

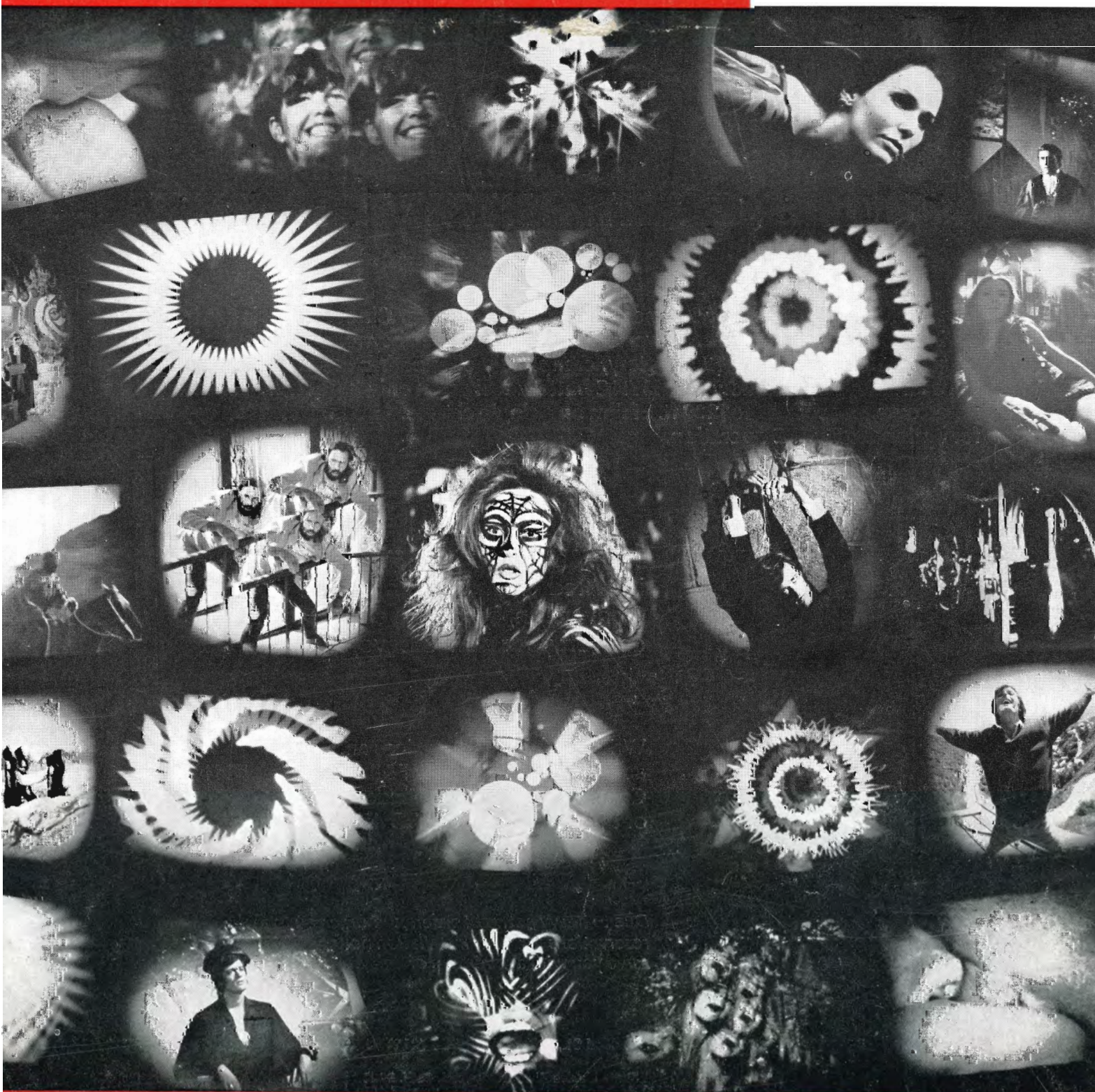
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"PSYCHEDELIC"
VISUAL EFFECTS
FOR
"THE TRIP"



• RECALLING EXPO'S MERRY MIXED-MEDIA SHOW • SILENT LASER BATTERY GENERATOR
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CREATING THE "PSYCHEDELIC" VISUAL EFFECTS FOR

THE TRIP

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involved highly complex
optical technology and
imaginative know-how

By BOB BECK

Early in 1967, Producer-director Roger Corman, working with American-International, began searching for the technical assistance that he would need to produce a film depicting the hallucinatory experience known as an "acid trip." He had determined that he wanted to show the psychedelic effects which we know of as a "light show," and he needed someone skilled in such productions.

Since San Francisco was, at that time, the stronghold of psychedelia, it was there that he began his hunt. But when he spoke to Peter Gardiner, of Charlatan Productions, who had been responsible for many of the most noteworthy light shows to appear on TV in Los Angeles, Mr. Gardiner showed him some of the effects that I had produced for him. These were evidently what Mr. Corman was looking for, so, within a short time, I was contacted and given the assignment to create the effects for "THE TRIP."

There were three major sequences required: the nightclub sequence, the love sequence and a series of inserts to be spaced throughout the movie, particularly during the "Re-entry" sequence in the last reel.

Fortunately, I had had a number of prior experiences in the production of such special effects. In the fall of 1966, I had delivered a 13-week series for Channel 9, called "The Boss City Show," and this had acquainted me with the many technical problems to be solved. In the course of this extensive project, I had worked out a method for getting sufficient light, enough changes of effects, and of maintaining a pacing that kept excitement at a peak. Thus I was prepared for some of the problems that I would face when adapting these effects to the motion picture screen.

Besides this, I had done a short experimental film entitled "VOYAGE OMEGA," for Charlatan Productions in February of 1967, which, I believe was the film which convinced Roger Corman that we could do a good job for him. I had one other prior experience in the field of filmed psychedelia: I had sat in as technical advisor on special effects during the making of UPA's film, "TURN ON, TUNE IN, DROP OUT," in which so-called "psychedelic effects" were used as a background for an LSD excursion described by Timothy Leary. The techniques used for the Tim Leary film consisted of slide projections with color wheels rotating in front of them, and overhead projectors, which projected what are now called "liquid shows" (a splashing of liquid colors between watch-crystal dishes).

I had done a crystal projection for one portion of that film (which ended up as a modern-day transistorized improvement of the original Auratone process of Cecil Stokes), though not much of it wound up in the final version. But I gained through each experience. After experimenting with these films (and with other lesser ones), I had quite an inventory of hardware, projectors, electronic controls, and special effects—all of which came in handy in the final shooting of "THE TRIP."

Jack Nicholson's script called for considerable use of strobe lights in the nightclub sequences and, at the time when I was contacted, there was no strobe device avail-

(LEFT) Producer-director Roger Corman sought to involve the audience in a "mind-blowing" subjective experience through the use of bizarre visual and audio elements for American International's "THE TRIP." (CENTER) Abstract designs projected onto the bodies of Susan Strasberg and Peter Fonda during controversial love sequence were necessarily under-exposed, but made printable through extended development of Eastman Color Negative. (RIGHT) Director of Photography Arch Dalzell clowns between set-ups with "Spider Woman"—one of many weird characters swarming through the LSD-expanded consciousness of the film's insecure non-hero.





(LEFT) Camera Operator with hand-held Arriflex camera moves among frenzied fruggers in orgiastic party sequence to draw the audience more completely into the action. (CENTER) Figure in foreground is over-exposed by flash of "light show" strobe unit, one of several which pulsed continuously throughout the sequence to overwhelm the general set lighting and enhance the total frantic effect. (RIGHT) Authentic-appearing hippie characters populating Hollywood Hills "pad" from which the LSD-propelled protagonist is launched into hallucinatory orbit.

able on the market that had sufficient power and time capability to run throughout the long takes required—some of which lasted for from three to four minutes.

It was necessary for me to build half-a-dozen modified strobes which, because of their unique specifications, I first had to design. They are illustrated in the photographs accompanying this article. The problem we faced was to create strobes that would synchronize with the motion picture cameras, a circumstance that usually occurs only accidentally—and occasionally—with non-synchronized equipment. Obviously, we could not be content with a hit-or-miss procedure.

First I ran tests with a 16mm Beaulieu camera to find the best interval for the flashes. We found this to be around eight pulses per second, with a leeway to six seconds. Such an interval successfully provided the effect that we needed to give the nightclub a psychedelic atmosphere. We found that the best way to guarantee that there would be enough flashes occurring while the camera shutter was open, was to use a number of "wild" strobes.

To add to the irregularity of the strobe flashes, and to increase the unreal appearance of the nightclub, we used eight strobes which were synchronized at slightly different rates. This solved the problem of synchronizing the flash to the camera, for we then had a statistical chance of getting at least two or three flashes on any particular frame as the shutter was open. This solution worked well, so that, in the nightclub sequence, it appears that there are more light sources on the set than there actually were.

(EDITOR'S NOTE: In his American-International feature production of "THE TRIP" Producer-director ROGER CORMAN set out to reproduce on film visual representations of the subjective illusions experienced by those indulging in the use of the hallucinogenic drug LSD. Whether or not he succeeded in this aim can only be attested to by those who are users of the chemical. However, judging the result from the purely cinematic standpoint, it can be said that "THE TRIP" is technically and visually one of the most spectacular pictures ever made. Much of its "mind-blowing" impact can be credited to the exciting "psychedelic" visual effects created for the film by BOB BECK, the author of this article. Beck is an electronic and optical engineer who became involved in light shows as a hobby a number of years ago and pioneered many of the techniques used in today's "happenings" and discotheques. He has spent much time in the investigation of early color, light and sound art forms developed by such innovators as Thomas Wilfred and Cecil Stokes, who developed the Auratone process back in the 1940's, and his knowledge has been cross-fertilized with that of other pioneers in the field. Beck's interest in photographic processes originated while he was working his way through engineering school as a magazine photographer. During that period he invented the first practical photographic strobe flash unit. He owns and operates his own motion picture laboratory, the COLOR CONTROL COMPANY, which produces films, slides and film strips. He is the author of "LIGHT SHOW MANUAL" which was the first do-it-yourself handbook in the field.)

Sometimes the open shutter would catch the units on the left, sometimes the ones on the right, a condition which greatly enhanced the overall frantic effect.

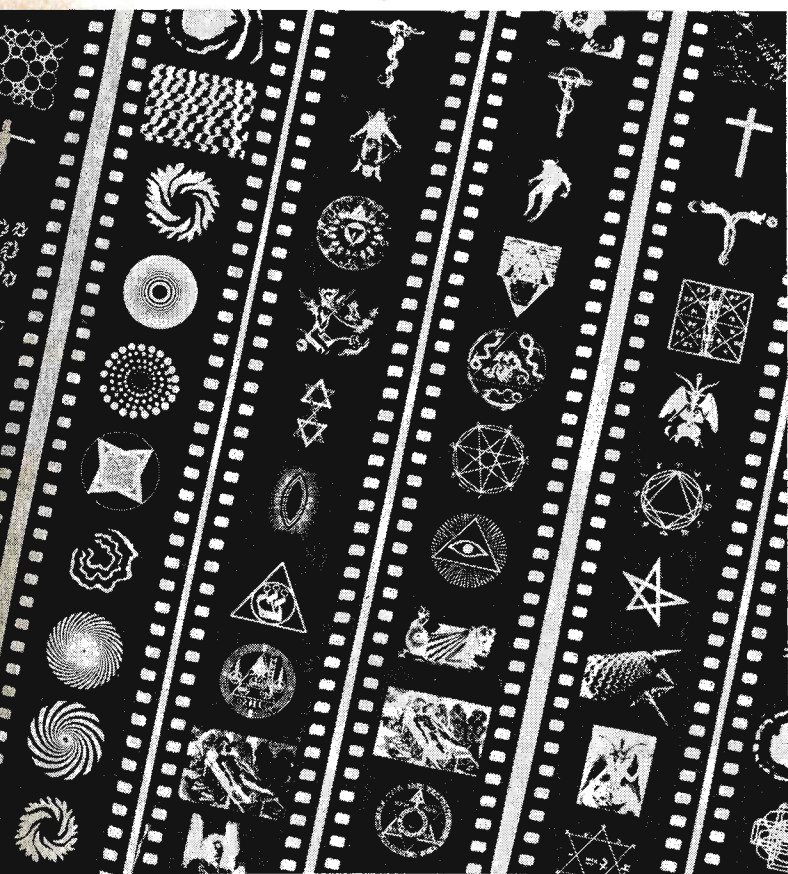
When we began work on the love scenes, which were shot at Producers Studios in Hollywood, we were concerned with entirely different problems. There was a great danger that, while creating the required general mood effect, we would not be able to get enough light to produce the equally important projected psychedelic effect. To solve this problem, we utilized especially large lamps—1000-watt quartz iodine units — equipped with extra blowers in the coverheads (to avoid overheating)—which provided the projected images for the background and on the principals.

After considerable experimentation, we settled on a 750-watt Bell and Howell projector for the main patterns, which were projected onto the nude bodies of Peter Fonda, Susan Strasberg, and Sally Sachse. Even with extensive modifications, the amount of light on the subjects was only around 24 foot-candles, which meant that our film, Eastman Color Negative, had to be processed to an ASA rating of 200 by the Pathe' Laboratories. All of us were, naturally, holding our breaths when we walked in to see the first rushes on this shooting. Fortunately, they were right on the button. Director of Photography Arch Dalzell did a really excellent job in calculating his exposures, and the results were very close to where we wanted them to be.

The most interesting—or rather the most challenging—aspect of the assignment on "THE TRIP," was the requirement that we simulate the color effects that are seen by a person in the state of heightened, LSD-induced, awareness which is roughly termed "psychedelic." For this we used a color organ projecting onto a small rear-projection screen. We started out with a two-channel unit, but expanded it to a four-channel unit in which the tones, frequencies and intensities of musical notes served to modulate lamps that were mounted behind red, green and blue filters—which were then reflected from broken mirror segments onto a screen. The effect of this was much like a fourth-generation offshoot of Thomas Wilfred's Clavalux and Lumina machines (which were famous in the 1920's and 1930's), and produced a weaving, ever-changing cloudlike effect of color and shifting forms floating across the screen.

The film editors later used these non-objective forms combined with the hard-image forms that were created on an optical bench which I designed to use in the production of the Re-entry sequence. In this sequence the visual illusions and the hallucinations which Peter Fonda

In order to do this, the images themselves were photographed on high-contrast black-and-white film. From there they were transferred, through colored gelatins, onto 35mm film strips. From these we prepared the master film strip that was actually used in the production. We decided upon the procedure which we utilized in order to accommodate the Graflex "Compact" Projector (trade mark) with 150-watt filaments, that we had already used in prior experiments.



Some of the symbols used were "alchemical" or mystical symbols, which had been copied from some of Aleister Crowley's works, and from other books on magical and occult symbology. Other forms used were taken, as already mentioned, from Jung's research.

plus and optical house in Pasadena, California.

FIGURE 2 shows our little optical bench. At the time of the filming of "THE TRIP," this was set up on a coffee table in my living room. All of the special effects were created on this bench. It consisted of six light dimmers (full wave); silicon-controlled rectifiers, in series, with the filaments of the lamps of six projectors. In series with these were six micro-switches, arranged so that they could be played like a piano keyboard, three switches by the left hand and three by the right. These "keys" are identified by the word "flicker" in the photograph.

This panel was connected to the three Graflex Compact Projectors and the three Kodak Carousel Projectors, mentioned earlier. The color wheels of the compacts can be seen in the photograph.

FIGURE 3 shows another view of these same connected projectors. The array of images produced by these six projectors was projected on a Bodde rear-projection screen, which was about 2' by 3' in size. The camera on the opposite side of this rear projection unit did the actual recording of the flashing images—in real time. We had played with animation techniques (stop motion, single-frame work), and had found that we got a far more realistic effect if we actually played the instrument in real time and photographed it in real time—preferably to the music which was actually used as a background for this sequence.

FIGURE 4 shows the manner in which the instrument was actually used. Another feature of the Graflex Compact is that the pull-down mechanism for changing the frames of the film strip was solenoid-operated, and would activate in less than a 24th of a second. In this way we achieved the capability of instantaneous change between images for our system, whereas the usual slide projector takes perhaps 1/2 second to 2 seconds to make the same change.

FIGURE 5 shows our specially-modified overhead projectors. We used four of these during the filming of the nightclub sequence, as well as the love sequence. We first modified them by building internal dimmers into each machine, so that the light could be balanced between pairs or clusters of the projectors.

We have, since then, been using this type of light projector, during live light shows, for a number of months. The projectors were further modified by putting in higher-powered blowers and additional outlets, which we built into the projectors to run the color wheels and the stroboscopic discs (like lobster lights, etc.). In spite of all these changes, the light sources delivered only about 24 foot-candles of light onto the subjects, as mentioned earlier, and this deficiency of illumination was compensated for by extending the development of the film.

FIGURE 6 is a grab-shot in our living room, showing the setup which we used for the kaleidoscope projections onto Susan Strasberg's and Peter Fonda's faces. A 35mm Arriflex camera with zoom lens, is shown here, pointed at Miss Strasberg. Peter Gardiner, in the left foreground, directed these sequences. The Kaleidoscope projector is shown in the center of the frame, and one of the Carousels is at the top of the coffee table. Makeup man and union standbys are in the background. Camera work on these sequences was done by Allan Davie.

FIGURE 7 shows another view of the kaleidoscope projector which was built and modified especially for



FIGURE 1—Modification of Kodak Carousel 500-watt projector with "beer can" snoot attached to zoom lens was used to create weaving and spatial reversal of images. Dove prism is mounted inside the snoot, while motorized color filter wheel revolves on the outside.

these sequences. This was only a 500-watt unit, so we were pretty well limited to shooting these effects wide open.

FIGURE 8 shows the finished strobes that we used in the nightclub sequence for "THE TRIP," and again later in "SOFT RIDE," for 20th Century-Fox, and in "WILD IN THE STREETS," for American-International. These strobes had to be designed so that they could be hand-held. They also had to deliver 15 to 20 times more light than do the little General Radio "Strobotac" strobes, which have been used at "happenings," parties, and in many light shows.

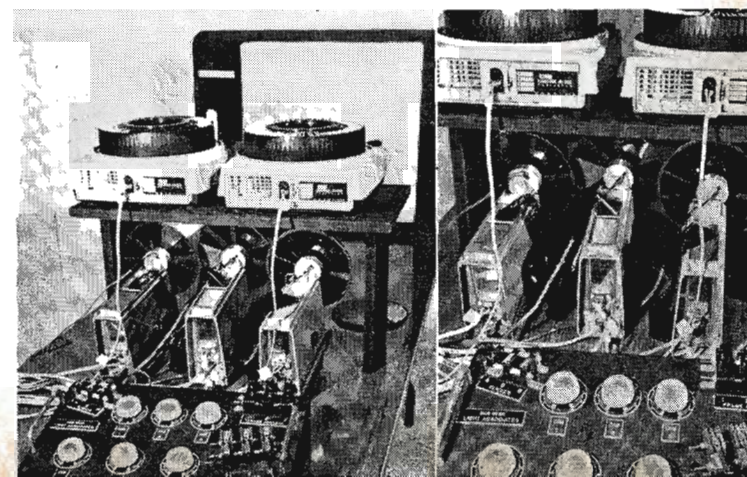
The schematic for these little strobes is included in my "Light Show Manual." Most of the major components are visible in this photograph. These strobes can be built for about \$30 apiece, now, but at the time they represented quite a breakthrough. Nothing of the sort was available on the market, and we had to build our own.

For the size of the package, they put out a fantastic amount of light and some heat, so we don't recommend running them for longer than three or four minute sequences.

FIGURE 9, is of the author, Bob Beck, with a cluster of three of the overhead projectors, demonstrating the manner in which they actually were used during the filming of the effects for "THE TRIP." In the love sequence,

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(LEFT) FIGURE 2—Optical bench with Bodde rear-projection screen was set up on coffee table to film all of the stunning visual effects created for "THE TRIP." (RIGHT) FIGURE 3—Closer view of optical set-up showing six micro-switches that can be played like a keyboard to blend separate images from six channels.



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the projectors were used to throw an overall pattern onto the bodies. In the nightclub sequence, they were used to throw the psychedelic patterns onto the wall in back of the bandstand. I had not done any work in 35mm under studio conditions for quite a few years, and I was apprehensive about the way this would actually play on the screen.

Director of Photography Arch Dalzell gave us almost complete leeway in doing what we wanted to do on the sets and, after about the first half hour, he must have liked the effects that we set up, for he just told us to "go ahead and light the thing—we'll shoot whatever you do." All of the other technicians on the set offered us the same wonderful cooperation.

There were three of us handling the special effects for the lighting of the nightclub, as well as for the love sequence: Peter Gardiner, Allan Davieu, and myself, and all of us were given the utmost cooperation. We had only one problem, which was to convince the men in charge of lighting the sets that they should rely entirely upon our relatively dim lights. When they tried to throw fill light on the subjects—any fill strong enough to be effective—they washed out the effect of our psychedelic lighting.

We were prepared to depend entirely upon the slide projections and the overhead projections to carry the entire mood of the love sequence. The lighting experts were accustomed to lamps of much higher intensities, as well as to using flatter fill light. We knew that such fill would wipe out the subtle changes of effects which were being cast onto the performers by our projections. But, again, once our intentions were understood, we received excellent cooperation and, after the first rushes were seen, we had no further problems in convincing the studio technicians.

Throughout the shooting, we had to make quite a number of compromises in the lighting. If we backed off, in order to cover a wider area, the light fell off, naturally. We were, therefore, limited in scope as to the area which actually could be covered with our pitiful 24 foot-candle power.

We, fortunately, did not have such a problem in the nightclub sequence, for the effects of the strobes carried from 20 to 30 feet, and over-rode any other set lighting that was used. Arch kept the general lighting in that sequence below 150 foot-candles, so that our strobes would over-ride the ambient light by a safe margin.

Besides this excellent cooperation on the set, we were

also given the assignment of producing the psychedelic inserts. These we shot at my home in Hollywood, using the set-up I had constructed on my coffee table. Since then, I have built an elaborately equipped studio-laboratory-workshop, and a three-headed optical printer, both of which would have been most valuable, had I had them available while working on "THE TRIP."

In spite of our limited laboratory facilities, Peter, Allan and I had run a number of tests on the capabilities of the Eastman Color Negative. We knew, roughly, the limits which could be maintained when we pushed the film speed in processing, without degrading the saturation of the color, and ASA 200 was about as far as we were able to go. Since then, excellent color has been achieved at ASA 400 on EK negative by a gentleman named Fulton, who has improved the processing procedure.

But we did not then have the advantage of Mr. Fulton's research. We were somewhat apprehensive about the results until we saw the rushes, at which time we had it proven to us that developing at an accelerated ASA rating did not degrade the color-saturation excessively.

The sequences that were shot on my optical bench were used on the screen just as we shot them, since they contained three more image sources than could be achieved through the use of a three-headed optical printer in one pass. But actual optical effects were used elsewhere in the film. One sequence that impressed me was that in which Peter Fonda looks at his face in the mirror. At that point, they superimposed our psychedelic effects onto his image reflected in the mirror. This was, I believe, the only such optical used in the entire film; all the other effects were used just as we shot them.

Things were running a bit behind schedule toward the end of the production, so we were asked to go ahead and do the titles. The main titles, and the end titles, were shot simply by making high-contrast 35mm slides of the title cards and superimposing them over the effects of the color organ which was mentioned earlier. "Susan Strasberg," "Peter Fonda," and "THE TRIP" were the three titles that were shot over a background of the kaleidoscope projection.

The effects which were used in the production of "THE TRIP" were actually a rather primitive form of a light show. Since that time, I have been experimenting with my own three-headed optical printer (which I have put together myself), but which was not yet in existence during the filming of "THE TRIP."

I feel that, by exploiting the techniques which we developed prior to the production of the movie, "THE TRIP," such as the adjustment of light flickerings to the natural

(LEFT) FIGURE 4—The optical bench in use. Graflex Compact projectors used for film strips were solenoid-operated and could be activated in less than a 24th of a second—much faster than conventional projectors. (CENTER) FIGURE 5—Overhead projectors of the type used in light shows were specially modified to project patterns through color wheels for nightclub and love sequences. (RIGHT) FIGURE 6—Informal shot in author's living room showing set-up used for kaleidoscope projections onto faces of the actors.



psychological constants of the epileptic flicker rate and the alpha rhythm of the brain, the emotional impact of a production can be greatly heightened—especially in psychological terms. For these rapid images rush past the natural mental “censors” (in the Freudian sense) and go directly into the unconscious, much in the manner of hypnosis. We are all well acquainted with the great amount of research done by psychologists in the area of subliminal psychopenetration. Yet this area of human capability has hardly been touched.

As you know, Dr. Karl Jung discovered that the dream images of primitive races were very little different from those of modern, civilized man—even one like Einstein. In both, the symbols were quite similar. In other words, mankind has a common unconscious mind, with implants, which, when reduced to their bare symbols, should cause a similar emotional reaction in the mind of any individual—regardless of his cultural background, his educational experiences, or his intellectual history. Part of my “fun and games” has been the exploring of techniques that might tap these basic unconscious wells of imagery. I am convinced that the future of creative film production lies in this direction, and that many such techniques will be extensively explored in the future.

In another film that I did with Charlatan Productions, after the completion of “THE TRIP,” we used two, three, and four frame cuts throughout the *entire* film. Ad agencies that saw this film were most impressed by the production and, I am pleased to relate, it did the job for which it was intended—that of “selling” RKO General’s Channel 9 television station to the agency representatives.

Despite the fact that many of the unique lighting effects that have developed in recent years have first been used in connection with the “psychedelic” scene, and in spite of the fact that I was involved in the production of several films about the psychedelic experience, I feel very strongly that all of these “light-show” techniques and optical effects should remain separated from the entire psychedelic label. I would greatly regret having such techniques saddled with the label “psychedelic,” and so stigmatized.

First of all, the term “psychedelic” is almost meaning-



FIGURE 7—“Between takes,” actress Susan Strasberg sits in front of kaleidoscope projector which was used to flash patterns onto her face. Since capacity of the unit is only 500 watts, these effects had to be filmed with the lens at maximum aperture.

less now. More than that, it has overtones of mental involvements that cast a shadow over any field with which it is associated.

Light shows have emerged as a medium entirely separate and individualistic. They provide excellent entertainment for large groups, as well as serving as attractive backgrounds for many musical happenings. They have emerged as the “Theatre of the Now.” But, far more important than either of these uses, is the application that psychotherapists are exploring with these novel lighting techniques. One psychologist reports that he has found that an involvement in the ever-moving projections of a “light show” can serve as the opening wedge to the closed minds of troubled patients. He has used such “light body painting” during group therapy sessions, with excellent results.

Further research has been done in the field of psychopenetration, which indicates that much can be done through the use of light to help in consciousness research. These are exciting and intriguing areas, in which I hope to be able to play a productive part. ■

(LEFT) FIGURE 8—Miniature strobe unit of the type used in filming the nightclub sequence. Designed to be hand-held, this strobe delivers 15 to 20 times as much light as similar small units used for light shows and “happenings.” (RIGHT) FIGURE 9—The author, BOB BECK, with a cluster of three of the overhead projectors, demonstrating the manner in which they were actually used during filming of “THE TRIP” to throw “psychedelic” patterns onto bodies of actors and walls of the set.

