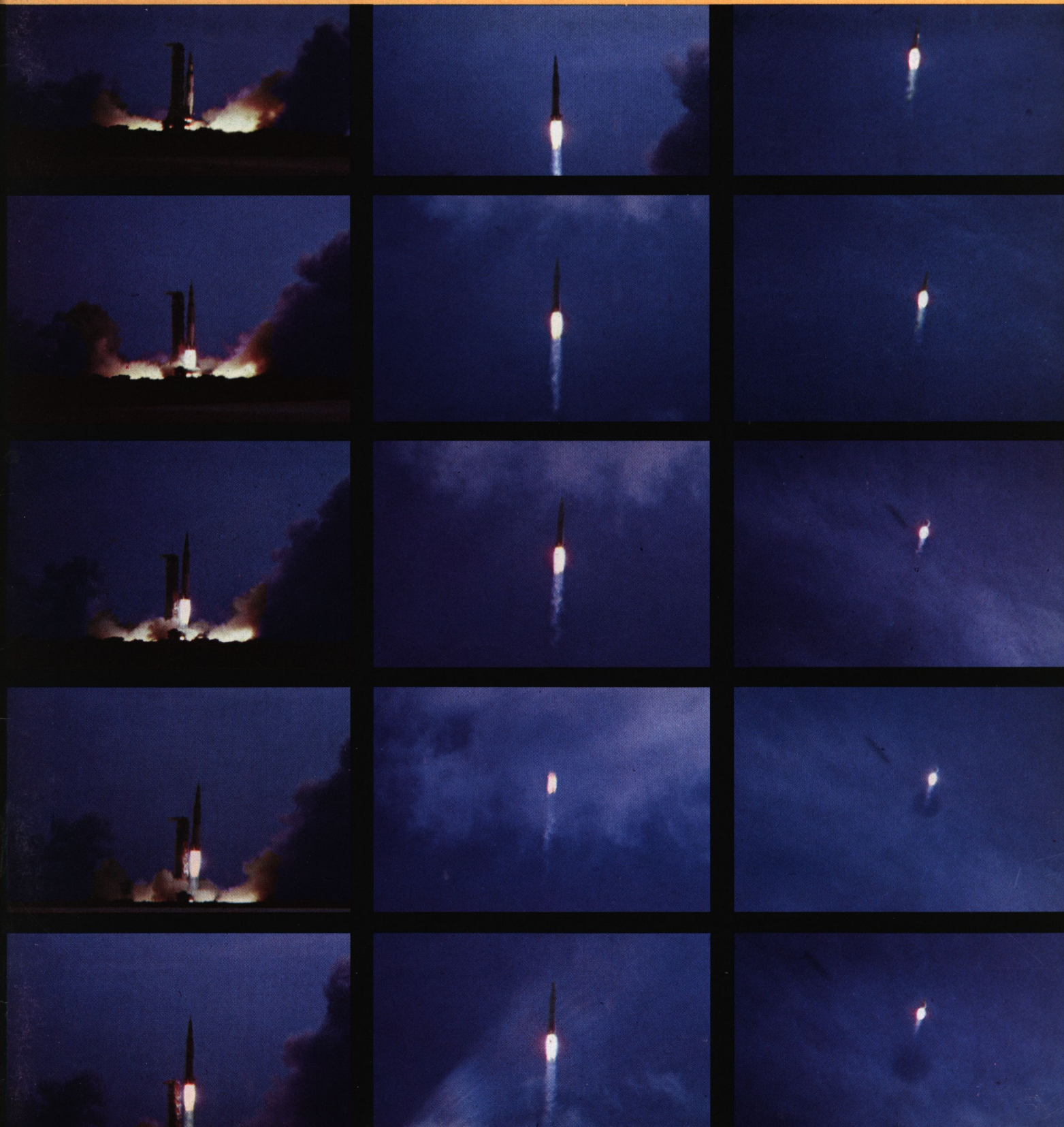


AMERICA'S LEADING MOVIE MAGAZINE

1971

BOLEX

REPORTER





Shooting an Ancient Epic

by James Burgess

Editor's Note: According to the author, the film "NOT WITH A SWORD," recreating the biblical story of David and Goliath, was created by over 500 young people from the Seattle, Washington area ranging in age from 6 to 22 years in the hope that the "faith of a child" exemplified by David might become an active force in our world today.

Enthusiastic reception has already been given this exceptional new film. Shot with two Bolex H16 cameras, "NOT WITH A SWORD" will soon be made available for rent through 16mm film libraries throughout the country. Further details regarding the film's production and access to prints may be had by writing to R. W. Burgess, President, Ambassador Films Service, 826 Guinn Place, Seattle, Washington 98102. While the film is most relevant to youth and youth action programs, groups of all types will find it both a professional and provocative production.

The following remarks have been taken, with the author's permission, directly from the published program entitled "The Filming of NOT WITH A SWORD".

This is the story of "NOT WITH A SWORD": to search the character of a young boy whose child-like faith in God, and not in the material weapons of man, brought him deliverance and perpetuated the promise of "peace on earth, good will toward men."

The story of a child's faith itself determined a production whose very basis was naive. Not only was David to be a young boy, but the entire cast of more than 500 was composed of young people ranging in age from 6 to 15 years. Even the crew and the director were under 23.

After completing one semester of university work toward a degree in cinema, I returned to Seattle to begin filming during the summer of 1966. In four years the production has evolved to its present completed state and for the first time in cinematic history, to my knowledge, a professional-quality motion picture of this scale has been conceived and created by a collage of people whose average age was under 15.

It was the first time I had ever filmed anything in 16mm. All of my previous camera experience could have been rolled up into 1000 feet of 8mm film, and now I was to capture the strange world of a boy who watched over his father's sheep some 3000 years ago, who would face a bear and a lion, and who finally slew a giant with only a sling and the faith of a child.

The month of June found us with close to 2000 feet of Ektachrome Commercial, but without a sync camera or sound equipment. Through the efforts of my father, who is director of Ambassador Films Service, we located a used Bolex and a Magnasync X-400 recorder. The camera had been to Africa and back with a missionary and had spent a number of years in the tropical heat. Even after months of sitting in the warm summer sun of Seattle, abused by blowing sand and constant exposure, it continually produced footage that would rival or surpass that of many professional productions. The camera is even now being used by my younger brother who free lances for a local television station. In the summer of 1969, when the footage was timed at Alpha Cine Laboratory in Seattle, the timer told me it was the best looking original he had ever seen and made the comment, "we must have known what we were after." Then almost incongruously he turned and asked, "Weren't you amateurs?" I nodded yes, and still consider myself one, for in this art the continuum of expression always holds the potential of becoming more professional.

Exhibiting much the same faith as David, we began filming a "biblical spectacular" within the confines of a metropolitan area containing almost one million people. First of all, trying to find locations paralleling those of Palestine was a problem, but we found our "Israel" on the sandy slopes of

Richmond Beach, a county park on the shores of Puget Sound. Scenes which required the large number of sheep for Jesse's flock were filmed in Eastern Washington, while the front of the University of Washington library doubled as King Saul's castle.

With the finding of locations, the sounds of the twentieth century became a problem. Every time the camera would roll, some manifestation of modern man's existence would make itself known on the sound track. We had to wait many hours while motor boats, planes, cars, trains (the tracks of the Great Northern Railway run through Richmond beach) and motorcycles would "do their thing" and retreat into the distance. A decision was finally made to postrecord all dialogue. This not only gave us a cleaner track, but one of substantially higher quality, especially since we were dealing with children's voices.

We had no other motion picture equipment besides the Bolex camera and the Magnasync recorder, and so, when the director would call for a dolly shot, it usually meant employing the rear trunk of a car, or hand-held walking shots. With the Bolex's simplicity of operation, its compact size, and easy holdability, mobile footage was obtained with surprising smoothness and a special feeling of audience participation. Even when coupled with the Angenieux 12-120 zoom lens, the Bolex was easily hand held.

As in any part of life, the uncontrollable or spontaneous combination of events can make for an exciting and different outcome—so with the motion picture set. One particular setup called for a head-on view of the Philistine army being pursued by the Israelites. As the two waves of infantry rushed toward the camera, two Philistines were shot in the



back with arrows, and fell in front of the camera. Caught between the line of Philistines and the approaching Jews were two horses whose only path of travel seemed to be directly over the "dead" Philistines. One horse made it around behind, but the second couldn't and ended up prancing across the two bodies giving us on film a shot that could never be duplicated.

The crew for the first summer's shooting consisted of Rick Hafer as director and my younger brother, Tim, as public relations head and sound engineer. The many other jobs of production were handled by the many watchers that would gather around as we filmed.

Recruiting for the large battle scenes was done in meetings on Saturday mornings. Mothers would bring carloads of children to specified places where footage would be shown, and where they could sign the release forms and pick up information on how to make their costumes—which became the ticket of admission to appear in the film. Each child was to furnish his own basic costume and would be outfitted with a spear, a sword, and a shield made by volunteers.

August came and one afternoon as Rick and I walked through the tall dried grasses of our "Elah" and watched the spinning white dandelion balls float softly on a warm breeze, I realized that the summer was slipping away and we had not finished filming. It was almost time for my return to school and I hated the thought of leaving the project behind. Plans were made to continue shooting through September on weekends. A film school for young people was established to continue interest created by our project and to train a crew for the following summer's work.

Then in the summer of 1967, Steve Willison took charge of photography. He was a product of the film school and after ten weeks of classes was told he was to be cameraman for the next summer's work. "Sixteen years old, dreadfully in love with the film medium and anxious to start shooting, yet quite inexperienced" is how he relates his feeling at the time. The classes taught by Rick, which featured several guest lecturers, had briefly summarized the many facets of the film, but Steve's real knowledge was gained when he took the camera in his hand and began filming on the set.

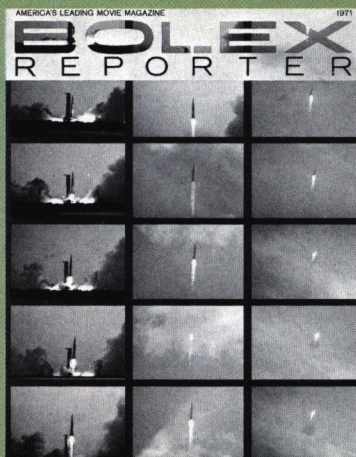
Looking back now he can't recall much from the classes on camera except that "we sat around for quite a time taking turns loading the Bolex camera." It was time well spent, for after each hundred foot roll, the camera would have to be reloaded under the conditions of harsh, open sunlight with a coat thrown over the camera to protect the film from being fogged.

Although the H-16 was used at times, the workhorse and favorite was the H-16 Reflex. As Steve relates, "the through-the-lens viewing made the shooting much easier and more expedient than a parallax camera. Besides, the viewer made each set-up seem to be on screen rather than just a ground glass, quite helpful for visualizing how each shot would look when completed."

Another of those who has had a great part in the creating of our film is Mr. Lyle C. Thompson, Vice-President of Multi-Media Productions, Seattle, who has donated his time for almost a year to bring a new dimension to the film's totality—that of the sound track. Beginning with dubbing in all the spoken dialogue, he has expanded the soundtrack to include in its scope every possible effect called for by the visuals. His has been no small task, for it has meant working night after night creating, recording, and laying-in the many effects.

The conceiver of the project and the director of the film is Rick Hafer, who for seven years made films, but without the physical camera or film. They were films from inside his mind, on paper or occurrences in his everyday life. Looking back to those years, he remembers "fashioning cardboard cameras, making studios out of the attic and basement, and recruiting friends to play roles in the very real but non-existent movies of my mind." By the time he entered college, he had given up on cardboard cameras and began spending time writing scripts and storyboards. "My only contact with film up to that time had been seeing the Hollywood movies, so I created script after script emulating the Hollywood model. The clean, slick, professional polish of the Hollywood production is still an ideal that I cannot easily forsake. For it is not technical imperfection, but spiritual and esthetic sterility which flaws the Hollywood product."

So it stands—"NOT WITH A SWORD"—an example of a child in a faithless world. Faith need not be equated to characters of the past. For if but given a chance, it will work as well in our world today.



On
Our
Cover

All photos are reproduced from 16mm movie frames shot with a Bolex Rex through Kern-Switar optics, standard equipment on all Bolex 16mm professional motion picture cameras.

The color quality and sharpness of these exceptional movie frames is characteristic of the traditionally strong performance of both Switar lenses and Bolex cameras.

In the last few frames, it is interesting to note the shadow of the rocket reflected on the cloud through which it passes. It is also interesting to see the trail blazed through the cloud in the form of a round hole as the rocket blasts through.

What makes these extraordinary views even more commanding, however, is the unique manner in which the photographer, Tom Sullivan, used his Bolex Rex. Of all the many films we have seen of rocket launchings at the Cape, the one from which these frames were taken is the most impressive.

To newsmen covering the space program, one lift-off looks pretty much the same as another. The huge Saturn booster is the same, your vantage point is basically the same because of safety requirements, and the proficiency of the technicians manning the cape is such that the complicated hardware performs just as the textbook says it should. So how do you capture something a bit different when you are filming from the same camera stand as everybody else? Tom Sullivan provides an interesting answer in the following brief description of how he captured the amazing views reproduced on our cover:

"Because Apollo Eleven was the first lunar landing project for America's astronauts, I wanted to capture something special, and in doing so, I gambled successfully that my hasty on-site computations for a very unlikely shooting formula would work out.

On the day of the launch I began filming at the crew's quarters, making a scene of the three astronauts as they jauntily suited up and boarded the sterile van for the ride to Launch Complex 39. It was almost dark at that hour, and even with the bright tungsten lamps provided by NASA I shot at 2.8 on Ektachrome 7242 at 24 frames per second. Of the brand new roll just placed in my Rex 4, there was still 65-feet left, and, as surprising as it may seem to someone who has never watched a launch, that amount is ample to capture the essentials of the action.

I had all the color I needed, and there was nothing to do for almost three hours from 6:20 a.m. to lift-off at 9:22, so I decided to figure out whether I could actually do something different and shoot the launch in bright sun with the high speed film.

I began by putting in an 85 filter, which took the ASA rating down from 125 to 80. But as the sun came higher into the heavens, it became obvious that the day would be brilliantly sunny, and an f.11 or f.16 opening would be about right at 24 frames per second with normal daylight film of 25 ASA.

Then I thought about the majestic slowness of the lift-off, and decided I could prolong that scene by shooting at 64 frames per second. But I would still be way over in exposure, so I tried the additional exposure inhibitor of closing my

variable shutter down to the $\frac{3}{4}$ mark, and decided that I could effectively capture the scene—hopefully with an unusual look to it.

The cameraman to my left, using a considerably more expensive 16mm camera with commercial Ektachrome and an f.16 exposure asked me, by way of verifying his own computations, what lens opening I was shooting at. I told him and he almost missed the lift-off because of weakness from the laughing fit he suffered.

I had the last laugh, however.

The formula—which approximated an exposure of 1/640th of a second at f.11, captured the scene beautifully, maintaining Apollo 11 in the slow rising mode for those extra exciting seconds on the screen. The real clincher came when the missile approached and entered its third layer of clouds. Such was the sensitivity of the automatic electric eye of the Vario Switar 86EE lens I used that a perfectly etched shadow of the craft was clearly visible on the cloud layer. The human eye could not see it, and so far as I can determine, no one else photographed it. NASA personnel who viewed the film later said it certainly did represent something new in space shots.

Interestingly enough, having carried my Bolex around the world twice and used it in every conceivable situation, I never really doubted for a second that it would deliver, although that hysterical cameraman to my left might have weakened my resolve if he'd laughed a little longer."

While photographers on earth record NASA's fabulous lift-offs, American astronauts are working just as seriously to bring back a filmed record of all that happens once the giant rocket has accomplished its tremendous feat. Like many professionals on the ground, the astronauts use Kern-Switar motion picture lenses to achieve optimum picture quality and detail.

Shown here is a typical frame reproduced from the 16mm film Apollo 14 astronauts brought back from the moon. Shot through a Kern-Switar 10mm wide angle lens set at f.2.8 and 1/500 of a second. The frame shows the Apollo 14 Lunar Module ascent stage lifting off the lunar surface as the powerful LM engine creates a momentary burst of wind, scattering gold-colored foil from the LM and ruffling the American flag planted by Apollo 14 astronauts. (Courtesy of NASA)



Super 8 International Film Festival

Amateur Super 8 filmmaker, Richard Brill, contributor to the Bolex Reporter has just announced the creation of the first exclusively Super 8 international film competition for the amateur, the semi-professional, and the hobbyist. This Super 8 movie contest grows out of Mr. Brill's ardent enthusiasm for amateur filmmaking and offers the dedicated Super 8 buff a valuable opportunity to compete for important prizes and international recognition.

Entries are currently being invited for the Super 8 film festival with three categories of competition:

1. Short Subjects (50' to 150'. Documentary, entertainment, animation—any subject).
2. Features and Featurettes (150' to 800'. Any subject with or without magnetic sound).
3. Full Length Features (400' to 800'. Any subject with magnetic sound—sound may be recorded separately on cassette tapes).

All films will be judged by a panel of qualified film industry experts. Finalists' films will be judged by top film experts, who will select first, second, third, fourth, and fifth prize winners.

"Vicky" statues symbolizing outstanding achievement and cash prizes will be awarded prize winners at a special Gala Awards Banquet and Exhibition to be held in New York City in November, 1971. All entries and fees must be received by September 15, 1971. For official entry forms and further information, write to 1971 Super International Motion Picture Film Festival, c/o Professional Building, Sayre Woods Shopping Center, U.S. Route 9, Parlin, New Jersey 08859.

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The Bolex Reporter is published by Paillard Incorporated, 1900 Lower Road, Linden, New Jersey 07036, (English edition) and by Bolex International S.A., Ste-Croix, Switzerland (French and German editions). In the United States the magazine is distributed twice a year through Franchised Bolex Dealers. Price 50 cents. Subscriptions available from the publisher at \$2.00 per four issues. The editors will be pleased to consider original articles and photographs on movie making. All manuscripts and photographs submitted become the property of the Paillard organization or its designees upon publication and payment at rate current. Copyright 1971, Paillard Incorporated, Linden, New Jersey, and Bolex International S.A., Ste-Croix, Switzerland.

Filming Near Space Through The Telescope

by Zack T. Hinckley

Editor's Note: Zack T. Hinckley won first prize in the Science and Space category of the Newsweek/Bolex Documentary Movie Contest concluded in 1970. The following remarks constitute a fascinating technical description of the filming challenges faced and met by a Bolex Rex-4 during the shooting of Mr. Hinckley's extraordinary film, "Shoestring Stargazer."

The original plan for "Shoestring Stargazer" called for footage of a star passing out of view behind the dark side of the moon. The film was to be shot through a twelve-inch reflecting telescope, which had never before been fitted with a movie camera. By the time the camera mount had been constructed, the film project was far behind schedule; and the ephemeris indicated that no bright star occultations would be visible from our location before the contest deadline. To hasten the production, the lunar occultation was simulated in the studio using a styrofoam sphere as the moon and a tiny incandescent lamp as the occulted star. The effect was successful to a degree, but after the film was completed and submitted to the contest, our next project became completion of real lunar filming through the telescope.

The first camera mount we built allowed the movie camera to use its normal lens to film through the telescope eyepiece. We called it a virtual image mount because light rays leaving the eyepiece of the telescope are almost parallel; and with the camera lens focused at infinity the image at the film plane is theoretically in focus. We were, therefore, filming a virtual image. This is where our school's Bolex Rex-4 came in handy. Using its reflex viewfinder for critical focusing took the guesswork out of setting up the camera for our first roll. A check of the focus scale on the lens showed that the point of sharp focus varied considerably from the theoretical "infinity" we had assumed. The Rex-4 solved another problem for us, too. Because the exit pupil in the telescope's eyepiece was small, it was necessary to align the lens and eyepiece axes with great care. Slight misalignment caused severe vignetting. This would have been a great deal more difficult had it not been for the Rex-4's reflex finder.

Our telescope has an effective aperture of $f\ 8$, but rather than try to calculate exposure, we shot our first test roll based on actual light readings measured through the eyepiece with a spotmeter. Using Plus-X reversal film (ASA 50), the center of the bracketing was an indicated $f\ 5.6$ for the camera lens, and we shot at 24 frames per second, bracketing in one-stop increments from $f\ 2$ to $f\ 16$. The camera was driven by a Bolex Unimotor powered by a homebuilt 24-volt DC power supply.

When our first roll came back from the lab, the results were amazing! The bracketed series showed our original reading of $f\ 5.6$ to be the best, but shots from $f\ 2$ all the way to $f\ 11$ were usable. The films were extremely sharp, showing details entirely missed by the still camera used on the telescope by the school. Very close examination showed the films to be entirely free of vibration, which surprised us because the telescope was far from steady—mainly because during filming it was loaded with more than thirty pounds of camera, mount and counterweight. The only distortion noticed in the pictures were from heat waves in the atmosphere between us and the moon.

Even though we had success on our first test roll, we were still dissatisfied with the camera mount. It had been constructed in a hurry, using $\frac{3}{4}$ -inch plywood, and its weight was so great that excessive counterweight had to be used to keep the scope from tipping in its mount. The combined weight of the added filming components almost overloaded the telescope's tracking drive and slip clutch, a danger which negated the positive stabilizing advantage of the additional inert mass. While I planned the next series of test shots, Bob Wood, the director of the observatory, built a new lightweight aluminum camera mount.



Reappearance of the star Regulus, May 13, 1970, as described in the article.

In the second test we planned to shoot one roll of Commercial Ektachrome and one roll of Plus-X reversal, using a yellow filter with the Plus-X in an attempt to improve contrast in the lunar surface details. The night of the test was humid, and we could see a distinct haze around the moon—not good, but we decided to go ahead. As before, we shot bracketing footage of the moon on the ECO and half of the Plus-X.

Because a lunar occultation contains elements of vastly different brightnesses (the nearby moon and some distant star) which must each be plainly discernible, we decided to use the remaining film on selected stars and star groups to determine the difference in exposure between the moon and stars. We hoped to arrive at some halfway factor which would allow us to expose both well enough to correct the final footage in printing. For these tests we bracketed only one stop either way from a center of $f\ 2.8$, which we arrived at by estimate. We shot a total of five tests including stars of different magnitudes:

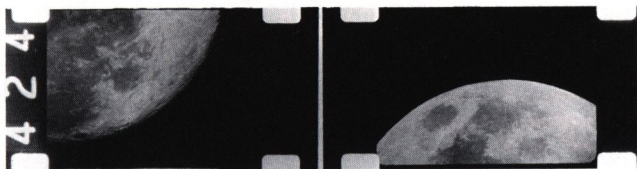
1. Sirius, Mag -1.46
2. Zeta Orion, Mag $+1.74$
3. Orion Nebula, Mag $+4.5$
4. The Pleiades, Mag $+2.86$
5. Betelgeuse, Mag $+0.5$.

The lunar color footage was entirely inconclusive and generally poor, but the black-and-white roll confirmed our first test results and revealed some interesting new possibilities. First, the yellow filter did seem to increase the contrast of lunar surface details, and absolutely none of the haze visible to us was recorded on the film. Second, even minute study of the bracketed star footage did not enable us to distinguish between the bracket steps of the test series. It appears that exposure for point sources of light, such as stars, is principally determined by the brightness of the point source and/or the time of exposure (or filming speed). The diaphragm setting had no noticeable effect. This seemed important because it indicated that to film an occultation it would be necessary only to set the diaphragm for correct exposure of the surface of the moon—the star would be exposed properly if it registered at all.

At last, on the evening of May 13, we were able to test our findings by filming a real occultation. The ephemeris predicted that the moon would occult the star Regulus, a first magnitude star, and that the occultation would be visible from our observatory. The plan for that evening was simple: We would shoot Plus-X at twelve frames per second to compress the length of the occultation. The occultation, on the dark side of the moon, would be shot wide open; and the reappearance, on the bright side, would be shot through the #8 yellow filter. Since the #8 filter has a one-stop light loss, but we would be filming at half speed, the exposure would remain at f 5.6, as it had for our previous tests. Shortly before 10:00 p.m. we began filming and continued until the star disappeared. During the one-hour interval, the telescope tracked the star with its drive motor. Since the star was hidden by the moon, we were anxious about whether or not we would be on target at reappearance; but about an hour later, as indicated in the ephemeris, we started the camera, and right on schedule the star reappeared in the finder.

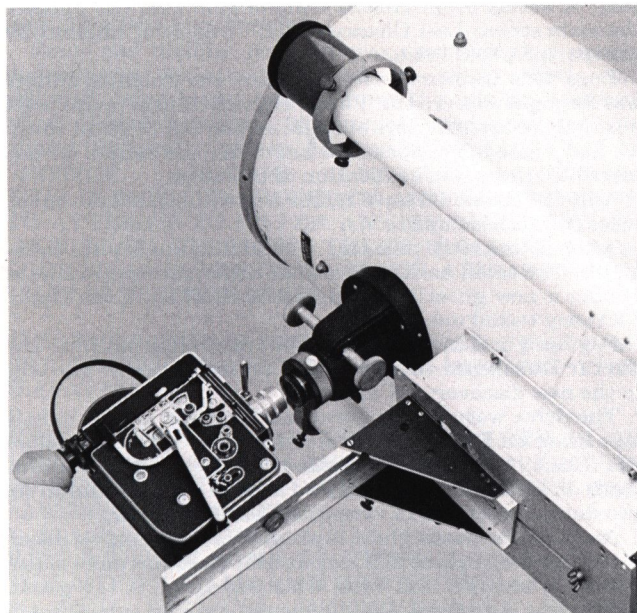
Unfortunately, the footage of the occultation was lost by the lab; but the footage of the reappearance was striking! Bob grabbed the workprint immediately for use as an instructional film in his astronomy classes; and he says it is the only film of a reappearance he has ever seen. The success proved our assumption concerning the lens diaphragm effect on point sources of light—both moon and star were perfectly exposed. The original film will be cut into a new film we are producing on indirect measurement of bodies in space. It will also be used to replace the simulated footage in "Shoestring Stargazer."

The successful filming of the May 13 occultation ended our lunar testing. From now on we should be able to film occultations and lunar studies operationally. A new series of tests is beginning, however. This time we'll use an intervalometer to obtain the time exposures we need to film real deep-space objects and events. That's one more nice thing about our Bolex. With its time exposure feature, it will be ready to begin the new tests when we are.



Above: 16mm movie frames of the moon shot with Bolex Rex. Left: No filter, 24 f.p.s. at f 5.6. Right: Yellow filter, 24 f.p.s. at f 4.

Below: Special adapter for mounting Bolex Rex camera on telescope.



Bad Trips

by Tom Sullivan

Perhaps you have noticed on your television set a brief but emphatic anti-drug commercial depicting a long line of teenagers laid out as if dead in a stark, barren corridor.

The scene represents the hundreds of adolescent boys and girls who die from drugs each year in New York City. It concludes with the terse title: "FOR A LOT OF KIDS, DRUGS WERE A WAY OF LIFE."



Chilling death-scene from sound-on-film anti-drug commercial produced by members of Clifton, N.J. High School Key Club.

There is a small-lettered credit line, too, but that goes so fast you probably won't be able to read that "This is a message from The Key Club of Clifton High School."

The death-scene commercial, which has attracted international attention, is one of four TV spots made by the club at Clifton High School, New Jersey, in an ambitious program that has seen the students go through all the steps of producing sound-on-film commercials and setting up their distribution around the U.S.

A Bolex Rex 5 was the center of the production, with an 86mm EE Vario Switar zoom lens, and the footage, shot on Ektachrome 7242, was sharp enough to impress network and local station executives, who expected jumpy, unevenly exposed and generally dubious images.

An AP photographer made a news photo of the column of bodies as it stretched grimly down the school corridor. Transmitted on the newswires, it cropped up on front pages in all 50 states and attained wide use overseas, too.

Key Clubs exist in most American high schools and are teenage off-shoots of the internationally known Kiwanis Clubs. Clifton's has some 60 members from junior and senior classes and has established the reputation of an effective service unit in the 3,200-student school.

The commercials were decided upon as a project for the 1970 Film Festival, which has become a yearly event at the school, and is always highlighted by some film offering made by the club.

Four spots were made, but the death scene was far and away the most impressive. It provided a 60-second and a 30-second spot.

Another spot showed police against the backdrop of an ambulance red-light flasher picking up a dead or injured youth from a city street in darkness as several others look on.

In voice-over copy someone is heard to ask, "What happened?" and the reply is given, "Man, he flew right off the fifth floor."

The spot ends with the simple, white-lettered title: "BAD TRIPS CAN BE ONE-WAY TRIPS."

The fourth spot showed a big close-up of youthful fingers being rolled and printed in a police station. It cut to a close-up of a youth's chest from the lower lip down, as a policeman's arm hung a numbered slate around the neck. The camera drew back as the mug-shot was made by the officer, and a voice-over explained:

"A lot of people say marijuana can't hurt you, but in every state in the union, just having it in your possession can hurt in the worst way."

It closes with the title: "GRASS STAINS!"

All 60 club members pitched in with the making, working up scripts, and titles, doing the voice recordings, playing the roles, handling lights, keeping tabs on the huge cast for the death scene, and doing it all while spreading the word about the annual Film Festival, for which tickets had to be sold.

The budget ran only to the preparation of the originals, which were screened at the festival with a magnetic sound track. A grant from a local industry covered the cost of an internegative and optical sound track, and Key Clubs in cities around the country were given the task of raising the \$20 needed for each set of prints to distribute to their local TV stations.

Recording Montana's Ghostly Past

by Don Miller

Many cinematographers tend to become blase. After all, there's hardly anyplace we haven't been, or any assignment too difficult, or any experiences we haven't had.

I was tending to get that way, too. I thought I had enough tales to tell about filming here and abroad, near-brushes with death, getting some pretty good footage under difficult circumstances, and covering a wide gamut of topics as diverse as smokejumping, military training and information, Indian art and religion, animal and human psychology, pesticides, education, planning, and a goodly number of TV news clips.

Yet, from a crazy patch-work of geography, topics and people, a single experience has emerged as the most memorable and challenging: filming Montana ghost towns. And that takes some explanation.

How could anyone get a kick out of shooting cruddy old buildings with creaking doors and no windows? What could possibly be intriguing about old mills, arrastres, cyanide tanks, sluice boxes, hydraulic giants, dredges, and hardrock and placer mines?

And granted, you have to be careful of the cowpies and packrats and rattlesnakes and someday a cabin or hotel or stable may well fall when you're inside it. And the sagebrush and cactus can scratch, and it's mighty cold standing in a mountain creek, panning for gold, and sometimes the ghost town sites are photographically disappointing.

But there's more to it than that, for through it all we learned that for all the exotic experiences of far-away places, excitement and challenge can come almost in your own back yard—although Montana is a very large "back yard".

From a geographical standpoint, the project has been staggering, including about 20,000 miles of travel over a state roughly 600 miles wide and 300 miles from north to south. Or, looked at it differently, the land mass of "The Big Sky Country" could hold New York, Pennsylvania and all the New England states.

During the three year project, the cast of characters included 7-year-old daughter Shari, wife Sue and black labrador Gypo-Gibroney. More often than not Sue and I slept in a "two-man" Boy Scout tent, Shari in the car, our protector Gypo-Gibroney wherever it suited him, although, during periods of rain, he always somehow managed to join

us in the already-crowded tent supposedly designed to hold two pint-size boys.

There have been experiences with grizzly and brown and black bears, timber wolves and rattlesnakes. There have been the beauties of observing whitetail and mule deer, sharptail and blue grouse, coyotes, elk, moose and Chinese ringneck pheasants. Nor can we forget the many nights around campfires listening to the tales of Montanans rich in ghost town lore; nor the scores of days and nights snugly engrossed in conversations in tiny, atmospheric saloons as old-timers spun their yarns of bygone mining days.

And always there was anticipation: what will be at the next ghost town? How many buildings will be there? What will they look like? What will the graveyards tell? What did that child die of when only three days old? Where was "silk stocking row" or the crubs or the parlor houses where the prostitutes plied their age-old trade? Who drilled the bullet holes in the saloon or dance hall? Was that cottonwood used as a hanging tree? Did they really bury a bottle of champagne with that prostitute? Is there any truth to the rumor that road agent Henry Plummer's skull was once on this backbar, and that this bar transported more than 100 miles was really the one at which Plummer had his last drink? Did the Vigilantes really meet here? Where did Kid Curry go after he shot Pike Landusky in Jew Jake's saloon? What did the Vigilance Committee really accomplish when they dug up Club Foot George Lane's foot?

The imponderables were everywhere.

How did those Chinamen die? Why does the sign warn not to go closer, because whatever quirk of nature caused their death by a landslide could happen again anytime? Or, was it not a landslide, but men who buried the "Celestials"? How many years did that quaint bed support the weary bones of a miner? Why did the occupant of this dingy cabin leave his eating utensils on the rough-hewn pine table when he hurriedly left? There are "colors" in this creek bed; how much do you suppose could be panned from it today? Fifty-million dollars came from this mine; how much is still there? Or, there at Wu Tang Laundry-Drug store, did he dispense laudanum (a liquid opium used as a pain-killer and tranquilizer)?

But above all, in attempting to piece together what we read, heard and saw, were the inevitable questions about people—who, when and, often, why?

And near the end of the third summer of the project, another persistent question nagged at us. With all the research we had done, and all the on-site visits, we realized we were not pioneers—that others had been there before, and although perhaps in a different way, had seen what we had seen, reported what we were to report; some had even filmed what we had filmed.

Then, one August night in 1970, we heard the unbelievable. A family from Helena—where gold still lies beneath the main street, Last Chance Gulch—told us of a heretofore unreported ghost town.

Logs were thrown on the camp fire, the Coleman lantern was brought closer, the Forest Service ranger maps were hurriedly consulted. Sure enough, among the 80 ghost towns we had visited, the books we had read, the people we had talked to, there was no mention of this town.

And as luck would have it, the site was located not many miles from the campsite.

After figuratively pumping our informants dry for information, we could hardly sleep that night, for the promise of finding a new ghost town stirred in all of us. Even Gypo-Gibroney rested uneasily.

Fog hung low in the valleys that next crisp morning and the car threatened to high-center several times on the way to the new discovery—Comet.

The drive wasn't long, about an hour and a half, mostly over graveled Forest Service roads. A surly herd of Hereford and Black Angus cattle blocked our way a few hundred yards down from the site; but we arrived in good time to see two dozen structures in various states of disrepair.

And it was a classic ghost town with creaking stable doors, hotels, homes, a giant mill, sagebrush, mesquite and cactus-choked landscape, and wind whistling through the gaunt, cadaverous structures. We discovered the mill superintend-



ent's home, intact with swing-on porch, and a schoolhouse with a flagpole still standing. We determined that water for the Basin Montana Tunnel Company mill was supplied by a nearby creek, but water for the town was brought in by flume from a spring about two miles away and stored in a still-standing wooden watertower.

Our informants told us that during its heyday, the town had 22 saloons, and Rosie's boardinghouse. They had reported that at Rosie's, miners who commonly received \$3.90 per shift could find room and board for 75 cents a day, leaving a good share of their remaining pay for such activities as frolicking with the "soiled doves" in nearby parlor houses and a few shots of "pop-skull".

We searched the tiny schoolhouse, where at the town's peak, 20 pupils were enrolled.

From mill settling ponds it was apparent that mostly underground lead-zinc and lead ores were milled. And yellowed, wind-blown records from the mining company office yielded a virtual treasure of information on the mining company's finances. And this warning:

"NOTICE NOTICE NOTICE NOTICE"
THIS IS PRIVATE PROPERTY AND TO ENTER OR
TO ATTEMPT TO ENTER ANY OF THESE BUILD-
INGS IS TO TRESPASS. THESE BUILDINGS ARE
LOCKED AND BOARDED UP FOR A REASON AND
THAT IS TO KEEP PEOPLE OUT!!

THIS PROPERTY IS BEING WATCHED BY A NUM-
BER OF PERSONS IN THIS AREA—SO HEED THIS
WARNING!!!!

JUST CONSIDER THAT YOUR PROPERTY IS OF
SOME VALUE TO YOU THEN THIS PROPERTY IS
OF VALUE TO THESE OWNERS—AND THEY ARE
PAYING TAXES ON IT!!!!

JUST LOOK AT SOME OF THESE BUILDINGS IN
THIS MINING CAMP AND HOW THEY HAVE GONE
TO RUIN BECAUSE INCONSIDERATE PEOPLE

HAVE KICKED THE DOORS DOWN AND BROKEN
THE WINDOWS OUT. THESE BUILDINGS WERE AT
ONE TIME GOOD SHELTERS AND ESPECIALLY
DURING THE WINTER MONTHS WHEN IT IS 40
AND 50 DEGREES BELOW ZERO AND A PERSON
MAY BE STRANDED HERE SO TREAT THIS
PROPERTY LIKE YOU WOULD LIKE TO HAVE
SOMEONE TREAT YOURS!!!

FOR THE OWNERS

(SIGNED) JOHN GIULIO JR.

COMET AND HIGHMORE GULCH PROTECTIVE
ASSOCIATION.

Obviously, Mr. Guilio should be our next contact.

He politely told us to go to hell, because if people found out about Comet, they would carry away the memorabilia and generally decimate the town, as has commonly happened in ghost towns throughout the West.

Guilio was well aware of what can and does happen when uncaring individuals pillage ghost towns. They scrounge for bottles, tear off wallpaper, burn buildings for heat on hunting expeditions, cart away structures to use for barns, chicken coops and other agricultural and recreational uses, and sell or use the lumber for various purposes.

Guilio would give no information, saying only he had tried to record the history of the town because his father and uncle worked at Comet. But he also said, "I don't want anyone else to hear about it . . . if they did, the town would be completely ruined." Guilio added, "Even if you stood guard 20 hours a day, during the other four they'd come and ruin the place."

From our experience, he's probably right.

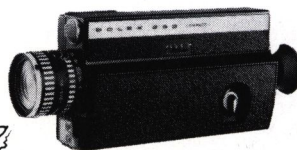
When asked how he protects his domain, he quietly said, "I have a 30-30 rifle."

And the sad fact is, if Comet is to be protected, in the 1970's, it may take a rifle to do it; although others say that to record pictorial evidence may also be an enjoyable, adventuresome way of preserving a fast-disappearing aspect of American culture.

What kind of a movie nut are you?

For nature nuts, the Bolex 160 super 8 focuses down to one inch for beautiful macrozoom close-ups. And its 8.5 to 30mm power zoom lets you get normal zoom shots of people and scenery, too. There's an automatic thru-the-lens light meter. Reflex viewing and focusing. Three filming speeds. And a Multitrix attachment for titling and special effects. The 160 is another Bolex that lets you shoot butterflies and ants. Or uncles and aunts.

BOLEX



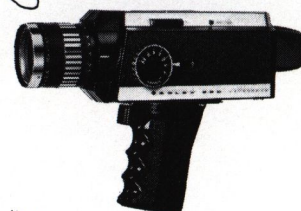
For the guy who travels fast, Bolex introduces a camera that fits into a pocket. The new Bolex 233 Compact measures just 7" long, 3" high and 1 3/4" wide. Small enough to fit in your pocket, yet it has lots of good things like a 3 to 1 zoom lens, automatic light meter, single frame device and a bright reflex viewer. So you can zoom from one place to another.

BOLEX



For serious film makers, Bolex offers the new Bolex 280 Macrozoom super 8. It has an eye-opening 8 to 1 zoom ratio from extreme 7mm wide angle to a long 56mm telephoto. Automatic thru-the-lens light meter. Reflex viewing and focusing. Two speed power zoom. Without attachments, its macro capability focuses at wide angle on anything in sight, from the lens surface to infinity. There's even power focusing in macro range. And you can film titles, optical dissolves, fades and other special effects. The only thing the Bolex 280 doesn't come with is a director's chair.

BOLEX



For more information about these and other Bolex projectors and super 8 cameras, please write us. Paillard Incorporated, 1900 Lower Road, Linden, N.J. 07036. Other products: Hasselblad cameras and accessories, Hermes typewriters and figuring machines.

What kind of a show off are you?

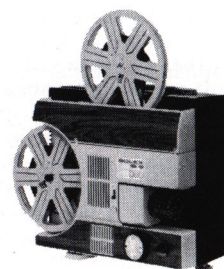
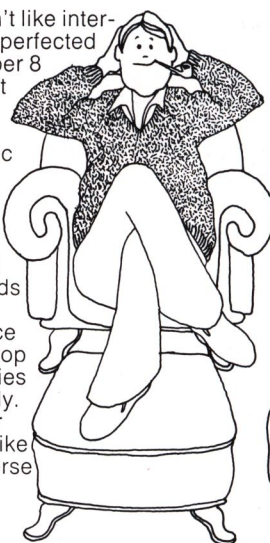
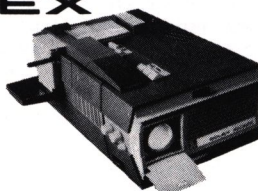


For super 8 show offs who like to sound off, the Bolex SM-8 self-threading magnetic sound projector dazzles your ears as it entertains your eyes. This full-featured machine has up to 800 foot capacity and comes with a powerful solid state amplifier and mike. It works like a tape recorder. You lay the clashing of cymbals, the Blue Danube or your own voice onto the sound stripe of your films. And convert every movie into an artistic piece of entertainment.

BOLEX

For people who don't like interruptions, Bolex has perfected the world's only super 8 projector with a built in automatic cartridge changer. The Bolex Multimatic holds up to six cartridges. But you can load in more while the show is in progress because it automatically rewinds one cartridge as it shows another. Since you never have to stop to rewind, your movies can run continuously. At normal speed. Or slow motion. If you like single frame or reverse projections, the Multimatic will also accommodate you.

BOLEX



If your life story starts on regular 8, goes to super 8, or now continues on Kodak cartridges, the new Bolex 18-9 automatic threading projector can show the complete saga. At normal speed or slow motion. It handles every kind of 8. On reels or Kodak cartridges from 50 to 400 feet, stopping automatically at the end of each reel. So you don't have to reinsert the film.

BOLEX

For more information about these and other Bolex projectors and super 8 cameras, please write us. Paillard Incorporated, 1900 Lower Road, Linden, N.J. 07036. Other products: Hasselblad cameras and accessories, Hermes typewriters and figuring machines.



Enlarging Stills From Movie Frames

by James H. Robinson

I'm sure most movie makers often wish they had a simple method for making slides or other enlargements from some of their favorite motion picture footage. Of course, enlargements can be ordered from various processors, but this requires that the desired scenes be cut from the film and splices be made in valuable original footage. And there are a few do-it-yourself devices on the market for making enlargements, which eliminates the necessity of making cuts in the movie footage.

However, I have devised a simple alternative method of my own for making slides and enlargements from 16mm movie frames through the use of my Bolex's Pan Cinor Compact zoom lens. I always knew that fixed focal length movie lenses could be used for 35mm still camera extreme close-up use, but I was somewhat apprehensive in trying my Bolex Pan Cinor Compact zoom lens in this manner. Zoom lens design is very complex, and the Pan Cinor would have to be mounted in reverse position on my 35mm SLR for full coverage of the 35mm format.

The excellent results obtained from my first test roll showed that my worry had been needless. Even when used in a manner never intended by the lens designer, the traditionally unsurpassed quality of Bolex optics was readily apparent.

Through use of the zoom lever, correct image size could be obtained, and this without the use of extension tubes or bellows. However, it is necessary to devise a method for holding the film in position, and lighting would have to be provided.

Certain editors may be used. If built-in light is used, a blue filter should be placed between light and film for match-

16mm movie frame enlarged to 35mm size by Pan Cinor Compact zoom lens mounted in reverse position on 35mm SLR still camera. (Pan Cinor set at 80mm and f 22.)

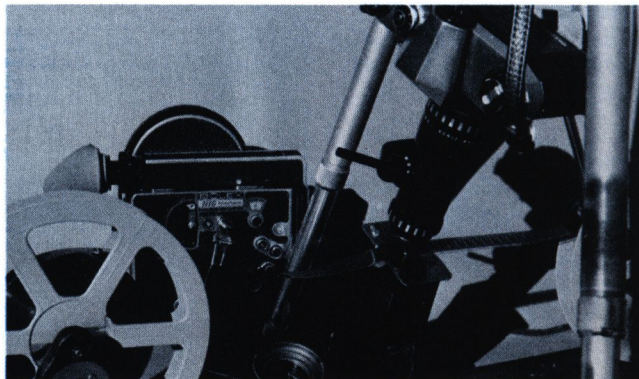
ing daylight balanced film in camera.

A simple light box could also be made, with clips for holding a movie frame in place over translucent glass or a plastic opening. Light source could be built-in, electronic flash gun, or even sunlight. Or a soft plastic tube of the correct size and length could be fitted to end of Pan Cinor lens, and a slit made in the tube to hold movie film in place directly.

To determine correct exposure, a test roll of film should be shot of a well exposed movie frame at various shutter speeds. A medium lens opening of about f8 should be used for optimum performance.

No matter what method is utilized, good still enlargements from motion picture footage can certainly increase the scope and enjoyment of your movie making activities.

Pan Cinor Compact zoom lens mounted in reverse position on 35mm SLR still camera to produce enlargements from 16mm movie frames.





How long should a movie scene be? Just about as long as you think you would like to see the subject on the screen. In the case of a pretty girl, keep that camera running — or your audience will object.

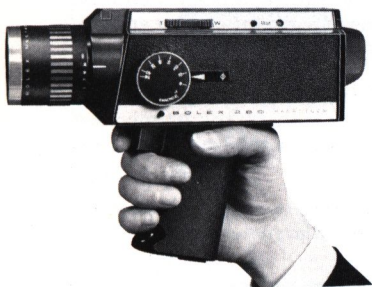
The fun of SHOOTING AND The fun of PROJECTING

by Walter Braun, Editor

Filming or shooting movies is basically great fun — even for the amateur. Apart from carrying a movie camera and the film, from running out of film when you finally get some action, and despite the repeated complaint from your wife, "You never take movies of me", moviemaking can be fun. Especially if you have a great camera (so that people will whisper behind your back, "Look, he's got a Bolex. He must be good."), if you take time to look through the viewfinder once in a while to see how things look without pulling the trigger, and if you pull the trigger only when you think, believe or are convinced that you've got a great scene. Then your movies will not only surprise

actually touches the lens. In addition, the camera is loaded with luxury features, like two-speed power zoom, it has a bright, giant-size viewfinder, focusing and viewing is, of course, through the lens, and it even has such features as power focusing in the macro range. Filming at closest distance from your subject is done with the Bolex 280 Macrozoom lens in wide angle position. This assures not only steadier close ups, (particularly when handheld) but also the greatest depth of field possible. For complete technical data, the reader is invited to write for a folder, or even better, to get a demonstration from a Bolex dealer, who is fully qualified to explain the tremendous potential of the new Bolex 280 Macrozoom camera. (Available in stores about June.)

The Bolex 160 Macrozoom camera films from one inch to infinity without accessories. Its lens from 30mm telephoto to 8.5mm wide angle lets you zoom safely with the camera



The all new Bolex 280 Macrozoom camera for Super 8 filming features as one of its major attractions an 8 to 1 zooming range, which permits the filmer to shoot from an extremely wide angle of 7mm all the way to a long telephoto of 56mm. The special macro feature, which is built into this new Bolex camera, is of particular interest inasmuch as one can film from infinity down to where the subject



handheld. (Longer focal lengths do require a tripod or your long tele shots will appear shaky



and out of focus when projected on the screen.) With the Bolex pioneered Macrozoom system you not only can shoot giant close-ups of tiny subjects, but you can do trick shots and achieve special effects, such as optical transitions, out of focus fade-ins and fade-outs, and many others. The Bolex 160 comes equipped with power zoom, single-frame release, three speeds, electric motor drive, through the lens light measuring and is specifically designed for hand-held shooting. Bolex has the active moviemaker in mind!

you, but even your audience will finally admit that you are quite a guy.

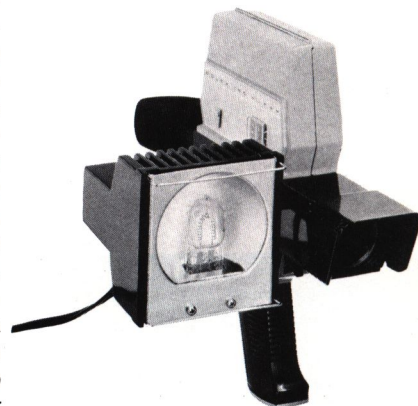
People often ask, "How long should a scene be?" A good question, yet a very hard one to answer. When you watch television, a one-minute TV commercial may consist of 150 or more different scenes or shooting angles. You can learn quite a bit from these, provided you are not in the habit of fixing yourself a drink before the regular program continues. Of course, we all realize that the advertising product message must take up a good portion of the one-minute film, and we regret seeing the slinky bikini-clad blonde fade away only to be replaced by a Coke bottle or what have you. The message to you as a movie-maker should, however, have become clear (apart from drinking Coca Cola) that if you like blondes, shoot them when you have a chance and don't let go of that trigger. A good part of your audience will praise you for the picture quality and your obvious presence of mind when it counts. That's proper scene length!

If, on the other hand, you happen to walk in front of a luxury hotel, say in Mexico City, and a not-so-slim matron exits through the door in a Mickey Mouse shirt, filming up to the count of two is worth the effort. And that is proper scene length, too!

People working generally are worth shooting, else we would not find so many people watching fascinated a construction site. Don't film a canary bird in a zoo for four minutes if without a camera in your hand you would have passed the bird, unless of course you like birds. You may pass a monkey cage, while your neighbor may have stopped there for five minutes. I believe he is the better man to film the monkey because he will detect movements, angles, close-ups and action shots you may never have seen simply because your interest in monkeys is lame.



The Bolex Movie Lite attaches easily to the camera. When switched on, it automatically adjusts the built-in filter.



Therefore, it is not necessary to remove the Lite from the camera when shooting during daylight because when the light is switched to off position the necessary daylight filter automatically pops into position.

The Bolex Compact

If Maxi is synonymous for large, Mini for small, and "Hot Pants" for tiny, we must compare the brand new Bolex Compact camera for Super 8 movies as really tiny and . . . hot. The height of the camera is a mere 3" and the width 1 3/4". These two measures alone convincingly demonstrate that the camera can be easily slid into a coat pocket, a jacket, an inside jacket pocket, a lady's handbag, or carried with the greatest of ease conveniently in your hand. And yet, the camera has a zoom lens (from 9mm to 30mm), it has a bright viewfinder, and an electric eye to automatically adjust the camera diaphragm.

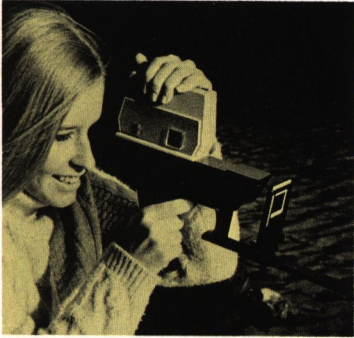


If Ian Fleming were still alive, there is no doubt that he would give his hero, 007 the hot Bolex Compact. 007 or not, you can now carry the Bolex Compact, which weighs a mere 20 ounces, with you at all times and will never again be at a loss to be ready at an instant to shoot whatever action may occur. (The Bolex Compact should be available in fine camera stores in June.)

Let me warn you, however, that learning from television is a great effort. In this day and age of overfeed, when we can't remember the day after what we watched the night before, it takes great concentration to see a commercial from the point of view of how it was filmed, because we very easily follow the story line instead of analyzing filming techniques. This is, of course, a credit to the producer or cameraman. The opposite of this would be your audience's observing only your filming "techniques" in your latest home movie epic because you have pumped your zoom lever too frequently or held your camera as if you walked the rolling seas. Your plot line, your travelog will be forgotten or hardly observed.

The scene length should, therefore, more or less depend on your personal likes and dislikes, and to a large degree on your ability to see, to discover and detect things. The camera is a great teacher for discovering things. You may not have observed a caterpillar since you were a kid, but watching it on the screen hundreds of times enlarged will awaken again the old fascination for Mother Nature's wonders. My films always contain beautiful scenes of flowers, long shots and close-ups. Some people in my audience may think they are too frequent and too long and yet I like to shoot flowers, I love flowers, and I am intrigued when I see them hugely enlarged on the screen — so my audience will simply have to bear with me.

If you are travelling, you must be conscious not only of what you film but also of what you filmed last and of what you want to film after your present scene. Even a sound track will not effectively over-bridge the scene change from the beach to the zoo. It is very similar to telling a story. You will want to elaborate on a fascinating part and to be short in your lead-in explanation. But also your movies cannot be understood well if you pass over the lead-in footage (or establishing shots) and only show un-

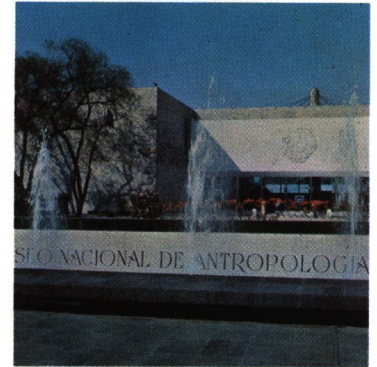


The Multitrix attachment comes with the Bolex 160, 155, and 7.5 Macrozoom models. It is used for easy tilting, for filming of postcards, slides, maps, and for making optical transitions (even through slides). The lens cover doubles as a sunshade and can be used for curtain effects at the beginning or the end of a scene.

The great variety of tropical flowers make colorful scenes. Keep your eyes open for picturesque patterns often formed by plants. You will discover nature's wonders when watching your extreme close-ups hundreds of times enlarged on the screen.



Zoom in for a close-up of an individual blossom of the colorful Bougainvillea. Particularly when back-lit, blossoms make effective and strikingly beautiful scene changes.



The impressive entrance to the Anthropological Museum in Mexico City will serve as an establishing shot and will tell the story of your trip to your audience without lengthy explanations during projecting.

related scenes however good the quality of each scene may be. Film, therefore, first where you are before you tell what's happening. The best editing job will not do the trick if you lack that establishing footage.

The scenes discussed here (with the exception of the zoo shots) are all part of some very interesting Super 8 shooting I did recently on a trip to Mexico. The country is a virtual dream for the moviemaker or still photographer. It's colorful and friendly. The people go out of their way to be helpful even if you don't speak the language. All you have to do is to be equally friendly and smile. We sometimes hear adverse reactions from tourists. Maybe many of us get so rapidly transferred from the daily routine to the spirit of vacation that we forget the old "keep smiling" maxim.

Mexico City has great restaurants. Make sure and bring your camera along. The Del Lago, for instance, features beautiful exotic plants and flowers besides great food, and through its giant windows you get a magnificent view of a fountain that sends jets of water in never ending variations high up into the air. At night it is lit in a variety of colors and it is worth the effort to do some filming. Your establishing shot and title may well be a Del Lago match cover or menu. With a Bolex you film it from close distance and your audience is sure to follow your story and wish they were there. From the Muralto atop Mexico City's tallest building you will enjoy a magnificent view of the town, and should you be so lucky that a good breeze cleared the smog, you will see the majestic snow-covered mountains. Or the San Angel Inn housed in an old hacienda type building with a picturesque inner court.

You must, of course, visit the Anthropological Museum and film it too. The construction alone is totally fascinating. It will give you plenty of headaches to select the best angle from which to shoot, but you will be terribly pleased with



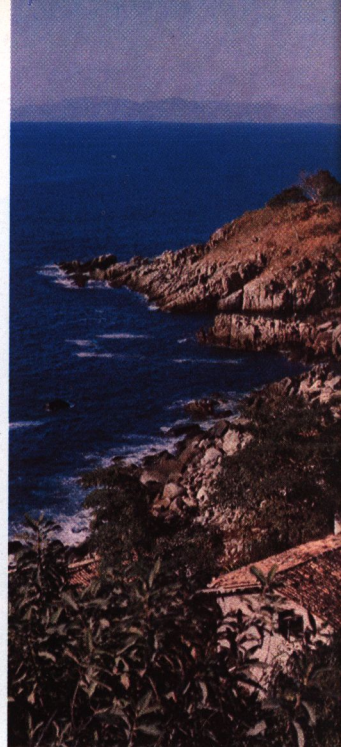
Find an interesting angle to film the enormous roof span supported by a singular pillar in the inner court of the Museum.

If it happens to be too smoggy to film the colossal monument at the entrance to the Museum, simply go to the gift counter and shoot from a postcard — your audience will never suspect what they see isn't the real thing.



The Pyramid of the Sun near Mexico City.

There is just enough light to film in the splendid decorated halls of the Museum. The Bolex electric eye measures light behind its lens and does the thinking for you to insure correct exposures of your movies. If it is too dark, resort to shooting at the gift counter.





Center Spread:

Puerto Vallarta snuggles between the Pacific, the mountains, and the blue sky. Scene 2 shows the village especially built for the filming of "The Night of the Iguana." All construction material had to be brought in by boat because at the time there were no roads. The land leased for the duration of the filming is part of the Indian reservations on which no commercial or private housing for permanent use may be built. Therefore, the once pretty village is now abandoned and decaying.

Puerto Vallarta features a number of excellent hotels and one can find lovely houses for rent.

The big rock with its natural tunnel and the blue sky, both reflected in the water, produce a never ending variety of colors and shades. It's always a delight to watch this play of light and shadow on your screen. In Mexico you will never have to search for colors. They are everywhere, and plenty of additional "decoration" makes for great scenes.



I found this delightful little fellow (or is it a lady?) in the Anthropological Museum in Mexico City and took him along—on film.

your films regardless where you took them. The interiors are quite well lit and many areas of the spacious halls will give you sufficient light to shoot with regular daylight film and without the help of a movielight (which you would not know where to plug in anyway). Close-ups of statues come out excellent and add quite a bit to your movie. A Bolex camera with Macrozoom that films from 1 inch away will give you endless possibilities to spice your movie with exciting close-ups. If it happens to be too dark, simply fake it by going over to the gift counter and shooting from very close printed material, gift items, or stamps. When you finally show your movies, the audience will again react in the usual way, "Well, he's got a Bolex and of course, he's good."

We rented a car and took a tourist guide to a visit of the pyramids. Like good tourist guides the world over, the Mexican ones are pleasant and never at a loss for an explanation. They will take you through the gift shops and will give you plenty of time to do your shopping. And don't forget to take along your camera into these shops. The colors are fascinating and while your wife spends your money you will at least wind up with some excellent footage.

One of the tourist guides told us the story of how people of Indian origin crossed the Bering Strait and travelled south, their leader searching for the eagle, a symbol ever present in monuments and sculptures. He never found the eagle while travelling through delightful parts of North America, our tourist guide explained. Finally having arrived in hot and dry Mexico, he discovered marijuana . . . and the eagle. The beautiful Anthropological Museum gives its visitor a more serious view of Mexico's historic past than Edouardo and leads him through pre-Hispanic Mexico with emphasis on the inhabitants of the plateau: the Toltecs, Mayas, Mixtecs, Aztecs, and many more. Romantic names such as Montezuma, one of the big Aztec chiefs, pop up and it all makes you realize how time flies and how much is forgotten from history lessons in school. It was good to have Edouardo around. His humor was delightful and throughout it all he never failed to express his feeling for a great national pride.

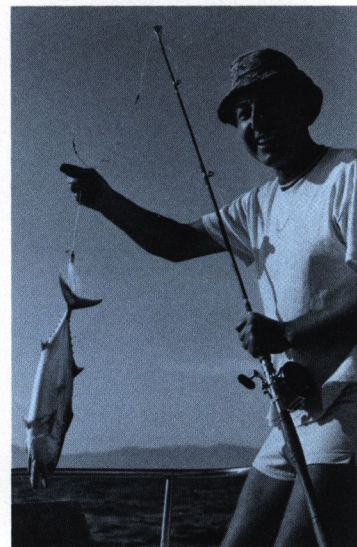
Cuernavaca is beautiful. Our charming hosts in this lovely city made us feel so comfortable in their splendid home that we started dreaming of early retirement. When you are down there at Christmas time and the Christmas trees look a little dry to your northern eyes, the sight of 10-foot tall poinsettia plants with the most magnificent flowers will instill the Christmas spirit all over again.

We then flew to Puerto Vallarta. They will first tell you that this is the place where the "Night of the Iguana" was filmed and where the Burtons have a villa — Puerto Vallarta did not lose because of it and is still beautiful. There are quite a number of good hotels (not too many yet), allowing you to still discover a typical Mexican town with all its charm. They mix plenty of cement at present, but chances are that for a good many years you can still enjoy your vacation and nature, unless you are strictly the Miami type.

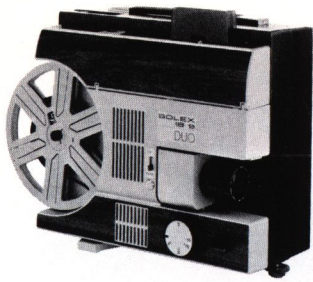
We rented a house, very spacious and charming directly at the beach. It belongs to the Bolex distributor in Mexico City, a man obviously of taste to own such a lovely place and to make his livelihood with the sale of the finest in movie equipment: Bolex. He also has a yacht, and fishing is great. My younger daughter caught a 55-pound red snapper, which was beautiful to film and excellent to eat. My fishing capabilities have never been the greatest and I enjoyed myself up on the bridge shooting movies and stills. I was never seasick, but I have a tendency to feel like it when I look at the movies I shot. But I tell you it is not easy to film when the boat beneath you moves every 4



A part of a day's catch, Red Snappers and Mackerel. Our boat captain joined us for a beach party and showed us the way they broil fish locally. Fish are speared on wooden rods, stuck in the sand and slowly turned over a charcoal fire built in the sand.

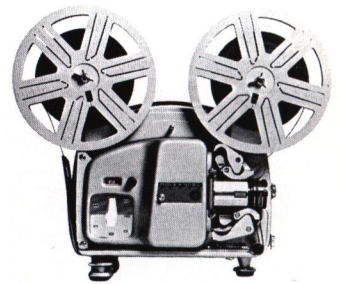
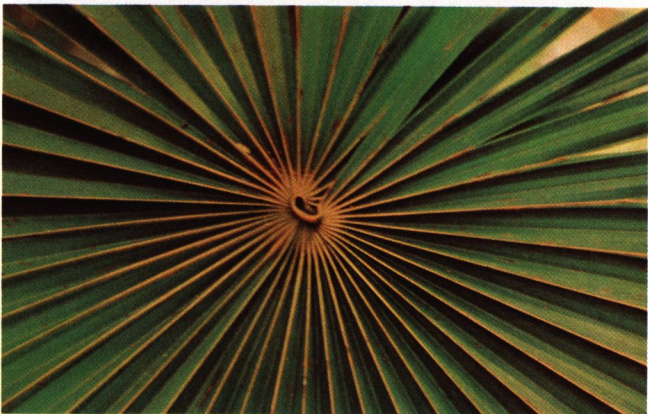
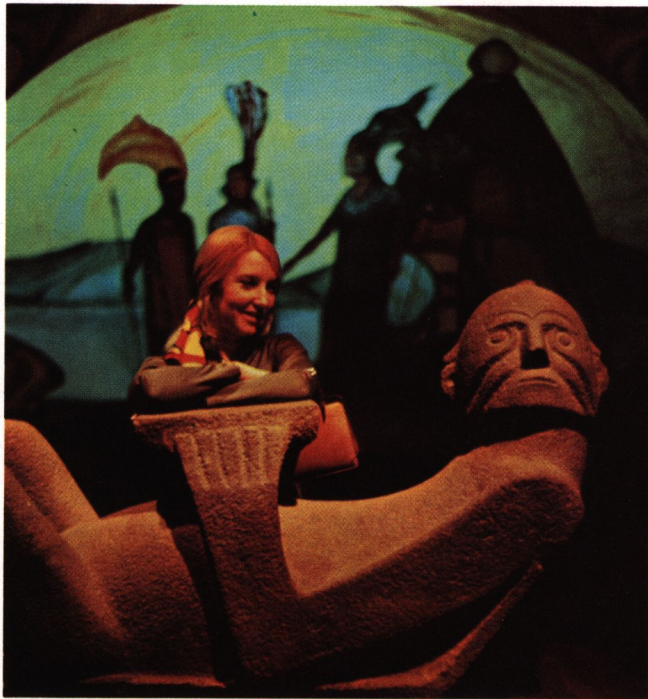


What a tale (tail) if you catch a fish by it!



The Bolex 18-9 Duo.

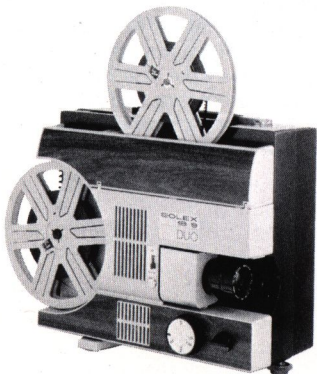
Bolex projectors have been rated tops for tens of years already, and people using them have come to appreciate their total reliability in performance and an absolute minimum of down time. Again, Bolex is introducing a New machine to the ever increasing number of exciting and interesting models — the Bolex 18-9 Duo. Duo stands, of course, for dual, meaning that the projector can project both Normal 8mm and Super 8 movies by simply switching a lever to the proper size. The 18-9 takes reels from 50 to 400 feet, and over and above accepts any Kodak cartridge also from 50 to 400 feet. The Bolex 18-9 Duo projects at 18 frames per second normal speed or at 9 frames per second slow motion, which come in handy if you would like to analyze a particular scene in your film. Threading and film take-up is always fully automatic whether you use cartridges or reels. The 18-9 stops automatically at the end of your film and can rewind without the need for attaching the film to the reel or cartridge. The film rewind is exceptionally fast and there is an unbelievably fast f/1.0 Bolex Hi-Fi projection lens available that zooms from 18 to 28mm. Combined with the 100 watt Halogen lamp with dichroic mirror it will assure the brightest and sharpest of projection quality on the screen. And it comes in a neat and elegantly designed package. The 18-9 is a delightful machine and one the reader ought to look at when in the market for a new movie projector. (In stores about June.)

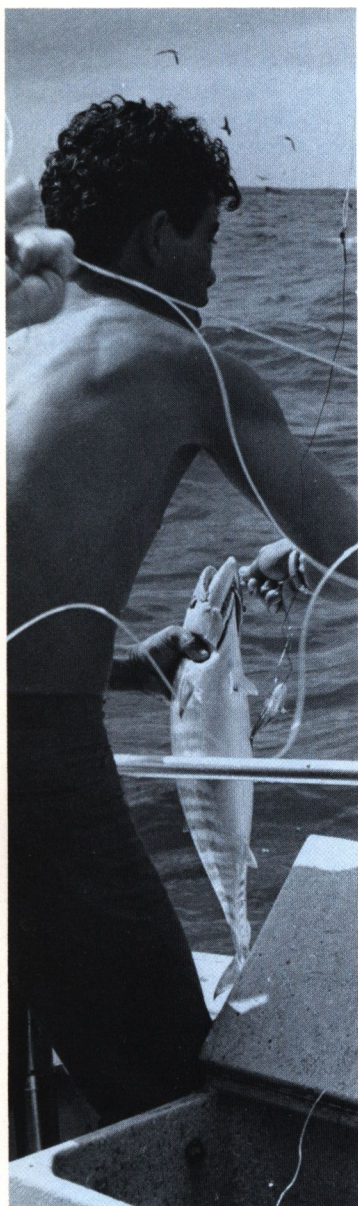


The Bolex 18-5 projector for Super 8 movies was introduced several years ago, and today there are thousands and thousands of happy users who swear by its reliability. Similarly, Bolex introduced some years back what is still considered in audio-visual circles the most reliable Super 8 magnetic sound projector available. The sound quality of the Bolex SM8 has not been surpassed so far, and in combination with its many features from the easy recording system to the very practical playback — it all adds up to a sound projector with more of the best features. Regular readers of the Reporter magazine have been exposed in detail to this machine as well as the ever practical Bolex 18-5. Should you be new among the readers of our house organ magazine, the Bolex Reporter, please write to us for a complete product catalog or ask one of our dealers for a copy.



A delightful array of scenes which call out to you to be filmed. Don't miss the obvious, the interesting and the beautiful.





Shooting the action is not always easy when the boat rocks. Setting your zoom lens at wide angle position is generally recommended.

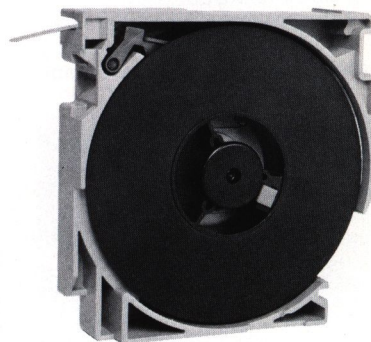
The Bolex Multomatic projector for Super 8 movies. It is the only projector that does not look like a conventional projector. For obvious reasons, it represents an entirely new concept in movie projection. The Multomatic is an automatic cartridge changer that shows one film after another, rewinds them all by itself and does everything for you. All that is left for you to do is enjoy your pictures.

seconds about 40 feet in all directions. You just hang on to your gear. I only wound up with ocean (and sometimes sky only) where I should have captured those beautiful schools of jumping Porpoises.

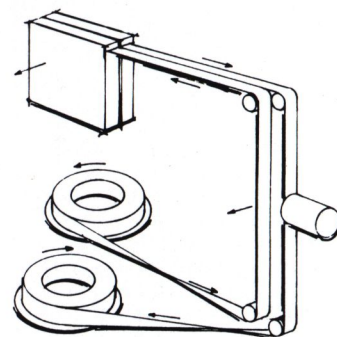
Up until now my Bolex story is simply the equivalent of an establishing shot in a movie. Coming home I never bothered editing a single foot. I will cut off the long leaders which the Kodak finishing plant supplies with each of your 50 (actually only 45) foot rolls. I put twenty-four rolls into twenty-four cartridges. Bolex cartridges. This is accomplished by simply dropping your film into the cartridge and fastening the little film end that sticks out at the core with a snap-on button that comes with each cartridge. A very simple procedure and done in a jiffy.

Taking the brand new Bolex Multomatic projector, you slip in the cartridges (up to six at a time) and sit back. Let me explain. The Bolex Multomatic is the first automatic cartridge changer for Super 8 movies. We have record changers, tape changers, and now movie changers. You will never touch your film again, you will never have to thread it again, you will never have to rewind it again, you will never have to put a rubber band around the film and pack it away, you will never have an interruption when showing your films, you are no longer a projectionist, you are no longer frustrated, you are part of the audience, you sit with your friends, you talk with your friends . . . and the projector is somewhere in the background doing all the projecting for you.

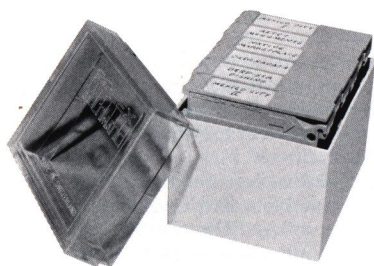
You adjust its zoom lens once, at random you replenish the projector with fresh cartridges (it holds over 20 minutes of continuous showing of six films) and the machine will project one film after another fully automatic. The Multomatic feeds the film, projects the film, and the minute the film is over it moves it aside and starts threading and projecting the next film. The one just shown is being rewound while you watch the new one. And so on and on and on



The Bolex projection cartridge. Simply drop in your 50 foot reel the way you receive it from the processing lab and . . . it is ready for projection. You can, of course edit your individual reels. Should you ever need to show a reel on a standard projector, simply remove it from the cartridge.



The film is guided during projection into a take-up chamber. When fully projected, the cartridge moves over and starts rewinding automatically. Simultaneously the next film starts projecting and is guided into a second chamber. And so on and on and on . . .



Each cartridge stacks neatly. Cartridges are even supplied with labels to permanently indicate the contents of each of your films.



Push-button control of the Bolex Multimatic lets you see a film at regular speed, in slow motion, forward, reverse, and single frame, or you can eject it if you do not want to view its entire length.

You can choose from a variety of outstanding projection lenses for the Bolex Multimatic. There are two zoom lenses, an f/1.3 Kern Vario Switar 12-30mm, and an extremely fast f/1.1 Bolex Hi-Fi 17-34mm lens. Depending on your projection requirements, select one of two fixed focal length lenses: an f/1.3 Bolex Hi-Fi 20mm or the very fast f/1.1 Bolex 23mm.

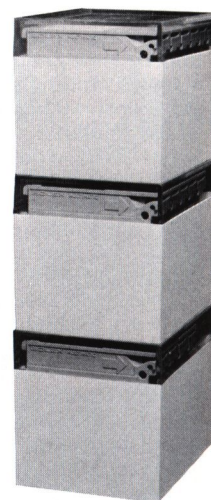
... Of course, it does sound complex, mostly because the idea is so totally new, and the projector is so totally new, but you have to experience the smooth performance, the absolute ease with which the Multimatic works and the total neglect with which you can treat it while it works. You will have to explain it to your audience, though, and show it to them ... and again they will tell you, "Well, he's got a Bolex so, of course, he's good."

The projector has a switch for extra bright light in case you project in a large room, it has four speeds, goes forward and reverse, and if you feel like it you can watch a single frame (I do it with my flower shots all the time). Slow motion is very slow at either 6 or 8 frames per second. Regular speeds at either 18 or 24 fps. The projector has height adjustments, it has a control light to give you just enough light when you set the projector up, it also tells you that it's plugged in and it has a reject button in case you do not want to watch a film completely through.

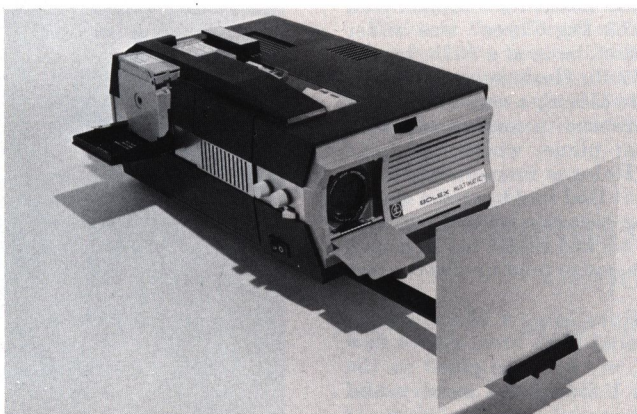
You will put a tag on each film cartridge describing its contents and store them six at a time in handsome plastic boxes. The boxes stack neatly and, best of all, anybody can put the show on at a moment's notice.

The Bolex Multimatic has beneath its lens a pull-out device on which you can mount a small screen which comes with the projector to review or preview your films. The picture on this little screen is extremely sharp and you can project at any time without setting up a screen. Best of all, the Multimatic is beautifully designed, elegant and streamlined in its appearance and can become a permanent fixture to be put on a book-shelf always ready to use.

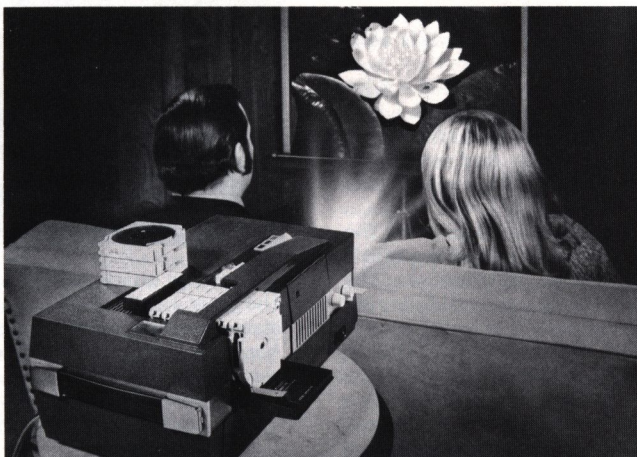
So when you return from Mexico, or from wherever you may have spent your vacation, shooting bikini blondes, monkeys, matrons in Mickey Mouse shirts, flowers or landscape, your wife and your children or even the birds, total enjoyment awaits you when you can let a projector do the projecting for you.



Neatly labeled cartridges are packed into neatly designed plastic boxes, which neatly stack for easy storage.



The Bolex Multimatic comes with an attached arm that pulls out easily for mounting a small screen to review or preview your films instantly.



The projector does everything. You do nothing.

New Zealand's "Big Three"

by Charles E. Jones

Six years ago, amidst a blaze of publicity, baseball great Ted Williams was brought to New Zealand under the sponsorship of the New Zealand Tourist and Publicity Department to demonstrate in dramatic fashion the amazing range of sporting opportunities available within a small compact area of New Zealand. To put it briefly, Mr. Williams was to attempt landing a big game fish, catching a trout and shooting a deer within a 24-hour period.

Ted Williams accomplished his triple sports feat by landing a Thresher Shark off Mayor Island in the Bay of Plenty, catching a Rainbow Trout in Lake Rotorua, and shooting two Red Hinds near Ruatahuna in the Urewera National Park in an astounding 10 hours and 30 minutes.

For this feat he was hailed as the central figure in the "Sporting Event" of the year, and television and newspaper coverage was spread throughout America and New Zealand.

Owing to the high cost of the marathon sporting epic, the record has remained unchallenged until recently, when Rod Bellerby, a well known sportsman of Rotorua, decided he was prepared to pay the cost of challenging the record.

I went with him and covered the event for New Zealand television with my Bolex H16 Rex camera. With the lightness and compactness of my camera, I was able to quickly transfer from boat to float plane and then to helicopter and record the attempt from start to finish. The film made with one Bolex was far more complete and thrilling than the film made of Ted Williams with an entire battery of cameras.

The contest commenced when Rod Bellerby was fishing from his own boat, "The Mako," out of Whakatane, an attractive coastal town in the Bay of Plenty which leapt into prominence as a deep sea fishing center when its members won 4 sections and 21 of the 29 trophies available in the 1970 International Deep Sea Fishing Contest.

At 3 minutes past 12 noon, Rod hooked a Hammerhead Shark and the contest called "The Big Three" was under way. In true sportsmanlike tradition, he used a 50 lb. breaking strain line and boated the 272 lb. Hammerhead at 1.30 p.m. He then set course for Whale Island, a small island off the coast of Whakatane where he was to rendezvous with Captain Fred Ladd and his float plane, which had been flown from its moorings on Lake Rotorua immediately after radio notification was received that Rod had boated a shark.

The sea was fairly calm and we transferred without mishap to the float plane, my Bolex tucked under my arm as I scrambled quickly after Rod so as not to hold up the contest in any way.

The plane headed for Lake Roto-Aire, a Maori-owned lake 150 miles away in the National Park area. As we flew in over the range of mountains, my eye was glued to the rubber eyepiece of my Bolex as I filmed the scenery and Rod's fishing guide in his boat on the lake far below. It wasn't long before the plane had touched down and I climbed into a boat to follow Rod and his guide while Rod tried his luck trolling for trout.

In less than 5 minutes Rod had hooked and landed a 3 lb. Rainbow Trout. How glad I was that my Bolex and I had been on so many filming assignments together that I didn't need to check what to do; filming was so easy and automatic that I was not in danger of missing that thrilling strike which happened so quickly.

With split second timing, the helicopter to be used for the last leg of the contest had landed as Rod was trolling and I was able to quickly swing my camera to focus on the helicopter coming into land, then revert back to the playing and landing of the trout.

It was only 3:15 p.m., a little early to set off deer stalking, so Rod and his hunting guide, Mr. Rex Forrester, sat over a cup of coffee and planned the forthcoming stalk. I took this opportunity to collect the films already taken and reload my Bolex for the fifty-mile helicopter flight over the Kaimanawa

Forest Service Recreation Park, looking for that elusive stag.

The Kaimanawa Park is really photogenic with its high peaks that are snow clad through much of the winter, long tussock-filled valleys, and big streams and rivers edged with beech forest, ideal for the Red and Jap deer that abound there.

Luck was holding and the first stag was sighted in a good spot where the helicopter could land out of sight for us to commence a down-wind stalk.

Tension grew as we got nearer the unsuspecting stag; in fact, the excitement proved too much for Rod, who missed his first shot. The Red Stag crossed a clearing and with the use of my zoom, I was easily able to keep it in my film whilst Rod killed it with his second shot.

At exactly 4.15 p.m. my Bolex H16 Rex had recorded the history of Rod Bellerby being the first New Zealander and the second man in the world to achieve the "Big Three" in under 24 hours. Rod had broken the previous record by a fantastic 6 hours and 18 minutes with an incredible time of only 4 hours and 12 minutes.



Another quick change of film and time to get Rod loading the deer into the helicopter, the flight to Te Whakao air strip, transferring the trout and deer to a plane for the flight back to Rotorua and then on to Whakatane, where Rod received a hero's welcome from fellow members of the Big Game Fishing Club and I finished my film with shots of the deer, shark and trout hung at the Game Fishing Weighing Center.

Preserving An Art As Ancient As Glass

by Robert A. Mickelsen

Even while on vacation, my partner Maggie Weisberg thinks of film making—one of her greatest enjoyments. In fact, you might even say she's completely preoccupied and totally dedicated to making motion pictures. Recently, she and her photographer husband Maynard were on a sojourn to England and became enthralled by the beauty of stained glass windows in the magnificent old cathedrals throughout the British Isles. The art that is as ancient as glass itself seems to have very few practitioners and also seems, in fact, in danger of becoming lost in today's tumultuous neo-dada forms of expression. What a loss that would be! Why not try to preserve it? Why not, it occurred to them, produce a film on the making of stained glass windows? And thus, perhaps, make a small contribution to its renaissance.

Their enthusiasm was contagious. On returning to the states, we contacted various universities to determine their interest in a film of this type. The response was so positive and reflected such a void in film libraries that after putting our heads together, we decided to go ahead with the project.

My wife Dolly and I had been planning on a two-month visit to Switzerland, and we decided this was an opportune time to do some of the photography. Our original intent was to hop over to England to film one of the studios outside of London, but after our meeting with Mr. Schiess of Bolex S.A. in Switzerland, we changed our plans. He suggested filming one of the fine stained glass studios right in Switzerland.

We chose one from among several studios located in Bern, since it best conformed to our particular production needs. We approached The Studio people in their three-story building on one of the main streets and were delighted when they agreed to let us film their artists at work—offering full co-operation!

Armed with an H16 Rex 5 with Vario Switar 16-100mm POE power zoom lens and battery pack, we invaded their quiet studio. Or was it an invasion? By the time we finished filming it was as though we had been assimilated by the artists.

Working with a tripod was out. Easels, work tables and general congestion were constant obstacles, so hand-holding was the order of the day. The light factors were awesome. When the glass is being stained or painted, it is done on a vertical glass easel with only daylight streaming through from behind. But the through-the-lens automatic exposure control of that beautiful Switar brought us through. There were times when we used balanced lamps for certain effects, and that's where the power zoom came in handy. We were able to move in and out of the range of the lights with ease. The Bolex did most of the work; I just pointed it in the right direction, which left me free to concentrate on shot composition.

Shooting took three weeks—two weeks and two days longer than we anticipated. But in order to capture every step on film, we had to wait for each individual step to be finished. This included painting, staining, firing, leading, etc., etc.

Upon completion of shooting, we said our Auf Wiedersehns and headed for home in California. The flight was a long one made even longer by my concern about the exposure on the film. We had shot a couple of thousand feet of Commercial Ektachrome, and if the exposure turned out to be wrong, it would be a long swim back to Switzerland to reshoot it. Thanks to that beautiful 1.9 lens and automatic exposure, though, not one foot was lost to poor exposure!

We now had the "how to" segment on film, but we needed footage of finished windows. While in England, Maggie and Maynard had the foresight to shoot 35mm slides of stained glass windows in each church, cathedral and chapel they visited. These slides plus the ones I had taken in Switzerland must now be included in our film.



So we took a 24x36 piece of rear projection glass and projected the slides on it. We set up our Bolex in front with the zoom lens and were, with simple zooming, able to commit whole slides or portions of them to film.

We're in the process of editing now, and from all indications we have a nice little film on the hows and whys of making stained glass windows. Now if our potential viewers find the film as enjoyable and educational as we found its creation, we've got it made!

Pelecanus conspicillatus —and Bolex

by Roman R. Pawlowski

Never have I seen birds breed under such conditions of hardship as do pelicans (*Pelecanus conspicillatus*) in the Gulf of Carpentaria, in northern Australia, directly facing New Guinea. Under the scorching sun of the tropical summer, in fierce south-easterly winds which feel like blasts from a giant furnace, and amid constantly drifting sand, thousands of pelicans build their nests year after year at the world's largest pelican rookery which I discovered in 1965 on an uncharted island within sight of the Nassau River estuary on the Gulf coast of Cape York Peninsula. (The east coast of that Peninsula faces the Pacific Ocean.)

I have spent eleven months studying the rookery itself, the movements of the birds, the migratory habits of those pelicans, and the mortality/survival ratio of the young. For the establishment of a complete record of my studies I employed a Bolex Reflex camera fitted with my two most used lenses; the Switar 25mm and the 150mm telephoto lens, both fitted with Wratten 85 glass filters, which served a twofold purpose—they protected the lenses against airborne sand and saltspray, and provided the required color balance for the Ektachrome Commercial (7255) film I used.

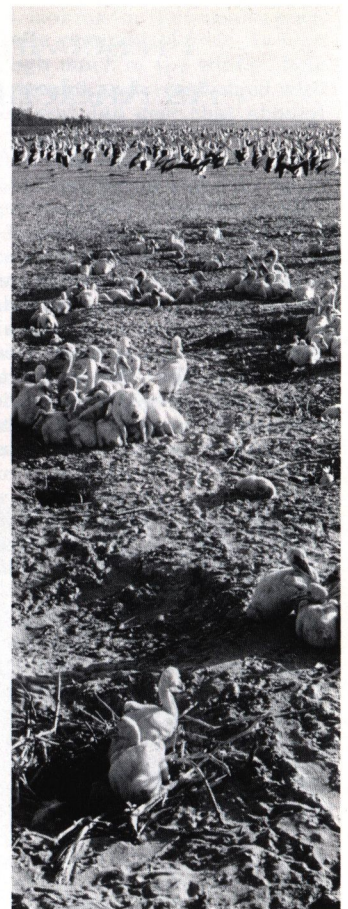


Strong winds sweeping across Walker's Island destroy pelican nests. The eggs are either completely laid bare or covered by drift sand—yet the embryos develop. Author carefully stepping among the eggs. Although the Nassau River estuary, only two miles distant, was densely populated by saltwater crocodiles, it was interesting that no trace of crocodiles was found on that island.

The birth of a pelican—its nest having been blown away by strong winds.

A young pelican feeding amid much growling, rather likened unto the manner of a cat eating a piece of fresh raw liver.

Pelicans on Walker's Island.



When breeding time approaches pelicans in many distant places gather in groups and soon they take off for the long journey to their regular rookery. The formations of thousands of pelicans grow as they meet in flight coming from different directions. They rendezvous in mid-air and circle to regroup, usually at a considerable height, which favors the gliding at which these birds are masters. Day after day their journey continues, interrupted only by nightly stopovers, which include both resting and feeding. Eventually they reach their destination—Walker's Island.

Soon there is much activity on the island as some pelicans arrive and others take off to feed or survey the ground which will now become their home for the next three to four months (from February/March until May/June). Many have been there before, and for many the process of breeding is a new experience.

The building of nests does not take much time nor effort. At first a small hollow is made in the sand in which then leaves, twigs and bleached bones of pelicans are deposited in rather a crude fashion as though anticipating the fact that all this work is very much in vain. In due course and among much grumbling and complaining, the eggs are laid, two to three per hen bird.

During the initial period these nests are attended by the parent birds but usually within one week or two the leaves of the nests are blown away by strong winds and drift sand begins to cover the eggs. Most eggs are now on bare sand and many are fully covered and no longer visible. The parent birds spend all day fishing and not all return for the night. Gradually they find their eggs either displaced by strong winds or almost hidden by sand. These eggs are abandoned, yet the embryos continue to develop.

Hawks and sea eagles now arrive in ever increasing numbers to feed on the eggs. Incredibly, thousands upon thousands of young hatch, defying the elements and escaping predators. The feeding of the young is entirely a community affair. There is a coming and going of flights of parent birds as the food is being brought in and deposited among the

hungry young which feed much in the manner of cats—growling while eating.

Still featherless, they begin to gather and stay in groups—particularly at night—this helps them to keep warm. But all along this is now the survival of the fittest. As soon as a parent bird arrives and leaves food near a group, the most aggressive take it. There is no fighting among them, but in the rush towards food the weaker young are trampled to death. At times, when a large formation of adults arrives with food from their respective feeding grounds, the young gather in a column up to two hundred yards long and rush to meet them.

Never in my visits to that pelican rookery on Walker's Island have I seen eagles or hawks take young birds alive. They don't need to. The rate of mortality increases daily and the vultures seem to be assuming the role of a sanitary unit keeping the grounds clean. At night large armies of hermit crabs arrive, taking over the job of garbage collectors.

As the young grow and require more food the parent birds begin to have difficulties with their task of feeding. It is when they grow to adult size but are still unable to fly that they die en masse. The parent birds are now unable to meet the enormous demand for food yet their young though fully grown cannot fend for themselves. One of my frequent visits to that rookery was exactly during such time of crisis. It was heart breaking to see dead pelicans densely strewn all over the 300 yard wide and four mile long rookery area. Large numbers were still alive; many too weak to move were slowly dying of starvation and dessication.

I shot a number of small sharks which abound in unbelievable numbers in the shallows surrounding the island, and cut them into pieces. Thus laden I returned to the starving pelicans and fed the stronger ones still capable of moving on their feet. At first their reaction was that of distinct apprehension, but the food I gave them gradually won me their confidence. Some began to follow me with mouths wide open, just like puppies impatiently begging for more.



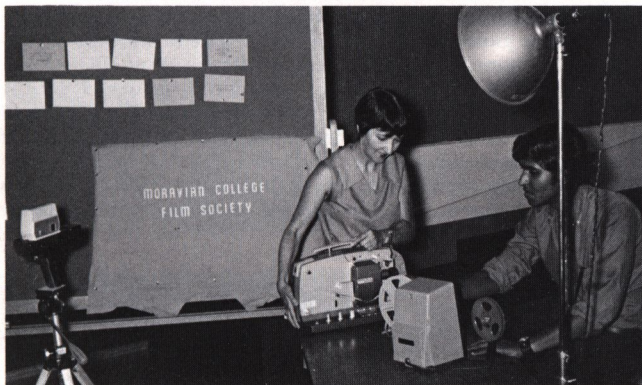
AV: College "Hollywood"

by D. C. Pandya

Moravian College in Bethlehem, Pennsylvania is a small liberal arts school catering to the educational needs of a rather peaceful student body of approximately fifteen hundred students. Being a small and privately owned and run institution, we face the same financial problems faced by hundreds of similar colleges all across the nation—there is seldom enough money for much needed expansion, enlargement, improvement or innovation. Thus, for a handful of interested students, the idea of asking for a separate audio-visual department on the campus was as unthinkable as demanding an extra rock-group concert.

Yes, perhaps we are too small to be able to afford an extra ten to fifteen thousand dollars for a one-night concert. That's understandable and acceptable, but how about a half-decent audio-visual department offering a course or two in film making and essential movie making equipment?

Ours certainly wasn't a harsh demand. But we were only four long haired and tremendously interested students backed by only one faculty member—our cute little Chemistry teacher Miss Grandi. Protests, riots, sleep-ins and



administration-building seizure were beyond our physical potential. Our only weapon, that is, our power of persuasion, seemed to have failed utterly. Just then the administration gave in.

"We see no need to block the students' need for creative outlet," was the magnanimous announcement.

So there we were. Less than a thousand dollars in a budget at our disposal, little if any know-how about film making, but, thank goodness, more enthusiasm than our hearts could tolerably hold.

We were ready to start the ball game. The next best thing that happened to us was the purchase of Bolex 155 Macro-zoom camera and an SM 8 sound projector. After intensive shopping around and much advice from many fast talking salesmen, we decided to bet on the Bolex line of equipment mainly because it seemed to be the best return for our hard earned money. This was the safest bet our Audio-Visual Department ever made. We have been using, abusing and manhandling the Bolex camera and the projector for the last fifteen months and both are still as good as new.

D-Day arrived quickly. Our first attempt at Super 8 movie production was a film entitled, "How to Use Your Analytical Balance" by Miss Grandi. It turned out to be a masterpiece. Thanks to Bolex, we had gained instant success. The photography appeared professional. The blending of commentary and music onto the sound stripe proved to be so easy and simple that we were simply amazed at our "skills". Miss Grandi was more than just proud because the ten-minute film today saves her more than a half an hour of lecturing the freshman students every fall.

Other "extravaganzas" were soon to follow. Harry made a film on an electrolysis experiment. We tried all kinds of animation effects through single framing with fantastic results. John followed with a live vivisection of a frog to

examine its heart action. And man, you should see those close ups! I made a film on the use of a slide rule. Within a period of three months we found ourselves engaged full swing in movie production. Our own "Hollywood" had been born.

In the meantime, our enthusiasm was having contagious effects on the campus. The Physical Education Department asked us to capture their football and basketball games on celluloid, the International Club insisted that we film the colorful International Day Concert, and even the Dean got excited and gave us the go ahead to make a publicity film about the College.

Thanks to the simple yet surprisingly sophisticated Bolex equipment, everybody became pleased at our success in the field of movie production. Today, we have a full scale audio-visual department at Moravian College with Miss Joann Grandi as our first full-time A.V. Director. We hope to add several more Bolex 155 Macrozooms and foresee an imminent plunge into 16mm filming.

We have plenty more assignments and ideas we plan to put on celluloid. Some of our students are even looking forward to entering their recent experimental films in upcoming international film festivals. With our special equipment we can afford to be hopeful, and who knows . . . ?

Our association with Bolex has been an enriching and enlightening one. Thanks for giving us our own little "Hollywood" at Moravian College, Bethlehem, Pennsylvania.

16mm Close-ups: The Hows and Whys

by Ernst Wildi

Focus continuously from infinity down to one inch. Film a lifesize image and a subject miles away without a change in lens or close-up accessory. Create a focus transition from a title to a background simply by turning a knob. Make an out of focus dissolve at the end or beginning of a scene. Shoot movie scenes from color slides, perhaps adding a transition from the slide to the background.

It all sounds like a description of modern Super 8 Macro-zoom moviemaking.

All of these scenes, however, all of the scene transitions and the special effects, are possible with a Bolex 16mm camera.

The features built into the camera, combined with the wide selection of lenses and lens accessories, make Bolex the most versatile 16mm camera for scene transitions, special effects and all close-up filming, whether the subject is a living insect, a miniature circuitry hardly visible to the naked eye, a beautiful flower in the garden, a chart or diagram from a book, a title, color slide, a model railroad, a bottle of perfume for a TV commercial, biological subjects or tiny cells which can only be seen through the microscope.

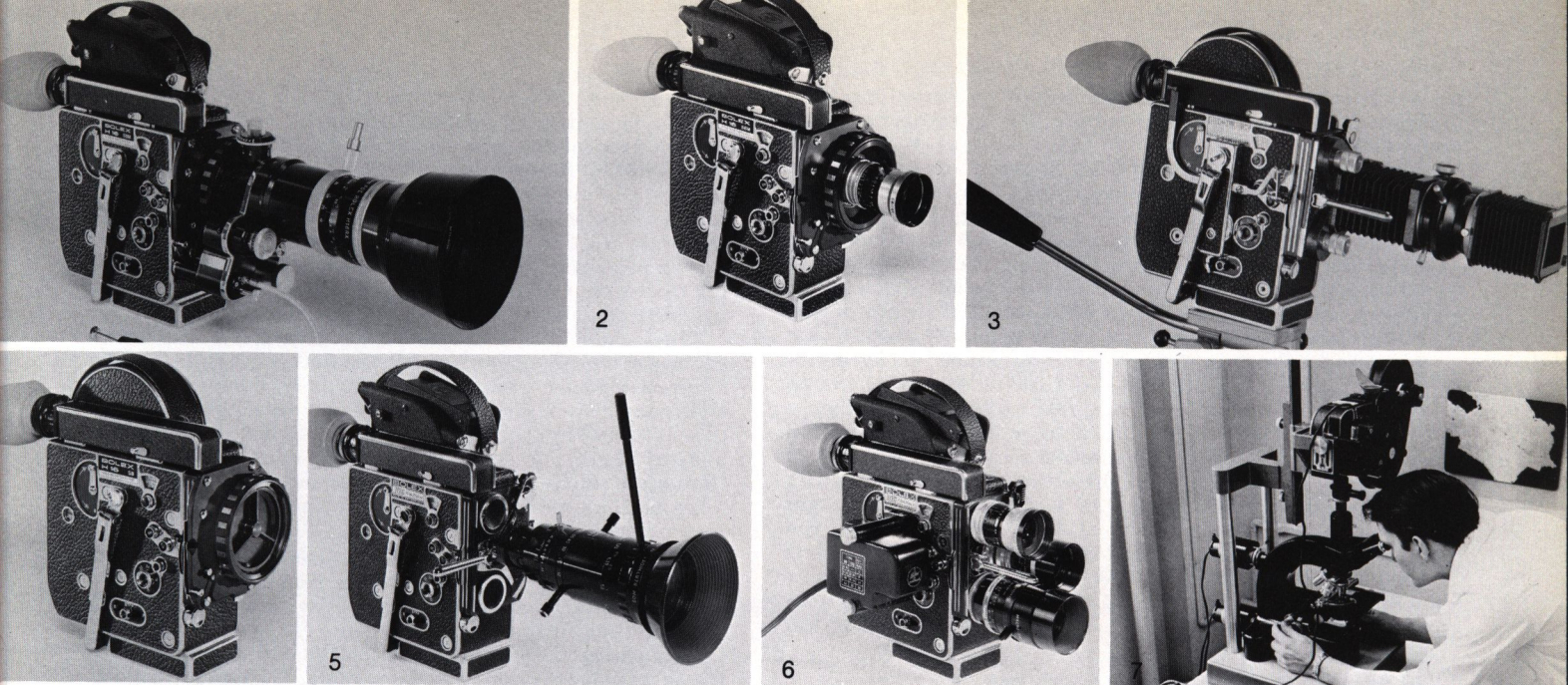
FRAMING AND FOCUSING

In close-up filming, framing and focusing must be accurate and easy to accomplish, which is assured with Bolex H-16 Rex cameras.

The area seen through the reflex finder is exactly the area projected on the screen, regardless of the distance, lens, or close-up accessory. The image on the groundglass is magnified ten times, so focusing mistakes are eliminated. And the reflex viewing system in Bolex offers even more. Since the image is picked up behind the diaphragm, focusing can be done with the lens wide open for maximum brightness and accuracy, or stopped down to view depth of field. With the diaphragm at the filming aperture, the filmmaker can see how unsharp the background beyond the depth of field is, or how blurred a scene becomes when an out-of-focus transition is made. In short, the Bolex groundglass shows not only framing and focusing, but also the artistic qualities of a scene.

PRE-SET DIAPHRAGM

Framing, focusing and filming with Bolex H-16 Rex cameras is made faster and more convenient with the pre-



Bolex offers great versatility for 16mm close-up filming—five camera models, six fixed focal length lenses and seven zoom lenses, many accessories from electric motor drives, close-up lenses, extension tubes, bellows extension, matte box, film magazine, tripod, grips, cases, underwater housing, to projection equipment.

(1) Bolex H-16 SBM Reflex model with bayonet mount can accept 400 ft. magazine, shown with Vario-Switar 100 POE power zoom lens with automatic exposure control; it can also interchange quickly with 10mm Switar with Macro focusing (photo 2). (3) H-16 Rex-4 Reflex turret camera (100 foot film capacity) shown with bellows extension unit. (4) Bolex H-16 SB camera with bayonet mount and 100 ft. film capacity. (5) H-16 Rex-5 Reflex turret model can accept 400 ft. magazine shown with a 12-120 Pan Cinor zoom lens and (6) with 10mm Switar wide angle lens, f/1.1 26mm Macro-Switar standard and 75mm Macro-Switar tele lens, all with pre-set diaphragm device. (7) H-16 M-5 non-reflex model with single lens mount shown with 400 ft. film capacity magazine in position to shoot through microscope.

set diaphragm built into the Switar lenses of 10mm, 26mm and 75mm focal length, the Macro Yvar 150mm, Yvar 75mm with Bellows Extension, the Vario-Switar and Angenieux 120 BDA zoom lenses.

The fixed focal length lenses are set to the correct diaphragm opening by pressing together the two levers on the diaphragm ring and turning the ring to the desired "f" stop. Once pre-set, the diaphragm is opened for focusing and closed down to the pre-set aperture by turning the longer of the two levers, which can be done without removing the eye from the reflex finder—obviously a great convenience that results in faster shooting. With all three lenses pre-set, it is even possible to change lenses by rotating the turret, opening the diaphragm of the selected lens for focusing, and closing down to the filming aperture without a glance at the lens and its settings.

On the Vario-Switar zoom lenses, the diaphragm is opened for focusing by pressing the release half way down. The diaphragm closes to the correct aperture automatically just before the camera starts running. On the Angenieux BDA 120, which, like the Vario-Switar, has fully automatic diaphragm adjustment, the diaphragm is kept open for focusing by depressing a button.

CHOICE OF LENSES

There is practically no limit in close-up filming with Bolex 16mm cameras, but the possibilities depend on the lenses used.

The greatest close-up versatility is obtained with the fixed focal length lenses, since they focus closer than zoom lenses and can be used together with extension tubes for filming subjects as small as $\frac{1}{4}$ "—more than lifesize magnification. They are highly recommended (sometimes necessary) for extreme close-ups and for filming subjects 2" or less in size.

Zoom lenses do not focus below $3\frac{1}{2}'$ or 5', but with close-up lenses can cover areas as small as $1\frac{1}{2}"$ to 2" at the telephoto setting. While zoom lenses do not provide the magnification possible with fixed focus types, they have the advantage of being able to go from a long or medium shot into a close-up without having to stop the camera, thereby assuring continuity of action.

A unique and most versatile close-up unit is offered by the

Bolex extension bellows, which comes equipped with a special Yvar 75mm lens for continuous focusing from infinity down to lifesize 1:1 magnification without the need for removing or changing any part of the camera or lens.

One can therefore film at long distances, or cover a subject less than $\frac{1}{2}"$ in size by simply adjusting the bellows. All filming, whether close or far, is naturally done at the 75mm focal length.

The Yvar 75mm is also equipped with a dual lever pre-set diaphragm arrangement. While the regular and zoom lenses can be used on the turret and bayonet H-16 cameras, the bellows extension fits the turret version only.

OPTICAL TERMS

Magnification: "Magnification" refers to the ratio in size between the subject and its image as it is recorded on film. If the subject on the film appears in its actual size, we have a lifesize or 1:1 magnification. If the subject is recorded on the film twice its actual size, the magnification is 2.0; if the actual subject is $\times 10$ larger than its image on the film, the magnification is 0.1.

The easiest way to determine magnification is by dividing the width of the film frame by the width of the area covered.

Working Distance: "Working distance" is the distance from the camera to the subject and is often important in close-up photography. In filming surgery, for instance, the filmmaker must keep his equipment outside the working range of the surgeon and yet cover a relatively small field, so he obviously needs a long working distance.

The focal length of the lens determines the working distance: long focal lengths give long working distances, short focal lengths, short distances. Frequently the same area can be covered from completely different distances by using different focal length lenses, or zoom lenses set at different focal lengths.

Perspective: The camera-to-subject distance determines the "perspective" of a scene. From a short distance and with short focal length lenses, objects in the background appear small and far away. By choosing long distances and long focal length lenses, background objects are larger and appear to be closer; the perspective is flattened.

Long focal length lenses, due to their narrow angle of view,

include a smaller background area and are, therefore, ideal when it is necessary to eliminate distracting background elements.

Depth of Field: "Depth of field" is determined by the lens aperture and magnification only; but, contrary to general belief, the depth of field at a certain magnification is the same, regardless of the focal length of the lens or the close-up accessory (close-up lens, extension tube) used. Therefore, as far as depth of field is concerned, there is no advantage to cover a certain size area with different focal length lenses. There is a difference, however, in the degree of unsharpness beyond the depth of field. With long lenses, backgrounds appear much more blurred and such lenses are therefore better when it is desired to suppress background details.

Since depth of field is influenced only by magnification and aperture, it can be determined easily with a depth of field factor chart (Chart 1). The actual depth of field in mm is obtained by multiplying the factor by the diaphragm opening used. For instance, at a 0.2 magnification, the depth of field factor is 1.6. At $f/8$, the depth of field is $1.6 \times 8 = 13\text{mm}$. At $f/22$, the depth of field is $1.6 \times 22 = 35\text{mm}$. This is the so-called *total* depth of field. Approximately half of it is in front of the focused distance, the other half behind.

CLOSE-UP FILMING WITH FIXED FOCAL LENGTH LENSES

All fixed focal length lenses available for H-16 Rex cameras are equipped with a close-up focusing extension—we might say they have a "built-in extension tube"—which permits filming at closer distances than is possible with other lenses of the same focal length.

Most close-up filming can therefore be done without any additional close-up accessories, by simply turning the focusing ring. The minimum focusing distance and area coverage of the various lenses is as follows:

Lens	Minimum Focusing Distance		Area Coverage at Minimum Distance
	From Filmplane	From front of Lens	
Switar 10mm, $f/1.6$	$4\frac{1}{4}"$	1"	$1\frac{1}{2}" \times 2"$
Macro-Switar 26mm, $f/1.1$	8"	$4\frac{1}{2}"$	$1\frac{1}{2}" \times 2"$
Macro-Switar 75mm, $f/1.9$	29"	24"	$2\frac{1}{4}" \times 3"$
Macro-Yvar 150mm, $f/3.3$	75"	66"	$3" \times 4"$

When the lenses from 26 to 150mm are set to Macro, an increase in exposure is necessary. To eliminate calculations or the use of charts, the Macro lenses are engraved with two index marks, one white, one red. When the lenses are used at "normal" distances, the desired aperture is set opposite the white index; when the lenses are set to Macro, indicated by a visible red band around the lens, the aperture is set opposite the red mark, thereby automatically compensating for the exposure increase.

USE OF EXTENSION TUBES

For extreme close-up filming with fixed focal length lenses, the Bolex extension tubes can be mounted between camera and lens. The tubes come in a set of four—5, 10, 20, and 40mm long, and can be used singly or in combinations of 2, 3, and 4. Therefore, any extension from 5 to 75 mm can be obtained for an area coverage as small as $\frac{1}{4}"$.

Details of area coverage and distance can be found in Chart 2.

To obtain a lifesize 1:1 magnification, the length of the extension tube is always equal to the focal length of the lens; the distance from the film to the subject is then $\times 4$ the focal length.

Extension tubes do not affect the quality of the image but require an increase in exposure, which is simply based on the ratio of tube length to focal length of the lens and can therefore be determined easily from Chart 3. The extension tubes are also supplied with a slide rule chart showing distance, area coverage, depth of field and exposure increase for all lens and tube combinations.

BOLEX BELLWS EXTENSION

A bellows extension is normally considered an accessory for extreme close-ups only. The Bolex bellows extension,

however, is not limited to this application, but can be used for filming a distant mountain range as well as a subject $4\frac{1}{2}"$ in front of the lens, which will be recorded more than lifesize on the 16mm frame. This unbelievably long focusing range is possible with a special Yvar 75mm $f/2.8$ lens, which comes with the bellows extension, and is obtained simply by adjusting the bellows. No change of lens or close-up accessory is necessary. The upper guide rail shows the length of the extension, the lower rail the necessary increase in exposure, thereby eliminating the need for charts.

The long and continuous focusing range of the Bolex bellows extension opens possibilities for creative filming. An impressive scene transition is possible by focusing from a close subject to a distance view or vice versa while filming; this is done by simply adjusting the bellows with the knurled knob. You could, for instance, start a scene with a close-up of one blade of swamp grass and, while filming, refocus to the ocean waves in the background, an approach very popular on TV today.

If the close subject is a transparency, a most effective transition is possible by refocusing from the slide to the background and actually filming the background scene through the transparency.

By turning the knurled knob at the end of a scene, the image can be blurred out completely. The next scene is started out of focus and the image brought into focus by changing the length of the bellows, resulting in effective and popular out-of-focus dissolves.

The Yvar 75mm lens can be removed and the regular fixed focal length lenses mounted on the bellows by means of an adapter, in which case the bellows extension performs exactly like an extension tube with variable length. Distances and area coverage for all combinations are found in Chart 4.

A bellows type sunshade comes with the bellows extension.

ZOOM LENSES FOR CLOSE-UP FILMING

Zoom lenses do not come with built-in macro focusing but can be used for most close-up scenes in combination with close-up lenses, which are mounted to the front of the lens like a filter. Chart 5 shows the area coverage and distances for the various zoom lenses and close-up attachments.

The magnifications are not as great as with fixed focal length lenses and extension tubes, but they are sufficient for a great amount of close-up subjects. Extension tubes cannot be used with the optically different construction of zoom lenses.

Close-up lenses do not require an increase in exposure, and since the close-up lenses listed are rather weak, there is no noticeable decrease in sharpness.

For accurate focusing, with or without close-up lenses, the zoom lens must always be set to the longest length where the subject is magnified most, the depth of field shallowest and the focus setting, therefore, most critical. Once the zoom lens is focused in the telephoto position, you can zoom in or out without the subject going out of focus, as long as the actual distance from the camera to the subject does not change.

AUTOMATIC EXPOSURE IN CLOSE-UP FILMING

16mm filming with fully automatic exposure control is possible by equipping the Bolex H-16 Rex with either the Vario-Switar POE 100 or Angenieux 120 BDA zoom lenses. With both, the light is measured through the lens, which can be valuable and convenient in close-up filming. The area measured by the built-in meter corresponds to the area seen in the reflex finder, which can be a large field when the zoom lens is set to the wide angle, or a "spot" reading can be taken by setting the lens to telephoto. The filmmaker, at all times, can see in the finder what area the exposure is based on, whether the zoom lens is used with or without close-up lenses. Manual diaphragm setting is possible on both lenses.

DISTANT CLOSE-UPS

Close-up shots are often desired of subjects which are far away but cannot be approached for one reason or another, such as wild animals, birds, the sun or moon during an eclipse, a fire or an explosion which must be recorded for research purposes. Obviously, long focal length lenses must be employed. The longer the focal length of the lens, the

1 DEPTH OF FIELD

Area Covered	Magnification	Depth of Field Factor
5½" x 4"	0.07	13.5
3¼" x 2¼"	0.1	6.3
3" x 2¾"	0.13	3.8
2½" x 2"	0.15	3.0
2" x 1½"	0.2	1.6
1½" x 1⅛"	0.25	1.0
1⅜" x 1"	0.3	0.7
1" x ¾"	0.4	0.4
¾" x ½"	0.5	0.27
½" x ⅜"	0.75	0.11
⅜" x ¼"	1.0	0.06
¼" x ⅓"	1.5	0.03
⅓" x ⅙"	2.0	0.015
⅙" x ⅓"	3.0	0.007

NOTE: The depth of field in mm is obtained by multiplying the depth of field factor by the diaphragm opening used.

Example: The area to be covered is 1⅜" x 1", which has a depth of field factor of 0.7. The depth of field at f/8 is 5.6mm. At f/22 the depth of field would be 15.4mm.

3 EXPOSURE INCREASE WITH EXTENSION TUBES

Length of Tube Divided by Focal Length of Lens	Increase in Exposure in F/Stops
0.1	⅓
0.2	⅔
0.35	1
0.5	1⅓
0.75	1⅔
1	2
1.25	2⅓
1.5	2⅔
2	3⅓
3	4

NOTE: In order to find the necessary increase in exposure, divide the length of the extension tube by the focal length of the lens. The necessary increase in f/stops is then found on the chart above. Example: Length of the tube: 1½", focal length of lens: 3". 1½ ÷ 3 = 0.5 — increase in exposure = 1½ stops.

This chart applies to any film size, lens, and tube combination.

6 AREAS COVERED AT LONG DISTANCES WITH TELE LENSES

Focal Length of Lens	Areas Covered At:			
	30'	50'	100'	200'
75mm	3'8" x 2'8"	6' x 4'5"	12' x 9'	24' x 18'
100mm	2'7" x 1'9"	4'5" x 3'3"	8'10" x 6'6"	17'8" x 13'3"
150mm	1'9" x 1'5"	2'11" x 2'2"	5'10" x 4'4"	11'8" x 8'8"

2 AREA COVERAGE AND DISTANCES WITH BOLEX EXTENSION TUBES

Exten. Tube	Focusing Set To:	MACRO SWITAR 26MM		MACRO SWITAR 75MM		MACRO YVAR 150MM	
		Area (Inches)	Distance (Inches)	Area (Inches)	Distance (Inches)	Area (Inches)	Distance (Inches)
5mm	Inf. Min.	1⅞ x 1⅜ 1 x ¾	7½ 5⅞	5¼ x 4 1⅞ x 1⅜	48 20½	12 x 9 3 x 2¼	204 60
10mm	Inf. Min.	⅞ x ⅝ ⅝ x ⅜	5 4⅜	2¾ x 2 1⅞ x 1	27½ 17	5⅞ x 4¼ 2⅞ x 1⅜	94 49
15mm	Inf. Min.	⅝ x ⅜ ½ x ⅜	4¼ 4⅛	1¾ x 1¼ 1 x ¾	22½ 16	3¾ x 2¾ 1⅞ x 1⅞	67 43
20mm	Inf. Min.	½ x ⅜ ⅜ x ¼	4⅛ 4	1⅜ x 1 ⅞ x ⅝	17 13¼	2¾ x 2 1⅞ x 1¼	56½ 38¼
30mm	Inf. Min.	⅜ x ¼ —	4 —	⅞ x ⅝ ⅝ x ⅜	14 12½	1⅞ x 1⅞ 1¼ x ⅞	42 33
40mm	Inf. Min.			⅝ x ⅜ ½ x ⅜	12½ 11¼	2⅞ x 1¼ 1 x ¾	35 30
50mm	Inf. Min.			½ x ⅜ ⅜ x ¼	12 11½	1⅞ x ⅞ ⅞ x ⅝	31 27½
75mm	Inf. Min.			⅜ x ¼ ⅝ x ¼	11½ 11½	¾ x ½ ⅝ x ⅜	26 24½

4 AREA COVERAGE AND DISTANCES WITH BOLEX BELLOWS EXTENSION

LENS	Bellows Ext.	Area Coverage	Magnification	Distance (Inches)	
				To Filmplane	To Front of Lens
Yvar 75mm (Supplied with bellows extension)	Min.	Same as 75mm at long distances	Depends on distance	Inf.	Inf.
	Max.	⅞	1.2	12	4½
Macro-Switar 26mm	Min.	⅜	2	5	1
	Max.	⅞	5	8	¾
Macro-Switar 75mm	Min.	1⅜	0.5	13¼	7½
	Max.	¼	1.6	12½	3¼
Macro-Yvar 150mm	Min.	1⅞	0.25	38½	29
	Max.	⅞	0.9	23¼	9½

5 AREA COVERAGE AND DISTANCES WITH ZOOM LENSES

LENS	Close-Up Lens		Distance, Subject to Filmplane	Focusing Ring Set at	Area Covered (Inches)	
	Engraving	Code No.			in Wide Angle	in Telephoto
Vario-Switar 100 (16-100mm)	None		5¼'	5¼'	28 x 21	4½ x 3⅜
		561	63" 36"	Inf. 5¼'	33 x 24¾ 14¾ x 11⅞	5⅞ 2½ x 1⅞
		562	36" 27"	Inf. 5¼'	15½ x 11⅞ 9¾ x 7¼	2¾ x 2 1⅞ x 1⅞
Pan Cinor 85 (17-85mm)	None		6'	6'	33 x 24	6½ x 4¾
	2m-6 feet	563	78" 41"	Inf. 6'	38 x 27 17 x 12½	7½ x 5½ 3½ x 2½
	1m-3 feet	564	45" 30"	Inf. 6'	21 x 15 11½ x 8½	4½ x 3½ 2¼ x 1⅞
Vario-Switar Compact (17-85mm)	None		3½'	3½'	19 x 14	3¾ x 2¾
	+1 diopter	Size 5.5*	42" 24"	Inf. 3½'	20 x 15 9½ x 7	4 x 3 2 x 1⅞
Pan Cinor 120 (12-120mm)	None		4¼'	4¼'	30½ x 22½	3½ x 2½
	2m-6 feet	563	80" 34½"	Inf. 4¼'	55½ x 42 18¼ x 13½	5¾ x 4¼ 2⅞ x 1½
	1m-3 feet	564	43½" 27"	Inf. 4¼'	27 x 20 13½ x 10	3 x 2¼ 1½ x 1⅞
Angenieux 120 (12-120mm)	None		5'	5'	36 x 27	3¾ x 2¾
	1.55m-0.85m	572	5' 34"	Inf. 5'	36 x 27 20 x 15	3¾ x 2¾ 2 x 1½
	0.87m-0.65m	573	34" 25½"	Inf. 5'	20 x 15 12 x 9	2 x 1½ 1½ x 1
Angenieux 95 (9.5-95mm)	None		2½'	2½'	28 x 21	2½ x 2

*Made by filter manufacturers.

7 COPYING COLOR SLIDES

LENS	16mm Frame		35mm Slide		Superslide		2¼ x 2¼ Slide	
	Distance from Filmplane	Extension	Distance from Filmplane	Extension	Distance from Filmplane	Extension	Distance from Filmplane	Extension
Switar 10mm Preset							4½"	None
Macro-Switar 26mm	4⅞" (macro)	20mm	5¼"	5mm	6¼"	5mm	8⅞"	None
Macro-Switar 75mm	12"	75mm	15"	15mm	17"	15mm	23⅞"	5mm
Yvar 75mm f/2.8 in Bellows Ext. Unit	11⅞"	72mm	16½"	24mm	17¼"	23mm	23"	16mm

larger the subject at a given distance, and the smaller the area coverage.

Chart 6 shows the area coverage with telephoto lenses at different distances from 30' to 200'. The figures apply to fixed focal length and zoom lenses, which means the area coverage of the Vario-Switar POE 100 when set to 100mm can be found in the 100mm column.

The area coverage for longer lenses can easily be calculated from the chart. A 200mm lens, for instance, covers an area half as high and wide as the figures shown for 100mm.

Haze or skylight filters are recommended for filming at long distances. They do not eliminate haze but absorb some of the ultraviolet light, which frequently gives distant scenes a bluish cast.

Careful consideration of exposure is also necessary. Ordinary exposure meters have a measuring angle which is much greater than the area covered by long telephoto lenses. Therefore, a meter reading from the camera position can be influenced by surrounding light and therefore completely wrong. Since a close-up reading of the subject is usually not possible, the filmmaker must choose other solutions. Perhaps the best is to take a reading of an equally lighted close subject of similar color. For instance, if a bird's nest is in the shaded area of a tree, take a close-up reading of another area close to the camera with similar light conditions. Frequently, just a visual realization of brightness values and the necessary adjustment in the diaphragm opening is sufficient.

With the automatic Vario-Switar, exposure problems are minimized since the meter measures only the area covered by the lens.

Since long focal length lenses tend to be heavy, it is recommended to lock the turret, or to use the bayonet mount H-16 cameras with their positive lock.

FILMING COLOR SLIDES

When the question of filming color slides comes up, the filmmaker's first thought usually is towards projecting the slide on a small screen and filming the projected image with a 16mm camera. While this is possible, it is not the best approach and certainly not the one to produce best quality. One has little control over the color of the projector's light source, and the quality of the projected image is likely decreased by the projection lens or the screen surface. For best results, the color slide is filmed directly with the camera, and the Bolex H-16 camera with its lenses and accessories forms an ideal unit for copying color slides on 16mm film.

The slide is filmed like an ordinary close-up subject using the lenses and close-up accessories that provide the proper area coverage. Chart 7 shows what lenses and close-up accessories can be used for the most popular slide sizes and for 16mm frames.

The approach for filming color slides is different from regular subjects only in the lighting. The slide is either filmed against a white background, indoors or out, or the slide is lighted from the rear with a light source 2' to 3' behind the slide, shining directly towards the camera. In this case, the light must be completely diffused by means of an opal glass, a sheet of white paper, or similar material 2" to 6" behind the color slide. The light shines on the diffusion material and provides a bright, even illumination for the slide.

Exposure can be determined by holding a reflected light meter directly behind the lens so it measures only the light coming through the slide. However, a film test should be made.

With the lighting set-up described, one must be certain that no direct light shines into the lens, which means the slide should be mounted on a fairly large cardboard with a cut-out for the slide area. The cardboard with slide can be mounted on a titler or other support, the best and most convenient being the Bolex Matte Box, available in two versions, #615 with a maximum distance from filmplane to frame of 8½" and Matte Box B #617 with a maximum distance of 12½".

The Matte Box is especially convenient because camera and slide are on a common support and, with some lenses, the slide can be mounted in the rear frame, the opal glass or other diffusion material in the front.

The bellows sunshade supplied with the Bolex bellows extension is not meant for mounting slides but as an effective sunshade only.

Copying a 16mm frame is not meant for duplicating a 16mm film but for "freezing an image," an effect often used in commercial films and TV commercials. The scene may start with a stationary subject which suddenly starts to move. Or the scene might open with normal movement, then suddenly freeze for a few seconds, only to start moving again.

In a commercial production, this effect is produced in printing, but it can also be done on the original film right in the camera.

First pick the frame (it must be sharp!) where the action is to freeze. If the scene is to open with a freeze, this would be the first frame. The frame is then copied for the desired length of the freeze on the same type of film as the original, following the technique outlined above.

Make certain that the framing is exactly along the edges of the original frame to prevent displacement of the subject. The new freeze scene is then spliced into the original at the proper place, and if framing and exposure are kept accurate, the cut-in is hardly recognized.

BOLEX FOR CINEPHOTOMICROGRAPHY

Bolex H-16 cameras are equally suited for filmed sequences through the microscope. While it is possible to use the camera without a lens, as is generally done with still cameras, it is recommended to use a 75mm lens, set to infinity and at its maximum aperture. This arrangement has the advantage that it does not require any additional optical devices, photographic eyepieces with adjustable lens, or mechanical devices to fix the distance between microscope and camera.

A "professional" set-up should, furthermore, include a microscope adapter with its own viewing and focusing arrangement. This is because the Reflex finder in the camera does not give sufficient magnification for accurate focusing on the delicate details of a microscopic specimen.

An ideal microscope adapter for the Bolex cameras is the Wild #7600 attachment for cinephotomicrography, usually referred to as "Cinetube." It clamps onto the microscope viewing tube and is equipped with a focusing telescope and a photoelectric cell to determine correct exposure.

The camera is mounted on a solid camera stand without a rigid connection between camera and microscope to avoid possible vibrations from the camera being transferred to the microscope. The specimen can be filmed at normal speed, slowmotion or in time lapse. Various firms manufacture vibration-free, single frame motor drives specifically designed for Bolex, or complete cinephotomicrographic set-ups using Bolex H-16 cameras.

CAMERA FEATURES FOR SPECIAL CLOSE-UP APPLICATIONS

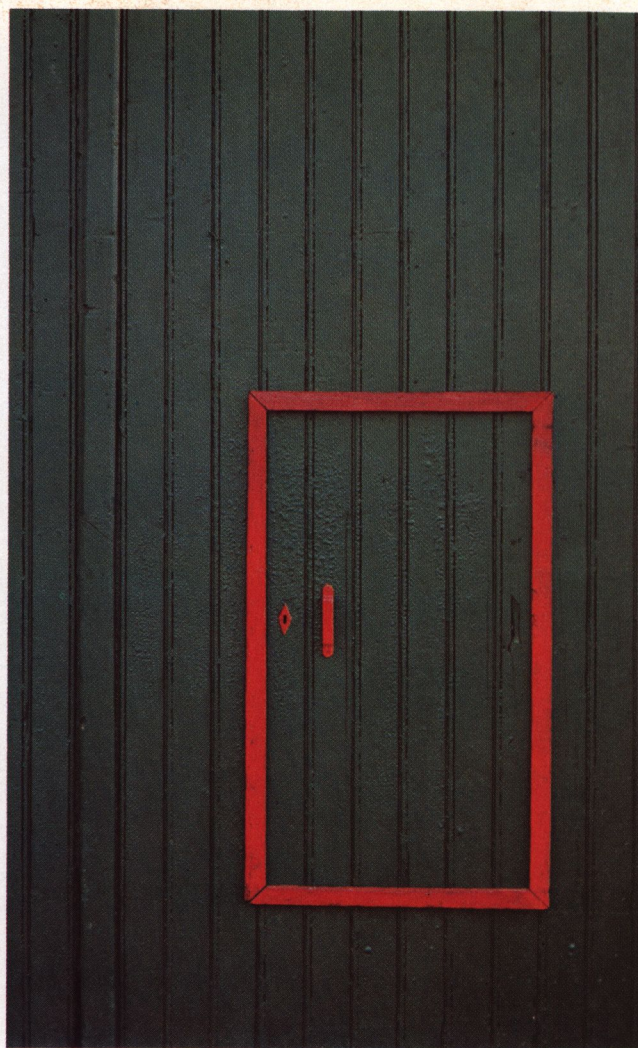
The wide selection of lenses and lens accessories covers all ranges in close-up filming and the wide variety of camera features make Bolex H-16 Rex cameras ideal in all fields of close-up applications. The built-in single frame device finds wide application for animation and time-lapse studies. It can be operated manually or automatically by means of time-lapse units available from various sources.

Close-ups and titles can be connected with fade-in, fade-out or lap dissolves made right in the Rex camera by means of the variable shutter.

Two or more close-ups can be double exposed or a title can be super-imposed over a regular scene with the camera's film rewind and frame counter. The speeds from 12 to 64 fps permit accelerated and slowmotion studies, important for many scientific experiments, valuable in making films more entertaining.

The camera can be remotely operated by attaching an electric motor with extension cord.

Inexpensive gelatin filters can be used in the filterslot, conveniently behind the lens, where they are protected and where one filter serves all lenses, regardless of type and size. The camera can be loaded with 100' rolls, or up to 400' of film if equipped with the larger magazine; and sync sound close-up filming in a true professional manner is also within the capabilities of the camera.



Postscript

The other day we came across some fascinating photographs. The man behind the camera is Dr. Willy Wettlaufer from West Germany, an ardent amateur of both movie and still photography. One of his pictures appears almost irreverently on the back page of this issue with a cutout so that our good Bolex dealers distributing this magazine may affix their store imprints. The friendly faces illustrated originate in Holland, where they function as door knockers and are the pride of their owners. They are meticulously polished; in fact, the owner of the one displayed on the back page was distressed, according to Dr. Wettlaufer, because he was not given the chance to quickly clean off the spider web.

The barn door is located somewhere in Germany, and we show it next to the Dutch door regardless of (or perhaps because of) the great contrast of the two. We like to remark that we feel the farmer who painted his barn blue and the door molding red to form this magnificently simple yet powerful pattern is no less an artist than the artisan who built the door and cast the distinct door knocker in Holland. And in the same breath we would like to praise the photographer who not only discovered them but took the time and pride to shoot them both. Because this is after all what this hobby of movie and still photography is all about.

The idea is to see. The best piece of equipment won't take a good picture if we cannot see it, and we cannot take a great picture even if we see it unless we are thoroughly familiar with our equipment. The camera is the best educator for us to learn how to see, and increasing our understanding of the equipment will eventually permit us to wind up with a great movie or still. (The ones that are not so great we keep in the drawer!)



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