

Motion-Picture Studio Production Problems

A Roundtable Discussion

Chairman,
NORWOOD L. SIMMONS

Economic, operational and engineering aspects of recent changes in major studio production practices brought about by wide-screen presentations are analyzed. Written remarks for Convention presentation were prepared by Loren L. Ryder, Paramount Pictures Corp., West Coast Studios, 5451 Marathon St., Hollywood 38; and by Earl I. Sponable, Twentieth Century-Fox Film Corp., 444 W. 56 St., New York 19. After these there follows the open discussion, somewhat condensed, which took place at Lake Placid, N. Y., on October 3, 1955.

Economic Aspects of Utilizing New Engineering Developments

By LOREN L. RYDER

THE TECHNICAL men of the industry have done a great job — they have awakened the industry and brought new life to the box office. This has involved the expenditure of large sums of money, to which no one objects as long as the expenditures are profitable.

The problem is, the pendulum is swinging too far. Some people have forgotten that the objective of the motion-picture business is to make money. The product that we manufacture and sell is entertainment. If the cost of this product and its distribution is greater than the return, we lose money regardless of the entertainment value.

In the United States we distribute our pictures through 18,000 to 20,000 theaters, including drive-ins. There are about 100,000 theaters in the world. An expenditure of \$100 per theater will cost \$10 million worldwide. An expenditure of \$1,000 per theater will cost \$100 million worldwide.

The U.S. theater profit, as shown in the *Quigley Almanac*, is only about \$25 million — call it \$30 million. So, if we want to spend our U.S. theater profit for a year, all we have to do is dream up an expenditure that costs each theater an average of \$1,250.

In the United States, about 12,000 theaters have installed large screens, frames and masking at a cost of about \$20 million. About 5,000 theaters have installed stereophonic sound for an investment of about \$20 million and about 10,000 theaters have bought new standard-type lenses, plus anamorphic, for another \$15 million. This is \$55 million.

If the cost to date is written off immediately, and if it is written off by the theaters, it will be necessary for the theater gross profit, before depreciation, to treble. Actually, the gross revenue for 1953 was \$1,193,000,000 and, although the final gross revenue figure for 1954 is not yet available, it has been estimated at between \$1,200,000,000 and \$1,-

300,000,000. This is an increase of 1% to possibly 9%; it is a long way from 300%.

If we are more realistic and write off the expenditure in five years, the cost per year is \$11 million. The increase in profit resulting from the increase in business might absorb this, but this produces a situation where the theaters are enjoying increased business without an increase in their net profit. This is not good business from a standpoint of theater operation. An increase in business should result in an increase in net profit.

Most theater equipment suppliers have enjoyed good business during the last 18 months. In fact, they have been enjoying all of the profit from theater operation. If this is to continue, there will be no theater profit and in time, there will be no theaters.

As of this date, the theaters have absorbed about all they can on a write-off basis. Looking to the future, each successive innovation should be self-supporting. This is one of the reasons why Paramount has followed a very conservative policy in regard to double-frame projection in VistaVision.

We are trying to determine whether better picture quality will return more money to the theater boxoffice. The present answer is that it will in certain situations. It is increasing the boxoffice in New York, Los Angeles and a few other centers, including Toronto and London. It has not increased the revenue in some territories. If double-frame presentation is to be used, it must increase the revenue enough to pay for the increased cost of the double-frame prints. The same thing will apply to any other system involving large picture images.

In recent months, there has been an increasing demand for standardization of the release procedure. All of the systems that have been proposed either deteriorate the quality or cost more money.

We at Paramount favor standardization and we desire compatibility but we feel that too many changes have already been made and that it is time for the industry to stop and study the problem on a long range basis. The next time we ask the theaters to spend money, it should be toward standardization and it should meet the requirements of the future. It should not be an expedient of the moment.

My remarks are not negative in regard to new equipment. We need new equipment with new capabilities — capabilities that make more money. The greatest shortcoming in all motion-picture presentation is in projection. What we need is a completely new projector with new capabilities. Preferably, this projector should handle the complete show without rethreading. It should be completely automatic, including automatic focusing. It should have a 60° pulldown, 3-bladed shutters, guide rails inside the sprocket holes, a steady picture and probably should include water and air cooling.

We are working in a big business, involving the expenditure of much money. If the business at large is to be successful, each phase must be successful and make a profit. Each innovation must be considered on the basis of its cost to each phase of motion pictures. The passing of an expense from one group to another will never solve the basic problem. If money is poorly spent, everyone loses.

We should stop, look and listen. This applies to the equipment manufacturer, the studio engineer and the theater engineer. The engineer has done a great job. His success has made him a part of management and if he is to share the problems of management, each expenditure should be judged on the basis of its profit potential. We should not stop our progress, but progress should include profit.

Why Wide Film?

By EARL I. SPONABLE

WHEN YOUR program committee asked me to take part in this panel discussion on various subjects of interest to the Society, I chose, on the spur of the moment, the general topic of "Why Wide Film?"

It is probably well to remember that in 1953 B.C. (before CinemaScope), a little over two years ago, the motion-picture business was at very low ebb — although technically it was certainly more stable and standardized than it is today. Cinerama, commercialized by people largely outside the motion-picture business, met with such instantaneous success that there was no escaping the indication of the importance of the public response to this "new look" in motion pictures. So conclusive was this indication that we at Twentieth Century-Fox decided to engineer the CinemaScope process as a single projector, wide-screen system that would be applicable to any and all motion-picture theaters. Since the opening of *The Robe* in September 1953, the worldwide acceptance and growth of CinemaScope have proved conclusively the wisdom of our course of action. There are today about 30,000 theaters equipped to show CinemaScope pictures, and all branches of the motion-picture business have prospered as a result.

I am not sure that I need to restrict my observations and comments during this discussion solely to the "why" aspect of the problem, because that can be answered in a very few words. I would answer it by saying: "We want to use wide film, to get better quality motion pictures on the screen." I do not think it is a foregone conclusion that making the film wider anywhere along the line in the motion-picture production process will, of necessity, result in a better motion picture as viewed in the theater; but this is certainly at least one way in which the producer can make it possible for theaters to obtain improved quality.

Looking back over our experiences with CinemaScope, I sometimes wonder just how much picture and sound quality actually mean to some exhibitors because, in spite of all our efforts to give the theaters something to combat the inroads of television, and to bring the public back into the theaters, an annoyingly large percentage of exhibitors have not made the best use of CinemaScope. They have seemingly done everything possible to save a penny or to cut a nickel off the cost of showing CinemaScope — apparently forgetting that only a short time back they were on the verge of going out of business. The comment I hear all too frequently is, "It doesn't bring in a nickel more at the boxoffice."

When CinemaScope is properly used, that is not a true statement. There are ample statistics to prove this — but even were this not so, it seems fairly apparent that motion-picture theaters must be kept up to date, even to keep their regular customers from falling away from them. Every other industry learned this lesson much earlier than we did. There is no reason for assuming that the public's response to improvements in motion pictures should be any different from their response to improvements in automobiles, vacuum cleaners or refrigerators. We at Twentieth Century-Fox, therefore, are dedicated to the effort of continuing to try to improve the quality of motion pictures.

With any large screen process, the obvious major direction in which improvement can be gained, which is under the control of the producer, is to improve the definition and perspective effects achieved by the image on the screen, and to reduce the superficial disturbances due to the grain structure of the photographic image. This can be most readily done by increasing the size of the negative picture, since the ability of a piece of film to store information, and the grain pattern as well, is largely a function of the characteristics of the negative photographic material.

In engineering the CinemaScope system we utilized all the available space on 35mm film, even cutting down the width of the sprocket holes to gain more picture area. We knew, however, at the outset, that the development of large-screen pictures and the consequent increased magnification of the film image, would ultimately require us to make improvements which would yield better definition and less grain. Since there does not seem to be any likelihood of immediate and large gains in the direction of improvement of the photographic color negative itself, the obvious solution, therefore, is to use a larger negative image. The attendant problems of what to do with this larger negative image would seem to indicate that a more appropriate subject for my discussion might be: how large should this negative be?

Well, the usefulness of this larger image depends, obviously, if you wish to continue to release the pictures in conformity with the present 35mm techniques, on how well you can make reductions from the larger image, as well as considerations of lens design for the cameras and projectors. Having had years of background experience with 70mm Grandeur film and, later, with 50mm film, we were able to call upon our practical experience with these wider films, and our knowledge in

laboratory processing and projector design, to bear on the overall problem. We made rather exhaustive tests of various size negative images and, with Eastman Kodak, studied the reduction problem; and, with Bausch & Lomb, studied the optical problems involved. Weighing all these factors, we came to the conclusion that a negative image of substantially four times the area of the present CinemaScope positive image represented the best engineering compromise that it was possible to make with the techniques and materials available today. Beyond this size, the gain in picture quality is small; less than this size does not give full value from the effort of making the change. Furthermore, we feel that the use of the anamorphic principle has inherent advantages which should not be overlooked or discarded.

The optical problems are, of course, crucial. A radically new approach to the printing problem was conceived in our laboratories, and brought to fruition by Bausch & Lomb's design engineers who, I may say, have done a really phenomenal piece of work in the design of reduction printing lenses, camera taking lenses and projection systems. These contributions, of course, make the difference between the success or failure of such a program as we have under consideration.

I discussed before this Society last April in Chicago in some detail our reasons for arriving at the size of negative image which we have chosen, so I shall not labor these points here. It should be sufficient to say again that our company's chief interest is in the continued improvement of CinemaScope. The program we have in hand is aimed to that end. As a part of the overall program, it is immediately apparent that we can also make release prints of a larger size than the standard 35mm release positives, and that these larger prints may be valuable from a sales point of view for use on a road-show basis to create a larger market when a picture is released for subsequent runs. Road-showing pictures has one other distinct advantage from a technical point of view — in that it is easier to set up and maintain high standards of projection in the theater where only a limited number of installations are involved. This can be an important and potent force in encouraging better projection conditions throughout the industry.

It is our present thinking that such a road-show print would be released on 55mm wide positive film, with a frame size of about 27 × 34 mm and carrying five principal stereophonic soundtracks,

together with a "surround" or "effects" track and a separate control track.

We are now making our first picture, *Carousel*, using Eastman color negative film 55.625mm wide in the cameras, and have built or are building the necessary machines to carry the improvement through to the theater screens. The results are everything we expected in screen appearance. I thought I might show you here some early laboratory tests and some of the first rushes, or "dailies," from this picture. I will simply ask you to remember that the improvement, due to having finer grain and more information in your picture, shows up even more the larger the

screen and the greater the magnification. In this small room, you will see the most improvement in the seats closer to the screen where, under ordinary conditions, the present 35mm images tend to break up.

The advent of other wide film processes shows that other companies are thinking along somewhat similar lines, as witnessed by Cinerama, Todd-AO and VistaVision, and such activity is to be welcomed. Out of these developments there will inevitably emerge some process, or processes, which are better than the others, and which will, therefore, receive widespread adoption.

We may as well recognize in the

beginning, as I am sure we all do, that no new process is, of itself, capable of making up for a poor picture. We have never believed that it would, nor have we believed that a very fine picture could not be made to make money today even in black-and-white. We do believe firmly, however, that if a picture is good, color will make it better, and CinemaScope with stereophonic sound, still better. We believe that the wide screen is here to stay and that these improvements which we contemplate in CinemaScope will go yet one step further in increasing the potential yield of good motion pictures.

Discussion at Roundtable on Motion-Picture Studio Production Problems

Robert A. Haines (Far East Army Motion Picture Service): Does this panel feel that the great majority of theaters in the world have installed a modern screen practically as wide as the physical dimension of the stage opening will admit? As I understand it, very few have set the screens out in front of the proscenium. Are you proceeding on the assumption that the improvement in process must confine itself to fit within that largest practical screen no matter what film width and special projection equipment are used? Do you agree that the largest possible screens are now in the majority of theaters and are you working to make improvements in other directions to fill that screen?

Loren L. Ryder (Paramount Pictures Corp.): We at Paramount are endeavoring to fill the proscenium with pictures and there is enough latitude as far as the picture is concerned to crop a little at the top or at the side to fill the proscenium. We do not believe that the theaters at large are going to tear out their prosceniums as was done at Paramount in New York. They will use the largest possible screen and then present the best possible picture. If that is what the theaters will do we're going to make our picture so it will present itself the best possible way on those screens as long as it can be done without sacrifice of quality for the big first-run theaters and if that policy would also be the policy of any other company I should see no conflict.

Gio Gagliardi (Stanley Warner Theaters): We all saw the improvement in the picture that was just shown but I would like to ask Mr. Sponable how much better it would have been if it were projected from 55mm film — that is quantitatively or qualitatively, let him describe it for us.

Earl I. Sponable (Twentieth Century-Fox Film Corp.): I haven't seen this film projected using 55mm film, but by deduction, if you will permit me to answer that way, on a sort of relative scale of values, if you would make a contact print from 55mm negative film, that's about the best you could hope to get; if you rated that at 100% of what can be put on the screen, I rate

present day CinemaScope 30 to 35%. I rate this 35mm reduction from 55mm film around 70%. I think the 55mm 6-hole frame that we expect to use for custom shows will rate up around 90 to 95%.

I'd like to point out that Mr. Gagliardi has published in the *Motion Picture Herald, Better Theaters Section*, the August 6 issue, an excellent article that I recommend to everyone interested in this wide-film screen project.

Mr. Ryder: Paramount is happy to see others in the industry go to what we call the wide-frame type of picture photography. Within certain bounds there certainly is a gain available in picture quality, as pointed out by Mr. Sponable. In our opinion, if the image grows too large, the problem of depth of field of lenses comes in and the quality may not be as good as that which may be obtained in the medium-sized areas. Of course we wish that others would go horizontal instead of vertical but there are honest differences of opinion.

William A. Mueller (Warner Bros. Pictures): I feel that CinemaScope and other wide-screen processes together with stereophonic sound are responsible for the present stimulation to the motion-picture business. Consequently, we are very interested in all large-frame photographic processes and look forward to even greater values from them. We have a number of independent producers working for us, and the first thing a producer does when he buys a story is to decide how he should release it, and he usually talks to the heads of the technical departments concerned. The first way and the oldest way, and the only way formerly available, was black-and-white with a 3 by 4 aspect ratio. This is the cheapest way and certain pictures are suitable for this medium, and in fact certain ones perhaps are best in that medium.

The next question is, should he go for color? Color usually costs from \$100,000 to \$200,000 a picture and it depends on the type of story he has whether the added cost is justified. There is no question that color gives added value, and a great many

pictures are being made in color, with justifiable cost.

Several years ago we added CinemaScope and stereophonic sound. These items cost additional sums, not nearly as large, say, as color, but they have in the past unquestionably represented added value both to the producer in his returns from the picture, and to our customers operating the theaters. Now we have another very stimulating situation opening up in which, if you have an unusual type of story, you can present it via Cinerama or Todd-AO or Super CinemaScope or VistaVision. You have additional cost but you have great values and, of course, the tremendous potential income that you can get from the right picture in the right medium, in only a few theaters.

Thomas T. Goldsmith, Jr. (Allen B. Du Mont Laboratories): This panel, I believe, has been talking quite a bit about the problems of new apparatus in converting from this kind of production to that kind of production, and some of the technical problems, but I believe most of your comments have been directed toward the theater as the end-product of your efforts. I know the panel's intent when it was laid out in the program here, but I want to consider briefly the conversion of some of your producing facilities towards making films for the television audience which, of course, is the competitor of the boxoffice theater. I wonder if you, on the panel, have a few comments on the apparatus problems and techniques of producing that have caused changes in apparatus requirements, looking toward television film as your end-product?

Peter Mole (Mole-Richardson Co.): Pertaining to the lighting problem, we, of course, come into the picture after everything else has been decided. In looking back at the lighting evolution, the type of sources of light and equipment design have always been dictated by a change in film emulsion: going forward from orthochromatic to panchromatic film, from arcs to incandescents, films from the two-color process, Technicolor process, to the

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three-color process bringing in the so-called silent arc when the white light became necessary, due to the fact that the three-color process was sensitive to daylight quality.

The change from Technicolor's white light requirements to the incandescents brought on a change in lighting requirements. We knew that in advance and prepared to light at a very low level. At that time we could shoot with the new Technicolor process using 200 or 150 foot-candles and get very good results.

Then came the other revolution, the wide screen. While you could shoot and get an image on screen with 200 foot-candles, could you get the quality that you'd expect? They found in production that the levels of lighting had to go up considerably, from 800 to as high as 2000 foot-candles, to get the proper results in depth and definition. Instead of shooting at $f/2$ it was necessary to shoot at $f/4.5$ — I'm correct I think within half a stop. That brought about a lighting problem, a need for additional equipment of higher intensity. That brought about the use of the 10-kw incandescent type, the increased use of the brute and then later the requirements for the yellow carbon, which you heard about in a paper earlier on this program. I think that answers one phase of your question.

Dr. Goldsmith: I'm going to restate slightly, because this is something in which I know we at Du Mont are quite interested. One paper, which was cancelled, was directed toward changes in operations in some of the motion-picture producing companies, in view of their producing a large quantity of their product directly for television broadcasting use. Now you have been talking this afternoon, in the two papers particularly, about the problems and new apparatus required where equipment has to be put in for new processes in the theater. I wondered what problems have arisen in some of the major studios that have converted a lot of their attention toward making films for television broadcasting use. Has that made a difference in operating requirements and philosophies in the producing business?

Mr. Mueller: The requirements for the production of television program pictures made purposely for television have not changed in the respects you've heard about this afternoon. They are being produced with the standard type of shooting that existed prior to the coming of the wide-screen process.

Mr. Ryder: In answering your question as to what we are doing in the studios that might affect the presentation of the picture on television, I would say that the aspect ratio of the picture is the greatest factor. However, we find that with VistaVision there is a great deal of latitude with respect to aspect ratios. Our pictures can be played in anything from 4 to 3 up to 2 to 1 in aspect ratio. This makes them such that they are capable of presentation on television should the television industry be in a position to pay the amount of value which we feel resides in the films that we made. Then certainly the means will be found to put the pictures out into television. Paramount is active in television. We recently acquired more studio space in Hollywood for television production, tying in with

KTLA and others. We are not making any move that would be anti-television. The decisive factor that will determine what takes place is cold economics, a thing about which I was talking a little while ago.

Norwood L. Simmons, Chairman of the Roundtable Discussion (Eastman Kodak Co.): I would like to add in reply to Mr. Goldsmith's question that in Hollywood today about 80% of the television productions, meaning the half-hour serial-type shows being produced at the rate of 1 or 2 units a week for 13, 26 or 39 unit series, are being made in black-and-white, on 35mm original camera negative. The 16mm original production is negligible. The other 20% of original production is in 35mm color, and only a small part of that is being printed in color except for dailies. The dailies are sometimes being shown in color and the 35mm and 16mm prints for the networks and for syndication are being made in black-and-white, which is all that is necessary at the present time.

Edward Lachman (Lorraine Carbons): What considerations have been given to the projection of light in the new aperture sizes or film ratios?

Mr. Sponable: For the films we intend to release on a custom basis, on a roadshow basis, we are making the lighting equipment conform to the frame size we intend to use.

Mr. Lachman: I was more interested in size of carbon amperage and type of projection equipment.

Mr. Sponable: We haven't finalized the equipment specifications.

Mr. Ryder: In our case, on our double-frame projector we are using a hi-candescent type lamphouse with refractive optics because it is available and immediately meets the requirements. We have never tried reflector optics, though I think they would do very well. The lamphouses do need more consideration in order to utilize better the light energy that's being generated in the source. With respect to theater lighting, if you have proper optics you can put the same amount of light through a smaller or a larger opening. This is a matter of optics and of the film's capability to withstand heat without buckling. On black-and-white film with standard projectors you run into film burning if the lamps are as hot as you can make them. With color films, where the lamps are reasonably adjusted, I have never encountered trouble. On the large-frame projection there is no problem on black-and-white from the standpoint of damage because of excessive heat going through the film. On the question of whether or not the film buckles too much to stay in focus, this is another problem, which is one reason why we at Paramount prefer the horizontal frame.

Dr. Simmons: I would like to ask Mr. Pohl of Technicolor a question. From the standpoint of the viewer in the theater, would you say the improvements brought about by the use of larger negatives and other means of getting better definition on the screen have kept pace with the increase in size of screen itself? Is the viewer seeing a sharper picture than he saw five years ago? In other words, have the increased image size and the various equipment

improvements kept pace with the increased screen size?

Wadsworth E. Pohl (Technicolor Motion Picture Corp.): Seriously, I doubt that it has.

Dr. Simmons: It is my opinion also that the improvements have not kept pace with the increase in screen size. I don't think I see as sharp a picture as I saw several years ago, granting, of course that I'm looking at a picture covering much greater angle of view.

Mr. Sponable: We knew when we went into wide-screen pictures that the increased magnification of the image on the film degraded the picture on the screen. That is the reason we're going into the use of the larger negative image today in order to bring that back and even gain some quality in the larger projected picture.

Mr. Ryder: In our experience, the best that can be done with a large-image projector certainly puts on the large screen a clearer picture than we've ever put on with the old system. But this is not entirely the result of the large negative, whether horizontal or vertical. There have been many more steps taken to improve the quality of the picture. One is the Eastman negative that we're using now, which makes single-film photography possible. In addition, Technicolor and others have evolved numerous improvements so that the films used in release in the next three months to a year will have very good quality.

So that, whereas you had a fairly satisfactory picture on a 25-foot screen in the old days with standard projection, you should have a better quality on a 40-foot screen in the near future, if you don't have it today. When we arrive at that point, by using the large-image size in projection, then the quality of the picture is better than the eye can see. Beyond this point there's a diminishing return. It's dollars put out with nothing coming in. We should get the best quality possible on standard release film by whatever process and then use the greater image sizes to meet the specific requirements of certain other theaters.

Mr. Mueller: On Norwood's question of whether we have better projection today than formerly: we used to use a 9 by 12 foot picture in our review room in the studio and now we're looking at a 20-foot picture. When we drop the picture down to the old 9 by 12 foot we're amazed how much it has improved. That improvement has come because we have modernized our projection rooms just like the theaters have. The theaters in this country, and we used to own some, so I think I know, never bought new lenses, seldom bought new screens and very little was done to modernize their equipment. Much of it was old, practically back to the early days of sound.

When this technical revolution in the business came everyone was buying new sound, new projectors, new screens, some theaters putting out five or six thousand dollars for a new screen every few months, whereas before they had not bought a new screen oftener than every five or six years. As a consequence we have a much improved quality of projection today. The greater magnification has required greater care in camera work, greater attention to focusing, high light levels, more stopping down,

smaller apertures in the camera lens, so that we try to put out a better product from the standpoint of focus and clarity.

David B. Joy (National Carbon Co.): Before I ask my question I want to second what Bill Mueller has just said that this revolution in the last few years has certainly put a lot of new and better equipment into theaters. This has helped considerably, along with what has been done in the studios, to make a better picture.

This refers to Earl Sponable's demonstration where it was noticeable that a great improvement has been made in the quality of the projected picture. Is it correct that this increase in quality is obtained entirely in the studio and requires no change in projection, in aperture or light on the screen to take advantage of it in a theater already equipped for CinemaScope except in the case of the roadshow type of presentation using 55mm film?

Mr. Sponable: That is correct.

J. F. O'Brien (Radio Corp. of America): I have some comments on the two talks given. I was very interested in the statements by Mr. Ryder on the economics of the theaters in the country. It is very encouraging that Hollywood is taking that into consideration. We, in the equipment manufacturing end, have been very conscious of that. On the question of standardization, everybody is willing to standardize on their own system, but the lack of standardization throughout the industry is holding up the forwarding of the art. You people have sold the exhibitors a terrific idea on going forward in CinemaScope, 3D and VistaVision and you've stopped for a time and you're trying to pass over on to them some of your own problems.

I would say from my own experience that the average exhibitor of the 5,000 that you speak of that have their theaters equipped for full four-track magnetic, are perfectly satisfied and would just like to get more magnetic prints out of Hollywood. So after you devise that system, now you're all cutting down the number of magnetic prints. I don't think they're the least bit interested in sharing your problem of half-track and having them buy new sprockets.

I think you've done a magnificent job. Earl Sponable here gave a demonstration which is another forward step but I think if you're going to move this whole art along and solve this problem of new projectors and arc lamps, you've got to let the manufacturers know what you're going to finally decide is the best for the motion-picture industry, but we can tell you from our own experience when Loren talks about manufacturing new projectors, that there is a

terrific bill there for tooling up. You can't tool up in January and get under way and have a new process come out in May. I think with all the stuff that has been made, and you gentlemen have certainly made them, all the members of SMPTE have done a terrific job and I would urge all the equipment manufacturers that we really do get down to deciding what should be done, forgetting the roadshow, but for the bulk of this industry which is represented by the 20,000 normal-run theaters of this country, I would like to see some step toward standardization.

Ben Schlanger (Consulting Architect): In all this I see a little arithmetic missing. There should be some idea of what roadshow means, and what it means to suit the 20,000 theaters in the country for standard exhibition. What is a roadshow, what is the dramatic difference in presentation? What can bring in the big admission price of three or four dollars? That's the theater that can have a $1\frac{1}{2}$ W viewing distance, i.e., the last row of seats no more distant than $1\frac{1}{2}$ times the width of the picture, to have a subtended angle which gives you a dramatic surround. It needs plenty of film, 70 millimeters or over. It needs 25 foot-Lamberts or more. Why don't you design systems that are good for that? You can't do this for every theater but you can think of what's good for the average theater. Do you know the seating patterns of the theaters and what would be required to give you a good show? It may be 50mm and 20 foot-Lamberts that will do it. But now there is too much confusion.

Cinerama pointed the way. It shows what lots of film area will do, what lots of light will do and what a $1\frac{1}{2}$ W viewing distance will do. Since then we've had imitations only, large blowups of pictures that have forced the audience back, and left empty that area in the theater which Cinerama uses and for which they get the highest prices.

Mr. Sponable: I think, Mr. Schlanger, when you see the opening of *Oklahoma* in New York, you'll see a theater that's exactly what you say, with a wide viewing angle, with participation, high brilliance and high definition. I think we are tending toward that and keeping it in mind.

Mr. Gagliardi: We have a screen here [in the Lake Placid Club's Agora Auditorium] that's as large as would go into the proscenium arch, yet it certainly isn't large enough for modern projection. That screen should extend from the organ pipe to the other side. But your film would be blown up so badly that you couldn't do it. You couldn't seat anybody in here to look at such a picture. Yet it would be the one thing that would make the new picture,

would sell it, would keep people coming to look at it. That's the point we're trying to make for the future, in building for two, three, five years from now.

Albert D. Emurian (Philco Corp.): Understanding that it is fully recognized by all the members of the panel that television is another very large market for motion pictures, I would like to ask, by way of repeating the two questions previously raised by Dr. Goldsmith, which were not fully answered: What is the motion-picture industry doing to make motion-picture films released to the TV industry suitable for that medium? Rather than speaking of aspect ratio, I mean the taking characteristics of the film in monochrome as well as color.

Mr. Ryder: In my experience outside of my Paramount activity, the pictures for TV are largely done in closer shots and with far fewer long shots than are used for theatrical exhibition. This trend will continue until somebody finds a way of putting a large picture in the home. Then you will be able to use the long shots.

Henry Roger (Rolab Studios): Referring to wide-screen projection, I have seen performances in small theaters in Connecticut, and the only changes which were made in the theaters with wide screens were the use of a short focal-length projection lens. The heads and feet of the actors were cut off although a wide screen was used. Actually, they showed approximately only 70% of the picture. What would it take to make them do it right?

Mr. Gagliardi: In many theaters, because the screen has not been extended beyond the proscenium arch, there has been a compromise between the size of the CinemaScope picture and blown-up size of the standard picture. Also, the size of the lens has not been chosen properly. But we hope that with better training and proper information it won't happen too often.

Mr. Sponable: In the average theater throughout the country there's been a great improvement in projection and in equipment in the booth. In the past two or three years we've made more improvement than in the previous twenty. We're going through a period of change and many of the pictures being projected were shot for the old 3 to 4 aspect ratio with no head clearance or foot clearance for a 2 to 1 or a 2.55 to 1 or some other aspect ratio. The projectionist can't project that picture satisfactorily on a large screen yet he's called upon to do so. In a transition period these things are bound to take place and from this point on, I think all of us are allowing plenty of latitude so this condition should not continue very much longer in the theaters.