

# Foreword

Near the end of his interview in *Masters of Light*, the Hungarian cinematographer Vilmos Zsigmond responds to a question about how difficult it was for him and his friend Laszlo Kovacs to break into the mainstream of Hollywood studio movies in the 1970s. “I always tell them [students] that it will take ten years,” he begins. “Very few people find themselves becoming a cameraman after finishing USC or UCLA. Very seldom will you become a cameraman in less than ten years.”<sup>1</sup>

*Masters of Light* was published in 1984. What Zsigmond affirmed then was accurate. He and Kovacs had come up through low-budget, nonunion filmmaking, shooting action and thriller films for the B and drive-in markets. When the studio system fractured into a kind of chaos with the “youth quake” of the 1960s, young cinematographers such as John Alonzo and Mario Tosi were well positioned to walk into a moribund structure. They were also influenced by the aesthetic and technical revolution of the European New Wave, whose influence was then breaking on American shores. Several of those young European cinematographers, such as Nestor Almendros and Vittorio Storaro, benefited from this shake-up in the American industry and began parallel careers in the American mainstream: Almendros with the directors Robert Benton, Monte Hellman, and Terence Malick; Storaro with Francis Coppola and Warren Beatty. Two other American-born cinematographers, Conrad Hall and William Fraker, gained prominence by coming up through the union ranks. There is a famous photo of Hall, Fraker, Bobby Byrne, and Jordan Cronenweth as the union camera crew on Richard Brooks’s western *The Professionals*. Haskell Wexler, ever the rebel, clawed his way in through low-budget films in the late 1950s, garnering his first Oscar for *Who’s Afraid of Virginia Woolf*, a movie whose documentary style and harsh lighting of the stars Elizabeth Taylor and Richard Burton inflamed the conservative old guard. Wexler and Hall closed ranks from their differing origins in forming a successful company for TV commercials. Gordon Willis also began his career shooting commercials and documentaries, but he, too, spent many years as an assistant cameraman. For my own part, I began working on nonunion and NABET (National Association of Broadcast Employees and Technicians) features as a camera assistant. Even

after getting into the union in May 1969, I fell prey to a strict seniority structure in which I was allowed to work on a feature film only after members of greater seniority had been employed. My first studio feature as a camera assistant was Monte Hellman's 1971 *Two-Lane Blacktop*, now a cult classic of the era but widely reviled at the time of release for its long takes and frequently deadpan acting.

Although the Hollywood studios were in major transition in the late 1960s, the union locals of the IATSE still wielded considerable power. Perhaps the most powerful of them was Local 659, the camera guild for Hollywood and the western region. IATSE Local 644, for New York and much of the East Coast, was only slightly less rigid. It was virtually impossible to build a feature career as a cinematographer outside this structure. One way or another, all American cameramen had to come to terms with the unions. This is part of the unstated subtext that Zsigmond alludes to in his interview.

This apprentice/journeyman/master guild system has held sway in the American studios from the 1930s to today. But an alternative way now exists—one that could not have been foreseen by the fifteen cinematographers who were interviewed for Dennis Schaefer and Larry Salvato's book. This new approach is what Francis Coppola and others have called the "democratization" of filmmaking. In certain respects, the breakdown of an entrenched motion picture hierarchy had begun with the post-World War II Italian Neorealist films and their offspring, the French New Wave. A recent exhibition at the Academy of Motion Picture Arts and Sciences (AMPAS) of behind-the-scenes photographs of classic French films of the 1960s such as *Jules and Jim* and *Breathless* by the set photographer Raymond Cauchetier shows how the compact crews of the time exploited the new lightweight equipment, fast emulsions, and direct sound technology of cinema vérité to create more naturalistic films: a revolution in French cinema, reacting against what François Truffaut sarcastically dubbed the "Tradition of Quality." One of the most amusing of Cauchetier's photos is of the cinematographer Raoul Coutard handholding an Éclair CM3 for a dolly shot of the actor Jean-Paul Belmondo. The director Jean-Luc Godard is pulling the wheelchair dolly.

This "democratization" of cinema is a product of several factors that were not yet operative when *Masters of Light* was published; it gives the interviews a kind of historic glaze, not unlike that of an earlier book of interviews by Leonard Maltin. In 1971, the then twenty-year-old critic published *Behind the Camera*, with an insightful introductory essay, as well as interviews with five established cinematographers. Conrad Hall was one of them, as well as Lucien Ballard, both men having photographed iconic "new westerns" in the 1960s. The other three were, even then, legendary cameramen: Hal Mohr (who was president of the camera local when I joined in 1969), Hal Rosson (who was noted for his luminous black-and-white imagery and his two-year marriage to Jean Harlow), and Arthur C. Miller (who won the first of his three cinematography Oscars for *How Green Was My Valley* in 1941, edging out the more flamboyant work of Gregg Toland in *Citizen Kane*). Like many of his generation, Miller was a workhorse, photographing as many as a half dozen films a year, an IMDb total of 145 titles.

Zsigmond speaks of the role of the film schools at USC and UCLA. Certainly, many of my generation of cinematographers were film-school brats. My friend the cinematographer Caleb Deschanel and I were at USC Cinema at the same time. But nearly twenty years before us, so was Conrad Hall. The difference between our film-school years and today is that USC and UCLA, along with NYU and a few other schools, were then the whole enchilada. Some universities offered a survey of film history, often tied to a “novels into film” course within the English Department, but few colleges offered cinema as a major. Even fewer had full-fledged film production facilities, such as equipment and stages. Today, there are hundreds of schools with richly endowed film and TV departments. “Cinema” has also become an academic discipline, fodder for legions of “critical studies” doctoral theses. Cozy tie-ins between many film schools and the studios have become commonplace; USC Cinema is widely regarded as a recruiting arm of Hollywood. When I began searching for an entry-level job straight out of USC, I was advised, above all, not to speak of having attended film school. There was plenty of residual old guard resentment about these upstarts with their fancy foreign-film predilections.

Today, it is almost unimaginable that a director or cinematographer would not have attended film school. The films they make there are widely seen by studio executives and talent agents. Screenings of student films to the industry, as well as their presence in the film-festival circuit, assures broad-based visibility, if not ready distribution. Many of these student films are extremely well crafted, often employing professional actors, and are aimed squarely and unabashedly at landing studio development deals. Student thesis projects shot as feature-length films are not unusual.

This democratization of cinema is not only a product of the film schools but also of recent digital video technology, a sea change that the 1984 interviewees could not have anticipated. Small, affordable digital cameras (even with full high-definition—HD—resolution) are rapidly replacing the 35 mm film cameras that have been a century-old standard for image capture. A fellow cinematographer (a peer, recently retired) quipped that even film school is becoming optional. It does help to establish future working relationships, he insists, and it may be crucial as a venue to have your work seen by prospective employers. “But today,” he jokes, “anyone can call himself or herself a cinematographer. All you need is two thousand dollars to buy a Canon 5D and another fifteen dollars to print up ‘director of photography’ business cards.” Young film-school graduates who face incredible competition for even these entry-level positions may not concur. If a new edition of *Masters of Light* were written today, one seeking out the most cutting-edge image creators at the cusp of mainstream Hollywood careers, it would likely present a roster of background and experience very different from that in the present volume. I meet young cinematographers (and thankfully, an ever-increasing number of women among them) who are not members of a union and who exhibit little enthusiasm to join one. The union training regimen is simply not in their game plan. Just as the number of film-school graduates resembles a population bomb, the rate of technological change in equipment and new distribution platforms keeps

accelerating. Last year's must-have digital video camera becomes this year's hand-me-down. Last year's viral video becomes curiously quaint. Last year's film-school wunderkind is this year's has-been. It takes only one box-office dud to end a career before the dust even settles.

This reverse pyramid of technical and human obsolescence presents several conundrums. Just how much time can the young cinematographer expect to expend in glossing the intricacies of new cameras and of their interfaces with multiple postproduction platforms? If your idea of filmmaking is only equipment based, then you are likely to be a very happy duck. But if you are interested in how to use the equipment to create compelling images in the service of a dramatic narrative, you may be slogging uphill even as the studios race to the bottom. There is no question that the increasing sophistication of digital cameras and their quest to equal the resolution and dynamic range of film is succeeding. Most of the cinematographers profiled in *Masters of Light* did not enter into the digital realm. Haskell Wexler *did*, and early on. He recently has made a video documentary about the week-long May 2011 conference of international cinematographers hosted by the American Society of Cinematographers (ASC). I, too, am making the transition. Vilmos Zsigmond continues to work in film, as does Vittorio Storaro, who also continues teaching cinematography in L'Aquila, Italy, between movie assignments.

The conundrum of digital video filmmaking lies partly in the simultaneous complexity of the cameras themselves and the apparent ease of actually creating images. In his interview, Gordon Willis talks about the efficacy, even necessity, of testing motion-picture film when you are at a learning stage—or even when you are an experienced cinematographer using a new Kodak film emulsion. (Much space is devoted in the book to the characteristics of high-speed film emulsions and how they influence lighting styles.) Willis documents the exposure curve of film emulsions, and the characteristics of over- and underexposure in half-stop increments, then waiting to see the projected dailies a day later to evaluate the response. Learning the characteristics of emulsions is ground-level knowledge in the era of 35 mm film that is the focus of the book. But such knowledge may be all but irrelevant in digital video. A high-resolution reference monitor that very closely shows what the camera tapes, drives, or cards record can seem to be all that any young cinematographer needs to guide him or her in learning about lighting and exposure. What you see on the monitor is what you get. Even grizzled, film-based cinematographers who have embraced the world of digital cinema tell me that they no longer sleep fitfully after a challenging day of edgy lighting, or do not get up early to see dailies at the lab before the next day's call time. It is tempting to surrender to what seems a foolproof technology.

I admit to not always looking at dailies when shooting on HD video. What surprises can there be? What latent anxiety lurks? Such ease of image creation can make one lazy: lazy, if you think of the era of film materials as the norm. But what is the norm before us in digital video? Film, 35 mm and 16 mm film, is rapidly disappearing, much to the chagrin of art-house screens, film societies, film ar-

chives, and indie and experimental filmmakers. One of the latter is Tacita Dean, who, in an expansive film installation at the Tate Modern's Turbine Hall, recently pleaded for the necessity of maintaining film as a viable creative medium—one inherently different from video.

That is a case that I also made in an article I wrote for the Arts and Leisure section of the *New York Times* in February 2001. More than a decade ago, when I was finishing my first digital video feature, *The Anniversary Party*, it was clear that a confrontation between film and digital video was looming. My article was titled "Film or Digital? Don't Fight. Coexist." The directors Alan Cumming and Jennifer Jason Leigh had decided with me to shoot on video with a Sony ENG camera at PAL resolution. At that time, the only HD camera readily available was the Sony 900, and getting it was beyond our budget means. Today, a decade later, many producers insist (wrongly) that 35 mm film is beyond their means. It is why I am shooting my third consecutive low-budget movie with the Arri Alexa. It is difficult to make a case for the primacy of film when conventional wisdom asserts that video is cheaper, ignoring, of course, the hugely expensive storage resources demanded by the captured zeros and ones when the camera is left running constantly between takes, a common indulgence by many of today's directors.

The title of this book hints at the primacy of lighting for the cinematographer. And it is true that most cinematographers interviewed referenced lighting more than composition, editorial coverage, continuity, or camera movement. In the classical-era English system, the director of photography was called the lighting cameraman; the camera operator was called the operating cameraman. David Watkin and Geoffrey Unsworth are notable examples of the former. Despite the changing technology of lighting equipment, just as with the cameras themselves, certain verities remain. It is this focus on art and craft rather than on changing technology that gives *Masters of Light* its ongoing relevance. Lighting units may appear and disappear from year to year, but the creative wrestling of these mechanical lumen beasts, the shaping and molding of their output in the service of compelling, emotive image making, is timeless and constant. When Gordon Willis speaks about his trials with the Hollywood old guard when he employed uncompromising top light and below-standard Kelvin temperatures in *The Godfather*, he is arguing for an aesthetic and a style that is grounded in character and drama, just as his looming shadows in *All the President's Men* were not a technical conceit but were rooted in the mystery of the Deep Throat plotline. The same is true of Conrad Hall when he talks in his interview about his attraction to "despair" as a driving metaphor in *Fat City*, even, I would add, in much of his seminal work. Hall was attracted to the dark side of human behavior, to the Outsider figure. I wrote about this in a posthumous tribute article in the May 2003 issue of *American Cinematographer* magazine devoted to him. The biting overexposed key and rim light in many of the close-ups in Hall's films dramatizes the character's alienation and despair, just as much as the top-lit, dead, lost eyes in Willis's *Godfather* portraits.

Much is made today about how digital video requires so little light. It is true that

the sensors of the Alexa and the Sony F65 have an exposure index of 800—but that is only slightly faster than that of existing Kodak and Fuji film stocks. There is no situation that I have yet encountered shooting with digital video, that I could not also have done on film. (John Alonzo used to brag about how he force processed new film negatives to an EI of 1600, a full stop above today’s video sensors.) The falloff into darkness or the burnout into pure white overexposure may be different in film and video, a product of what overexposure, especially, does to the two different recording materials. Depending on your perspective or on a given situation, you may prefer one medium to the other. But the aesthetic consequences of exposure decisions based on lighting are inherent in the choices that any cinematographer makes. It is this balancing act that lies at the heart of much that is discussed in *Masters of Light*, issues irrespective of any existing or evolving technology, issues faced by Storaro as well as by earlier artists such as George Barnes, Karl Struss, Gregg Toland, and George Folsey. This lies at the heart of the book and makes it still compelling reading, not only for cinematographers but also for anyone interested in the creation of movie images.

There is much discussion of how new technology in the 1960s, 1970s, and early 1980s influenced the look of motion pictures. Zsigmond talks about “flashing” the negative to cut contrast or to introduce a base fog level into a film such as *McCabe and Mrs. Miller*. That aesthetic rationale is still fascinating, even if Zsigmond can accomplish much the same effect today on the DaVinci Resolve in the digital intermediate suite—and with none of the potential pitfalls that handling film negatives in pre- or postexposure devices entails. Gordon Willis, again, talks about the homemade rig for top lighting actors, a wood, paper, and rope device that could be rigged on a practical location’s ceiling—a rig known disparagingly among the conservative Hollywood cinematographers as a “coffin box.”

I was camera operator on a TV series at the old Hollywood/Burbank studios when Willis was photographing *All the President’s Men*. A traditional way of lighting a large set, such as the offices of the *Washington Post*, would be to construct the ceiling with removable bleached muslin, wood-framed sections, lighting the exposed, open sections from the “green beds” framing the set perimeter. Willis chose, with production designer George Jenkins, to construct a hard-ceilinged set with real fluorescent fixtures. Fluorescents were anathema to Hollywood cinematographers of the time. Not only did the implanted ballasts hum and buzz to an ungodly level but also the uneven chromatic spectrum played havoc with human skin tone. Willis had the ballasts removed and placed outside the stage. I remember walking by several times on the way to the commissary, seeing and hearing the stacked ranks of ballasts around the stage perimeter. Favorite gossip among conservative on-lot TV cameramen was to jeer at this impostor from New York City to whom they had recently denied an Oscar nomination for *The Godfather*. One day, I was allowed access to the tightly secured stage; I stood in wonder at the seemingly infinite set that was cached onto the stage, barely allowing space for the required fire lane. It was only a decade later that fluorescent technology with iso-



lated ballasts and color correct tubes became available. Once again, technology rose to the service of creative vision. Frieder Hochheim was the gaffer on the 1987 film of Charles Bukowski's novel *Barfly*, photographed by the ever-innovative Robby Müller. The practical location of the bar was so constricted that there was nowhere to hide normal studio lighting units. Today's ubiquitous KinoFlo line of fluorescents was born for this film; Hochheim has become one of the industry's leading innovators of lighting equipment. The newest incarnation of adapting industrial lighting technology to movies is LEDs, at first as block like "bricks," but now as the lumen source for traditional Fresnel lensed lamps. So, technology is always in rapid cycles of creation and obsolescence. What remains is the creative vision and insight into problem solving that is the true mainstay of the working cinematographer. It is this spirit that lies at the heart of the interviews in *Masters of Light*.

The most important thing that you can glean from these interviews is an understanding of how the inherent planning and discipline required of the cinematographer in the film/photochemical era helped shape the way he approached his work. The constant exploring, evaluating, and adjusting that was demanded by the workflow of celluloid spilled over into a broader consideration of the dynamics of camera and lighting style. The ritual of "dailies" projected on a large screen was a kind of laboratory for director, cinematographer, editor, and production designer to critique the evolving dynamics of the movie in a collaborative way. A kind of previsualization was necessary for the next day's preparation, based on the previous evening's "dailies." This technique fostered a macro view of the cinematographer's role as visual storyteller, engaged in translating character and story into supportive and emotive images. This discipline may still be exercised in the digital era, but it is no longer so universal. The creation of each image in digital video can be more improvised: the screen of the reference monitor becomes a kind of canvas on which the cinematographer paints—seeing the immediate result of each "brushstroke." This can be exciting in a way. Imagine Jackson Pollock "in the flow" of one of his drip paintings. But this immersive approach to cinematography can also be limiting; the "action" itself may become the motivating force. It is tempting to sidestep the more rigorous task of executing a layered preparation—mere play trumping a carefully wrought plan.

Of the fifteen cinematographers interviewed in the book, none is a woman. It is a situation that would be unlikely in any compilation today, as women are rapidly achieving prominence in the field. Of those interviewed in *Masters of Light*, five are deceased: Nestor Almendros, John Alonzo, Bill Fraker, Conrad Hall, and Laszlo Kovacs. Mario Tosi, the same age I am, has been inactive since the early 1980s. Owen Roizman, retired since the mid-1990s, is a past president of the ASC and is very active in the organization. Like me, he photographed three features for the director Larry Kasdan. Roizman had a recent exhibition at AMPAS of his portraits of cinematographers. Bill Butler is now ninety-plus. His most recent credit is from 2009. Billy Williams retired a decade ago and now teaches. Michael

Chapman is a recent recipient of the ASC's Lifetime Achievement Award; he was Gordon Willis's operator in the early 1970s. His last credit as cinematographer was about five years ago. Vittorio Storaro, who was one of my great mentors, along with Nestor Almendros and Willy Kurant, has recently done a number of films about painters (a further distillation of his ongoing theme of bio films). He and the director Carlos Saura are planning a film about Pablo Picasso and the creation of the large painting *Guernica*, his memorial to the Spanish town bombed by the Luftwaffe during the Spanish Civil War. Gordon Willis, also retired, lives outside Manhattan, as revered by the current generation of cinematographers as he was at the time of his interview. He and the late Bruce Surtees share the moniker "Prince of Darkness." Haskell Wexler continues to produce a stream of activist documentaries and is also a vital member of the ASC. Vilmos Zsigmond has moved from the Hollywood Hills to Northern California; he continues to work unabatedly. In the past decade, he has made three films with Woody Allen, and another with his longtime collaborator Brian de Palma. He recently filmed a thriller in Canada and has also worked in his country of origin, Hungary. Last, my own update. I have always been somewhat chagrined that I was included in the esteemed group selected by Schaefer and Salvato. I was the new kid on the block, somehow slipping onto the team. Yet, I am the one to make the transition to the digital era of feature films in a substantial way. My first encounter with digital video cameras was in the aforementioned *Anniversary Party* in the summer of 2000. I have photographed in several digital video formats including a feature film in NTSC with Werner Herzog, *Incident at Loch Ness*, made with my two still-hearty Panasonic DVX100s. At the time of writing this foreword, June 2012, I am prepping my third digital video feature film this year. I call it "my Alexa hat trick."

The question one must ask, the question any young and emerging cinematographer, writer, director, editor, or production designer must ask, is "What now?" Although filmmaking technology has been in constant, sometimes confusing and erratic, flux since the Lumière Brothers introduced their Cinematograph in 1895, the primacy of storytelling and character have remained constant elements, as has the capture medium of film. Now, the very nature of movies is changing. Recent camera and editing technology is altering the century-old tradition of how feature films are shot, edited, and exhibited. A younger audience raised on the fluid dynamics of information and visual media possible in the laptop, smart phone, tablet age finds traditional media, even traditional filmmaking, wanting.

I find myself straddling two worlds. On the one hand, I treasure the continuity of the era of the great cinematographers such as those profiled in this book, artists who exposed images one day and saw the results the next, practicing a kind of flying by the seat of their pants, albeit very well tailored pants. I feel a visceral connection to the pioneers and masters of celluloid such as Billy Bitzer, Karl Freund, William Daniels, James Wong Howe, Boris Kaufman, and Phil Lathrop. I have known all of the cinematographers interviewed in *Masters of Light*, and even



worked as camera assistant or operator with a half dozen of them. I see several more regularly at the ASC and other industry events.

On the other hand, I love the ease and portability of the newest HD cameras and look forward to “filming” with the Sony F65, which I have tested. And Panavision will soon introduce its own follow-up to the Genesis. In digital video, the current “game-changer” camera itself keeps changing. I look forward to the exciting but uncertain future of cinematography, even as I cringe at its devolving status in the digital age. The hoary cliché that “the past is prologue” is, nevertheless, appropriate as our art form faces the future. Yes, I do long for the next time I can return to 35 mm film in the anamorphic aspect ratio. I have made dozens of movies in that format. Anamorphic aspect ratio and film are, for me, still the gold standard for image creation.

John Bailey, ASC  
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1. When the book was initially published (in 1984), there were no women in the professional union. That situation is changing dramatically, but we have chosen to retain the term *cameraman*, using it as a gender-neutral synonym for *cinematographer*.