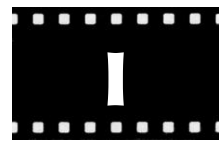


FILM WORKSHOP



Working in teams of 2 to 3 people, you are going to produce a short science film (10-15 minutes long). Over the next sessions we will work on the different stages from the original idea to the final presentation.

I strongly encourage each group to bring a laptop to all the sessions. This will enable you to work in comfortable conditions and use the software you choose rather than have to use the software available in the computer lab.

You'll have to present your film at the screening in the final session and answer a few questions on it.



"A science documentary is a film that portrays science to the public in a way that is engaging, entertaining, and educational. There are many different styles and ways to approach a documentary, but the important factor is that you are conveying factual information."

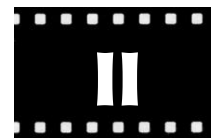
Jared Lipworth, producer of science programs at Thirteen/WNET

SESSION 1: PREVIOUS EXAMPLES – SALLE AUDIO-VISUEL

During this session you will watch some films from previous years. Your job is to note the positive and negative things about the films in order to get some idea of what you need to concentrate on when you come to make your own film. Your aim is to make something even better.

YOUR MISSION: elaborate your strategy, and list the positive things you want to emulate and the errors you want to avoid.

FILM WORKSHOP



SESSION 2: CHOOSING YOUR TOPIC – COMPUTER LAB

How do you decide what subject to work on? You probably have a general idea of what kind of topic interests you, but you need to fine-tune.

Get closer – a subject that is too general cannot be covered in the time your film will last.

Think outside the box – how can you be original? What will make your film different from a simple yet boring presentation of the facts?

What's new? – if you lack inspiration, why not try a science news site for some ideas. Most online newspapers have a science page, and there are also sites which aggregate science news from around the web:

www.sciencenews.org, www.sciencedaily.com, www.eurekalert.org, esciencenews.com

Still no idea? You might also find the spark of inspiration you need hidden in the lists at one of the following sites:

www.cracked.com, www.oddee.com, www.listverse.com

RESEARCHING YOUR TOPIC

Once you've chosen your topic for your film, you'll need to research it thoroughly. The aims are fourfold:

(1) Find out more about the topic, (2) Get some ideas on how to present it, (3) Track down some audio-visual resources that might be useful, and (4) Get the linguistic lowdown on the vocabulary in English, and its pronunciation

Suggestions for approaching the topic

Start with a general resource: the Wikipedia for example can be a good starting place for an introduction to the subject, and you can use the links in the left-hand column to flip between the French and English pages to check vocabulary. At this point it might be a good idea to **make a list of the keywords** for future use.

Look for specialist sites: there are probably sites devoted to your subject where you might find more detailed information, and get some ideas on possible angles of approach. Any of the major search engines will give you a list of possible resources. Bookmark the best for future reference.

Go deep: The deep (or invisible) web contains resources that are not always easily found via an ordinary search engine. Three useful tools in Science are:

- <http://scienceresearch.com/scienceresearch/>
- <http://www.scitopia.org/scitopia/>
- <http://worldwidescience.org/>

A picture is worth a thousand words: Don't forget to do some video and image searches. You might find that what is available will also influence your approach.

Think non-digital too: There might just be a good book somewhere on the subject!

Collect your notes

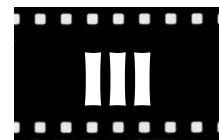
Throughout the research process you should be taking notes: vocabulary, web URLs, quotations and clippings, and perhaps ideas about how the final film might turn out to be (even if many ideas are eliminated or transformed later on).

There are two ways to do this, you can either use an online tool like Google docs, or Zoho, or Adobe Buzzword, or use a text editor or word processor and email the document to yourself.

YOUR MISSION: By the end of this session you should have a starting document and some ideas to work from! Save it somewhere where you won't lose it.

You should also hand in a short paragraph telling me (a) who is working together, (b) what your chosen topic is, and (c) how far you got in your research.

FILM WORKSHOP



SESSION 3: PREPRODUCTION, the art of good PLANNING

Pre-production – this is the planning stage, and so at this point any text editor or word processor will do the trick, but you may wish to organize things in another way, so here are a couple of suggestions.

SCRIPTWRITING TOOLS	CELTX (Freeware) www.celtx.com This is a dedicated tool for all the planning stages of a film, and has automatic script formatting.
	SCRIPPED (free online scriptwriting tool) www.scripped.com
NOTETAKING	EVERNOTE (Freeware version) www.evernote.com Available in desktop or online versions, this allows you to gather all sorts of information, and despite not being specifically aimed at pre-production, could be used for the planning stage
	UBERNOTE www.ubernote.com Online only
MINDMAPPING	XMIND (free version) www.xmind.net Great software for brainstorming. You can link all your documents (text, image etc.) to a visual representation of your project

INT. COFFEE SHOP - NIGHT

MAX stirs cream into his coffee. Then he pulls out the Journal.

A phone continues to RING.

In the clouds of the Lancet-Percy ad - in The Journal Max writes down the two hundred and sixteen digit number. He studies it, examines it, draws on it, tries to figure out what it is.

MAX (V.O.)
Saturday? Dark outside. There was a moment there...when, I don't know...when I didn't exist. What? What?

SLUG LINE or SCENE HEADING

ACTION or DESCRIPTION

SFX

CHARACTER

DIALOGUE

Formatting rules

Planning and writing the script

You may want to brainstorm first to decide what angle you should adopt. Will you use a TV magazine approach, a documentary report, a tutorial, a drama...? What will make your film unique and original? As a general rule one page of a script represents a minute of film, so you'll be looking to write around 10 pages' worth of script.

If you have a clear idea for a particular visual effect (VFX), shot type, or transition you can make a note of it, but it might be too early for that.

Read the document entitled *The documentary and the script* (annex 1)

Make sure you understand everything. Use a dictionary if necessary, and/or ask questions where needed.

YOUR MISSION: each team should send a more detailed description of the project.

SESSION 4: SOME FILM THEORY

Before you go into production it can be useful to learn a bit about the language of film, and how the choices you make at each stage can influence the final result.

First **watch the video** (9m29) at least once. Pause & rewind over things you find interesting. Take notes, and check the vocabulary, if there are terms you don't understand.

Films are made up of SHOTS, each of which has meaning, and the relationship between shots adds additional meaning.

Shots are carefully composed – study some movie stills for some examples of the *rule of thirds*

Think about zooms and angles, and how they can change our perception of a scene. Furthermore, will the camera be still, or will it move?

Think about the BACKGROUND. We often forget to observe it closely as we look through a lens because we concentrate on the main subject. The surroundings are as important as the point of interest.

Think about RHYTHM. How long should the camera stay on one thing? How long can a single shot hold the viewers' interest?

TRANSITIONS:

Most of the transitions we make in life—from place to place, or time to time— are imperceptible because we are preoccupied and can drive or walk automatically. Stories either replicate this by hiding the seams between sequences or, when necessary, by indicating or emphasizing them, to draw attention to time having passed. An action match cut between a woman drinking her morning fruit juice and a beer drinker raising his glass in a smoky dive minimizes the scene shift by focusing attention on the act of drinking. A dissolve from one scene to the other indicates (in rather dated screen language) “and time passed.” A simple cut from one place to the next invites the audience to fill in the blank. However, a scene of a teenager singing along to the car radio during a long, boring drive, followed by flash images of a truck, screeching tires, and the teenager yanking desperately at the steering wheel, is intentionally a series of shock transitions. It replicates the violent change we go through when taken nastily by surprise. Sound can be a transitional device. Hearing a conversation over an empty landscape can draw us forward into the next scene (of two campers in their tent). Cutting to a shot of a cityscape while the bird song from the campsite is still fading out gives the feeling of being confronted with a change of location while the mind and heart lag behind in the woodland. Both these transitional devices imply an emotional point of view. All transitions are in fact narrative devices, ways of handling the necessity of moving, montage fashion, between discontinuous time and space. Each implies an attitude or point of view, either on the part of characters or the Storyteller.

From Rabiger, M. *Directing the Documentary*, Focal Press 2004

Hold a group discussion to examine your options for creating video footage.

Live action – many mobile phones and digital cameras allow you to film scenes if you don't have a camcorder, and you can also use a webcam if the resolution is sufficiently high. Bear in mind if you use a phone that you should hold it in landscape mode.

Animation – there are lots of non-free programs you can use on a trial basis, or you can use something such as Pencil or Synfig (2D) or Muvizu or Xtranormal (3D)

Online sites like tvinima or goanimate also allow you to produce footage. You will still need to add your own narration and dialogues. Synthetic voices are not acceptable.

YOUR MISSION: Make progress, and get that final draft finished ASAP. If you want your teacher to re-read your script you have 10 days from now in which to send it by e-mail.

FILM WORKSHOP



SESSION 5: STILLS & KEN BURNS TECHNIQUE

Probably one of the most famous documentary makers ever, Ken Burns' name has come to be associated with a technique for animating still images.

Have a look at all the information about him on the PBS site at: <http://www.pbs.org/kenburns/>

In some circumstances it is impossible to shoot footage or obtain video of things such as historical events for example. However, there are often still images available, and you can use the pan and zoom, or Ken Burns' effect, to produce video from them. This enables you to focus on something in particular in a picture, or successively focus on different parts.

Software to do this can be expensive, and it is a feature that only exists in higher end video editing software. However, there is a program called **Digital Clip Factory** (<http://www.dunesmm.nl/digitalclipfactory/>) which enables you to do this easily with still images and output a video file.



You'll need high quality images if you want to pan and zoom, so if you search using Google make sure you opt for the *large* image size.

Another great source of free to use images is at flickr.com. Use their advanced search to select only photos published under a creative commons licence.

If you need to edit images free solutions include paint.net or the Gimp, or the online tool pixlr.com which boasts some fairly advanced features.

YOUR MISSION: find images related to your topic and test the Ken Burns effect to see if it is useful in your project.

SESSION 6: SOUNDS AND AUDACITY

Remember session 1? Getting the sound right is so complicated, but you can go a long way to making it nearly perfect.

There are essentially three types of sound which you will use: music, sound effects and voices. In the case of a documentary, there are two types of voice; dialogue and narration.

MUSIC – you can find Creative Commons music at Jamendo or Dogmazic.

SOUND EFFECTS – if you don't want to play around recording your own, many sites exist where you can download all sorts of SFX. Try visiting soundjay, soundbible or the freesound project

VOICES – this is probably the most delicate thing to get right, and which is why it is important to optimize the recording conditions. Narration should be recorded separately in a quiet room, leaving a few seconds of silence at the beginning or the end for your noise profile. If you have to film outside beware of wind, traffic and other noises, and think carefully about placing additional recording devices closer to where the speakers are standing. You can use a mobile phone, a clip on mike (if you look in the right place you can find one for about 5 or 6 euros) or a strategically placed free standing microphone. Make sure that your recordings are loud enough to avoid amplifying noise in post-processing, but not too loud so as to avoid clipping.

You'll need to use Audacity, or some other software such as The Levelator to clean up the voice recordings.

Noise reduction is an obligatory 2 step process where you first sample some silence to get a profile of the noise, and then run the noise reduction on the whole file.

You can improve the vocal quality by using a graphic **equalizer**. As a guide, the frequencies of 3-4KHz, 5KHz & 10KHz should be increased, and 200KHz should be reduced. However, you may find it useful to experiment. You can use VST plugins with Audacity, and both the Karma FX and Kjaerhus suites contain an equalizer with a vocal preset.

If you find the vocals contain lots of sibilants (s, sh, ch etc.) which seem to hiss you can use a **de-esser** to reduce the piercing sounds.

You may also want to use a bit of **reverb** to make the vocals sound as though they are in a particular space (small room, large hall, cave etc.)

MIXING

When you come to editing the mix, it is advisable to use an editor which allows you to use several audio tracks so that you can modulate the levels according to the presence or absence of vocals. Besides using a video envelope (a curve that controls the volume) some applications allow you to control the panning, so that you can have for example a car that passes and the sound will shift from one speaker to the other as it moves across the screen.

Next week we will examine your software options

YOUR MISSION: Think about the sound effects and music you'll need. See if you can find what you need online.

FILM WORKSHOP



SESSION 7: EDITING SOFTWARE + VFX

Once you have all your video and audio footage (except the narration you will add later, it is time to start putting it together. Beware, this can take time.

Your first job is to choose what software to use. One of the important things to bear in mind when choosing is the ability to do multiple tracks. In the following table of recommended tools this function is marked by an asterisk.

NLEs (Non-linear Editors)

	WINDOWS	MAC
Trial	Adobe Première (30 days) Sony Vegas (30 days) Cyberlink Powerdirector (30 days) Pinnacle studio (15 days) Corel Video Studio (30 days) Magix video deluxe (30 days)	Adobe Première (30 days)
Free	ZS4 http://www.zs4.net/ * Moviemaker (pre-installed) Lightworks * (beta, hard to learn) Pinnacle videospin	ZS4 http://www.zs4.net/ * Imovie (pre-installed)

A note about transitions: Most software comes with a mind-boggling number of transitions available. However, if you think very carefully, professional filmmakers do not use funny wipes and exploding dissolves unless they have very good reason to do so. Therefore, if you don't want your film to look like an ugly and extremely amateur home video, avoid them like the plague!

Filters & Effects: some of these, such as compositing or greenscreening can be accomplished in many video editors. Have a good look at what can be done. Often a carefully chosen filter will improve an image and enhance the mood. You might also want to add other visual effects, see below for a list of possible tools.

VFX

	WINDOWS	MAC
Trial	Adobe After Effects (30 days) Particle Illusion (30 days) Red Giant Magic Bullet looks (watermark)	Adobe After Effects (30 days) Particle Illusion (30 days) Red Giant Magic Bullet looks (watermark)
Free	WAX http://www.debugmode.com/wax/ CINEFX http://www.cinefx.org/cinefx/	CINEFX http://www.cinefx.org/cinefx/

YOUR MISSION: Investigate the editing software and make your choices based on your project.

SESSION 8: NARRATION

From a technical point of view voiceover narration has one major advantage over dialogue and onscreen presentation. It can be recorded separately and in better conditions than those you normally encounter on location.

The following information is from the book *Documentary Storytelling - Making Stronger and More Dramatic Nonfiction Films* by Sheila Curran Bernard

In general, if you are using narration to seam together visual images, interviews, and perhaps archival material, the final narration (or voice-over) won't come together until you're editing.

You may assemble other elements first, such as filmed footage, archival material, or interview bites, and then rough out narraion as needed to help move the story along.

WRITING TO PICTURE

The camera pans across a sepia-toned still photograph of a wagon train on a dusty road. To the side, an old farmer stands, watching as the wagons pass. The shot ends on a hand-painted sign tacked to the back of one of the last wagons: Califna or Bust. As you watch this shot on screen, which line of narration would be more useful to you?

- The wagons set out along the dusty road.
- On August 4th they set out; four men, five women, and eight children determined to find gold.

Which narration breathes life into the photograph, and which just states the obvious? **Narration should add information to picture**, not simply describe it. Above all, narration should advance the story.

Alan Rosenthal suggests you work from a **shot list** which means making a list of the shots and their duration once the video footage has been assembled. Then you can try to find the best way to say something within the time the shot lasts.

In fact, one of the most disconcerting things for a writer is to realize that very little of the narration is remembered ten minutes after the film has finished. If the broad details of the message are remembered, that's enough. Having said that, it becomes obvious why we avoid lists and statistics. They rarely make an impact at the time and are forgotten in five seconds.

Your narration should be sparse and compact. Say enough to make the point, then shut up. You may think that piling detail on detail will improve the film, but that's rarely the case. More than likely you are just turning off the viewer by the sheer volume of your words. Remember that the picture needs room to breathe and that the viewer needs space and time to digest and reflect on the narration.

YOUR MISSION: Carry on with your editing work and get the narration planned and recorded by next time.

SESSION 9: TITLES, SUBTITLES & AUDIO MIXING

The final stages in the editing process are about polish.

AUDIO MIXING: this is the hardest part to get right, but doing so makes an enormous difference.

If your NLE does not support multiple tracks you can export the sound from the raw footage for the whole film as a single file and then use it in dedicated multitrack audio software such as Audacity or the online gem Myna (<http://www.aviary.com/tools/myna>) to add music and sound effects and get the levels just right.

Make sure you wear headphones and listen very carefully when you mix the audio. There should be no silences unless they are intentionally put there for effect.

SUBTITLES: these can be either incrustated or as a separate srt file. Any NLE that has at least two video tracks should allow you to add French subtitles. Try to make them legible by choosing a neutral colour and adding an outline or drop shadow so that they can be seen regardless of what is happening in the image. If you can't do incrustation, then you can use a tool such as the open source *Jubler* which has the enormous advantage of showing the waveforms so that you can place the subtitles exactly where they should be.

TITLES: another important finishing touch, the titles and the credits can often be done in your editing software. One free solution is http://www.electrichappiness.com/VideoTagger_Home.jsp

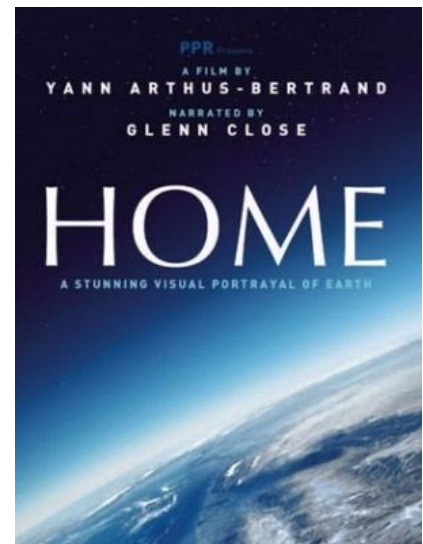
Don't make the opening titles too long. In today's world of short attention spans and multiple distractions you must capture your viewers and draw them into the subject matter as soon as you can. You can allocate more time to your credits.

Don't put all your efforts into the titles, or the visual effects for that matter. They can enhance a good film, but not improve a bad one.

Choose the right font – one that suits the subject for the opening titles, and if it is more suited to titles than body text, use a simpler (serif or sans-serif) supporting font for the credits at the end.

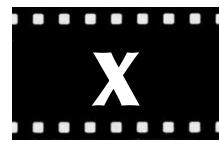
OTHER TRIMMINGS: If you have time you might like to make a poster for your film. It contributes to creating a visual identity, so you need to find an element from the film that encapsulates the content. This still will form the basic element of your poster.

You can produce a poster using any graphics software, and there are even some applications such as posterforge (<http://www.ronyasoft.com/products/poster-forge/index.html>) or the online generator at <http://bighugelabs.com/poster.php> which have special templates for a movie poster.



YOUR MISSION: put the finishing touches to your film ready for next sessions screening

FILM WORKSHOP



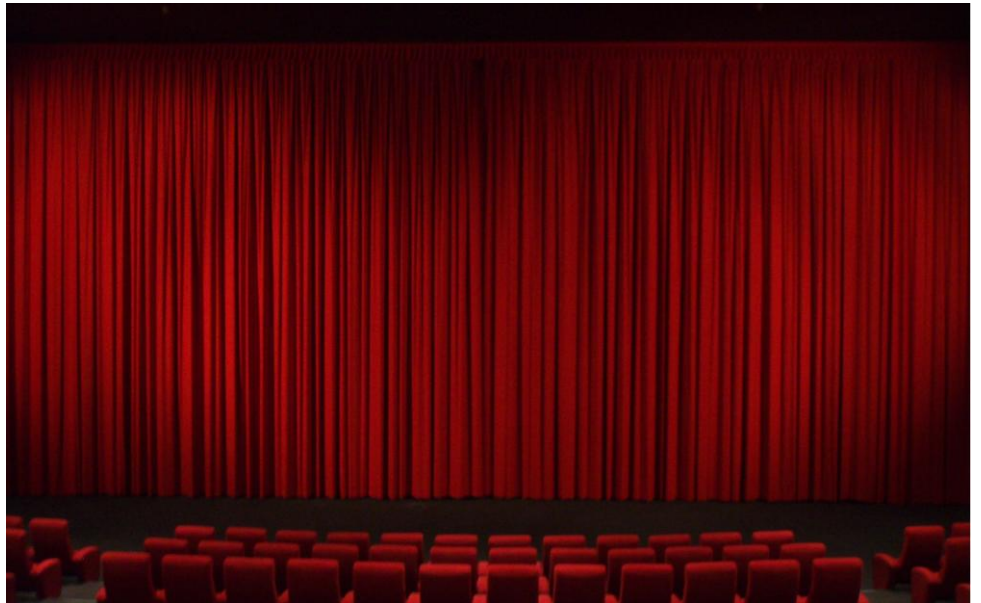
SESSION 10: SCREENING

In this session you will present your film.

Each group member should say a few words about the project (two minutes each) in English and without detailed notes.

The film will then be projected.

Expect to answer a couple of questions after the film.



Below is a rectangle of A6 format. This is the maximum size of any notes you bring to the projection. Generally speaking, a spontaneous presentation is often more successful than something you've tried too hard to prepare.



ANNEX 1: The documentary and the script

Adapted from, Alan Rosenthal, *Writing, Directing, and Producing Documentary Films and Videos*, 4th ed. (Southern Illinois University Press, 2007).

So why use a script? Because using a script is usually the most logical and helpful way to make a film. I think of the script as something akin to the architect's plan. Buildings can be erected without master designs and working drawings, and in the same way, all sorts of films can be made without scripts, but there are a myriad reasons in both cases for writing down and formalizing the creative ideas. To put it very simply, a decent script makes the task of filmmaking a hundred times easier.

Why is that? How does the script help us, and what are its prime functions?

1. The script is an organizing and structural tool, a reference and a guide that helps everyone involved in the production.
2. The script communicates the idea of the film to everyone concerned with the production, and it tries to do this clearly, simply, and imaginatively. The script helps everyone understand what the film is about and where it is going. The script is particularly vital to the sponsor, or TV commissioning editor, as it relates in detail what the film is about and whether what has been loosely discussed in conference has been translated into acceptable film ideas.
3. The script is also essential to both the cameraperson and the director. It should convey to the cameraperson a great deal about the mood, action, and problems of the camera work. It should also help the director define the approach and the progress of the film, its inherent logic and its continuity.
4. The script is also an essential item for the rest of the production team because, apart from conveying the story, it also helps the crew answer a series of questions:
 - What is the appropriate budget for the film?
 - How many locations and how many days of shooting are needed?
 - What lighting will be required?
 - Will there be any special effects?
 - Will archive material be needed?
 - Are special cameras or lenses called for because of a particular scene?
5. The script also guides the editor, showing the proposed structure of the film and the way the sequences will fit together. In practice, the editor may read the original script but will eventually work from a slightly different document, that is, the editing script. (For reasons discussed later, the editing script may differ radically from the original script.)

Implicit in the above comments is the idea that the script is a working document and not a literary document. It is the basis from which plans can be made and action carried out. It might incidentally be a superb piece of prose (unusual!), but that is not the prime requisite. The first object of the script is to show what the film is about and suggest how its main idea can be carried out in the best possible way.

I have suggested the analogy of an architect's plan, but the comparison works only to a certain point. A script is a guide or first battle plan, the best device for getting the film under way on the basis of the information known at the time of writing. However, in reality it is only a best-guess guide to uncharted territory. It states where you want to go and suggests what seems, initially, the best route.

But the actual experience of the filming may cause you to change many ideas. For example, planned sequences may just not work out. The marvelous person who seemed so alive and forthcoming during the research interview may turn out to be flat and useless on camera. The vaunted pageant, which sounded so good when described to you and which you thought would provide the climax to the film, may turn out to be abysmally dull.

Or new possibilities may be discovered while shooting. Strange characters may turn up, and marvelous, unexpected events may happen even in the best-planned film. In each case, you may need to drastically revise your thinking about both the film and the script. You may find yourself reevaluating sequences, throwing some away, adding others, and even reordering some of the main acts.

Another frequent problem is that theory does not always match reality. The script that looked so appealing on paper may not work when the material is assembled. You may find, for example, that the whole rhythm of the film is wrong or that it is overloaded with information. At that point, the script must be adjusted, and again, sequences may have to be dropped, cut, or reordered. In most cases, this can be done relatively easily, and the script can be altered to accommodate the changes without damaging the essential structure and message of the film.

Stages of the script

The idea is the sharp concept, the *raison d'être*, that underlines the whole film structure.

The treatment, or outline is basically a brief sketch. It suggests an approach and tells the overall story of the film. Its typical aim is to clarify the purpose and progression of the film with the funding agency.

The shooting script is the approved master plan. It usually has a fairly full description of all the visual sequences and an accompanying outline of the ideas to be discussed in the sequence or some tentative narration. As its name indicates, this script also suggests to the director what to shoot and will be used to make a daily shooting plan and a proper budget. As mentioned earlier, it also helps the cameraperson determine what special camera and lighting provisions have to be made.

The editing script (visuals) may be either the same as the shooting script or something radically different. Normally, the director sits down with the editor after filming to review the material already shot (called "rushes," or "dailies"). If the director decides to drop, add, or modify a sequence, he or she will probably draw up a new script or set of notes to guide the editor. This is what is called the editing script. What must be emphasized is that during editing, the rushes, not theory, must guide the film, and this material may necessitate many departures from the original script. Hence, the occasional necessity to formulate a special editing script.

The narration script. This is not really a script but rather the final narration text that has to be read over the visuals. In most current-event or biographical documentaries, the shooting script contains only a rough guide to the main ideas of the film. The writing of the exact narration is usually left until almost the end of the process, when all the visual material has been locked into place. However, even in films where a full narration has been written at an early stage, it is not unusual to see major changes being made in editing, necessitating a new narration script when the editing is almost complete. (Recording and laying in the narration track is one of the last stages in the editing process.)