

THE HISTORY OF CINEMATOGRAPHY

PART THREE- ADVANCING THE ART FORM: From Talkies to the Small Screen

Two small groups of cinematographers independently organized the Cinema Camera Club of New York and the Static Camera Club of America in Los Angeles, in 1913. The members shared ideas for advancing their art and craft and for solving technical problems.

The Static Club was named after a technical problem identified by members. A small metal bolt in a popular new camera was causing random static electricity when film was cranked past it. That caused fogging. After the cause was known, Kodak solved the problem by developing and coating its motion picture film with an anti-static backing

Folsey was 21 years old when he shot his first film in 1919. *His Bridal Night* featured Alice Brady playing dual roles of twin sisters. She played both parts in many scenes. How did Folsey do it? He had an ingenious, low-tech solution. Folsey taped black velvet over half of the lens and filmed Brady portraying one sister. Then, he rewound the film, moved the velvet to cover the other half of the lens, and re-shot the scene with Brady playing the other twin. It was totally believable.

The U.S. film industry was in transition by the time World War I ended. Most members of the Cinema Camera Club had followed the movie producers to Hollywood. Fifteen members of both clubs met in Los Angeles on December 21, 1918. They organized the American Society of Cinematographers on January 8, 1919.

All motion pictures at that time were produced on black-and-white orthochromatic film that was only sensitive to blue or violet light. Other colors were recorded as black. Make-up was used to offset that limitation, but sometime actors still looked like they had black lips. Kodak scientists

responded to the suggestions of cinematographers in 1922, by developing a panchromatic black- and-white film that “saw” all the colors of the rainbow and reproduced each of them in distinct gray tones.

The Mitchell camera was introduced that same year. It featured a rack-over viewing system that allowed cinematographers to compose images in line with the lens. It rapidly became a standard tool.

By the mid-1920s, there was a growing demand for Hollywood films in Europe, while the industry on that continent was recovering from the war. The Hollywood studios adopted the practice of having two cinematographers operate cameras side by side. The negative from one camera was edited and used for producing prints for domestic release. The negative from the second camera was edited and shipped to labs in Europe that produced release prints for the continent.

Kodak scientists responded to suggestions by cinematographers by developing a high-quality duplicate negative film in 1926. That development sparked a breakthrough in the evolution of the art of cinematography. The second cameramen became operators, freeing cinematographers to concentrate on lighting and other creative issues.

The success of *The Jazz Singer* in 1927 created an overnight transition from silent movies to “talkies,” creating technical problems that affected the cinematographer. The Mitchell cameras were too noisy. The short term solution was to put them into something that looked like a telephone booth. That solved the noise problem, but it made the camera immobile. Some cinematographers tried putting wheels on the booths and pushing them around. The problem was finally solved when a cinematographer invented the “barney,” which muffled camera noise.

In 1928, the new Academy of Motion Picture Arts and Sciences organized a technology committee that included members of the ASC. They were charged with the mission of advancing the art of visual storytelling by recommending standards and solutions to technical problems.

Eastman opened a Hollywood office staffed by some of the company's top scientists in 1928. There was a screening room where filmmakers from the studios evaluated how sound was working with film. Up until that point, film was recorded at 16 frames a second. That wasn't fast enough to play back high-quality sound. At 24 frames per second, the flicker characteristic of silent films disappeared, and it gave the audience about 50 percent more image information to absorb.

In addition to sound, all of the studios were experimenting with color and wide-film formats. Every studio had a proprietary wide-film system. They included Natural Vision (63.5 mm), used to produce *Campus Sweethearts*, Fox Grandeur (70 mm), *The Big Trail*, Vitascope (65 mm), *Kismet* and *The Bat Whispers*, and Realife (65 mm), *Billy the Kid*, to name a few. The opening sentences in an article in the 1930 Cinematographic Annual, published by the American Society of Cinematographers read: "One of the outstanding developments of the past year in the motion picture industry has been the introduction of wide film. Even the advent of sound created no greater flurry of excitement."

The economic depression of the 1930s stifled further progress. Faced with costs for having to upgrade for "talkies," exhibitors resisted investing in specialized projection systems for wide-screen presentations. Plans for producing wide-screen movies were put on the shelf.

Charles Lang, ASC was shooting *Shopworn Angel*, one of Hollywood's first "talkies," in 1929. Dorothy Arzner was the director. Within a few days, she told Lang that everyone was disappointed with his work. She said he was going to be replaced if things didn't change soon.

"I did a lot of thinking that night, and decided that the problem was that I was trying to emulate Arthur Miller and other cinematographers whose work I admired," Lang said. "I decided that I had to think for myself and trust my own instincts."

Lang earned the first of 18 Oscar nominations from his peers in 1931. The following year, while he was shooting *A Farewell to Arms*, starring Helen Hayes, Lang was told to make her beauty sparkle. He approached that task like an artist painting a portrait.

Lang took the back off the camera and used an amber filter to look at the images that he was going to compose. The filter enabled him to previsualize the images in black and white. With that perspective, he created backlight, hair light, and subdued softlight on her face. Lang also personally ground the glass filters that he used along with bits of gauze to soften the images. He won his only Oscar for *A Farewell to Arms*.

Later in his career, Folsey reflected on that seminal period in Hollywood history. "We didn't have published film speeds or light meters," he said. "You trusted your eye. You could go to the lab on the studio lot, and ask them to 'pull' a rack containing your film out of the tank, and look at it in safelight. You would say, 'push' it back in for another moment or two. Then we'd say 'pull' it out again." white

Folsey explained that was the derivation of the terms push and pull. He told another story about the invention of the "kookaloris."

Folsey was shooting a scene for a film with an actor who was wearing a white shirt. He wanted to separate the skin tones on the actor's face from the hue of the shirt. Folsey told a grip to hold a step ladder in front of a keylight to create a shadow on the actor's shirt. The closer that the ladder was held to the light, the softer and less defined the shadow got. Folsey made frequent use of that technique in his films.

After a while, his grip got tired of holding the ladder, so he cut a grill with the same pattern in a sheet of light wood. One day, Folsey visited Hal Rosson, ASC, who was shooting on another set. In one scene, Claudette Colbert was lying on a bed with white sheets. Rosson used Folsey's wooden grill to create some shadows, which made the scene more dramatic. Later, he was shooting a similar situation, and he asked Folsey, "Where's that kookaloris thing?" That's how it got its name. The evolution of the art of cinematography is filled with stories like that one.

Dr. Herbert T. Kalmus introduced the Technicolor process in 1922. Initially, it was a two-color process like Kinemacolor. Two rolls of black-and-white film were simultaneously exposed. One was sensitized to red light, and the other to green light. Both films were processed and printed onto blank film and dyes were used to match the original colors.

The first full-length film produced in that format was *The Toll of the Sea*, starring Anna May Wong in 1922. J.A. Ball was the cinematographer.

During the 1920s, Technicolor was used selectively to visually punctuate scenes in such films as *The Ten Commandments*, *Ben Hur*, *The Merry Widow* and *The Phantom of the Opera*.

The three-strip Technicolor system was introduced in 1935. It expanded the palette for visual storytelling. From 1939 through 1956, separate Oscars were awarded for color and black-and-white films.

Becky Sharp was the first three-color Technicolor movie. Ray Rennahan, ASC was the cinematographer. Rennahan shot a Technicolor movie called *Wings of the Morning* at Denham Film Studios in London, in 1935. His camera operator was a young British crew member named Jack Cardiff, BSC. Cardiff was born in Yarmouth, England, in 1914. His parents were vaudeville performers who occasionally appeared in movies. Cardiff was four years old when he made his first appearance beside his mother in a film. He performed in various other films with such silent movie stars as Dorothy Gish, Will Rogers and Pola Negri.

Cardiff was deemed too old to play with children when he was 11. At that point, he became a "tea boy" at British International Studio. It was a literal job title. He carried tea to actors and directors on the set.

When Cardiff was 14, a German cinematographer named Werner Brandes taught him to pull focus when his regular assistant was late. Cardiff worked his way up through the ranks as an assistant, operator and cinematographer. He won an Oscar in the color category for *Black Narcissus* in 1947, though some aficionados consider *The Red Shoes*, which he shot the following year, to be the best Technicolor film ever made.

"All of us felt that we were working on a classic when we filmed *The Red Shoes*," Cardiff said. "Moirra Shearer and the other ballet performers and actors were totally engaged in the story. (Director) Michael Powell was like a symphony orchestra director drawing on every ounce of creative that everyone had to offer."

When did television enter the picture? The BBC conducted experiments during the late 1920s. On July 13, 1930, The New York Times published an essay written by David Sarnoff, who was an executive at RCA and the NBC radio network and the future chairman of both

organizations. Sarnoff predicted “radio-vision would be a theater in every home with cultural education and benefits for children.”

Some progress was made during the 1930s, but the future of television was put on hold by the start of World War II.

The television industry shifted into high gear in the U.S. after the war. There were an estimated 170,000 television households tuned in when U. S. President Harry S. Truman delivered his state of the union address in 1947. At first, most Hollywood studios kept their distance from television. Several organized separate TV production companies.

Kenneth Peach, ASC, a veteran cinematographer, explored a new frontier when he shot *The Cisco Kid* on 16 mm Kodachrome film for ZIV, which specialized in television production. In contrast, *The Highway Patrol*, which starred Broderick Crawford, was produced in 35 mm black-and-white film. The cinematographer was Richard Rawlings Sr., ASC.

Rawlings began his career as a messenger at Warner Bros. Studio during the late 1930s. He was subsequently an assistant cameraman on crews with such legendary cinematographers as James Wong Howe, ASC, Sol Polito, ASC, Ted McCord, ASC and Tony Gaudio, ASC. During the war, Rawlings served in a U.S. Navy Photo Science Lab.

The Highway Patrol was his first job as a cinematographer. He subsequently shot other TV series for ZIV, including *Bat Masterson*, *Tombstone Territory* and *Sea Hunt*. In a reflective interview years later, Rawlings recalled, “I read the scripts and tried to visualize how every scene should look. ... They were all different. Then, I tried to paint with light and shadows until the pictures on film matched those in my head.”

When Ampex introduced a 2-inch videotape system in 1954, a front-page banner headline in *Daily Variety* proclaimed, “Film is Dead!”

Lucille Ball and Desi Arnez didn't agree. They wanted a "movie-look" for the now classic *I Love Lucy* television series. Desilu Productions hired Karl Freund, ASC to design and execute a cinematographic style and film look for the television series.

Freund initially made his mark as a cinematographer in Germany during the 1920s, where he shot such classic films as *Metropolis*. He migrated to Hollywood during the political turmoil in Germany during the late 1920s. He was a top studio cinematographer. Freund won an Oscar for *The Good Earth* in 1937, and 1941 nominations for *Blossoms in the Dust* (color) and *The Chocolate Soldier* (black and white).

Television was a new frontier for him to explore. He invented and perfected the technique of orchestrating three cameras while shooting in front of a live audience. One camera covered close-ups, while the other two filmed master shots from different angles.

I Love Lucy was a runaway hit, and episodes have played in syndication around the world for more than half a century.

Many top feature film cinematographers were filming television series during the first decade of the new medium, including Walter Streng, ASC, Nick Musuraca, ASC, Robert De Grasse, ASC, and Ray Rennahan, ASC. Meanwhile, the studios were struggling to find ways to compete with free black-and-white entertainment at home.