to define a philosophy of sound as a way of knowing the world. Recording sound, then, becomes another way of recording our experiences and conveying them to others. Feld asks us "to inquire into sounding as simultaneously social and material, an experiential nexus of sonic sensation."[38] This means that sound can convey social relations, and that it can investigate the material conditions of the world just as text and visuals can, but in a different way.

Part of what makes sound so impactful is in the way we experience it. Unlike visual communication, sound is "instantly and forcefully present to experience and experiencers, to interpreters and interpretations."[39] Sound is not only processed by the brain, but felt in the body, and as such it has the capacity to capture and reproduce affective responses in a way that is inaccessible to images. This all while also communicating crucial documentary information to audiences.

[37] Novak and Sakakeeny, *Keywords in Sound*.
[38] Novak and Sakakeeny.
[39] Novak and Sakakeeny.

9.1 – Approaches to Field Sound

Documentary Sound

> *"The microphones are the instrument…While recording, rather than just finding an interesting spot, pressing record, recording for a while and then pressing stop, I generally keep the recorder running, and perform the recording - creating transitions, beginnings and endings in the process of recording itself."*
>
> -Ernst Karel[40]

Sound artist Ernst Karel describes his process of creating soundscapes using the microphone as an instrument in his 2012 project for *Sensate* journal, *Materials Recovery Facility*. This **instrumental** approach to field recording is characterized by the recordist navigating their experiences in the moment, using movement, proximity, and microphone placement to capture the sonic environment. This approach is often coupled with careful mixing and track arrangements in postproduction to replicate or reinforce the experience of actually being there.

[40] Barrow, "Recycled Sounds by Ernst Karel."

9.2 – Approaches to Field Sound Cont'd

Documentary Sound

"It is a manipulation of sound because it's not a direct path from a microphone to the final soundtrack. But it's the sound from those locations, which provides both authenticity and support for the story..."

-Bernhard Zorzi[41]

Sound designer and re-recording mixer Bernhard Zorzi worked on the soundtrack for Richard Ladkani's 2019 documentary project for National Geographic, *Sea of Shadows*. He describes how he uses a **constructive** approach to building the soundscape in postproduction almost entirely from sounds recorded in the field. When sounds do not exist, he fabricates them using Foley techniques to reproduce field sounds in the studio. This approach relies on gathering hundreds or even thousands of individual recordings and reconstructing the soundscape to communicate an idea of what actually being there was like.

[41] Walden, "Documentary Sound."

9.2 – Silent Caves

Documentary Sound

> *"I know as sound folk we sometimes exist in silent caves for long stretches of time, but the more interactions we have with the world the greater the bucket of our own experience from which we can draw and put into our films, making the soundscape as real (whether literally or emotionally) as possible."*
>
> -Shaun Farley[42]

Shuan Farley, who did sound work on the 2011 Bill and Turner Ross documentary *Tchoupitoulas*, describes the importance of experiencing sonic environments in order to create or recreate them for documentary purpose.

After shooting the film, the Ross brothers flew Farley to the French Quarter in New Orleans to experience the environment he was tasked with reconstructing. He notes the two-fold purpose for his New Orleans trip.

He writes, "first and foremost we were building a library of authentic sound effects that we could use as building blocks for our constructed reality...The second, and most important purpose, was experiential. As someone who has never lived in New Orleans, it was paramount that I knew what it was to experience the French Quarter, to see and feel the city, and in a way to live a little bit of the experience of the subjects of the film."[43]

Listening is the most important tool of the field sound recordist. While we may be tempted to rely on audio archives and effects libraries, Farley's account demonstrates that personal experience is crucial when developing documentary soundscapes, even when employing a constructivist approach.

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[42] Farley, "Constructing Reality for Nonfiction Film."
[43] Farley.

9.3 – Field Sound Recording Tips

Documentary Sound

Choose the right mic. Different microphones are useful for different purposes. Ensure you pick the right mic for the application. The main factors to consider are your microphone's pickup pattern, whether it is a dynamic or condenser microphone,

Support your mic. Different microphones should be mounted in different ways. Condenser mics should be mounted on a shockmount or handled with soft gloves and lavaliers should be clipped or taped onto your subject. Consider using a mic stand, boompole, or pistol grip.

Placement of your mic. Microphone placement is the most important determinant of sound quality. Consider your microphones sensitivity and pickup pattern when placing it in relation to your subject. Placing your mic closer to your subject will increase the signal-to-noise ratio and produce higher quality recordings.

Bring a variety of mics. In the same way you might bring multiple lenses to a photo or video shoot, bring a variety of microphones with different pickup patterns and purposes for recording sound.

Take notes. Because sound is time-based, it can take a long time to review your material. Taking notes in the field on each take will make organizing and sorting your recordings easier in postproduction.

10.0 – Documentary Cinema

"The documentary is the branch of film production which goes to the actual, and photographs it and edits it and shapes it. It attempts to give form and pattern to the complex of direct observation."

-John Grierson[44]

Documentary cinema is a combination of image making and sound recording, with the added complication of adding movement and time to your images. This complication means we not only need to consider how our subjects move, but also how our camera moves.

As Grierson writes above, motion picture documentaries use filmmaking techniques to give shape, form, and pattern to the events we experience and observe. While we only see the results in the editing process, we must implement these techniques in the field so the project can come together in postproduction. This means we have to *shoot for the edit*.

There are two major strategies in film editing that we can shoot for: **dialectical montage** and **continuity editing**. Most documentary projects use both, while some may exclusively rely on one or the other.

[44] Grierson and Balcon, "The Documentary Producer."

10.1 – Dialectical Montage

Documentary Cinema

"It is from this principle that the whole charm of poetry derives. Its rhythm arises as a conflict between the metric measure employed and the distribution of accents, overriding this measure."

-Sergei Eisenstein[45]

In Sergei Eisenstein's essay "A Dialectic Approach to Film Form", he outlines the theory of dialectical montage developed by Soviet filmmakers in the early 20th century. He argues that a film's meaning is derived not only from the content of its shots, but in how those shots are organized and arranged over time. He compares the rhythm of filmmaking to the rhythm of poetry, and that the conflict between rhythm, content, and aesthetics is what creates meaning.

He writes, "montage is an idea that arises from the collision of independent shots - shots even opposite to one another…"

This collision of shots occurs when they are placed next to each other. The first shot is the **thesis**, a proposition made as a combination of an image, movement, sound, and time. The next shot is the **antithesis**, a second proposition that challenges the first. The combination of these two propositions happens in the viewer's mind, and becomes the **synthesis** of two different ideas. For Eisenstein, while each shot may appear to be next to each other, they in fact become superimposed on each other in our minds, creating a new layer of meaning.

Dialectical montage is used frequently in documentary media poetics, especially when using archival material or employing ***Kino-Pravda***, **objectivist**, and some **action documentary** approaches.

[45] Ėjzenštejn and Leyda, *Film Form*.

10.2 – Continuity Editing

Documentary Cinema

"When you first begin to study film, you have to make your brain do something strange because we live in a three-dimensional world…But when you have a two-shot dialogue scene, and then cutting to a reverse angle that is almost 180 degrees opposite to that, what you're doing is taking a three-dimensional reality and compressing it into two dimensions. And we have just developed certain rules that, for the most part, we follow, to make it seem that the two people are looking at each other…"

-Walter Murch[46]

While **dialectical montage** derives its power from the differences between shots, **continuity editing** relies on a set of conventions and rules to make transitions between shots feel seamless. When shooting for continuity, we must consider continuity of movement, time, and both 3D and 2D space.

Some basic rules of **continuity editing** are:

Screen direction. Ensure that your subjects are facing the right way. Using the **rule of thirds** as a composition tool helps with this - when two subjects are supposed to be looking at each other, they should face in opposite directions when in single shots.

Eyeline matching. Eyeline matching is a helpful technique for maintaining screen direction. Film editor Walter Murch explains how to match eyelines, saying "just imagine that there's an invisible laser beam coming out from between a character's eyes, which represents the direction of their "look". And when you cut to the other person in the scene, imagine the complementary laser beam for them – their "look" and just

[46] "Walter Murch, ACE Clarifies Concepts from 'In the Blink of an Eye' and 'The Conversations.'"

make sure that those imaginary laser beams intersect, like clashing swords. Then the cut is going to work – it will look like they are relating to each other."[47]

Cutting on action. This technique allows you to maintain continuity of motion across multiple shots. If you can, try to ensure that you document the same action from two different angles. In documentary, this often means using two cameras, as it can be difficult to replicate the same action twice in the field. Now, you can cut between the two camera angles by starting the action in the first shot and ending it in the next one, creating continuity of motion.

The 180° rule. This rule helps when placing cameras to maintain a consistent sense of two-dimensional space. It also helps with screen direction and eyeline matching. When there are two subjects in a scene, imagine there is a line drawn between them. If you are placing multiple cameras, ensure that they are all located on the **same side of the line**. This will ensure that 2D space is consistently represented, screen directions are maintained, and the viewer can track the position of different subjects in the environment without getting confused. See the figure below.

Figure 1. Note that the cameras are both placed on the same side of the line.

[47] "Walter Murch, ACE Clarifies Concepts from 'In the Blink of an Eye' and 'The Conversations.'"

The 30° rule. This rule helps us with camera placement to reduce **jump-cuts**. A **jump-cut** is when you attempt to cut together two shots of the same subject without a sufficient change in camera angle. As long as your camera placements are at least **30 degrees apart**, the cut will appear seamless. See the figure below.

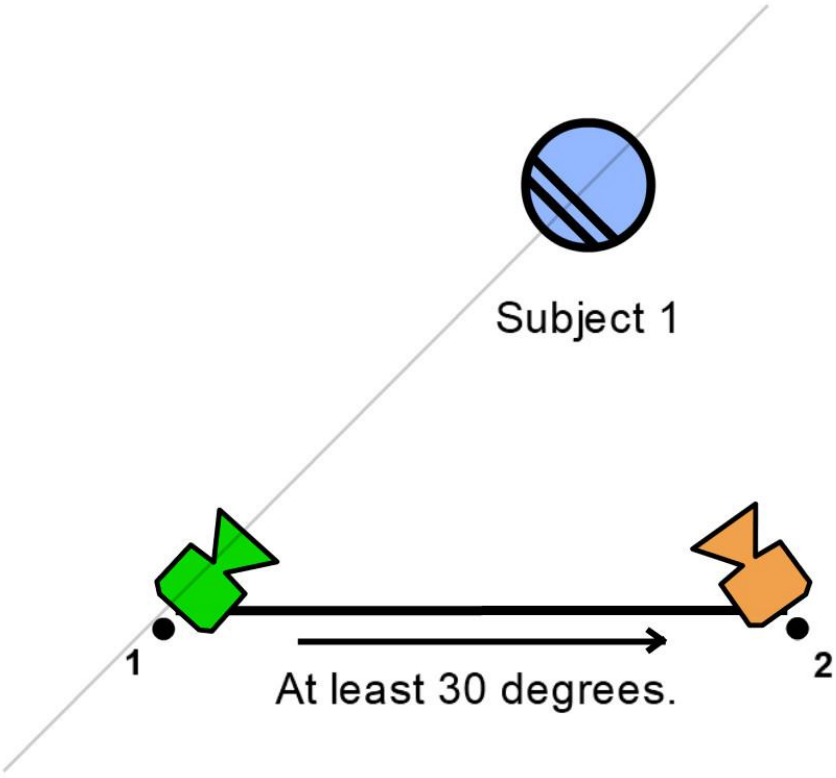


Figure 2. Image there is a circle drawn around your subject. The second camera position should be at least **30° away** on that circle to maintain continuity and avoid **jump-cuts**.

In addition to these rules, there are two major approaches you can choose when implementing continuity editing: the **analytic** approach and the **constructive** approach. The film scholar David Bordwell outlines these in the following video essay: https://vimeo.com/52312154

10.3 – Synchronized Sound

Synchronized sound is, in many ways, a core concern of documentary film and video. The ability to record sound and motion simultaneously, synchronized with each other, is what allows us to capture both the auditory and visual aspects of our experiences in the world.

There are two ways sound is synchronized in contemporary documentary cinema:

Single-system. This refers to systems in which sound and image are recorded on the same device, with the picture and sound being synchronized as they are recorded. This is usually done with cameras that have attached audio modules with the right inputs and controls for the microphone.

Single-system recording can be more convenient for rapid-turnaround projects with small crews. However, it can also be restrictive. When the mic is tethered to the camera, it may not be able to be mounted or placed appropriately to record the best quality sound. An **instrumental** approach to field sound recording is almost impossible.

Double-system. This refers to systems in which sound and image are recorded simultaneously on separate devices. This is usually done with a camera crew and a separate sound crew responsible for the field mixer/recorder and mic selection, mounting, and placement. This recording method requires that separate media files for sound and image are synchronized either in postproduction or by an on-set Digital Imaging Technician (DIT).

Double-system recording can add an additional step in your workflow, but it also provides optimal flexibility for recording in the field.

10.3 – Documentary Cinema Tips

Documentary Cinema

Almost all the photography and sound recording tips apply to documentary film and video, with the addition of the following suggestions.

Schedule. Schedule. Schedule. Film and video production often requires more people with more expertise than other modes of production. Losing just one crew member or interview subject could be the difference between a successful shoot or a wasted day. Establish clear responsibilities, communicate regularly, and schedule everything!

Crew up. Film and video is complex and demanding, often resulting in long hours, re-shoots, and myriad logistical challenges. It is important that you do not try to do this alone. In particular, it may be important to have a field sound recordist, cinematographer, assistant camera, and a producer or assistant director. Trying to do every job yourself can be a recipe for disaster - unless you have a tried and trusted plan.

Design your kit. Each project will have different technical requirements. It is important to ensure that you have designed your production kit with all the needs of the project in mind. It is much easier to solve problems on the fly when you have packed the right tools.

Be prepared. Even though it is a documentary project, it is still of paramount importance that you come to set with a firm idea of what you need to accomplish. This means bringing your notes, shot lists, treatment, scripts (if any), storyboards, scene cards, and/or outlines with you, and that you share these materials with your crew. When everyone is on the same page, you are less likely to have nasty surprises. Of course, in making documentary art, reality will always intervene…

11.0 – The Interview

"As familiar as it seems today, the interview, as a procedure for securing knowledge, is relatively new historically. Indeed, individuals have not always been viewed as important sources of knowledge about their own experience."

-Gubrium and Holstein[48]

Jaber F. Gubrium and James A. Holstein make the claim that we now live in an "interview society" in their *Handbook of Interview Research*. They explain how the rise of individualism before and after World War II coupled with increased surveillance of everyday life led to the democratization of opinion. Where in the past one might have relied entirely on experts and those in power to learn something about society, we now value the opinions of the individuals "whose experiences are under consideration."

The Interview is a fundamental component of contemporary documentary media. Interviews can be effective techniques when creating photo essays and books, podcasts and radio stories, and cinema.

In conducting interviews, we can document the experiences of others within the context of a given project. The interaction that takes place in an interview becomes a synthesis of two experiences: that of the interviewer and the interviewee. This creates new knowledge that becomes part of the fabric of the documentary.

[48] Gubrium and Holstein, *Handbook of Interview Research*.

11.1 – Interviewing Tips

The Interview

> *"They've got to believe you're interested. If it's a writer of a book, you've got to have read his book thoroughly….say this guy is a carpenter—I'll ask him about his life and as he's talking I'm* listening*…It's a conversation, not an interview…'Just tell me about…'*
>
> -Studs Terkel[49]

Preparation. As Studs Terkel says, your subjects will be more open and reveal more to you if they believe you are truly interested in what they have to say. This means coming prepared - read, watch, or listen to their work, do research on their profession or experience, have conversations in advance, and be ready to demonstrate your knowledge to put your interviewee(s) at ease.

Tell me about… These three words are your fall back for almost any situation. Yes/no questions often lead to one-word yes/no responses. Use your questions to open up the conversation and get people talking. For instance, instead of asking "what university did you attend?", say "tell me about your time in college."

Transcribe everything. Seeing the content of your interviews on paper allows you to arrange the material, pick out key moments, and approach the edit much more efficiently and with greater clarity. Use a transcription service like Rev.com for the greatest convenience, but you will always learn your material better if you transcribe it yourself.

[49] "Studs Terkel on How to Interview Someone."

11.1 – Example Interview Setup

The Interview

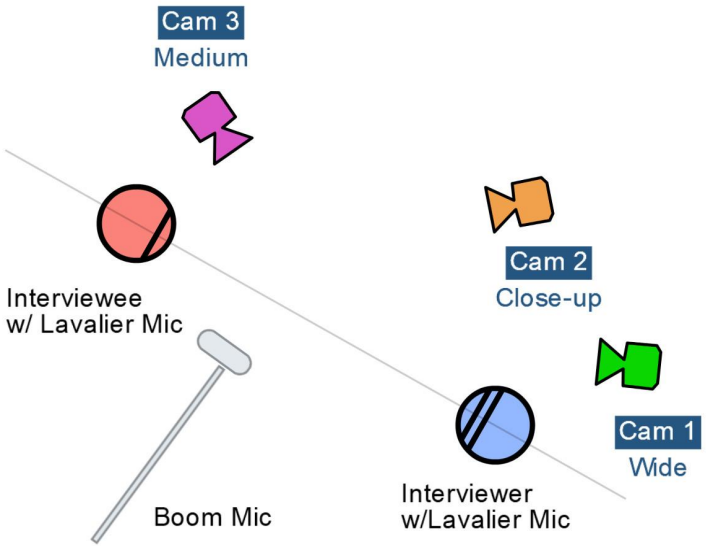


Figure 3. An example of a complex interview setup for documentary film or video production.

In this scenario, the interviewer and interviewee are seated facing each other. There are two cameras on the interviewee - a wide shot and a close-up placed according to the **30° rule**. This allows **continuity editing** between the two cameras and reduces jump-cuts. A single camera documents the interviewer in a medium shot, placed according to the **180° rule**, again allowing for **continuity editing** by maintaining **screen direction** and **eyeline matching**.

The interviewee is double-mic'd for safety, with both a boom (which is held by an operator) and a clip-on lavalier. The interviewer is mic'd only once with a lav.

In this setup, the interviewee is more important to document, so gets more attention. The interviewer is only documented in case cutting to them is useful in the edit.

PART 3
TOOLS

Resources for the study and practice of documentary media poetics.

12.0 – Development Checklist

___ Catalyst Board

___ Written Development

___ Topic Statement

___ Historical Background

___ Theoretical Framework

___ Aesthetic Strategy

___ Technical Implementation

___ Project Outline

___ Synopsis

___ Logline

___ Title

___ Treatment

___ Pitch

13.0 – Preproduction Resources

Contents:

Camera/Sound Report Template

Production Company:	Operator(s):
Project Title:	Date:
Director:	Page _____ of _____

REPORT									
Scene	Take	Clip	Card	Lens/Mic	F-Stop	FPS/Sample Rate	ISO/Gain	Res./Bit Depth	Notes

Release Forms

David Tamés, kino-eye.com/contact/

On a professional production, obtaining proper written permissions is the responsibility of the producer and can prevent complicated problems down the line in the event the project is licensed for broadcast or distribution.

The four most common release forms used in documentary productions are:

- *Appearance Release*, for non-actors
- *Minor Appearance Release*, for children, it must be signed by a parent or legal guardian
- *Materials Release*, for obtaining permission from the owner or license holder to use photographs, audio, video, film or other media which may be copyrighted or owned by others
- *Location Release*, for use when you are filming on property you do not own

In any professional production, a good idea to establish a relationship with a qualified and reputable entertainment attorney that understands documentary. If you're working with professional actors you'll probably need a special actor/model release form which is beyond the scope of this class.

Read and edit these forms as necessary for your particular production and requirements. Releases are important because some film festivals, most funding bodies, and all broadcasters and distributors will require them as part of the chain of title, a series of documents that establish the producer's right to put the components in their film or video. For locations, it's important to know who actually owns the building or land you want to film on and also to find out who the current occupier is. For example, if you are filming in a rented house you should get permission from the landlord as well as the tenant who is renting the property.

Some books I recommend in order to become more familiar with legal issues related to the production of film/video include:

- *The Pocket Lawyer for Filmmakers: A Legal Toolkit for Independent Producers* by Thomas A. Crowell
- *The Independent Film Producer's Survival Guide: A Business and Legal Sourcebook* by Gunnar Erickson, Mark Halloran, and Harris Tulchin
- *Archival Storytelling: A Filmmaker's Guide to Finding, Using, and Licensing Third-Party Visuals and Music* by Sheila Curran Bernard and Kenn Rabin

The forms on the following pages are the same forms I use in my productions. They were written for me by a respected entertainment attorney. Please be advised that this document by no means constitutes any form of legal opinion or advice.

Book titles link to Amazon.com book pages in the PDF edition.

APPEARANCE RELEASE

Video (Working Title): _____ (the "Video")

Person Appearing: _____

Production Date(s): _____

Production Location(s): _____

I authorize_____ ("Producer"), Producer's agents, successors, assigns, and designees to record my name, likeness, image, voice, sound effects, interview and performance on video, film, or otherwise (the "Recording"), edit such Recording as Producer may desire, and incorporate such Recording into the Video, any versions of the Video and all related materials thereof, including but not limited to promotion and advertising materials. It is understood and agreed that Producer shall retain final editorial, artistic, and technical control of the Video and the content of the Video. Producer may use, and authorize others to use, the Video, any portions thereof and the Recording in all markets, manner, formats and media, whether now known or hereafter developed, throughout the world, in perpetuity. Producer, and Producer's successors and assigns, shall own all right, title and interest, including the copyright, in and to the Video, including the Recording and related materials, to be used and disposed of, without limitation, as Producer shall in Producer's sole discretion determine.

Signature: _____

Address: _____

City: _____ State:_____ Zip:_____

Telephone: _____

E-Mail: _____

Date: _____

MINOR APPEARANCE RELEASE

Working Title: _____ (the "Video")

Person Appearing: _____

Parent or Guardian: _____

Production Date(s): _____

Production Location(s): _____

As parent or guardian of _____ , I authorize

_____ ("Producer"), Producer's agents, successors, assigns, and designees to record his/her name, likeness, image, voice, sound effects, interview and performance on video, film, or otherwise (the "Recording"), edit such Recording as Producer may desire, and incorporate such Recording into the Video, any versions of the Video and all related materials thereof, including but not limited to promotion and advertising materials. It is understood and agreed that Producer shall retain final editorial, artist, and technical control of the Video and the content of the Video. Producer may use, and authorize others to use, the Video, any portions thereof and the Recording in all markets, manner, formats and media, whether now known or hereafter developed, throughout the world, in perpetuity. Producer, and Producer's successors and assigns, shall own all right, title and interest, including the copyright, in and to the Video, including the Recording and related materials, to be used and disposed of, without limitation, as Producer shall in Producer's sole discretion determine.

I represent, as parent or guardian of _____, we shall both be bound by the terms of this Appearance Release.

Signature of Minor: _____

Signature of Parent or Guardian: _____

Address: _____

City: _____ State:_____ Zip:_____

Telephone: _____

E-Mail: _____

Date: _____

MATERIAL RELEASE

Video (Working Title): _____(the "Video")

Description of Material: _____

_____ (the "Licensed Material")

Licensor: _____ ("Licensor")

Licensor hereby grants to _____ ("Producer"), its successors and assigns, the non-exclusive right to reproduce the Licensed Material, to record and edit the Licensed Material as desired on film, video, or otherwise (the "Recording"), and to use the Licensed Material, in whole or in part, in and in connection with the Video and all versions thereof and all materials relating thereto, including advertising and promotion. Producer, and its successors and assigns, shall own all right, title and interest, including the copyright, in and to the Video, including the Recording, to be used and disposed of throughout the world in perpetuity without limitation as Producer shall determine in its sole discretion, including without limitation to distribute the Video in all manner, format and media, whether now known or hereinafter developed.

Licensor represents and warrants that Licensor possesses or has obtained all rights to the Licensed Material necessary for the grant of this license and that the rights granted hereunder will not conflict with or violate any commitment, agreement, or understanding Licensor has or will have to or with, nor infringe upon any rights of, any person or entity. Licensor shall pay and indemnify and hold Producer and its grantors, officers, directors, assignees, agents, licensees, and employees harmless from and against all claims, losses, costs, expenses, settlements, demands, and liabilities of every kind, including reasonable attorneys' fees and expenses, arising out of or incurred by reason of the use of the Licensed Material set forth herein or the inaccuracy, alleged breach, or actual breach of any representation, warranty, covenant, agreement, or undertaking Licensor has made herein.

Signature: _____

Address: _____

City: _____ State:_____ Zip:_____

Telephone: _____

Date: _____

E-Mail: _____

LOCATION RELEASE

Video (Working Title): _____ (the "Video")

Location: _____

Location Owner or Authorized [name and address]: _____

_____ ("Owner")

Date(s) of Recording: _____

I _____ ("Producer") and Owner agree as follows:

Owner agrees that Producer and persons designated by Producer may be in, on, or about the above location on the date(s) indicated above, for the purposes of preparing or making photographs, and/or video and sound recordings or otherwise (the "Recordings") in connection with the Video. Producer shall hold Owner harmless from and indemnify Owner against any damage to the above location caused by any persons designated by Producer to be on the location or against any injuries occurring to persons designated by Producer to be on the location.

Owner authorizes Producer to edit the Recordings as desired and to use them, in whole or in part, in connection with the Video, in all manner and media, as Producer shall determine in Producer's sole discretion. Producer, and Producer's successors and assigns, shall own all right, title and interest, including the copyright, in and to the Video, including the Recordings, to be used and disposed of throughout the world in perpetuity without limitation as Producer shall determine in Producer's sole discretion.

Owner represents and warrants that Owner has the right to enter into this agreement and that the rights Owner has granted hereunder will not conflict with or violate any commitment, agreement, or understanding Owner has or will have to or with, nor infringe upon any rights of, any person or entity. Owner expressly releases Producer and Producer's employees, directors, officers, agents, assignees, and licensees from all claims, losses, costs, expenses, settlements, demands and liabilities of every kind, including reasonable attorneys' fees and expenses, arising out of or incurred by reason of the use of the Recordings in connection with the Video or the inaccuracy, alleged breach or actual breach of any representation, warranty, covenant, agreement or undertaking made by Owner herein.

Agreed and Accepted By:

PRODUCER

_____

Date: _____

OWNER

_____

Date: _____

SAMPLE BUDGET: DOCUMENTARY

Budget Assumptions

Shooting Formats: | Total Run Time(s): | Countries of Production:

Intended Delivery Date: | Currency of Production:

Description	Rate in $US	Quantity	Duration	Total Cost	In Kind	Cash
Pre Production|Research						
Proposal Development| Fundraising	allow	1				
Archival Research						
Story Rights						
Story Consultant | Writer						
Research Shoot						
Sample Tape						
SUBTOTAL PRE PRODUCTION | RESEARCH:						
Production						
Producer						
Producer| Director						
Director of Photography | Sound						
Translator| Associate Producer| Fixer						
Consultants | Experts | Honoraria						
Sound Recording						
Camera Package						
Lighting & Equipment						
Stock						
Still Photography						
Airfare						
Hotel						
Meals						
Car Rental						
Gas| Parking| Mileage| Toll | Taxis						
SUBTOTAL PRODUCTION:						
Post-Production						
Editor: Picture| Sound						
Supervising Editor | Consulting Editor						
Offline Editing Suite Rental						
Transcription Interviews						
Archival Footage						
Transfers and Conversions						
Edit Stock						
Masters						
Computer graphics | Titles						
Animation						
On-line editing suite | Editor						
Original Music Composition | Recording						
Sound Mix						
SUBTOTAL POST PRODUCTION:						
Outreach And Impact						
DVD Authoring						
DVD Dubs | Stock						
DVDCAM/Beta SP Screening Copies						
Poster | Press Kit | Materials						
Shipping						
Festival Entry Fees						
Travel: Filmmakers and Subjects						
Website: Design and Maintenance						
Grassroots Screenings, Panels, Receptions						
Advocacy Partnership Costs						
SUBTOTAL OUTREACH:						
Administrative Costs						
Bookkeeping						
Legal Support						
Overhead and Administrative Costs						
Contingencies						
SUBTOTAL ADMINISTRATION:						
PROJECT TOTAL COSTS:						

FUNDING SOURCES SECURED						
Producer's Own Contributions						
Private Donation						
Private Donation						
Fundraiser						
Foundation Grant						
Foundation Grant						
Foundation Grant						
Foundation Grant						
Broadcast Contract						
TOTAL FUNDING SECURED						

FUNDING SOURCES PENDING						
Private Donation						
Private Donation						
Foundation Grant						
Foundation Grant						
Foundation Grant						
Fundraiser						
Broadcast License						
Broadcast License						
TOTAL FUNDING PENDING						

14.0 – "Some Notes on Sound Recording"

by David Tamés, http://kino-eye.com/handouts/

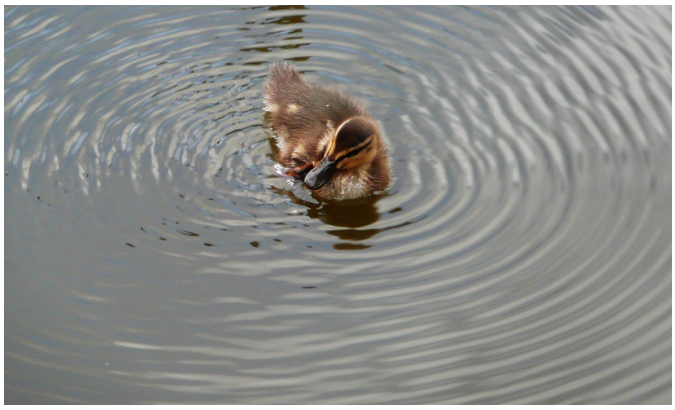
The Kino-Eye.com handout collection

Some notes on sound recording v.3

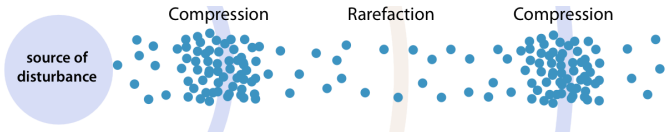
David Tamés, March 6, 2015
This document is in perpetual beta, please send suggestions and/or corrections to the author at d.tames@neu.edu

What is sound?

Sound is vibrations in air. A movement, like those of human vocal cords, or perhaps hitting the head of a nail with a hammer, creates waves in the air, much like the waves caused by a rock throw into water or a duck swimming in a pond. These waves go in all directions, bounce off walls, travel around corners, it's very messy. It's not like camera and light. There is no edge of the frame. Sound from all over mixes in with the specific sound you want to record.



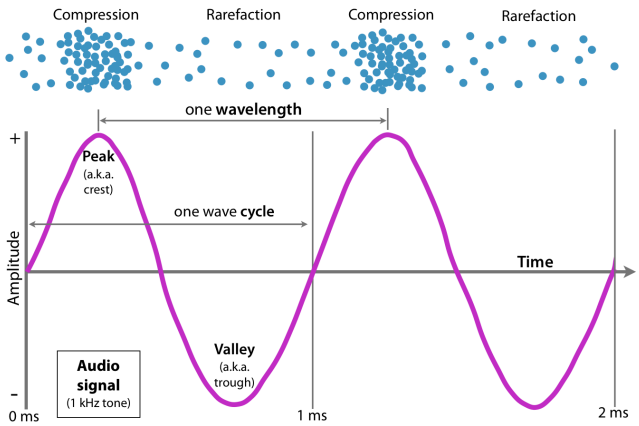
Acoustic energy travels from the source of disturbance outward as a wave, the air molecules vibrate, yet, the air itself is not moving from the source to our ears or to the microphone, instead the wave energy is carried through the medium by compression and rarefactions of the medium (usually air, but sound travels through water and other materials too).



When you play back the sound you recorded, the reverse process takes place, the sound you recorded, stored as a digital representation (created through process know as sampling) is converted back into an analog signal which is amplified, and in turn, causes the vibration of the speaker diaphragm, which creates sound waves in the air. The vibrations in air don't become sound until we perceive them. These are never exactly like the original, there's always something that changes in the process. There's always noise and distortion added along the way. We try to minimize that using good techniques and good gear.

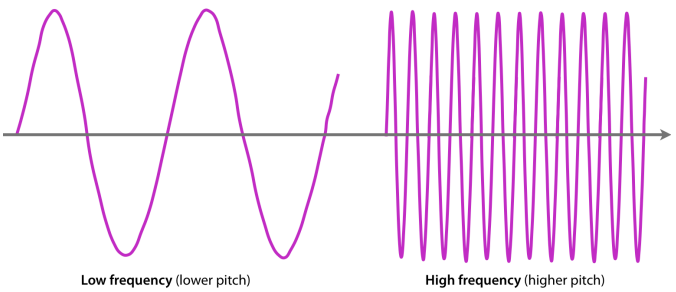
Characteristics of sound

The unique pattern of air pressure variations or sound reflections produced by a particular disturbance are known as waveforms. Below is a perfect sine wave, however, actual sounds actually have much more complex waveforms that are made up of a combination of the fundamental frequency and a series of overtones (a.k.a. harmonics). More on this later in this handout.

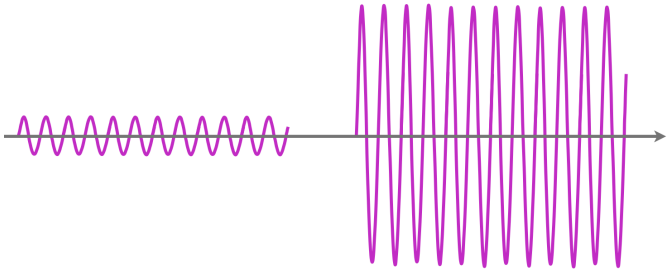


Sound is often measured and described using two distinct reference points: 1. our psychophysical perception of sound (as perceived by our ear and brain), and 2. quantification of sound phenomena with measuring devices. Psychophysical terms such as loudness, pitch, and timbre describe the human perception of the same acoustical phenomena as amplitude, frequency, and everything else that can't be quantified as amplitude, frequency, or harmonics.

We'll use the following terms to describe our perception of sounds:



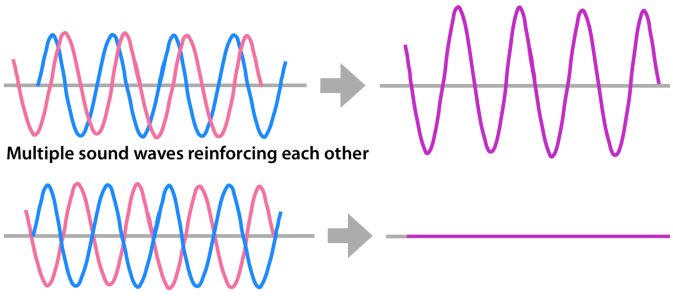
Pitch is our psychophysical perception of high and low frequency sounds corresponding to *frequency*, an acoustic measure of the number of cycles per second of a waveform.



Low amplitude (softer) High amplitude (louder)

Loudness is our psychophysical perception of air pressure in sound waves corresponding to *amplitude*, an acoustic measure of air pressure of sound waves quantified in decibels (dB).

Phase refers to the relative displacement in time between two sound waves. Multiple sound waves will amplify each other. The amount of reinforcement depends on their relative phase (at what point in the cycle the peaks occur). Two identical waves half a wavelength out of phase (180˚) will cancel each



Multiple sound waves reinforcing each other

Two identical waves half a wavelength out of phase will cancel each other

other. Sound waves in the real world are more complex than the ideal sine waves illustrated here, therefore, the cancellation and reinforcement occurs at different frequencies and thus changes the characteristics of the sound as well as the perceived volume. Phase issues play an important role in room acoustics, microphone placement, and microphone design.

Timbre (a.k.a. tone color or tone quality) is the psychoacoustic phenomenon that distinguishes different types of sound, such as musical instruments, voices and sound effects. We use timbre to describe what makes a particular sound different from another sound, even when they have the same loudness and pitch. For instance, it is the difference between a piano, guitar, and synthesizer playing the same note at the same loudness. Audiophiles often use the term to describe the subjective characteristics of one loudspeaker in comparison to another. The objective acoustic measures corresponding to timbre are quite complex and include the following: the spectral envelope, the time envelope (attack, decay, sustain, and release), changes in the spectral envelope (formant-glide), changes in the fundamental frequency (micro-intonation), and several other factors.

Harmonics (acoustic) are the mixture of a fundamental frequency and multiples of that frequency that when combined contribute to a particular musical instrument or sound effect having a unique aural signature. Harmonics are just one of many factors that contribute to timbre.

The books, websites, manuals, as well as professionals you encounter as you study sound will use psychophysical and acoustic terminology interchangeably, which can create confusion when you're first starting out. Knowing the relationships between the terms can help. Robert Erickson (1975) published a table of subjective experiences and related physical phenomena summarized below.

Subjective	Objective
Tonal character, usually pitched	Periodic sound
Noisy, with or without some tonal character, including rustle noise	Noise, including noise consisting of aperiodic pulses
Coloration	Spectral envelope
Beginning / ending	Physical rise and decay time
Coloration glide or formant glide	Change of spectral envelope
Microintonation	Small change (one up and down) in frequency
Vibrato	Frequency modulation
Tremolo	Amplitude modulation
Attack / Final sound	Prefix / Suffix

Some of these terms are beyond the scope of this handout, though if you're interested in the science of sound they are definitely worth looking up. We will focus on the terms most commonly used in sound recording and sound postproduction for film and video.

The audio recording signal chain

The vibrating air molecules create a wave through which the sound energy moves through the air,

1. the wave of sound energy leads to the air molecules surrounding the diaphragm in the microphone to move, these movements are converted into an analog electrical signal by the microphone,
2. the analog electrical signal (an audio signal) is fed through a microphone cable into the camera,
3. the camera's audio input circuits converts the analog audio signal into a stream of digital bits through a process of analog to digital conversion,
4. the stream of bits are stored in a file using a particular format (e.g. WAV) on a storage medium (an SD card when using the camcorder or portable audio recorders).

With most video cameras the audio and video are encoded into distinct formats but in most cases they are stored in a single file combining the audio and video. Most prosumer camcorders record audio in the video production standard (16-bit/48KHz) and don't offer a choice of audio formats, while the Canon VIXIA we're using uses the AAC compressed audio format. Digital audio recorders can be set to record to many different formats. I suggest choosing uncompressed WAV ("wave") with 16-bit sampling at 48KHz. You should avoid compressed formats like MP3 for original recordings.

Playback reverses the process of recording, sending the signal through a media player to an amplifier and then to speakers or headphones or earbuds which are re-creating the original vibrations and eventually translated to the perception of sound by our nervous system.

We need not go deep into the physics or neuro-science to appreciate this. What's important to understand is the essence of sound, think of it as one of the materials you work with, you shape and mold it to create your work. It's a medium just as paint is a medium, but the cleanup is usually simpler when you spill it.

Microphone capsule technologies

A microphone may employ one of several technologies for translating vibrating air particles into electrical energy that in turn is fed into your camcorder or audio recorder through the microphone cable. The two most widely used microphone capsule technologies in video production are *dynamic* and *condenser*.

Dynamic microphones

Sound pressure levels move a diaphragm connected to a moving coil, the movement of the coil within a magnetic field translates the sound into a voltage, no additional circuitry is required. Physics: movement of a coil within a magnetic field causes electricity. This is the inverse of a moving coil and magnet in a speaker moving the cone of the speaker when an electrical signal is applied. A speaker works the same way in reverse.

Advantages:

- Inexpensive when compared to as condenser microphones
- More rugged that as condenser microphones

Disadvantages:

- Not as sensitive nor as accurate as condenser microphones, and
- Limited to close-proximity vocal recording applications, for example reporters microphones and vocalist microphones are most often dynamic in design, though there are some condenser models available.

Condenser microphones

In a condenser microphone, sound pressure levels move a diaphragm, this is translated into capacitance (the diaphragm is placed between charged plates) electronic circuitry and a power supply are required, often powered by phantom power, this is power that a mixer or camera provides to the mic over the same wires the signal.

Advantages:

- More sensitive and more accurate that dynamic microphones.

Disadvantages:

- More expensive than dynamic microphones,
- More sensitive to extreme environmental conditions, and
- More prone to handling noise (requires the use of a shock mount).

Microphone form factors

There are three microphone form factors commonly used in video production: *handheld*, *lavalier*, and *boom-mounted* microphones (which may also be used hand-held in a pistol grip or mounted directly on the camera).

Handheld microphones

Handheld microphones are typically dynamic, but condenser models do exist. These are good for use in high-noise environments when close placement is possible, typically omnidirectional (e.g. Electro-Voice RE50) or cardioid (e.g. Sennheiser MD46) in terms of their pick-up pattern. Some are designed to reduce the effect of handling noise. The Media Studio has a variety of handheld microphones you can check out.

Lavalier microphones

Lavalier microphones are typically condenser and are good for use on subjects or actors when boom, handheld, or camera microphones will not do the trick in terms of proper placement. These are typically omnidirectional in terms of pickup pattern, however, cardioid lavs are available, but

placement much tricker, and thus only for specialized uses.

Wireless microphones

Wireless microphones are microphones that have been paired with a transmitter that is attached to the subject or actor that transmits the audio signal to a receiver connected to the camera or audio recording device. They are widely used in video production to give subjects or actors mobility without the hassle of wires.

Any kind of microphone may be used as a wireless microphone, however, lavaliers are what's most commonly used in video production. Plug-on transmitters are available that can be plugged into a handheld or boom-mounted microphone to turn them into wireless microphones. You'll often see handheld wireless microphones used by performers and news reporters. Handheld microphones are also available that have a transmitter built into them.

Wireless microphones are much trickier to set up due to the fact you're not operating your own single listener radio station! Have someone go over them with you before your shoot, there are lots of gotchas like setting levels and choosing a transmission frequency and a host of other settings. Yet, in spite of their many potential problems, they are invaluable when subjects or actors are on the move or need to wander far from where they will be easy to mic with a hand-held, boom, or on-camera microphone.

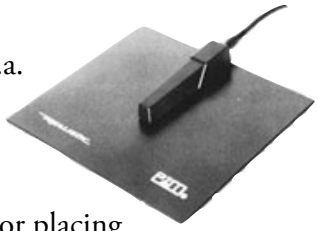
The Media Studio has a Sennheiser G2 wireless kit you can check out. Make sure to receive an orientation on their use before taking them out on the shoot, as set up can be tricky!

Boom, pistol-grip, and camera mounted microphones

Microphones designed to be mounted on a boom (or pistol grip or camera mount) are practically always condenser in design and are a good choice when you can't get close to the subject, placement very critical in most situations, off axis sounds are muted and colored, they are available in a variety of pick-up patterns: cardioid, super-cardioid, hyper-cardioid, short shotgun (lobar), and long-shotgun (lobar) patterns. A cardioid or hyper-cardioid is typically better than a for dialogue, but they need to be placed closer than a shotgun. Since a shotgun can work a little farther away, we typically opt for them in field production, but with full knowledge of the problems that come along with them: placement is more critical, and coloration of off-axis sounds.

The Media Studio has a variety of short and long shotgun microphones you can check out, along with some boom poles, pistol grips, and windjammers to go with them.

Boundary microphones

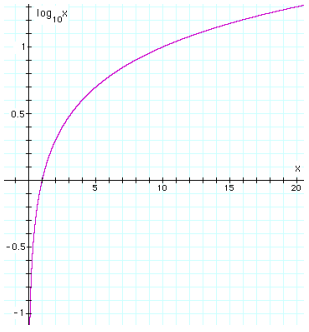


Boundary microphones (a.k.a. "PZM") are designed to be placed on flat surfaces and are an excellent choice when you want to capture a conversation around a table or placing the microphone on a hard, smooth wall to capture the sound of the room.

The Media Studio has one boundary microphone in their inventory.

Decibels (dB)

The decibel is a logarithmic units of measurement that expresses the magnitude of acoustic energy or an electrical signal relative to a specified reference level. It expresses a ratio of two quantities. The decibel is used for measurements in acoustics, electronics, and a range of other fields. The logarithmic scaling corresponds to the human perception of sound and the provides the ability to carry out multiplication of ratios by simple addition and subtraction. The definition of the decibel use base-10 logarithms. For example, a 6dB change is perceived as a doubling of sound level, thus a sound that measures 56dB would be perceived as twice as loud as one that measures 50dB.



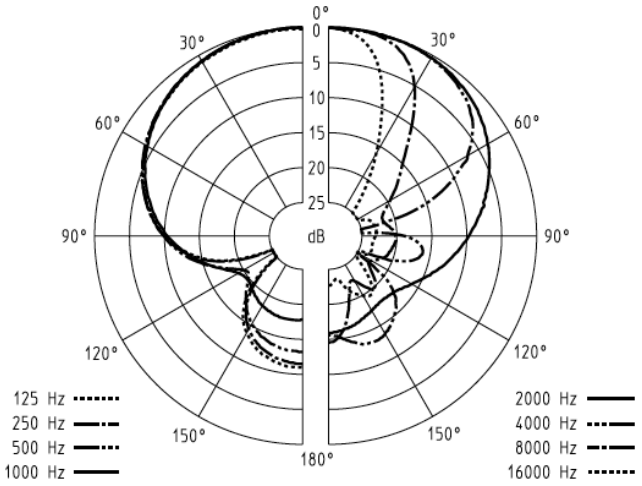
The decibel is always relative to some 0 dB reference. In acoustics the reference level is typically set at the threshold of perception of an average human and there are common comparisons used to illustrate different levels of sound pressure. When we're using decibel to refer to audio signal levels when we're recording, the 0 dB reference level is the full scale signal that can be recorded, referred to as 0 dBfs (full scale).

One reason we use the decibel is that the human ear is capable of detecting a very large range of sound levels. Because the power in a sound wave is

proportional to the square of the pressure, the ratio of the maximum power to the minimum power is above a trillion. To deal with such a wide, unwieldy range, logarithmic units are used. For example, the log of a trillion is 12, so this ratio represents a difference of 120 dB. It's easier to work with numbers in a range of 0 to 120 than a trillion, just remember that each plus 6dB change is perceived as approximately twice as loud, each minus 6 dB change is perceived as approximately half as loud. So when looking at the polar chart or frequency response diagram, you can see how the audio level falls off in terms of relative dB. Typically you'll be making changes when editing and mixing in 3 dB increments.

Microphone characteristics

Microphones vary in terms of many factors, the three major ones being 1. capsule technology (dynamic and condenser being the two most common), 2. pick-up pattern, and 3. frequency response.

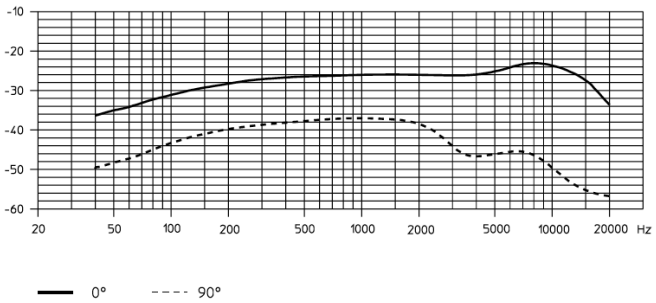


Pickup pattern polar diagrams

A pickup pattern (a.k.a. polar) chart shows you the response in dB depending on the position of a source relative to the microphone. Response also depends on frequency (shown as multiple lines each with different hatching). Above is the polar response pattern for the Sennheiser ME66, a short-shotgun microphone widely used in documentary, news gathering, and sound effects recording. Note how sounds on-axis are not attenuated, while sounds arriving at the microphone off-axis are attenuated, each of the rings corresponds to -5dB increments of attenuation. Also note how there's a lobe directly behind the microphone, while the null-spots are at approximately 125 degrees off-axis. In addition, you'll notice that directionality varies based on the frequency of the source.

Frequency response diagrams

A frequency response diagrams show you the microphone response in dB relative to the frequency of the source, the flatter the response the more accurate the microphone. Good microphones will also show you what the frequency response looks like off axis, like the chart below showing the frequency response of the Sennheiser ME66 microphone. This dramatic difference off-axis is visual representation of how the microphone colors off-axis sounds, but does not tell the whole story.



Common microphone pickup patterns

Pickup patterns define how microphones respond to sound arriving at them from different positions in space. Some microphones accept sound from all angles, others will attenuate off-axis sound, but they not only reduced intensity, of off-axis sounds but also exhibit some coloration (change in the characteristics of the sound).

Omnidirectional: Omnidirectional microphones record sounds arriving from all positions relatively equally. Generally flatter in terms of frequency response compared to more directional microphones. They works well in close proximity. Good for recording hand-held stand up interviews, dialogue in controlled environments, ambient sound, music sources. Not very good in high ambient noise areas.

Cardioid: Cardioid microphones have a heart-shaped pick-up pattern with some rejection of sounds from behind. Generally flatter than more directional microphones, Works well in close proximity. Good for recording dialogue in controlled environments, ambient sound, music sources. Not the best choice for high ambient noise areas.

Shotgun: Shotgun microphones and super-cardioids with a lobar pattern are directional microphones. Generally not as flat as cardioid or omnidirectional microphones, off-axis sound exhibits distinctive coloration. These have varying degrees of directionality, varies based on the frequency. Good for recording when it is desirable to focus on a specific sound source and where isolation from unwanted sounds or noise is needed and when a greater working distance is required.

There are other pick up patterns and types of microphones, but the omnidirectional, cardioid, and shotgun (a.k.a. lobar) are the most common in video production.

Microphone placement

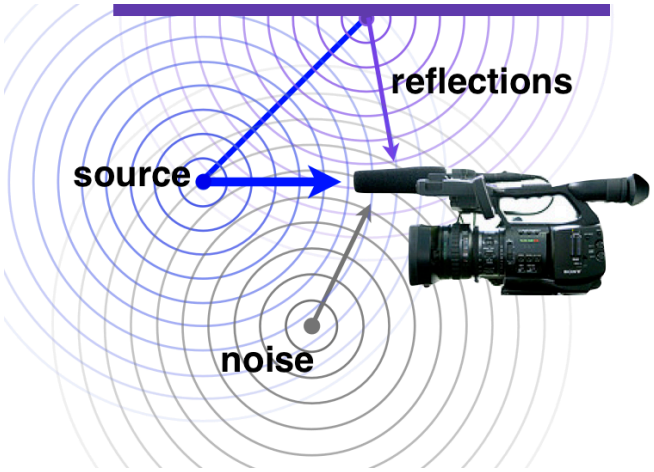
Remember, sound travels in all directions, it bounces off things, and it goes around corners. Unlike shooting video, sound is messy. Light is well behaved, it (for the most part) travels in straight lines. Sound is much more promiscuous, it goes everywhere.

You are always recording three things,

1. the direct sound you want,
2. reflected sounds, and
3. background (ambient) noise.

You want to maximize the direct sound you are recording while reducing reflected sounds and background noises as much as possible. You can always record ambient sound and add some in during the mix if things are sounding a little two dry.

Move away from reflective surfaces, get the mic as close in as possible (but not too too close, there's the proximity effect, bass exaggeration when sources are very close, that works well for radio announcers but is not always what you want for dialog recording). There are also issues with breath pops (wind screens help with that).



Not only does sound radiate in all directions, it also falls off so the intensity falls off quickly the farther you are from the source, sound radiation follows the Inverse Square Law, sound intensity from a point source of sound drops of at a rate proportional to the square of the distance. Or simpler yet, double the distance from the source, you get one fourth of the sound intensity.

Recording dialog

The desirability of microphone placement positions varies for a variety of reasons when recording dialog. Here's a guideline of placement preferences in order from best for good sound to least preferable sound:

4

1. Directional microphone on boom from above is ideal and provides perspective and the least room noise. Get as close as you can (staying out of frame) with a hyper-cardioid or short-shotgun for a little more source to mic distance, but the ideal is the hyper-cardioid, since they have less off-axis coloration than short shotguns, so when you can get closer in, they offer superior sound quality.

2. Omnidirectional Lavalier on the subject or actor is a good third option, works well with wireless for for documentary especially with moving subjects, noise/ environment perspective is tricky as subjects move, but we do the best we can with moving subjects.

3. Reporter microphones (hand-held) are typically omnidirectional (e.g. Electro-Voice RE50) primarily because omnidirectional microphones are less prone to problems when the microphone moves slightly off axis, however, if the people using the microphone can keep it pointed properly and you are in a noisy environment, a cardioid hand-held microphone might be better than an omnidirectional but placement becomes trickier. Even though this a good choice for noisy environments, it is visible. It is widely used for news reporting, but rarely in documentary and never in a fiction film, unless the subject is a news reporter or actor playing the part of a news reporter.

4. Directional microphone on boom from below compromises perspective and picks up more noise from footsteps, etc. and reflections off floor, but it works. In run and gun situations I use a short-shotgun on a pistol-grip hand held just off camera, which is faster to work with that a lavalier on the subject, but it would be better with a boom, which in one person shoots is impossible.

5. On-camera microphones are often a necessary compromise in documentary situations, but rarely produces the best sound unless you are very close to the subject.

Microphone support options

Pistol grip and windshield. For run and gun shooting when a boom pole or stand is inconvenient, a pistol grip provides a good way to hold a short shotgun in your hand while providing a shock mount to keep the microphone free of vibrations or handling noise. Windshields (a.k.a. windjammer or dead cat) made of open cell foam with a fur cover that dramatically reduces the effect of wind noise on the microphone. This is an important accessory to take with you when you are doing outdoor sound recording!

Tips for placing and dressing lav mics

Attach clip-on lavs to center chest opening of shirt or blouse or to a necktie or attach to lapel of jacket, make sure to attach to the side most likely that speaker will turn. Bring cable up and through the hinge of the clip and then loop back down thru the jaws of the clip in order to dampen noise from cable movement, tape cable behind clothes with gaffer tape if needed. In documentary, worry more about getting good sound than hiding the microphone. In narrative work we usually go to great lengths to hide microphones. Use a furry wind screen (e.g. Rycote Lavalier Windjammer, there are some in the locker!) in windy conditions. The fur needs the space provided by the foam windscreen to work properly so they should be used together as a system.

Wireless microphones: freedom from wires

The **Sennheiser Evolution 100 G3**, kit available from Shillman Hall consists of a body pack transmitter, an omnidirectional lavalier (with clip and windscreen), a plug-on transmitter that can be attached to any metal-body low-impedance dynamic handheld microphone (e.g. Electro-Voice RE50), and a camera-mountable receiver. The Evolution series is a solid performer, popular among independent media makers, and probably the best wireless mic for budget-conscious media makers who want a solid product, but don't have the budget for high end gear.

Recommended entry-level gear

The **Tascam TH-02** is a very affordable set of over-the-ear headphones that fold and fit in a bag and are a good if you're on a tight budget. If you want an industry standard pair of headphones and willing to pay more, look no further than the **Sony MDR-7506**. You can can also monitor with good ear-buds as long as they are the closed "fits-in-ear" type that isolates external sounds, if you don't want to go for the over-the-ear type headphones.

Audio−Technica ATR3350, a small consumer condenser Lavalier available under $30 (make sure you purchase extra batteries for it, it is very easy to forget to turn it off and wear down the battery). If your camcorder or camera has an external microphone input, you're set!

Roland R-05, a small recorder well suited for doing double system sound recording. It provide plug-in power via the 1/8-in stereo microphone input jack for microphones that require it. This recorder is small enough you can take it with you wherever you go to capture sound effects, ambient tracks, and dialogue on the run.

The **Rode Video Mic Go** is a lightweight and versatile short shotgun condenser micr that can be mounted in an accessory shoe or attached to a standard boom pole. The mic requires plug-in power, so it does not work with our VIXIA camcorders, but it does work perfectly with the Roland R-05 recorder.

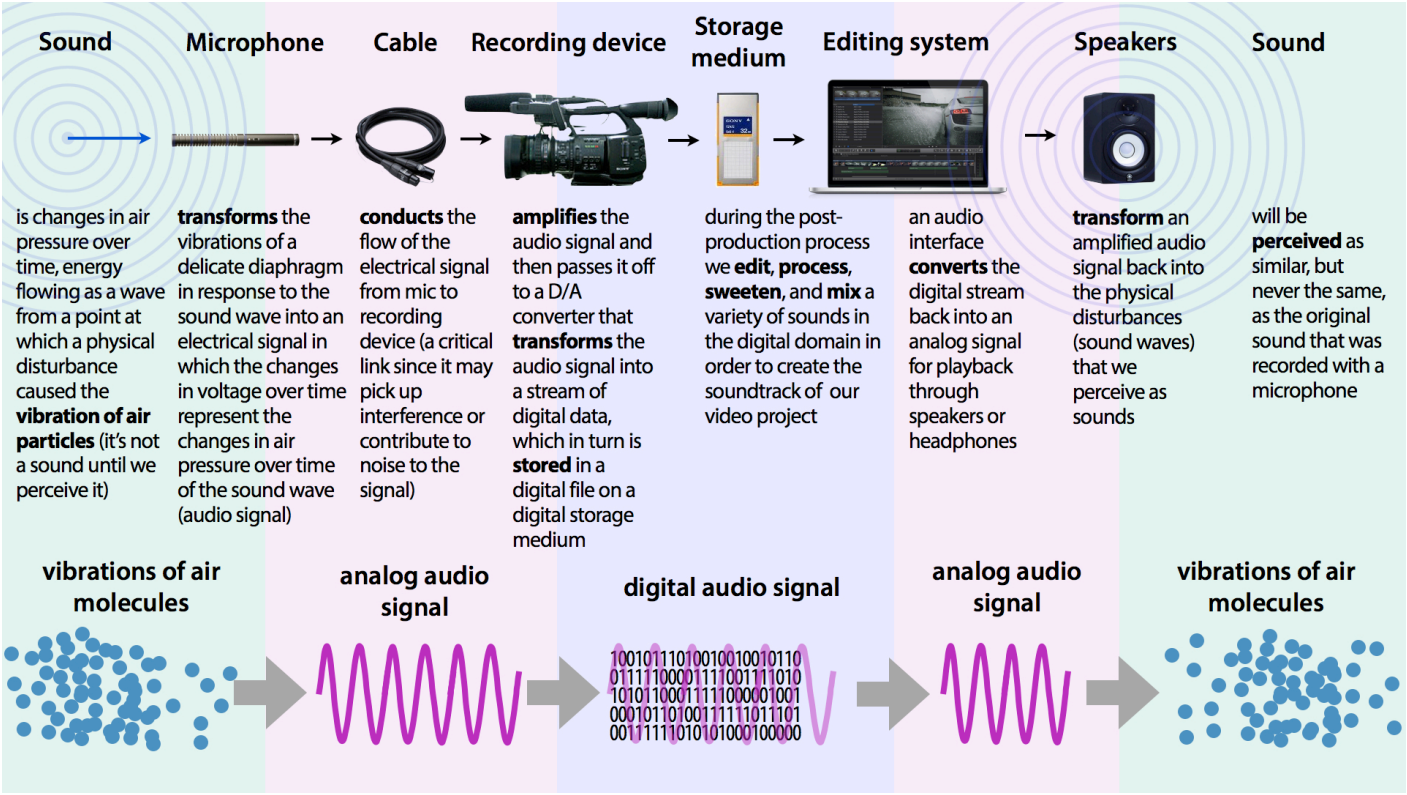
Glossary of sound terms

A

AC-3. See Dolby Digital.
Acoustics. The science of sound wave transmission. In general the term is used to refer to the characteristics of rooms, theaters, auditoriums, and studios in terms of their design and audio characteristics.
AGC (Automatic Gain Control). A method available on some audio recorders and the audio section of video cameras in which audio levels are automatically controlled. On quiet passages the camera raises the gain (raising the noise floor), and on loud passages it will reduce the gain. You can hear this "pumping" of the gain in the sound track. In a pinch it's acceptable to use AGC, however, set levels manually whenever possible. If your camera offers a limiter option, that is often a better way to deal with unexpected peaks. See ALC.
ALC (Automatic Limiter Control). A circuit available on Panasonic HPX and HVX series cameras. It starts attenuating incoming audio signals around -6 dB and then limits peaks to -4.5 dB. With ALC you still need to adjust the overall levels manually, since transitory peaks will still cause distortion, however, this is preferable to automatic methods. Most other manufacturers simply call it a limiter. See AGC.
Ambient sound. The total sound in an environment which is unique to that environment. Also known as room tone. Plays an important role in making seamless audio edits, which requires that the "silence" between words and sentences contains ambient noise that matches the environment in which the dialogue takes place.
Amplitude. The strength of an electronic signal as measure by the height of its waveform.
Analog. A signal that varies continuously in relation to some reference. In contrast, a digital signal varies in discreet steps.
Analog-to-Digital Converter (ADC). A device used to convert analog electrical signals (e.g. from a microphone or analog mixer) to digital data that represent the level and frequency information contained in the original analog signal.
Analog recording. A means of recording audio whereby the recorded signal is a physical representation of the waveform of the original signal. 1/4-in. reel to reel magnetic tape is an example of an analog audio format. Whenever a copy is made of a recording in an analog format, the copy exhibits additional artifacts not in the original.
Artifact. An audible effect caused by an error or limitation in the system.
Attenuate. To reduce signal strength. See Attenuator.
Attenuator. A device that reduces signal strength. For example, line levels need to be attenuated before they can be fed into a device that only accepts microphone level signals, so you would use an attenuator in this situation.
Audible spectrum. Sound waves in the frequency range between 20 and 20,000 Hz that move through the atmosphere and produce an audible sensation in the average human. As we get older the high end of the spectrum is reduced.
Audio Sweetening. See Sweetening.

B

Background. Term used to describe the ambience in a scene or to relative volume, "put the cracking sound in the background."
Background music. See Non-diegesis music
Balanced signal. An audio circuit with three wires, two carry the signal, and the third provides the ground. Compared to unbalanced circuit using a single signal wire and a ground, balanced signals are much less susceptible to picking up interference. Therefore, professional sound recording equipment is usually designed to work with balanced wiring. While XLRs are the most widely used connectors with balanced wiring, a particular connector does not guarantee the existence of balanced wiring. Better camcorders provided balanced XLR connectors for audio input.
Bandwidth. The amount of information that can be passed through a system at a given time. Typically, the greater the bandwidth the better the audio quality, however, the compression techniques (if any) used also influence this, since some compression formats allow for a reduction of bandwidth while maintaining very similar audio quality.
Beat. A periodic variation of amplitude resulting from the addition of two frequencies that are slightly different.
Beep. 1. A tone placed in a particular position on a sound track in post-production in order to establish a sync point. The tone is used to align the audio track with the picture for precise synchronization. A fool proof method that is often used as a backup even when time code is being used. For example, your composer might give you audio tracks and place a beep two seconds prior to the start of picture so you can line up the music with your project. 2. Sound made by the Roadrunner.
Bit. 1. A single element (1 or 0) of digital representation of information. 2. A minor role in which an actor may speak only a few lines of dialog. Also known as a bit part.
Bit rate. The amount of data transported in a given amount of time, usually defined in Mega (Million) bits per second (Mbps).
Black box. A term used to describe a piece of



equipment dedicated to one specific function.
Blip tone. See Beep.
Boom. A pole used to extend a microphone above the subject or actor you want to record, permitting sync sound recording without interference with the subject or actor's movement. Boom poles are available in a range of lengths, materials (aluminum or super-light carbon fiber), and with or without internal wiring.
Box rental. A fee paid to a crew member for providing their own equipment or other specialized gear for use in a production.
Breakaway cable. See ENG Snake.
Broadcast quality. An nebulous term used by marketing people to describe their products.
Bus. A network that combines the output of two or more channels on a sound mixer.
Byte. 8 bits. A common unit of digital information. The combination of 8 bits into 1 byte allows each byte to represent 256 possible values. (see Megabyte, Gigabyte, Terabyte).

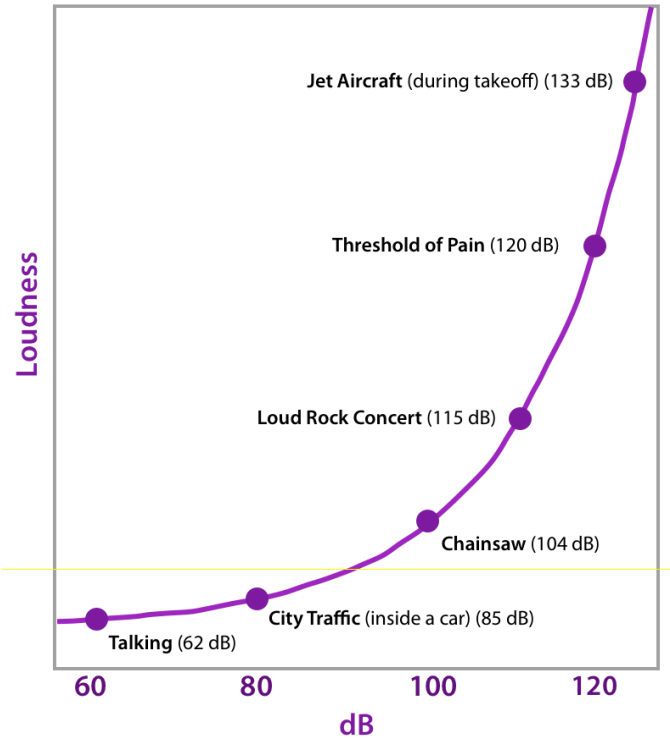
C

C-Stand. A versatile stand used to support equipment on the set. Usually outfitted with a grip head and a gobo arm. Can be used for hanging sound blankets or holding a Boom Baby (accessory for holding a boom pole that connects to a grip head mounted on a C-Stand or light stand). See Grip head, Gobo arm.
Capacitance. The ability of an electrical component to store electrical charges. Condenser microphones work on the principle of capacitance.
CBR. Constant Bit Rate. An audio compression technique where the amount of compression does not change. For example, MP3 files can be either Constant Bit Rate or Variable Bit Rate.
CD (Compact Disc). A digitally encoded audio storage format containing over an hour of music digitized with a sampling frequency of 44.1 KHz and a bit depth of 16 bits. The data is read from tiny pits on the surface by a laser beam.
CD quality. An nebulous term used by marketing departments to describe audio products.
Cinéma vérité. In French, literally, "cinema truth." A style of documentary filmmaking in which the filmmaker captures real people in real situations with spontaneous use of hand-held camera, naturalistic sound recording, and with participation on the part of the filmmaker, for example, *Chronicle of a Summer* (1961, Jean Rouch & Edgar Morin, French title: *Chronique d'un été*). Also called direct cinema, however, direct cinema sometimes refers to a different style that was dominant in the United States in the 1960s and differed in terms of much less filmmaker involvement, for example, *Salesman* (1968, Albert & David Maysles).
Clapper board. See Slate.
Click track. A prerecorded track of metronomic clicks used to ensure proper timing of music to be recorded. Used in music scoring sessions.
Clipping. When an input signal exceeds the capability the equipment to reproduce the signal, clipping occurs. In an analog recording system the results are audible distortion, however, in a digital system you end up with incomprehensible noise.
Compander. An audio device or software filter that

compresses an input signal and expands the output signal in order to reduce noise.
Compression. 1. Audio: The reduction of a span of the greater amplitudes in an audio signal for the purpose of limiting the reproduction of those particular amplitudes with the effect of reducing the difference between peak amplitudes and average amplitudes, making the overall signal sound louder when some gain is added (since peaks will no longer over modulate). 2: Data: A method for reducing the bitrate of a digital representation of an audio signal in order to reduce te storage requirements of the representation. Methods like MP3 involve the use of psychoacoustic models to discard portions of the audio signal that people will not notice, but always results in artifacts. For professional audio recording, always work with uncompressed audio file formats (e.g. WAV or AIF).
Compression ratio. The ratio of the amount of data in the original video compared to the amount of data in the compressed video. The higher the ratio the greater the compression.
Condenser microphone. A microphone design in which sound causes the movement of a plate (diaphragm) in relation to a fixed backplate. This movement causes a change in capacitance (electrical charge) which is translated to voltage by an amplifier. Therefore, condenser microphones require electrical power to operate. Microphones designed for video production can usually be powered using phantom power from a camera or mixer. Some condenser microphones use an onboard battery, while others work with either a battery or phantom power (and to be safe, don't use both, as some designs can be damaged as a result). Condenser microphones are far more sensitive than dynamic microphone, thus used in video production in situations where microphone can't be placed as close to the sound source as a dynamic microphone would require. Large diaphragm condensers are used in studio situations for vocal and musical instrument applications. Small diaphragm condensers are more portable and thus widely used in field production situations.
Crossfade. The gradual mix of an incoming and outgoing sound. Typically a software effect that simulates the simultaneous manipulation of two or more mix console faders or a simple transition effect in an editing system. With non-linear editing
Crossover. The frequency at which an audio signal is split in order to feed separate parts of a loudspeaker system.
Crosstalk. This is the amount of audio signal bleed between channels measured as separation (in dB) between the desired sounds of one channel and the unwanted sounds from the other channel.
Cueing. A term with a broad range of uses meanings depending on the context. For Voice-Over Narration or Dialogue Replacement, the marking of the cue point in a way which will permit a signal to be given to the talent to begin each element of dialog at the appropriate time. In general, any system used by a person to signal another person that recording should begin.

D

DAW (Digital Audio Workstation). A computer-based system used for recording, editing, processing, and mixing sounds. Originally referred to expensive workstation-based systems, today software-based DAWs run on standard hardware including Avid's Pro Tools, MOTU's Digital Performer, and Apple's Logic.
Dead cat. See Windshield.
Dead spot. An area within a location in which sound waves are canceled by reflections arriving out of phase with the desired signal thus creating an area of reduced audibility.
Decoder. A device or software component that reads a signal and turns it into some form of usable information. For example, an MP3 decoder takes audio that was compressed with an MP 3 encoder and converts it to sound data that can be played back on a computer or iPod. The same goes for H.264 video.
Dialogue. Synchronous speech in a film with the speaker usually, but not always, visible.
Decibel (dB). A unit used to describe sound levels. The decibel quantifies sound levels relative to some 0 dB reference. Decibels are actually ratios. The ratio of the sound pressure at the threshold of hearing to the limit that ears can hear without harm is above a million. Because the power in a sound wave is proportional to the square of the pressure, the ratio of the maximum power to the minimum power is above one trillion. To deal with such a range of numbers, logarithmic units are useful: the log of a trillion is 12, so this ratio represents a difference of 120 dB. It's easier to deal with numbers between 0 dB and 120 dB to talk about the dynamic range of sound rather than a trillion. The reference level is typically set one of several ways depending on the context:
1. when referring to sound pressure levels (SPL) the reference is set to the threshold of perception of an average human; **2.** In digital recording, you set the level in a recording system relative to as 0 dBfs where fs refers to "full scale," or the strongest signal that can be recorded without distortion, digital level meters read in negative numbers from left to right like -20dB, -12dB, -6dB, -3dB, 0dB; **3.** when adjusting audio levels in a non-linear editing system, typically 0dB for each clip is the level of the clip as imported you can adjust it plus or minus in terms of dB in



order to make the clip softer or louder. **4.** An increment of sound adjustment when editing/mixing: We typically work with sound adjustments in 3dB (tiny change) and 6 dB (noticeable change) increments. Even though an increase of 3 dB represents a doubling of the intensity of the sound, we don't perceive it that way, thus 3dB amounts to a small change and 6 dB amounts to a significant change when making adjustments during sound mixing.

Dialogue track. A sound track which contains sync dialog. Typically while editing dialog tracks are kept separate so they can be processed differently from ambience, music, and sound effects tracks.

Diegetic. Typically refers to the internal world of the story (the diegesis) that the characters themselves experience and encounter including those not actually shown on the screen but referred to in some way within the story. Thus, film elements can be "diegetic" or "non-diegetic." The term is most often used in reference to sound, but can apply to other element in a film. For example, titles, subtitles, background music, and voice-over narration (with exceptions) are non-diegetic elements.

Diegetic music. Music from a source within the film scene, such as a "live" orchestra or a radio playing. See Non-diegetic music.

Diegetic sound. Sound originating from a source apparent within a film scene.

Diegesis. See diegetic.

Digital. A representation format in which data is translated into a series of ones and zeros. Numerical data (base 10) is translated into binary numbers (base 2). Symbolic data is translated according to codes (for example, the ASCII code system assigns binary numbers to characters so they can be encoded digitally). Audio and images are sampled. See also sample, sampling rate.

Digital recording. A method of recording video (or audio) in which samples of the original analog signal are encoded on tape or a file as binary information for storage and retrieval. Unlike analog recordings, digital video (or audio) can be copied repeatedly without degradation. Digital recording has pretty much replaced analog recording techniques for most image and sound applications.

Digitizing. The act of taking analog audio and converting it to digital form. The term is often used synonymously with ingest or capture, which is the process of transferring a digital audio format into a non-linear editing system (it's already digital, so you are simply capturing or ingesting, you're not actually digitizing). See capture.

Dimmer. A device using to reduce the voltage in order to dim incandescent lamps which causes electromagnetic interference, often with the effect of annoying the sound recordist. See filament buzz. 2. A function of some HMI and fluorescent lighting ballasts that allow them to be dimmed (they can't be dimmed with a standard dimmer).

Directional characteristic. The variation in response at different angles of sound incidence.

Distortion. The addition of artifacts to the original audio signal appearing in the output which was not present in the input.

Dolby Digital. 1. A multi-channel audio format that is standard for DVD, Blu-ray, and HDTV broadcast. Consists of five channels (left, center, right, left surround, right surround), and one low-frequency effects (subwoofer) channel, thus the designation, 5.1. Widely used on professional DVD movie releases. Also known as AC-3. 2. A similar cinema sound system that encodes the digital information between the sprocket holes of a 35mm print.

Dolby Stereo. 1. The analog predecessor to Dolby Digital. Widely used on professional VHS and DVD movie releases (on the analog stereo tracks). In post production a Dolby Stereo encoder left, center, right, and surround channels into a stereo track that is compatible with stereo equipment, but when passed through a Dolby Stereo Decoder results in left, center, right, and surround channels. See Dolby Digital. 2. A similar cinema sound system that replaces the traditional optical track with a Dolby encoded optical track.

Double-system sound. The technique of recording sound and image using separate recording devices. In film production this is the normal methodology since film camera can't record sound, however, it is sometimes used in video as well when mobility is required by the sound recordist who may want to avoid running wires to feed the video camera with the audio signal.

Dub. 1. A verb describing the action of making copy of an audio recording. 2. A noun describing a copy of an audio recording. 3. The looping process.
Dubbing. Adding sound to a film after shots have been photographed and edited. Also, to insert foreign language dialogue into a film after it has been shot.
Dynamic microphone. A microphone design that utilizes a moving coil (in a magnetic field) to translate the motion of the diaphragm to an electrical signal (essentially the inverse of a loudspeaker) and thus does not need require external power to operate. Not as sensitive as a condenser microphone, thus typically used in handheld designs that can be used close to the sound source.
Dynamic range. The difference in decibels between the loudest and quietest portions of audio that a system is capable of processing.

E

Echo. A sound wave that has been reflected and returned with sufficient magnitude and delay as to be perceived as a wave distinct from the wave that was initially transmitted.
Effective output level. The sensitivity rating of a microphone defined as the ratio in dB of the power available relative to sound pressure.
ENG (Electronic News Gathering). Designates equipment designed for portable field use, typically for the purpose of video journalism.
ENG snake. A cable designed to connect the output of a field mixer to a video camera. It usually includes two channels of balanced audio, a headphone return, and a quick release connector on the camera end (thus it's also know as a breakaway cable) in order to allow the camera to move independent of the cable when needed.

Envelope. The shape of the graph as amplitude is plotted against time. The envelope of a sound includes the attack, decay, sustain and release.
Environmental sound. General sounds at a low volume level coming from the action of a film which can be either synchronous or non-synchronous. See also Ambient sounds.
Equalization. The modification of specific ranges of sound frequencies for a specific purpose, e.g. to improving the clarity of speech or removing a frequency range with unwanted noise.

F

Field mixer. A portable sound mixer, small and powered by batteries, designed for location sound recording. See sound mixer.

Filament buzz. Some incandescent lamps will buzz when the voltage is lowered using a dimmer. A great annoyance to sound recordists. See Dimmer.
Fluorescent lighting. A gas-discharge lamp and ballast used to illuminate sets and to create noise in order to annoy sound recordists.
Foley. Creating sound effects by watching the picture and mimicking the action, often with props that do not exactly match the action but sound good. For example, walking on a bed of crushed stones in order to simulate walking on the ground.
Foreground music. See diegetic music.
Frame line. The line that designates the top of the frame. When using a boom microphone, the boom operator communicates with the camera operator to understand where the frame line is in order to avoid getting the boom in the shot.
Frequency. The number of times a signal vibrates per second. Expressed in Hertz (Hz), which is the number of cycles per second.
Frequency response. The sensitivity of a given microphone or sound recording and playback system in terms of frequency and a variation, e.g. 20 to 15,000 Hz +/- 3 dB.

G

Gain. 1. In video, an adjustment in the voltage of the video signal expressed in decibels (dB). When it's increased, the image is brighter, along with more visible noise; 2. In audio, how much the input signal level is increased, expressed in decibels (dB); 3. In audio post-production, how much the audio signal of a clip or audio track is adjusted, expressed in decibels (dB).
Gigabyte. 1 Billion bytes.
Grip arm. See Gobo arm.
Gobo arm. A grip head mounted on the end of a ⅝" diameter, 30" long arm used as a device for holding sound blankets and other equipment. See Grip head, C-Stand.
Gobo head. See Grip head.
Grip head. A fully rotatable, adjustable clamp usually mounted on the top of a C-Stand and used to support a Gobo arm, equipment, or a sound blanket. Its core component is a gobo head, which accepts the pin on a flag or a ⅝-in. gobo arm. See Gobo arm, C-Stand.

H

Hard disk. An electro-mechanical data storage device with internal spinning disks. Used for storing video, audio, sound effects, documents, media archives for back up. For video editing, drives that run at 7,200 RPM are better than standard 5,200 RPM drives. In addition, faster interfaces, like Thunderbolt, FireWire 800, and USB 3 are preferred due to their faster data

transfer time.
Harmonic distortion. Audio distortion characterized by undesirable changes between input and output at a given frequency.
Hertz (Hz). A unit for specifying the frequency of a signal, formerly called cycles per second (cps).
High-pass filter. An electronic or software audio filter used to attenuate all frequencies below a chosen frequency, thus the name, "high pass."
Hiss. Noise that is caused by normal imperfections in the surface of analog recording tape. Also known as asperity noise (literally, roughness noise).

I

Impedance. As long as you stick with microphones and mixers designed for video production, you will not have to worry about impedance matching. The nominal load impedance for a microphone indicates the optimum matching load which utilizes the microphone's characteristics to the fullest extent. Impedance is a combination of DC resistance, inductance and capacitance, which act as resistances in AC circuits. An inductive impedance increases with frequency; a capacitance impedance decreases with frequency. Either type introduces a change in phase.
Import. The process of transferring digital audio files from the storage media used by a recording device into a non-linear editing system. See also Capture.
Inductance. The resistance of a coil of wire to rapidly fluctuating currents which increases with frequency.
Intermodulation distortion. An amplitude change in which the harmonics (sum and difference tones) are present in the recorded signal.
Inverse square law. Sound from a point source falls off inversely to the square of the distance. Or, put another way, if you double the sound source to microphone distance, you end up with only a 1/4th of the original sound energy.

J

Jet. 1. An type of aircraft that sometimes flies over the set in order to provide interesting sound problems. 2. To leave the set quickly after the shoot.

K

Kilobyte. One thousand bytes. Actually 1,024 bytes because computer storage is measured using base 2 (binary) number system with each digit's value based on a power of 2 (1, 2, 4, 8, 16, 32, 64, 128, 256, 512, 1,024) rather than base 10 based on powers of 10 (1, 10, 100, 1,000) which is our everyday number system.

L

Lavalier (a.k.a. "lav" or "lapel" microphone). A small microphone designed to work attached to the vicinity of the actor or subject's chest. The can be placed over or under clothing. Because of their small size, when combined with a wireless system, they are excellent for shooting "walking and talking" actors or subjects. Don't forget to pair them with a lavalier windscreen on a windy day.
Layback. Transfer of the finished audio mix back onto the edit master.
Level. The ratio of an acoustic quantity to a reference quantity, usually a measurement of audio signal amplitude in decibels (dB).
L-Cut. An edit in which the in (or out) points of the video and audio are different. This is often done to have audio lead the video, in other words, you hear some one start to talk before you see them.
Lip sync. Dialogue or narration that is precisely synchronized with the lip movements of a character or narrator on the screen. See Synchronization.
Location shooting. Filming in an actual setting with all sorts of noise problems, either outdoors or indoors, rather than in a quiet, controlled motion picture studio.
Looping. The process of having actors dub lip-sync sound to scenes which have already been photographed. Also called ADR for automated dialog replacement or additional dialog recording. Called looping because in the old days a film loop of the scene would be put on the projector with cue marks on the film so the director and actor could see the scene while they were looping and multiple takes would be recorded.
Lowpass filter. A filter that attenuates frequencies above a specified frequency and allows those below that point to pass.

M

Masking. A phenomenon whereby one or more sounds "tricks" the ear into not hearing other, weaker, sound that is also present.
MB. Acronym for Megabytes; the equivalent of 1,024 bytes.
ME track (Music and Effects track). Refers to the music and effects tracks split apart from the dialogue tracks for use in dubbing (foreign language re-recording of a film or video).
Megabyte. 1 million bytes.
Mickey mousing. Creating music that mimics or reproduces a film's visual action, as, for example, in many Walt Disney cartoons.

Mini connector. 1. A 1/8-in. TRS (Tip, Ring, Sleeve) connector that is typically used for connecting headphones to cameras and mixers, however, some mixers have a 1/4-in. TRS headphones connector, so it's always good to have an adapter in your kit; 2. Some consumer cameras used a 1/8-in. TRS connector for microphone input. Sometimes these inputs provide 5V plug-in power, the consumer equivalent of phantom power.

Mix. To combine sound from two or more sources onto a single sound track. Also called sound mixing.
Mixer. See Sound mixer.
Monaural sound. See mono sound.
Monophonic sound. See mono sound.
Mono sound. Single-channel sound utilizing only one microphone for recording or one loudspeaker for reproduction. Often for stereo compatibility two channels are fed from a common signal source. In the case of multiple microphones and channels used for stereo recording, a mono signal may be derived by mixing the two channels. See also stereo sound, surround sound.
Monologue. A character speaking alone on screen or, without appearing to speak, articulating her or his thoughts in voice-over as an interior monologue.
MOS. Shooting image without recording sound. Lots of colorful stories have evolved in an attempt to explain the origin of this curious term: one story suggests that a famous Hollywood director from Germany used to say "mitt-out-sound" while other explanations are technically oriented, suggesting it means "minus optical stripe" (since some old sound recording systems recorded the audio signal as visual variations on light sensitive film), or it could simply mean "motion omit sound," but no one really knows the origin of this term.
M-S (Mid-Side). A stereo microphone technique in which two microphone elements (a middle element with a cardioid or hyper-cardioid pattern and a side element with a bidirectional pattern) are incorporated into a special configuration for recording. Offers the advantage over other techniques in that it offers excellent mono compatibility without phase cancellation issues.
Musical. A film genre that incorporates song and dance routines into the film story. Also called musical film.

N

Narration. Information or commentary spoken directly to the audience rather than indirectly through dialogue, often by an anonymous "voice of god" off-screen voice. See voice-over..
Noise. 1. Electrical interference or other unwanted sound introduced into an audio system (i.e. hiss, hum, rumble, crosstalk, etc.) 2. Unwanted ambient sounds.
Non-diegetic music. Music in a film which does not have an apparent source within story world. Often called background music. See diegesis.
Non-diegetic sound. Sound in a film which does not have an apparent source within story world. See diegesis.
Non-linear editor (NLE). A video editing system characterized by digital storage and random access. Final Cut Pro X, Avid Media Composer, Adobe Premiere Pro, and Sony Vegas are examples of non-linear editors.
Non-synchronous sound. Sound whose source is not apparent in a film scene or which is detached from its source in the scene; commonly called off-screen sound. See synchronous sound. .

O

Octave. The interval between two sounds having a basic frequency ratio of 2 to 1.
Off-screen sound. See non-synchronous sound.
Over-modulation. Feeding a sound signal with an intensity greater than the levels a system is designed to accept. Digital systems can't tolerate over-modulation, when your audio is too loud it will sound like raspy unintelligible noise. Avoid over-modulating audio just like you avoid over-exposing video.

P

Peak. An audio level higher than 0 dBfs (full scale). Unless a limiter is engaged, an audio signal peak will cause distortion since digital systems can't represent audio levels over 0 dBfs. See also limiter, Decibel.
Petabyte. 1,000 Terabytes, or 1 million Gigabytes. Today Terabyte drives are common, someday…
Phase. The timing relationship between two signals.
Phase shift. The displacement of a waveform in time. When various frequencies are displaced differently, distortion occurs. Cancellation of the signal may occur when two equal signals are out of phase.
Pitch. The frequency of audible sound.
Phantom power. A method of powering the preamplifier in condenser microphones by sending the voltage through the audio cable in a manner that does not interfere with the audio signal. Most professional cameras and mixers provide the option of supplying +48V phantom power to microphones.
Phono plug. See RCA connector.
Pick-up pattern. A polar diagram showing how a microphone responds to sounds from various directions. Usually these diagrams also show how directionality varies based on the frequency of the sound. Common patterns include: omnidirectional, cardioid, hyper-cardioid, super-cardioid, and shotgun (lobar).
Pink noise. An audio test signal that has an equal

amount of energy per octave or fraction of an octave.
Playback. A technique of filming music action that involves playing the music through loudspeakers while performers sing, dance, play instruments, etc.
Post-production. The phase in a project that takes place after the production phase, or "after the production." Included in post-production is picture editing, sound editing, scoring, sound effects editing, sound design, motion graphics, titles, color correction, sound mix, mastering, etc.
Post-synchronized sound. Sound added to images after they have been photographed and assembled; commonly called dubbing.
Production value. A nebulous term used to describe the visual quality or professional look of a movie. A significant component of production value is the quality of the sound.
Production sound. The activity of recording and/or mixing sound on location during a shoot. Typically recorded to dedicated digital recorder (double system) or directly to the video camera (single system). See Single system, Double system.

R

RCA connector. A common connector used as a composite standard definition video or consumer line-level audio interconnect. Typically color coded as yellow for video, white for audio channel 1 (left), and red for audio channel 2 (right). In most cases, cables with RCA connectors are interchangeable. Some consumer equipment uses RCA connectors for analog component video color coded with red, green, and blue connectors. Also known as a phono plug, as this connector is used for analog turntable interconnects as well.

Reverberation. The presence of additional sound in a recording due to repeated reflections from walls, ceilings, floors, objects, etc. Reverberation is impossible to eliminate in post-production. See Sound blankets.
Room tone. See Ambient noise.
Run and gun. A style of video and audio production that is fast, unpredictable, and often involves covering action in multiple locations in a short amount of time. A great deal of documentary and broadcast journalism is done in this manner.

S

Sampling frequency. The number of sample measurements taken from an analog signal in a given period of time. These samples are then converted into numerical values stored in bytes to create the digital signal.
Score. Original music composed specifically for a film and usually recorded after the film has been edited.
Selective sound. A sound track that selectively includes or deletes specific sounds.

Shotgun. The term used to describe an interference tube (thus the name) microphone with a lobar-super-cardioid pickup pattern. Typically used for recording dialog outdoors and in environments with high ambient noise levels due to their rejection of off-axis sounds. For recording dialog in quiet setting, hyper-cardioid microphones provide better sound, since interference tubes not only reject off axis sounds, but also color these sounds.
Sibilance. Exaggerated hissing in voice patterns.
Signal. The variation over time of a wave whereby information is conveyed in some form which could be acoustic information (vibrations in air) or electronic voltages (representing sound).
Signal to noise ratio (S/N). The ratio of the desired signal to unwanted noise in an audio or video recording system.
Single system sound. A method of recording sound and picture on the same device, typically this is the way it's done in video production. See double system sound.
Slate. 1. A device used to place an identifier in front of the camera at the beginning of a take. When shooting double system sound in the days of film, the clapping motion and the clapping sound was used to synchronize the audio to the picture in post production.

2. A good roofing material that can last well over a hundred years and will never become part of the landfill problem.
Snake. 1. A multi-channel audio cable intended for use with microphone and/or line level signals. See ENG snake. 2. A producer who don't treat their crew honestly and with respect.
Sound effect. A recorded or electronically processed sound that matches the visual action taking place onscreen in some interesting, creative manner.
Sound mixer. 1. A device for taking multiple sound inputs and routing them to (typically) a stereo output bus. May include signal processing features like a limiter. 2. Another term for sound recordist. See Sound recordist. See also field mixer.
Sound bridge. Sound which continues across two shots that depict action in different times or places, thus providing an audio transition between the two scenes.
Sound designer. A sound specialist responsible for the development of all sound materials in a film or video production and ultimately in charge of the entire sound production.

Sound effects (SFX). Any sound in a film that's not dialogue, narration, or music.
Sound recordist. The person responsible for recording sound on location, they determine the right microphones to use and how to place them. They sometimes work in conjunction with a boom operator, on smaller productions the sound recordist and boom operator are one.
Soundtrack. 1. The music contained in a film. 2. The entire audio portion of a film, including dialog, effects, and ambience.
Source music. See background music.
Speed of sound. Sound travels through air at about 770 miles per hour, which varies depending on ambient temperature and air pressure.
Spotting. In scoring and sound effects editing the process of spotting is used to identify the specific scenes or points where music cues or effects cues take place.
Standing waves. A deep sound in a small room caused by low frequency (long waves) with short reflection patterns.
Stereophonic sound. See stereo sound.
Stereo sound. Sound recorded on separate tracks with two or more microphones and played back on two or more loudspeakers to reproduce and separate sounds more like natural hearing by providing the illusion of directionality and audible perspective. Stereo is the de facto standard in entertainment systems such as broadcast television, radio, recorded music, and streaming video. See also: mono sound, surround sound.
Synchronization. A precise match between image and sound. Also called sync.
Synchronous sound (sync sound). 1. Recording sound in synchronization with recording image. Can be single or double system. In single system sound recording the camera records sound and image, with double system sound recording, the camera is used to record images and a separate sound recorder is used to record sound. 2. Sound whose source is apparent and matches the action in a scene. See non-synchronous sound.
Sweetening. Enhancing the sound of a recording or particular sound effect with equalization or other signal processing techniques.

T

Temp dub. A preliminary mixing of dialogue, music, and sound effects, usually so that a first cut may be viewed with all the elements incorporated.
Terabyte. One trillion bytes. Equivalent to a heaping amount of video or an insane amount of audio.

U

Underscore. Music that provides atmospheric or emotional background to the primary narration or dialog.

V

VBR. Variable Bit Rate. A video compression method in which the amount of compression is varied to allow for minimum degradation of image quality in scenes that are more difficult to compress. For example, when encoding MP3 audio, you can choose to encode it as VBR or CBR. See Constant bit rate.
Voice-over. 1. A narrator's voice accompanying images on the screen. 2. Any off-screen voice.
VU meter. A meter designed to measure analog audio level in volume units which generally correspond to perceived loudness. The meters do not show peaks, peaks are typically indicated with a separate peak light. Still found on professional analog recorders and some consumer gear evoking the retro look. Digital meters behave in a totally different manner.

W

Walla. Background ambience or noises added to create the illusion of sound taking place outside of the main action in a picture.
Wave. A regular variation in signal level or sound pressure level.
White noise. A signal having an equal amount of energy per Hertz.
Windshield. A device placed over a microphone that reduces the effect of wind noise on the microphone. There are two main types of windshields, modular systems and integral slip-on systems. A a modular system (often called a blimp or zeppelin) consists of a flexible grey plastic netting tube (thus the name) with a screening material and a suspension system for the microphone (e.g. Rycote Modular Windshield). A furry synthetic fur cover, often called a windjammer, can be placed over the zeppelin for additional wind noise attenuation. In documentary and ENG applications one-piece slip on windshields consisting of a cellular foam base surrounded by synthetic fur are quite popular (e.g. Rycote Softie Windshield). The foam wind screen that comes with most microphones is only good to prevent wind noise due to movement of the microphone, outdoor shooting requires a windshield. Furry slip on systems or windjammers are sometimes

called a dead cat. Some folks refer to a blimp's windjammer attachment as a Wookie since they are typically larger than dead cats.
Windjammer. See Windshield.
Wild sound. Audio elements that are not recorded synchronously with the picture. It's a good idea to record wild sound wherever you go. These wild tracks of the environment can be used to build ambient sound beds or fix audio problems in dialog when you need to fill gaps of empty track.

X, Y, Z

X-Y Pattern. A pair of cardioid microphones or elements aimed in crossed directions which feed two channels for stereo pickup.
XLR. A widely used connector for professional sound applications typically having three conductors (but can also have more, e.g. five for a stereo connection) plus an outer shell which shields the connectors and locks it in place. The connectors are either male with pins or female with sockets. Microphones and mixer outputs have male connectors; mixer inputs and camera inputs have female sockets.

Zeppelin. See Windshield.

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15.0 – "Notes on the Interview"

by David Tamés, http://kino-eye.com/handouts/

The Kino-Eye.com Handout Collection

Notes on the interview

Thrown together by David Tamés, d.tames@neu.edu
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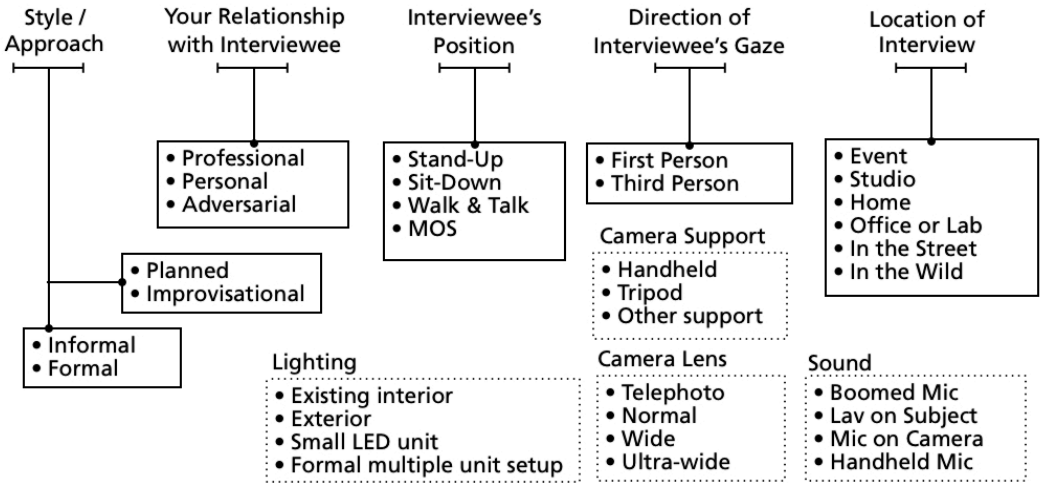
The interview

Some documentary media makers do interviews while others prefer to observe people and eschew formal interviews (in the traditions of direct cinema and cinéma vérité). Some documentary makers do formal interviews while others prefer informal interviews or simply capturing conversations as they happen. There is no right or wrong, no good or bad, simply different schools of thought.

I like to mix things up, and choose an approach that seems to make the most sense for each project. In documentary, most decisions start with your subjects and the topic, always tempered by matters of style and budget. Primarily good interviewing is about listening, empathy, and preparation (knowing as much as you can about the subject to start with). The rest will fall in place as you practice and get the hang of it, there is no substitute for experience when it comes to orchestrating a dialog between yourself and your subject in order to capture it on video.



There are many creative and technical options to consider as illustrated in the chart on this page. This chart represents the decision making process that goes through my head for each project. Which technical and interview style approach is best? It really depends on the specific nature of your documentary. Ask yourself, does a particular approach make sense for what you are doing? How might it work out for you?

Rules of thumb

I've collected quite a few tips and rules of thumb over the years, here are some of them. I never apply them all at once, rules were meant to be broken, or at least applied selectively.

Preparation is key. Some knowledge of the subject is important. Be familiar with your subjects background and their work and whatever is relevant for your specific documentary. Design your questions carefully given the specific issues you want to discuss. Research and preparation is crucial. Your interview subject understands that viewers may be new to the topic, but they will lose patience with you if you don't demonstrate you've done your homework and know something about the topic or person that you're discussing with them. Your interests and familiarity with topics of common

interest will put you interviewee at ease and help you build the rapport that is so important for a good on-camera interview.

Design questions to elicit stories. It depends on the kind of documentary you're making and the purpose of the interviews, but most of the time I like to *elicit stories, rather than information.* Of course, if the purpose of the interviews is "expert testimony" that's one thing, but stories are usually more interesting and reveal a lot. So the most important thing is to listen and follow-up on things that will elicit stories, rather than trying to get all of your questions answered. Great stories make the difference between "talking heads" and "storytellers," and storytellers are much more interesting than talking heads!

Pre-interview on the phone to determine if this person is right for your documentary. Sometimes spontaneity is more important and you will not pre-interview. Make this decision on a case by case basis, or depending on the specific topic of your documentary and the nature of the interviews. Personally I prefer to pre-interview whenever possible, and on the phone, not email. Over the phone I can get a hint at how confident and articulate someone is, and determine if they are going to be able to tell me stories rather than just deliver facts and descriptions.

Rehearse your questions out loud to make sure there is no room for misunderstanding if the stakes are high for a particular interview, most of the time being straightforward is all you need to worry about.

Release forms. Don't forget to get a personal release form signed and make sure you have name, address, phone, email, etc. in order to be able to contact them and stay in touch. Do this before the interview starts, no release, no interview, unless special circumstances require a delay in obtaining the release. There are times I've had people sign the release and allowed them to keep it, and only after they have decided they are comfortable being in my documentary do they need to give it to me. For every guideline there are situations that call for another approach. You need to have the rights to everything that ends up in your documentary, otherwise, you may run into trouble later. It's simpler and easier to ask for a release to be signed than to track them down what could be years later.

Groups. Consider putting people together to talk, sometimes couples or groups give you more; sometimes disagreements often yield good dialog exchanges. But this is much harder to shoot, and may require more than one camera to capture multiple sides of a conversation, however, you can certainly manage with one camera as long as you're getting good audio of each speaker that is not dependent on the position of the camera.

Notebook. Keep your list of questions in a small notebook that does not call a lot of attention to itself, but allows you to make your own notes as you go along, e.g. making a note to make sure you get back around to a particular topic. Do whatever works for you, but certainly you want to come up with a system for this.

Setting. Decide what setting is best for your interviewee, their home, office, in the park, in their studio? The context has a huge influence on the look and feel of the interview.

Disclosure. Explain clearly to your interviewee why you are interviewing them and what you are exploring with your documentary.

Warmup. The first ten minutes or so are usually a warm up period, even if you've done a pre-interview and have spoken with your interviewee right before the interview, it's a new setting, a new context, give your interviewee time to warm up. Start with some pleasant, warm-up questions, but don't make them trivial or seem like throw-away.

Complete sentences. Depending on your stylistic choices, instruct interviewees to include questions in their response, speaking in full sentences as this will make things much easier to edit. You may have to coach your subject on this, and approach it that way, rather than telling them they are doing something wrong, explain how it makes the editing easier and if they would give it a try.

Right before the interview. Be natural in your interviewing, this comes from practice and genuine empathy for your subject. Make sure you have some quiet time with your subject before you jump into the interview. This is easier if you can work with a partner who sets up the camera and sound (and lighting if you are using lighting instruments) while you sit down and talk with the interviewee about how things are going to roll.

Interruptions. Depending on your stylistic choices, if you are going to redirect or interrupt interviewees let them know this in advance, and try to make it conversational and organic.

Listening. Listen actively and carefully to make sure answers can stand alone. This gets easier the more you interview. You are also listening actively not only for what you want, but what the interviewee is really saying, don't rush to the next question, if you don't have something complete or coherent, ask the question again, or take another angle on the same question. It has been my experience than very often the second time around the answers are more coherent. This, of course, depends on the nature of the interview. Practice active listening: Getting deeper: try gentle "And…" and "Yes, go on…" and even silence.

Specific details. Avoid vague and general questions. Ask for details, specifics, examples, etc. as this makes the interview more interesting. In most cases you not only want stories but specific details that bring the story to life.

Interviewee's gaze. Ask interviewee not to look at the camera unless you are doing first-person address (discussed in the next section).

Context & visuals. Showing people in their own environment is often my preference, some people are better when they are walking around their own space and talking to you, the walking and talking interview can be very effective, especially with artists and craftspeople who work with things. Don't forget to cover the environmental context with visuals, a.k.a. B-roll, this illustrative footage, can be very important. B-roll is not merely cutaways to cover jump cuts, your story should be driven by elements that help move your story forward in a visual manner. Ultimately, documentary video is a visual medium. Images should drive the story while the stories interviewees tell provide emotional connections, help bring us into the story, but all in a visual context.

Timing of specific questions. Start with factual questions and keep the more intimate or emotional information for later when the subject is more comfortable with you and relaxed and with the situation.

Multiple replies to a question facilitates editing. Try to cover each issue in more than one way to give you the ability to cut in and out of the interview in order to tighten the material. Let people talk at their natural pace, avoid too many interruptions, but for important things you want to cover again, circle back and ask the question again in a different way or ask for expansion.

Delicate issues. To get into a delicate area, you can use the devil's advocate approach, for example, saying "some people would say there's nothing special about the river dam project" and let the interviewee respond… Another way to get into a sensitive topic is to start with a general question and then ask for specific examples.

Silence. Don't be afraid of silence, a moment of silence between questions serves two purposes. First, in some situations, it's the best way to get more from the interviewee. If you allow some moments of silence after an interviewee has finished answering a question, look at them, approve with your gestures, but be quiet for a moment, they might be thinking and go into something else. Second, even if the moment of silence does not result in any follow-up or additional materials, your sound editor (or yourself if you're editing your own sound) will appreciate having little pieces of "room tone" that match closely what was said. While most production books talk about recording 30 seconds of room tone at the end of an interview, since ambient noise often changes over time, I've discovered that recording room tone an hour later yields a very different sound, and most often the pieces of room tone I end up using when I edit are those moments of silence after a question has been answered.

Winding down. As the interview has wound down and you feel you've gotten all that you need, I suggest you ask: "is there any question I should have asked that I've not asked today?" Sometimes people will go on a whole other tangent that relates to something important to them, and sometimes this is great footage, other times people have nothing to add. But just in case your subject has been wanting to say something, give them the chance, it may turn out to be what you needed for the interview.

Discourage interviewees from editing themselves. It's important to remind your subject that they should not edit themselves, and that you will cut out any "bad bits" and it's your job in the editing to take the best parts of the interview and make sure they end up "looking good" or coming across as "credible." In all cases, you should be empathetic and respectful to your subject, you want to bring out the truth and the best in people, unless you are doing an adversarial interview. Even then, you have to find what you like in the person, otherwise, you're not going to get a good interview with your subject, as they will sense where you're coming from.

A good story bares repeating. Sometimes you want to go around and get he most compelling stories a second time. It's my experience people repeat themselves and most of the time tell stories quite well a second and third time, often in a more concise manner. It also depends on the specifics of the project and what the person is like on camera. I will often ask people if they can clarify portions of a story that was particularly compelling, and shoot this retelling in a different framing. This allows me to later intercut the versions as needed in order to compress the story in editing, and the shot variety is nice to have too.

Positive acknowledgement. Always acknowledge what was successful about the exchange at the end of the interview. Be positive and thankful, yet don't lead your subject to believe they are going to be in the documentary. If they ask, explain to them that the interview was successful, but it's eventually up to the editor what ends up in the final documentary, but express you're happy with what you've got. Basic respect is key in managing the relationships with your subjects, many of whom you'll end up developing relationships with over time.

Good sound as a baseline. Always make sure you are recording excellent sound (never, never cut corners on this). Sound is half the picture, yet most often it receives only casual attention by video makers. Viewers can't articulate what's wrong, but quite often it's the sound that either engages or distances them. Position the microphone as close to the subject as possible for more "voice" and less "reflections and noise" in the soundtrack. The human voice is a beautiful thing but it can be marred by reflections and ambient noise level, which reduce intelligibility. See the sound recording presentation notes for more on sound.

Lighting and exposure. Strive for good lighting and exposure, which need not require a lot of gear. Favor your subject's face over the background when it comes to exposure. It's OK to go for a minimal, natural look, but adequate lighting sometimes might require some instruments. It's not too hard to set up the interview using natural light sources, or if that does not work, try a minimal, but usable lighting set-up, starting with some form of a large, soft key light. As far as the soft key goes, the larger the source (in terms of size), the better for a nice "wrap" around the face. Play with the positioning for a pleasing, dimensional look.

First or third person address?

The subject's gaze vector (in what direction are they looking towards in relation to the camera) depends on the placement of the camera, the interviewee and, the interviewer. One important decision when your planning an interview is to decide what will be the relationship between the audience and the interviewee by choosing an on-camera-axis or off-camera-axis interviews as appropriate, in other words. third-person address or first-person address.

With **third person address** the interviewee is talking to an off-screen presence, the interviewer may be off camera slightly to the left or right, or even sometimes under the camera lens. The interviewee may or may not appear in the shot. In the example above, the interviewer is holding a reporter's microphone and standing quite far from the camera, usually interviewers will stand closer to the camera, so the interviewee's gaze is just to the right or left of the camera.

With **first person address** the interviewee is talking right to the audience, this works best when the interviewer appears right in the camera lens. This requires a special arrangement to keep the interviewee engaged as if they were talking to someone, and in fact, they usually are.

The Fog of War (2003) and *Fast, Cheap & Out of Control* (1997) are two documentary films by Errol Morris that feature interviews with a unique quality in which the interviewee appears to be looking straight into the camera, with facial reactions that are the result of very intimate communication with the interviewer, which as a viewer we sense as the interviewee addressing us, the viewers, directly. This is accomplished through the use of a device some call the Prompter-cam and Errol Morris calls the Interrotron. This technique is used in advertising, corporate videos, promotional pieces, and documentaries, but it's been through Errol Morris' use of the technique that it has achieved widespread attention outside of the industry.

The Prompter-cam system is basically two tele-prompters (which uses a semi-transparent mirror at a 45 degree angle to the lens with an LCD screen below it to have text appear in front of the camera lens), but instead of projecting text for the subject to read, it projects the face of the interviewer in front of the camera lens. A similar setup is used by the interviewer to see the interviewee in the camera being used to allow the interviewee to see the interviewer. This way the interviewer and interviewee can make direct eye contact with each other and the interviewee is reacting directly to the interviewer's facial gestures. This two-way video conference arrangement makes for interviews with a piercing sense of intimacy, as if the interviewee was talking not just into the camera lens, but directly

to us, the viewers of the documentary. This is sometimes called first-person address interviews, and with the Prompter-cam first-person interviews achieve their most intimate and direct expression.

Two camcorders behind a single teleprompter glass allowed us to shoot two framings at the same time for each interview

The special arrangement is needed because most people can't pull off the intimate gaze simply looking down the barrel of the lens, they need to be looking at the interviewer and responding to them personally as another person, this is what the viewer senses, the direct connection with another human being, which we as viewers sense from the manner in which facial expressions manifest themselves.

Looking over the interviewees shoulder, they see the interviewer in the camera lens

I have used this approach for testimonial interviews with two cameras capturing the close-up and medium shots simultaneously. The behind the scenes photos above are from a Prompter-cam shoot I did at MIT several years ago for a series of interviews for *Class of 2007 Journey to MIT* (2007, 1:48, with over 26,000 views on MIT TechTV, techtv.mit.edu/ videos/678-class-of -2007-journey-to-mit). We decided not to have any cutaways, so we shot everything with two cameras in order to facilitate cutting between different framings. The interviewees appear to speak directly to the viewer in this piece.

Looking over the interviewers shoulder, they see the interviewee in the camera lens

First person address works for some projects, yet there is a reason a lot of documentary makers don't use it: it's the cinematic grammar of salespeople and hucksters, however, in the right context, it can be engaging and intimate, giving the audience the experience that the interviewees are talking directly to them.

Which style is right for your documentary?

There are many different styles of interview. When I do formal interviews I feel they should be beautifully lit, composed, and with excellent, rich dialog. On the other hand formal interviews are not always the right way to go. In many situations I do informal interviews with minimal or no lighting, but always with good sound. There are many options to explore when doing interviews.

The seven habits of highly successful interviewers

1. Get a signed release form,
2. Do your research and preparation,
3. Have empathy and respect your your interviewee,
4. Prepare good questions (but let your interviewees run with what excites them),
5. Interview for the edit (you'll appreciate having complete sentences when you are editing),
6. Practice active listening, and
7. Pause after each question (give your interviewee time to think and get good room tone too).

Quotes

We'll end with some tidbits of wisdom:

> "You have to understand, my dears, that the shortest distance between truth and a human being is a story." — Anthony de Mello, from One Minute Wisdom

> "I think if you ask people well-researched questions about subjects they love and are knowledgeable about, it's very easy to get them to open up and talk to you." — Barbara Multer-Wellin

> "The image is the basis of the visual language of motion pictures … the camera can actively comment upon or interpret what it observes, making each frame a picture worth the proverbial thousand words … the camera is to the filmmaker what brushes and oils are to the painter." — Saul J. Turell and Jeff Lieberman from notes on The Art of Film

> "…good close-ups radiate a tender human attitude in the contemplation of hidden things, a delicate solicitude, a gentle bending over the intimacies of life-in-the-miniature, a warm sensibility. Good close-ups are lyrical; it is the heart, not the eye, that has perceived them." — Béla Balázs in Theory of the Film

> "The position of a mic generally affects the sound much, much more than does the brand of condenser mic you use." — Randy Thom, Sound Designer

Resources

Shut Up and Shoot Documentary Guide: A Down & Dirty DV Production by Anthony Q. Artis (Focal Press, 2007) ignore the dated camera references, the book still provides a solid and readable introduction to production craft.

John Pavlus' article, "Errol Morris's Secret Weapon for Unsettling Interviews: The Interrotron," in Fast Company's *Co.Design*.

"The Fog of War: 13 Questions and Answers on the Documentarymaking of Errol Morris," originally published in *FLM Magazine* (Winter, 2004)

Copyright and disclaimer

16.0 – Postproduction Workflow

Adapt the following documentary cinema postproduction workflow to the needs of your project:

Step 1: Log all recorded materials and organize them in folders on your editing drive.

Step 2: Transcribe all interviews.

Step 3: Begin paper edit.

Step 4: Complete research and source stock/archival footage. Ensure rights can be licensed.

Step 5: Identify missing material and get pickups.

Step 6: Complete paper edit.

Step 7: Edit recorded materials and generate:

a) Assembly Cut - a quick arrangement of your project
b) Rough Cut - watchable but major revisions required
c) Fine Cut - almost there with small adjustments needed
d) Picture Lock - no further editing of visuals required

Step 8: Dialogue editing, sound effects, and mixing.

Step 9: Music editing. Ensure rights can be licensed.

Step 10: Color correction and finishing.

Step 11: Output final file.

Step 12: Finalize all rights and licensing agreements.

Step 13: Submit to festivals and pitch to distributors.

Step 14: Premiere your project!

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17.0 – "Notes on Montage and Classical Continuity"

by David Tamés, http://kino-eye.com/handouts/

Notes on montage and classic continuity

Thrown together by David Tamés[1]
d.tames@neu.edu

Version 6, Revised February 10, 2016

This document is in perpetual beta please help improve it by sending, suggestions corrections to the author, thank you!

Table of contents

[1] A portion of this document is a derived from "Why Editing Works" by Brian Retchless, http://www1.icsi.berkeley.edu/~stellayu/artvis/project/filmedit/index.html, used with permission of the author, see end of the document for other acknowledgments.

What is editing?

Editing is the process of assembling sequences of shots to create a cohesive film or video. The editing process is unique to cinema. Other elements of cinematic language originated in a different medium (photography, lighting, art direction, writing, sound), however, editing, a.k.a., montage (meaning "assembly" in French), springs from cinema. The grammar of video borrows from traditional cinema and expands on it. The editor assembles the moving image work using shot selection, rhythm, pace, sequencing, and effects to craft a compelling experience. Editing may be accomplished in wide range of styles and while traditionally editing has been focused primarily in the temporal domain, it also involves the spatial domain using multiple images, composites, or superimposition. Through the study and practice of editing, we strive to answer questions like:

- How do we tell a story through images and sound?
- How do we elicit emotional reactions and audience engagement?
- How do we structure and evoking an emotional response?
- How do we structure and communicate an intellectual response?
- How do we (expand, compress, rearrange) time?
- How do we create and/or violate continuity appropriately?
- How do we layer ambient sounds, dialogue, and sound effects to enhance visual storytelling?

The editor works like a magician drawing attention away from one thing and towards another. Doing a good job of drawing the viewer's attention will hide many of the action mismatches that are inevitable in both fiction and documentary video. For example, when someone is talking, the viewers attention is focused on the speaking person's face, and therefore the viewer will probably not notice other elements in the shot. Often we are using cutaways to draw the viewers attention away from what otherwise would be a bunch of jump cuts. But it can be so much more than that: the process of structuring a sequence of shots helps you you tell a story cinematically. Establishing shots provide context, medium shots and close-ups provide the dramatic energy in dramatic productions, the right close up can provide a sense of access and intimacy, while medium shots work well in lighter documentaries. The juxtaposition of shots creates new meanings, sequences evoke so much more than the sum of their shorts.

When we watch a video we usually experience a story. This is not always true, since video artists often defy convention to bring to the foreground the intrinsic qualities of the medium or use an alternative visual language to evoke an idea or state of mind. Irregardless of the structuring strategies at work, viewers don't focus on the thousands of separate images that make up the video but instead try to find meaning, which in many cases is a story in some shape or form. We take for granted the constantly changing perspective of the camera that offers a multiplicity of perspectives that we would never be able to experience in real life.

Video editing is more often than not an invisible art. Assuming classical cutting continuity is our ultimate goal (however, it need not be) the editor's challenge is to make the editing invisible, and as such, we often only notice editing when it is, well, less than satisfactory. But how is this even possible? The whole thing is a bit mind-boggling, that these various shots could come together to form a sequence we read as a cohesive whole. Walter Murch writes, "The mysterious part of it is that the joining of those pieces... actually does seem to work, even though it represents a total and

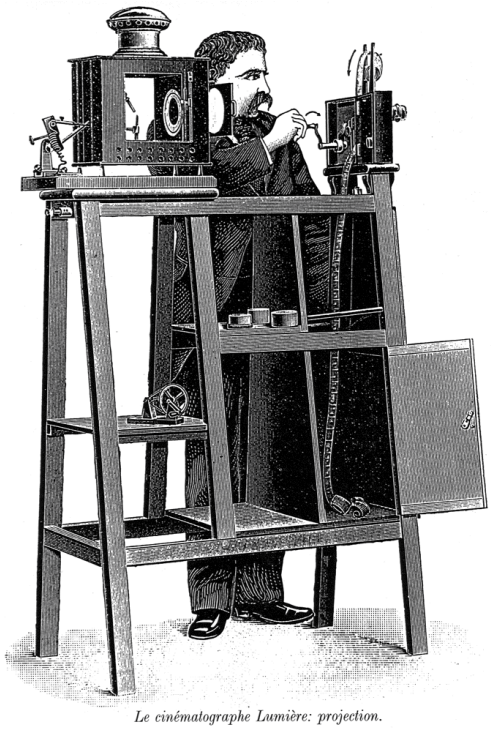
instantaneous displacement of one field of vision with another, a displacement that sometimes also entails a jump forward or backward in time as well as space."[2]

It would seem as though nothing in our day-to-day life has prepared us for the rapid barrage of imagery that we experience watching contemporary videos. So why do we see multiple shots from multiple angles as seamless?

Historical perspectives

Before attempting to understand what makes editing work, it's valuable to look at the history of the technique to gain some perspective on how it has evolved to its current state. Walter Murch observes "Throughout the history of the motion picture industry the quality of its products has steadily improved"[3] and with this the art of editing has improved as well. In fact, the earliest films weren't edited at all.

When the Lumière brothers invented the Cinématographe in 1895, the camera was a one-stop-shop. It not only captured the footage, but it allowed you to process it as well as project it all from within the same device. So as you might imagine, early filmmakers had little interest in cutting up the expensive film that they had purchased for use with their new toy. Earnest Walter writes that instead, "the motion picture camera was loaded to capacity with film stock, and cranked away on the scene being played until the film in the camera ran out. At this point, the proceedings would be halted for the re-loading and then the film would continue as before."[4]



Le cinématographe Lumière: projection.

Much of this arose from the traditions of which the movie industry was born. Because people equated this new medium and its storytelling abilities with the theatre, it was never questioned that scenes should be completed in one take (or performance, in theatre terms). If an actor messed up their motions the whole reel was scrapped as if a thespian has flubbed their lines and needed to start over from the beginning. This led to a lot of wasted time, not to mention wasted film. Ralph Rosenblum wrote "What the filmmaker saw is what the audience saw. It was a continuous unbroken piece of action, shot from a single camera angle, the perspective the all-encompassing, straight-on, eye-level view inherited from the theater."[5]

The movies' other parent, photography, wasn't much help in progressing the medium toward editing either: the photographic tradition at that time called for stiff, rigid poses taken from a straight-on perspective.

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[2] Walter Murch. *In The Blink of an Eye: A Perspective on Film Editing*, Silman-James Press, 1995, p. 5.

[3] Ibid, p. 19.

[4] Ernest Walter. *The Technique of the Film Cutting Room*, Hastings House Publications, 1973, p. 20.

[5] Ralph Rosenblum and Robert Karen. *When the Shooting Stops: A Film Editor's Story*, The Viking Press, 1979, p. 35.

Much of editing evolved through trial and error. People eventually figured out that they could make things more interesting (not to mention longer—the first movies lasted only a few minutes at most because this is all that would fit on a single reel) by cutting up the film a bit and taping it back together. At first, however, this was only employed as a way of combining separate scenes. Ralph Rosenblum explains "If a picture was composed of more than one scene (a rarity), no attempt was made to link the last action of one scene with the first action of the next. Each transition was a total break."[6]

This was a big step forward for the evolution of editing but it wasn't until 1902 that Edwin S. Porter discovered that these scenes could be made to correlate to one another. With *The Life of an American Fireman* Porter realized that by placing scenes back to back they could be made to seem as though they were happening simultaneously. These were still whole scenes, though, that played from start to finish without a cut, and were then tied together by a larger narrative.

In this short Porter also discovered that he could use footage recorded previously and in a different location as his main plot line and that the audience would understand that it was meant to take place at the same time. This was pretty fundamental stuff: that associations could be made between otherwise unrelated material, and really paved the way for the revelations brought about by D. W. Griffith.

Griffith is considered today and was even during his own day, a film genius, albeit a very controversial one; he made significant contributions to the development of continuity cutting techniques. The first effective continuity cut was in Griffith's *For Love of Gold*, when a scene cuts "in the middle of the action to a full shot of one of the characters. No scene had ever been divided into more than one shot, and this simple innovation would soon cause a minor revolution."[7]

Griffith soon found that he could create whole scenes composed of a series of different angles rather than just static ones and began playing with greater variations in distance. Walter Murch explains, "Unlike the stage play with its constant flow of action and dialogue from the same viewing position, this deliberate breaking down of sequences into punctuated camera angles created a new dimension of pictorial interpretation."[8]

Griffith then began to realize that emotions could be elicited not only through the use of camera angles and literal content, but also through the pace of editing. All of this, however, was served in a way that had a heavy focus on making the cinema very real—Griffith's goal was to create a cinema world that reflected our own (or more accurately the world as seen through the lens of the filmmakers ideology).

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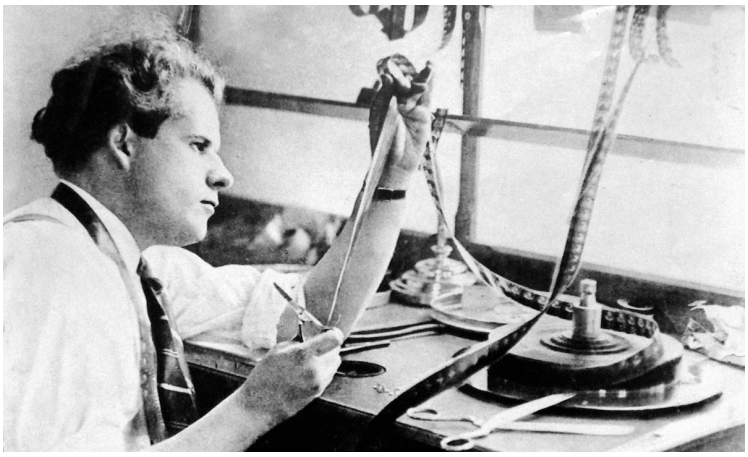
[6] Ibid, p. 35.

[7] Ibid., p. 38.

[8] Murch, p. 20.

Griffith's work stood in sharp contrast to the work of Sergei Eisenstein, a Soviet director who was raised on Griffith's films and learned much of his editing technique by watching faded prints of Griffith's *Intolerance* hundreds of times. By watching the films he was able to grasp not only how Griffith used editing to create drama, but he began to separate the various techniques and formed theories revolving around them. These various "montage" theories (the word literally means "editing") covered the various ways to edit a scene, or rather concepts around which a scene should be edited. For example, metric montage is based entirely on a steady pace of cuts, entirely independent of the content within the frame.



Eisenstein considered this the most elementary of the theories. This is compared with rhythmic montage, which has a focus on pace but considers the elements within the frame, and tonal montage, which is cutting based on the similarity of the light and dark elements within the frame. Good examples of all of these techniques are found in Eisenstein's film *The Battleship Potemkin.* The Odessa steps sequence is in this film is a staple in film analysis courses and has been paid homage to in numerous moving image works including Zbig Rybczynski's 1987 video *Steps*, in which we are taken on a tour of the Odessa steps under the guidance of a tour guide and Brian De Palma's 1987 film *The Untouchables,* which pays direct homage to the sequence, baby carriage and all.

The highest form of montage, according to Eisenstein, was Intellectual Montage. Eisenstein developed this concept based on the idea that two images, when presented in juxtaposition, created a third and entirely new idea. Ralph Rosenblum writes, "He illustrated his point with Oriental hieroglyphic writing, in which two symbols were joined to make an entirely new idea. Such was the case, for instance, when the symbols for eye and water were combined to yield 'crying.'"[9]

The foundation of Intellectual Montage comes from the so-called "Kuleshov Effect," named for Lev Kuleshov, who ran a school that Eisenstein attended. Kuleshov conducted a famous experiment in which he took footage of actor Ivan Mozhukin making a neutral face and cut it together with various other images. For example, the clip opened with the actor making a neutral face, cut to a baby crying, and then cut back to the actor. When audiences were asked about the actor's performance, they raved that he had shown such subtle emotion—that you could see the feeling in

[9] Rosenblum, p. 48.

his face. A separate audience was shown the same clip, only with the baby replaced by a bowl of soup, and the audience claimed that the actor was clearly hungry.[10]

The point of the experiment was to demonstrate that the juxtaposition of the two ideas could influence the meaning of both. Eisenstein took this idea and ran with it. He regarded montage as a dialectical means of creating meaning and the foundation of film art. But not so fast there sparky! Stephen Prince and Wayne Hensley have questioned the Kuleshov effect and claim that "nothing of this kind has really been proven in the usual scientific sense. As Normal Hollyn [a well known editor] and others have noted, the experiment has 'passed into the mythology of film."[11] They conclude, after reproducing the experiment the best they could and observing far less dramatic results, "with little written record about the Mozhukin experiment and with the actual footage lost, the experiment lingers in a realm of legend as well as history [...] it is passed along as part of the folklore of the cinema. It appears in empirical garb, but like all myths its real functions are symbolic and cultural [...] myth ought to be recognized as myth and not mis-identified as fact. Kuleshov's effect-understood in terms of shot juxtapositions rather than associational cues may tell us little about film or visual communication, but its lingering power tells us a lot about the symbolic uses of the past."[12] Nonetheless, filmmakers continue to employ the effect to their ends.

Eisenstein thought of the shot as a montage cell and montage as the collision of two pieces in conflict from which arises a totally new, third concept. A good example of this can be found in Eisenstein's *October*, in which Eisenstein juxtaposes Christian symbols with pagan idols in order to criticize the church. Eisenstein suggested that montage was the "explosion" which drives the film forward. In his writings, he used language like "film must plough the psyche of the viewer" and believed that artists were "the engineers of the soul." This idea of the combination of ideas is absolutely essential to editing as we know it today, as more and more we see incredibly tight shots of objects and characters that require our minds to link together and create a meaning between the various shots.

Classic continuity editing

Jump forward about a hundred years to present day. Given all the history between the creation of film editing and the present day, editors have found a number of rules that allow them to maintain

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[10] Michael Russell traces connections between Soviet montage cinema, the *politique des auteurs* of the French Nouvelle Vague and Barthes' essay on "The Death of the Author," in his article "The Kuleshov Effect and the Death of the Auteur," *Forum* No. 1, http://www.forumjournal.org/article/view/547

[11] Stephen Prince and Wayne E. Hensley, "The Kuleshov Effect: Recreating the Classic Experiment," Cinema Journal 31.2 (Winter), 1992, p. 59.

[12] Ibid, pp. 73-74.

visual continuity and narrative clarity despite using an ever-increasing number of cuts. The ultimate goal of these rules is to make the actions in the scene remain clear and offer clues to the audience as to the spatial orientation of the scene.

Ken Dancyger observes, "Narrative clarity is achieved when a film does not confuse viewers. It requires matching action from shot to shot and maintaining a clear sense of direction between shots. It means providing a visual explanation if a new idea or a cutaway is introduced. To provide narrative clarity, visual cues are necessary, and here the editor's skill is the crucial factor."[13] When crafting a narrative video, we will typically, but not always, establish four Ws within each video sequence: Who are the characters? What is the situation? Where does it take place? Why is this relevant to the story? Interest in "what happens next?" keeps the audience interested. Each sequence of events should be followed by a moment of reflection before the next sequence begins to allow the audience to take it in and to think about their interpretation of the scene.

Each edit is essentially a transition between two shots (typically a cut, sometimes a dissolve, fade, or some other effect). According to Roy Thompson, there are six elements[14] of the edit:

- *Motivation* (there should be a reason, or motivation, for the edit, it may be either emotional, visual, aural, or any combination of the three),
- *Information* (each new shot provides the the viewer with new information),
- *Composition* (when there's a choice, select the shots with the best composition),
- *Sound* (is more abstract that image, you need not hear what you see or see what you hear, it's an additional layer, sound is tied to emotion, it creates atmosphere, mood, tension, etc.),
- *Camera Angle* (the camera should change angle from one shot to the next),
- *Continuity* (the movement or action should be both evident and similar between the two shots), the should be continuity of: Content, Movement, Position, and Sound.

An ideal cut should contain all six elements, but typically will not. Most cuts are seamless, when they are not, they are called jump cuts. Jump cuts can be very effective when used properly, but start with smooth cuts. Classical continuity editing achieves seamlessness primarily by following a number of "rules"described below. These are just the most basic and important ones for cutting within a scene. Many of these rules are not rules that must be followed by the editor so much as the production team, but that does not make them any less necessary to facilitate continuity editing. The continuity editing style depends as much on "shooting for the edit" as much as it does on "editing by the rules."

Rule #1. Maintaining continuity between cuts

Finding continuity errors in mainstream movies is almost like a sport: there are entire websites dedicated to noticing if there are any changes across edits in films. On a motion picture set a specialist known as the script supervisor[15] is employed to make sure that for every take objects remain in the same positions, actors deliver lines on the same beats, and even that an actor's hair falls in the same place. Essentially the script supervisor is the editor's representative on the set. This

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[13] Ken Dancyger. *The Technique of Film and Video Editing: Theory and Practice,* Focal Press, Boston, 1997, p. 296.

[14] Roy Thompson, *Grammar of the Edit,* Focal Press, 1993.

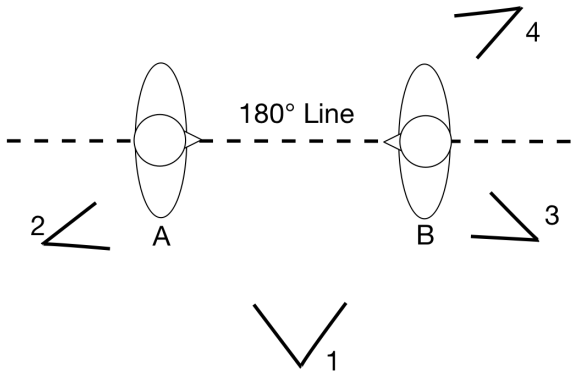
[15] For an enjoyable description of the script supervisors's job, see Benedict Paxton-Crick, "Continuity 101 or: How I learned to Stop Worrying and Love the Scripty," http://www.thatcontinuityguy.com/continuity101/

is crucial role because continuity editing is based on the idea that when we cut from one angle to another, the basic information between the two shots will remain constant and thus we will focus on what is happening rather than that the angle has changed.

Because motion pictures are often shot with just one camera at a time (in order to provide the director with more possible camera angles while allowing the cinematographer to optimize the lighting for each setup) this further complicates the problem, as over the course of the several hours that it takes to shoot a single scene many things might normally change. Thus, keeping all factors constant is the first challenge of continuity editing. This includes light and color, as Ken Dancyger explains, "variations in light and color from shot to shot can break continuity. These elements are under the cameraperson's control, but when variations do exist between shots, they can particularly problematic for the editor."[16]

Rule #2. The 180º rule and the line of action

When the three-dimensional space of our existence is captured onto film or video it is flattened into two-dimensional space and part of the challenge of working in film is to establish this 3D space on a 2D plane. When a scene is shot, an inherent left-to-right relationship is built automatically from the objects within the frame and it is important, if the goal is to make the editing transparent, that this relationship be kept intact. In order to accomplish this Roger Crittenden suggests that "convention dictates that all subsequent camera positions should be restricted to the 180 degree arc established by the first shot. Avoiding crossing the line seems to give inexperienced film-makers their biggest problems, and it is extremely frustrating in the cutting room to be presented with shots which, although valid in themselves, cannot be intercut with the rest of the shot for that sequence."[17]



The camera can literally be placed anywhere on the side of the plane established by the master (or "first") shot.[18] Camera height does not matter—it can be above or below the characters or even directly on top of them—so long as their left to right relationship remains constant within the frame. The figure below provides a visual explanation of this concept (a shot-reverse shot configuration between camera positions 2 and 3).

This rule is important because we naturally expect the relationships of the things presented to us to remain constant. If the camera breaks the line of action (that is, the imaginary line that restricts the camera) and cuts to the other side of the line, it will appear as though the characters have switched places. In most situations this is considered bad form, although it is admissible if the cut is so blatant that we can understand that the position of the characters has remained constant.

For example, if two characters were standing against a nondescript black background and then we cut to an angle on the opposite side of the line of action against a similar black background (e.g. camera position 4 in the diagram above), the audience would be confused as it would appear that

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[16] Dancyger, p. 303.

[17] Roger Crittenden. *Film and Video Editing*, Blueprint, 1981, p. 41.

[18] The master need not be shot first, and sometimes it's shot last in order to not waste the actor's energy on a wide shot that the editor is going to cut out from right away, using the medium and close-up coverage for most of the scene.

the characters have swapped places. If, however, there are strong visual cues as to where the characters are, then a cut across the line of action becomes admissible, as our brain is able to place them within the space and understands that they were not meant to change places. Even when visual cues are weak we are often able to understand a cut across the line of action, but these cuts are jarring enough that they can take us out of the "reality" of the film and remind us that we are, in fact, watching a movie.

Sometimes breaking this rule is used to creative advantage, you can find examples of it in the television series *Breaking Bad* in which crossing the line is used to evoke the feeling and symbolize a change in the balance of power in a conversation.

Actors and moving cameras are not bound by these limitations: it is possible and quite acceptable to establish a new line at any time during a scene. This can be done simply by either using a camera move that crosses the line to establish a new one or by characters moving to create a new orientation.

Rule #3. Screen direction

An extension of the 180º rule is the concept of screen direction. When a character is moving left to right in one shot, we expect them to continue to move left to right in the next shot because this is how we perceive day-to-day life. In fact, all action should be matched between shots in order to be more convincing and to provide the editor with the greatest flexibility in cutting.

If a scene is shot with the 180º rule in mind and continuity is maintained then this should automatically happen when a character remains within the frame. But what happens when a character exits the frame? Because we understand that viewers expect screen direction to be maintained, if a character exits the right of the frame, we expect them to enter the left of the frame in the next shot. Roger Crittenden reminds us that "this remains the case whether they are going across the screen, towards camera or away. If we ignore this rule it will appear that the person has changed direction on the cut."[19] Just as with the 180º rule, though, this can be changed if a character changes direction while within the frame.

Rule #4. Cutting on the action

A huge rule in terms of cutting within a scene, cutting on the action allows editing to blend into the action occurring on the screen. Ken Dancyger writes, "Suppose that a character is crossing the room in one shot and is seated in the next. These two shots do not match because we haven't seen the character sit down. If we saw her sit down in the first shot and then saw her seated in the second, the two shots would be continuous. The critical factor here is using shots that match the action from one shot to the next."[20] It is the actual action within the shot that not only connects the two cuts but also distracts our eye from the fact that we are cutting to another angle. Because the screen direction has been maintained, our eye is able to track the motion continuously so we don't focus on the new surroundings but instead we follow the action. You can't, however, just cut on any action: "It is critical that the movement in a shot be distinct enough or important enough so that the cut can be unobtrusive. If the move is too subtle or faint, the cut can backfire. A cut is a promise of more

[19] Crittenden, p. 43.

[20] Dancyger, p. 296.

information or more dramatic insight to come. If the second shot is not important, viewers realize that the editor and director have misled them."[21]

Rule #5. 30° Rule

Not to be confused with the 180° rule, the 30° rule dictates that when cutting between shots (especially of a single subject), the difference in angle between the two shots should be equal or greater than 30 degrees in order for the cut to be effective. A cut that combines shots that are too similar will be upsetting to the viewer.

Water Murch observes, "What we do seem to have difficulty accepting are the kind of displacements that are neither subtle nor total ... [such as if] the new shot ... is different enough to signal that something has changed, but not different enough to make us re-evaluate its context. The displacement of the image is neither motion nor the change of context, and the collision of these two ideas produces a mental jarring —a jump—that is comparatively disturbing."[22] This problem can often be solved through the use of a cutaway to a reaction shot or a close-up of something else and then returning to the second shot. This, however, is not considered strict continuity editing.

Rule #6. Eye-line matching

Eye-line matching refers to editing shots that are aligned in manner to suggest that two characters in separate shots are looking at each other, and also applies to a character looking at an off-screen object. This is accomplished by matching the gaze vector (trajectory of a character's gaze). While not really a distinct rule (it's a logical extension of maintaining continuity between shots, the 180° rule, and screen direction) but it's so important we'll consider it as a distinct rule. Juxtaposing a shot of a character with a shot of what they are looking at will not cut smoothly unless the angle at which they're looking at the character or object matches the shot of the object or character itself. When a character looks off screen, the expectation of the audience is to see what the character is looking at. Eye-line match is important for shots within a scene in which characters are looking at each other.

The height/distance relationship between character and camera position/lens comes into play. The simplest case is shooting matching close-ups between two characters in a conversation, you'd match the shots by using the same lens and camera position relative to each of the actors, especially in terms of matching heights along their gaze vectors. So if one character is taller than the other, you would account for this in camera placement. Often the best match is not about exact geometry, but balancing between geometry and what the shots look like when cut together, which comes from experience and the specific needs of the story. Consider how eye-line matching is handled in the example in the "An example of classic continuity cutting" section later in this document and in the "Pass the Asparagus" scene in *American Beauty*.

Putting the rules in context

The rules of classic continuity editing are just a starting point, editing requires a willingness to experiment and explore the material. Emotion and story are your primary guides. What is a good edit or bad edit? This is highly subjective and contextual. Just as how poetry can break grammatical structure or even create new words, editing and media making is not a formulaic process by which you just check off a list and have a completed film. Far from it: there are always situations in

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[21] Dancyger, p. 297.

[22] Murch, p. 6.

filmmaking which require breaking from the rules in order to convey the story. In fact, the story is only one thing that is more important than the editing. Walter Murch offers a list of priorities to which an ideal cut should conform, "An ideal cut (for me) is one that satisfies all the following six criteria at once:

- it is true to the emotion of the moment;
- it advances the story;
- it occurs at a moment that is rhythmically interesting and 'right';
- it acknowledges what you might call 'eye-trace'—the concern with the location and movement of the audience's focus of interest within the frame;
- it respects 'planarity'—the grammar of three dimensions transposed by photography to two (the question of stage-line, etc.); and
- it respects the three-dimensional continuity of the actual space (where people are in the room and in relation to one another)."[23]

Murch places three-dimensional continuity at the bottom of his list. The demands of story, pace, and emotion are much more important than strict adherence to what literally happened on the set. In fact, this is one of the fundamental elements of editing: what shows up in the final product is hardly ever what "actually" happened, and the art of "cheating it" is one of the basic principles of motion image making.

So then, why does editing work?

Over the last one hundred years moving image makers have been evolving advanced rules from trial and error, but why do these work? Why is it that we can understand the jumps in space created by editing two clips together? First and foremost, our cognitive processing is well-adapted to following motion despite interruptions in information. But what about information across a true edit, something that was recorded at a different time and maybe even in a different location? Why is it that we can piece together these disparate images? Walter Murch points out "Nothing in our day-to-day experience seems to prepare us for such a thing. Instead, from the moment we get up in the morning until we close our eyes at night, the visual reality we perceive is a continuous stream of linked images."[24]

But this isn't quite true. When we look around ourselves we do not make continuous motion with our eyes, but instead our eyes stick even if our head continues to move. Thus, the fact that movies are made up mostly of a series of static images that are related in context through light, color, and content makes sense to us. This is also why dolly and crane shots appear so "cinematic" to our eyes —it is a perspective that we would never be able to reproduce with our human eyes because we are constantly focusing on objects and locking our viewpoint. It is only when we can fix our eyes steadily on a flattened screen that we can truly appreciate a smooth movement that is so foreign to our human experience.

Essentially editing is built around the same concept as our vision, that an experience should be broken down into multiple sections in order for us to better understand it. By maintaining elements

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[23] Murch, p. 18.

[24] Murch, pp. 5-6.

constant on the shooting location, we imitate life as we experience it in real-time, such that there are no great changes from moment to moment. We also take in whole rooms and then begin to break them down piece by piece, just as in a change from a wide shot to a closer shot establishes the space and then moves in for detail. And by distracting the eye with movement by cutting on the action we are similarly mimicking the eye, in that the motion between two separate images (for the eye, the motion is subliminally recorded but mentally ignored between two saccades) helps us to combine the two of them. In essence, all of this is to say that editing works because it functions the same way that we do. So the next time that you're watching a movie or video that tells some sort of story, try to see if you can spot all of the cuts and the rules being used in order to better understand why the editing works.

An example of classic continuity cutting

In "The Chrysanthemum and the Sword" episode of *Mad Men* there's an intimate conversation between Don Draper and Dr. Faye Miller in which they discus Draper's divorce and his child starting therapy:

In this establishing shot the context of the scene is established. The 180˚ rule is maintained even though Don Draper crosses the line, which is OK, the problem is when the cut crosses the line, if the camera moves or the actor moves across the line, that's OK.	
In a medium shot the dialog between the two characters is established and begins to get more intimate.	
The most intimate portion of the conversation is covered in tighter medium close-ups in which the other character dirties the frame to create a more intimate perspective. Note how the eye-line matching is handled in this and the reverse cut. The camera does not follow exactly the vector formed between the two character's gaze vector, however, the camera tilts up in the next shot but is in a relatively lower position in this shot.	
The scene continues with a shot-reverse shot structure. At all times the 180˚ rule and eye-line matches are maintained.	

Glossary of editing and shot description terminology

16x9. The aspect ratio of wide screen television (may be either standard or high definition), sometimes referred to as 1.77: 1 or 1.78:1.

180° Rule. Described in the text above.

30º Rule. Described in the text above.

360-degree pan. A panning shot which turns around a full circle. See Pan.

4x3.The aspect ratio of standard television and movies prior to the introduction of wide screen formats, sometimes referred to as the Academy ratio or 1.33: 1.

Aerial shot. An overhead shot, usually taken from a helicopter or airplane or some clever contraption involving wires. Can also refer to any high angle view of a subject taken from a crane or any high stationary position.

Angle of view. The angle of acceptance of a lens which depends on the focal length of the lens and the camera aperture (related to the size of the imaging device or film frame). Wide angle lenses have a wide angle of view (and a short focal length), telephoto lenses have a narrow angle of view (and a long focal length). See normal lens, wide angle lens, telephoto lens.

Angle. See Camera angle.

Appropriation. Taking media elements or stylistic techniques and using them for one's own ends, particularly when one is remixing them for the purpose of critique or reinterpretation.

Archival footage (a.k.a. stock footage). Film or video footage that can be used in other films (also described as library footage or file footage). The footage may be outtakes or previously used footage from other productions or shot specifically for sale as stock footage.

Aspect ratio. The ratio of the horizontal dimension to the vertical dimension of a frame. See 16x9, 4x3.

Assembly edit. The process of organizing and joining shots of video into a rough sequence as they might appear in the finished project.

Associational editing. The juxtaposition of shots in order to present contrast, comparisons, or ideas.

Asynchronous sound. Sound which is not synchronized with the image. See also nonsynchronous sound and synchronous sound.

Atmosphere. Extras who are staged to portray normal human traffic needed to add natural detail in a scene.

Avid. The Avid Media Composer was the first commercially viable non-linear editing system and became the industry-standard among Hollywood, broadcast, and public television editors. For a long time it was the only show in town, especially if you were doing film match-back for feature films. While it remains a dominant player, it shares the marketplace with competitors like Final Cut Pro X and Adobe Premiere Pro which are widely used among independent artists and filmmakers.

B-roll. Shots in a documentary that are used to illustrate what an interviewee is talking about or to cover breaks in an interview. Often used to refer to the footage that is shot for the purpose of using later as cut-away shots. See Cut-away shot.

Background music. See Non-diegesis music.

Beat. A beat is an event, decision, or discovery in a narrative that alters the way the protagonist pursues their goal.

Bin. In the film editing room of days gone by, a bin was a storage container lined with a cloth bag, into which cut film or sound stock could be arranged and hung. In a digital non-linear editor like Final Cut Pro or Adobe Premiere Pro, bins refer to folders which contain video clips, image files, sequences, and effects which can be selected for use during editing.

Bird's eye view. See Overhead shot.

Blocking. The grouping or arrangement of subjects or actors in a particular shot or the patterns of movement in a shot or scene.

Bridging shot. A shot used to cover a jump in time or place or some other form of discontinuity. Examples are the hands of a clock moving quickly, falling calendar pages, newspaper headlines, time-lapse, seasonal changes, etc.

Camera angle. The position of the camera in relation to the subject during filming. It may be straight (eye-level shot), tilted up at the subject (low-angle shot), tilted down at the subject (high-angle shot), or tilted off the vertical axis to either side (Dutch-angle shot).

Camera movement. Any movement of the camera during a shot, such as panning, tilting, dollying, tracking, etc.

Camera speed. The rate at which film is run through a motion picture camera in frames per second (fps). The normal speed for sound film recording is 24 fps. Video cameras that simulate film shooting at 24 fps use the same terms as film cameras to describe the camera speed. See also Overcrank and Undercrank.

Canted frame. See Dutch angle.

Clapper board. See Slate.

Close-up (CU). A close view of a person or object which features details isolated from their surroundings. A close-up of a person typically only shows their head. Close-ups can be used in juxtaposition with other close-up shots to guide the viewer through a process of inductive interpretation

in comparison to the more deductive strategies employed from wider frames. Close-ups can convey intimacy and are often used to emphasize the importance of a particular character at a particular moment. How and where close-ups occur in a sequence reveal not only the importance of characters and/or objects but the flow of the narrative. Close-ups are often used on parts of the body to designate imminent action (e.g. a hand pulling a gun out of a holster) to enhance the suspense. Close-ups are also used to emphasize objects with an important role in the development of the narrative.

Continuity. Described in the text above.

Coverage. Additional and more detailed shots which are intended to be intercut with a master shot or scene. Typically involves shots and their respective reverse-shots in a dialog scene, along with inserts and possibly a two-shot, and any additional shots that will help the editor construct the scene. See continuity.

Crane shot. A shot taken from a crane or large mechanical arm that moves the camera and its operator smoothly and noiselessly in any direction. See also Jib arm.

Cross-cutting. Cutting between different realms of action that may be occurring simultaneously or at different times. Cross-cutting is used to build suspense or to show the relationship between the different realms of action. Cross-cutting is often used somewhat incorrectly to refer to parallel editing.

Crossfade. The gradual mix of an incoming and outgoing sound. Typically a software effect that simulates the simultaneous manipulation of two or more mix console faders or a simple transition effect in an editing system.

Cut. The juxtaposition of two shots. A cut may transport the viewer from one action and time to another, giving the impression of rapid action or of disorientation if it cuts within the same scene and not matched. Depending on the nature of the cut and the images themselves, a cut will have different meanings.

Cutaway. A shot of an image or action in a film which is not part of the main action, sometimes used to cover breaks in a scene's continuity. In documentary often called "B-roll."

Cutting on action. Editing two shots at a point where the movement in the first one is not yet completed and where the movement in the second one has already begun, described in the text above.

Cutting. Another term for editing.

Dailies. In film production the first positive prints or video transfer made by the laboratory from the negative shot on the previous day. Also known as rushes. It can also mean on a video production the video shot the same day when it's watched at the end of the day.

Deep focus. A cinematographic technique which keeps objects in a shot clearly focused from close-up range to infinity. Involves the use of wide lenses and small apertures. Gregg Toland's work in *Citizen Kane* contains some wonderful examples of deep focus cinematography.

Depth of field. In a nutshell, the range in front of the camera lens within which objects appear in sharp focus. The size of the sensor used in the camera affects the depth-of-field. Smaller format cameras produce images with a lot of depth-of-field. On the other hand, large sensor cameras (e.g. D-SLRs and digital cinema cameras), due to their large sensor size, make it easier to produce images with shallow depth of field.

Diagonal. A shot where the camera pivots both horizontally and vertically.

Dialogue. Synchronous speech in a film or video with the speaker usually, but not always, visible.

Diegesis. The denotative material of a moving image narrative. According to Christian Metz it includes not only the narration itself, but also the fictional space and time dimension implied by the narrative. Typically refers to the internal world of the story (the diegesis) that the characters themselves experience and encounter including those not actually shown on the screen but referred to in some way within the story. Thus, film elements can be "diegetic" or "non-diegetic." The term is most often used in reference to sound, but can apply to other element in a film. For example, titles, subtitles, background music, and voice-over narration (with exceptions) are non-diegetic elements.

Diegetic music. Music from a source within the film scene, such as a "live" orchestra or a radio playing. See Non-diegetic music.

Diegetic sound. Sound originating from a source apparent within a film scene.

Dissolve (a.k.a. lap-dissolve). A transition between two cuts in which the first image gradually dissolves or fades out and is replaced by another which fades in over it. A dissolve is a soft transition (in comparison to a cut) that is often used to suggests a longer passage of time.

Dolly shot. A shot made from a moving dolly. See tracking shot.

Dolly. A mobile platform on wheels upon which a camera can be mounted to give it mobility.

Dollying. A tracking shot that follows the subject as it moves or the process of moving the dolly on the set. See tracking shot.

Dutch-angle. A tilted camera angle obliquely slanted to the frame's vertical axis so that the

horizontal frame line is not parallel to the horizon. Also called an oblique angle shot or a canted frame.

Dynamic montage. Editing intended to evoke strong emotional reactions. See Russian montage.

Edit master. The tape or digital file containing the master copy of a finished (edited) program.

Ellipsis. A term referring to periods of time left out of the narrative. The ellipsis is marked by an editing transition which, while it leaves out a section of the action, nonetheless signifies that something has been elided. In classic cinema language fades or dissolves are used to indicate a passage of time.

Environmental sound. General sounds at a low volume level coming from the action of a film which can be either synchronous or non-synchronous. See also Ambient sounds.

Establishing shot (a.k.a. Master shot). A camera shot, usually a long shot, which identifies, or establishes, the location of a scene.

Extreme close-up (XCU). A very close view of a person or object which features specific details. An extreme close-up of a person typically shows only their eyes or mouth (see below). The closer up the shot, the more the spectator's eye is directed by the camera to the specified reading and the process of interpreting the image along the the surrounding shots takes on a more directed, inductive approach on the part of the viewer.

Extreme long shot (XLS). A panoramic view of a scene, photographed from a great distance which could be as far as a quarter-mile away. Often used as an establishing or transition shot. As the camera moves further away from the subject the visual field lends itself to more complex, deductive reading, there is more information for the viewer to decode.

Eye line match. Editing shots that are aligned, or matched to suggest that two characters in separate shots are looking at each other. In classic cinema language, when a character looks into off-screen space the viewer expects to see what the character is looking at. Thus there will be a cut to show what is being looked at: object, view, another character, etc. Eyeline then refers to the trajectory of the looking eye. The eyeline match creates order and meaning in cinematic space. Another use of the eyeline match which is in the context of shot/reverse shots, also known as the reverse angle shots, which are widely used in dialogue scenes. The camera adopts the eyeline trajectory of the actor looking at the other actor as they speak, switching when needed to the other person's position in the same manner as the first.

Fade in. A cinematic punctuation or ellipse. The screen is black at the start, then gradually the image appears, brightening to full strength. See also fade out, dissolve, cut.

Fade out. A cinematic punctuation or ellipse. The image brightness gradually loses strength until the image disappears and the the frame is black. See fade in, dissolve, cut.

Fast motion. Shots photographed slower than the standard speed of 24 fps so that the action on the screen appears faster than normal when projected at standard speed. See Slow motion, Under-cranked, Over-cranked.

Final cut. The final version of a film in which additional changes are not anticipated (except to cut an alternative version).

Fine cut. A version of the film that is very close to completion, may still contain some temporary elements.

First-person shot. See point-of-view shot.

Fisheye lens. An extreme wide-angle lens that distorts the image so that straight lines appear rounded at the edges of the frame.

Flashback. A scene or sequence (sometime an entire motion picture), that is inserted into a sequence in present time and deals with the past. The flashback is the closest motion pictures come to a past tense.

Flashforward. A scene or sequence (sometime an entire motion picture), that is inserted into a sequence in present time and deals with the future. The flashforward is the closest motion pictures come to a future tense.

Focal length. The distance from the center of the lens to the point on the film plane where light rays meet in sharp focus. A wide-angle lens has a short focal length; a telephoto lens has a long focal length.

Focus in, focus out. A change in focus in which the image gradually comes into, or goes out of, focus, or the focus shifts from one object to another object.

Focus pull. The process of refocusing a lens during a shot in order to keep a subject in focus or to change the subject of attention. On a major motion picture production this is the responsibility of the 1st Assistant Camera person.

Focus. The sharpness or definition of an image or a range of distances from the camera will be acceptably sharp. It's possible to produce images with deep focus or shallow focus. See also deep focus, depth of field.

Foley. Creating sound effects by watching the picture and mimicking the action, often with props that do not exactly match the action but sound good. For example, walking on a bed of crushed stones in order to simulate walking on the ground.

Following shot. A shot in which the camera pans or travels to keep a moving figure or object within the frame.

Footage. Exposed film stock, recorded video tape, or digital video files.

Foreground music. See diegetic music.

Formula. A familiar plot or pattern of dramatic action which is often repeated or imitated in films, for example, in genres like gangster films and westerns.

Frame line. The line that designates the top of the frame. When using a boom microphone, the boom operator communicates with the camera operator to understand where the frame line is in order to avoid getting the boom in the shot.

Frame rate. The number of individual frames per second (fps), for example, traditional film is shot at 24fps while video is typically 30fps. A lower frame rate would not provide smooth motion. These standard frame-rates are an attempt to balance the need for smother motion (the higher the frame rate, the better) with storage efficiency (the lower the frame rate, the better).

Frame. 1. Film: An individual photograph recorded on motion picture film. The outside edges of a film image on the screen. 2. Video: One complete video image, or two video fields. There are 30 frames in one second of NTSC video. Also a single video or film image. See also Interlace, Field. 3. Lighting: A device, also called a gel frame, used to hold a large gel with a stud that can be mounted in a grip head.

Framing. The visual composition of a shot within the frame with the intention to elicit a specific readings. Size, volume, contrast, etc. within the frame speak as much as dialogue or music. So too do camera angles. For example, a high-angle extreme long shot of two characters may points to the vulnerability of the characters, while on the other hand a angle shots in medium close-up on a characters can emphasize their power.

Freeze-frame. A shot in which one frame is repeated in order to look like a still photograph when projected. Also called a freeze shot.

Full shot. A long shot that includes the human body "in full" within the frame.

Hand-held camera. A shot where a camera operator, rather than a tripod or a mechanical device, supports and moves the camera during filming.

High-angle shot (H/A). A shot where the camera is tilted down at the subject.

Hollywood montage. An editing device, often used in Hollywood films, which condenses time or summarizes events in a rapid collection of shots.

In-camera editing. Editing done within the camera itself by selectively starting and stopping the camera for each shot.

Insert. A shot of a detail edited into the main action of a scene. Also called an insert shot. See cut-away.

Intellectual montage. Editing intended to convey an abstract or intellectual concept by juxtaposing concrete images which suggest it, described in the text above.

Intercutting. See cross-cutting.

Interior monologue. See monologue.

J-cut. See L-cut.

Jump cut. The opposite of a match cut, an abrupt transition between shots which disrupts (often deliberately) the continuity of time or space within a scene. When cuts are made between shots that don't have at least a 30˚ angle change, they appear more as jumps rather than seamless cuts. Jean-Luc Godard's Breathless introduced a whole new way of thinking about jump cuts, which mark a transition in time and space but it jars the viewer's sensibilities.

Kuleshov effect. Forms the foundation of intellectual montage which according to Eisenstein is the highest form of montage, described in the text above.

L-Cut. An edit in which the in (or out) points of the video and audio are different. This is often done to have audio lead the video, in other words, you hear some one start to talk before you see them. In a J-cut, the sound of the next shot precedes the picture, and in an L-cut, the image changes but the audio continues. The names come from these patterns: when the audio cut comes first, it forms a J shape in the timeline and when the audio cut follows the picture cut, it forms an L shape in the timeline. Some old timers may use the term video or picture advance and audio advance to describe these edits.

Letterbox. Placing a wide screen image (e.g. 16x9, 1.85:1, or cinemascope) within a 4x3 frame by placing black bands at the top and bottom of the screen. Also refers to the process of placing wide images in a 16x9 frame. See Curtain.

Live action. Film action with living people and real things, rather than creating action by animation.

Location shooting. Filming in an actual setting with all sorts of noise problems, either outdoors or indoors, rather than in a quiet, controlled motion picture studio.

Long shot (LS). A shot that shows a fairly wide view of a subject within its setting. A long shot of a person typically includes his entire body and much of his surroundings.

Long take. A take (shot) of lengthy duration.

Loop. To perform looping, see looping.

Looping. The process of having actors dub lip-sync sound to scenes which have already been photographed. Also called ADR (automated dialog replacement) or additional dialog recording. The term looping refers to the old days when a film loop of the scene would be put on the projector with cue

marks on the film so the director and actor could see the scene while they were looping and multiple takes would be recorded.

Low-angle shot (L/A). A shot in which the camera is tilted up at the subject.

Masking. Blocking out part of an image, usually at the edges of the frame, thus altering the size or the shape of the frame projected on the screen. See Curtains, Letterbox.

Master shot. A single shot, usually a long shot or a full shot, which provides an overview of the action in a scene. This shots provides the editor something to fall back on when the other coverage is not working, thus it's also called the cover shot.

Match cut. The opposite of a jump cut within a scene. Match cuts make sure that there is a spatial-visual logic between the different camera positions within a scene so that where the camera moves to, and the angle of the camera, makes visual sense to the viewer. Eyeline matching is integral to match cuts, the first shot shows a character looking at something off-screen, the second shot shows what is being looked at. See matching action, eyeline match.

Match dissolve. A dissolve linking images which have similar content.

Match-image cut. A cut from one shot to another shot having an image with the same general configuration or location of a specific object as the prior shot.

Matching action. Cutting together different shots of an action on a common gesture or movement in order to make the action appear continuous on the screen. See continuity editing, match cut.

Medium shot (MS). A relatively close shot that shows part of a person or object in some detail. A medium shot of a person typically frames a character from the waist, hips or knees up (or down). The camera is distanced such that the character is seen in relation to their surroundings (e.g. in a dining room). In comparison to close-ups, it's a more open shot in terms of readability, showing considerably more of the surroundings in relation to the character or characters in the frame. Typically, characters will occupy half to two-thirds of the frame and the shot is commonly used in indoor sequences allowing for a reading of the relationship between characters. Compared to close-ups, the characters can be seen in relation to different planes (background, middle ground, and foreground) which serves to produce more information from which the viewer can derive meaning from the shot.

Mise en scène. A French term for "putting-in-the-scene," refers to what is colloquially known as "the set," however, more generally mise en scène refer to everything that is presented before the camera to produce intended effects, as opposed to editing.

Mix. To combine sound from two or more sources onto a single sound track, often performed in the field as part of the sound recording process. The post-production process of combining multiple audio tracks consisting of dialog, sound effects, ambience, and music into a finished mono, stereo or surround audio track. Also called sound mixing.

Monologue. A character speaking alone on screen or, without appearing to speak, articulating her or his thoughts in voice-over as an interior monologue.

Montage. The assembly of a sequence of shots that portray an action or ides through the use of many short shots in rapid succession, see Hollywood montage, also used as another term for editing.

MOS. Shooting image without recording sound. Lots of colorful stories have evolved in an attempt to explain the origin of this curious term: one story suggests that a famous Hollywood director from Germany used to say "mitt-out-sound" while other explanations are technically oriented, suggesting it means "minus optical stripe" (since some old sound recording systems recorded the audio signal as visual variations on light sensitive film), or it could simply mean "motion omit sound," but no one really knows the origin of this term. Which story do you prefer?

Moviola. A trade name for an old-style upright film editing machine.

Multiple exposure. See double exposure.

Multiple-image shot. A shot that includes two or more separately photographed images within the frame.

Narration. Production: Information or commentary spoken directly to the audience rather than indirectly through dialogue, often by an anonymous "voice of god" off-screen voice. See voice-over. Narratology: The process through which a story is told, as opposed to the story itself.

Narrative montage. Editing that constructs a story with images by arranging shots in a carefully sequenced order. See montage.

NLE (Non-Linear Editor). A video editing system characterized by digital storage and random access. Avid Media Composer, Final Cut Pro X, Adobe Premiere Pro, and Sony Vegas are examples of contemporary non-linear editors. Today we take it for granted, but at the dawn of the digital age the term came into use to differentiate digital editing from videotape machine-based editing systems in which the assembly process was linear in nature (edits were performed using two tape machines, one a source deck, and the other a record deck, and edit masters were assembled in a linear fashion, since you could not ripple edits once laid down on tape.

Non-diegetic music. Music in a film which does not have an apparent source within story world. Often called background music. See diegesis.

Non-diegetic sound. Sound in a film which does not have an apparent source within story world. See diegesis.

Non-fiction film. Any film that does not employ an invented plot or characters. Often used to describe films that are different from a documentary. See documentary.

Non-synchronous sound. Sound whose source is not apparent in a film scene or which is detached from its source in the scene; commonly called off-screen sound. See synchronous sound.

Oblique angle. See Dutch angle.

Off-line editing. Working with a low resolution version of your video on an inexpensive editing system. This allows you to make creative decisions at lower cost and with greater flexibility in comparison to working with an expensive, full-featured, high-performance editing system. Even though today we can edit full-quality video on a laptop, the distinction of off-line and on-line editing is sometimes used to differentiate editing from the final grading and mastering process. See on-line.

Off-screen sound. See non-synchronous sound.

Off-screen space. Space beyond the camera's field of view which nevertheless the audience is aware of.

On location. Also called shooting on location. See location shooting.

On-line editing. An editing system used to create a final video master. In the "old days" this involved access to an expensive suite that contained a special editing computer, video monitors, a video switcher, an audio mixer, a digital video effects (DVE) device, a character generator (for making titles), and several expensive video tape machines. Today you can online on a laptop and a good reference monitor, though on higher-budget projects the distinction between off-line and on-line is still made, since the final color grading, special effects work, and mastering might be done on higher-end computers.

Out-take. Any footage deleted from a film during editing; more specifically, a shot or scene that is removed from a film before the final cut.

Overcrank. To run film stock through the camera faster than the standard speed of 24 fps, producing slow motion on the screen when the film is projected at standard speed. Also used to describe the analogous effect in a video camera. See Undercrank.

Overhead shot. A shot photographed from directly overhead, a.k.a. bird's eye view.

Pan. Short for "panorama." 1. A shot where the camera pivots horizontally, turning from left to right or from right to left, a.k.a. panning shot. A panning shot is sometimes confused with a tracking shot. 2. Moving the camera from left to right or right to left around the imaginary vertical axis that runs through the camera.

Parallel action. See cross-cutting.

Parallel editing. See cross-cutting.

Post-production. The phase in a project that takes place after the production phase, or "after the production." Included in post-production is picture editing, sound editing, scoring, sound effects editing, sound design, motion graphics, titles, color grading, sound mix, mastering, etc.

Post-synchronized sound. Sound added to images after they have been photographed and assembled; sometimes called dubbing.

Production sound. The activity of recording and/or mixing sound on location during a shoot. Typically recorded to dedicated digital recorder (double system) or directly to the video camera (single system). See single system, double system.

Production still. A photograph taken of a scene for promotional purposes, not to be confused with a frame enlargement reproduced from actual film or video footage.

Production value. A nebulous term used to describe the visual quality or professional look of a movie. A significant yet invisible component of production value is the quality of the sound.

Pull back. 1. A tracking shot that moves away from the subject to reveal additional context. 2. To reduce the intensity of a filter or effect on a shot, e.g. "pull back on the blur."

Pull focus. See rack focus.

Rack focus (a.k.a. shift focus or focus pull). To change the focus of a lens during a shot in order to call attention to a specific object or person, the technique involves shallow depth of field to direct the attention of the viewer from one subject to another. Focus is "pulled," or changed, to shift the focus plane, sometimes rapidly.

Reaction shot. A shot that shows a character's reaction to what has occurred in the previous shot.

Reverse angle (R/A). A shot where the camera is placed opposite its position in the previous shot, "reversing" its view of the scene. In a dialogue scene, a shot of the second actor.

Rough cut. An early version of a film in which shots and sequences are roughly assembled but not yet finely edited together for the final cut.

Running time. The duration of a finished film.

Russian montage (a.k.a. soviet montage). A style of editing, typical of prominent Soviet filmmakers in the 1920s including Sergei Eisenstein which employs dynamic cutting techniques to evoke strong emotional, and even physical, reactions to film

images, variations on the approach were rekindled with the rise of MTV in the 1980s.

Scene. A complete unit of cinematic narration. A series of shots (or a single shot) that takes place in a single location encompassing a single action. Sometimes scene used interchangeably with sequence. See also shot.

Science-fiction film. A film genre characterized by plot and action involving scientific fantasy. Also called sci-fi film.

Score. Original music composed specifically for a film and usually recorded after the film has been edited.

Screen direction. An extension of the 180º rule, described in the text above.

Screen time. The time covered by the story in a film, as opposed to its running time.

Screenplay. A written document describing the action, dialogue, setting, and critical components of the camerawork, lighting, sound effects, and music of a motion picture. A screenplay always refers to a script written for a screen (movie, television, web, etc.) while a script may also apply to a theatre play, video game, radio program, etc.

Script. See screenplay.

Selective focus. See rack focus.

Selective sound. A sound track that selectively includes or deletes specific sounds.

Sequence. A unit of film composed of interrelated shots or scenes, usually leading up to a dramatic climax.

Setting. The location for a film or a scene in a film.

Shooting ratio. The amount of video footage shot compared to the length of the film's final cut.

Shooting script. The script that the director, cinematographer, actors, etc. use during the actual filming.

Shot. 1. A single, continuous run of the camera. The images recorded by the camera from the time the camera starts until the time it stops with a particular framing in relation to the subject. 2. A particular framing of a subject vis-à-vis the distance between the camera and the subject, commonly divided into seven categories: extreme close-up (XCU or ECU), close-up (CU), medium close-up (MCU), medium shot (MS), medium long shot (MLS), long shot (LS), extreme long shot (XLS or ELS). Shots can be subjective or objective: the closer the shot, the more subjective, the more the meaning is inscribed from within the shot. Conversely, the longer the distance of the shot the more objective it is, the greater the participation of the spectator or reader in deriving the meaning of the shot, as it suggests openness and the presence of someone looking. 3. The relative angle between the subject and camera, e.g. high-angle or low angle, each will evoke a different reading: from a low angle a subject may appear more menacing, while from a high-angle it may appear more vulnerable. 4. The terms one-, two-, and three-shots are used to describe shots with one, two, or three actors or subjects in the frame, usually of the medium close-up or medium shot variety.

Slow motion. Shots photographed faster than the standard recording speed so that the action on the screen appears to move slower than normal when shown at standard speed. See fast motion.

Smash cut. A jarring transition between two actions occurring at different times or places. Also called a shock cut.

Smash zoom. A fast jarring zoom into a specific detail or object in a scene.

SMPTE count down (pronounced "sim-tee"). Film leader with visual calibrations in one-second intervals used to lead into the film proper. Also called film leader. The classic number countdown you've probably seen many times is known as the "SMPTE count down" after the Society of Motion Picture and Television Engineers, the standards organization which developed the count down leader.

Soft focus. Blurring the sharpness of a film image with a special lens or a gauze over the lens in order to diffuse or "soften" hard edges; used especially for close-ups to make the human face look more sensual or glamorous.

Sound bridge. Sound which continues across two shots that depict action in different times or places, thus providing an audio transition between the two scenes.
Sound designer. A sound specialist responsible for the development of all sound materials in a film or video production and ultimately in charge of the entire sound production.

Sound effects (SFX). Any sound in a film that's not dialogue, narration, or music.

Soundtrack. The music contained in a film, or the entire audio portion of a film, including dialog, effects, and ambience.

Source music. See background music.

Special effects (FX). Shots which are unobtainable by straightforward filming techniques and may require special models, compositing, computer modeling, etc. The term also applies to most pyrotechnic and ballistic effects in a film.

Spotting. In scoring and sound effects editing the process of spotting is used to identify the specific scenes or points where music cues or effects cues take place.

Still. See Production still.

Stock footage. See archival footage.

Stop-motion. Filming real objects or live action by starting and stopping the camera, rather than by running the camera continuously, in order to create pixilation, trick-film effects, or time-lapse photography. Also called stop-action photography.

Storyboard. A series of drawings and captions (often resembling comics) that shows the shots and camera movements planned for a scene or scenes.

Subjective camera. 1. The camera used as to suggest the point of view of a particular character. See point-of-view shot. 2. Idiosyncratic camerawork that follows the maker's unique set of cinematic language rules.

Subtext. Implicit meaning in a film or video which lies beneath the "language" of the text.

Subtitle. A caption superimposed over picture, usually at the bottom of the frame. Most often used to identify a scene or to translate foreign language dialogue.

Superimposition. 1. To place one image over another. 2. To expose more than one image on film at the same time.

Sweetening. Enhancing the sound of a recording or particular sound effect with equalization or other signal processing techniques.

Swish pan. A shot in which the camera pans rapidly causing motion blur. Also called a whip pan or zip pan. It can be used as a very effective transition between shots and imply a fast pace of action. Also known as: swish pan, flick pan and zip pan.

Synchronization. A precise match between image and sound. Also called sync.

Synchronous sound (sync sound). 1. Recording sound in synchronization with recording image. Can be single or double system. In single system sound recording the camera records sound and image, with double system sound recording, the camera is used to record images and a separate sound recorder is used to record sound. 2. Sound whose source is apparent and matches the action in a scene. See non-synchronous sound.

Take. A shot resulting from one continuous run of the camera. Filmmakers generally shoot several "takes" of the same scene and then selects the best one during the editing phase. Rarely done in documentary.

Telephoto lens, a.k.a. long lens. A camera lens with a long focal length that magnifies the size of distant objects. See also wide angle lens, normal lens.

Temp dub. A preliminary mixing of dialogue, music, and sound effects, usually so that a first cut may be viewed with all the elements incorporated.

Three shot. A medium shot with three actors or subjects.

Tilt. A shot in which the camera pivots vertically, from top to bottom or from bottom to top.

Time-lapse. A type of cinematography or photography in which the camera photographs at time intervals the same scene over an extended period of time in order to speed up on the screen a lengthy process or action, for example, the growth of a field of corn, traffic on the Golden Gate Bridge, the construction of a building, etc.

Tracking shot. A shot in which the camera (mounted on a vehicle, dolly, or other moving support device) moves while shooting. Some people differentiate tracking shots as those following a subject as they move. Thus the method of support and characteristic of the movement determines the actual term used, for example, we call it a dolly shot when a dolly is used, we call it a tracking shot when tracks are laid down for a dolly to roll on, though not always true, for the most part, dolly, tracking, traveling, and trucking shots are synonymous. Depending on the speed, this shot has different connotations, if very slow it can have a serene or dream-like quality, on the other hand, if fast, it can be exciting, disorienting or frightening, depending on the context. A tracking shot can signify a character in motion and implicate the viewer into the narrative in that they identify with the character's point of view.

Traveling shot. See tracking shot.

Trucking shot. See Tracking shot.

Two shot. A medium shot featuring two actors or subjects.

Under-crank. To run film stock through the camera slower than the standard speed of 24 fps, producing fast motion on the screen when the film is projected at standard speed. Also used to describe the analogous effect in a video camera. See Over-crank.

Underscore. Music that provides atmospheric or emotional background to the primary narration or dialog.

Voice-over. The narrator's voice from an unseen narrator. Common in commercials, documentaries, and film noir (e.g. the first release of Blade Runner).

Walla. Background ambience or noises added to create the illusion of sound taking place outside of the main action in a motion picture.

Whip pan. See Swish pan.

Wide-angle lens. A short focal length lens that enables the camera to photograph a wider area than a normal lens. For 35mm films a wide-angle lens is 30mm or less. Also called a short lens.

Wild sound. Audio elements that are not recorded synchronously with the picture. It's a good idea to record wild sound wherever you go. These wild tracks of the environment can be used to build

ambient sound beds or fix audio problems in dialog when you need to fill gaps of empty track.

Window dub. A video tape or file with burned In timecode. Often used for preview, review, or transcription purposes, where the burn-in timecode window on the image makes it easily to visually identify particular frames of the video. Also used for previews when you don't want people to broadcast or share the material further, often used by stock footage houses to prevent use of their materials without licensing, but allowing you to place it in your program for editorial purposes.

Zip pan. See Swish pan.

Zoom shot. A shot made with a zoom lens, which makes the image appear closer (zoom in) or farther away (zoom out) by varying the focal length of the lens. Offers a very different quality than a tracking shot. See Tracking Shot.

Recommended viewing

The following films, videos, and music videos are recommended as objects of study as they provide particularly good examples of the concepts and techniques covered in these notes.

Life of an American Fireman (Edwin S. Porter, 1903)

The Great Train Robbery (Edwin S. Porter, 1903)

Intolerance (D. W. Griffith, 1916)

Strike (Sergei Eisenstein, 1924)

Entr'Acte (René Clair and Francis Picabia, 1924)

The Battleship Potemkin (Sergei Eisenstein, 1925), in particular the Odessa Steps sequence

Emak Bakia (Man Ray, 1926)

Fall of the Romanov Dynasty (Esfir Shub, a.k.a. Esther Shub, 1927), the first compilation film

October: Ten Days That Shook the World (Sergei Eisenstein, 1928)

Man with a Movie Camera (Dziga Vertov, 1929), encyclopedic use of cinematic techniques

Casablanca (Michael Curtiz, 1942), a particularly good example of classic Hollywood style

Meshes of the Afternoon (Maya Deren, 1943)

A Study in Choreography for Camera (Maya Deren, 1945)

Ritual in Transfigured Time (Maya Deren, 1945)

*Meditation on Violence (*Maya Deren, 1948)

The Third Man (Carol Reed, 1949)

Jazz Dance (Richard Leacock, 1954), poetic fusion of hand-held camera and movement

North by Northwest (Alfred Hitchcock, 1959), in particular the crop duster sequence

Pas de deux (Norman McLaren, 1968)

N/um Tchai: The Ceremonial Dance of the !Kung Bushmen (John Marshall, 1969)

A Clockwork Orange (Stanley Kubrick, 1971)

Don't Look Now (Nicolas Roeg, 1973)

The Conversation (Francis Ford Coppola, 1974)

Apocalypse Now (Francis Ford Coppola, 1979), in particular the opening and hotel room scenes

Raging Bull (Martin Scorsese, 1980)

Koyaanisqatsi (Godfrey Reggio, 1982)

Steps (Zbig Rybczynski, 1987), a clever homage to the Odessa steps sequence in *Battleship Potemkin*

The Untouchables (Brian De Palma,1987), includes a homage to the Odessa steps sequence

*The Unbearable Lightness of Being (*Philip Kaufman, 1988), particularly the invasion of Prague sequence

Me and Rubyfruit (Sadie Benning, 1989), expressive personal-essay video made w/ in-camera editing

Tongues Untied (Marlon Riggs, 1989)

Zentropa (Lars von Trier, 1991), fascinating use of real-projection

The Piano (Jane Campion, 1993), excellent fusion of cinematography, editing, and musical score

Chungking Express (Wong Kar Wai, 1994)

Heavenly Creatures (Peter Jackson, 1994)

Fallen Angels (Wong Kar Wai, 1995)

Se7en (David Fincher, 1995), title sequence

Cibo Matto: *Sugar Water* (Michel Gondry, 1996)

Madonna: *Ray of Light* (Jonas Åkerlund, 1998)

Dil Se (Mani Ratnam, 1998), especially the "train station encounter, train ride" sequence

The Matrix (Andy & Lana Wachowski, 1999)

American Beauty (Sam Mendes, 1999), classic cutting continuity is practiced to perfection

Crouching Tiger, Hidden Dragon (Ang Lee, 2000)

The Chemical Brothers: *Star Guitar* (Michel Gondry, 2002)
and *Making of Star Guitar* (Michel Gondry, 2002)

City of God (Fernando Meirelles & Kátia Lund, 2002), fast, high-energy editing

The Moebius Strip (Vincent Pluss, 2002)

Aaja Nachle (Anil Mehta, 2007)

The Diving Bell and the Butterfly (Julian Schnabel, 2007)

Mia Doi Todd: *Open Your Heart* (Michel Gondry, 2010)

Arcade Fire: *Sprawl II* (Mountains Beyond Mountains) (Vincent Morisse, 2010)

Pina (Wim Wenders, 2011)

Choros (Michael Langan and Terah Maher, 2011)

tUnE-yArDs: *Bizness* (Mimi Cave, 2011)

Beyoncé: *Run the World (Girls)* (Francis Lawrence, 2011)

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Norman McLaren works on the editing of the film *A Chairy Tale,* National Film Board, Canada, http://www3.nfb.ca/objan/lrg/Films/11246/11246_9.jpg

180° rule diagram by the author.

The cinématographe Lumière in projection mode, Archives Château Lumière, 1985, public domain.

Frame still from *The Life of an American Fireman,* Edison Films, 1903, public domain.

Ivan Mosjoukine, three juxtapositions, source unverified, presumed public domain.

Sergei Eisenstein in the editing room, source unverified, presumed public domain.

Frame still from *Battleship Potemkin* (Bronenosets Potyomkin, 1925), Ronald Grant Archive, public domain.

Frame stills from "The Chrysanthemum and the Sword," *Mad Men*, season 4, episode 5 (August 22, 2010), AMC Network Entertainment LLC, copyrighted material, used herein for educational purposes.

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