

9 Film Lighting and Mood

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LIGHTING IS ONE of the most powerful means of creating effect in films. The research on lighting as a means of creating effect has mainly been pragmatic and based on single-case observations. Different cinematographers have commented on their experiments with different types of lighting (cf. e.g., Mankiewicz 1986; Schaefer & Salvato, 1984), just as handbooks in film interpretation and film production (cf. Bordwell & Thompson, 1990; Monaco, 1977) have asserted some rules of thumb induced from typical practices and by means of introspection. There may be good reasons for the fact that, compared with narration, for instance, there exists no such thing as a theory of film lighting: The experience of light is a basic one, linked to numerous different situations, and the experience might not be derived from a small set of principles with unambiguous effects. And although the perception of light, including film light, is based on some innate capabilities, many versions of film lighting deviate from those natural conditions for which our visual capacities have been developed. More research has been done on lighting within art (cf. e.g., Arnheim 1974). The following does not pretend to be able to put forward a general theory of film lighting but will provide an account of some of the dominant metaphoric descriptions of the effects of film lighting and provide some reasons for these effects.

Describing the physical or technical layout of a given type of lighting is fairly easy; it is often possible to get descriptions from some of the people arranging the lighting. The problem of the intended effects is a much thornier one. To describe the cognitive effects of lighting—for instance, the way in which a given light enhances or impedes object recognition and object salience—in itself poses a series of problems for description. Mostly, however, the description of the effects of lighting is aimed at a larger endeavor, namely, to describe the way in which lighting aspectualizes the emotional experience of a given scene, resulting in sad, scary, or euphoric experiences. Although such moods may be analyzed in connection with an overall analysis of a given scene, it still raises the problem of how lighting contributes to mood. When cinematographers want to describe the effects of different types of lighting, they mostly use metaphors. Some of those are tactile (soft versus hard light, warm versus cold colors), others are muscular-kinetic: a given type of light provides a punch or a kick to the image. Such descriptions may not be just metaphoric in a vague sense but indications of ways that the viewer relates to given visual phenomena. To say that the light is soft, and thus also the objects illuminated with the soft light, may simply indicate the experience that the possible contact with the objects is evaluated as soft. To say that an image has got a punch may mean that the viewer has some low-level experiences of some qualities in the image that are dynamic and possibly suggest a “hard” interaction. A stone in a film is neither more

nor less soft if it is illuminated with soft light; on a narrative level, it is hard, but it might be suggested that at a general experiential level, the lighting will modify its perceived qualities in the mind of the viewer, for instance, in the form of a general mood that represents the way in which its qualities are suggested, what they seem to afford for the viewer.¹

Such very general esthetic experiences linked to lighting must, for reasons that I will explain later, be based in part on innate factors. I will therefore start with a discussion of the extent our experience of lighting is innate or molded by cultural factors.

The Hardwired Expressiveness of Underlighting

In the article “The Psychological Foundations of Culture” (Tooby & Cosmides 1992), John Tooby and Leda Cosmides have shown how the social sciences for the last eighty years have been dominated by a culturalist paradigm. The dominant idea in this paradigm is that all human behavior is a product of culture, that innate specifications and constraints have no part in the creation of human behavior. Tooby and Cosmides provide a powerful criticism of the culturalist paradigm and show how cultural development takes place on the basis of a biological design that supports and enables but also puts some constraints on the cultural development. The humanities in general and film studies in particular have also been dominated by a culturalist paradigm. Numerous books on film theory and film history have claimed that visual perception is a strongly historical product, influenced by ideology, social conditions, and the way in which visual representations in film, photography, and painting mold the visual perception. Not all film theorists, however, have accepted that view. Joseph D. Anderson (1996), for instance, has shown that a series of conventions in film editing can be explained on the basis of innate features of the human visual system, and I have elsewhere (1997) shown that the way in which Renaissance perspective has been described as an ideological construction is problematic.

A strong illustration of the way in which visual experience is based on an innate brain architecture is the way in which underlighting in film (and in real life) is experienced. Underlighting refers to the phenomenon of space and objects being lighted by a source of light that comes from below. Under those natural lighting conditions, which existed during that prehistoric period of time in which our visual system developed, directed light always arrives at a scene from above, from the sun or the moon. Human beings probably got permanent access to cultural sources of light (fires) only after our present visual system was fully developed. Thus, underlighting is a strongly antinaturalistic effect. If our visual system were strongly determined by cultural factors, the use of underlighting would cause a habituation. But this is not the case. Most, if not all, critics agree that underlighting is systematically perceived as providing a strong “unnatural” salience to the underlighted objects and spaces. Many critics would furthermore state that this unnatural salience is interpreted as being negatively toned. Thus, James Monaco states that lighting from below gives it a “lugubrious appearance” (1977, p. 164). Kris Mankiewicz states, “As the saying goes, good people are lit from heaven and the bad people are lit from hell” (1986, p. 133). These clichés are not as obvious in today’s more natural and often softer lighting, yet the angle of light and the composition of light in the frame remain some of the most powerful tools for the creation of mood and for the shaping of an actor’s face. That underlighting should always be interpreted as uncanny or negative is easily refuted by analyzing, say, cozy or romantic scenes in which a fireplace provides the light. But, nevertheless, such scenes are also perceived as having a highly deviant salience although the emotional effect is contextualized (labeled) positively.

The reason for the unnatural salience of underlighted objects is very straightforward. As shown by, for instance, Vilayanur Ramachandran (1988), the analysis of spatial proportions is—among other factors—based on the shading. The analysis of shape from shading takes place by innate modules that work under the assumptions that light is coming from above and from a single source. Ramachandran produced a drawing of circles of which half of the area was shaded. Those with shadings in the upper half of the circle are perceived as concavities, those with shadings in the lower half are perceived as projections in space. If the paper drawing is turned around (so that those circles that had shadings in the lower half of the circle now had the shading in the upper half, and vice versa) the “holes” changed into “hills,” and the “hills” changed into “holes.” The perception of the form of objects thus takes place by means of a hardwired assumption that directed light comes from above and has a single source. It is therefore difficult to recognize figures with underlighting because the objects will be perceived with strange shadows and thus with strange proportions. Underlighting is therefore an example of a visual effect in which there is a natural *norm* of lighting, and deviations from this norm will be felt as unfamiliar (and expressive) even if they are motivated by a (cultural) source. Unfamiliarity will cause arousal (salience), but the hedonic valence (good/bad) of the arousal will, as mentioned, be determined contextually. However, many critics assume that underlighting has an uncanny effect, mostly linked to villains, and there might also be a reason for this, namely that it is easier to provide a negative than a positive contextualization for the effects of underlighting. All other things being equal, familiarity is linked to positive, upbeat feelings, unfamiliarity with negative feelings. That does not prevent filmmakers from contextualizing underlighting in such a way that it provides positive feelings, fuelled by the emotional salience of the deviating light, say, using a cozy source of light such as candlelight or fireplace. But the situation is marked as “extraordinary” and as expressing a “mood.”²

The intimate relation between lighting and mood is not something that characterizes only the experience of underlighting. Many of the lighting clichés in cinema (and real life) are used in order to create or enhance moods—from romantic sunset scenes to horror-inspiring fog-clad cityscapes. A preliminary reason for this can be found by considering the difference among feelings, moods, and emotions. Feelings and moods typically express non-object-directed general emotional states. To be depressed, happy, or romantic may often be experienced as general affective dispositions. In contrast, emotions are mostly concomitant with more specified action tendencies and object relations (cf. Frijda, 1986; Grodal, 1997). A person can be in a romantic mood without having a particular liaison in mind whereas being in love implies a specified object and some action tendencies. Moods thus express unfocused dispositions. Darkness reduces object control and enhances passive experiences whether such experiences are positive (for instance, in the context of a romantic encounter linked to a voluntary reduction of control) or negative (as in a horror environment and its forced reduction of control). The conscious or unconscious evaluation of a given type of lighting will thus be felt as mood.

Attention, Highlighting, and Indexing

Under natural conditions, light is a passive condition for seeing whereas visual attention is an active condition for seeing. There are under natural conditions no active ways of controlling the degree to which objects and spaces are lit. The basic assumption of a viewer is that the lighting conditions are objective aspects of the exterior world not caused by a communicative purpose, for instance, that some agent communicates something

about the lighted scene. Variations in the lightness (and color) of the different objects and surfaces will influence the attention of the human onlooker. Thus, all other things being equal, a selectively highlighted object will stand out from the less-lighted objects or surfaces and thereby draw attention to the highlighted phenomena. Following Noël Carroll's terminology (1988), we may call highlighting a special kind of indexing, a way of controlling attention by pointing. The experience of the highlighted phenomenon will be linked to the experience of its source. Natural highlighting is not caused by the intentions of some living creature but by the whims of Mother Nature. Patches of light in a forest and a sudden small hole in the clouds (and selective light in caves) are examples of naturally existing selective lighting. But because lighting typically varies without any connection to active human interests, the highlighted phenomena may either be transformed into a relatively disinterested esthetic experience (a beautifully lit mountaintop seen through a rift in some clouds) or eventually provide cause for a “supernatural” experience (because the onlooker for some reason constructs a metaphysical agency as causing the view).

The filmmakers can also index some objects as being worthy of attention by using a culturally produced lighting scheme that expresses the filmmaker's priorities in directing the viewer's attention. The filmmaker may provide a selective, directed light at some object within the film frame. The highlighted object will draw the viewer's attention by its visual prominence. Such a procedure might be an alternative to or a supplement to an indexing, a control of attention, by means of framing (and reframing) as described by Carroll. However, indexing by highlighting stands in a much more problematic relation to our innate visual assumptions than does indexing by framing and reframing. Our visual attention is normally intimately linked with our human concerns. What we focus on is what is central to our concerns at a given moment, we cannot separate our interests and our attention. If our concerns and interests change, our attention will automatically refocus to the new center of interest. The standard narrative film follows this link between interests and attention by demanding that a given frame is motivated, is linked to diegetic concerns. As long as the camerawork and cutting follow this rule of motivation, the indexing will strongly facilitate a seemingly seamless and naturalistic experience of the viewing process. Only when the indexing appears to be unrelated to some diegetic concerns—as for instance in some art films—the viewer's attention will be drawn to the camerawork and eventually to the way in which it is intended by some extradiegetic agency (for instance the director's artistic intentions). In contrast to diegetic indexing by framing, diegetic indexing by highlighting will automatically be felt as artificial, either by a nonconscious extraordinary toning of the experience or as a conscious experience of artfulness, because such intentional highlighting has no natural equivalent. The experience of artfulness may be highly positive or negative, depending on individual viewer preferences and the given execution of the artfulness.

Humans have only recently gained control over lighting and thus made it possible to use highlighting for indexical purposes (enhanced by the way in which the development of houses and their doors and windows have increased experiences of selective lighting). Within the arts, it is an even more recent phenomenon; ancient and non-European art use indexical highlighting only sparingly. However, painters of the Renaissance, for instance Rembrandt, experimented with selectively highlighting objects or parts of objects. Theater lighting developed schemes for selective highlighting. After a short period of time in which filmmakers primarily used natural light, filmmakers started to experiment with sources of artificial light, for instance with the purpose of highlight-

ing. In the era of silent cinema such an indexical use of light was often called Rembrandt lighting or Lasky lighting (cf. Jacobs, 1993). Clearly, this lighting was perceived by filmmakers as well as viewers as being artificial in a descriptive sense, for instance by being characterized as dramatic although the salience of the effect might be weakened by being provided with a naturalistic motivation (light from a window, fireplace, torch light, etc.). But by the very artificial linking of narrative concerns with highlighting—the very improbability of a co-occurrence of highlight and dramatic importance—meant that indexing by light was and is experienced as an artificial effect. The artificial experience is further caused by the fact that systems of highlighting typically imply several sources of directed light—something that the eye has no natural ability to interpret.

The salience of an artificial system of lighting due to the strong activation by deviation from innate norms can be observed in the phenomenon of glamour lighting described by Kristin Thompson (Bordwell, Staiger, & Thompson, 1985, p. 226). Typical glamour lighting had, besides ambient fill light, two directed sources, a key light and a backlight, which, for instance, might combine a key light source directed at the front of the face and a directed backlight that lighted the outline of the hair. The root of glamour is a French word meaning “to cast a magic spell.” The word, therefore, not only indicates the way in which highlighting by a two-light-source system is perceived as pleasant but also in a slightly “magic” way, that is: There are no natural ways of interpreting the lighting of the actors, and there is no habituation to this artificial way of lighting. The glamour effects are rooted in a deviation from innate assumptions, and although we may become accustomed to these lighting effects, they will still be experienced as “marked.”³

Even if indexical highlighting that corresponds to some central human concerns (similar to diegetic concerns) has a low probability under natural circumstances, its chance occurrence may have a powerful effect by its natural rareness. It may even lead to a metaphysical interpretation: the highlighting is intended by some supernatural agency. Thus, some filmmakers have used natural highlighting in order to provide a metaphysical dimension to objects or persons. There is a further reason for providing a highlighted object or person with metaphysical qualities. There is a certain ambiguity in the perception of a selectively lighted object. To the degree that a reasonably general illumination is the basis for our experiences of objects, the highlighted objects may gain some of the characteristics of luminous objects that possess a luminosity that is much higher than their surroundings. This is also noticeable in the use of rim light. Besides serving to isolate the contour from the background, rim light also adds a perhaps subliminally perceived halo to a person. The source of the rim light is invisible, and the effect runs counter to the dominant lighting scheme (the effect of the key light). The subliminal effect of rim light, therefore, is to provide a light radiation whose apparent, if not true, source is the contour of the person. Rudolf Arnheim has discussed in detail how painters have experimented with giving persons symbolic significance by implying that they are sources of light (1974). He furthermore argues that sources of light are not perceived as having a surface because they are without texture. Thus, persons who are highlighted will by this lack of texture derive an ethereal softness.

Ambient and Directed Light

Light, as such, is—strangely enough—invisible, as pointed out by James J. Gibson (1986). The visual system has developed as a tool for orienting humans and animals in the world, for instance, to support motion in space and to enable object recognition,

object manipulation, etc. The experience of light is therefore linked to this function and will consist of experiences of luminous objects and surfaces. The light is invisible in its trajectory through a transparent medium, and the experience of light comes about only if the light is refracted or reflected from some substance, object, or surface. Some of the blue light may be refracted by the atmosphere and thus cause us to experience a “surface,” the blue sky, or some light will be reflected from objects like human beings, trees, or rocks that cue experiences of these surfaces and objects. Sometimes we feel that we perceive light as such, as when some rays of light hit small particles in the air, but we are actually seeing the reflections from those particles, not the light itself.

For evolutionary reasons, light is primarily interesting when it serves as a vehicle for our experience of the physical environment, and vision therefore obtains information that is perceived as immanent features of the objects and surfaces. A prime example of object invariance is commonly labeled *color constancy* (cf. Zeki, 1993, pp. 230–37). Natural lighting has an enormous variability in its quantitative dimension from strong noon sunlight to a starlit midnight light as well as in its different qualitative dimensions, its spectral composition, or its sources (directed light versus ambient light, for instance). Different viewer positions and different trajectories of light from source to object further create an enormous variability in the perceived shapes and shadings. The human visual system is confronted with the formidable task of extracting some invariant features out of the ever-changing optic array that meets the eyes. To perceive some immanent and permanent features is thus impeded by all those factors that may be perceived as contingent, as derived from special types of lighting and viewing positions. We are usually not consciously aware of having extracted an invariant such as color; our awareness may be described as tacit knowledge. When we see a face with strong shadows, our conscious experience is based on its transient appearance although we will have a tacit knowledge about some permanent features of the face that exist below the shadows. We “know” that the face is perceived under special lighting conditions. This knowledge is similar to our tacit knowledge that the face has a backside, the back of the head, even if we do not see it. When we see a landscape at sunset, we have a double experience: We are seeing the landscape and its objects under special lighting conditions, and at the same time, we are somehow aware of some permanent features of the landscape and the objects. The discrepancy between the conscious experience of the transient features and the tacit experience of permanent features is partly represented in consciousness as feelings, for instance as moods. The feelings express the general affordances of the scene under these specific lighting conditions, for instance whether they facilitate or impede interaction. In Carl Dreyer's *Vampyr*, the moonlit landscapes impede full object recognition, and the special viewing conditions are represented by a mood that marks the depressed visual orientation along with the diminished capabilities for action and control.

A central parameter in the visual experience of objects is the relationship between the directed light and the ambient light. Directed light reaches the object directly from the light source and is then reflected, whereas ambient light is refracted by passing through some transparent material (the atmosphere for instance) or reflected from other surfaces and objects. Whereas directed light radiates from one point, ambient light arrives at a given object from multiple points, from all the surfaces of the environment of the object. Overcast weather will create a high ambience because the objects will be lighted with light derived from many points. Fog will also create a high ambience, but because the light will also be reflected after having been reflected by a given object, it will be increasingly difficult to trace the visual information back to the object. Extreme

“post-object” ambience will ultimately make object vision impossible; the viewer will only see a uniform array of white light. Thus, the visual perception of objects and surfaces has two vanishing conditions: total darkness and total white ambience. Between those two extremes are the many different lighting configurations that enable vision.

Central to human vision is depth perception—seeing objects and spaces as three-dimensional. The perception of three-dimensionality is partly based on processes that are relatively independent of lighting, such as stereopsis (seeing with two eyes), the density of texture elements, and overlap of objects. Other processes are, however, very dependent on lighting in combination with the point of observation relative to a given object. This is, for instance, the case in the evaluation of distance by degree of ambience (remote objects are normally more hazy because of greater atmospheric refraction) and shading. Shading has a profound impact on our experience of objects and thus our aesthetic experience, not least because various shadings may produce radically different perceptions of the same object. To recover shape from shading may, therefore, be extremely difficult. Shading not only provides information but also may often provide “noise” that blocks not only three-dimensionality but also object recognition. Thus, David Marr has stated, “The human visual processor seems to use only coarse shading information, often but not always correctly, which is probably why shading is easily overridden by other cues” (1982, p. 248).

One set of variations is linked to the source of the directed light in relation to the observer. Let me illustrate this with an example, the perception of a human face, facing the observer and illuminated by directed light only. If the light is coming from behind the observer (the camera), there will be a minimum of shading, and the face will look “flat.” If the face is illuminated with side light, that is, light coming from either the left or right side of the object, the face will get strong shadings that will enhance the curves on the chin and make the nose ridge very prominent, but the opposite side of the head will be placed in deep shadow. The shading will enhance a three-dimensional physical appearance but distort the overall perception of the face, which is now very asymmetrical. If the source of light is directly behind the face, the face will be in deep shadow and will only exist as a dark two-dimensional surface, defined by the contour line. Thus, except for front lighting, the main effect of strong directed light is to enhance the discontinuous, dramatic aspect of the face, either by enhancing its physical and sculptural three-dimensionality (in combination with asymmetry) or by enhancing its nonphysical appearance as a two-dimensional silhouette. Furthermore, directed sidelight enhances the dramatic three-dimensionality, but it suppresses the ability of the observer to see the face as a continuous (and soft) surface by giving prominence to those aspects of the face where there is a radical change of curvature, such as the cheekbones or nose ridge. Even details of the skin surface such as pores or scars may gain a dramatic salience.

The reflected, ambient light will in several ways result in the opposite effects from those caused by directed light. Because the light waves hit the object from many different points, the ambient light will not create strong shading, and if a given scene is illuminated solely with ambient light, shadows and shading will disappear. Surfaces will not be seen as defined by radical changes but as continuous surfaces. This may provide an eerie feeling. If, for instance, the weather is strongly overcast, the lack of shadows may provide the objects with a two-dimensional immateriality whereas other cues (such as overlapping) point to three-dimensionality. It is this natural conflict of depth information such as overlap, etc. versus surface information created by ambience that causes the salience. If ambient light is combined with directed light, the ambient light will partly

fill in those areas that are shaded by the directed light, and it thus softens the discontinuous and three-dimensional tendency. A nose ridge may still have some prominence but is now part of the continuous skin surface of the face because the shadows have been softened. (Some of the effects of ambience may be produced by defocusing a given image, thus increasing continuity by blurring the visual information.) The main cinematic way of producing those two lighting elements, directed and ambient light, is by having a key light producing directed light and a fill light to produce ambient light.

We may characterize four prominent types of lighting as follows:

1. strongly ambient light that enhances the perception of objects as continuous surfaces experienced with a two-dimensional lack of volume that eventually may result in an experience of immateriality
2. a combination of directed and ambient light that cues three-dimensional volume and physicality but also a perception of a two-dimensional continuous surface
3. a predominantly directed (low-key) light that enhances three-dimensionality (except when it is frontal) and suppresses the experience of continuous surfaces, eventually by blocking perception of parts of, in principle, the visible surfaces by strong attached shadows
4. a strongly directed light without any ambient light that may partly or totally dissolve the viewer's ability to perceive the objects, including his or her ability to perceive its three-dimensionality (strong backlight, expressionist, or noir scenes with only directed light). The light dissolves the ability to perceive the object as a whole, and the attached or cast shadows may get such dominance that they are perceived as autonomous objects

Of these four types of lighting, clearly type two provides a kind of information optimum by providing information for surface as well as volume. So, even if this type of lighting might not be the dominant one, it would certainly be the most probable candidate for producing the “canonical” object experience by providing an optimum of object information. Another way to express this is that the object is perceived as having an absolute, immanent physical existence, contrary to when the viewer experiences the object under certain lighting conditions. Such a perception of an object immanence is a matter of perceiving invariant properties, those things that do not change as lighting and viewing angle change. The capacity to perceive the invariant properties of the object is very practical and enables the viewer to recognize the object under various lighting conditions and to evaluate how deviating lighting causes a deviant appearance. The classical Hollywood cinema's high key lighting scheme for interior scenes (and the use of reflectors for outdoor scenes in order to provide ambience to hard sunlight) was aimed at facilitating such a canonical object perception. This scheme was often combined with presenting objects, scenes, and persons by canonical views, that is, seen from an angle that provides an optimum of information (cf. Grodal, 1997, p. 53).

But all those representation that are similar to types one, three, and four do not possess such an object immanence; they are perceived as representations under certain contingent lighting conditions. The viewer will to a certain extent compare the appearance under the contingent lighting conditions with some tacit knowledge of the canonical appearance and experience the deviation as feelings. But as the sight is not transformed to its canonical form, the deviant representation will also be taken at face value. If a viewer

thinks that a crook looks sinister if part of his face is covered with deep, attached shadows, it means that the viewer does not fully mentally construct the crook as he would have looked by canonical lighting. The viewer somehow accepts the surface appearance as a valid representation, even if he or she knows that there is soft, colored flesh below the dark patches of shadows. However, by thinking that the crook looks sinister, the viewer is implicitly seeing the appearance as deviating, as expressive. We thus have two complementary mental reactions. One reaction is tacitly aimed at constructing a permanent canonical object immanence out of the variations created by lighting, and one reaction consists of perceiving the object under the given and maybe transient lighting conditions. The first reaction is the unmarked one; the second one is separated from the first by the feelings of expressiveness. When seeing a film noir, the viewer perceives the actual distorted scenes and figures, but their deviation from some implicit norm only get access to consciousness by the feelings of expressiveness. By contrast, even canonical lighting may derive expressiveness. In the beginning of Orson Welles's *The Lady from Shanghai*, the Welles character sits besides the Rita Hayworth character in a horse carriage. He is lightened by hard sidelight that leaves most of his face in shadows whereas she is highlighted in a rather canonical way that provides her face with an angelic expressiveness in contrast to the Welles character.

Expressiveness is a broad term that covers the activation of a range of different feelings, and we, therefore, need to establish more-specific links between a given deviating type of lighting and the type of feeling that is activated. Are there more-specific links between certain types of lighting and certain specific expressive feelings, and how specific are those links? I will try to answer these questions by some examples. Darkness diminishes the intake of visual information and thus diminishes visual control and therefore the ability to act and control. So, at least on a general level, darkness should be concomitant with feelings of deactivation. Deactivation by darkness can be a forced and stressful block of action tendencies, as in horror films, and also a block of moral control, as in Martin Scorsese's *Taxi Driver*. It can further be a wished for deactivation as in a romantic night scene or a peaceful and contemplative sunset scene. So, the specific expressive qualities of darkness can only be determined by its diegetic context, by an analysis of whether the depression of activity cued by darkness is concomitant with a voluntary relaxation or is opposing a wish for control. Similarly, strong backlighting is generally expressive because it reduces three-dimensional objects to an immaterial two-dimensionality, but whether this will be experienced positively as a sublime transfiguration or negatively depends on the diegetic context: An immaterial villain is extra ominous, whereas an immaterial hero gains additional sublime qualities. But in both cases, the perceived two-dimensionality will impede concrete interaction that presupposes solid three-dimensional canonical objects and will thus engender feelings of a deviating (decreased) reality. The tendency to perceive permanent objects has been blocked, and the objects are perceived in their transient, lighting-derived form.

The two examples above seem to indicate that some general expressiveness is a functional element of a given type of lighting; darkness or strong backlighting is mostly expressive. But the fine-grained molding of the expressiveness is a product of the specific diegetic contextualizations.

The relation among lighting, affordances, and feelings can further be illustrated by looking into the effects of ambient light and directed light. These two types of light are normally referred to by means of two tactile metaphors, namely soft light and hard light, respectively. These metaphors indicate not only metaphoric tactile dimensions in the

visual experience but also, as mentioned earlier, some emotional connotations. Softness is mostly linked to tactile experience of surfaces, often produced by organic surfaces whereas hardness is linked to solid three-dimensional objects, often of a mineral kind. However, all humans know that human faces are predominantly soft, organic tissues, and, thus, if a viewer experiences human faces illuminated by directed light as hard, then the viewer is cued by the lighting conditions, not by his or her knowledge. Some fundamental mechanisms in the online perception override the universal knowledge of the tactile qualities of human skin and human faces. The hardness or softness of a given face or object may be enhanced by context, say, using soft light for a romantic scene or hard light for a thriller. But hard light on a romantic scene would still add an experience of hardness to the scene and characters. Thus, an explanation must also account for some context-independent innate factors in the experience of light and lighting.

Innate Factors in the Experience of Light and Lighting

Some of the learned aspects of the expressive qualities of lighting are derived from the interaction with universal and fundamental experiences, namely, the cycle of lighting caused by the sun and even aspects of the change of weather.

Central aspects of the experience of light are linked to our experience of the daily and seasonal temporal flow, eventually modulated by the change of weather. The daily changes in lighting constitute a fundamental experience of a cyclical modulation of affordances and activation, linked to general modulations of mood. In real life, the daily light cycles are relatively slow, but films may dramatically speed up the process and thus provide a strong, focal awareness of the transience of our experience of objects and scenes. (The relation between transience and permanence in the experience of art is analyzed in Grodal, 2000a.)

Furthermore, films may also provide much more powerful synchronization between the characters' central concerns and lighting. The traditional romantic symbolism of Friedrich W. Murnau's *Sunrise*, where the solution of the narrative problems is linked to a sunrise, demonstrates the power of synchronizing narrative schemas with a natural scheme of lighting. Similarly, the expressive impact of silhouetting the Hayworth character in *The Lady from Shanghai* is derived from using a natural expressive phenomenon in a specific narrative context. Thus, on one hand, lighting relies on a series of experiences that are based on innate capabilities or universal experiential conditions. On the other hand, as also discussed in relation to indexing with light, the way in which filmmakers may synchronize such experiences with central diegetic concerns has a very small natural probability. That the solution of the problems for the Welles character in *The Lady from Shanghai* takes place just before dawn so that he—in the last sequence—can walk out to a “new day” in San Francisco has indeed a very low natural probability. Many viewers may recognize this by feeling that the scene is theatrical, that is, as an expressive and antirealistic effect. But the cinematic power of the scene has natural and universal roots.

Light is the most important medium for gaining information about the world and guiding our interaction with our environment. Our experience of lighting is not a neutral intake of information but is welded together with feelings and moods that in shorthand tell us something about the affordances of a given scene or a given object. The experience of viewing a motion picture will be an emotional one because our feelings and

emotions will make their contributions toward expressing what a given scene affords characters or viewers.

Vision and light have a special role in the formation of consciousness. The basic frame for our consciousness, when we are fully awake and conscious, is the continuous visual experience of spaces and objects. For good reasons, this visual frame cannot show us how things actually are but shows us only how things look from a certain angle and with a given lighting. Much of our knowledge about objects and their affordances will not achieve a focal and salient visual form in our consciousness. We do not see what we tacitly know is beneath shadows or is invisible from a certain point of view. Different kinds of tacit knowledge will, therefore, be attached to the conscious visual surface information and gain conscious salience by means of different kinds of feelings, as when we experience some types of ambient light as soft or feel that strong light (within limits) creates upbeat feelings. A central aspect of affordances is the reality status of what is seen, experienced as feelings. These feelings may indicate an expressive deviation from some norms as when underlighting provides a feeling of uncanniness.

The experience of light and lighting is a source of knowledge about an objective, exterior world. But the experience is not disinterested. It is deeply intertwined with our concerns and subjective interests. For that reason, lighting is a powerful tool for inducing and changing feelings and moods.

Notes

1. *Affordance* is a concept used by the psychologist James J. Gibson in order to describe the functional relations between world, perception, and animal or human action.
2. Whether strong salience by unfamiliarity is perceived as positive or negative is also viewer-dependent. It has been shown (Rubin, 1994) that viewers select activating or relaxing films and TV programs according to situational viewer needs: Stressed viewers select relaxing films, and understimulated or "bored" viewers select exciting films.
3. The eventual experience of glamour as "magic" indicates the way in which the effect is transformed into a feeling (linked to a sublime-reality status of the object) linked to some qualities felt as being immanent in the object. This feeling of "magic immanence" is due to the aforementioned difference between attentional processes that mostly are interpreted as active processes performed by the viewer and the passive nature of lighting as a phenomenon that are not under subjective control but happen passively and therefore are linked to passive moods and feelings. That does not, however, preclude the viewer from also having an experience of the film as being actively narrated with light.

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