

Orson Welles and Gregg Toland: Their Collaboration on *Citizen Kane*

Robert L. Carringer

Though he has worked almost exclusively in collaborative mediums like radio and film, Orson Welles has always tended to think of himself as an individual author. “Any production in any medium is a one-man production,” he said to me. On the question of sharing creative responsibility for the works that bear his name, he is deeply ambivalent. His insistence on multiple billings for himself is legendary. As I can well testify, the very mention of the term collaboration at a wrong moment can be enough to send him into a rage. The controversy over who scripted *Citizen Kane* initiated by Pauline Kael hurt him very deeply. That the wound still festers to this day is evident in the rancor with which he speaks of former associates like John Houseman. Yet in quieter moments he will fully concede how indispensable his principal collaborators have been to him and will openly discuss the nature and extent of their contributions. He is especially full of praise for cinematographers with whom he has worked over the years, such as Gregg Toland, Russell Metty, and, more recently, Gary Graver. On *Citizen Kane*, he singles out

For much of the detailed technical information in this essay, I am indebted to Ralph Hoge, longtime member of Toland’s camera crew and his key grip on *Citizen Kane*. Hoge and I screened a 35mm print of *Citizen Kane* on a Steinbeck viewing table at the UCLA Film Archive, stop-framing the action at appropriate points and discussing how the effects were achieved. I am grateful to John Munro-Hall of RKO General Pictures for making the print available and to Robert Rosen of the UCLA Film Archive for providing the facilities. I also thank the graduate committee on the arts and humanities, University of Colorado, Boulder, and the English department, University of Tennessee, Knoxville, for the opportunity of presenting an earlier version of this material in their visiting lecturer series.

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four individuals whom he thinks deserve special recognition: writer Herman Mankiewicz, art director Perry Ferguson, composer Bernard Herrmann, and Toland. Of these, he says, Toland's contribution to the film was the greatest, second in importance only to his own. In this essay I deal with the history and nature of Welles' collaboration with Toland on *Citizen Kane*—what brought them together, their working relationship, and the characteristics and rationale of the visual plan they created for the film.¹ As we shall see, Toland brought a largely pre-conceived visual plan to *Citizen Kane* which he had been working out in his previous films. Welles accepted Toland's plan so readily because he recognized how dramatically appropriate it was to the story material. Toland's cinematography for *Citizen Kane* also left a major legacy to Hollywood films of the 1940s.

I

According to Welles, it was Toland who first broke the ice. Welles had made it known that he was interested in working with the veteran cinematographer. When word of this got to Toland, he telephoned Welles at the Mercury Theatre office and offered to sign on. His explanation, according to Welles, was that after a steady stream of directors who "know everything there is to know," working with an amateur would be a real pleasure. What attracted Welles to Toland is clear enough: his long years of experience, the prestigious stature of most of his assignments, a recent Academy Award (after two previous nominations) for *Wuthering Heights*, and a reputation for unconventionality. What attracted Toland to Welles becomes clearer when we look at the overall contours of Toland's career. Despite the universal professional

1. I base my statements of Welles' views on collaboration on a series of conversations I had with him in California in August 1979. Discussions of Toland's contributions to *Citizen Kane* are in Charles Higham, *The Films of Orson Welles* (Berkeley, 1970), pp. 11–13; Pauline Kael, *The "Citizen Kane" Book* (Boston, 1971), pp. 75–79; Peter Bogdanovich, "The Kane Mutiny," *Esquire*, October 1972, pp. 182–88; Patrick Ogle, "Technological and Aesthetic Influences upon the Development of Deep Focus Cinematography in the United States," *Screen 8* (Spring 1972): 45–72; and James Naremore, *The Magic World of Orson Welles* (New York, 1978), pp. 40–53.

Robert L. Carringer is associate professor of English and cinema studies at the University of Illinois at Urbana-Champaign. This essay is excerpted from his book in progress, *The Road through Xanadu*. His most recent contribution to *Critical Inquiry* was "The Scripts of *Citizen Kane*" (Winter 1978).

respect he commanded in Hollywood, Toland was never a creature of the Hollywood studio system. In fact, he was a devoted rebel against the conventions and rituals of big studio filmmaking. His way of escaping them was to work at Samuel Goldwyn Studios where he stayed under contract throughout his career. At Goldwyn he enjoyed privileges that would have been less likely to be available in the larger studios: a light production schedule, carefully selected story material, his own specially designed or modified equipment and handpicked crew, an atmosphere conducive to innovation, and the chance to work regularly with equally nonconformist directors like John Ford, Howard Hawks, and William Wyler who welcomed and encouraged his innovations. He had access to the Goldwyn facilities between assignments so that he could freely tinker and experiment. His dislike for conventional studio photography in particular was legendary. He was always in the forefront of change, the first to adopt new methods made available by developing technologies in lighting, optics, and film stocks.² He appears to have been driven by a compulsion to expand the accepted technical boundaries of the medium. He was also a shameless exhibitionist, fond of showing off stunning and sensational visual effects of his own devising—another trait that would endear him to Welles. *Citizen Kane* would provide the kind of atmosphere in which he preferred to work. As it turned out, it would also provide him with the opportunity to continue with a line of experimentation he had been following in his recent work.

Goldwyn agreed to loan out Toland at \$700 per week. As part of the deal, the host studio, RKO, was obliged to employ Toland's regular camera crew and to rent his camera equipment from Goldwyn. The crew, which had worked with Toland off and on since the 1920s, consisted of Bert Shipman, camera operator; W. J. McClellan, gaffer; Ralph Hoge, grip; and Edward Garvin, assistant cameraman. Toland insisted on using his own equipment because some of the pieces were fitted with his own special modifications and also because he was using a camera and lenses which were not in general use in the major studios at the time.³ The specifics of this will be discussed later; suffice it to say at this point that Welles was getting not just a cinematographer but the framework for a specific kind of shooting plan (see fig. 1).

2. See George Mitchell, "A Great Cameraman," *Films in Review* 7 (December 1956): 504-12; "Gregg Toland," *Sequence* 8 (Summer 1949): 67-76 (a memorial tribute which includes a letter from William Wyler and an assessment, "The Work of Gregg Toland," by Douglas Slocombe); and *Film Comment* 8 (Summer 1972): 58 (filmography). Two articles by Toland on his work on *Citizen Kane* are "Realism for *Citizen Kane*," *American Cinematographer* (February 1941): 4-55 and 80, and "How I Broke the Rules in *Citizen Kane*," *Popular Photography* (June 1941), rpt. in *Focus on "Citizen Kane"*, ed. Ronald Gottesman (Englewood Cliffs, N.J., 1971), pp. 73-77; see also his "Using Arcs for Lighting Monochrome," *American Cinematographer* (December 1941): 558-59 and 588.

3. See Toland, "Realism for *Kane*," p. 80.

Toland reported for work on *Citizen Kane* the first week in June.⁴ His arrival actually marked the beginning of the second major phase in the film's realization. The week before, Mankiewicz and Houseman had turned in a second draft of the script and departed. Welles was just back

SAMUEL GOLDWYN STUDIOS		
1041 NORTH FORMOSA AVENUE		
CAMERA NO.	Exhibit "A"	DATE June 4, 1940
1	Mitchell Camera BNC -2	
	Bell & Howell Camera	
1	24 MM Cooke	F 2 228223
	25 MM	F
1	35 MM Astro	F 2-3 20040
2	40 MM Astro 18890 F 2-3) 813	F 1-3
1	50 MM Astro	F 2-3 18619
1	75 MM Astro	F 2-3 19548
1	4 Inch Astro	F 2-3 19437
	5 Inch	F
1	6 Inch Astro	F 2-3 7109
2	Upright Finder and Mattes 708 & 24	
1	Finder Support Bracket	
	Matte Box Complete (Old Type)	
2	Matte Box Complete (New Type) BNC -2 & 24mm special 4 rods	
	Tripod Legs	
	Baby Tripod	
	Straight Head	
1	Freehead Mitchell 7054	
1	Tripod Crank Tripod and points	
4	Camera Crank overhead bases and flags	
1	Super-Motion Crank special dimmer	
	High Hat	
1	Mitchell Motor No 224 (3 sound motor)	
1	Mitchell Motor Case	
	Bell Howell Motor	
	Bell Howell Motor Case	
1	Camera Case	
2	Accessory Case No. 1 & 2	
3	Magazine Case	
	400 Ft. Magazines	
6	1000 Ft. Magazines	
	25 MM Finder Adapter	
1	Measuring Tape 50 ft	
1	120 special diff. screen schiebe	
4	N.D. grad 3"x5" Scheibe 25, 50, 75 & 100	
4	Mitchell diff. screens 5" x 3"	
3	Grad 3"x5" Scheibe 21, 23A & 23A-56	
47	3"x3" filters glass	
9	disc glass	
2	boxes of 12 filter holders	

FIG. 1.—List of the equipment Toland brought from Goldwyn for shooting *Citizen Kane*. Toland was the first major cinematographer to use the new blimpless Mitchell camera, the BNC. The 24 mm Cooke was the fastest lens in common use at the time.

4. Details of the production history that follow are based on my research in the *Citizen Kane* files of the RKO studio records, RKO General Pictures, Los Angeles, and of the

from an RKO sales convention in the East, ready to make good on his promise to a skeptical RKO sales hierarchy that, after interminable postponements and delays, things were now rolling. Work on the process of transforming preliminary written and visual material into actual spaces and presences was now ready to begin. After Toland's arrival, he, Welles, and Ferguson spent practically every morning working out the intricate procedures and details involved in creating a coherent visual plan for the story. Welles spent most of the rest of his time working with his actors and rather drastically revising Mankiewicz's script. Orderly progress was suddenly interrupted, however, when a budgetary crisis broke.

After the Mankiewicz-Houseman script had come in, a scene breakdown was prepared from it and sent to budgeting for an estimate. When the preliminary estimate showed a total picture cost of over a million dollars, shock waves went through the entire RKO executive hierarchy. In those days, "a million dollars" had a special significance at RKO. It was the sum a picture was never to go above except in the most extraordinary circumstances. Department heads worked under a standing rule of thumb not to exceed it, not even on the most prestigious productions like *The Hunchback of Notre Dame*.⁵ And besides, Welles was not even supposed to be in the million dollar category. His contract called for him to deliver pictures costing less than \$500,000 with any sum above that requiring studio approval. Plans for his first picture, *Heart of Darkness*, had had to be abandoned after costly and extensive preproduction work because it, too, had been estimated at over a million. Now, six months later, it seemed to be the same situation all over again. Even at this late stage in the planning, the ultimate future of *Citizen Kane* was temporarily in grave doubt. From mid-June to early July, the picture, while not shut down, was definitely in limbo as Welles struggled to trim the script down into a workable shape.

In the heyday of the Mercury Theatre, such crises as these had been almost daily fare. Where the budgetary situation would have kept anyone else totally occupied, Welles continued to move ahead on other fronts. In particular, he was eager to try out some of the ideas he and Toland had been discussing. Ignoring the front office's insistence that everything else be deferred until the budget problem was cleared up, he proceeded with plans for shooting. Because the budget problem had delayed the construction of sets, it was necessary to improvise. The first day of shooting, Saturday, 29 June 1940, was devoted to the projection-room sequence. The budget had called for a set to be constructed; a real

Mercury Theatre Collection at the Lilly Library, Indiana University, Bloomington, Ind., and on numerous interviews with those who worked on the film. For details of the script history, see my "The Scripts of *Citizen Kane*," *Critical Inquiry* 5 (Winter 1978): 369-400.

5. I obtained this information in an interview with Darrell Silvera, former head of the RKO property department (Sherman Oaks, Calif., 19 July 1978).

projection room on the RKO lot was used instead. For the second day, shooting the first visit to the nightclub where the character Susan Alexander works, a set with a Western background, originally constructed for another production, was commandeered. For the third sequence shot, Susan's suicide attempt, only a partial background set was needed because of the lighting requirement. On the daily production reports filed with the studio, all three days of shooting were listed as "Orson Welles Tests." This has been the source for one of the colorful legends that has grown up about the making of the film. Robert Wise tells it this way:

One of the remarkable things about *Citizen Kane* is the way that Orson sneaked the project onto RKO. He told the studio that he was merely shooting tests. . . . After Orson had been shooting for a while, the RKO bosses finally became aware of what he was doing. Then they said, "Okay, go ahead."⁶

As a matter of fact, thanks to the budgeting process, the studio hierarchy already had the full script in its hands at this time. Welles had other reasons for concealing what he was doing. When we look at what was actually shot on these three days, we begin to see what some of the reasons are.

The RKO projection room used for the first day's shooting was a space approximately thirty-by-sixteen feet. Into this Welles and Toland got a camera, equipment, lights, microphones, crews, and nine performers.⁷ They shot the sequence at daringly low light levels—only the streams from the projection windows and a few small fill lights. The performers were barely visible, except when they occasionally crossed the harsh beams of light (fig. 2). The performances were pure Mercury Theatre—constant overlapping of the dialogue and background voices. The nightclub sequence is filled with equally daring visual conceptions. It opens with an elaborate descending crane shot, the first recorded appearance of the kind of exaggerated moving-camera effects that were to become the Welles trademark. (It was duly accompanied in the production reports by suggestions of profligacy and waste. In the "Reasons for Delay" column was a notation—"Returned from lunch 1:30 pm and rehearsed and lined up Crane shot to 4:30 pm.") Later on this crane shot would be joined optically to a similar exterior shot to give the appearance of continuous movement through the skylight. The sequence ends with another extremely unorthodox visual conception. The reporter enters a

6. Robert Wise in "Citizen Kane Remembered," *Action 4* (May/June 1969): 31.

7. I examined this projection room when it was still in use on the Paramount lot in 1977. The area it occupied has since been remodelled for office space.

telephone booth to call his boss in New York. The camera looks into a cross section of the booth. The reporter stands about four feet from the camera. A wide-angle lens is on the camera to increase the depth. High-contrast lighting is used in the nightclub background to enhance the sense of depth. In the middle distance stand the captain and a waiter. Slumped at the table in the background is Susan Alexander. All three depth planes are in clear focus. The third sequence, the discovery of Susan's suicide attempt, contains the most daring visual conception of all. In the foreground, only inches away from the camera, are a medicine bottle and a glass. Behind them, unconscious on the bed, is a sweating, disheveled Susan. In the background, Kane and a doctor break down the door to get in. All the planes of activity, from extreme near to far background, are in focus.



FIG. 2.—The first day of shooting: the projection-room sequence. This sequence was shot at light levels daringly low for the time. Then the film was “forced-developed” in the laboratory—that is, left in the chemicals a longer time than usual to increase the contrast. Forced-developing would ordinarily bring out graininess to an unacceptable degree, but with the tonal range in the scene already so high that effect was minimized.

In its visual appearance, what was shot during these early days was a radical departure from the conventions of studio filmmaking at the time. Much of it was openly, blatantly experimental; one of the camera crew

explained later that the whole purpose of this early shooting was to “prove certain new techniques.”⁸ The one thing as much feared in Hollywood as a runaway budget was radical innovation. *Heart of Darkness* had been dropped not only because it was too expensive but because Welles’ plans to use first-person camera narration for most of the story were too experimental and commercially risky. Since it was now possible for the same combination of charges to be made against *Citizen Kane*, Welles indeed had much to hide.

2

In an article on his involvement in *Citizen Kane*, Toland makes a special point of the fact that he was brought on to the picture at an early beginning phase. He explained that this was unusual in Hollywood, “where most cinematographers learn of their next assignments only a few days before the scheduled shooting starts.” As a consequence, “The photographic approach to *Citizen Kane* was planned and considered long before the first camera turned.” The principal elements of that photographic approach are: deep-focus cinematography; long takes; the avoidance of conventional intercutting through such devices as multiplane compositions and camera movement; elaborate camera choreography; lighting which produces a high contrast tonality; UFA-style expressionism in certain scenes; low-angle camera set-ups, made possible by muslin ceilings on the sets; and an array of striking visual devices such as composite dissolves, extreme deep-focus effects, and shooting directly into lights. Most of these ran directly counter to the conventional studio cinematography of the time. As Toland explained, Welles insisted on “letting the Hollywood conventions of movie-making go hang if need be.”⁹ In fact, Toland titled his article “How I Broke the Rules in *Citizen Kane*.” Toland himself allowed the impression to stand that many of these rules were being broken for the first time in *Citizen Kane*. In fact, most of them had been broken before, by Toland himself, in films on which he had worked for other directors. In a number of its most important visual features, *Citizen Kane* can be seen as a direct and logical extension of Toland’s previous work.

It is said that when John Ford was making documentaries for the government in World War II, he could usually tell from the images themselves what cameraman had shot what footage. If we look at Toland’s films of the 1930s with *Citizen Kane* in mind, certain stylistic mannerisms take on a familiar look: the use of reflecting surfaces and of multiplane compositions in the Goldwyn musicals; the way Peter Lorre is

8. Ralph Hoge in “*Citizen Kane* Remembered,” p. 28.

9. Toland, “How I Broke the Rules,” pp. 73–74.

lighted in *Mad Love*; the corner compositions of a character with his back to us at the side of the frame in *Come and Get It*; Laurence Olivier's face in darkness in some of the scenes in *Wuthering Heights*; and so on. Around 1939, however, these similarities begin to be more pervasive. Thanks to major new technical advances in the state of the art, Toland begins to evolve a radically new cinematographic style which will develop to its full maturity in *Citizen Kane*.

The first set of advances involves the sharpness of the film image.¹⁰ In the 1930s, the typical studio style of shooting tended toward heavily diffused lighting, soft tonality, and a relatively shallow depth of field. The prevalence of this so-called soft studio style can be traced back to the coming of sound, when noisy arc lamps had to be replaced by incandescent lamps which, though quieter, provided much lower levels of illumination. To compensate for the loss in light, lenses had to be used at maximum aperture settings; this reduced the depth of field and could also soften the image. As the decade progressed, improved lighting and film stocks technically made possible a return to the sharper, crisper, still-photographic style characteristic of many silent films. But the soft look was "in," and conservative studio cinematographers usually found it safer to observe established practices than to strike out in new directions.

Several developments in particular made possible a sharper, deeper, high-contrast image. An increase in depth of field is brought about by shooting with a wide-angle lens and narrowing the aperture setting. Among the technical difficulties involved in achieving extreme depth of field are the great loss of light which occurs in narrowing the aperture and the graininess of the fast film stocks used to compensate for this loss. In the mid-1930s, partly in response to the requirements of the new technicolor cinematography, a new generation of arc lamps that were silent, more controllable, and much more powerful than their predecessors was introduced. In 1938, Eastman Kodak introduced its new Super XX film stock, which was four times faster than the previous Super X without appreciable increase in grain. In 1939 researchers announced the principle of lens coating, whereby improvements in light transmission could be achieved by covering the lens surface with a microscopically thin layer of magnesium fluoride. Also in 1939 a new, exceptionally low-grain stock for release prints was introduced, which virtually eliminated the problem of grain multiplication that appeared as the print passed through successive generations from camera to release.

A second area of technical advance involved the recording instrument itself. In the early 1930s, the standard cameras in use in the studios had to be encased in giant soundproof "blimps" to eliminate the sound of the camera mechanism in the recording. In the mid-1930s, the Mitchell

10. The following two paragraphs are summarized from Ogle, "Technological and Aesthetic Influences." See also Wyler's letter, and Slocombe, "Work of Toland" (n. 2 above); and Toland, "Realism for *Kane*" and "How I Broke the Rules."

Camera Corporation introduced a new model of camera, the “self-blimped” BNC, in which a built-in noise-dampening device eliminated the need for the blimp. For understandable reasons, Mitchell chose Toland to test out the BNC. (Its first use on a major production is thought to be for *Wuthering Heights*, for which Toland won his first Oscar.)¹¹ The capabilities of this new camera are very significantly interrelated with the new optical phenomenon of deep-focus cinematography. As critic André Bazin first pointed out, composition in depth provides the basis for a mode of film narration which is fundamentally different from the older montage style. This newer style he called “realist”—by which he meant a propensity to maintain the continuous spatial integrity of the image. This is accomplished through long takes and the use of devices such as moving the camera or staging multiple planes of action in order to eliminate the need for cuts. (This is in contrast to the standard shooting style of the thirties, which involved shallow focus and analytic fragmentation of space. The result on the screen was the intercutting of partial actions according to regularized patterns within a master scene.) The smaller, more portable BNC permitted a much greater freedom and flexibility of camera choreography than its bulkier predecessors (see fig. 3).

Finally, Toland contributed a number of technical innovations of his own. He was known as a “gadgeteer who could make gadgets work for him,” and he always had his cameras “loaded with things he had cooked up to aid him in his work.”¹² During his most creative period, extending from *Wuthering Heights* in 1939 to the time he was drafted for photographic service for the military in the early forties, he invented several processes and devices that were later to come into general use in the industry.

There are striking deep-focus compositions in *Wuthering Heights* (1939). In *The Grapes of Wrath* (1940) there are images which approach the high contrast tonality of documentary still photography. (Almost surely one of Toland’s visual models was a photographic feature on real-life migrants in *Life*, 5 June 1939; some of these photographs were obviously a source for details of characterization and costuming.) The first film, however, in which there is a consistent use of the deep-focus style is Ford’s *The Long Voyage Home* (1940), Toland’s last film before *Citizen Kane*.

11. See H. Mario Raimondo Souto, *Technique of the Motion Picture Camera*, 3d ed. (New York, 1977), pp. 76–77. Souto incorrectly states that the first BNCs went to Warner Brothers. The Mitchell camera people tell me that in fact the first ones, BNC1 and BNC2, went to Samuel Goldwyn, in 1934 and 1935. Only twelve more BNCs were put in service before 1940, when their manufacture was halted for the duration of the war. See also Ogle, “Technological and Aesthetic Influences,” p. 58, and Mitchell, “Great Cameraman,” p. 508.

12. Mitchell, “Great Cameraman,” p. 508.

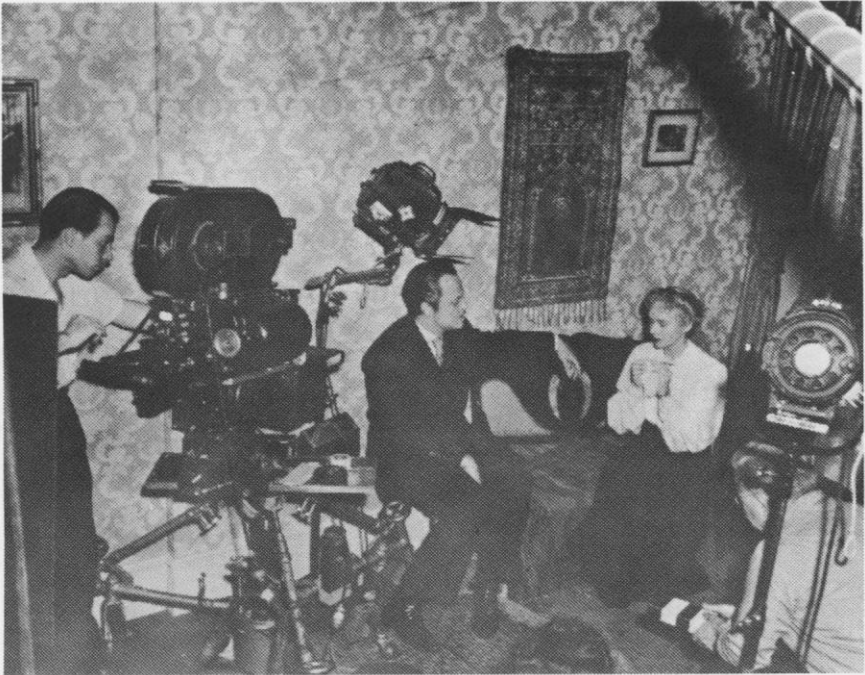


FIG. 3.—Shooting at close range with the BNC.

The opening shot of *The Long Voyage Home* boldly announces the visual plan of the film. In the extreme foreground a native woman, propped against a tree, heaves sensuously to the sound of a native chant off-screen. In the middle distances is another native woman propped against a tree. In the far distance we see the outline of the steamer, which the women will soon visit to bring “companionship” to the restive crew. The scene is in virtual darkness except for shafts of bright light thrown across the profiles of the women and backlighting on the steamer, which is reflected on the surface of the water. All the depth planes are in focus; the selective lighting of each plane reinforces the perception of depth (fig. 4). This composition is repeated several times in the film, as in figure 5, where one character listens in on the conversation of a shipmate who is suspected of being an enemy saboteur. The inherent distorting properties of the wide-angle lens function here as an expressionistic element in the composition of this shot.

Throughout the film, objects in sharp focus are made to loom near the image surface between us and the main action, as if Toland cannot resist any opportunity to intrude the cinematographer’s presence into the story (see fig. 6). In one such shot, a crooked bartender has been caught at his game of shanghaiing drunken sailors, and one of the crew members punches him: the camera watches from bar level as he reels

backward from the blow, sliding along the bar. At the right of the frame, only inches from the camera, is a liquor bottle, in focus (fig. 7)—a composition which looks forward to the shot in *Citizen Kane* of Jed Leland, passed out over his typewriter after he fails to complete his review of Susan's opera debut. In another shot designed to emphasize the depth



FIG. 4



FIG. 5

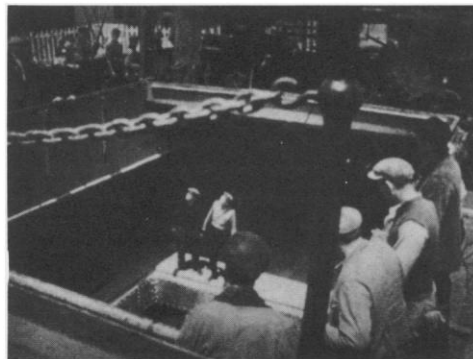


FIG. 6



FIG. 7

perspective, the direction of movement is the reverse. The camera is set up almost at floor level; the wide-angle lens takes in an entire aisle of the deck; props along both sides emphasize the perspective; in the extreme foreground are a ladder and a chain, both laid out on perspective lines toward the camera from center screen to side-offscreen. An air raid alarm has been sounded; a character is running from the far end of the deck; midway across the deck he slips and, still in clear focus, slides almost up to the camera (fig. 8).

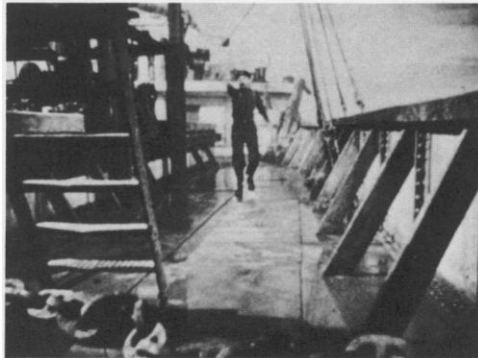


FIG. 8

Like *Mutiny on the Bounty*, *The Sea Wolf*, and dozens of other stories of life at sea, *The Long Voyage Home* centers around a small group of men thrown together in extremely close quarters over an extended period of time. Unlike most other sea films, however, the overall effect of *The Long Voyage Home* is genuinely claustrophobic. Part of the explanation for this is obvious: the absence of spatially expansive images which are conventions of the genre, such as the obligatory shot of a crew assembled on deck at midday or stock shots of a vessel on the high seas. But an equally important contribution is Toland's filming plan. The BNC camera

allowed him to stage actions in very confined playing areas and to shoot the actors at very close range. Most of the film's scenes are shot on small interior sets. Of special interest for *Citizen Kane* is the set where the men bunk. It is a small and extremely crowded and cluttered area. At the climax of one of the stories, the men gather here to accuse one of their shipmates of being a traitor. At a dramatic high point in the action, one of the characters gets up and unscrews an overhead light bulb, and the principal source of illumination for the scene goes out. The filming continues at a daringly low level of illumination, with objects and the faces of the men just barely discernible in the semidarkness (fig. 9)—a situation and effect which are strikingly similar to the projection-room sequence in *Citizen Kane*.



FIG. 9

There is an opening title in *The Long Voyage Home* which is in the spirit of Eugene O'Neill: "With their hates and desires men change the face of the earth, but they cannot change the sea." The story material's unrelenting fatalism finds perfect expression in Toland's expressionistic composition and lighting. A good example is the film's final shot. The young Swede is rescued from being shanghaied just in the nick of time and is returned to a life on the land, but one of the older sailors was not so lucky. The diminished crew returns to the ship. As one of the crew members kneels on the deck to pray, a dark shadow slowly falls like a curtain over the entire scene (fig. 10). Traditional film history has it that UFA-style expressionism survived in a kind of underground existence in the Hollywood horror film until it was revitalized once again by Welles in *Citizen Kane*. As *The Long Voyage Home* demonstrates, one of the missing links in that version of the story is Toland. There are a number of expressionistic compositions in the film which are even more precise forerunners of what will appear in *Citizen Kane*—for instance, a shot with characters spotlighted partly in and out of darkness (fig. 11), the way Charles Foster Kane will appear in several scenes; a shot with streams of light falling into a dark interior (fig. 12), as in the projection-room se-

quence; and a shot using a reflected surface to create action/reaction simultaneously in the image (fig. 13), as in the sequence of the publisher's party.

Other stylistic traits traditionally associated with *Citizen Kane* also appear in *The Long Voyage Home*. One of these is the extensive use of

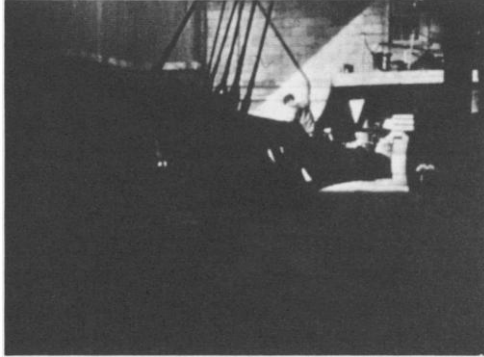


FIG. 10



FIG. 11

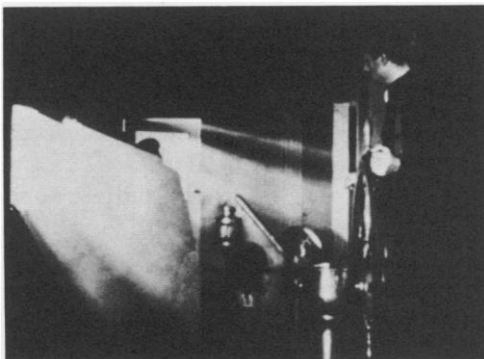


FIG. 12



FIG. 13

muslin ceilings on sets (fig. 14). Welles said he originally got the idea for using them from Ford's *Stagecoach*. But they are also a regular feature of films shot by Toland in this period, evidenced not only in *The Long Voyage Home* and *Citizen Kane* but also in *Ball of Fire* (also 1941), directed by Hawks. Toland had good reason for encouraging their use: not only did they permit shooting and lighting from below, both unorthodox devices he was fond of, but they also allowed boom microphones to be used directly overhead without fear of their shadows, thereby increasing the mobility of the camera.



FIG. 14

Another Toland device is shooting directly into lights. This was not an acceptable practice in conventional cinematography of the time because of an extraneous "halo" effect that appeared in the photographic image. The halo effect was caused by direct light rays being bounced off the surface of the metal iris back onto the front element of the lens. Toland had been able to eliminate this unwanted effect with an invention of his own devising which he first used in *The Long Voyage Home*. He removed the regular sliding aperture from the lens and replaced it with a special insert that would hold a device usually used in still photog-

raphy. This was a "Waterhouse stop," a black plate with a round hole corresponding to the appropriate f-stop and serrations around the outside edge of the hole which cut down the reflections, thus eliminating the glare (see fig. 15). It gave just the kind of flashy dramatic effect Welles

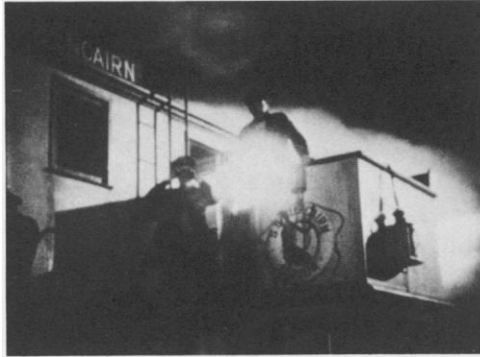


FIG. 15

desired, but it could also have very practical implications. For instance, shooting into the bank of stage lights for the second telling of Susan's opera debut eliminated the need for a costly background audience.

On *Citizen Kane*, Welles not only encouraged Toland's experimentation and tinkering, he positively insisted on it. As we have seen from the first days of shooting, they approached the film together in the spirit of revolutionary fervor. This atmosphere continued to characterize their relationship throughout the production. Those involved say there was a kind of running game between the two, with Welles coming up with one farfetched idea after another and challenging Toland to produce it, and Toland delivering and then counter-challenging Welles to ask for something he couldn't produce. While many of those solutions were ones Toland had worked out on his own in previous films, others were unique to *Citizen Kane*. One isolated example is the distorted image of the nurse who enters Kane's death room. For this shot Welles wanted a surreal effect, as if the camera were actually seeing through one of the broken pieces of glass. To accomplish this, Toland rigged up the camera with one of his gadgets. He placed a "diminishing glass" (that is, a viewing device that produces the optical effect of looking through the wrong end of a telescope) at a short distance in front of his wide-angle lens. The result is a forerunner of the extreme wide-angle "fish eye" lens that came into general use in the 1960s.

A whole range of examples of Toland's ingenuity can be seen in the various in-camera effects he devised for *Citizen Kane*. In some of these, he was actually pursuing a visual course that had become more or less outmoded. Between 1932 and 1940, the art of optically printed special effects first came into its own. One of the leading studios in the field was

RKO. In the mid-thirties Linwood Dunn of RKO built the prototype of the standard optical printer which went into widespread use during the war and is still in use in some situations even today. By the end of the decade, the trend was to have as many of a film's special optical needs as possible done in the camera effects department rather than in principal photography. To the contrary, Toland continued to insist that special optical effects were the province of the cinematographer and that it was his duty to devise ways to meet special optical needs. (A primary motive must have been his almost fanatic pride in the sharpness of the image. Optical printing is a duplicating process which progressively degrades the quality of the image.) One such device is the four-part in-camera dissolve which serves as a recurring transitional motif in *Citizen Kane*: a background fades out on a scene, then the characters in the foreground; the background of a new scene fades in, then the new set of characters. The effect is created by dimming the lights by sections and then bringing them up again the same way on a new set; it is very appropriate to the elegiac and reflective moods most of the informants are in. A similar example occurs at the beginning of the film. As we approach the outside window of Kane's bedroom at Xanadu, the profile of a sheeted figure is visible on the bed inside. The light darkens. Suddenly, without a cut, we are inside, but the profile on the bed is in exactly the same place on the screen. This is accomplished technically by an in-camera dissolve: the first shot slowly goes dark, the film is rewound to precisely the right point, the setup is matched-reversed on an interior set, and the lights are slowly raised again. Dramatically, it is a typical piece of Wellesian bravura, but it also carries a reflexive overtone: the very first appearance on the screen of Welles, who is a practicing magician, is accomplished by a stunning feat of visual magic. (In the same way, the first line he speaks in the film, "Don't believe everything you hear on the radio," is an allusion to the infamous "War of the Worlds" broadcast.) The most famous example of an in-camera effect has never been recognized as one. This is the shot of the bottle and glass on the nightstand after Susan's suicide attempt. Usually treated as a supreme example of extreme deep-focus shooting, it is actually an in-camera matte (fig. 16).¹³

Exerting such a major influence on a film's visual plan in this way was nothing new with Toland, as we have seen with *The Long Voyage Home*. But Toland himself was the first to recognize the special significance of his work on *Citizen Kane*. In an article published several months before the release of the film, he wrote:

During recent years a great deal has been said and written about the new technical and artistic possibilities offered by such

13. For technical explanations of this series of effects, I am indebted to Ralph Hoge. For clarifying information, I thank the photography staff, Instructional Media Division, Office of Instructional Resources, University of Illinois at Urbana-Champaign.



FIG. 16.—The famous multiplane composition revealing Susan's suicide attempt. Not an extreme deep-focus effect, as it is usually described, but an "in-camera matte." First the foreground was lighted and focused and shot with the background dark. Then the foreground was darkened, the background lighted, the lens refocused, the film rewound, and the scene reshot. André Bazin cited this shot as proof that Welles' filmmaking tendencies were fundamentally realist. In fact, it demonstrates the opposite.

developments as coated lenses, super-fast films and the use of lower-proportioned and partially ceil[ing]ed sets. Some cinematographers have had, as I did in one or two productions filmed during the past year, opportunities to make a few cautious, tentative experiments with utilizing these technical innovations to produce improved photo-dramatic results. Those of us who have, I am sure, have felt as I did that they were on the track of something really significant, and wished that instead of using them conservatively for a scene here or a sequence there, they could experiment free-handedly with them throughout an entire production.

In the course of my last assignment . . . the opportunity for such large-scale experiment came to me.¹⁴

While Ford seems to have taken a real fancy to Toland's dark and brooding images in *The Long Voyage Home*, they are strikingly at odds with his own folksy humanism which is the real core of the film, and Toland's contribution could be described as a visual plan in search of a theme. In *Citizen Kane*, in contrast, the visual conceptions are fully integrated into the film's thematics. Toland knew this had come about because he had been in from the beginning and because he and Welles were in almost total agreement on everything. He also thought he had a firm understanding of how the method related to the meaning. The film's keynote, he wrote, was "realism"; his and Welles' guiding motive

14. Toland, "Realism for *Kane*," p. 54.

through the production had been to make the audience “feel it was looking at reality, rather than merely at a movie”—hence the ceilings on sets as if they were real rooms, a depth-sense closer to what the eye actually sees, continuous takes like real time, and so on.¹⁵ From today’s perspective, Toland’s analyses seem almost comical, as if he had been around Welles almost day and night for six months and never understood that it was the flashiness and potential for showmanship of such techniques that really turned him on. That, in fact, was the nexus of their collaboration—the deadpan Toland coming up with one zinger after another just to prove he could, with Welles the showman sensing and realizing their dramatic potential for his story.

Deep-focus cinematography provided Welles not with realism but with the technical means of adapting the Mercury Theatre performance style to the requirements of a new medium. Extreme depth of field gave them a playing space roughly equivalent to what they would have on a stage. The wide-angle lens kept them suitably distanced. (There is a very good reason why there are practically no close-ups in the film: the heavily theatrical gestures and mannerisms of the Mercury players, Welles included, are very unsuited to the studio style of intercutting.) Long takes permitted them to play scenes almost continuously, as they were accustomed to on the stage. The extreme mobility of the camera allowed Welles the full exercise of his special talent for elaborate choreographics.

The lighting plan also has dramatic relevance to the story material. The technical advances of the late 1930s made two different kinds of developments in lighting possible. On the one hand, one could shoot in full light with high-intensity, point-source arc lighting and produce a crisp, sharp tonality like still photographs. On the other hand, one could also shoot at much lower levels of illumination than before, producing very striking expressionistic compositions. As we have seen, in *The Long Voyage Home* Toland was determined to push both effects to their extreme limits to such a degree that sometimes the cinematography displaces the story. The two lighting styles reappear in *Citizen Kane*, but here their coexistence is made to serve a clear dramatic and thematic function. The crisp, high-contrast, daylight style predominates the first half of the story after the newsreel—that is, the parts dealing with Kane’s rise to prominence in American life. Here Kane is seen as a self-starter, an idealist, a reformer, a figure of dynamic energy, a traditional type—the hope of the future embodied in a genuine American Titan, the entrepreneur-tycoon. A contemporary reviewer remarked of these scenes, “Gregg Toland’s photography is magnificent. I think it’s modelled after the old, needle-sharp pictures of Eugene Atget.”¹⁶ By con-

15. Ibid.

16. John Chapman, *New York Daily News*, 15 April 1941.

trast, most of the harshly expressionistic scenes involve the later part of Kane's story, after he has betrayed his promise and ended up a petty and ruthless tyrant. Above all, we associate such images with Xanadu, where the symbol of hope has become a figure of defeat—cold, aloof, and alone in his gigantic pleasure palace. The two styles of lighting express the polarity which is central to the experience of Kane.

Finally, while in *The Long Voyage Home* Toland's gadgets sometimes seem merely gratuitous (like the captain at the beginning waving his flashlight into the camera for no particular reason), in *Citizen Kane* these are usually worked into the action better (when the opera debut is shown from the stage side looking into the lights, we are seeing it from Susan's point of view). And the endless flow of daring new visual conceptions and devices is totally appropriate to a film like *Citizen Kane*, which deliberately sets out to rewrite all the rules and conventions according to which films are made.

3

Though principal photography on *Citizen Kane* was completed in late October, Toland stayed on for several weeks to do retakes and additional shooting. In mid-November, however, he was recalled by Goldwyn for reassignment to Howard Hughes on *The Outlaw*. To insure an optimum uniformity of visual style in *Citizen Kane*, he arranged for his crew to stay on an additional two weeks for wrap-up work done under the supervision of RKO cameraman Harry Wild. Their services were concluded on 30 November with (appropriately) the final takes on Kane's death scene. Welles made special recognition of Toland's contributions by putting their names together on the same title card in the film's credits. (Interestingly, Ford had paid Toland the same tribute on *The Long Voyage Home*.) Though Welles tried to get Toland for his next project, the aborted Mexican film, he was unavailable, and the two never worked together again. After completing *The Outlaw*, *Ball of Fire*, and *Little Foxes*, Toland was called into wartime service with Ford's OSS photographic unit. He returned to Hollywood after the war and worked on a half-dozen productions before his untimely death, at age forty, in 1948.

Toland was nominated for an Academy Award for *Citizen Kane*. He lost out to Arthur Miller for Ford's *How Green Was My Valley*—ironically, an assignment Toland himself had been prevented from taking because of a lengthy delay on *The Little Foxes*. *Citizen Kane* lost not only for cinematography but in seven other categories. The Academy's vote reflects how the industry itself has always felt about *Citizen Kane*—that it was too brash, too upstart, too artsy and experimental. Douglas

Slocombe, a highly respected British cinematographer, reflected this view in a memorial tribute to Toland published shortly after his death:

Gregg Toland's contribution to *Citizen Kane* was obviously considerable and it is indeed difficult (as in so many pictures) to disassociate his work from the picture as a whole. Several years after seeing the film I find that one is inclined to remember the image rather than the message, which suggests that *Kane* might have been a very much better film had the novel technicalities not been allowed to run away with their masters. Technically it was certainly an exciting picture to watch with really powerful compositions and dramatic lighting effects despite a certain "rawness" and lack of texture from which one concludes that Toland had not yet tamed his process to wield limits.¹⁷

With Toland, Wyler, and Ford off to do military service and with Welles washed up after his South American fiasco, the evolution of deep-focus cinematography came to a virtual halt until after the war, when a shift toward realism brought it into the Hollywood mainstream. Toland returned to it in *The Best Years of Our Lives* (1946), in industry wisdom the most prestigious assignment of his career. UFA-style lighting, by contrast, came into vogue on Hollywood sets after *Citizen Kane*. One finds such effects in films as diverse as George Cukor's *Gaslight*, Val Lewton's RKO horror pictures, *This Gun for Hire*, *Mildred Pierce*, and a prestigious literary adaptation like *Jane Eyre*. According to one critical view, it was the all-pervasive influence of *Citizen Kane* that fostered this general trend.¹⁸ As a matter of fact, that generation of directors continued to resent Welles as an upstart and to look on *Citizen Kane* as an interesting novelty not really to be taken seriously. When other filmmakers did take notice of it, it was usually in the spirit of parody—as in the projection room sequences of *Sullivan's Travels* and *The Bad and the Beautiful*, the multilingual newspaper headline montage in *The Miracle of Morgan's Creek*, and the opening publisher's-death sequence in *While the City Sleeps*. Asked about the influence of *Citizen Kane* on his own films of the 1940s such as *Two-Faced Woman*, *Keeper of the Flame*, and *Gaslight*, Cukor replied, "I'm not aware of it. . . . I must say that I thought *Citizen Kane*, in spite of its brilliance, was rather too much UFA. . . . Of course, sometimes we know we're being influenced, and sometimes it's just the air you breathe."¹⁹

17. Slocombe, "Work of Toland," p. 74.

18. The most recent statement of this theme is Thomas Schatz, *Hollywood Genres: Formulas, Filmmaking, and the Studio System* (New York, 1981), pp. 111–23. According to Schatz, the thematic ambiguities, detective story form, and narrative and visual techniques of *Citizen Kane* link it to *film noir*, and the film had an enormous influence on the development of this genre, particularly in its expressionist techniques of lighting and composition.

19. George Cukor, quoted in Gavin Lambert, *On Cukor* (New York, 1972), pp. 184, 186.

After 7 December 1941, the Hollywood air was filled with the war effort. All eligible males were promptly enlisted in one kind of military service or another. Those left behind devoted themselves to patriotic activities such as bond drives or entertaining the troops. The studios themselves went all out for the cause. Story properties were carefully screened for their potential impact on the Allied cause. Technical staff and facilities were made available to the War Department. Units were dispatched to South America to promote good hemispheric relations. Everyday studio operations were affected, just as was the American household. Film stock was rationed. Excess footage was scrapped to obtain precious silver. One wartime restriction which had a direct influence on the actual appearance of films was the imposition of a strict ceiling on the amount that could be spent for set construction. Before the war, the cost for sets on a typical "A" production would have been around ten percent of the total budget. During the war, the maximum that could be expended for new materials was a paltry \$5,000.

As we know, Welles and his associates were hit with directives to tighten their budget on *Citizen Kane* severely. They eventually had to reduce the estimate by a full third before getting the green light to proceed. Of all the reductions in the estimates, the largest single one was for sets (cut almost in half). The savings were partly realized in the customary fashion by re-dressing existing sets or by eliminating scene setups called for in the script. They were also realized in ways that were very out-of-the-ordinary, such as commandeering an actual projection room. Another solution is described by the film's working art director, Perry Ferguson:

There is another way in which we can effectively minimize actual set-construction to great advantage. This is in taking advantage of the camera's powers of suggestion. . . . Very often—as in that much-discussed "Xanadu" set in *Citizen Kane*—we can make a foreground piece, a background piece, and imaginative lighting suggest a great deal more on the screen than actually exists on the stage.²⁰

For the Great Hall at Xanadu, only three portions of a set were actually constructed—the fireplace, a door treatment, and the grand stairway. All the rest we see are real pieces from the property department. The spaces in between are hung with black velvet, to create an illusion of depth. In other words, Toland and Welles came up with an expressionistic lighting plan partly as a means of saving set costs without sacrificing aesthetic effect. (That the resulting gothic element is one of the film's most strik-

20. Perry Ferguson, "More Realism from 'Rationed' Sets?" *American Cinematographer* (September 1942): 391, 430. Other information in my paragraph is from an interview with Hilyard Brown, Ferguson's assistant on *Citizen Kane* (and a major art director today), in Brentwood, Calif., 17 July 1978.

ing visual features is perhaps an illustration of how art and necessity sometimes walk hand in hand.) We can see the same logic at work in the lighting of a number of other sets in the film—for instance, Kane's deathbed, the Thatcher Memorial Library, and some of the interior scenes at Xanadu. It may be that this is the direct link between *Citizen Kane* and the expressionistic style of lighting that came into vogue in Hollywood in the war years. At least Ferguson liked to think so at the time: the quotation above is from a contemporary trade article he wrote on the subject of wartime restrictions on materials for set construction. That the two of them—Welles the extravagant genius and Toland the unrepentant tinkerer—may have left a major legacy of efficiency and practicality in *Citizen Kane*, among the film's other legacies, is an irony they would both greatly relish.