

The background of the entire image is a solid black color. Overlaid on this background are several thick, vibrant red lines. These lines are drawn in a somewhat chaotic, gestural manner, creating a network of intersecting paths. Some lines are straight, while others are slightly curved or have small loops. The lines vary in thickness and cross each other at various angles, creating a sense of dynamic movement and tension. The overall effect is reminiscent of a technical drawing or a complex web of connections.

# CLOSE-UP

**CBS**

*Columbia Broadcasting System*

# CLOSE-UP

*A picture of  
the men and methods  
that make CBS Television*

*Copyright 1949  
Columbia Broadcasting System, Inc.  
Printed in U.S.A.*

## *FOREWORD*

This is the story of one television program, from the day it began to its hour on the air.

The story is told here for merchants and students, advertisers and actors, technicians and writers—all who see in television many shining possibilities, and want to know more about it.

How does a television show actually get on? What's it like—movies? or theatre? or radio? Is it true that a show that takes sixteen people to produce in radio takes forty in television? Who are all those people, anyway? And why are there so many of them? What special knowledge, what special skills are needed?

This picture-book will try to answer some of those questions...to show some of the processes and people employed in network television's second year, 1949...to freeze, as it were, an early moment of time in television's history.

This is done with the sure knowledge that much of the information in the book will be obsolete, or nearly so, almost at the moment it appears. For it is part

of the surging speed of television's development that what looks new and promising today may be superseded by thriftier, more effective techniques tomorrow.

Deliberately, the editors have chosen to show today's television at its most complex: a full hour dramatic program, enlisting most of the skills and technical devices available to today's producer, in today's best equipped, best-staffed studios.

Not all programs, of course, make the same demands. The majority of television programs now on the air do not involve so many different production and manpower factors as this one; some few may require more.

But even at its simplest, good television demands of its producers a great deal. Engineering knowledge, stagecraft and showmanship are in this new medium exercised to the utmost; and there is always a prodigious expenditure of time and talent in the fabrication of a television show—any television show.

So, in the study of one program we believe there is information useful to people concerned with all kinds of programs: to advertisers who are now or who hope soon to be using television; to students learning the new medium; to listeners and watchers—and they are most of us—who are captivated by television as it is today, and who see in it a medium of almost limitless promise.

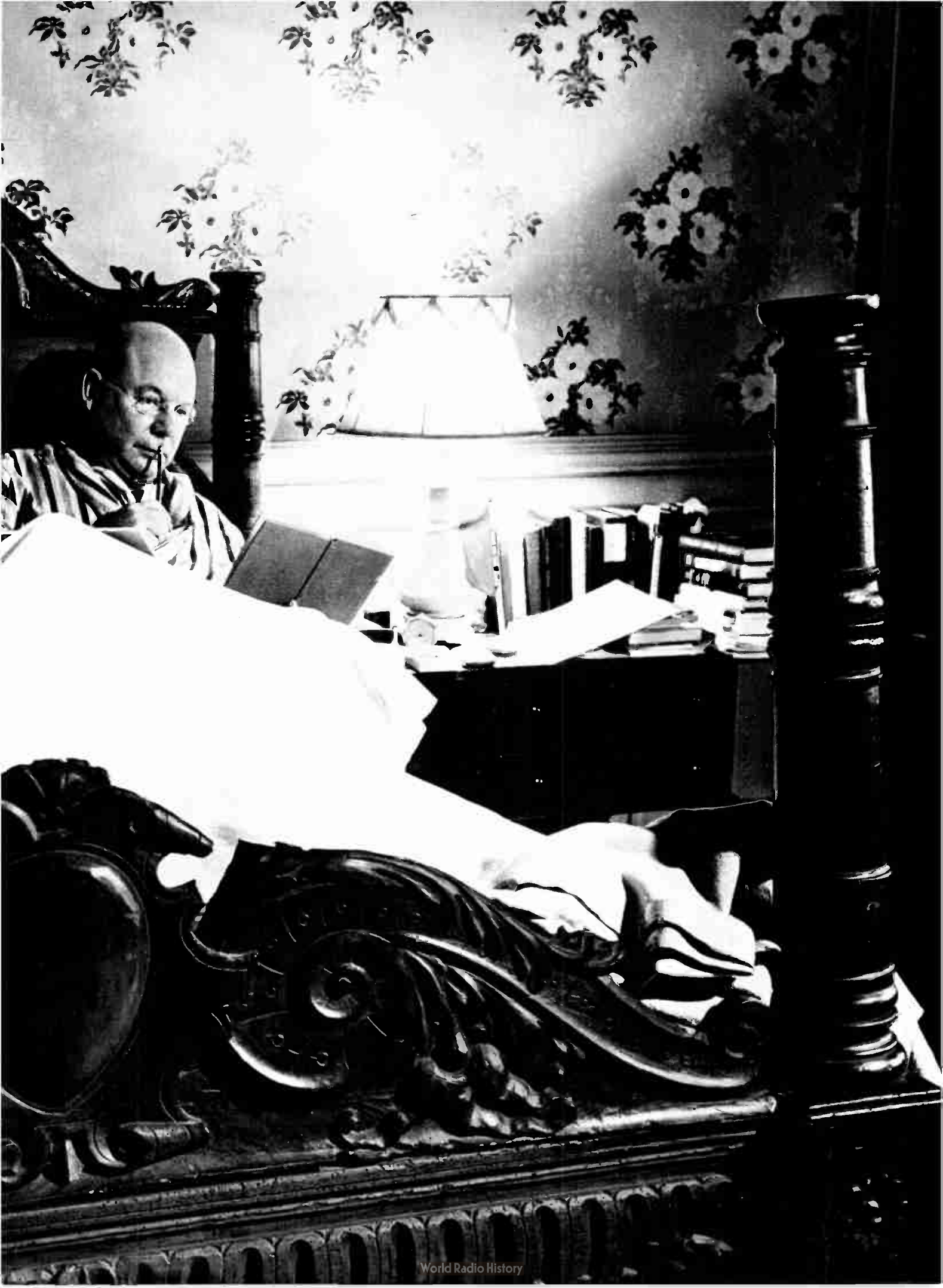
*Columbia Broadcasting System*

*October, 1949*

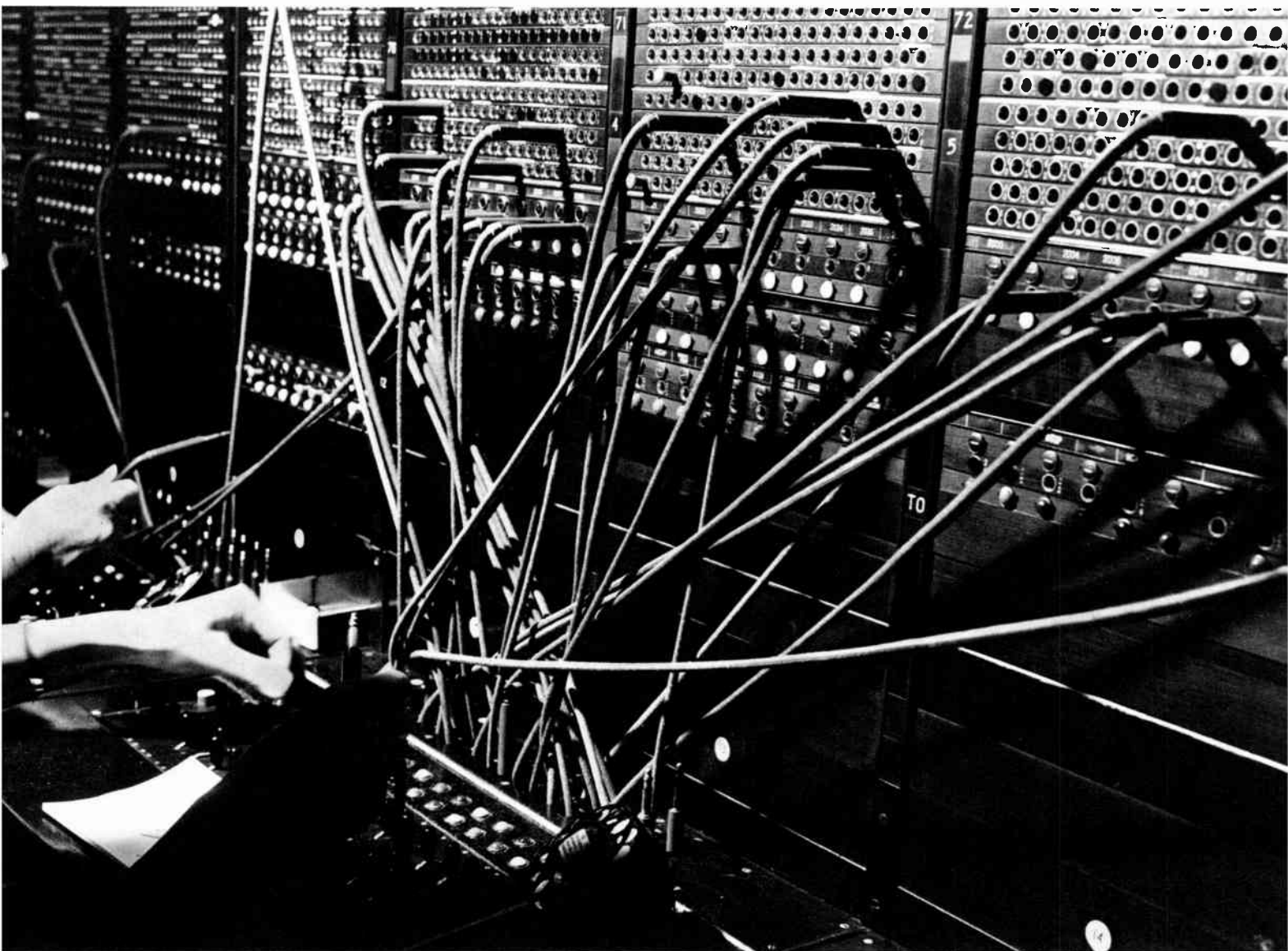
**S**ometimes it starts in bed...







The reading goes on all the time, in and out of office hours. And suddenly, from the dozens of manuscripts, the scores of novels and plays, there'll be one that's ideally suited to television. Once the script is chosen and performance rights cleared, a lot begins to happen...mostly on the telephone and on the typewriter at first: plans, schedules, budgets, audition dates, arrangements for film locations, rehearsal halls, studio time...





*“George, how’d you like to direct  
‘The Glass Key’ for Studio One?  
Yes, the Hammett book...  
I do too... it’s made for television.  
You’ve got a good, tight story...  
lots of action... real characters.  
Adaptation?  
I’m going to do this one myself.”*



*“Get me Casting... Eleanor?  
We’re doing ‘The Glass Key’...  
you know that story, don’t you?  
Yes, they’re two tough parts to cast,  
Madvig and Beaumont.  
I want heft, bulk, in the part of Paul...  
yes, they’re two terrific parts...  
any suggestions?”*



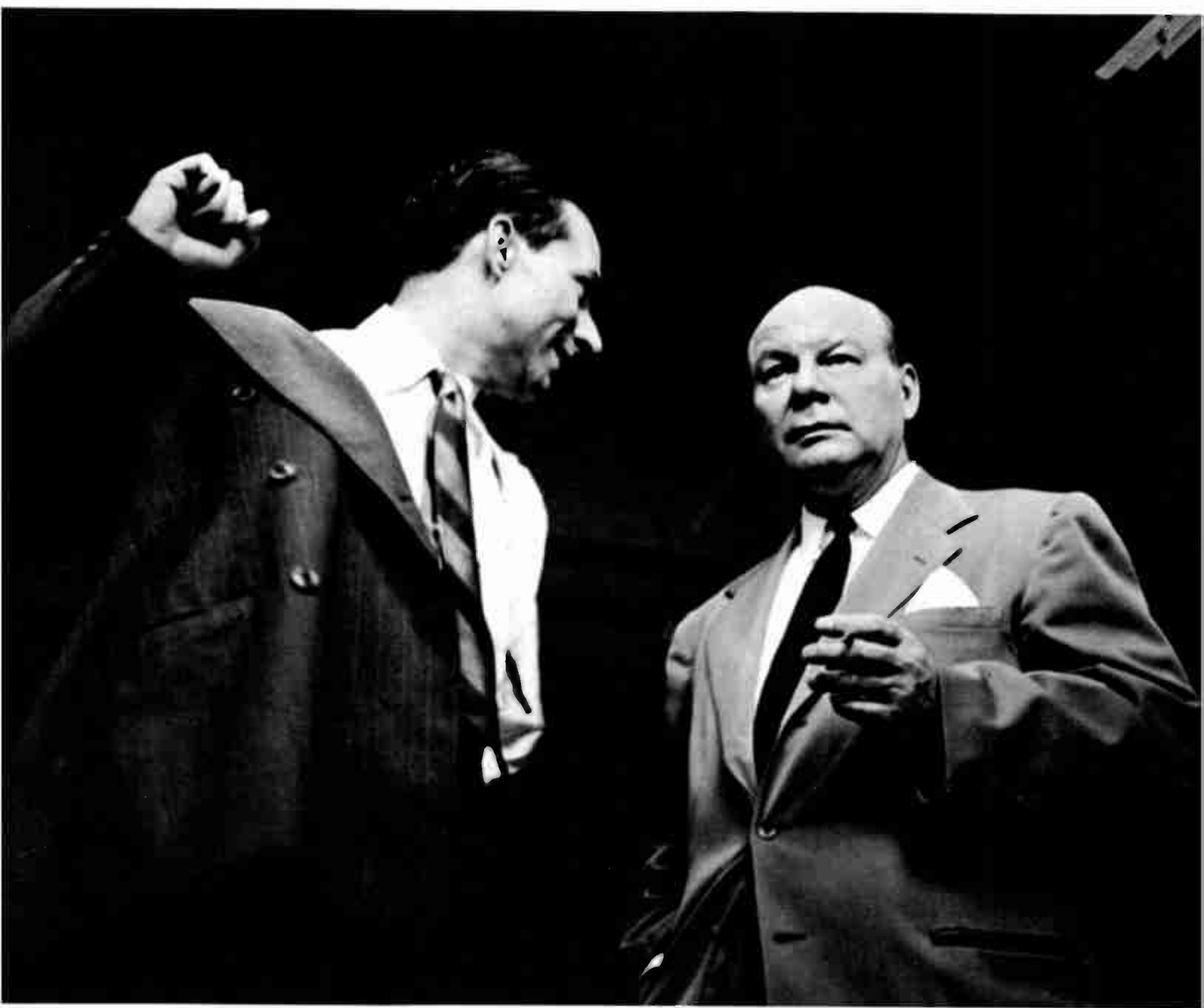
*“Producer’s assistant speaking...  
rehearsals start Wednesday,  
but we want to get our film first...  
I’m going out to Jamaica  
over the weekend...  
I think we’ll find what we want there...  
shoot the film Monday or Tuesday,  
and we’ll be ready.”*

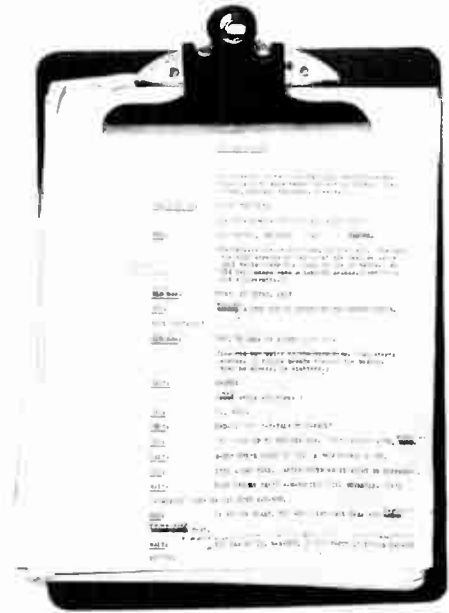
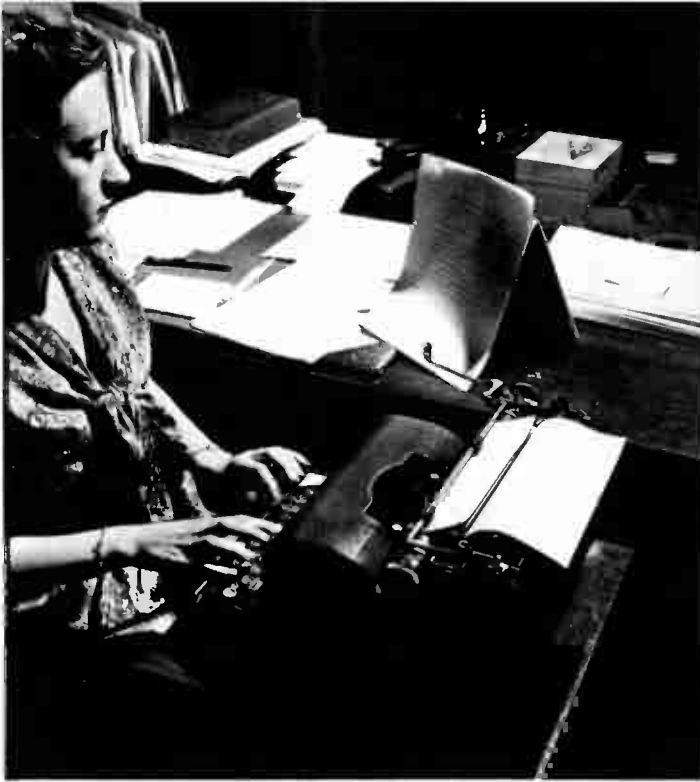




It's time for the writer to go to work. The adapter—in this case the producer himself—blocks out the plot-line of the book... the scenes which must be retained. Then to a scene-by-scene outline, and finally to a script. Always, every step, with an eye on the clock. No scene must run too long, slowing up action. And don't forget, we've got to bring it in in *exactly* 50 minutes. That's all the air we have.

Script is finished, first draft. Now comes a story-conference, and producer and director go over it together...to consider, suggest, argue over ways of tightening and clarifying the action. Once corrections are agreed upon and made, the script is typed, mimeographed...and we're ready to go.





*“I’d just as soon get rid of Opal entirely.”*

*“Tell me how to get rid of Opal? Where’s your motivation for the murder?”*

*“Well, let’s go back to what’s basic in the murder situation. Taylor could be after Paul because he was paying attention to his sister.”*

*“That’s right . . . that simplifies the whole plot, and gets rid of Opal, who’s a bloody nuisance.”*



Casting today. Producer and directors watch narrowly as dozens of gifted actors go nimbly through their paces. This show will take place, not on a vast and echoing stage, nor on a giant screen before a thousand people, but in the quiet intimacy of each home that welcomes it. Many hundreds of thousands of homes, certainly...but each home audience an intimate, close-knit group. A good television actor must have exceptional sincerity and directness, as well as skill and authority.



*"This is the part I hate...  
disappointing people.  
But they all get a chance  
sooner or later.  
And sometimes, you know,  
something wonderful happens.  
We had one little girl  
come in and read for us...  
nobody'd ever heard of her...  
she got a bit part...  
next week she played a lead...  
and now Goldwyn's going to  
take her to the coast..."*









Casting completed, the next job is to get our film. In many television programs, film sequences are integrated with the live action. For outdoor scenes especially, such film continuity is often more effective than studio-simulated backgrounds. So actors and camera-crew take a trip and make their pictures, always under the eager eye of local bystanders... for a television program enchants an audience from its very beginnings.







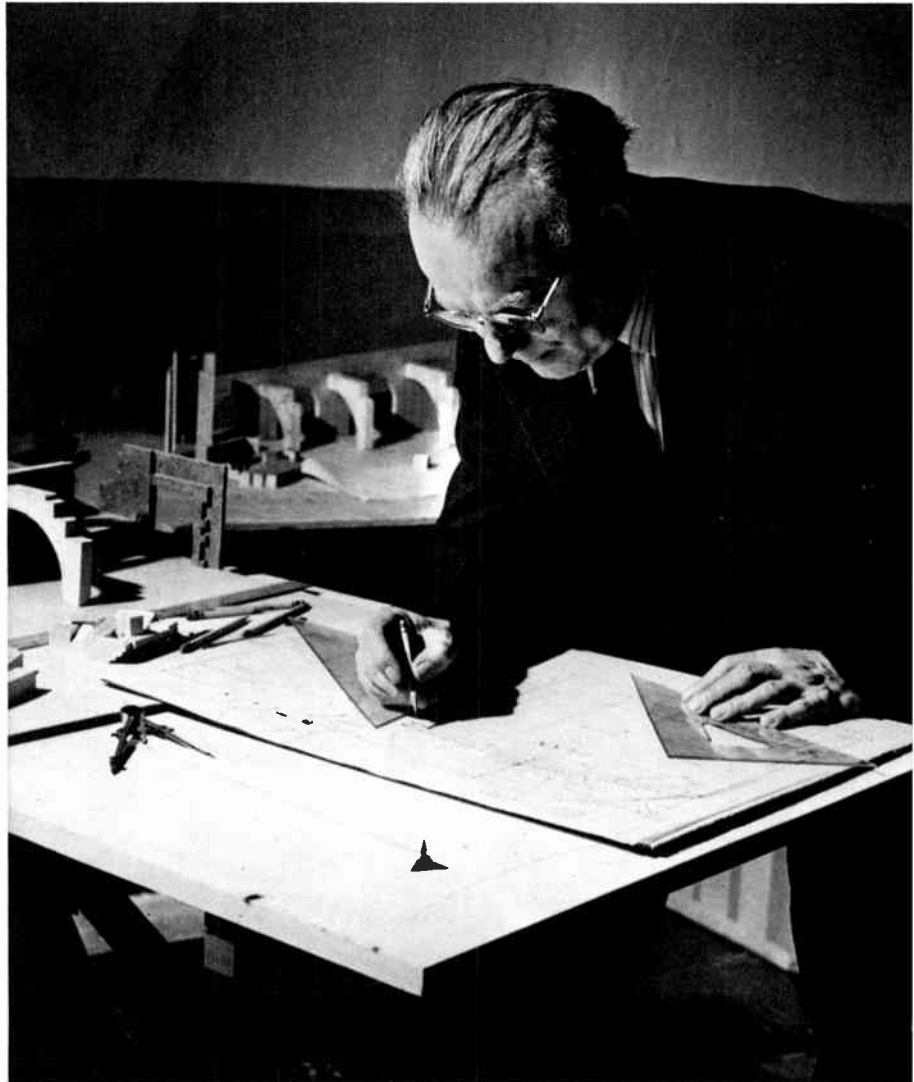
For an hour or two, a sunny Queens boulevard becomes a sinister back way called China Street, where a corpse lies sprawled upon the grass. A dummy, dressed to represent the hero, hurtles from an upstairs window. A man picks up his winnings at a real racetrack. Back home again, the film will be cut and edited, backgrounds and lighting matched to the succeeding studio sequences . . . and then filed away till studio-rehearsal.

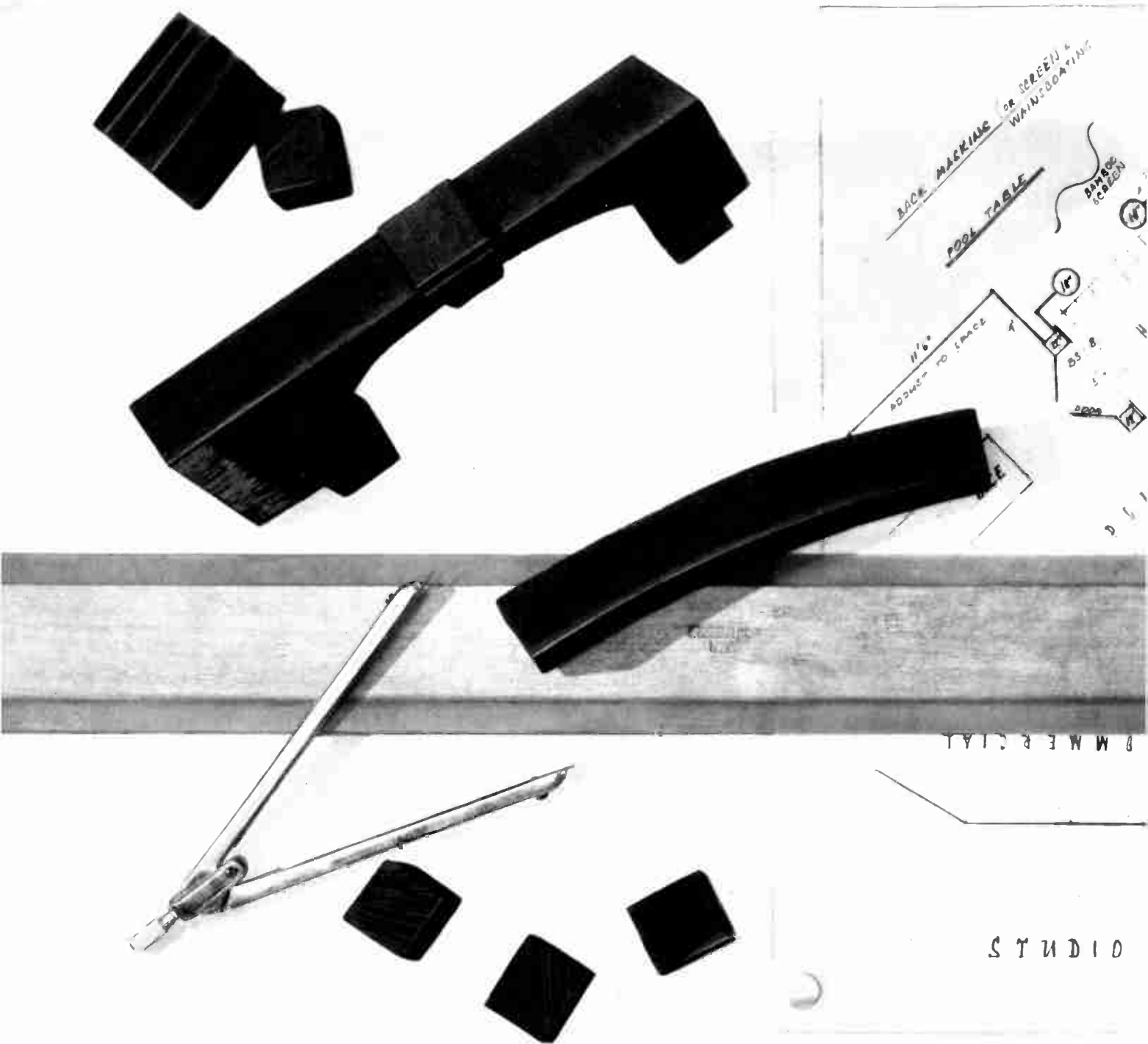




Set-design for television imposes problems faced by no other medium. The action of television drama is continuous, with no kindly curtain-fall to allow actors or cameras to move from scene to scene. Sets must be constructed with this always in mind. Thus they are usually arranged in sequence, in a semi-circular pattern around two or three, or even all four walls of the studio. The center space is left free as possible for the cameras to move about in.

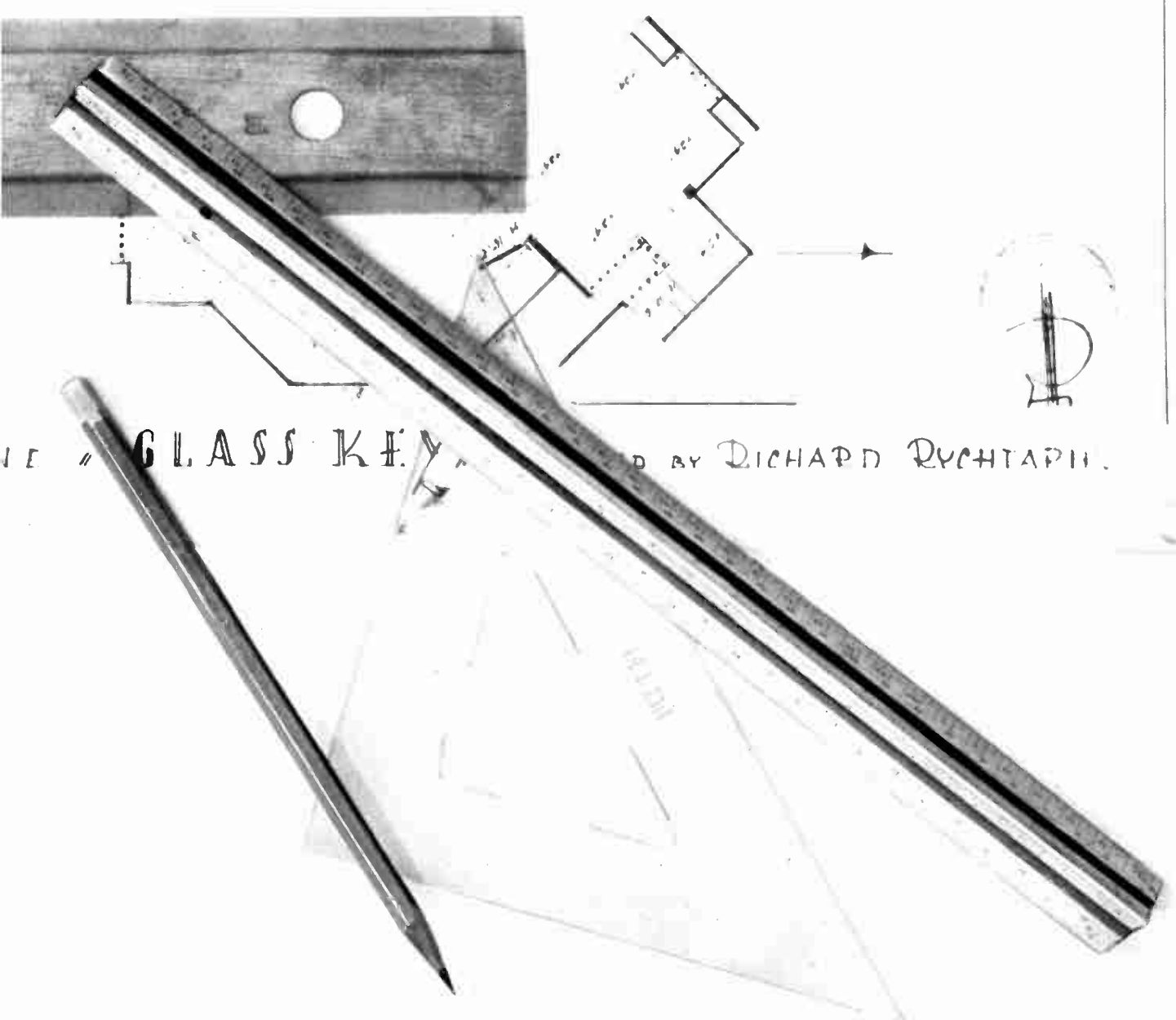
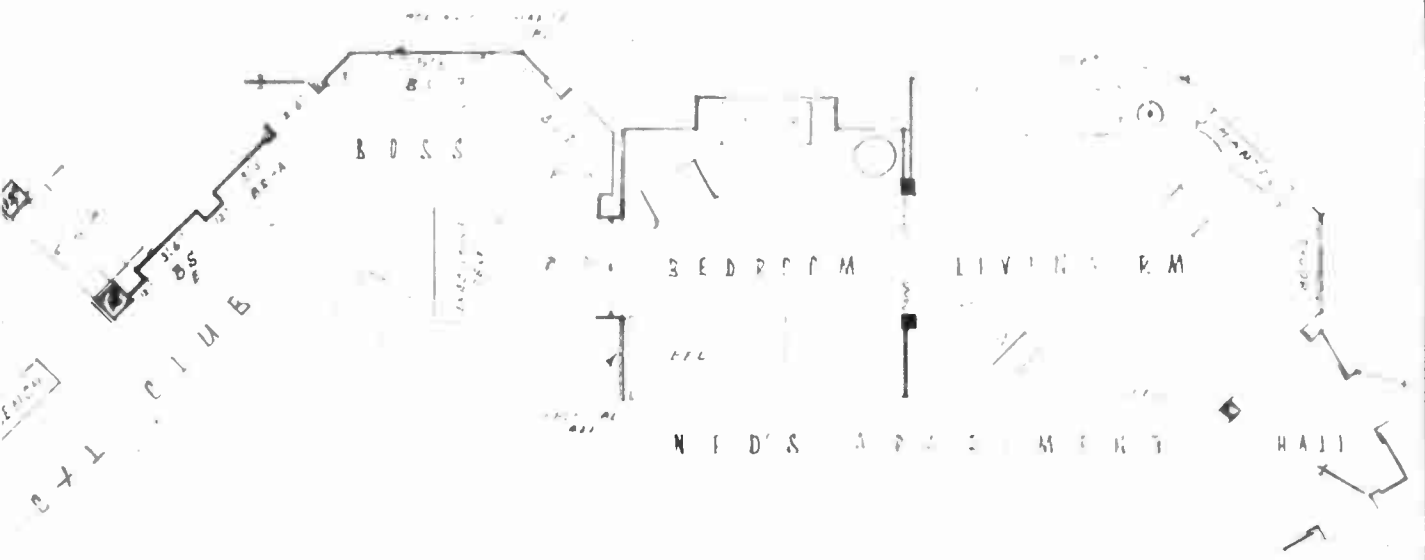
*“Here’s the thing, Ryk...  
this is for the fight.  
We want to get it all low angle,  
so maybe it ought to be built  
up on a platform...  
and we need a breakaway window...  
can we get candy glass that big?  
Yeah, he goes out the window.  
We’ll want a mattress outside...  
Yes, he sets fire to the room here...  
Johnny can bore two or three holes  
in the floor for his smoke machines.  
No, he’s a political boss...  
a good office...this is no dive.  
You know the date...  
we must be ready Monday night...  
we’ll light it Tuesday morning...”*





What you might call the logistics of television is the designer's toughest problem...devising sets that contribute to the action and atmosphere of the play, and still allow for the movement of actors and equipment—mainly cameras, which may have to shoot through windows, up or down stairs, at short or long range, and do it in an awful hurry.





THE "GLASS KEY" INVENTED BY RICHARD RYCHTARH.

First reading today...and first meeting for some of the actors. So there are a few introductions, a little gossip, a little clowning. And then down to business. These are true professionals...there's a lift to the way they



handle a line even in reading, and their faces unconsciously assume “in character” expressions. Already there’s a promise of the tension and excitement the play will hold once the players really go into action.



*“O.K., everybody...  
does the rehearsal schedule fit  
everybody’s plans?  
Any conflicts?”*

*“I have one Tuesday, 10 to 11”...  
“Could I come 4:30 to 6 on Friday?”...  
“I have Thursday, 10 to 1...”*

*“I’ll recommend one thing.  
Here’s one show that follows  
the book closely...  
I’d advise you all to read the book...  
you’ll find a lot of fill-in  
on character that’s impossible  
to have in the script...  
but Hammett’s wonderful  
on character...”*

*“Boy, Don...you’re really gonna  
take a beating in this show...  
we’re really going to beat you up.”*

*“Sure, I’m taking it...  
because it’s a New Medium,  
that’s why!”*

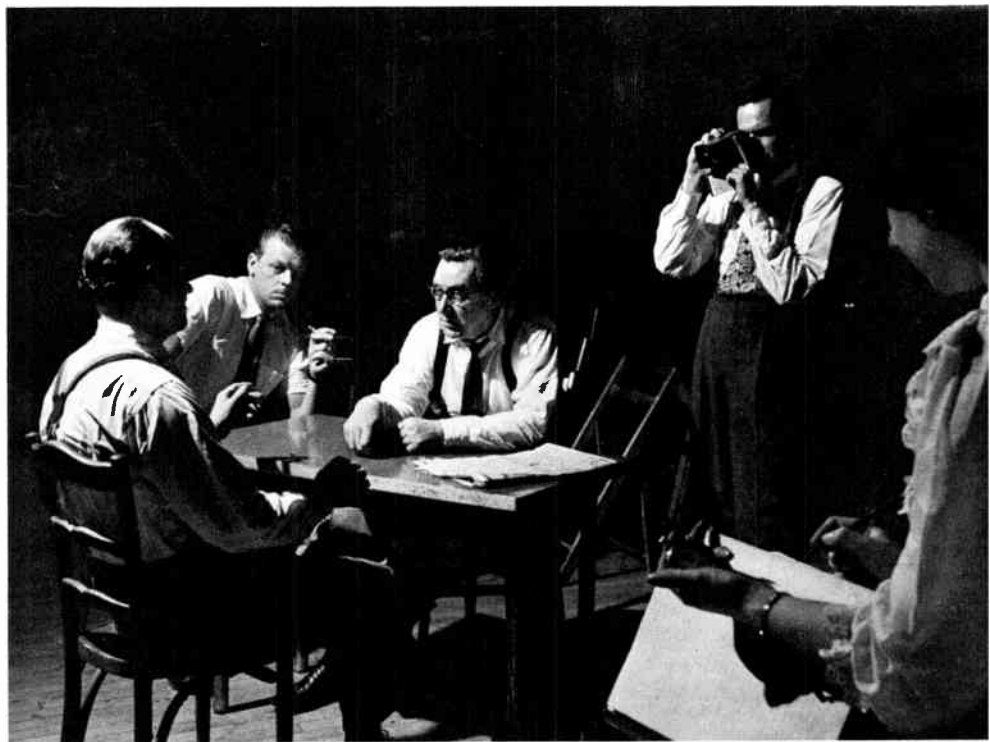


This show will be broadcast from one of television's largest studios, but television's largest studios are no longer large enough for Television. Auditoriums and theatres have had to be leased for broadcasts in the burgeoning medium. And rehearsals go on all over town...in ballroom, in hall—and in hallway. So we'll rehearse in a ballroom...and lucky to have it. Dozens of gilded chairs are handy for doubling as benches and invalids' beds and walls and doorways and office furniture.





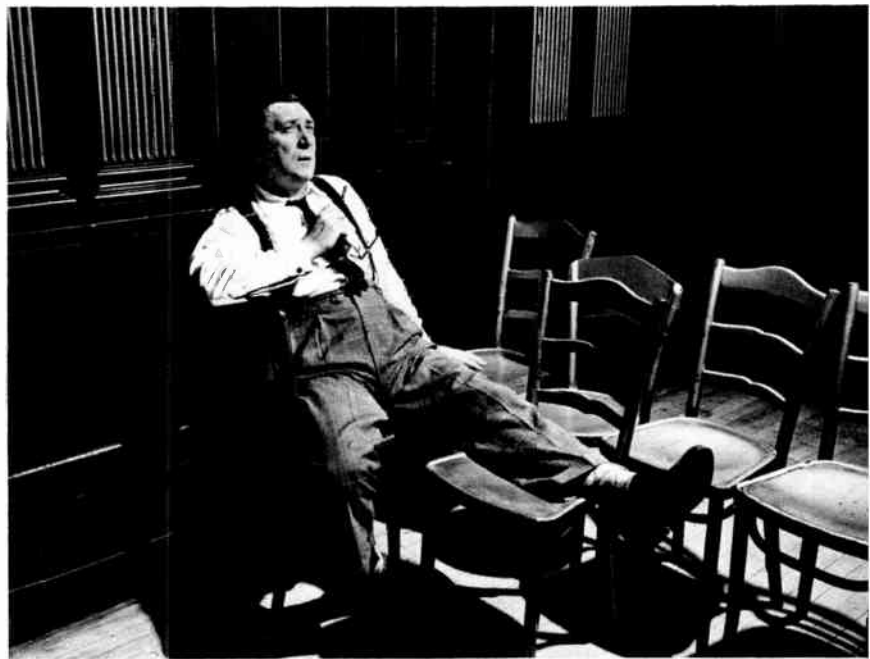
So we rehearse and rehearse... for many grinding hours before we ever see a studio or a camera. Every step, every gesture, must be planned as rigidly as a move in championship chess... because it all will soon be caught by the exacting eye of a television camera. No margin for error at all... if the direction calls for crossing the set in five steps, five steps it had better be. It takes both talent and practice to rise above the strict physical rules and give color and flexibility to a performance.



This is not a movie, printed up from a series of scenes shot over and over till there's a perfect "take." This is television. And there's only one "take" in television, once you're on the air.







Actors still have agonized solitary moments of committing a difficult bit to memory, and there are still rough edges to be planed off. But now the director can see the shape of the show, and plans not just his camera angles, but begins to pin it down to which one of the cameras will be engaged at any given moment. Assistant director keeps careful note of every decision, and times each step to the last second.

As the play is coming to life in rehearsal, its physical framework takes shape in studio carpentry and paint shop. As you watch the painstaking translation of paper patterns into wood-and-canvas reality, you know these craftsmen are by no means the least of television's marvels. They must mount many shows each week, some going as high as 12 sets.

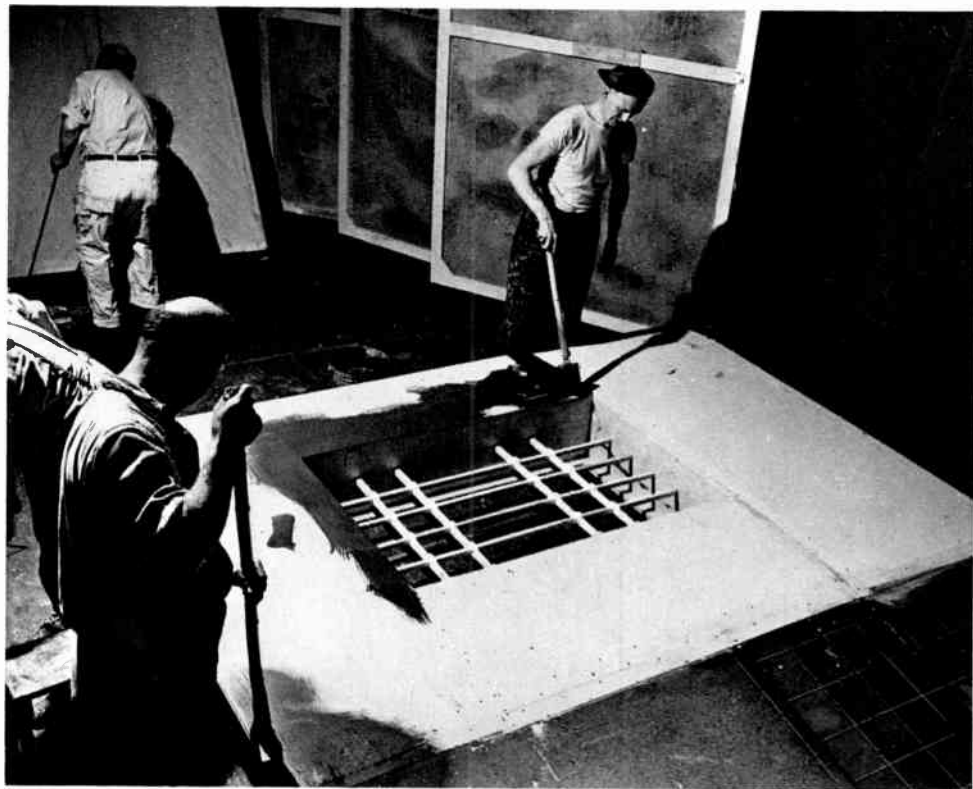
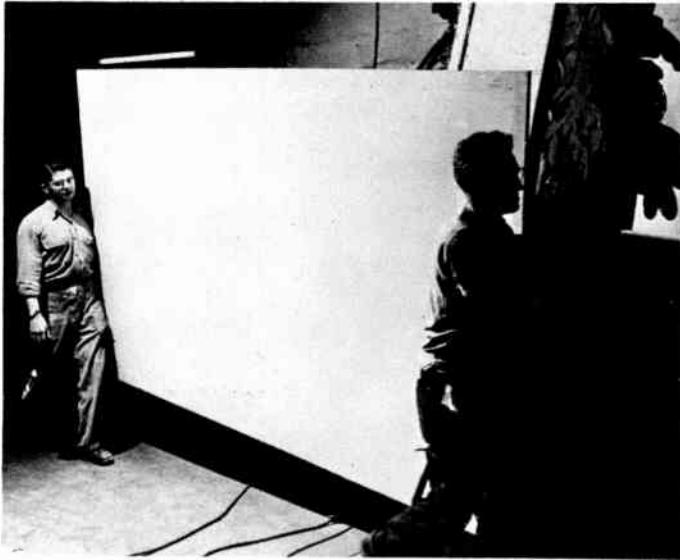




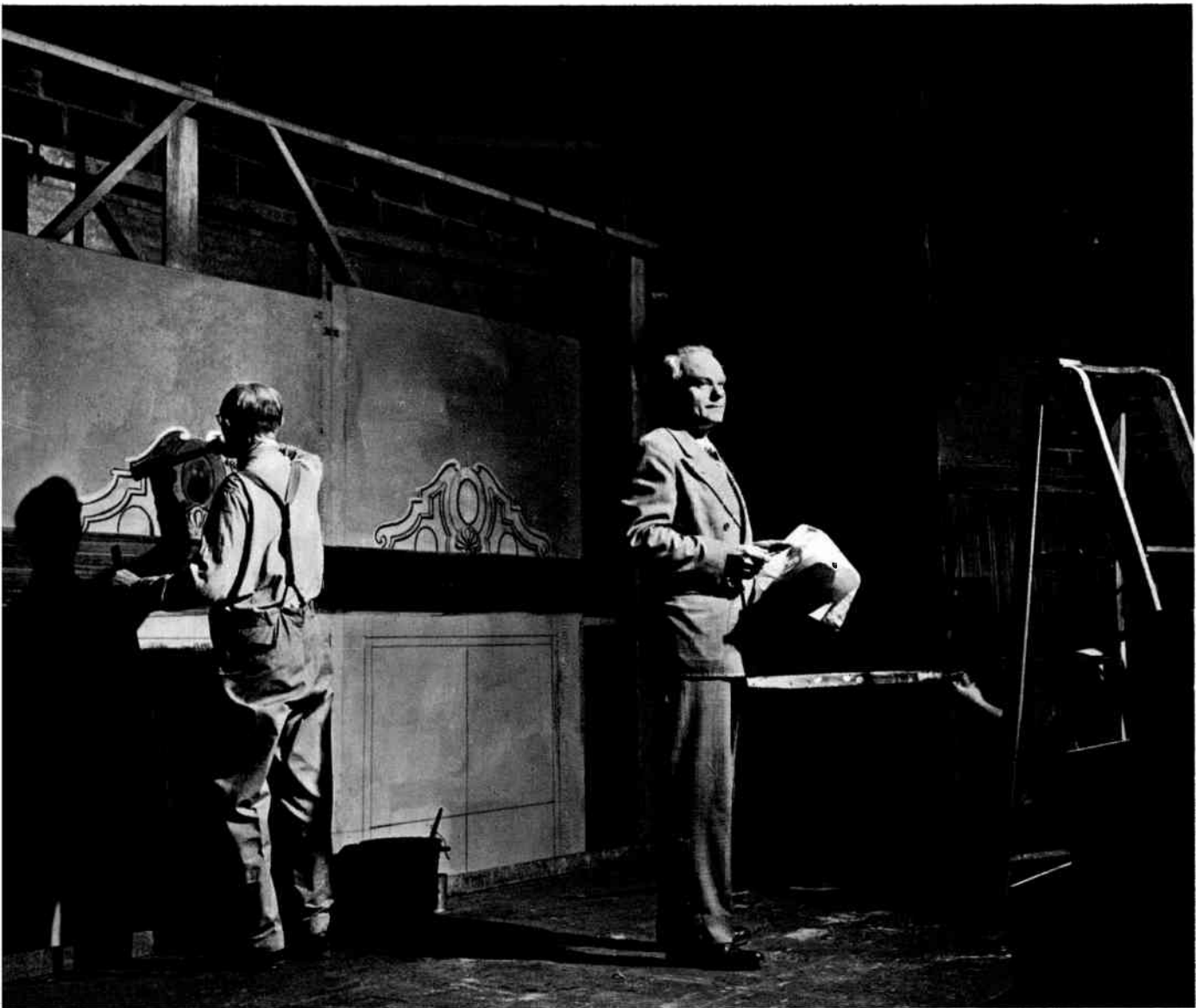
Materials and supplies flow into this shop in a steady stream...in one typical week it devours such man-size portions as 3400 board feet of lumber...5400 square feet of plywood...100 pounds of dry colors...100 of whiting and another 100 of glue...and bushels of bolts and nails.

Much of what these men build must be more than make-believe. Doors have to be slammed, stairs climbed, walls leaned against. And often, many shows must be mounted at the same time. Observers accustomed to the less feverish pace of other kinds of show business are reduced to a state of starry-eyed wonder at the size and speed of this shop's output.





Finished sets move from carpentry shop to paint dock, with a stopover for fireproofing on the way. Paints are mixed to correspond with television screen-tested samples, so color quality will be in proper balance.

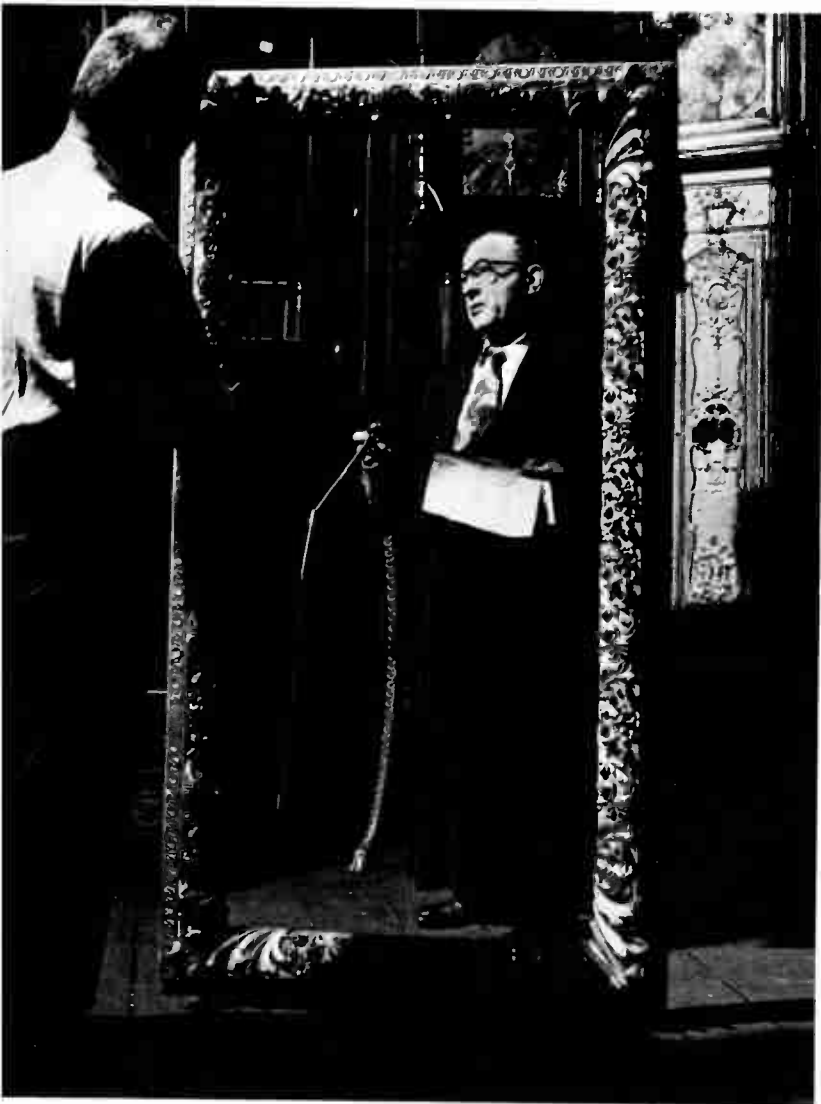


You won't see a stark white or a dead black anywhere...too drastic for the sensitive television tube, which is likely to retaliate by painting an unasked-for halo around any object so colored. Muted tones are the best for television...but you'll see just as much variety and gradation of color as you would on any stage set. Paint works economic wonders, too...transforming last week's brick wall into this week's pine-paneled study.





*“A statue like this for the mantel...  
don't forget the ashtrays...big ones...  
and the furniture should be  
quite modern...like so.”*





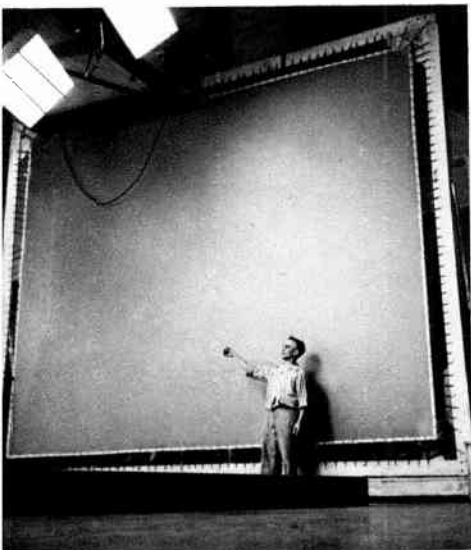


A set is more than paint and canvas. It's an easy-chair, too ...and an office desk...a dozen roses and a dice-table...a cut-glass decanter and an ivory-handled cane. So the property man goes to work, armed with an inventory of his needs and a sheaf of sketches of the kind of props the script calls for. All around the town, from theatrical supply house to auction room to antique shop...assembling housefuls of assorted chattels to be brought in for one show's fantastic make-believe moving day.

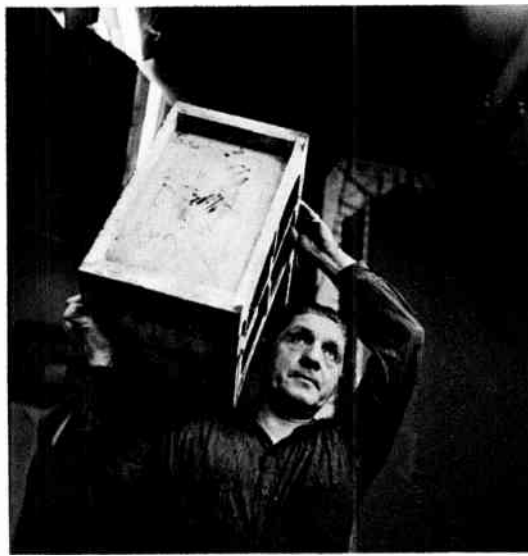


We're moving in. That's what the schedule calls for: "Facilities rehearsal Tuesday." At last the scattered elements of a major program are to be tied together...cast, sets, lights, sound...and camera. To get ready for us, big Studio 42 has been emptied...at least as nearly so as it can ever be. Permanent sets and equipment have been stacked against the walls to



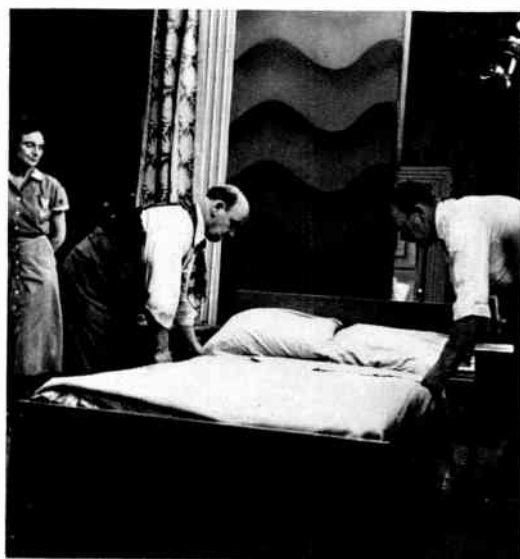


make way for the newcomer. It's one o'clock in the morning... odd time to begin a moving day. But until minutes ago, all studio space had been pre-empted for tonight's shows... including a big-time variety program with some of the most elaborate scenery in all television. But now it's our turn. So the stage-hands begin bringing in the set components... lining





them up in proper order, and lashing the separate parts together... while property men unpack their crates of furniture, draperies, and oddly assorted accessories. Before the night is over, we'll see those sets as they were first plotted on the drawing board: a bachelor apartment, a gambling room, a political boss's office, a dim and creaky hallway, a gangster's hideaway...







We're ready to light it. In the past, television scenes were lit almost entirely by banks of incandescent bulbs, which often produced unwanted shadows, and also developed a wilting indoor heat...sometimes as high as 120°. In these studios "cold light" was first successfully adapted to television... a combination of cool fluorescent tubes, with occasional incandescent

spotlights for accent. Heat and candle-power were cut down by a startling proportion...and a cleaner, better-accented picture came through. Lights are controlled from above, with a catwalk for electricians to work from. Head electrician governs the output of all the lamps in the studio from a central lighting dock, equipped with switch-panel controls.

*“When they get through this shot  
straighten your center light...  
open up the barn door on that one...  
that’s right...  
now kill the one in the corner...”*



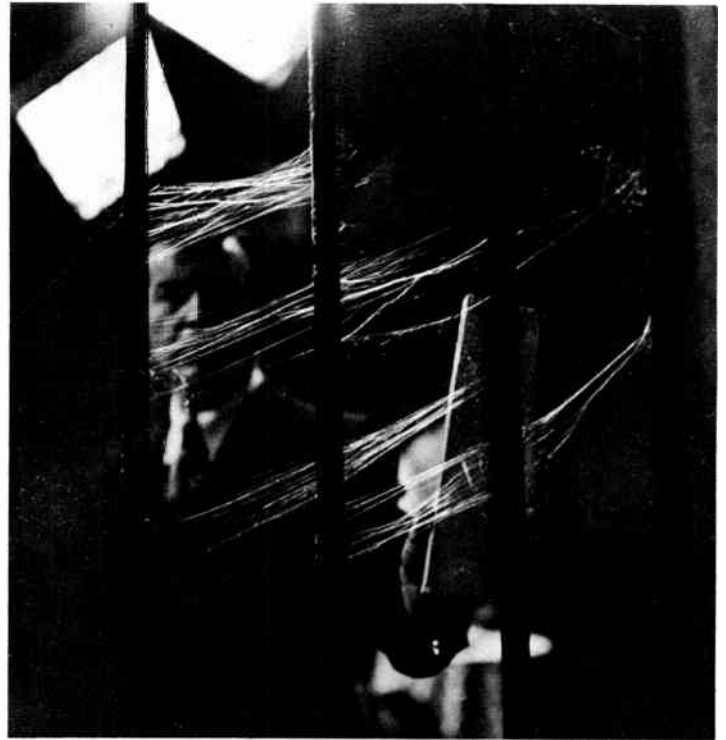
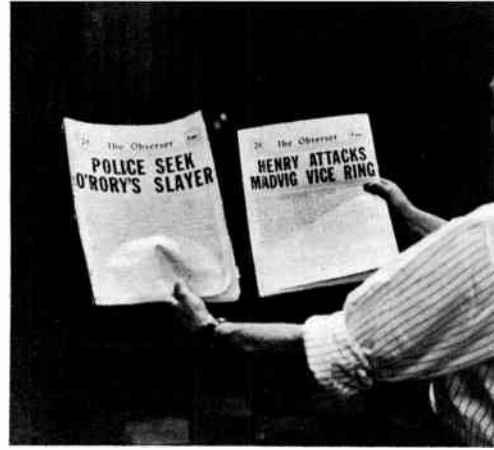
Television says what it has to say on microphones, of course . . . suspended on cables, hidden behind bits of scenery . . . and most conspicuous to the watcher on the set, those hung on long booms, able to whip across the stage over the actors' heads. The boom-man reels his mike in and out with all the patience and persistence of a fisherman, catching the actors' voices as they move about. All microphones are guided from the control-room, where the sound engineer, or audio man, sits at a great console, fingering the lighted lucite dials that control each mike, bringing them in or



out as they are needed. Beside him is a record turn-table, for shows using transcribed music, as this one will. A turn-table man cues in the music, and the audio man brings it up and in with his console controls.







A door slams... there's a step on the stair... a car is gunned into action... and it all happens off-stage, in the sound-effects gallery. Sound-effects man has his own monitor, or television screen, so he is able to watch the action and properly synchronize his sound. And do you want your hero to look out the window at a city sky-line, and then jump through that window, glass and all, to escape the gangsters holding him prisoner?

The special effects department will take care of that. In these studios, rear-screen projection was first adapted for television, providing still or moving picture backgrounds for action. And special effects will get you a breakaway window, made of a resin composition heat-treated to make it brittle, and set in a readily smashable balsa frame. And a bottle that will crack clean when the hero hits it on a table. And smoke curling up when he sets fire to his prison room . . . and cobwebs in the corners . . .







*“You want to get the nurse’s entrance and then follow her in... you sure you can get it without shooting off the set?”*

*“Tell her to cheat a little around to the left... we want more profile... now you’ve got it... a tight close-up and then pull out...”*



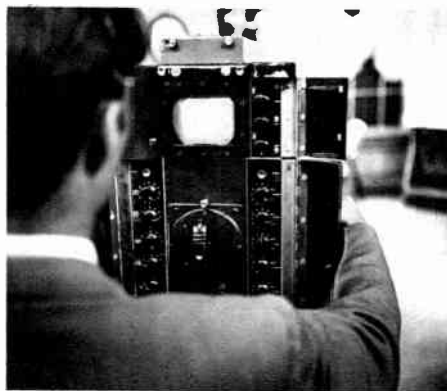
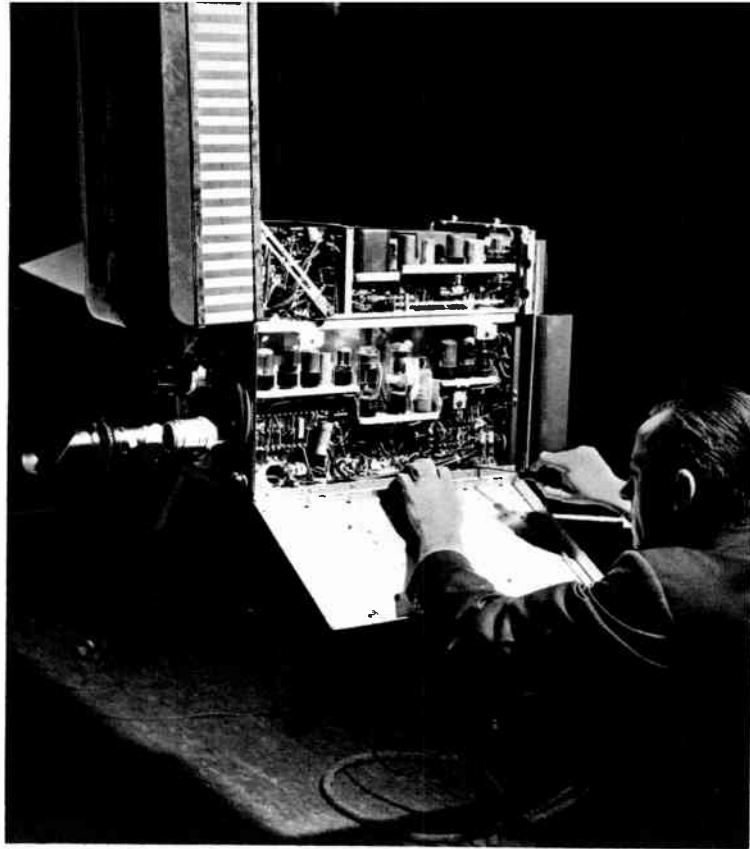
And now we meet the camera...a cumbersome four-eyed monster of appalling intricacy in design, operation, and maintenance. Television cameras are variously mounted: on a tripod, for location and outdoor shooting; on a pedestal, which allows adjustments to various heights; and on a dolly, or moving platform, with a long, swivelling boom, permitting the maximum of mobility. Studio shooting employs two, three, or four cameras, all operating at the same time from different positions on the set. We’ll use the customary set-up for a dramatic show: two pedestals, one dolly.

Each cameraman is in constant contact by head-phones with the control room. In addition, the dolly-cameraman confers by 'phone and manual signal with his dolly-pusher. Most of these cameramen have had motion-picture experience. They well know the language and techniques needed for getting action into a camera lens. But they'll tell you television is different, and





twice as tough. In motion-pictures, there's always plenty of time for your camera set-up and positioning on each scene. And at the end of every take comes the blessed word, "Cut!" and you know that if it hasn't been perfect, there'll be a retake. In television, your show is just one continuous "take." You've got to get the scene you're on, and at the same moment figure how you'll get your camera into exact position for its next shot on time. You'll have to move it to a different spot, or to a different set,



yards away. And avoid colliding with other cameras, and mike-booms, cables, sets, and people who clutter up the place. And on top of that, you have directorial decisions to make. You have four lenses on your camera, each providing a different range and concentration. It's up to you to pick the lens that will give you what you want each moment. A television cameraman's job is a good job...but it's no wonder the number of people with the imagination, skill and stamina for it is a small and select one.





*8½ in. lens*

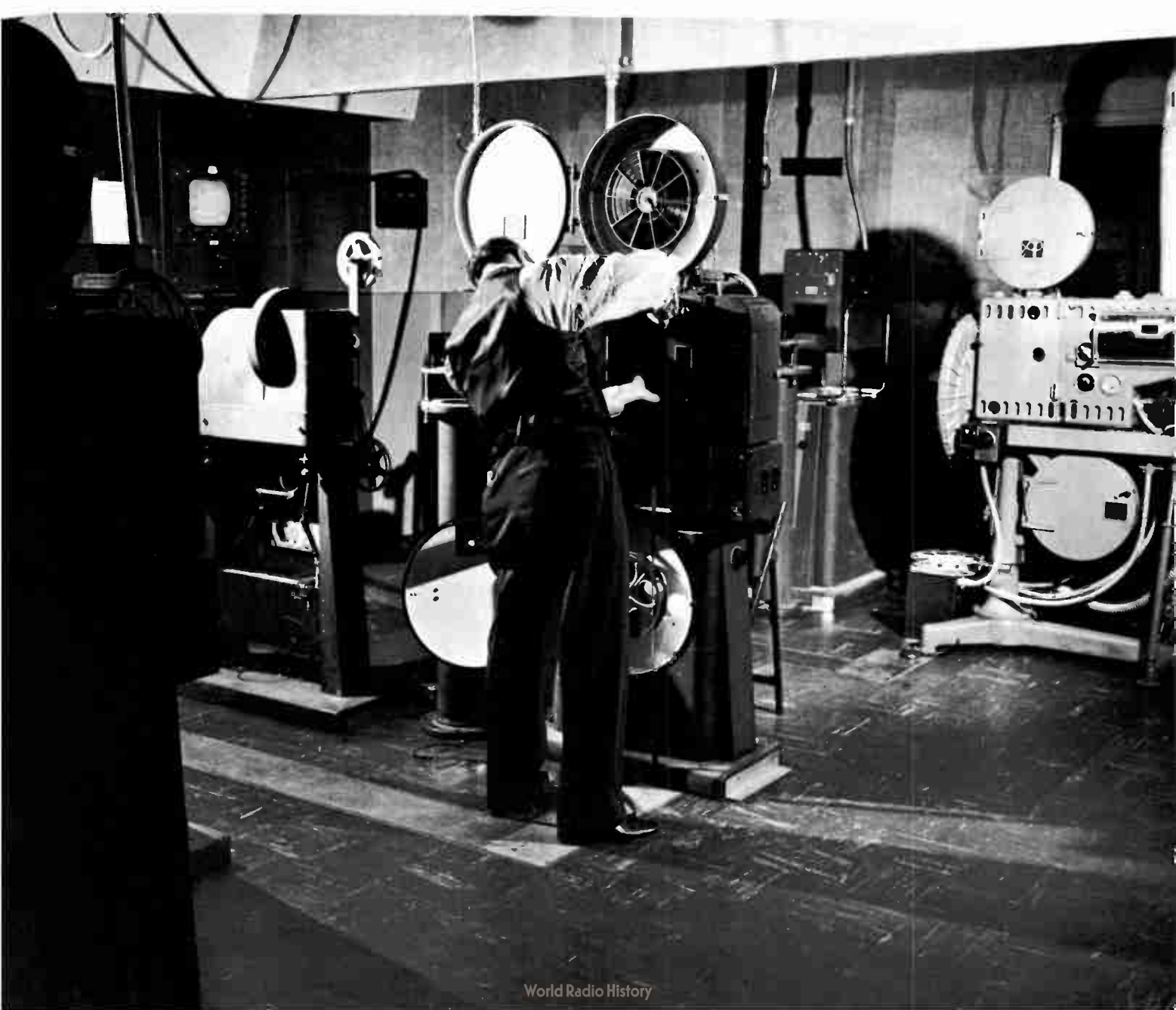
*135 mm. lens*

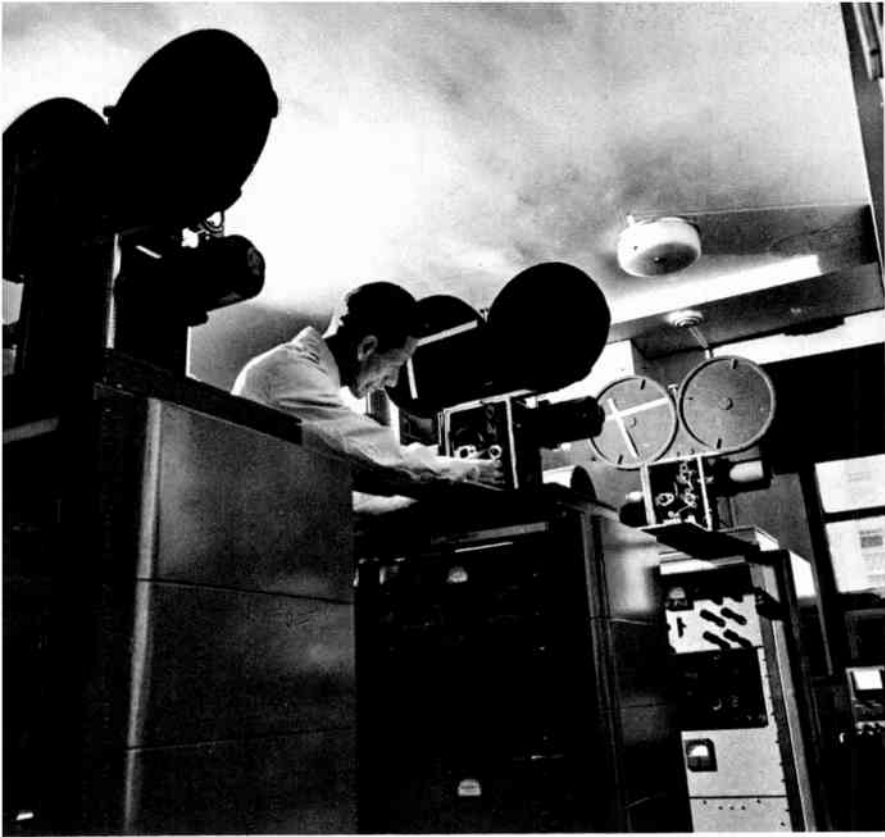
*90 mm. lens*

*50 mm. lens*



When film sequences or slides are part of a television show, the Telecine Room goes into action. Here 16-mm. and 35-mm. projectors are set up, ready to flash filmed material as needed. Still pictures and slides are projected by the telopticon, electronic grandchild of the old magic lantern. The Telecine Room is equipped with monitors, so projectionists can synchronize film with live action. But these machines are actually put into action and hooked into the circuit by remote switch from a





studio control room. Another “cinematic” feature of television production is the television recording operation, whereby a show can be recorded on film, for future broadcast or for reference purposes. By means of these TV recordings, many of television’s biggest shows reach cities where live network broadcast is not yet possible.



*"Pull up for a tight two...  
and then pull back..."*

*"Put Channel 1 on 5 for me..."*

*"From the kiss on Three  
we dissolve to One..."*

*"Two... you got a 3-shot coming..."*

*"Ready Three...  
a 2-shot past Janet..."*

*"Punch up TP on the line..."*

*"Ready at the window...  
here's your shot across the desk..."*

*"Light Slide 22..."*

*"Take Three!"*

*"Johnnie, give them a nose  
as soon as it's convenient..."*

*"Ready on the music... Cue 2..."*

Nerve-center for the whole complex of television production is the control room. Here behind a battery of buttons, needles and knobs sit the ones who make the decisions guiding the quality of the picture the audience will see, the sounds it will hear. It's an atmosphere of quiet madness, of many voices, quiet but urgent. Each key figure concentrates on his own area of operation... calling directions out to the floor, to galleries above and rooms below, through an intricate interlocking communication system.





*“Ready Three... a 2-shot...”*

*“OK, Boom One...  
swing to the commercial...”*



*“Move in slowly, Two...  
and tongue up as you go...”*



Director, assistant director, switcher, shaders, audio man, announcer... these are the control room people, guiding our show through its final phases, onto the air. The director tensely watches his three monitors—one for each camera—and calls out the number of the camera whose picture he wants to use at each moment: “Take *One!*...Take *Two!*” He’s hooked up directly by ’phone with cameras and technicians, but makes his wants known to the cast and stage crew through his field general on

the set, the floor manager. Floor man receives instructions by one-way walkie-talkie, and can move freely about to give entrance, exit and time cues to actors, directions to crew. Assistant director—"A.D." for short—pre-cues the cameras, readying them for each shot...also keeps track of timing, and directly cues music and announcer, who has a sound-proof booth of his own just beyond the control room. Audio man controls sound volume, bringing each microphone in and out of play. The control

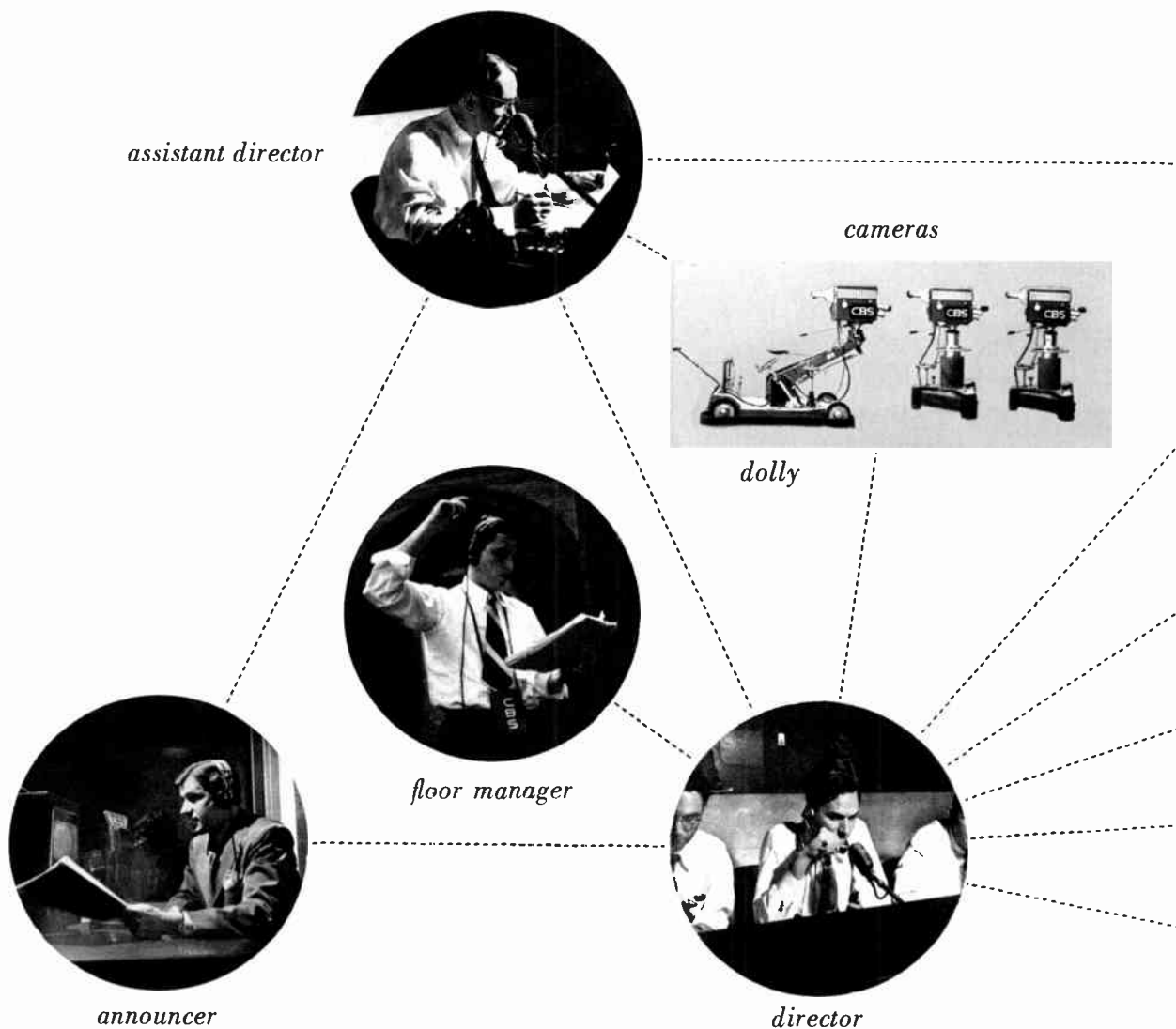
*"And now we return you to..."*



*"Telecine... ready Sixteen-Two..."*

*"You're soft, Johnnie...  
brighten it..."*



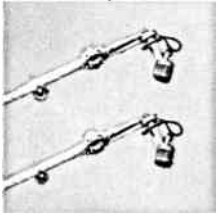


room's technical supervisor is the switcher, with a battery of lights and buttons before him. He's the one who actually puts the show into action... punching up each camera's picture as the director calls the shots... switching in film sequences or slides as they are called for. Switcher maintains alert and watchful contact with everybody in and out of the control room, on and off the floor. He is also liaison man with the master control room, dispatch-point for the show. Master control puts the show





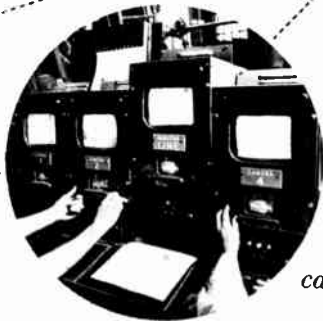
*audio control*



*booms*



*switcher*



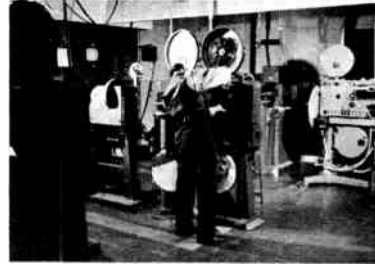
*camera control*



*electrician*



*master control*

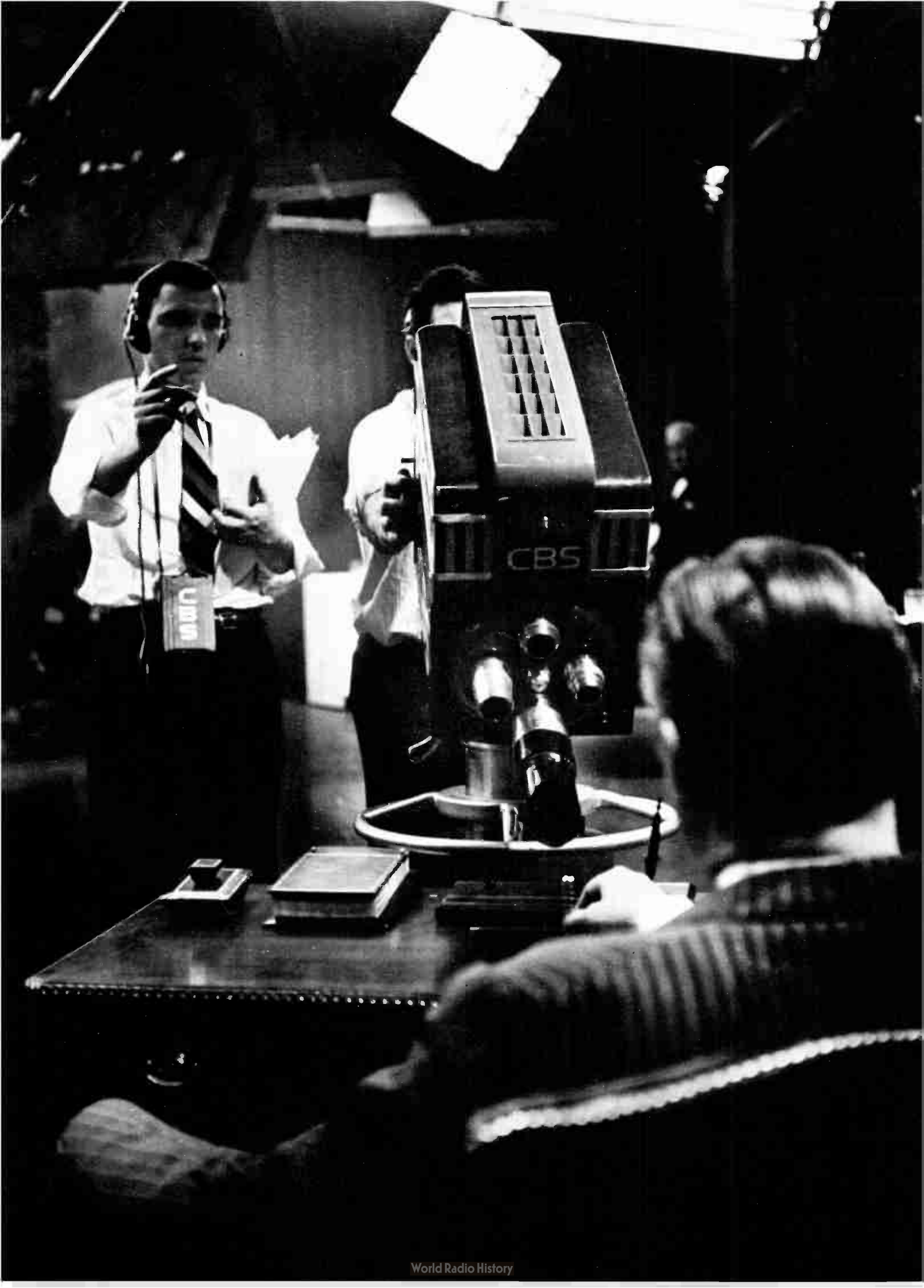


*telecine room*



*sound effects*

on the air locally, on the cables going to other cities, or on TV recordings. Below directors and switcher are shaders, or camera-control men, who watch camera monitors and control the quality and brightness of the picture. Above their individual camera controls is the line monitor, carrying the picture being used right now. Above that, the system monitor, with the show that is being broadcast to the public. When our rehearsals are over, and we're on the air at last, we'll be up there too.





Now at last the efforts of all these people are combined, and facilities rehearsal will show us what we've got. This is a long day and a tough day, of endless experimentation and shifting about of cameras and actors. We must make sure all elements of the show are meshing properly, and we have the smoothest, most effective visual combinations possible.

Patron of the newest art...angel of the newest form of show business... is the advertiser, who has discovered in a short year the unprecedented impact of a great medium. He has discovered that television is not alone a vivid way of advertising...but a potent and direct selling force. Here for the first time the customer does more than hear how good a product is, or see how attractive. He now witnesses a true demonstration of that product in use or in action...the shining silver being placed





upon the table...the car rolling out of the driveway...the steam rising from the soup...the clothes tumbling into brightness in the washing machine. Our show today is a network package program...created and produced by the network...bought by a leading advertiser for sponsorship. His advertising agency has prepared the commercial—part live dramatic action, part film, part slides—and these commercials will be integrated with the action of the show today, at dress rehearsal.



*“All right, everybody...  
we’re taking it from  
the top of the show...  
no stops, we’re timing it...”*

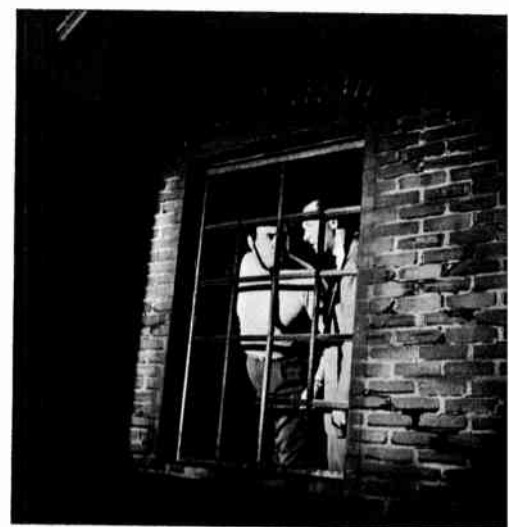


Tonight’s the night...so today there’ll be a full dress rehearsal... costumed, lighted, complete. We’ll be seeing the show exactly as it’s to appear on the air, a few hours from now. The cast gets an early call, for wardrobe and make-up. Wardrobe’s not complicated on this one, but finding a place to make quick changes is something else again.





You don't have time to go back to an offstage dressing-room on a television show. You'll make your changes in a tiny portable one, wheeled right on to the floor. Better leave your make-up to an expert, schooled in the ways a television camera has of treating light and color. He'll warn you about wearing sequins or heavy eye-shadow...the camera doesn't like them.

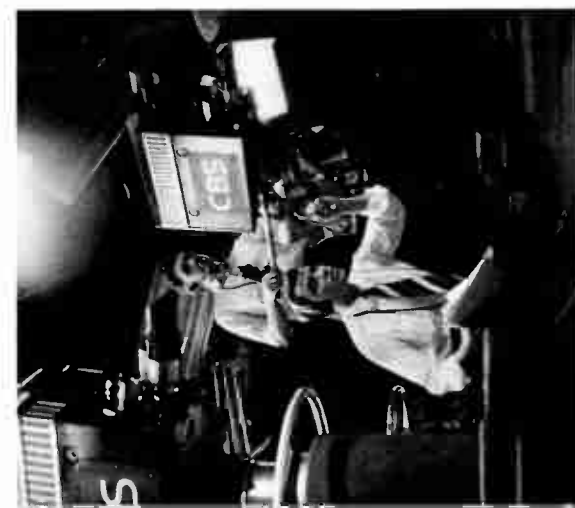






So now we're ready...there's the stand-by call from the director in the control room...the floor manager suddenly cuts the air with a sharp gesture...and our final rehearsal has begun. Maybe a line will be fluffed, maybe a camera will swing too far...but that can be corrected at air-time. We're going straight through, non-stop. And say...it looks good.







Before you know it, it's five minutes to air time... director has a final word with cast and crew, then from the control room it's "Stand by... ten seconds... eight... five... local is in... stand by for air..."



...and our show is on.







*CBS photos by Irving Haberman*