This book sets out the fundamentals of filmmaking, explores academic discourse on digital documentaries and online distribution, and considers the place of this discourse in the evolving academic landscape. The book walks its readers through the intellectual and practical processes of creating digital media and documentary projects. It is further equipped with video elements, supplementing specific chapters and providing brief and accessible introductions to the key components of the filmmaking process.

This will be a valuable resource to humanist scholars and students seeking to embrace new media production and the digital landscape, and to those researchers interested in using means beyond the written word to disseminate their work. It constitutes a welcome contribution to the burgeoning field of digital humanities, as the first practical guide of its kind designed to facilitate humanist interactions with digital filmmaking, and to empower scholars and students alike to create and distribute new media audio-visual artefacts.

This is the author-approved edition of this Open Access title. As with all Open Book publications, this entire book is available to read for free on the publisher's website. Printed and digital editions, together with supplementary digital material, can also be found at https://www.openbookpublishers.com.
Light is important. To some, it may even be the single most important aspect of the filmmaking process, something to be laboured over in the name of aesthetic beauty or intellectual symbolism. For others, it is a variable that requires only as much input or direction as is required to produce a piece of functional, usable footage. In raw moments (those that require no staging), lighting and composition often do not matter. The footage captured on 9/11 is not made any less effective by its lack of controlled lighting. Real moments, captured fleetingly, which cannot be repeated, have an inherent magic which transcends aesthetic beauty. But when a documentary-maker pre-plans a specific scene, be it a sit-down interview or a re-enactment, an audience may expect a more thorough and considered approach to the visual language (and use of light in particular) that is employed. Shot composition can play a large part in this, but so too can the effective use of lighting.

This chapter will provide a foundation designed to facilitate your own experimentations with light. It will provide you with the core knowledge you need to begin understanding light on your own terms, as well as the key knowledge you need to light your shots pragmatically, and the building blocks to begin experimenting with it in more imaginative ways.

Core Rules

Your camera is a light-sensitive device. The more light that enters your camera, the less your device will need to compensate by opening its aperture or increasing its ISO setting. Whilst adjusting the f-stop on a camera or increasing the ISO setting can produce desirable results, they can also alter the image you are capturing in undesirable ways. For example, opening the aperture (reducing the value of the f-stop) will
allow more light to enter the camera, but it will also create an image with increasingly shallow focus. This may be the desired effect in some instances, but certainly not all.

The ISO will increase your camera’s sensitivity to the light already entering it, but it will also add noise (visual artefacts) to your footage. Depending upon the low-light capability of your camera, this can reduce your image quality a marginal amount — or a very significant amount. Older, entry-level DSLRs and older or inexpensive modern smartphones, for example, produce very noisy, poor-quality images when the ISO setting is pushed too high. As a rule, endeavour to keep your ISO as low as possible, only pushing it higher when conditions necessitate it.

Whilst circumstances will not always allow it, additional light sources can be used to add light to the principal subject within your frame. If you are interviewing a subject, additional light can be used to bring out the details in their face. A well-lit subject will draw your audience’s attention to it. This can be accomplished by ensuring that your subject is always facing your main light source. LED light panels are ideal for this task.

Remember: increasing the size of your aperture (decreasing your f-stop value) will let more light into your camera, but create a shallower depth of focus. Increasing the ISO on your camera will make it more sensitive to light, but the higher you set the ISO, the more noise will be introduced to your footage. Depending upon your camera, there will come a point when footage quality degrades noticeably or becomes unusable. Use additional light sources to highlight your subject. Ensure that your subject is angled towards your main light source.

**Hard Light and Soft Light**

There are two different types of light that are available to you. Hard light (which comes from a single, bright source) creates hard, angular shadows; soft light (which is emitted from a diffused source) creates soft, gentle shadows which wrap themselves around surfaces.

Hard light is a form of bright, unfiltered light. A hard light source, such as the midday sun or a naked filament light bulb, will project a lot of light onto an object, hitting one surface or side, and create angular
shadows. This form of light will, on a human face, create areas of darkness which can make the person’s features appear harder or more haggard. Shadows may be created around the eyes, for example, or the nose might project a large shadow across much of their face. If you wish to create a sense of menace or imply a negative emotional state, such effects might well be desirable. When working with subjects in the field on a bright, relatively cloudless day, you will need to be prepared to utilise (or compensate for) hard shadows.

Soft light, on the other hand, tends to come from a diffused source and, as a result, the light is more likely to wrap itself around a subject rather than create a stark array of shadows. Soft lighting can bring out nuance and subtlety in facial features, presenting an image that is less harsh in its appearance. Soft light can be created by taking a hard light source (such as a light bulb) and bouncing the light off another surface before it hits your subject. A light reflector, a relatively inexpensive piece of equipment, can be used to achieve this. Hard light can also be filtered through a diffuser, another inexpensive piece of equipment, which will turn it into a soft light source. Whereas hard light comes from a single, powerful source, soft light comes from many different points at the same time, illuminating an object or subject from different angles simultaneously — as a result, shadows are far less pronounced. On a cloudy day, the sun’s light is dissipated across the clouds, transforming hard light into soft light.

For dramatic productions, the importance of lighting can hardly be understated. Learning to paint a scene in colour and shadow is an art form unto itself. You need to understand that light remains important, even if the need to control it is typically much reduced compared to, say, a stage play.¹

A number of documentaries have greatly benefited from careful lighting. Confessions of a Superhero features an admirable mix of fly-on-the-wall reportage combined with carefully lit interviews. In the ‘real world’ scenes, the lighting is situational. On set, however, it is carefully managed, providing a controlled (and very beautiful) setting in which

the films’ subjects can reflect upon their lives. The controlled lighting relates to some aspect of the subjects’ inner thoughts or their life journey. Jennifer ‘Wonder Woman’ Wegner, for instance, is cast in soft light which gently wraps around her; Maxwell ‘Batman’ Allen, on the other hand, has hard light (and deep, angular shadows) projected onto him. The difference in the way this pair is lit speaks to the themes each represents within the film. Wegner is depicted as forthright, honest, and kind, and the lighting in her interviews reflects that. Allen, however, is depicted as a much more complicated character, ferocious when angered and liberal with the truth; an enigma who is one part kind and relatable, one part dangerous and deluded. The use of lighting for both subjects is thus coded with meaning. Gentle and abrasive, soft and hard; light and subject are unified.²

Even in real-world settings, it would not be unusual for a filmmaker to supplement the light that they find. An LED light attached to the top of your camera can provide enough light to illuminate a subject’s face when shooting in the field. Typically, you will position your interview subjects so they stand in front of an interesting background; rarely, however, will the available light complement your choice precisely. A simple LED light panel will allow you to illuminate the subject’s face, wherever they are positioned, allowing you to choose a backdrop without being limited by the pre-existing lighting you find in a space. Light is important, and you will need to ensure there is enough to illuminate your subject; you do not need to become a world-class cinematographer, but you do need to understand that there is a relationship between your subject and the light around them. A basic (but important) rule is ensuring that your subject’s face is always lit, either by a natural light source or an artificial one.

Make sure your subject is facing towards your main light source. If the main light source in a scene is behind your subject, they will be backlit. In such a setup it can be difficult to bring out details on the subject’s face and, depending on the strength of the backlight, either the background or the subject’s face will be heavily over- or underexposed. In Figure 47, a subject is photographed in front of the setting sun. The camera is set to expose correctly for the sky. The result is a subject who is rendered almost entirely as a silhouette.

Fig. 47. Backlit by the setting sun, the sky is perfectly clear and detailed whilst the subject is cast into shadow. To bring out the subject’s features, a separate light source, aimed at them, would have been required.

Had the camera’s settings been altered, to expose correctly for the face of the subject, the background of this image would have been entirely white. The solution to this scenario is the introduction of another light source, this one placed in front of the subject (lighting their front and their face). By applying a light source to the subject, the detail and texture of their appearance would have also been captured alongside the detail and texture of the sky behind them. Alternatively, the photographer could have altered the subject’s position, rotating them so that the diffused light from the cloud-filtered sun lit their face. Doing this might have negated the need for a second light source altogether. However, the dramatic view of the sky would have been lost due to the subject and the photographer changing their position.

Perhaps the single most aesthetically useful time for a filmmaker is ‘magic hour’, the hour before the sun sets. At this time, the sky produces both hard and soft light — particularly the latter as the sun dips towards the horizon. This can create a beautiful effect in which scenes are well lit, but are not dominated by the type of stark shadows that might be produced by the naked sun at other times of the day. ‘Magic hour’ is a relatively short window of time, however, and though the results of shooting at this time can be striking, it may not be practical to shoot only during this limited window.³

³ Fenton, Cinematography.
Wherever you film, it is your responsibility to understand the lighting conditions that are associated with that space. If possible, you should visit an area at different times of the day, making notes about the types of light and shadow that are present. Note moments when it would be particularly advantageous to shoot for a particular effect. You should also note the limitations of a space’s natural light and anticipate any additional lighting needs that may occur as a result. When it is not possible to acquaint yourself with a space ahead of time, ensure that you arrive on location with some way to light a scene or your subject appropriately. This can be simple (an LED light mounted on your camera) or more complex, with lights fixed on their own tripods that can be positioned independently of your camera. The former solution will allow you to create usable footage; the latter solution will allow you to create visually dynamic footage.

Lights and Lighting

Lighting setups come in many shapes and sizes, ranging from the elaborate and powerful to the small and simple. Your lighting needs will very much depend upon what you wish to achieve with your project. A small LED panel should be considered a near-essential purchase. These lights can be easily attached to the top of most DSLRs and, for a basic model, are inexpensive, starting as low as $20 and becoming more expensive as they increase in luminosity and other features.

By adding a light panel to the top of your camera, you will create new opportunities to shoot subjects in low-light conditions. Whilst the light provided by such panels is unlikely to help you to create a cinematographic masterpiece, it will allow you to film in otherwise problematic conditions. Over time, lights can be acquired piecemeal and added to your kit. A small light mounted on your camera is an essential first step, but LED light panels mounted onto stands will provide you with significant flexibility when interviewing a subject. Panels with high-quality rechargeable batteries add to the cost of such lights, but increase their practical usage significantly.
In the field, natural lighting should always be the filmmaker’s first point of reference — what can be accomplished with the natural light available at a given time on a given location? There are occasions, however, when a more considered approach to lighting in the field must be taken. Re-enactments or complex set pieces, particularly where any noteworthy level of expense is incurred through their staging, will likely require a degree of forethought with regards to how they are lit. Even if the intention is to use natural lighting as much as possible, unexpected weather conditions may render this more difficult than anticipated. In such instances, portable field-lighting solutions are available. These typically involve LED light panels that can be attached to stands, allowing them to be positioned independently of one’s camera. Such lighting setups are more expensive than small camera-mounted LED panels, but they provide significant freedom should you wish to stage more complicated, cinematic sequences in the field.

More controlled environments, particularly those to which a filmmaker has regular access, can create opportunities to employ more permanent lighting setups. Whilst the field lighting above can be used to light a studio-style space, a set of soft-box lights, which generally require a lot of power and are thus more suited to indoor environments with access to a mains electricity supply, can create effective soft
lighting. Unlike the filament lights, which can flicker noticeably when filmed, these lighting solutions provide continuous light which is filtered through a diffuser. These lights are more cumbersome than their LED counterparts and their reliance upon mains electricity limits their versatility. For indoor projects and studio spaces, however, they can be particularly useful.

The prices for such setups vary widely, with basic LED panels available for less than $20 and more advanced LED systems available for more than $1000. As with all of the tools discussed in this volume, it is not always necessary to spend very large sums of money to buy the best equipment. Rather, you should focus upon using whatever equipment you possess effectively. An expensive lighting rig will not necessarily result in a well-lit scene. Likewise, inexpensive lighting solutions do not necessitate poor results. The careful and considered use of one’s resources, whatever they may be, is the critical factor. Natural light is perhaps the most valuable resource available.

**Lighting Quick-Reference Guide**

To ensure you subject is sufficiently lit, angle them towards your main light source.

- Hard light comes from a single source (such as the sun or an unfiltered bulb) and creates hard, angular shadows.

- Soft light is emitted from a broader area (such as the sun shining through clouds) and creates softer shadows and contours.

- If you wish to backlight a subject, or place them in silhouette, place them in front of your main light source and adjust the exposure settings on your camera until you capture the desired effect.

- A basic LED light panel can be fitted to most DSLRs and will allow you to create usable footage in a wide variety of situations.

- More complex lighting setups involve lights that can be placed independently of your camera. LED light banks can be powered by batteries, allowing for versatile lighting kits that
can be taken into the field with comparative ease. A soft-box solution can be employed in permanent or semi-permanent indoor spaces with access to mains power.