LIGHTING

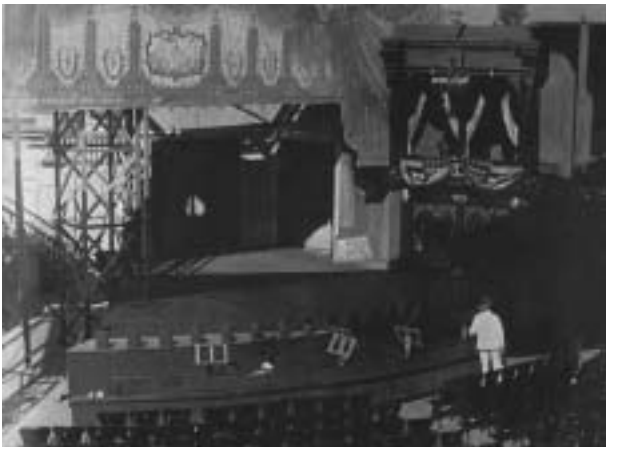
by James Wong Howe (1931)

Methods of lighting a motion picture set have changed tremendously since the day, long ago, when Cecil DeMille wrote that lighting to a motion picture was like music to an opera; but the importance of skillful lighting has not changed, save to increase. With the early films, lighting merely meant getting enough light upon the actors to permit photography; today it means laying a visual, emotional foundation upon which the director and players may build. In other words, lighting has changed from a purely physical problem to an artistic, or dramatic one.

The first moving pictures were made exclusively by daylight. The first studio—Edison's "Black Maria"—was made to utilize natural light. It was a small building, scarcely larger than an ordinary garage; actually, it measured about 20 by 25 feet. It was a mere framework, covered with tar-paper, with one end that could be opened to admit the sunlight. The whole studio was on a turntable, so that the stage could follow the sun. Another of its contemporaries—the first Vitagraph studio—was merely the top of a New York office building, where, on sunny days, the troupe could erect their canvas scenery and hurriedly shoot their scenes while the sun lasted. With this beginning it is small wonder that

Right, the "Black Maria"

Left, Lon Chaney in a spot light as the title character in *Laugh, Clown Laugh*.



Top, D.W. Griffith on the open air stage for the Ford Theater sequence in *The Birth of A Nation*. There are just enough prop seats to fill the frame. Bottom, the master angle of the scene.

when the first dramatic films arrived, and after stories began to demand more scenes than could be made actually out of doors, all studio stages were daylight affairs. At first they were merely large, flat platforms, upon which the sets could be built; then, as photographic skill grew, there were added increasingly intricate systems of muslin diffusing curtains overhead and worked by a network of cords and by which the light could be somewhat controlled. And finally, as the movies began to change into a respectable, stable business, there came vast, steel-framed, glass walled stages.

About this time cinematographers began to discover that they could get better results if they mixed a little artificial front light with the top light supplied by the sun. From this it was but a step (probably taken on a rainy day!) to the discovery that the top light could be supplied better by artificial means than by the sun. And from then on the daylight stages began to disappear, and the art—or science—of lighting came into

being.

The tools used in lighting have developed slowly. At first the only lights—either for supplementary use, with daylight, or to take its place entirely—were the Cooper-Hewitt Mercury-vapor tubes. Then came arcs, first to supplement the softer "Coops," and eventually to take their place almost completely. One or two rarely adventurous souls experimented with incandescent bulbs, but, since the ortho film of those days was only weakly sensitive to the yellowish rays emitted by these lights, the bluer and more actinic arcs and Mercury tubes remained supreme.

Eventually two revolutionary technical developments made the incandescent light imperative. The first of these was the development of panchromatic film. In this type of film, the sensitivity is not only in the blue end of the spectrum but extends far into the yellow and red. So it was soon found that inkie light was far more efficient with this film than was either the arc or the vapor tube. The second innovation, which followed close on the heels of the first, was sound. When the microphone appeared on the set, it demanded absolute silence—and the arcs sizzled and sputtered very loudly, while the Mazda bulb was, once it was warmed up, completely silent. Therefore, as sound pictures became the rule, the incandescent light became, perforce, universally accepted. This acceptance was given grudgingly, but as time wore on, and we became more and more accustomed to using inkies, we found that they were, after all, a real improvement. Therefore, even now that the arc has been satisfactorily silenced, very few cinematographers have returned to their use. The superior tool has won out, aided, perhaps, by a surprising lethargy on the part of the arc makers, but principally because it is the tool best suited to modern conditions.

Today, although we are only at the beginning of the really scientific design of lighting equipment, we have a greater variety of lighting tools to hand than ever before. In the old days, aside from the Cooper-Hewitt banks, we had our choice of single- and twin-arc broadsides, spotlights and baby spotlights, and two or three large sun-arcs. Now, in addition to these (if we still care to use them), we have incandescent broadsides, overhead strips, "Lupes," Deitz floodlight banks, "sky lights," baby spots, regular spots, rifle spots, and big 18", 24", and 36" reflector semi-spots. In addition, we have an almost endless array of accessories for controlling the light: there are all sorts of diffusers, silks gelatines,

'The more pictorial the set, the easier it is for the cameraman to secure pictorial compositions and lightings." Above, *The White Sister*, photographed by Roy Overbaugh in 1923. Opposite top, *Zaza p*hotographed by Harold Rosson in 1923. Below that, heavy back light in *The Spanish Dancer* photographed by James Wong Howe in 1926.

colored gelatines, ground-glass diffusers, Florentine-glass diffusers, spill-rings, and so on, to say nothing of frosted bulbs. Most recently, the new Fast "Special" and "Super Sensitive" emulsion, with their non-halation bases, have enabled us to use far less light than ever before, and to get better, softer, more natural results.

But no tool is any better than the manner in which it is used. And the high quality of present day photography certainly indicates that most cinematographers are using their equipment to good advantage.

It is easy enough to discuss the *equipment* used for lighting; it is easy enough to discuss the *effects* obtained; but it is almost an impossibility to really discuss the methods by which this equipment is made to yield the effects it does. For, to return

to Mr. DeMille's analogy, lighting is like music: for with identically the same resources at hand, no two artists will work the same way, even though their results may in the end prove all but identical. So, too, cinematographic lighting has its Mozarts and its Wagners—its artists who specialize in light, delicate tones, and others who prefer the sweeping effect, the crashing *crescendo*. Obviously each will have his own way of working. Therefore, unless one is to go into a detailed analysis of the methods of a number of cinematographers, any discussion of lighting must he based largely upon one's individual technique.

This, in turn, necessitates the intrusion of the personal pronoun. If I do a thing one way, it does not follow that it is what John Seitz, or Karl Struss, or George Barnes would do. It does not follow that my way is the *only* way; it is simply the method that

Below, "an excellently handled low-key exterior" *Sadie Thompson* photographed by George Barnes (1928).

my experience and my personal inclinations suggest. In fact, although I might get a certain effect through one means, another cinematographer might use entirely different methods to gain the same end—and either of us would be quite at sea if we tried to ape the other's methods.

Above and right, photographed by John Seitz: architectural "framing" in *The Magician* (1926) and *The Prisoner of Zenda* (1922).

"Lighting is not in itself an end, but a means to an end—composition." Above, foreground clutter contricts the frame in *Dr. Jekyll and Mr. Hyde* photgraphed by Karl Struss in 1931. Opposite, a natural and asymmetrically framed composition in *The Rescue* shot by Wong Howe in 1928.

"Every scene has its center of interest. It may be the face of one actor, or of several." Above *Laugh, Clown, Laugh*: still back-lit but more "realistic" to fit the scene.

Above, "a good example of close-up lighting." Rim-light softly outlines and idealizes Alice Joyce's face in *Sorrell and Son*. Below and opposite, an unfiltered front key light reveals the conflicting expressions of the actors in *The Rescue* and in *Peter Pan*, where Betty Bronson's down-turned face is modeled by a side light.

Personally. I have always felt that the problem of lighting is generally approached from the wrong angle. Instead of approaching any given set or action with the question, "How shall I light this?" I prefer to approach it with the thought of, "What compositions can I make with this set and this action?" Then I proceed to make those compositions—and the lighting automatically takes care of itself.

In figuring out the

Above, *Transatlantic* [shot shortly before this article was written] for director William K. Howard. A high side light frames the heads of Lois Moran and Jean Hersholt but provides greater modeling than with Alice Joyce in S*orrell and Son*. Opposite, extreme character modeling applied to the face of Boris Karloff as killer Ned Galloway in 1930 for *The Criminal Code*.

compositions of a scene (I say *compositions* advisedly, for as surely as your characters move around in the course of their action, so will you have more than one composition—and you must plan every move with regard to making and keeping the composition good), in figuring out my compositions, I consider two factors: first, the possibilities offered by the set and the actors, and second, the possibilities offered by the action outlined in the script. In using such a method, however, it is essential to have a sympathetic director—one who consciously and unconsciously realizes the importance of pictorial composition in every frame, and who is not averse to making occasional slight changes in his action in order to improve the visual quality of the scene. Some directors, unfortunately, feel, with Hamlet, that "the play's the thing"—and resolutely refuse to cooperate with the cinematographer in his efforts to aid the play with his photography. Others—like William K. Howard, for instance—realize that, despite the use of dialog, they are still working in a predominantly visual medium, and that anything that either they or the cinematographer can do to heighten the visual appeal of the picture is just so much to the good.

Every scene has its center of interest. It may be the face of one actor or of several. It may be merely a part of a fact. It may be a hand or foot. It may even be some inanimate object—a letter, a pistol, a key, or a dropped handkerchief. Whatever it is, it is that feature which for the moment is most important in advancing the story. In any case, *it* is the key, not only to the dramatic situation, but to the photographic composi-

"...build your lighting upon the composition, why— there's your picture!"

All from *Transatlantic*: Left, "For night exteriors 'source' lighting may at times be more contrasty."

Even in surroundiings such as right, "virile compositions and lightings can be secured."

"It is not always necessary to fully light important characters.... The lighting in the scene below serves to heighten the dramatic intensity of the action."

tion. If you build your composition upon that, and then build your lighting upon the composition, why— there's your picture!

In building up your lighting this way, you first light this salient point (or points). Get enough front and side light to give good definition, and enough back and top light to give the necessary modeling, Then add enough light elsewhere in the picture to bring out such of the other details as you want, the way you want them brought out. Then check the whole carefully to see if that the result is natural. In almost every instance here should be one definite

Above, *The Spider* co-directed by designer William Cameron Menzies: "Perfect coordination of light and composition are needed for.... low-key lightings, [which] have always been my favorites."

source from which he light should appear to come. This gives an illusion of reality, if it is not overdone; but it must be remembered that in most cases, if we have the light all literally coming from one source. the effect will bie both unpleasant and unnatural, for we have no modeling, and exaggerated contrasts. Therefore, the thing to do is to have the light from our source of sufficiently greater intensity than our modelling and general light that it projects the illusion of reality without killing the general lighting which makes our exposure, or the modeling lighting which gives us the illusion of roundness.

Of course there are scores of little tricks of lighting which help to give the illusion of depth and actuality. Every photographer or painter soon learns, for instance, the value of contrasted planes—different degrees of illumination between foreground, background, and middle-distance—and of little catch-lights on curved surfaces, archways, and draperies. Then, too, there is the fascinating field of securing roundness—to say nothing of dramatic effects—by the play of light and shade (not always, by any means, shadow) upon the figures and faces of people.

Low-key lightings have always been my favorites. These are generally used in melodrama and heavy drama, though they are occasionally utilized in melodramatic comedy-drama, as well. There are two principal methods of producing these effects: one may lay a foundation of soft, diffused light, and build up to the required highlights—or one may determine his highlights, and let

the rest graduate down to the required shadows. Either method is good; personally, I prefer the latter, especially since the introduction of Fast Film. In the first place, by this means you can most easily obtain the heavy, velvety shadows so desirable in much of this work. In the second place, you need not use so much light, as, once you have arranged your highlights and modeling lights, the "spilled" light which leaks from even the best of equipment, will keep your shadows from becoming too unpleasantly empty. This is, of course, particularly true with the new film, which is so sensitive that the spilled light is often a serious problem.

And that is about all there is to say about the problem of lighting. Perfect coordination of light and composition are needed for best results. Make your composition; arrange your primary lighting to accentuate whatever may be the salient points of that composition, arrange the rest of your lighting to properly display your set and players, keeping the tonal key of your picture as high or low as the mood of the story may require—and there you have your set lit! Add to this experience and an understanding and appreciation of the principles of visual art and photography, and you have the whole story. And, really, it may be condensed into the few words: lighting is not in itself an end, but a means to an end—composition.

Below, starkly appropriate lighting and composition, redoubling the bars of the cell devised in 1928 for *Four Walls*.