3

The light of the world

A television company is about to shoot a panel discussion before a studio audience. The producer, from the control room, is discussing with the floor manager in the studio how the audience looks in his monitor. The producer says something about the number of black people at the front of the audience. 'You're worried there are not too many whites obviously there?', asks the floor manager. No, says the producer, it's nothing like that, a mere technical matter, a question of lighting – 'it just looks a bit down'.

This exchange occurred in the preparation of a programme about the street fighting that took place in Handsworth, Birmingham, in September 1985, fighting that was largely understood to be about race and which was the most vivid and controversial of many such incidents throughout Britain that year. The exchange was recorded by the Black Audio Film Collective and included in their film *Handsworth Songs* (1987),[1] which explores the cultural construction of 'race riots'. That construction is embedded in part in the professional common sense of media production, two items of which are registered in this exchange.

One item, which is less germane to the subject of this chapter, is that of 'balance'. The floor manager cannot at first understand what the producer is getting at. Is it perhaps the racial composition of the audience in numerical and representative terms? The topic of the programme has been constructed as race riots, and to have 'balance' one has to thinks in terms of sides and ensure that equal numbers on each side are represented. This lies behind the floor manager's remark about there perhaps not being 'enough white people obviously there', and the producer understands what he is getting at. However, it is not what concerns him or us here, whereas the second notion at play in the exchange goes straight to the heart of the matter.

For the producer it is a purely aesthetic matter. The image looks 'down': dull, dingy, lacking sparkle. There is no reason to presume he is saying this because he finds black people dislikeable or uninteresting. He is, in the terms of professional common sense, right: shoot the scene in the usual way with the usual technology with that audience and it will look 'down'. The corollary is that if you do it the usual way with a white audience, it will look

'up', bright, sparkling. What I want to explore in this chapter is how this comes to be and what it signifies.

What is at issue is an aesthetic technology. The producer is making a statement about the formal quality, the look, of a set-up. The technology he is using and the habitual ways of using it both produce a look that assumes, privileges and constructs an image of white people.

All technologies are at once technical in the most limited sense (to do with their material properties and functioning) and also always social (economic, cultural, ideological). Cultural historians sometimes ride roughshod over the former, unwilling to accept the stubborn resistance of matter, the sheer time and effort expended in the trial and error processes of technological discovery, the internal dynamics of technical knowledge. Yet the technically minded can also underestimate, or even entirely discount, the role of the social in technology. Why a technology is even explored, why that exploration is funded, what is actually done with the result (out of all the possible things that could be done with it), these are not determined by purely technical considerations. Given tools and media do set limitations to what can be done with them, but these are very broad; in the immediacy and instantaneity of using technologies we don't stop to consider them culturally, we just use them as we know how – but the history, the social inscription, is there all the same.

Several writers have traced the interplay of factors involved in the development of the photographic media (e.g. Altman 1984, Coleman 1985, Neale 1985, Williams 1974) and this chapter is part of that endeavour. I am trying to add two things, in addition to the specificity of a focus on light. The first is a sense of the racial character of technologies, supplementing the emphasis on class and gender in previous work. Thus just as perspective as an artistic technique has been argued to be implicated in an individualistic world view that privileges both men and the bourgeoisie, so I want to argue that photography and cinema, as media of light, at the very least lend themselves to privileging white people. Second, I also want to insist on the aesthetic, on the technological construction of beauty and pleasure, as well as on the representation of the world. Much historical work on media technology is concerned with how media construct images of the world. This is generally too sophisticatedly conceptualised to be concerned with anything so vulgar as whether a medium represents the world accurately (though in practice, and properly, this lingers as an issue) but is concerned with how an ideology – a way of seeing the world that serves particular social interests – is implicated in the mode of representation. I have no quarrel with this as such, but I do want to recognise that cultural media are only sometimes concerned with reality and are at least as much concerned with ideals and indulgence, that are themselves socially constructed. It is important to understand this too and, indeed, to understand how representation is actually implicated in inspirations and pleasures.

The aesthetic technology at issue in this chapter is light and lighting. This is fundamental to all photographic media; why this is so and what it involves are discussed in the next section ('Light and the Photographic Media'). Mainstream cinema (above all, Hollywood) developed a particular style of lighting that may be called 'movie lighting', and this will be described in the same section. Both the technology of lighting and the specific mode of movie lighting have racial implications. The third section of the chapter ('Lighting for whiteness') discusses these in historical and current practice, looking at the way the aesthetic technology of light has a tendency to assume, privilege and construct an idea of the white person. The fourth section ('A culture of light') traces the development of the technology and its implication in white ways of seeing whiteness. The argument there is that the photographic media are centrepieces in a whole culture of light that is founded on two particular notions, namely that reality can be represented as being on a ground of white, and that light comes from above; these notions have the effect not only of advantaging white people in representation and of discriminating between and within them, but also of suggesting a special affinity between them and the light. In the final section ('The glow of white women'), I take a particularly striking example of the use of light in white representation, namely the glow of the woman within the construction of white heterosexuality.

Light and the photographic media

Photography and film are media of light. Writing about them frequently asserts this. Consider these titles, chosen from what comes to hand as I write: 'Painting with Light' (Milner 1930, about film lighting), *Painting in Light* (Alton 1949, about cinematography), *Printed Light* (Ward and Stevenson 1986, about early photography), *Narration in Light* (Wilson 1986, about point of view in film and not dealing specifically with light at all); or these statements:

> Lighting is the very essence of the motion picture. Figuratively it is the palette of the art director and occupies the same relation as pigment does to painting. It is the medium.
>
> (Ihnen and Atwater 1925: 27)

> As writers work with words, and directors with players, [the cameraman] works with a more elusive medium: light.
>
> (Hoadley 1939: 52)

> [P]hotography is building with light; light is the medium, a medium of infinite plasticity.
>
> (De Maré 1970: 55)

> Basically, the visual part of the illusion we call the motion picture is nothing but the accurate control of light.
>
> (Handley 1967: 120)

> Films are light.
>
> (Federico Fellini, quoted in Malkiewicz 1986: 1)

Such titles and statements are not metaphors: photography and film really are technologies of light. A photographic image is the product of the effect of light on a chemically prepared surface (the stock); a single frame of a projected film is one such surface with light shining through it on to a screen. No light, no photos or films.

The apparatus of light does not only concern stock and projection. Schematically, the following are involved.

- The light thrown at the subject of the image, in this sense the *lighting*. This may simply be the available light in the location, be it natural or artificial, which may be assisted (e.g. by reflectors and other kinds of bouncing) or controlled (e.g. by filtering sunlight though muslin or glass). It may equally involve a wide array of kinds of lighting apparatus, produced by a variety of means, using various lenses, reflectors and so on, all with different qualities of light.
- The properties of the *subject*. Objects (including people) reflect and absorb light differently, as well as being of different colours.
- The *stock*. Different kinds of stock are sensitive to different kinds and intensities of light.
- *Exposure*. The length of time the photographic stock is exposed to the light and the size of the aperture through which light passes both affect how light is registered on the stock and therefore how it looks when developed and projected.
- The *development* of the stock, during which many adjustments and transformations in light qualities can be achieved.
- *Projection*. Different kinds of projectors produce different qualities of light, and of course film seen on video is different again.

All these elements are in play in the history and practice of the photographic media, including film. A change in stock to register certain colour and textural qualities entails changes in, say, lighting and make-up, which in turn call for modifications in developing procedures and eventually the stock itself. The introduction of sound and colour were particularly intense periods of such alteration, but the technology has never stayed still.[2] Nor was this a purely internal, technical history, since it is entwined with issues of economics, fashion, social pressure and aesthetics.

The history of light technology, even if we just confine ourselves now to film, is highly intricate. Yet through it one can see operating a fairly

consistent sense of what light in film should be, which acted as both benchmark and goal for most innovations and variations. This is embodied in a style of lighting developed by the 1920s[3] which became and remains so widespread that it can be referred to as, for instance, 'cinema lighting' (Coutard 1966: 9) or the 'film look' (Malkiewicz 1986: 100). I shall call it 'movie lighting' and will draw examples principally from Hollywood films, since by the 1920s they had come to dominate and set standards for most other film production.

Although this lighting style involves all the elements described above as contributing to the medium's technology of light, it is most easily described in relation to the light thrown at the subject, 'lighting' in this sense. Its guiding principal is controlled visibility. At a very basic level, movie lighting wants to ensure that what is important in a shot is clearly visible to the audience. This may seem laboriously elementary but, on the one hand, simply shooting in available light may not achieve this (as all casual photographers know) and, on the other, what constitutes importance in a shot is not a given, but a matter of the film-makers' choices. It may certainly not be story clarity in any obvious sense. In a mystery film, it may be important that the audience cannot see something. In a star vehicle, seeing the star to best advantage may outweigh other narrative considerations. In a drama in which no character is supposed to take precedence over the others in the audience's sympathies, equal visibility for all concerned may be required, something that is quite hard to achieve (given the way natural, and normal domestic, light fall). It is in relation to such problems of film expression that the elaborately controlled method of movie lighting evolved.

Movie lighting nearly always considers people to be the most important element in a shot. In practice, this means lighting people so that they are clearly separated from their surroundings, and do not appear to merge with the scenery. Most often, lighting is set up in two stages, once for the overall setting, once for the people in it, with the latter referred to as the 'figure lighting'. It is common in movies for there to be a perceptible difference between the figure lighting in a long or medium shot and that in a close-up. This is so even in films as early as *Hearts of the World* (USA 1918) and *Way Down East* (USA 1920) (both directed by D. W. Griffith), where the full panoply of light technology was not yet in place. In the former, there is a scene where the heroine (Lillian Gish) is menaced by a German officer (Eric von Stroheim). The lighting in the shots of them together is an even, overall illumination. However, in the close-ups of her, cringing from his advances against a wall, she is lit slightly from below, with no light on the wall – the light catches her wide eyes and the whiteness of her face is emphasised by the contrast with the darkness of the wall. Such a change in light for expressive purposes between mid and close shots is unnaturalistic but wholly within the convention of movie lighting. In *Way Down East*, when the hero and heroine (Robert Harron and Lillian Gish) first meet, the

long and medium shots of them are taken in unassisted sunlight, with only the placing of the performers ensuring that at least each face is visible. However, the close-ups of Harron and Gish use a variety of techniques (soft focus, gauzes, placement against plain white backgrounds, side lighting) to make them special; editing in combination with lighting makes them stand out, as befits both their role as the lovers and their star status. Both these examples also construct the characteristic glow of white women, contrasted especially in the first case with a dark masculine desire that, under the pressure of war propaganda, would also have been felt as racially other.

Figure lighting is the main concern of this chapter, since what is at issue is the image of people. Movie figure lighting ensures the proper visibility of each performer (according to the needs of narration, star status and so on) by a use of several lights, classically in a three-point system consisting of a primary light (the *key*), giving general illumination of the figure, a second, softer light (the *fill*), eliminating some of the shadows created by the key and other set lighting, and *backlighting*, which serves to keep the figure separate from the background as well as creating, when wanted, the rim and halo effects of heroic and glamour lighting.

In practice, movie lighting is a good deal more complex and flexible than this. Three lights for figure lighting is minimal and the picture is always complicated by the infinite range of placements possible for all three positions and by their relationship to other lighting in the scene and to all the other elements that constitute light in film. Nor was the pattern of lighting fixed in the 1920s to remain utterly unchanged ever since. Hollywood, the paradigm of movie style, was influenced by, for instance, both 1920s German ('expressionist') lighting styles, with their much greater emphasis on chiaroscuro effects cutting across the figure (as in, especially, film noir and the horror film), and the bright, bounced, overall white light of the French new wave, less concerned with picking out the figures in a hierarchy of importance.[4] Yet such influences modified movie lighting rather than displacing it, and I have been struck while writing this chapter how extraordinarily pervasive the style remains, in ordinary television as much as in contemporary art cinema and still overwhelmingly in Hollywood movies.

The film *Mauvais sang* (France 1986),[5] for instance, is lit in a bright, hyper-realist style, combining yellowish tungsten with white quartz light; light sources visible on screen often appear to be the source for the lighting overall, characters often step into or out of light without reference to either dialogue or narrative; in short, *Mauvais sang* has a very modern, contemporary look, quite different from classic Hollywood. Yet on inspection many of the norms of movie lighting are in place. Take a scene in which the central character, Alex, visits two men, Marc and Hans. The room he finds them in is lit by fluorescent lighting hung over a billiard table. At first glance, one takes this to be the whole source of lighting for the scene, but in fact lighting at a 45° angle from above screen left illuminates the tops of the men's heads.

A woman, Anna, is introduced into the scene and there are shots of her and Alex, establishing his interest in her. Both are shot in head and shoulders close-up, but cropped at the top and placed slightly to one side of the image, unconventional framing by movie norms. In her case, the framing cuts off the very top of her head, though much of her hair is visible. There is a relatively strong, warm light on her face from screen left (slightly to the front of her face), a less strong light from screen right, creating highlights as well as eliminating the shadows from her neck (shadows cast by the main light), and some light catching what we can see of her hair. As with movie figure lighting, this has little to do with the visible light source in the scene. Lighting so clearly from sides and top is different from the characteristic positions of movie lighting, yet it is none the less a form of three-point lighting. Alex also has the key and fill, more fully to one side and the other of his head, but, as the top of his head is cropped at his brow, it is hard to tell whether he is lit from above. The difference in the lighting between Anna and Alex is gender-related: she is more glowingly and he more harshly lit. The blending of the three-point lighting in her case creates a softer, more unified look; the greater (relative) severity of the lighting on him creates a degree of contrast. Such gender differentiation also has to do with whiteness: she inhabits (albeit principally in his perception) a space of transcendence, whereas he is a body seeking transcendence.

Even in a smart, postmodern film like *Mauvais sang*, the basic qualities of movie lighting remain: ensured visibility, figures lit quasi-independently of setting, and codes that are gendered and white-related. This is even more evidently true of contemporary Hollywood and television, and not only drama[6] but quiz and chat shows and even documentary and news. Indeed, as I have been writing this, I have become riveted by watching light catch the hair and ensure the outlined contours (without going so far as haloing or rimming) of newscasters and TV weather reporters. The sense of the normality of this is still pervasive. A current 'leisure know-how' guide on how to *Make Better Home Videos*, the kind of basic, common-sense, 'no point of view' paperback you can buy in a supermarket, offers exactly the same three-point lighting plan as simply how to light a person (Owen 1993: 104–7).

This chapter focuses on movie figure lighting, and above all face lighting. This is principally because my concern is with how images of (white) people are constructed, but it is also in line with photographic and film practices themselves. The face is seen as both the most important thing in an image and also, as a consequence, the control on the visual quality of everything else. At the point of shooting, a standard photography manual recommends use of an exposure meter: 'Take a reading off the most important part of your subject, e.g. face or person' (and uses a white face in illustration) (Greenhill *et al.* 1977: 48). At the point of development, Raoul Coutard observes of colour film: 'As the film stock is unstable, the laboratories need

something to use as a fixed point from which to work in re-establishing the true colours; and what they work from are the actors' faces' (Coutard 1966: 11). At the point of reception, I well recall the advice that first-time purchasers of colour television were given about how to adjust their sets: get the people's faces right and everything else would fall into place. This is good advice, as long as you take the white face as the norm and don't mind non-white faces looking odd.

Movie lighting of the face is at the heart of ordinary production. The next section looks at its relation to whiteness in general terms before tracing the source of this and its implications in the historical development of a culture of light.

Lighting for whiteness

The photographic media and, *a fortiori*, movie lighting assume, privilege and construct whiteness. The apparatus was developed with white people in mind and habitual use and instruction continue in the same vein, so much so that photographing non-white people is typically construed as a problem.

All technologies work within material parameters that cannot be wished away. Human skin does have different colours which reflect light differently. Methods of calculating this differ, but the degree of difference registered is roughly the same: Millerson (1972: 31), discussing colour television, gives light skin 43 per cent light reflectance and dark skin 29 per cent; Malkiewicz (1986: 53) states that 'a Caucasian face has about 35 percent reflectance but a black face reflects less than 16 percent'. This creates problems if shooting very light and very dark people in the same frame. Writing in *Scientific American* in 1921, Frederick Mills, 'electrical illuminating engineer at the Lasky Studios', noted that

> when there are two persons in [a] scene, possibly a star and a leading player, if one has a dark make-up and the other a light, much care must be exercised in so regulating the light that it neither 'burns up' the light make-up nor is of insufficient strength to light up the dark make-up.
>
> (1921: 148)

The problem is memorably attested in a racial context in school photos where either the black pupils' faces look like blobs or the white pupils have theirs bleached out.

The technology at one's disposal also sets limits. The chemistry of different stocks registers shades and colours differently. Cameras offer varying degrees of flexibility with regard to exposure (effecting their ability to take a wide lightness/darkness range). Different kinds of lighting have different colours and degrees of warmth, with concomitant effects on different skins.

However, what is at one's disposal is not all that could exist. Stocks, cameras and lighting were developed taking the white face as the touchstone. The resultant apparatus came to be seen as fixed and inevitable, existing independently of the fact that it was humanly constructed. It may be – certainly was – true that photo and film apparatuses have seemed to work better with light-skinned peoples, but that is because they were made that way, not because they could be no other way.

All this is complicated still further by the habitual practices and uses of the apparatus. Certain exposures and lighting set-ups, as well as make-ups and developing processes, have become established as normal. They are constituted as the way to use the medium. Anything else becomes a departure from the norm, or even a problem. In practice, such normality is white.

The question of the relationship between the variously coloured human subject and the apparatus of photography is not simply one of accuracy. This is certainly how it is most commonly discussed, in accounts of innovation or advice to photographers and film-makers. There are indeed parameters to be recognised. If someone took a photo of me and made it look as if I had olive skin and black hair, I should be grateful but have to acknowledge that it was inaccurate. However, we also find acceptable considerable departures from how we 'really' look in what we regard as accurate photos, and this must be all the more so with photography of people whom we don't know, such as celebrities, stars and models. In the history of photography and film, getting the right image meant getting the one which conformed to prevalent ideas of humanity. This included ideas of whiteness, of what colour – what range of hue – white people wanted white people to be.

The rest of this section is concerned with the way the aesthetic technology of photography and film is involved in the production of images of whiteness. I look first at the assumption of whiteness as norm at different moments of technical innovation in film history, before looking at examples of that assumption in standard technical guides to the photographic media. The section ends with a discussion of how lighting privileges white people in the image and begins to open up the analysis of the construction of whiteness through light.

Innovation in the photographic media has generally taken the human face as its touchstone, and the white face as the norm of that. The very early experimenters did not take the face as subject at all, but once they and their followers turned to portraits, and especially once photographic portraiture replaced painted portraits in popularity (from the 1840s on), the issue of the 'right' technology (apparatus, consumables, practice) focused on the face and, given the clientele, the white face. Experiment with, for instance, the chemistry of photographic stock, aperture size, length of development and artificial light all proceeded on the assumption that what had to be got right was the look of the white face. This is where the big money lay, in the everyday practices of professional portraiture and amateur snapshots. By

the time of film (some sixty years after the first photographs), technologies and practices were already well established. Film borrowed these, gradually and selectively, carrying forward the assumptions that had gone into them. In turn, film history involves many refinements, variations and innovations, always keeping the white face central as a touchstone and occasionally revealing this quite explicitly, when it is not implicit within such terms as 'beauty', 'glamour' and 'truthfulness'. Let me provide some instances of this.

The interactions of film stock, lighting and make-up illustrate the assumption of the white face at various points in film history. Film stock repeatedly failed to get the whiteness of the white face. The earliest stock, orthochromatic, was insensitive to red and yellow, rendering both colours dark. Charles Handley, looking back in 1954, noted that with orthochromatic stock, 'even a reasonably light-red object would photograph black' (1967: 121). White skin is reasonably light-red. Fashion in make-up also had to be guarded against, as noted in one of the standard manuals of the era, Carl Louis Gregory's *Condensed Course in Motion Picture Photography* (1920):

> Be very sparing in the use of lip rouge. Remember that red photographs black and that a heavy application of rouge shows an unnaturally black mouth on the screen.
>
> (316)

Yellow also posed problems. One derived from theatrical practices of make-up, against which Gregory inveighs in a passage of remarkable racial resonance:

> Another myth that numerous actors entertain is the yellow grease-paint theory. Nobody can explain why a performer should make-up in chinese yellow. . . . The objections to yellow are that it is non-actinic and if the actor happens to step out of the rays of the arcs for a moment or if he is shaded from the distinct force of the light by another actor, his face photographs BLACK instantly.
>
> (ibid.: 317; emphasis in original)

The solution to these problems was a 'dreadful white make-up' (actress Geraldine Farrar, interviewed in Brownlow 1968: 418) worn under carbon arc lights so hot that they made the make-up run, involving endless retouching. This was unpleasant for performers and exacerbated by fine dust and ultraviolet light from the arcs, making the eyes swollen and pink (so-called 'Klieg eyes' after the Kliegl company which was the main supplier of arc lights at the time (Salt 1983: 136)). These eyes filmed big and dark, in other words, not very 'white', and involved the performers in endless 'trooping

down to the infirmary' (Brownlow 1968: 418), constantly interrupting shooting for their well-being and to avoid the (racially) wrong look.

It would have been possible to use incandescent tungsten light instead of carbon arcs; this would have been easier to handle, cheaper (requiring fewer people to operate and using less power) and pleasanter to work with (much less hot). It would also have suited one of the qualities of orthochromatic stock, its preference for subtly modulated lighting rather than high contrast of the kind created by arcs. But incandescent tungsten light has a lot of red and yellow in it and thus tends to bring out those colours in all subjects, including white faces, with consequent blacking effect on orthochromatic stock. This was a reason for sticking with arcs, for all the expense and discomfort.

The insensitivity of orthochromatic stock to yellow also made fair hair look dark 'unless you specially lit it' (cinematographer Charles Rosher, interviewed in Brownlow 1968: 262). Gregory similarly advised:

> Yellow blonde hair photographs dark . . . the more loosely [it] is arranged the lighter it photographs, and different methods of studio lighting also affect the photographic values of hair.
>
> (1920: 317)

One of the principal benefits of the introduction of backlighting, in addition to keeping the performer clearly separate from the background, was that it ensured that blonde hair looked blonde:

> The use of backlighting on blonde hair was not only spectacular but *necessary* – it was the only way filmmakers could get blonde hair to look light-coloured on the yellow-insensitive orthochromatic stock.
>
> (Bordwell *et al.* 1985: 226; my emphasis)

Backlighting became part of the basic vocabulary of movie lighting. As the cinematographer Joseph Walker put it in his memoirs:

> We found [backlighting] necessary to keep the actors from blending into the background. [It] also adds a halo of highlights to the hair and brilliance to the scene.
>
> (Walker and Walker 1984: 218)

From 1926, the introduction of panchromatic stock, more sensitive to yellow, helped with some of the problems of ensuring white people looked properly white, as well as permitting the use of incandescent tungsten, but posed its own problems of make-up. It was still not so sensitive to red, but much more to blue. Max Factor recognised this problem, developing a make-up that would 'add to the face sufficient blue coloration in proportion to red

. . . in order to prevent excessive absorption of light by the face' (Factor 1937: 54); faces that absorb light 'excessively' are of course dark ones.

Colour brought with it a new set of problems, explored in Brian Winston's article on the invention of 'colour film that more readily photographs Caucasians than other human types' (1985: 106). Winston argues that at each stage the search for a colour film stock (including the development process, crucial to the subtractive systems that have proved most workable) was guided by how it rendered white flesh tones. Not long after the introduction of colour in the mid-1930s, the cinematographer Joseph Valentine commented that 'perhaps the most important single factor in dramatic cinematography is the relation between the colour sensitivity of an emulsion and the reproduction of pleasing flesh tones' (1939: 54). Winston looks at one such example of the search for 'pleasing flesh tones' in researches undertaken by Kodak in the early 1950s. A series of prints of 'a young lady' were prepared and submitted to a panel, and a report observed:

> Optimum reproduction of skin colour is not 'exact' reproduction . . . 'exact reproduction' is rejected almost unanimously as 'beefy'. On the other hand, when the print of highest acceptance is masked and compared with the original subject, it seems quite pale.
>
> (David L. MacAdam 1951, quoted in Winston 1985: 120)

As noted above, white skin is taken as a norm but what that means in terms of colour is determined not by how it is but by how, as Winston puts it, it is 'preferred – a whiter shade of white' (ibid.: 121). Characteristically too, it is a woman's skin which provides the litmus test.

Colour film was a possibility from 1896 (when R. W. Paul showed his hand-tinted prints), with Technicolor, the 'first entirely successful colour process used in the cinema', available from 1917 (Coe 1981: 112–39). Yet it did not become anything like a norm until the 1950s, for a complex of economic, technological and aesthetic reasons (cf. Kindem 1979), among which was a sense that colour film was not realistic. As Gorham Kindem suggests, this may have been partly due to a real limitation of the processes adopted from the late 1920s, in that they 'could not reproduce all the colours of the visible spectrum' (1979: 35) but it also had to do with an early association with musicals and spectacle. The way Kindem elaborates this point is racially suggestive:

> While flesh tones, the most important index of accuracy and consistency, might be carefully controlled through heavy make-up, practically dictating the overall colour appearance, it is quite likely that other colours in the set or location had to be sacrificed and appeared unnatural or 'gaudy'.
>
> (ibid.)

As noted elsewhere, accurate flesh tones are again the key issue in innovation. The tones involved here are evidently white, for it was lighting the compensatory heavy make-up with sufficient force to ensure a properly white look that was liable to make everything else excessively bright and 'gaudy'. Kindem relates a resistance to such an excess of colour with growing pessimism and cynicism through the 1930s as the weight of the Depression took a hold, to which black and white seemed more appropriate. Yet this seems to emphasise the gangster and social problem films of the 1930s over and above the comedies, musicals, fantasies and adventure films (think screwball, Fred and Ginger, Tarzan) that were, all the same, made in black and white. May it not be that what was not acceptable was escapism that was visually too loud and busy, because excess colour, and the very word 'gaudy', was associated with, indeed, coloured people?

A last example of the operation of the white face as a control on media technology comes from professional television production in the USA.[7] In the late 1970s the WGBH Educational Foundation and the 3M Corporation developed a special television signal, to be recorded on videotape, for the purpose of evaluating tapes. This signal, known as 'skin', was of a pale orange colour and was intended to duplicate the appearance on a television set of white skin. The process of scanning was known as 'skinning'. Operatives would watch the blank pale orange screen produced by tapes prerecorded with the 'skin' signal, making notes whenever a visible defect appeared. The fewer defects, the greater the value of the tape (reckoned in several hundreds of dollars) and thus when and by whom it was used. The whole process centred on blank images representing nothing, and yet founded in the most explicit way on a particular human flesh colour.

The assumption that the normal face is a white face runs through most published advice given on photo- and cinematography.[8] This is carried above all by illustrations which invariably use a white face, except on those rare occasions when they are discussing the 'problem' of dark-skinned people. Kodak announces on the title page of its *How to Take Good Pictures* (1984) that it is 'The world's best-selling photography book', but all the photo examples therein imply an all-white world (with one picture of two very pink Japanese women); similarly, Willard Morgan's *Encyclopedia of Photography* (1963), billed as 'The complete photographer: the Comprehensive Guide and Reference for All Photographers' shows lack of racial completeness and comprehensiveness in its illustrative examples as well as its text (even under such entries as 'Lighting in Portraiture' (Lewis Tulchin 2116–2127), 'Portrait Photography' (Edward Weston 2952–2955), 'Portraiture – Elementary Techniques' (Morris Germain 2955–2965), 'Portraiture Outdoors' (Dale Rooks 2965–2973) or 'Portraiture with the Speedlamp' (Editorial Staff 2973–2977)). Fifteen years after *John Hedgecoe's Complete Photography Course* (1979), *John Hedgecoe's New Book of Photography* (1994) is neither any more complete or new as far as race is concerned (Hedgecoe is

both a bestseller and Professor of Photographic Art at the Royal College of Art in London, in other words a highly authoritative source). Even when non-white subjects are used, it is rarely randomly, to illustrate a general technical point. The only non-white subject in Lucien Lorelle's *The Colour Book of Photography* (1955) is a black woman in what is for this book a highly stylised composition (colour Plate 7). The caption reads:

> Special lighting effects are possible with coloured lamps . . . and light sources included in the picture. Exposure becomes more tricky, and should be based on a meter reading of a key highlight such as the dress.

The photo is presented as an example of an unusual use of colour, to which the model's 'colourfulness' is unwittingly appropriate. The advice to take the exposure meter reading from the dress is itself unusual: with white subjects, it is their skin that is determinant. In Lucille Khornah's *The Nude in Black and White* (1993), nine out of seventy-four illustrations feature non-white subjects – six with parts of the body painted in zebra stripes and two making an aesthetic contrast of black and white skins, all cases which play on skin colour. Only one illustration, a black mother and child, does not seem to be making a point out of the non-white subjects' colour. Some more recent guidebooks randomly do include non-white subjects,[9] but even now there is no danger of excesses of political correctness.

The texts that the illustrations accompany make the same assumption that the human subject is white. Cassell's *Cyclopaedia of Photography* (1911) is clearly destined for a world in which there are only fair faces, whose colour it is important to capture even when nature is not on one's side: 'A common defect in amateur portraits taken out of doors is the dark appearance of the sitters' faces' (Jones 1911: 428).

The most recent edition of the *Focal Encylopedia of Photography* does at least have the grace to be upfront about the matter in the entry on 'Skin Tone':

> When used as a standard for quality control purposes, it is assumed, unless stated otherwise, that the typical subject is Caucasian with a skin reflectance of approximately 36%.
>
> (Stroebel and Richard 1993: 722)

In all this, inventors, commentators and advice-givers are not to be found stating that, if you want to capture the look of the white face correctly, you need to do so and so. They never refer to the white face as such, for to do so would immediately signal its particularity. It is rather in describing facial and skin qualities that the unpremeditated assumption of a white face is

apparent. Josef von Sternberg (1955–6: 109) affirms that 'the skin should reflect and not blot light', something more readily achieved with white skin. Gerald Millerson, discussing the relative light reflectance of skin tones (1972: 35), compares 'light' skin with 'bronzed', as if dark skin is, as it is for a white norm, only sun induced. A much more racially explicit example is provided in Eric De Maré's *Photography*, a much reissued Penguin book 'designed to help and stimulate the amateur photographer' (blurb to the 1970 edition). De Maré discusses the problems of light when shooting out of doors and, inevitably, takes a young (white) woman as the subject:

> [W]e consider her complexion to be at all times of a delicious, peachy pink but, exposing on a sunny day without correction filter to adjust the blue cast from the sky, we shall be *shocked* to find that the colour film has recorded the skin as having a slight indigo tint.
>
> (1970: 295; my emphasis)

The words 'indigo' and 'tint' were widely used with a racial, even racist, meaning in British English.

A major theme in instructional writing is the elimination of shadow. This is taken as a self-evidently and absolutely desirable goal in all but those cases where the aim is a sort of 'arty' expressivity. This obsession with getting rid of shadows established itself early. Victor Fournel, writing in 1858 about contemporary portrait photography practices, noted the already elaborate apparatus to hand to eliminate shadows, observing that 'what frightens the middle classes above everything else are the model's shadows: they can only see in them a blackness which darkens [*rembrunit*] and saddens the figure' (quoted in Rouillé and Marbot 1986: 15).

Shadows on the face are one of the major *Faults in Photography* in Kurt Fritsche's 1966 book; nearly all the advice on lighting in Eugene Hanson's ideologically riveting *Glamour Guide: How to Photograph Girls* (1950) is on avoidance of shadows. In a pair of illustrations to *Photography in Colour with Kodak Films* (Bomback 1957) (colour Plate 8), the superiority of eliminated shadows is affirmed by having the model smile slightly more in the less shadowed versions and adding effects of backlighting, thus emphasising the upbeat quality of the image. As the argument in Chapter 2 might lead one to expect, in all these – and nearly all other – examples, the model (a properly ambiguous term) is a woman, already white and in the light, not struggling towards whiteness and the light.

Elimination of shadow is partly determined by the desire for visibility. The camera lens cannot see into shadows as flexibly as can the human eye and fill lighting compensates for this. Yet even this imperative to see, and to see women, suggests a concern with the visible that has marked the white era, while shadows cut across the association of white people with the light that is explored later in this chapter.

The white-centricity of the aesthetic technology of the photographic media is rarely recognised, except when the topic of photographing non-white faces is addressed. This is habitually conceptualised in terms of non-white subjects entailing a departure from usual practice or constituting a problem. An account of the making of *The Color Purple* (1985) speaks of the 'unique photographic problems that occur when shooting a film with basically an all black cast' and goes on to detail the procedures the cinematographer, Allen Daviau, used to deal with these 'problems', in particular 'having the set interiors and set decorations darker than *normal*' (my emphasis)[10] (Harrell 1986: 54). Cicely Tyson recalled her experience of filming *The Blue Bird* in Russia in 1976, where there was little experience of filming black people. A white woman had been used during the lighting set-ups:

> They light everything for her and then I'm expected to go through the same paces with the same lighting. . . . Naturally, my black skin disappears on the screen. You can't see me at all.
>
> (quoted in Medved 1984: 128–9)

The Moscow crew (at the white centre of the multiracial USSR) assumed that there were just 'faces', which meant that they assumed a universal white face, which in turn obliged Tyson to make a fuss and become constituted as an exception or problem. In 1994, in an interview in the magazine *US* (November: 102), the African-American actor Joe Morton (whose films include *The Brother from Another Planet*, *Terminator 2* and *Speed*) was still having to consider the way he is filmed a problem:

> For black actors, if you're not lit correctly, your skin tone can look very odd. You shouldn't be lit with certain shades of green and yellow. And, lots of black men have broad noses, and that can be exaggerated.

Such examples are not confined to mainstream Hollywood productions. Basil Wright, a leading figure in British documentary in the 1930s, gives an account of shooting in the West Indies and the difficulties of having to film at midday, with the brilliance of the sun which 'kill[ed] all detail'.

> The crux of this *problem* was encountered when negro types [i.e. the normal inhabitants] had to be shot. With bright direct sunlight coming from overhead, it was almost impossible to get a good quality negative and yet retain the negro features. Rubbing the face and arms of the subject with butter or oil only brought up a few highlights, even when aided by reflectors. Finally the problem was solved by staging scenes *in the shade* and using reflectors only.
>
> (Wright 1933: 227; first emphasis mine)

Here, what is more evidently at issue is a still rather inflexible technology, developed and adjusted for the white face; Wright's solution however is very similar to that of Daviau for *The Color Purple* fifty years later.

In Kris Malkiewicz's book *Film Lighting*, based on interviews with Hollywood cinematographers and gaffers, four of the interviewees discuss the question of lighting for black people (Malkiewicz 1986: 141). They come up with a variety of solutions: 'taking light off the white person' if there are people of different colour in shot (John Alonzo), putting 'some lotion on the [black person's] skin to create reflective quality' (Conrad Hall), using 'an orange light' (Michael D. Margulies). James Plannette is robust: 'The only thing that black people need is more light. It is as simple as that.' Even this formulation implies doing something special for black people, departing from a white norm. Some of the others (lotion, orange light) imply that the 'problem' is inherent in the technology, not just its conventional use.

Elsewhere, Ernest Dickerson, Spike Lee's regular cinematographer, indicates (1988: 70) the importance of choices made at every level of light technology when filming black subjects: lighting (use of 'warmer' light, with 'bastard amber' gels, tungsten lights on dimmers 'so they [can] be dialed down to warmer temperatures', and gold instead of silver reflectors), the subject (use of reflective make-up, 'a light sheen from skin moisturizer'), exposure (basing it on 'reflected readings on Black people with a spot meter'), stock ('Eastman Kodak's 5247 with its tight grain and increased color saturation') and development (using 'printing lights in the high thirties and low forties' to ensure that 'blacks will hold up to the release prints'). Dickerson is explaining his choices against his observation that 'many cinematographers cite *problems* photographing black people because of the need to use more light on them' (my emphasis). Much of his language indicates that he is involved in correcting a white bias in the most widely available and used technology: lights are warmer (than an implied cold norm), they are dialled down (from a usual cooler temperature), they are gold not silver, and the stock has more colour saturation. The whiteness implied here is not just a norm (silver not gold) but also redolent of aspects of the conceptualisation of whiteness discussed in previous chapters: coldness and the absence of colour.

The practice of taking the white face as the norm, with deleterious consequences for non-white performers (unless they are consciously taken into account), is evident in films which not only have stars of different colours but also apparently intend to treat them equally. This may be out of a liberal impulse (Sidney Poitier with Tony Curtis in *The Defiant Ones* (1958)), an expression of star power (Eddie Murphy with Nick Nolte in *48 Hours* (1982)) or identification of a box office trend (the Danny Glover-Mel Gibson *Lethal Weapon* series (1987–92)). However, it is rare that the black actor is in fact lit equally. Such films betray the assumption of the white

face built into the habitual uses of the technology and have the effect of privileging the white man; they also contribute to specific perceptions of whiteness. Let me take two examples. The first, *In the Heat of the Night* (1967), makes the white man not only more visible but also more individualised. The second, *Rising Sun* (1993), goes further in privileging and constructing an idea of the white man.

The Sidney Poitier character, Virgil Tibbs, in *In the Heat* is emblematic of the Northern, educated, middle-class black man. His adversary, but fellow cop, Bill Gillespie (Rod Steiger) is, on the contrary, a contradictory character. Tibbs is identified with his home turf (Philadelphia), whereas Gillespie, on whose turf (Sparta, Mississippi) the action unfolds, is in fact from another town and not really accepted by the local force: he is in a certain way more dislocated than Tibbs. He is unthinkingly bigoted but without the obsessive racism of the (white) rest of the town and police. He has a failed marriage in his past. He is an elaborated character, not a representative figure. Much of this is conveyed by dialogue and the two performers' different acting styles: Poitier's stillness and implied intensity, Steiger's busy, exteriorised method acting. It is also conveyed by lighting.

Poitier tends to be posed in profile or near silhouette, emphasising his emblematic presence; Steiger is more often shot face on, in, rather than against the light. Poitier is thus given considerable moral and intellectual authority, but little opportunity to display the workings of individuality on the face. In one scene, Tibbs (Poitier) and Gillespie (Steiger) are sitting talking together in the latter's home. There is a degree of *rapprochement* between them, with each revealing something of himself to the other. In the establishing shot, Poitier is screen left, sitting back in a reclining chair facing screen right, and Steiger is screen right, lying on a couch. The only visible light source is a large table lamp behind Poitier. Poitier is thus profiled and semi-silhouetted, while the light falls full on Steiger's face. As the scene proceeds, most of the shots are close-ups. The table lamp casts both their faces in half light, but this is far more marked with Poitier, whereas Steiger is given some additional fill light, removing most of the shadow from the side of his face away from the lamp. The set-ups for the shots of Poitier remain more or less side-on to camera but, after a few similar shots of Steiger, the camera takes up a frontal position for him, with backlighting and a stronger fill. As a result, not only is Steiger more fully visible to us, but he can display a range of modulations of expression that indicate the character's complex turmoil of feelings and reminiscences. Poitier, by contrast, remains the emblematic, unindividualised, albeit admirable, black man.

Rising Sun (Plate 3.1)[11] is an expensive film involving an experienced director (Philip Kaufman) and often quite elaborate and attractive lighting set-ups (cinematographer Michael Chapman). It has two major stars in it, the black star (Wesley Snipes) having at the time of the film's appearance at least as much cinema box office clout as the white star (Sean Connery).

Plate 3.1 Rising Sun (USA 1993): Sean Connery, Harvey Keitel and Wesley Snipes (BFI Stills, Posters and Designs)

And it is a film that knows about race: a thriller pivoting on questions of American-Japanese antagonisms, it both gives Snipes and Connery, as the detectives on the case, some (black–white) racially conscious dialogue and includes an African-American ghetto sequence to make a point about the Snipes character's roots. In other words, this is a film that has no reason not to light its central male pair so that each comes off equally well (which means, of course, not, in technical terms, lighting them the same). In separate shots they are indeed lit differently, enhancing the character and beauty of their faces to equal effect. Yet in shots featuring both of them, Connery is advantaged. A clear example occurs early on when Snipes and Connery are interviewing a security guard in a building where a corpse has been found. The guard is the most important character in the scene in terms of narrative (what has he seen?) and emotion (he is clearly holding something back for fear of losing his job); Snipes and Connery, as the stars and the investigators, have a different kind of importance, but one is not more important than the other. However, the lighting suggests otherwise. The guard is black. The scene is mostly shot with Connery standing between the guard (screen left) and Snipes (right). The light falls on Connery and is good for his colouring. His equal partner (Snipes) and the crucial witness (the guard), on the other hand, are shrouded in darkness.[12]

This example is caused by the assumption of the white face as a norm (get Connery right and the rest will fall into place); it has the effect of privileging the white performer. It also reproduces a particular construction of whiteness. The light catches Connery's temples, while Snipes and the guard are in darkness. Connery is literally but also figuratively enlightened; the light emphasises his forehead, or, in effect, his brain. Elsewhere, in two-shots where some kind of intermediate light setting has been chosen, not ideal for either star, Snipes' skin shines whereas Connery's disappears in the light – the surface of Snipes' flesh is evident, his corporeality, whereas Connery's flesh is dissolved into the light.

The historical construction of whiteness through light, of which *Rising Sun* is a late product, is the subject of the rest of this chapter. Before moving to that, however, I should like to look at one last recent example, which suggests both that it is not technically impossible to film black people with the same effect as for whites but that it is culturally extremely difficult.

A Few Good Men (1992) concerns two marines on trial for the murder of another. One, Lance Corporal Dawson (Wolfgang Bodison), is African-American, a point to which the film makes neither explicit nor implicit reference. At one point in the trial, it is revealed that Dawson once disobeyed an order (itself a central issue to the marine ethics on which the case turns) by taking food to a marine who was being harshly punished for a trivial mistake by being imprisoned without food; this is a turning point, because it establishes Dawson's high moral character. The shot, of him listening to his attorney Lieutenant Kaffee (Tom Cruise) drawing attention to the moral significance of his disobedience, has strong, hard side and top lighting. Dawson's (Bodison's) hair is shaved at the sides but cut to a flat top. This gives it a relatively open texture which catches the light, creating a glow atop his head, striking in a generally darkly lit scene. His fellow, white, defendant is also in the shot, but his haircut has a rounder shape and the top lighting is less full on his head, though he still benefits from the quasi-halo effect. The lighting on Dawson is more conspicuous, partly because he is the one at issue in narrative terms, but also because there is somewhat more contrast between his bright hair and dark face and because it is so unusual to see an African-American shot like this. It shows that the latter is technically possible, yet not only is the lighting unusually hard and directed, it is also called forth at an expressly ethical moment – white performers benefit habitually from such light at the head, there does not have to be a strong moral point being made.

At the end of the film, Dawson is acquitted of the murder but still dishonourably discharged: the death was the accidental result of obeying an order to rough up a weak and awkward recruit. Dawson realises that he should have disobeyed the order in accordance with a greater moral imperative. The final shot of him is taken at the door to the trial room, as Kaffee/Cruise is telling him that he does have honour because of this

realisation. There is no top lighting and Dawson stands before the dark wood of the door; despite the moral accolade, there is no longer any virtuous light at his head. The film cuts back to Tom Cruise, himself dark-haired but lustrous and tinged with light from above. His character has been much more morally ambiguous throughout, and even at this point his triumph is as much a career success as a sign of moral growth, yet now the white hero has the light no longer accorded the black character. Indeed, the recognition of the latter's virtue is given to Kaffee/Cruise, who tells him that he has honour, since he (Dawson) doesn't know it for himself: the white man, with that touch of light about his head, knows and names virtue in the black man, who now blends in with the darkness of the world.

Movie lighting in effect discriminates on the basis of race. As the rest of this chapter will argue, such discrimination has much to do with the conceptualisation of whiteness. There is also a rather different level at which movie lighting's discrimination may be said to operate. What is at issue here is not how white is shown and seen, so much as the assumptions at work in the way that movie lighting disposes people in space. Movie lighting relates people to each other and to setting according to notions of the human that have historically excluded non-white people.

Movie lighting focuses on the individual. Each person has lighting tailored to his or her personality (character, star image, actorly attributes). Each important person, that is. At a minimum, in a culture in which whites are the important people, in which those who have, rather than are, servants, occupy centre stage, one would expect movie lighting to discriminate against non-white people in terms of visibility, individualisation and centrality. I want however to push the argument a bit further. Movie lighting valorises the notion of the unique and special character of the individual, of the individuality of the individual. It is at the least arguable that white society has found it hard to see non-white people as individuals; the very notion of the individual, of the freely developing, autonomous human person, is only applicable to those who are seen to be free and autonomous, who are not slaves or subject peoples. Movie lighting discriminates against non-white people because it is used in a cinema and a culture that finds it hard to recognise them as appropriate subjects for such lighting, that is, as individuals.

Further, movie lighting hierarchises. It indicates who is important and who is not. It is not just that in white racist society, those who are not white will be lit to be at the bottom of the hierarchy, but that the very process of hierarchisation is an exercise of power. Other and non-white societies have hierarchies, of course; it is not innate to white nature. However, hierarchy, the aspirational structure, is one of the forms that power has taken in the era of white Western society.

Movie lighting also separates the individual, not only from all other individuals, but from her/his environment. The sense of separation from the

environment, of the world as the object of a disembodied human gaze and control, runs deep in white culture. The prime reason for introducing back-lighting in film was to ensure that the figures were distinguished from their ground, to make them stand out from each other and their setting. This was regarded as an obvious necessity, so clearly part of how to see life that it was an unquestionable imperative. Yet it expresses a view of humanity pioneered by white culture; it lies behind its highly successful technology and the terrible price the environment now pays for this.

People who are not white can and are lit to be individualised, arranged hierarchically and kept separate from their environment. But this is only to indicate the triumph of white culture and its readiness to allow some people in, some non-white people to be in this sense white. Yet not only is there still a high degree of control over who gets let in, but, as I want to argue in the rest of this chapter, the technology and culture of light is so constructed as to be both fundamental to the construction of the human image and yet felt to be uniquely appropriate to those who are white.

A culture of light

The aesthetic technology of photography, as it has been invented, refined and elaborated, and the dominant uses of that technology, as they have become fixed and naturalised, assume and privilege the white subject. They also construct that subject, that is, draw on and contribute to a perception of what it means to be white. They do this as part of a much more general culture of light. This has produced both an astonishing set of technologies of light and certain fundamental philosophical, scientific and aesthetic perceptions of the nature of light. White people are central to it, to the extent that they come to seem to have a special relationship to light.

The culture of light is part of the still wider characterisation of modern Western culture as one which privileges seeing above all other senses. In his *History of Bourgeois Perception*, Donald Lowe argues that different epochs are characterised by the primacy given to different senses, embodied in the apparatuses developed to express and extend them. In oral cultures, hearing and touching have primacy over seeing, and even with the introduction of writing, this remains true. It is printing (making the seen word more widespread and available) and perspective (emphasising verisimilitude in imagery and a notion of knowledge through looking rather than from revelation or authority) that begin to move the (bourgeois, Western, white) world towards an emphasis on seeing as the epistemic sense *par excellence*. This is evident in the pervasiveness of sight metaphors about knowledge: seeing is believing, I see what you mean, as far as I can see, the evidence of one's own eyes, taking the long view, a short-sighted decision, she saw right through it, oh I see!

The equation of seeing with knowledge is also one with power. Michel Foucault points to the exercise of power in modern societies through surveillance (literally 'overseeing'), the organisation and control of the social order by means of enhanced and highly elaborated mechanisms of sight. This is realised in the panopticon, in the first instance a prototypical eighteenth-century prison architecture with wardens situated in a high centre and cells ranged all around, thus affording the former a constant view of the latter and instilling in prisoners a constant sense of being surveilled, which becomes internalised as self-surveillance (Foucault 1975). This has been taken as a paradigm of a leading tendency of modern societies, their elaboration of bureaucracies, databanks and surveillance mechanisms, habits of self scrutiny (how do I look? why am I doing this? who will they think I am?) and, not least, both the use of enhanced technologies of light as a form of 'subjection by illumination' (Foucault 1980: 154) and the development of photography and film as modes for recording, classifying and controlling the populace and observing and presenting oneself.

At the technological level, seeing has been enhanced and transformed such that human beings can see better, can record what they see more accurately and can reproduce that record more or less *ad infinitum*. Instruments enabled humans to see ever further (the telescope) and in ever more detail (the microscope). The camera obscura simultaneously reproduced and framed a sight, giving an image that could readily be copied. Photography directly and chemically fixed the image in a camera obscura; film, an exponential multiplication of photographs, caught the image of movement. The photographic media permit the endless reproduction of these fixed and caught impressions.

Such a stress on sight poses a problem, however, in relation to that which cannot be seen. In a humanist culture, the cardinal instance of this is human personality. No amount of looking at someone gives authoritative access to their inner being. Yet just such scrutiny in search of personality has characterised the past two centuries. From the growth of surgery, not least as demonstrated in, literally, theatres of anatomy, through the sciences of phrenology and the rest, Western society has had a positive mania for trying to see what's inside the human being, body and soul (Clair 1994). The photographic media, too, so clearly at the cutting edge in capturing appearances, have also sought to see and show past them. The earliest social success in photography was its use in portraiture, starting around 1840 and rapidly expanding throughout international bourgeois society. Portraiture, whether in Matthew Brady's hugely successful Broadway studios (a must for any mid-nineteenth-century visitor to New York) or Julia Margaret Cameron's intense, private studies of friends and the famous, was founded on the belief that the apparatus could reveal the inner being (or could be made to).

> Approaches to camera likenesses, whether made for amateur or commercial purposes, ranged from documentary to artistic, from 'materialistic' to 'atmospheric', but whatever their underlying mode photographic portraits reflected from their origin the conviction that an individual's personality, intellect and character can be revealed through the depiction of facial configuration and expression.
>
> (Naomi Rosenblum, quoted in Lalvani 1993: 447)

Marcus Aurelius Root, an early theorist of photographic portraiture and admirer of Brady's work, described the enterprise thus:

> To delineate the human face and figure pervaded by expression, that bids the soul shine glowingly out through the same, is to transcribe the matchless pencillings of the Divine Proto-Artist.
>
> (*The Camera and the Pencil* (1866), quoted in Trachtenberg 1983: 250–1)

By the same token less elevated personalities could be discerned, and photography was soon enlisted in the business of understanding mental illness and criminality, for instance (Tagg 1988), or in the development of anthropology (Green 1984, Edwards 1992).

The racialist possibilities of this concern with the observability of inward features of human beings is evident in phrenology, anthropometry and the rest, already touched on in Chapter 1. Photography's role may be indicated here by two examples. It was a central tool of the eugenics movement, whose focus was the improvement of the human race through control of breeding, a focus for which in practice the white middle class provided the paradigm of improved and improving humanity; photography was the means for both scrutinising human physiognomy and demonstrating variations (and superiorities/inferiorities) in human types (Green 1986). As a second example, Suren Lalvani analyses nineteenth-century photographic portraiture in the USA, connecting its forms to white expansionist ideology:

> [T]he arrangements of heads and hands in nineteenth-century bourgeois portraiture are traversed by a physiognomic intention: the need to convey the notion of manifest destiny central to bourgeois ideology: that the world may be civilised by the appropriate combination of head and hand.
>
> (1993: 448)

Nineteenth-century photography provides these confident examples of the possibility of seeing within the human person, but the status of sight as the organ *par excellence* of knowledge about human beings is by no means

secure. On the one hand, the twentieth century has continued to place faith in seeing. To take film alone, both the respect accorded documentary and news film and the intensity and intimacy experienced in relation to movie stars attest to the widespread investment in knowing human beings through seeing them. Yet the same period has also shown an ever increasing suspicion of film's truth. We are all too photo-literate not to know about the camera's deceits, too media-savvy not to know about star hype. Yet the habit of looking for knowledge persists in ever more troubled forms. The routinised charity poster of starving children, the 'is this the face of a killer?' coverage of serial killers, the centrality in the coverage of AIDS, an invisible malady, of giant enlargements of the virus and the display of KS lesions[13] – we go on looking even while we know we are not going to learn.

Western society is characterised by the albeit troubled centrality of vision to knowledge and power. A. D. Coleman (1985) suggests that the development of the technologies of vision (the tele- and microscope, photography) and their centrality to 'the conceptual assumptions' of our period mean that we may speak of ourselves living in 'a lens culture'. I want to suggest that we also live in a light culture.

This too may be characterised in the first place by technologies. These include the photographic media, but they themselves are part of wider developments. Above all, the past two-and-a-half centuries have witnessed (another sight metaphor) an extraordinary development of artificial lighting in everyday life.

We live now, virtually everywhere, in a world that is potentially permanently illuminated, in which it is generally possible to let light be at human will and in which artificial light can reach further and more effectively than the brightest sunshine. Yet before the mid-eighteenth century, the only light supplementing sunlight was firelight, wicks in oil and candles.[14] None gave off strong light, all needed constant tending. To maintain such sources when burning and to have them on a scale sufficient to create strong, bright light entailed fabulous expense. Chandeliers (and even before them crowns of candles) did, from the seventeenth century on, provide bright light over a large space. However, few households, let alone theatres, could either afford them or deal with their inconvenience: they required endless attention as candles guttered and burnt out; for this reason and to provide the best illumination they had to be hung low down, which was bothersome for those below them and irritating, in theatres, for those in the higher seats; their use remained largely confined to some churches and very grand occasions. The world – at night, indoors, in Northern winters – remained dark and light was scarce.

The eighteenth century sees the beginning of a number of transforming innovations in lighting technology, including first improvements in lamp design, using reflectors (réverbères) to enhance city street lighting and glass

to strengthen light for certain types of manual workers, notably lace makers, culminating in 1782–4 in the Argand lamp, which combined a glass chimney with new ways of shaping wicks: 'For the first time since the lamp came within the competence of man there was a device, under excellent control, that could give ten or twelve times the customary light from a single source' (O'Dea 1958: 21). Such developments in the use of reflectors, glass and wicks were supplemented by the invention/discovery of new light sources – limelight (1796), coal gas (1805), electricity (1845), kerosene/paraffin (1860) – and refinements to these (the use of tungsten rather than carbon with electricity, for instance (1911)) and even improvements in candle-making. The adoption of such technologies transformed social and domestic spaces alike. The Argand lamp was adopted for use in lighthouses (with consequent impact on trade) by the end of the eighteenth century. Gas was used to light Lancashire mills for working in 1805 and Pall Mall in London for leisure in 1809. All forms of lighting innovation were introduced by the European nations to their colonies, the only sense in which imperialism brought light to the darkness.

All these developments were in time adopted for theatre lighting (cf. Bergman 1977). This formed part of the transformation of the medium of theatre itself. From the mid-eighteenth century on, theatre lighting no longer aimed to light stage and auditorium equally. Footlights, réverbères attached to the fronts of boxes and galleries and other innovations directed light at the stage, separating it from the audience. The notion of an art based on performance in a brightly lit space at one end of a darkened room, a performance in some sense separated from the spectator, came into view. This notion is part of the definition of cinema.

This had already been anticipated in the magic lantern, another art of light, in this case projected through painted glass or paper. The possibility of doing this had been known since at least the sixteenth century (Remise *et al.* 1979) and Johannes Zahn may even have managed to convey some sense of movement as early as the late seventeenth century, through projecting a succession of closely related images. In the eighteenth century, magic lantern shows became increasingly popular, and the principle was also used to create special, usually horrifying, effects in the theatre, as with Robertson's *Phantasmagoria* (1798). The idea of taking pleasure and instruction from a light show was thus already well established by the end of the eighteenth century, but the development of intense and steady light sources was needed to provide a strong throw sufficient for large, public spaces. Once this was possible the magic lantern became a major source of public instruction as well as an unusually classless form of entertainment (see Chanan 1980: 13), functions enhanced by the adoption of photographic slides once that became possible.

The new theatre lighting did not only form part of a move towards public performance based on lit spaces watched from unlit ones, but also involved

a change in the use of light in relation to the stage action. Lighting no longer provided 'an indifferent, symmetrical light' (Bergman 1977: 177), illuminating everything and every performer with undifferentiated clarity and intensity. Light, along with other scenic developments, created atmosphere and drew attention to the key players or aspects of the action. Such ways of conceptualising the dramatic use of light were facilitated by the gradual adoption of limelight (providing a metaphor for public appearance, to be 'in the limelight'), gaslight and so on. They underpinned the influential staging methods of the US actor-manager David Belasco, whose productions and writings span the early years of cinema and are a direct source of movie lighting (Baxter 1975: 96–7). Belasco used light to be at once naturalistic (imitating the fall of light in the real world), atmospheric, psychological (so that performance was as much constructed by 'the value of the light in which the character stands' (Belasco 1902, quoted in Bergman 1977: 306) as by what the actor did) and directive (guiding the audience's attention to what mattered and how to see it). So central was light to his approach that he claimed in 1901 that 'the characters present on the stage are really secondary to the lighting effects' (quoted in Baxter 1975: 86).

The technology of lighting thus produced new expectations of everyday life – that it could be assumed to be visible at all times as required – and of dramatic art – that it took place in a separate space flooded with meaning creating light. Both are part of an epistemology of light, at once analytic and metaphorical. Interest in examining the nature of light had been inaugurated in the modern age with Isaac Newton's study of the colour spectrum (1666) and Christian Huygens's *Traité de la lumière* (1690). The eighteenth century saw the development of photometry, the measurement of light, beginning with the work of Pierre Bouguer (1729) and given a considerable fillip with the invention of controllable, constant light sources. The investigation of light became a cornerstone of modern thought, in, for instance, James Maxwell's study of white light and colour vision (1855) as well as the theories of Emanuel Swedenborg,[15] for whom light was, as Rosalind Krauss puts it (1978: 37), 'the conduit between the world of sense impression and the world of spirit'. Concurrently the paintings of such as Turner (1775–1851), Whistler (1834–1903), Monet (1840–1926) and Seurat (1859–91) constitute a kind of systematic analysis of the effect of light.[16]

Metaphors of light in connection with knowledge are time honoured in biblical and liturgical tradition: 'Let there be light' (God's bringing of meaning to the universe in *Genesis*), 'He was a burning and a shining light' (John the Baptist figured, by Christ in St. John's Gospel, as the bringer of the knowledge of Christ's coming), 'To be a light to lighten the gentiles' (spreading the knowledge of God's truth beyond the Jews), 'Lighten our darkness we beseech thee oh Lord' (linking knowledge with relief from suffering in the Book of Common Prayer) and so on; the sacred tradition could be supplemented from the secular, from Dante, Shakespeare, Milton

and so on. The culture of light mobilised such metaphors but also gave them a distinctive and decisive twist. The intense interest in literal light became associated with the human possibilities of knowing and spreading knowledge. It was not merely the adoption of a time honoured metaphor that earned the eighteenth century (in whose wake the following two centuries have been played out) the soubriquet of the Enlightenment, *le siècle des lumières*, *l'illuminismo*, *die Aufklärung*. The association is insisted on in one of the most famous contemporary aphorisms concerning knowledge, coined by Alexander Pope in his *Essay on Man* (1732–4):

> Nature and Nature's laws lay hid in night:
> God said 'Let Newton be!' and all was light.

The fact that Newton insisted that it was white light that contained all other colours, rather than, as had been believed before, black (Bynam *et al.* 1981: 236), is at the very least ethnically suggestive in this period of buoyant European expansion of knowledge.

To this technology and epistemology of light we can now add photography. As already noted above, photography is properly described as an art of light, and indeed literally means light (photo) drawing (graphy). The effect of light shining through a small hole on to a wall in a darkened room, casting an (inverted) image of what is outside, had long been known – at least as far back as Al Hazen (965–1068) and in the Western modern period since the mid-sixteenth century. It has been claimed that there may have been successful attempts to fix such images chemically by Johannes Torrentius (1589–1644) (Barnouw 1984), but the first generally attested chemical investigations are those of J. H. Schulze in 1727 and C. W. Scheele in 1777 and the first practical realisation that of Joseph Nicéphore Niepce in 1822. The observation of how light works – in casting an image, in altering chemicals exposed to that image – is the basis of photography, enchantingly suggested in the words of another inventor of photography, William Henry Fox Talbot:

> [I reflected on] the inimitable beauty of the pictures of nature's paintings which the glass lens of the camera [obscura] throws upon the paper in its focus – fairy pictures, creations of a moment. . . . How charming it would be if it were possible to cause those natural images to imprint themselves durably on paper! . . . And why should it not be possible? . . . Light, where it exists, can exert an action, and, in certain circumstances does exert one sufficient to cause changes in material bodies. Suppose, then, such an action could be executed on the paper; and suppose the paper could be visibly changed by it.
>
> (*The Pencil of Nature* (1844–6); quoted in Ward and Stevenson 1986: 10)

Suppose, in other words and as came to pass, one made pictures using light as the critical medium.

Nadar, among the most commercially successful and formally influential of all nineteenth-century portrait photographers, took Swedenborg's notion of light as a conduit as authorisation for the idea that photography, the art of light, could capture the inner human being. This is why for him the essence of good photography was 'the feeling of light' (Lemagny and Rouillé 1987: 21). It is that feeling, and its potential ethnic implications, that concern me here. I want to focus on two perceptions of light in cultural production, both utterly commonplace to how we now see but both quite remarkable, even in the first case perverse,[17] ways of seeing. The fact of more light in the world, the association of light with knowledge, and photography and film as the exemplary arts of this technical-epistemological configuration, all are shot through with the assumptions that it is possible to see the world as transparent and that light comes from above.

The world is transparent

> Life, like a dome of many-coloured glass,
> Stains the white radiance of eternity
> (Percy Bysshe Shelley: *Adonais* (1821))

When we look at a photograph, we are looking at a translucent world. This is but intensified when we see a slide (magic lantern) show or film. Photographs are normally printed on white paper, slides and films are shown on white screens: the light of the white background shows through the objects and people that we see. It is remarkable that we should so easily accept the representation of the world like this, as if life is, as Shelley avers, like a transparency. It is a form of representation that became fully established in the first half of the nineteenth century (when Shelley wrote these lines). Many arts aspired to the condition of translucence, and yet its very insubstantiality entailed countervailing tendencies that would give apparent substance to translucence. This in turn relates to the peculiar ethnic potential of this mode of representation: light shows through white subjects more than through black, so that they appear indeed illuminated and enlightened, but this is also a problem, since it is capable of rendering the white subject as being without substance altogether.

Representing, and therefore possibly seeing, the world as if it is on a ground of light was already an established convention by the time of photography's invention. Perhaps, had it not been, it would not have been possible to conceive of photography. The effect of the camera obscura, a wraith-like image cast on a white surface, might have seemed merely curious, not usable as the foundation for a new medium.

In her book *Moving Pictures*, Anne Hollander traces the development of a distinctive way of depicting light from fifteenth-century North European painting to the cinema. The painters, she argues, sought 'a jewel-like transparency that made the picture seem to be conducting light through it, rather than reflecting externally applied light from its modelled surface' (1989: 15–16). She finds this both in painting and in the growth of printing and woodcuts, which put in place the convention of black print on white paper and in which, for instance, a white face is in effect a blank, whose palpable existence we only infer from the black that surrounds it and/or forms a background to it. Hollander's location of the start of this development in North European painting is, at the least, suggestive, since this is *par excellence* the territory of white people. This was an art of realism, concerned with depicting the way it was supposed the world looked (rather than depicting received or revealed knowledge). It is reasonable to suggest that fair-skinned people are more liable to make the weird conceptual leap that allows one to see blank white space as a realistic representation of a face.

There was an intensification of such translucent representation in the late eighteenth and early nineteenth centuries. The enormous increase in the magic lantern's popularity has already been mentioned. Equally striking is the rise of stained glass and, especially, watercolour in the period. Both are much older media but coming into their own again (stained glass) or for the first time (watercolour) at this time. The former was known principally in church and, to a lesser extent, aristocratic use and carried such elevated social connotations with it, associating translucence with transcendence. This itself may be a modern perception, since Gage (1993: 70 ff.) suggests that 'luminosity' was not 'the central preoccupation of the early glass-designers' (i.e. in the Romanesque and early Gothic period).

Watercolours only became commonplace and widely valued in the early nineteenth century (Clarke 1981: 14). The mass production of pre-mixed paints, the ever increasing interest in observing and recording (natural history, landscape art, portraiture), the convenience of watercolouring when undertaking the travel associated with observing and recording, the availability of the portable camera obscura as an aid, the role of amateur domestic accomplishment in the development of a middle-class gentility, in short, a number of technological and social developments came together in yet another aspect of the culture of seeing and light. Watercolour anticipates photography in a number of ways (and was to be somewhat displaced by it): use, prestige, availability and, most strikingly, formal properties. Two descriptions of the medium emphasise qualities that, as I've already suggested, also characterise the photographic media:

> [in watercolour] light is reflected not only from the uppermost surface but, after penetrating every layer of paint, from the paper itself as well

– hence the use of white paper, on which the layers of paint lie like sheets of coloured glass.

(Koschatzky 1970: 14)

Since the layers of pigment placed on the surface are very thin, light is reflected from the white background through the colour washes to produce the brightness of tone, freshness of colour and luminosity of effect which are the watercolour's characteristic assets.

(Reynolds 1971: 8)

There is a decided echo of Shelley's lines in the first of these descriptions.

The rise of the magic lantern and watercolouring, and the very swift acceptance of photography by the 1840s, are paralleled by developments in theatre lighting that sought to convey a similarly insubstantial quality. Theatre is always flesh and stuff and cannot be translucent in the way film necessarily always is, yet the use of gauzes in scenery, of luminous kinds of make-up and above all of diffused, overlapping, pooled, 'curtained'[18] and other kinds of lighting effect (including magic lantern projection) all constructed an aesthetic of insubstantiality for certain kinds of theatre. Angels, fairies, dreams and visions, as well as sunrises and sunsets, were greatly appreciated features of popular theatrical spectacle. At the end of the nineteenth century, in a more avant-garde context that had a huge influence on twentieth-century theatre, Adolphe Appia's stage design used light with greatly simplified settings to create a look characterised by 'its misty envelopments, its dissolving silhouettes and vaporous distances' (Simonson 1968: 39).

Print, the magic lantern, watercolouring, photography and film were all media which represented people through translucence, and even media not founded on this, like oil painting and theatre, often aimed at something of the quality. It was clearly accepted and valued, yet it was also in a certain measure troubling. The world was rendered transparent, perhaps to the point of non-existence. The development of this perception is a common way of reading the history of modernist painting. To take but one instance: Monet's series of studies (1892–3) of Rouen cathedral in the light of different times of day seems almost to suggest that there is no cathedral, only the play of light. This perception is out of synch with materialist, positivist thought, which still sought to carry forward the project of the Enlightenment, light as a means of seeing not as all there is.

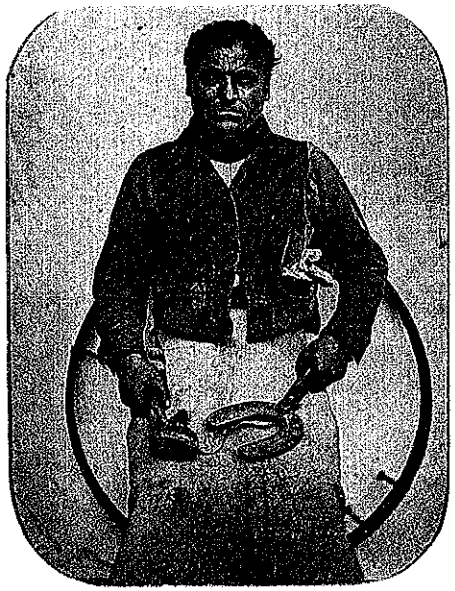
The question of translucence, and related qualities such as diffusion and blur, was already a matter of controversy in relation to photography within a few years of its invention (cf. Seiberling 1986: 26–7). While technological innovators tended to aim for a sharp, detailed, concrete appearance and to take nature and objects as subject matter, users and critics often favoured a slightly out-of-focus look, especially for portraits. Such blurring was held to

catch the essence of a subject, which would be lost in the brutality of hard edges. In practice a difference developed between the blurred, spiritual quality of portraits of the great and the good, a tendency reaching its apotheosis in the work of Julia Margaret Cameron, and the brutal, scrutinising quality of criminal, medical, eugenic and much ethnographic photography.

Diffusion:sharpness distinguishes between subjects and within them. There are appropriately hard-edged, relatively opaque subjects (the lunatic, the felon, the native) and appropriately soft-edged, more translucent ones (angels, fairies, saints and people like them). At the extremes there are the opaque non-white subject and the pellucid white subject, but in between the technology permits the reproduction of whiteness as a differentiated and hierarchised structure. Class as well as such criteria of proper whiteness as sanity and non-criminality are expressed in terms of degrees of translucence, with murkiness associated with poor, working-class and immigrant white subjects.

Photographic history provides striking examples.[19] Jean-Claude Lemagny and André Rouillé (1987: 22) show pre-1850 daguerrotypes depicting an actor, dressed as a tramp, and a blacksmith (Plates 3.2. and 3.3). The actor, despite the role, has a clear white face above his heavy beard and moustache, and this is emphasised by his being posed against a dark backdrop. The blacksmith, on the other hand, has only one or two highlights in a very dark face, whose darkness is reinforced by posing him against a light backdrop. (The actor's aspirational upward-looking face and pose and the blacksmith's direct look at the camera further express the class difference, the former glorified for the camera, the latter submitted to it.) Jacob Riis' influential photo reportage of immigrants, 'How the Other Half Live', published in *Scribner's Magazine* in December 1889, set out to show the link between poverty and environment, opposing the idea that the former is a product of the character and moral turpitude of the poor themselves. Yet, as Lemagny and Rouillé point out, Riis' accompanying text also provides a racial explanation for why some people remain poor, suggesting that, compared to the Chinese, Italians and Jews, 'the families of *Northern* European stock, like Riis himself, are neat, hard-working, and most likely to rise out of the slum'(1987: 64; my emphasis). The photographs use light and dark, blur and sharpness to underline the difference among the poor.

The extremes of this representation are also gendered. A middle- or upper-class aristocratic woman's face might be rendered nearly as white as the paper on which it was printed or the screen on which it was projected, while working-class men would be even darker than working-class women. There is a further gender differentiation for subjects clearly well within the pale of whiteness, again rendered in terms of translucence. White subjects may have the soft and the sharp, the light and the dark, the translucent and palpable warring *within* them. However, this is more often true of white men, portrayed with greater contrasts of light and dark, hard contours but



Plates 3.2 and 3.3 Anonymous *Actor Dressed as a Tramp* (n.d.) and Anonymous *A Blacksmith* (before 1850); from Lemagny (Collection of the Bibliotheque Nationale, Paris)

areas of translucence, the spirit in the flesh. White women are more liable to be overall translucent, but in ways that may deny their fleshliness altogether, allow it to coexist in a kind of disavowal, or else be presented as a sign of the deceptiveness of the image of woman as spirit. These variations will be further discussed below.

Within the aspirational structure of whiteness, photography's translucence could differentiate between races and within the white race, and even show degrees of translucence within the individual white (usually male) subject. Film reworked the same play on translucence, on letting light through without becoming wholly transparent. Much of the development of movie lighting was intended to counteract the insubtstantiality (and flatness) of the film image, which was heightened by the flickering quality of film's projected light. Early film used diffuse, overall light (generally sunlight, perhaps redirected or supplemented); the gradual adoption (notably from Belasco) of chiaroscuro and more and more artificial light sources permitted both realism (a source for the light is visible on screen) and direction (the hierarchisation of characters already discussed) as well as figure modelling. Backlighting kept the figure separate from the background and gave a sense of depth to the image. Three-point lighting moulded the figure and could bring out the texture of surfaces, of skin and clothes. Thus, paradoxically, lighting could be used to counterbalance the image's inherent translucence. To this should be added two other elements which, not themselves aspects of light, none the less contributed to giving the airy film image an illusion of solidity. First, both continuity editing and the moving camera (in place as conventions by the 1920s) create not only the illusion of three-dimensionality but also encourage the spectator to imagine s/he is *in* that space and surrounded by it.[20] Second, and fundamentally, all photographic images signify that there was a material, palpable reality there in order for there now to be a photograph of it. In a sense, the translucence of the photograph is always already held in check by the guarantee that it is an image of a palpable reality.

Yet film also in fact invested in translucence, in blur and glow, in the *mise-en-scène* of love and the development of the star system. These were cornerstones of film's commercial and cultural success, and will be discussed again at the end of the chapter.

The photographic media hold together translucence and materiality. This provides them with an extraordinarily supple and subtle mode of representation. It also permits a construction of the human person that discriminates between those who have a large amount of light shining through them and those who have next to none – the radiant white face and the opaque black one. However, it is the mix, in the very medium itself, of light and substance that is central to the conception of white humanity.

In this context, chiaroscuro becomes a key feature of the representation of whiteness. Hollander argues that it is used to discipline, organise and fix the image, suggesting the exercise of spirit over subject matter. It also

mobilises the polarity of black:white, which is at the very least consonant with the perceptual/moral/racial slippages of Western dualism discussed in Chapter 2. It also, selectively, lets light through. It allows the spiritual to be manifest in the material. The extreme instance of translucence, discussed in the final section of this chapter, is the angelic white woman. At the other extreme, the criminal, insane, disabled white person, especially if male, is dark and matt. The extremes are rare. It is the combination of translucence and substance – not translucence alone – which really defines white representation.

Light comes from above

While the idea of life as a transparency, though we are habituated to it, represents a remarkable perceptual leap, the idea that light comes from above may seem uninteresting. Surely, after all, in its natural forms – sunlight, moonlight, starlight – it does? This is undeniable, but consider two points. It is only since the eighteenth century – and only commonly since the late nineteenth – that artificial lighting has come from above. And it is only in Northern countries that middle-of-the-day overhead light is regarded as the optimum time for being about; in the South it is the low slanting (but still, granted, overhead) light of morning and evening by which things and people are most often seen. Yet in the movies there is always light from on high.

Kris Malkiewicz, writing in 1986, argues that nowadays cinematographers 'feel more and more uneasy about the key light coming from high above and creating what is considered a "film look" as opposed to the reality of light coming from the window or the practical light sources outside' (1986: 100). It is by no means clear that this is the case. Though much contemporary mainstream cinema does make more marked use of visible and lower light sources, it does not do so to the extent of abandoning light from on high. *Schindler's List* (1993), for instance, given the Academy Award for its cinematography (by Janusz Kaminski), may appear unHollywoodian in its use of black and white and strong, directional light, yet throughout it uses overhead lighting to rim the head or give a light glow to the temples. A striking instance is a sequence in a women's barracks in a concentration camp at night, where one woman is telling the others what she has heard about the gas chambers. She and the other women, in this dingy room at night, are none the less all lit from unobtrusive, ennobling overhead sources. The uneasiness with light from on high that Malkiewicz notes in contemporary cinematographers does not extend to abandonment of it.

Malkiewicz sees light from above as unnaturalistic, yet it was by recourse to exactly the same arbiter, nature, that the theatre began to move towards overhead lighting at the end of the eighteenth century. In 1781 the chemist

Antoine Lavoisier advised the Comédie Française on the use of overhead oil lamps with reflectors, thereby eliminating the old fault 'of presenting objects in a manner contrary to nature by lighting them from bottom to top, when they should, as in the physical order, be lit from top to bottom' (quoted in O'Dea 1958: 161, my translation). What is regarded as natural in any era has to do with what is possible and what is wanted. It was only the new light sources that made certain qualities of light (controllability, great brightness, steadiness) achievable and made it possible for almost anyone to have permanent overhead lighting in their home, street, stage or studio.

Both theatre and photography had, by the end of the nineteenth century, established the use of overhead lighting (though according to Nicholas Vardac it was not until 1917 that Belasco 'managed to eliminate the distortion of footlighting' altogether (1968: 119)). Film adopted the convention. Initially, natural sunlight was used (with interiors shot on open-roofed sets) but this was soon modified (diffused by the use of sheets, gauzes and so on) and/or supplemented by artificial lighting. Up to 1919 the latter were generally placed just above the performer's head (Salt 1983: 141); even this constitutes a relatively high position (compared to footlights or table lamps), but movie lighting proper placed it much higher.

High refers here not so much to the distance as the position above the performer. The distance above did certainly affect the intensity and spread of the light as well as the convenience of working with it (heat, keeping it out of shot), but it was the angle that was most significant. Although this kind of light is sometimes referred to as 'zenith light', this is not strictly true ('The lousiest photography you can get is around high noon when the sun's directly overhead', director Clarence Brown, quoted in Brownlow 1968: 164). A direct overhead position (as it were, high midday) for the key light tends to cast those feared shadows from the eyebrows, nose and chin, requiring too strong and flattening a fill in compensation. Something closer to a 45° angle has come to be preferred, since it enabled modelling of the face without 'disfiguring' shadows.

The light comes from above in a literal sense, but its superior position also carries geographical and ontological connotations, both ethnically suggestive.

Movie lighting drew on nineteenth-century traditions of using and representing light that were explicitly indebted to North European painting, above all to Rembrandt and Vermeer, painting rediscovered in this period (Slive 1962). This had provided, through its emphasis on domestic portraiture as opposed to classical and biblical subjects, a venerable model for photography in its bid for profitable respectability, something very clear in figures who were soon recognised as early masters of photography, such as David Octavius Hill and Robert Adamson (Rembrandt) and Henry Peach Robinson (Vermeer). Similarly in the theatre, Belasco and Appia, even though their work in many ways moved in opposite directions (towards

naturalism and anti-illusionism respectively), had both seen the Dutch and Flemish masters as their masters, and both made extensive use of overhead lighting. Lighting in film, once it was not just using available sunlight, also drew on North European painting, partly through taking over the conventions of photographic portraiture,[21] partly under the influence of Belasco (directly and tellingly on Cecil B. DeMille (Baxter 1975: 101)) and partly in the rather separate development of a film lighting style in the Scandinavian countries (in tune with the flowering of a distinctive style in the arts based on the observation and reproduction of the qualities of Nordic light (see Kent 1987)), a development that was in turn taken up by Hollywood.

From the late 1910s on, it became usual to refer to the ideal for lighting the movies as 'North' or 'Northern' light: 'I've always used his [Rembrandt's] technique of north light – of having my main source of light on a set always coming from the north' (cinematographer Lee Garmes, quoted in Russell 1973: 45). North light is defined by Barry Salt as 'the kind of light that comes into a room in daytime through a large north-facing window, or some arrangement that produces an identical effect with artificial means' (1983: 329). It is soft, white and steeply slanted. Even the move to suffuse sunlight in the early movies can be seen as a wish to reproduce the softness of Northern light, and it is central to the development of three (and more)-point movie lighting. More recently, it may also be achieved by bounced light using quartz or an umbrella light (ibid.: 329–330).

However effected, this light has certain implications. It is, literally and symbolically, superior light. The North, in ethnocentric geography, in the map of the world that became standardised in the process of European expansion, is above the South. It is still most common to think in terms of going up North, being down South and so on. This is also the region of North Europeans, the whitest whites in the white racial hierarchy. As discussed in Chapter 1, the North is an epitome of the 'high, cold' places that promoted the vigour, cleanliness, piety and enterprise of whiteness. White people come off best from this standardised Northern light, such that they seem to have a special affinity with it, to be enlightened, to be the recipient, reflection and maybe even source of the light of the world.

Such an affinity is further suggested in the figure of the ideal Aryan, with blond hair and blue eyes – hair the colour of the sun, eyes the colour of the sky. The supreme embodiment of Western humanity is Christ, whose whitening in Christian iconography was such that his 'hair and his beard were given the colour of sunshine, the brightness of the light above, while his eyes retained the colour of the sky from which he descended and to which he returned' (Bastide 1967: 315).

Light from above is virtuously Northern; it is also, as the last quotation suggests, celestial. Heaven had been seen as a place of light since around the twelfth century (McDannell and Lang 1988: 80ff.) Film was quick to realise

this. Following Belasco, pools of light were used for scenes of spiritual devotion and conversion (Gunning 1991: 182, 187). One of the earliest examples of the expressive use of light in film, that is, going beyond general, overall illumination, is the vision of Eva as an angel in *Uncle Tom's Cabin* (USA, 1903) (Plate 3.4). Both the ray of light in which Eva appears and the 45° slanted light coming through the window are in fact painted on the set. The example – famous as an example of literally painting light and also because of the runaway commercial success of the film – could not be more germane ethnically: Eva is the last word in white purity even before she joins the angels, themselves figures of central importance in the construction of ideal white womanhood.

The celestial connotations of light from above are not confined to its use in explicitly religious or ethereal contexts. I have already discussed the examples of Sean Connery's illuminated forehead in *Rising Sun* and the gleam on Tom Cruise's hair in *A Few Good Men*, and the exceptional example of the black man with glowing hair in the latter. In all these cases the man is not particularly brightly lit overall, but there is this touch of light about this head.

There is a continuity between this way of representing white men and nineteenth-century portraiture. Christine Battersby (1989) has noted the motif of the light of genius at the temples in painted portraits of men in the

Plate 3.4 Uncle Tom's Cabin (USA 1903)

period (Plate 3.5). The same thing runs through photography. It is very striking in Julia Margaret Cameron's work, her studies of Sir John Herschel (1867) (Plate 3.6) and Longfellow (1868), for instance. Cameron also did studies of angels and fairies; she transfers her sense of the spiritual, celestial quality of light to great men touched by heavenly inspiration. Yet it was not confined to the portraiture of the great and the good. The dark clothing of men, especially respectable men, and the upturned face combined with overhead lighting, became the standard way to produce an image of (ideal, privileged) white masculinity that showed it to be touched with a spark of light.

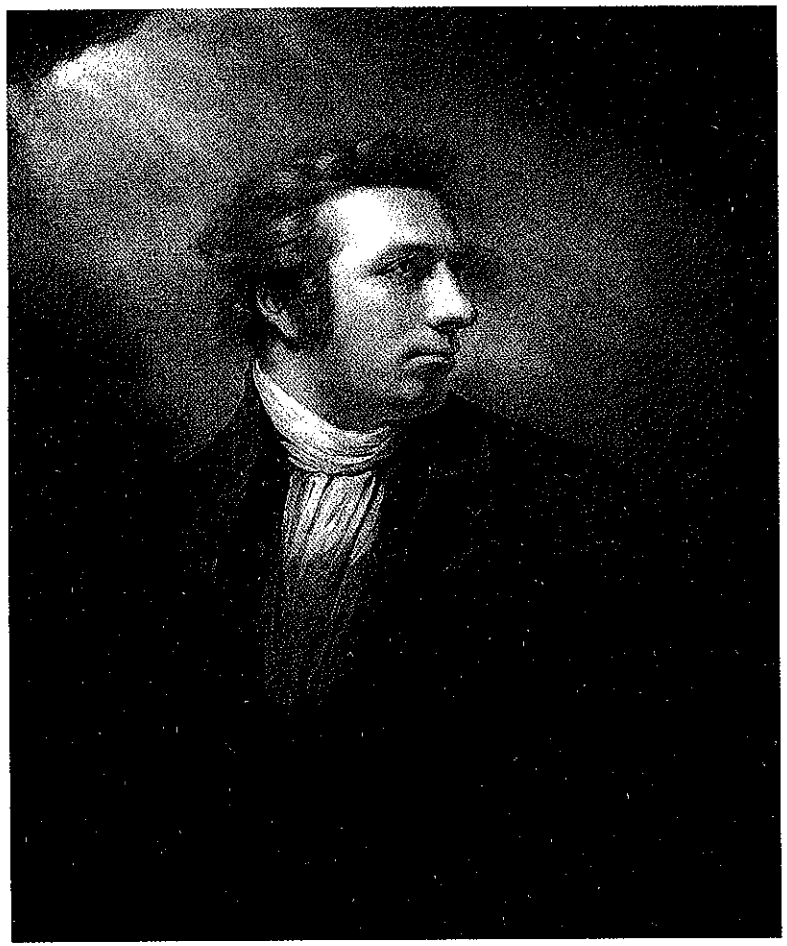


Plate 3.5 James Northcote *Henry Fuseli* (1778) (National Portrait Gallery, London)

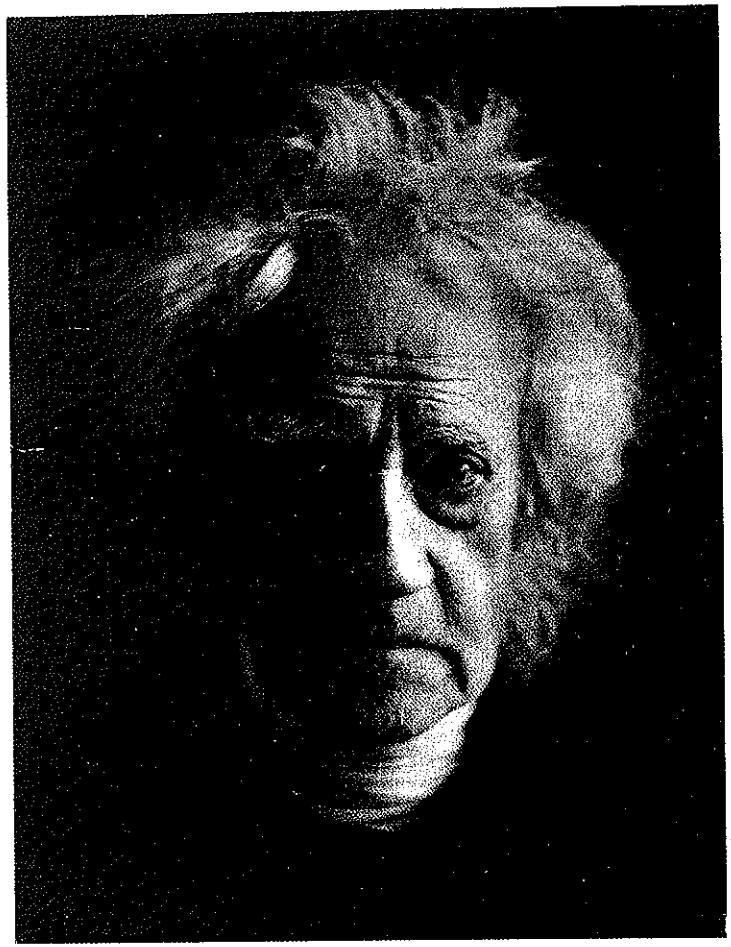


Plate 3.6 Julia Margaret Cameron *Sir John Herschel* (1867) (Royal Photographic Society, Bath)

The culture of light makes seeing by means and in terms of light central to the construction of the human image. Light is a defining term and means of the culture and how different groups relate to it profoundly affects their place in society. Those who can let the light through, however dividedly, with however much struggle, those whose bodies are touched by the light from above, who yearn upward towards it, those are the people who should rule and inherit the earth. However, as I have already suggested above, such imagery is also inflected by class and gender, and it is to the second of these, so crucial to the sexual reproductive economy of race, that I finally turn.

The glow of white women

So far I have been arguing that the aesthetic technology of the photographic media, the apparatus and practice *par excellence* of a light culture, not only assumes and privileges whiteness but also constructs it. Finally I want to look at an extreme instance of this, the use of light in constructing an image of the ideal white woman within heterosexuality.

A passage in *Uncle Tom's Cabin* (1852) describes a visual effect that has become standard in photography and film:

> Eva came tripping up the verandah steps to her father. It was late in the afternoon, and the rays of the sun formed a kind of glory behind her, as she came forward in her white dress, with her golden hair and glowing cheeks.
>
> (Stowe 1981: 401)

Idealised white women are bathed in and permeated by light. It streams through them and falls on to them from above. In short, they glow.

They glow rather than shine. The light within or from above appears to suffuse the body. Shine, on the other hand, is light bouncing back off the surface of the skin. It is the mirror effect of sweat, itself connoting physicality, the emissions of the body and unladylike labour, in the sense of both work and parturition. In a well-known Victorian saw, animals sweated, and even gentlemen perspired, but ladies merely glowed. Dark skin too, when it does not absorb the light, may bounce it back. Non-white and sometimes working-class white women are liable to shine rather than glow in photographs and films.

Cosmetics have been devoted to both glow and the avoidance of shine. The reason for the use of powder in cosmetics was to prevent any suspicion of shine. Elizabeth Arden's cleansing cream promised to remove the fault of 'cheeks that shine'. Helena Rubinstein's fame rested on her claim to have, and through her creams to be able to give others, alabaster skin, that is, a translucent whiteness. An ad in *Photoplay* in October 1938 (Plate 3.7) works on the idea that the purity of the product itself can create true loveliness: Luxor is a powder that 'will bring a new, smooth *transparency* to your skin . . . the *radiance* and bloom of pure beauty' (my emphasis). Ads for skin lighteners for women of African descent claimed that they too could glow (like, by implication, white women). One in *Ebony* in July 1973 (Plate 3.8) is for a skin tone cream actually called Bleach and Glow, promising: 'That glowing complexion . . . it's yours . . . closer than you ever dreamed' – in other words, black women can get close to looking like the feminine ideal, that is, white women. Significantly, another ad in the same issue (Plate 3.9) is for Tawny, 'a new make-up that's made exclusively for coloured girls – at last, someone has realised your skin is different', part of a contemporaneous promotion of black female beauty not modelled on glowing white ideals.

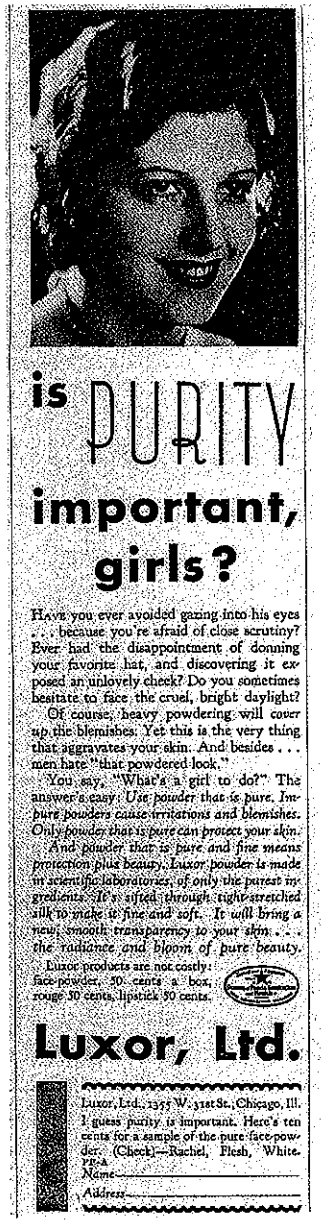


Plate 3.7 Advertisement for Luxor face powder (*Photoplay*, October 1938)

Plate 3.8 Advertisement for Bleach and Glow skin tone cream (*Ebony* July 1973)

Blonde hair too could give white women that glow. Marina Warner traces the connection of blondness and lightness far back into Christian tradition. Blondness is identified with 'heavenly effulgence. . . . It appears to reflect solar radiance, the totality of the spectrum, the flooding wholeness of light which Dante finds grows more and more dazzling as he rises in Paradise' (Warner 1994: 366). I noted above the development of backlighting in film to ensure that blonde hair looked blonde; it also enabled the production of this effulgent dazzle.

White clothing can also give that glow, no more so than in bridal wear. Weddings are the privileged moment of heterosexuality, that is, (racial) reproduction, and also of women, since they are glorified on what is seen as their day. The ubiquity of white as the colour for wedding dresses was really only fixed as a convention from the mid-nineteenth century (cf. Ginsburg 1981, McBride-Mellinger 1993).[22] The wedding dress, especially the veil and the use of lace (industrially produced from the late eighteenth century), all facilitate a radiant look. Dark-skinned brides may wear white as well, of course, but not only do they seldom have fair hair but their skin colour is likely to contrast strongly with their bridal wear, whereas white women's

Plate 3.9 Advertisement for Tawny make-up (*Ebony* July 1973)

complexions, especially in wedding photography, can seem like the apotheosis of the clothing's whiteness and glow.[23]

The photographic media have further enhanced these aspects of cosmetics and apparel in the use of haloes, backlighting, soft focus, gauzes, retouching and all the other conventions of feminine lighting. The ethnically loaded evils of shadow and shine can be eliminated, the former by the combination of lights in the three- or more point system, the latter by the selection of lights of different intensities, colours and temperatures. The mobilisation of these is often especially evident in close-ups of women in films, exaggerating the difference between overall and figure lighting discussed above.

The development of an image of the glowing human being can be traced in European art. One index of it is the means for representing haloes. In medieval art, these are gold, very material, silhouetting the head; since the Renaissance, they have seemed to radiate from the head, in turn suffusing it with a glow. Rudolph Arnheim discusses the way in which in Rembrandt's work, objects (including people) receive the impact of light from without, but at the same time 'become light sources themselves, actively irradiating

energy. Having become enlightened, they hand on the message' (1956: 314–15). This is the perception that was carried over into movie lighting.

The secularisation and feminine specification of this seems to have been effected through the figure of the woman as angel, enlightened and enlightening. Theologically, angels have no gender, and in the Bible and medieval art they were depicted as male and manly. With the Renaissance, they begin to be depicted either as women or as men with 'feminine' traits (Underhill 1995: 56). Verbal and visual imagery of the angelic begins to be applied to idealised, or just simply adored, women. Edmund Spenser in his *Epithalamion* (1594) evokes the beloved bride arriving in the tellingly coloured accoutrements of hallowed womanhood, which lead him on irresistibly to heavenliness – she is

> Clad all in white, that seems a virgin best.
> So well it her beseemes, that ye would weene
> Some angell she had beene.

By the nineteenth century this had become a doctrine. Notoriously, in Victorian society woman was to be the 'angel in the house', a term derived from the title of an 1854 poem by Coventry Patmore, which invokes her thus:

> Her disposition is devout,
> Her countenance angelical
> . . .
> A rapture of submission lifts
> Her life into celestial rest.

The term was taken up by John Ruskin in his *Sesame and Lilies* (1865), the white flowers of the title referring to women; in it, he also speaks of such angels providing for men 'a haven in a heartless world', playing on the nearness of the word 'haven', a harbour, to 'heaven'. Similarly, Horace Bushnell, in *Women's Suffrage: The Reform against Nature* (1869), inveighed:

> Why, if our women could but see . . . how they make a realm into which the poor bruised fighters . . . may come in, to be quieted, and civilised and get some touch of the angelic, I think they would be very little apt to disrespect their womanly subordination.
>
> (quoted in Dijkstra 1986: 11)

The persistence and power of this image was not lost on the young Calvin Hernton growing up in the American south years later:

> As I grew older, the desire to see what it was that made white women so dear and angelic became a secret, grotesque burden to my psyche. . . . I kept wanting to find out what made white womanhood *white womanhood*; I wanted to unearth the quality that made her angelic and forbidden.
>
> (1969: 61–2)

The touch of the angelic that Bushnell called for and that weighed so heavily on Hernton is Christian not only in drawing on the figure of the angel from its cosmology but also because it is in line with Victorian discussions of beauty which maintained that, while Western ideals of physical beauty were derived from the Greeks, they had been given a decisive inflection by Christianity, which stressed the overwhelming importance of inner beauty (Steele 1985: 102ff). Thus, the anonymous author of *How to be Beautiful* (1866) 'described a girl whose "features were plain in the last degree, her figure and her gait most unlovely," who discovered that "the secret of how to be beautiful was to "let Christ dwell in your heart"' (ibid.: 105). The sign of this was the sense of glow, of something in but not of the body, something heavenly.

The angelically glowing white woman is an extreme representation, precisely because it is an idealisation. It reached its apogee towards the end of the nineteenth century and especially in three situations of heightened perceived threat to the hegemony of whiteness. British ideological investment in race categories increased in response to spectacular resistance to its Empire, notably the Indian Mutiny of 1857 and the Jamaican revolt of 1865 (Miles 1989: 83). The Southern US ideal of womanhood intensified in the period after the Civil War, with the defeat of official racism and slavery and the supposed rise of Negro lawlessness. The celebration of the Victorian virgin ideal in the cinema, in stars like Lillian Gish and Mary Pickford[24] (Plates 3.10 and 3.11), was part of a bid for the respectabilisation of the medium, a class issue but indissociable from ethnicity in the USA in the early years of the twentieth century, in the form of both mass immigration of non-Nordic groups to the USA and the huge internal migration of African-Americans from the scattered, rural South to the concentrated, urban North (May 1983, Hansen 1991).

The white woman as angel was in these contexts both the symbol of white virtuousness and the last word in the claim that what made whites special as a race was their non-physical, spiritual, indeed ethereal qualities. It held up an image of what white women should be, could be, essentially were, an image that had attractions and drawbacks for actual white people. It was always contested: 'Victorian values' were never simply assented to. Even within cinema, even within the very films seemingly promulgating the cult of true womanhood, there were alternative and oppositional views (Hansen 1991: 120 and *passim*). The ideal itself was unstable, at once attracting and

Plate 3.10 Lillian Gish (BFI Stills, Posters and Designs)

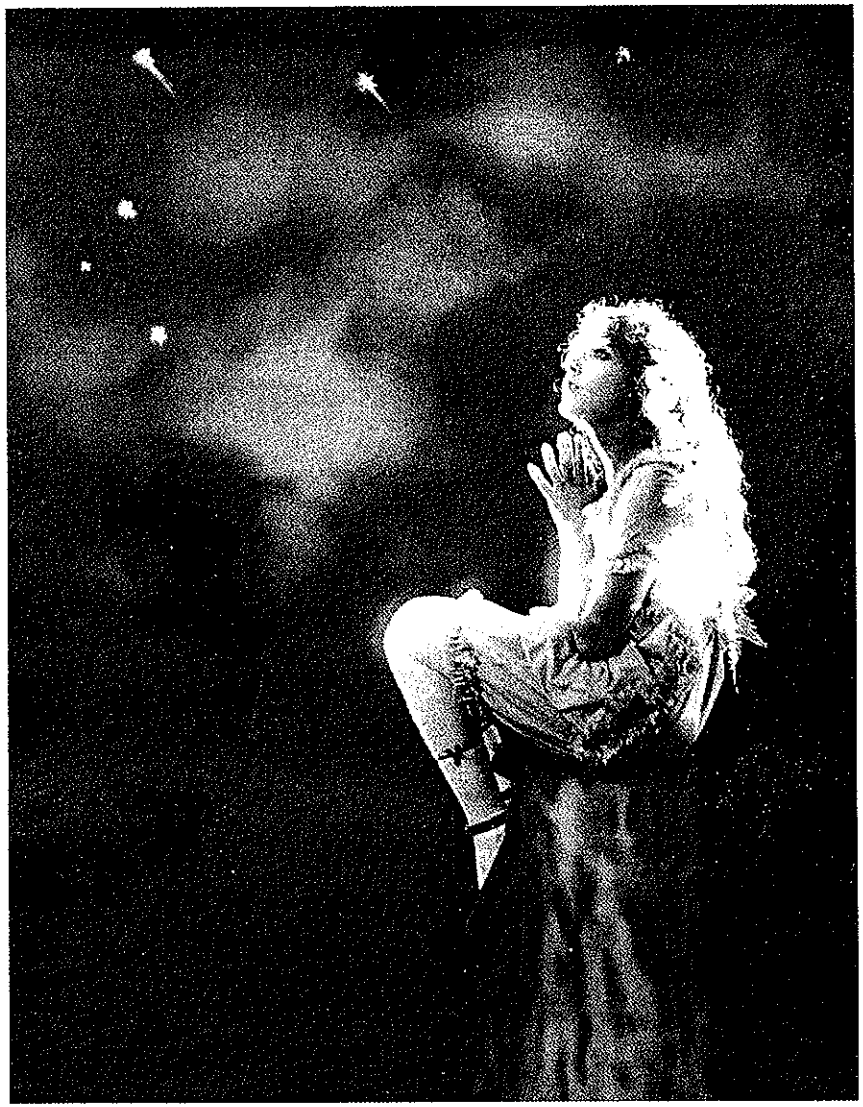


Plate 3.11 Nelson Evans: photograph of Mary Pickford (*c.*1917) (BFI Stills, Posters and Designs)

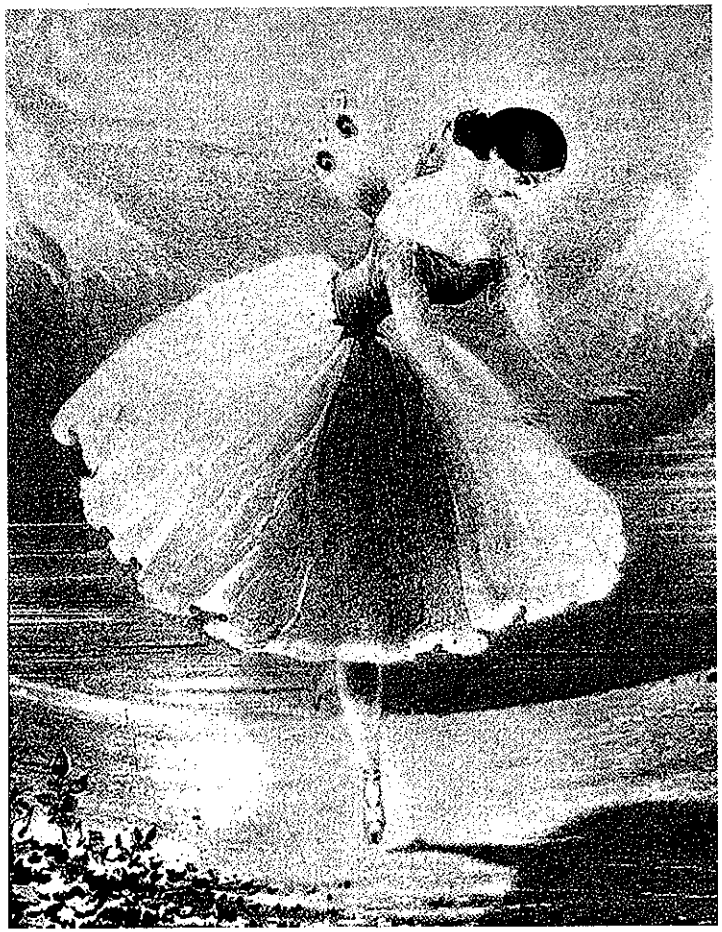


Plate 3.12 N. Currier: lithograph of Fanny Elssler in the 'pas de l'ombre' (shadow dance) from *Ondine, ou la Naiade* (1846)

repelling both women and men. It accorded white women a position of moral superiority and required deference to their needs, yet it was also a trap of moral obligation and unreal moral demands. It provided white men with an object of inspirational devotion, but one which might also provoke resentment of moral superiority and sexual unavailability. The ambiguity of the image is caught in the figure of the ballerina in the Romantic ballet (and the related genres of féerie, pantomime and burlesque), where the soft, flaring gaslight caught and was diffused by the fluffed up, multiple layers of the tutu, introduced in the mid-nineteenth century. Together with scenarios about

sprites and the use of pointe work (ballerinas seeming to dance on the tips of their toes and thus to be weightless), the Romantic ballet constructed a translucent, incorporeal image (Plate 3.12). Yet the ballerina was also always a flesh and blood woman showing her legs. Gustave Doré's lithograph *Les Rats de l'Opéra* (Plate 3.13) perfectly expresses the sexual dynamics of the ballet, the men in the dark box gazing lustfully at these supposedly ethereal figures in the light. The accidental double booking and resourceful amalgamation of a Parisian ballet troupe and a melodrama to produce the entertainment *The Black Crook* in New York in 1866 is widely credited with having simultaneously introduced ballet, the musical comedy and burlesque (striptease) into the US theatre. The Romantic ballet produced both the most ethereal stage aesthetic and the sex show.

As a day-to-day ideal, the image of the glowingly pure white woman no longer has the currency it once had: neither sex expects women to conform to this ideal and few think it would be a good thing if they did. Yet the language of this image remains powerful, and particularly at those radiant moments of adoration: the man's first sight of his first or great love, demure, looking down, luminously sweet; the bride, glowing in the light of her white gown; the young mother, still at heart illuminated with the pure desire of love for children. The history of Diana Windsor (Lady Diana/the Princess of Wales) (Plates 3.14 and 3.15) could be told through this

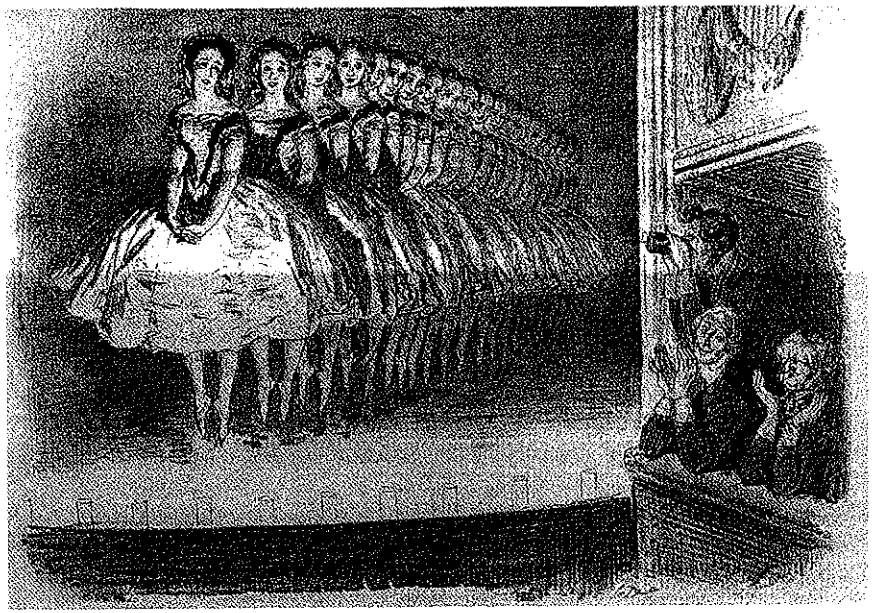


Plate 3.13 Gustave Doré *Les Rats de l'Opéra*

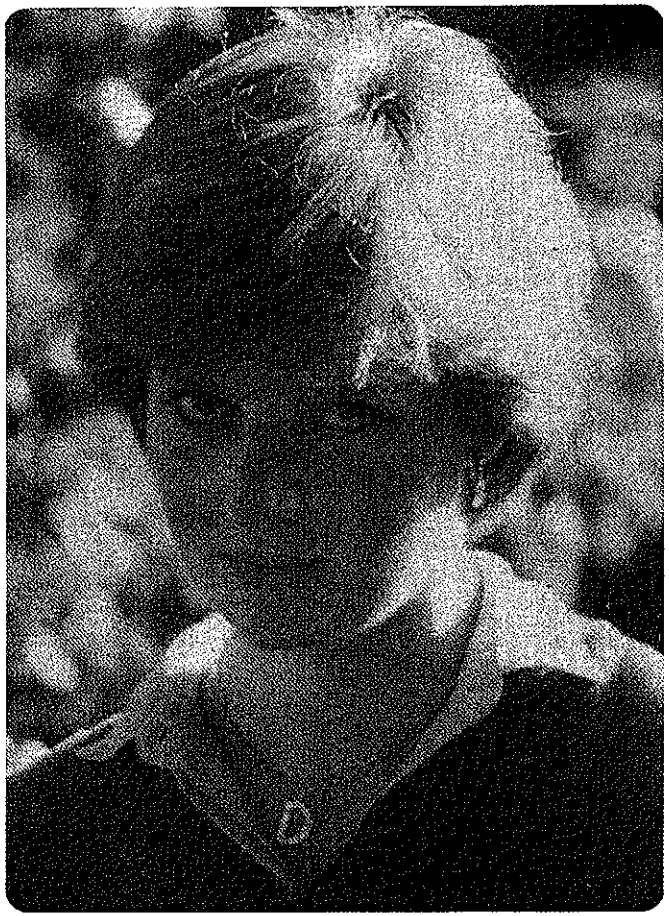


Plate 3.14 Lady Diana Spencer, from *Charles: Present Prince, Future King* (Manchester: World International Publishing, 1981)

imagery, until her fall from grace. Glow remains a key quality in idealised representations of white women – even with a 'feminist' star like Jane Fonda (Plate 3.16) or in the routinised pin-ups of the British tabloid press (Plate 3.17).

The endurance of the image is especially notable in the representation of the white heterosexual couple, the bearers of the race. Here there is a persistent differentiation between men and women in terms of light. In painting, in shots of love scenes in films, in, perhaps supremely, film stills,[25] the man is darker: his clothes are more sombre, his fair body is more covered, what

Plate 3.15 The Prince and Princess of Wales and Prince William (*Majesty* 3(4), August 1982)

is visible of his flesh is darker, light falls less fully on him. There is almost never any departure from this – it is as true of art cinema and pornography as of mainstream movies; Madonna provides a postmodern polarisation in her bleached looks and supporting black studs.

The difference is often subtle enough. In a famous still from *The Big Sleep* (USA, 1946) (Plate 3.18), featuring one of the iconic heterosexual couples of the twentieth century, Lauren Bacall and Humphrey Bogart, he is only somewhat darker; her dress is in fact blacker than his suit and both have overhead lighting and some fill that eliminates quite a lot of shadow (though less than might be the case if it were not a film noir). All the same, she is lighter and whiter. The overhead light catches more of her hair; the key light

Plate 3.16 Coming Home (USA 1978): Jane Fonda

on her, the make-up and probably some retouching, all make her face the largest, clearest expanse of white in the image. The slight shadow from her nose and across her right cheek is much softer than the sharp, deep shadows round his eyes and distending from his nose. Her darker clothing has the effect of heightening the whiteness of her face, wrist and hands; he is greyer overall, apart from the spark of light at his temples. Most significantly, the light that creates this spark and illuminates in profile the right side of his face (the side turned away from the camera) seems to be the same light that catches the back and top of her hair, so that the light on him comes in some measure from or through her.

It is thus not just a matter of a different disposition of light on women and men, but the way the light constructs the relationship between them. The sense of the man being illuminated by the woman is a widespread convention, established in classic Hollywood cinema – Nazimova and Valentino (*Camille* (1921)), Erich von Stroheim and Maude George (*Foolish Wives* (1921)), Lillian Gish and Lars Hanson (*The Scarlet Letter* (1926)), Greta Garbo and John Gilbert (*Flesh and the Devil* (1926)), Robert Taylor and Jean Harlow (*Personal Property* (1936)), Bette Davis and Henry Fonda (*Jezebel* (1938)) (Plates 3.19 to 3.24) – but still current to-day, from Isabelle Adjani and Vincent Perez (*La Reine Margot* (1994)) (colour Plate 9) to the covers of romantic fiction (colour Plate 10). The woman is more fully in the

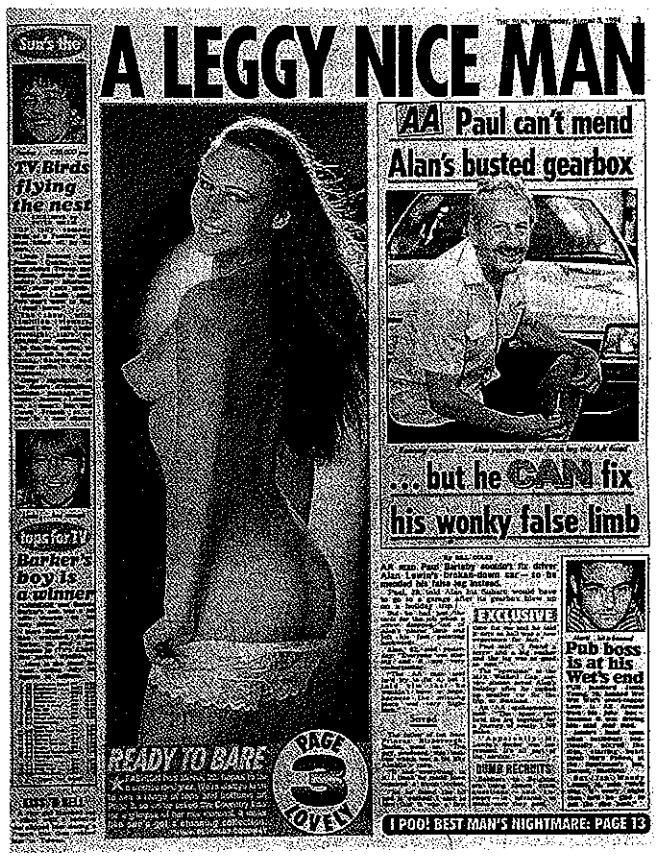


Plate 3.17 'Page 3 Lovely' (*The Sun*, 3 August 1994)

light, the man posed so that he seem to intrude into, yearn towards it; the dark shape of his body rears up into the light of hers; he is dark below and gradually lighter, often from the shirt front or neck up. This is pushed to its logical conclusion in horror film imagery. There is a frightening, disfiguring darkness to the sexuality that, moth to a flame, yearns towards the pure light of desirability.

In film, it is not only within a single image but also in the relationship between shots in a scene that this dynamic is at work. In the example from *Way Down East* discussed on pages 86–7, in the shot:reverse-shot cutting when Barthelmess and Gish first see each other, he, though strongly lit from his right, is against a dark background and within an iris, darkening the surround of the image. She, on the other hand, is against a lighter background,

Plate 3.18 The Big Sleep (USA 1946): Lauren Bacall and Humphrey Bogart (BFI Stills, Posters and Designs)

with strong frontal lighting and an overhead light catching the crown of her bonnet, and only a slight darkening of the edge of the image where the light falls off, having the effect of softening the frame. He looks at her from his surrounding darkness; she is seen in a blur of light.

Such contrasts are common in scenes of the first encounter of the heterosexual couple. Cinematographer Joseph Walker recalls working on *Mr. Deeds Goes to Town* (1936) and feeling uneasy when setting up sharp lighting for Gary Cooper but diffused lighting for Jean Arthur in close-ups destined to be cross-cut. The director Frank Capra told him not to worry: 'By all means, go ahead with the close-up of Arthur. This is the way he sees her! The man is in love and he sees her . . . softly diffused . . . ethereal . . . beautiful . . . Yes' (Walker and Walker 1984: 220).

In *Broken Blossoms* (USA, 1919), Cheng (Richard Barthelmess), steeped in melancholia, is seated at the counter of his shop looking towards the window; there is strong frontal light on his face and strong overhead light on his head, shoulders, right hand and a pile of goods behind him, yet this light only serves to create a contrast with his dark cap and jacket and the pitch black of his surround. The film cuts (via an inter-title, 'This child with tear-aged face') to what he sees: Lucy (Lillian Gish) looking at the things in

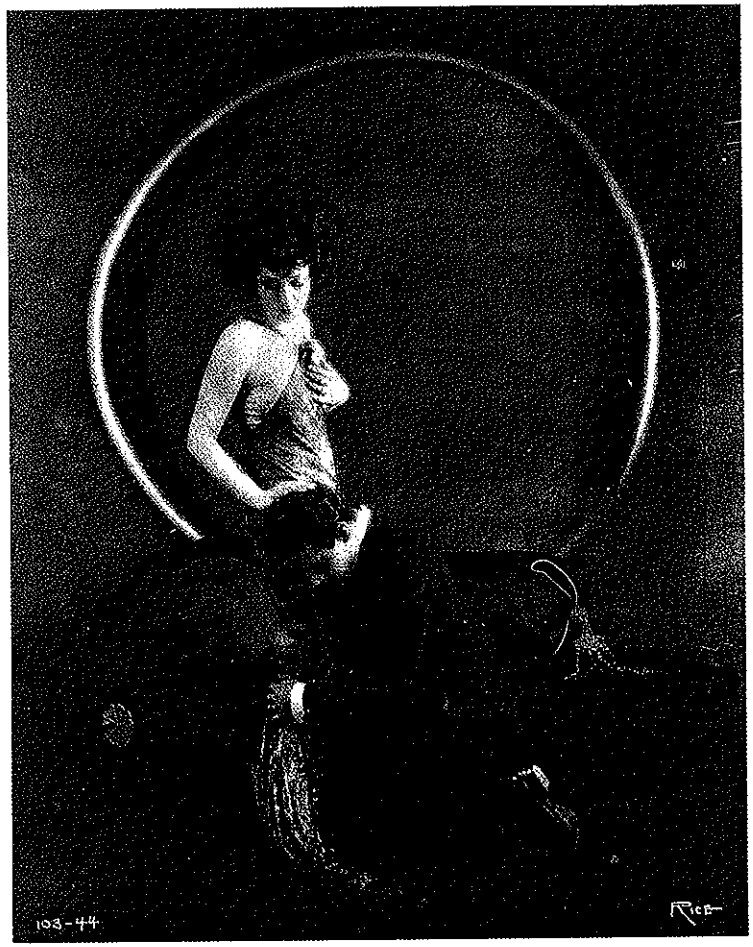


Plate 3.19 Camille (USA 1921): Alla Nazimova and Rudolph Valentino (BFI Stills, Posters and Designs)

the window. The shot starts in near darkness, with just a little light on Gish's right cheek and another catching some of the hair over her left shoulder; she is framed from the chest up and to the right of the image, so that well over half the screen is in darkness. As the shot continues, however, and as Cheng continues to gaze at her, both lights grow stronger and wider until finally most of her face is in light, her body is rimmed with light and parts of the wall behind her are softly lit. The light is the dawning recognition by him of her goodness, which awakens his chaste desire.

In *Gilda* (USA, 1946), Johnny (Glenn Ford) and Ballen (George

Plate 3.20 Foolish Wives (USA 1921): Maude George and Erich von Stroheim (BFI Stills, Posters and Designs)

Macready), both darkly dressed and buttoned tightly up to the neck, walk through the latter's mansion from the bright hallway through the dim passages that lead to Ballen's bedroom, from which can be heard soft, female singing. When they reach the threshold of the bedroom, Johnny remains in the dark passage while Ballen stands just inside, a black figure against the bright white of the door. We cut to what they see: a brilliantly lit space, into which a bare-shouldered woman, Gilda (Rita Hayworth), rises up, flinging back her long hair so that it creates a flurry of light. The men look on from darkness at the woman in, and seemingly emanating, the light. In *Some Like It Hot* (USA, 1959), Joe (Tony Curtis) and Jerry (Jack Lemmon), dressed as women, burst into the women's toilet on a train and surprise Sugar (Marilyn Monroe), who is taking a surreptitious swig of brandy. All three wear black dresses, but the men also have black hats in contrast to Sugar's/Monroe's blonde hair which is lit from above, the side and even from below (catching it where it bobs at her nape), so that her head is almost a ball of light. This quality is echoed by the lights that pass behind her outside the train, whereas Joe and Jerry are posed against the interior of the train. In *8½* (Italy, 1963), Guido (Marcello Mastroianni), dressed in a dark suit and wearing black-

Plate 3.21 The Scarlet Letter (USA 1926): Lars Hanson and Lillian Gish (BFI Stills, Posters and Designs)

rimmed sunglasses, is queuing for water at a health spa and musing on the film he is trying to make; suddenly, he imagines he sees his ideal woman (Claudia Cardinale); he lowers his sunglasses, exposing his eyes to the light, and looks off screen: the woman, in a simple white dress, walks on tiptoe and in a sudden silence up some steps into a sun-drenched arena; the film moves, via shots of his darker figure, to an extreme close-up of her, cropped from forehead to chin, against a plain, dazzling white background; finally she bends down to pick something up, leaving the screen entirely blank white.

All the examples I have given of the contrast in the use of light between white men and women within heterosexuality, with the connotations of dark desire for the light, are much more complex, contradictory and even tense than I have so far indicated. In *Broken Blossoms*, it is a Chinese man who looks at the white child-woman. The film is at pains to exalt his goodness compared to the Europeans among whom he lives, and especially the girl's abusive adoptive 'father', while still locating the perverse desire for a child in this ethnic other (cf. Andrew 1981, Lesage 1985). In *Gilda*, the woman looks back, Gilda subjects Johnny to her appraising gaze (cf. Dyer 1978). In *Some Like It Hot*, the woman takes the men for women, creating a whole range of

Plate 3.22 Flesh and the Devil (USA 1926): Greta Garbo and John Gilbert (BFI Stills, Posters and Designs)

ambiguities (cf. French 1978). *8½* shows that the man knows that the woman is his fantasy and at the end of the film even has the actress who's going to play the part of the fantasy come and tell him that she is after all just his fantasy.

These variations are a product of the resistances and equivocations with regard to the image of woman as angel that I noted above. They deploy perversity, defiance, self-reflexivity, irony. They suggest both a space for white women to work with and against the image and also the play of resentment, punishment and self-awareness in white heterosexual masculinity. They do not lessen the impact of the image.

Just as the white woman as the idealised creature of light has always been an ambivalent and contested image, so these variations on the image are witness to its hold on imagination. The aesthetic technology of light, perhaps the most characteristic mode of cultural production of the white era, finds its fullest, most flexible and contradictory expression in the cradle of whiteness, heterosexuality.

There is a remarkable watercolour by the eighteenth-century British artist Paul Sandby of a group watching a magic lantern (colour Plate 11). As a

Plate 3.23 Personal Property (USA 1936): Robert Taylor and Jean Harlow (BFI Stills, Posters and Designs)

watercolour of a magic lantern this is already fascinating as a translucent representation of translucence. At either side of the image there are two figures of contrast. On the right there is a white woman, a nurse cuddling a baby. The light from the lantern screen barely illuminates those watching it, and she is even further than they from the screen, yet she is luminescent with lighter clothes than everyone else and light from no source above striking the top of her bonnet. She is a figure of (maternal) virtue and/or of desirability. On the left there is a male servant, who looks as if he is of African descent (a common enough practice in wealthy households of the time). He is

Plate 3.24 Jezebel (USA 1938): Henry Fonda and Bette Davis (BFI Stills, Posters and Designs)

completely dark, apart from one dot of an eye and a little illumination from a candle held close to his waist. His left side is silhouetted against the light of the screen, an aesthetic play on his skin/hue and the colour of light. The white woman, albeit lowish in status, has no need of the light to be lit up. The black man, directly in front of the screen and holding a candle, still does not pick up the light, is still opaque. His candle, though, does enlighten a book he is carrying, a treatise on light by a Dr Taylor. The two servants (the white nurse, the black houseboy) do not look at the screen, but across the paper at each other, with desire. The figure of dark, physical, unenlightened desire looks across at the (responsive) figure of illuminated desirability, while the well-to-do whites look on at their slide (a parody of a Parliamentary procession). Such deployment of light and dark, transparency and substance, Caucasian and not-Caucasian, female and male, sex-oriented and sex-indifferent, in the context of an overdeterminedly translucent image from the end of the eighteenth century which makes reference to light epistemology, condenses the theme of this chapter and, in many ways, of this book.

Appendix: Instruction manuals

The following manuals on photography, film and video were consulted for this chapter.

1892 Brothers, A. *Photography: its History, Processes, Apparatus and Materials*, London: C. Griffin.

*c.*1910 *Comment obtenir de Bonnes Photographies*, Paris: Kodak, Société Anonyme Française.

1911 Jones, Bernard E. *Cassell's Cyclopaedia of Photography*, London: Cassell.

1912 Talbot, Frederick A. *Moving Pictures: How They Are Made and Worked*, Philadelphia: J. B. Lippincott.

1920 Gregory, Carl Louis (ed.) *A Condensed Course in Motion Picture Photography*, New York: New York Institute of Photography.

*c.*1924 McKay, Herbert C. *Motion Picture Photography for the Amateur*, New York: Falk.

1929 Wheeler, Owen *Amateur Cinematography*, New York: Pitman.

1936 Deschin, Jacob *New Ways in Photography*, New York: Whittlesey House.

1939 Barton, Fred B. *Photography as a Hobby*, New York: Harper & Brothers.

1948 Archer, Fred *Fred Archer on Portraiture*, San Francisco: Camera Craft Publishing Co.

1950 Hanson, Eugene M. *Glamour Guide: How to Photograph Girls*, American Photographic Publishing Co. (no place given).

1955 Lorelle, Lucien *The Colour Book of Photography*, London: Focal Press. (Translation of *Traité pratique de la prise de vue en couleurs*, Paris: Publications Photo-Cinéma Paul Montel, n.d.)

1957 Bomback, Edward S. *Photography in Colour with Kodak Films*, London: Fountain Press.

1957 De Maré, Eric *Photography*, Harmondsworth: Penguin (reprinted at least five times up to 1970).

1963 Morgan, Willard B. (ed.) *The Encyclopedia of Photography*, New York: Greystoke Press.

1966 Fritsche, Kurt *Das Grosse Fotofehlerbuch*, Leipzig: VEB Fotokinoverlag. (Published in translation as *Faults in Photography: Causes and Corrections*, London/New York: Focal Press, 1968.)

1972 Millerson, Gerald *The Technique of Lighting for Television and Motion Pictures*, London: Focal Press.

1977 Greenhill, Richard, Murray Margaret, and Spence Jo, *Photography*, London: Macdonald Educational.

1979 Hedgecoe, John *John Hedgecoe's Complete Photography Course*, New York: Simon & Schuster.

1981 Craven, John and Wasley, John *Young Photographer*, East Ardsley: E P Publishing.
1984 Kodak *How to Take Good Pictures*, London: Çollins. (A revised edition of *The World's Bestselling Photography Book*.)
1985 Busselle, Michael *The Manual of Male Photography*, London: Century Hutchinson.
1987 Haines, George *Go Photography*, London: Hamlyn. (Reprinted as *Learn Photography*, London: Dean, 1992.)
1988 Blaker, Alfred E. *Photography: Art and Technique*, Stoneham, MA: Butterworth.
1990 Cheshire, David *The Book of Video Photography*, New York: Knopf.
1990 Spillman, Ron *The Complete Photographer*, Surbiton: Fountain Press.
1992 Langford, Michael *Learn Photography in a Weekend*, London: Dorling Kindersley.
1992 Thomas, Philip *Photography in a Week*, London: Hodder & Stoughton.
1993 Khornak, Lucille *The Nude in Black and White*, New York: Amphoto.
1993 Freeman, Michael *Collins Photographer's Handbook*, London: HarperCollins.
1993 Owen, David *Make Better Home Videos*, Slough: Foulsham.
1993 Freeman, Michael *Collins Complete Guide to Photography*, London: HarperCollins.
1993 Freeman, Michael *Amphoto Guide to Photography*, New York: Amphoto.
1993 Stroebel, Leslie and Zakia, Richard (eds) *The Focal Encylopedia of Photography* (3rd edn), Boston: Focal Press.
1994 Hedgecoe, John *John Hedgecoe's New Book of Photography*, New York: Dorling Kindersley.
1994 London, Barbara and Upton, John *Photography*, New York: HarperCollins (fifth edn).

This list was arrived at by consulting the relevant sections of bookshops and both university and public libraries, and also checking shelves at, for example, supermarkets, airports, railway stations. It is in this sense random. As a result, the works constitute a cross-section including publications from specialist presses, leading houses and small publishers, relatively technical as well as introductory and simplifying texts, and general as well as focused (children, the nude) books. Only Buselle (1985), Freeman (1993) (*Collins Complete Guide*), Greenhill *et al.* (1977), Khornak (1993), Langford (1992) and London and Upton (1994) use non-white subjects in illustration.

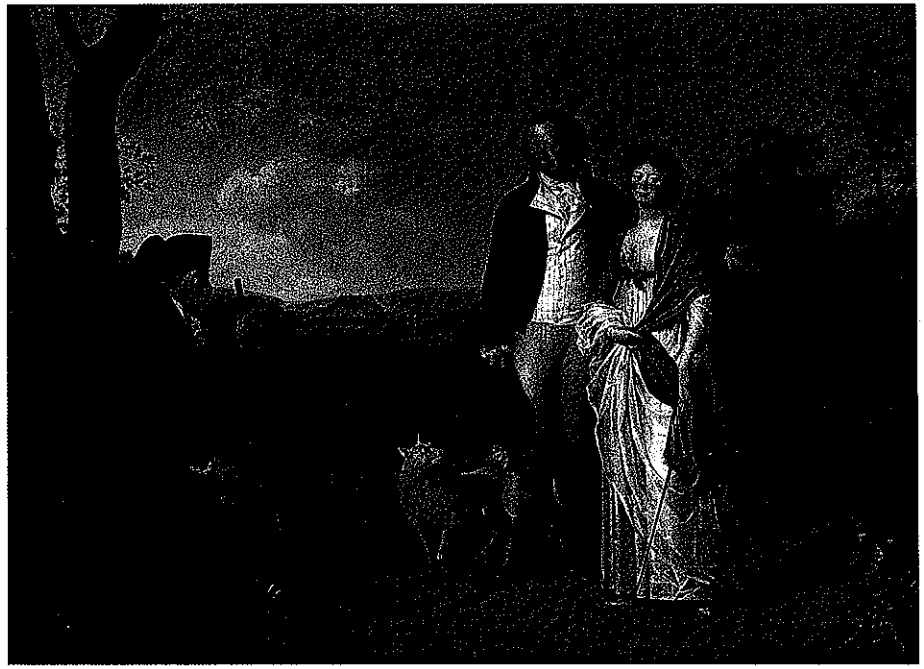


Plate 1 Jens Juel *The Ryberg Family Portrait* (1796–7) (Statens Museum for Kunst, Copenhagen)

WHITE

Richard Dyer

ROUTLEDGE

London and New York

1997