NEWS USITT LETTER

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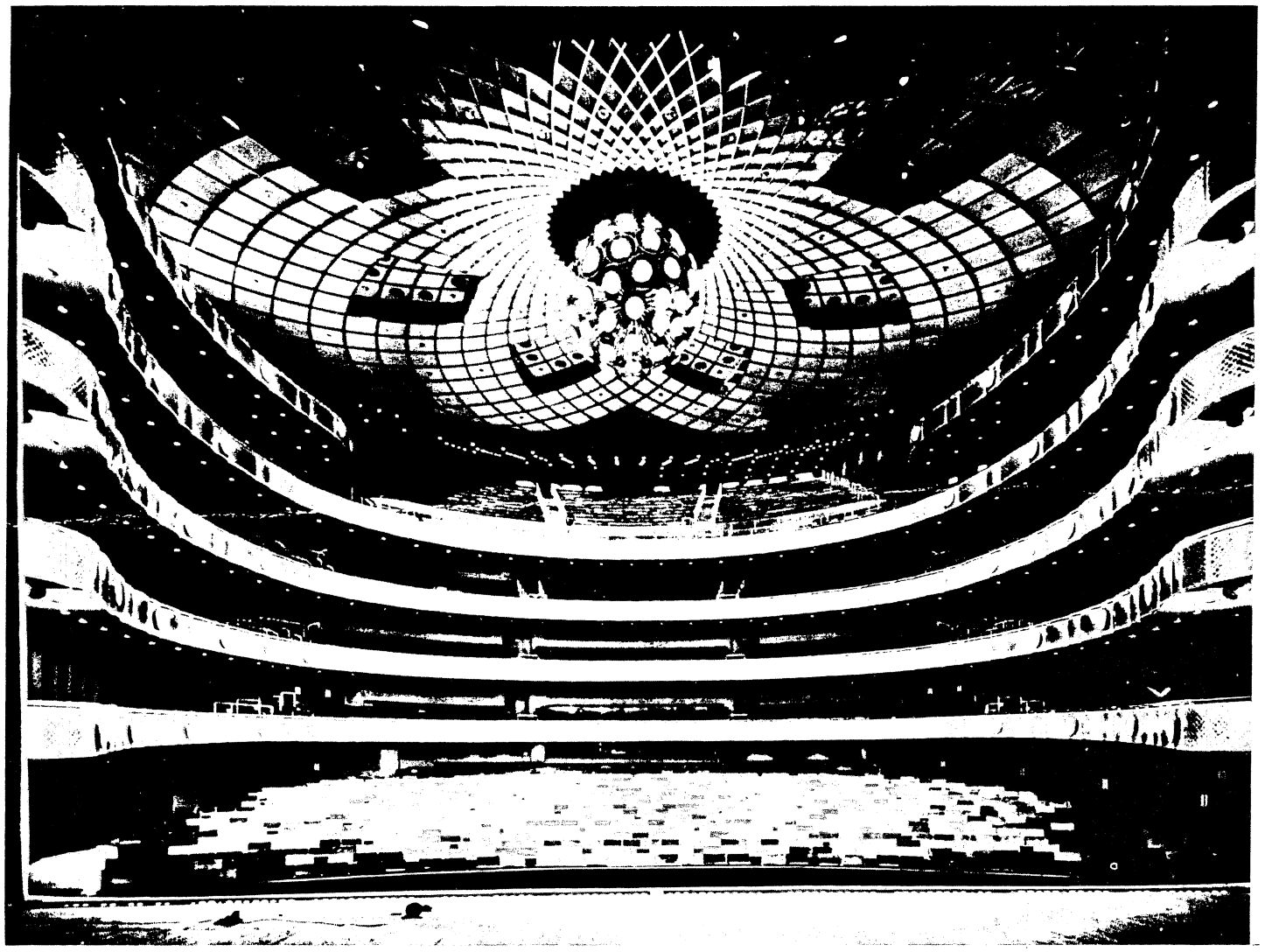
Jay B. Keene, Editor January 20, 1965



The 2,729 seat auditorium of the New York State Theatre in Lincoln Center. Continental seating (no aisles) prevails at orchestra level. © Lincoln Center for the performing Arts, Inc., 1964. (Ezra Stoller Photo))

USITT Conducts Discussion and Tour of New York State Theatre

A highly stimulating and exciting occasion of the new season was the U.S.I.T.T. discussion and tour held in the glamorous New York State Theatre at Lincoln Center on the evening of November 16, 1964. Joel E. Rubin, President of U.S.I.T.T., opened the meeting with special thanks to Mr. Nathan J. Sonnenfeld whose skill in organizing the tour was demonstrated by the large attendance. The remaining officers of the Institute were introduced and Mr. Richard Thompson was singled out as the designer of the invitations in "State Theatre" red.

In his opening remarks, Mr. Rubin described the Institute as a "round-table about which those with vision in the various disciplines may meet and exchange their views". He expressed an appreciation of all the influences from the various segments of our membership on the organization as a whole, and felt that we have removed any restrictions for the free enterprise of ideas between architects, engineers, artists, scholars and manufacturers.

"We are an organization," Mr. Rubin concluded, "designed to collect and illuminate experience, and to debate and communicate ideas--- the experience and ideas of all those responsible for facilities and performance for the performing arts. You, then, seated in the auditorium this evening, represent a true cross-section of the Institute, as do the speakers on this stage."

The first guest speaker of the evening was Edgar B. Young, Exec. Vice President, Lincoln Center for the Performing Arts, who welcomed everybody with the hope that USITT Discussion-tours would become a habit for all the future buildings of the Center. He defined himself as the client who enjoyed the luxury of specialization for each building in relation to a particular performing art. The New York State Theatre was thus designed primarily for ballet and operetta but with suitability, it was hoped, for large dramatic productions such as presented by the Royal Shakespeare Company and the Schiller Theatre. Mr. Young also briefly described the complexities of building the $19-million structure with the cooperation of various levels of government --- Federal, State, City --- as well as several private agencies, all of which were instrumental in securing the necessary monies.

Phillip Johnson, architect for the theatre, dramatically proved the speech acoustics of the theatre to the audience by leaving the podium, walking down to the footlights and speaking without a mike. A round of applause greeted the clarity of his voice. Mr. Johnson said that designing a theatre was merely "wrapping a few ornaments around the work of Ben Schlanger and Don Oenslager." He also gave credit to his other consultants, Werner Gabler from Berlin for giving him the help in achieving the closeness of such a large audience to the stage, Walter Unruh for his backstage engineering, and Vilhelm Jordon for his work on the acoustics. Mr. Johnson felt that the auditorium should be so designed that the audience could easily go to and from the house to the promenade where another function of theatre-going prevailed --- that of seeing and meeting each other in an attractive surrounding.

Donald Oenslager, who served as stage consultant, expressed his joy at being asked to work with Mr. Johnson. He mentioned his discouragement of working in so many Broadway theatres with their lack of technical facilities, the dark, dank areas of backstage and the Sing-Sing like cells for dressing rooms. So this new theatre

was to have everything the artist aswell as the technician could desire. He then went on to enumerate the specifications that are included at the end of this article.

Ben Schlanger described his problem of trying to get an audience close enough for the intimacy of light opera and yet seat 2800 people in such a way that they could get in and out quickly and easily. To meet these problems it was necessary to open the proscenium wider than the usual thirty feet of most Broadway houses. The wider the opening, the wider the seating area, thus allowing for a maximum auditorium depth of about eighty feet. Continental seating was employed with forty inches between rows so that there would be in essence as many aisles as there were rows. These empty into many side exits that lead into the promenade. Mr. Schlanger noted that the intermissions went smoother and that no ushers were needed, as the door numbers related to the row numbers. His only reservation was the apparent dislike of the seating by the critics who had to sit so far on the side to be near an exit.

The next speaker was Mr. Edward M. Greenberg, the stage director for the Music Theatre of Lincoln Center. He praised the architects and consultants for providing such complete, self-contained facilities for the director and actors backstage, but he felt that it was sometimes difficult to compete with the dramatic decoration of the auditorium. He was angry at the building at times because musical comedy is not the same as operetta and the scale of the building was more suited to the latter. Even more difficult was the process of fitting the secnery needed to fill such a large stage into the smaller theatres when on tour. He said he had not yet solved the problem, and hoped that members of the Institute might be of help.

Thomas De Gaetani, Managing Director of Theatres and Concert Halls, Lincoln Center, was the final speaker of the evening. He read a statement concerning the acoustics of the hall in which Dr. Jordon stated that the reverberation time of the hall was about 1.5 seconds which he felt was nearly ideal for operetta. Mr. De Gaetani then went on to say that theatre is people and the function of management is to accommodate the artistic people as well as the public. He congratulated the stage manager, Mitchel Brower, and the technical director, Robert P. Brannigan, for their great organizational abilities as it is necessary and quite possible to accommodate three companies backstage at the same time, not only with stage storage space, but rehearsal and office space as well. Applause greeted his statement concerning the NO LATE SEATING rule of the theatre that was implemented by TV cameras and monitors mounted for the latecomers to watch until time for them to be seated. Mr. De Gaetani concluded on a note of clouded optimism by telling a funny story to illustrate the point that with all the fabulous cultural facilities being built around the country, it was

hoped that somebody would be filling them with talents commensurate to the buildings. "Lincolm Center," he said, "is not losing sight of these talents."

After the speeches, questions were asked from the floor. The first question dealt with the theatre acoustics. It was explained that Dr. Jordon built a one-tenth scale model of the theatre and with sound oscillators and microphones tested for the effects of sound patterns.

Several questions were put to Mr. Johnson. At first he took the fifth amendment, but later commented on the Nadelman statues as being too large to remove. He commented on the large size of the exterior bays as being more classical in feeling than the smaller ones of the Philharmonic Hall; and he felt the scale of the interior did not appreciably affect the aesthetic distance, although he would have preferred to have the audience a little closer. Mr. Johnson defended his interior decoration as necessary to establish a happy theatre mood with the red and gold, and to offer some relief from that with the sparkle lights designed by Richard Kelly. The fifty-foot high proscenium gave a feeling of great expectations and excitement to the waiting audience who would not notice that it only opened half the way once the house was dimmed.

Tom De Gaetani clarified his earlier statement by saying that he wished more money was being spent on what went on in the theatre than on the theatres themselves. He wanted local theatre groups to get money as well as encouragement. He noted that the Lincoln Center activities also included many performances for school children so that the audiences as well as the artists of tomorrow would be exposed at an early age and, in this way, perhaps help the situation of actor unemployment. The fifth ring of seats, while poor, only sold for a dollar, thus offering a poor student an opportunity he might otherwise not have.

After the question period, the audience of 1100 was invited to tour backstage, but due to the large size of the crowd, not too much of a formal tour was attempted. However, in addition to the backstage area, one was able to explore a few dressing rooms and rehearsal rooms with appreciation and wonder at the veritable luxury of the actor accommodations. Old Broadway was certainly not like this! After such a taste of richness, the time came for a slightly lighter repast, and the tour shifted to the Promenade Bar where it came warmly to rest.

Information furnished by the courtesy of the Press Department of Lincoln Center for the Performing Arts.

THE NEW YORK STATE THEATER

Lincoln Center for the Performing Arts

The Exterior

The New York State Theater, located at the southeast corner of the Lincoln Center site, faces north across Lincoln Center Plaza to Philharmonic Hall. The Theater is carefully integrated in scale and materials with the other two structures facing the Plaza -- Philharmonic Hall on the north, and the new Metropolitan Opera House on the west. Like these, the nine-story concrete structure is faced with Roman travertine and its Plaza facade consists of a columned arcade.

Each side of the New York State Theater is adorned by the suggestion of four bays, defined by four pairs of philasters. The front of the Theater is the fulfillment of this theme being devided into four actual bays by four pairs of columns rising the full height of the building and framing the entrance portice. In each bay hangs a diamond-faceted chandelier.

The Auditorium

Capacity:	Orchestra	1044	(75 additional possible)
	1st Ring	339	
	2nd Ring	312	
	3rd Ring	310	
	4th Ring	141	
	5th Ring	32	
	Gallery	551	(plus 42 standees)
	TOTAL	2,729	(2,804 possible)

The auditorium of The New York State Theater expresses Philip Johnson's belief that the theater itself should create a festive and elegant atmosphere to enhance the theatrical experience of the stage action. He has designed a wide horseshoe-shaped auditorium with five rings of shallow balconies above the orchestra level. The wide horseshoe plan not only brings everyone closer to the stage, but also, with its cross axis suggesting a central focus in the audience, gives the audience the feeling of enjoying a common experience. From the prosconium four rings encircle the house, completely surrounding and enclosing it to make it visually and psychologically more intimate. The fifth ring is carried only on each side of the house. The walls, animated by people in the rings, will heighten the excitement of the Theater, Mr. Johnson believes.

The shallow rings are recessed one above the other. The first ring has pairs of seats along each side. The remaining rings contain a single row of seats on each side. And there are only five rows at the rear of the three lower rings. A total of 2,178 seats are within 100 feet of the stage.

The audience enters the orchestra through five doors on each side of the auditorium; ten entrances permit a quick and uncrowded flow of traffic into and out of the room. The orchestra has continental seating, that is, the seats are uninterrupted by aisles. Instead, the rows of seats are sufficiently wide apart, 40 inches, to permit comfortable passage to and from seat locations. In other words, the aisles run papallel to the stage instead of perpendicular to it. This arrangment has three distince advantages: choice center locations are used for seats, not aisles; each seated spectator is provided with ample leg room; and patrons may gain access to the promenade and lobby areas with greater ease and speed.

Special features include glass-enclosed viewingrrooms at the back of the orchestra seats where tour groups may watch rehearsals without disturbing the performers, and orchestra seating may be increased to 2,804 by the introduction of platforms in the orchestra pits.

The atmosphere of the interior is due in large part to the garnet red walls and seats which provide a contrast to the proscenium arch and the rings decorated with a gold-leaf design. The spherical chandelier, sixteen feet in diameter, dotted with large, round, diamond-faceted lights, hangs from the center of the gold-colored ceiling. On the facade of the rings, sparkling lights, reiterating the diamond theme of thechandelier, encircle the auditorium with points of brilliance.

The Promenade

The Promenade, 200 feet by 60 feet on the first ring level, will be used for official receptions, state and civic luncheons and dinners as well as for strolling during performance intermissions. Three promenades are suspended around the perimeter of this 50-foot-high room. Through the glass wall on the north, spectators may look onto the Plaza, or, from The Promenade, walk out onto the portico balcony.

The Promenade contains a long refreshment bar. The walls of The Promenade and the corridors to the auditorium are treated in an unusual manner by the use of light beige carpeting. The floor is patterned with red marble and travertine, and the glass wall is covered by a metal chain curtain, consisting of small gold-anodized aluminum spheres. Two colossal sculptures by Elie Nadelman stand at either end of The Promenade. Sculptures, reliefs and paintings are placed throughout the Theater.

As in all the Center's buildings, the Theater is air-conditioned which makes possible a year-round season of performing arts. Two elevators on each side of the building ascend to the fourth ring level from the Plaza level. Kitchen service facilities are provided for receptions, luncheons, or banquets, on a catered basis, to be served in The Promenade. Banquet capacity is 600.

The stagehouse, with storage facilities, rehearsal, practice, coaching and dressing rooms, is eleven stories high and includes two lower concourse levels. There is enough rehearsal space to accommodate three companies simultaneously. Off-street loading is provided at the southwest corner of the building.

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Credits

Architect: Philip Johnson Associates
Structural Engineer: Severud-Elstad-Krueger Associates
Mechanical Engineer: Syska and Hennessy, Inc.
Contractor: Turner Construction Company
Stage Consultants: Donald Oenslager
Walter Unruh
Consultants for Theater Architecture: Ben Schlanger
Werner Gabler
Acoustical Consultants: Vilhelm Lassen Jordan
Lighting Consultant: Richard Kelly

Backstage at The New York State Theater

Mitchell Brower, Manager
Robert P. Brannigan, Technical Director

Proscenium: 56' wide
51' high

Main Stage: 80' wall to wall
58' deep
89' high
68' between flys

The stage floor is level, not raked, with unwaxed linoleum over wood. There are traps, but no turntables or stage elevators. There are 100 counterweight fly sets, 1,000-pound capacity each.

Side Stages: 30'x 30' each side of main stage
28' high

Main Curtain: 64' wide
55' high
Travels up and down, does not tab; provides maximum opening height of 39'; Three colors of gold cotton.

Orchestra Pit: 56' wide
20' long
8' deep

Can accommodate: 90 chairs
80 music stands with lights
7'concert grand

Sound: Complete electro-acoustic installagion.

Lighting:

Console: 187-10 kw SCR dimmers - control patched to 80 operating channels
10 scene preset
654patch outlets
Located at rear of auditorium, orchestra level.

Equipment: 225 spotlights
2 lighting bridges (1 cyclorama)
Footlights and border lights
1,000,000 watts total

Dressing Rooms:

	(capacity)
12 Principal's	2 each
2 Women's	32 each
2 Men's	32 each
1 Women super's	10 each
1 Men super's	18 each

Rehearsal Rooms:

Main	47' x 55'
Practice	35' x 36'
2 Rehearsal	38' x 31'
1 Rehearsal	24' x 20'
8 Coaching	8' x 12'
1 Orchestra	21' x 55'

Proposed Research Grants for USITT

The Institute's Ways and Means Committee is at this time surveying the possibility of obtaining a substantial grant for continued operation and further expansion of the Institute's activities and facilities. Among the proposals is the budgeting of a substantial amount for annual research grants in theatre technology. In order for our committee to have some facts on which to base our request, we are requesting that all chairmen announce at their next committee meeging that the Institute is considering the entertaining of research grants. We would like to have preliminary requests sent to the attention of the technical secretary, Don Swinney. These requests should include the topic, a brief summary of the area of investigation, the author's name and background, his estimate of the funds required for his project, and anestimate of the length of time this project will require.

In conjunction with this preliminary entertainment of research grants, we are also interested in ideas in general which might be considered as future research projects. Several examples of proposed projects are as follows:

1. Theatre building codes
2. Panic behavior
3. Filing of theatre plans and specifications
4. Theatre survey

5. Crash educational programs in theatre technology
6. Theatrical safety standards
7. Architectural criteria and standards
8. Automated theatre tickets

9. Orchestra pit special requirements
10. Physiological evaluation of audience reaction
11. Economic and cost analysis of theatre construction
12. Standards and practices in theatre technology

13. Theatrical consulting ethics
14. Theatrical consultants lists

It is the hope of the Ways and Means Committee that a few monents spent with your committee can add considerably to this list of proposed areas of investigation. All suggestions should be sent to the attention of Richard D. Thompson. Also, any members of the Institute are free to submit their own listings to his attention.

Dues

Within the next few weeks all members of the Institute will receive their annual dues statement. It is important that the members pay their dues as quickly as possible to avoid having to be sent additional reminders. The by-laws of the Institute state

that payment of dues is required within sixty days of the billing date, after which time the members will be placed on suspension. At the end of ninety days, the members will be dropped from the rolls of the Institute.

Memberships

Membership cards will be enclosed with the dues statements. Any changes in the address, or in committee membership should be made when returning the dues payment. If a member no longer wishes to be part of the Institute, please notify Mr. Richard Thompson in writing so that he can honorably resign the membership.

Committee Notes

The Committee on Theatre Architecture has finished most of its work on the New York Building Code revision, only to discover that its meetings have been reduced to a handfull of members. C. Ray Smith, the Chairman, has instigated a new program that should be of interest to all members. Part of the monthly meeting held every third Thursday of the month in the offices of Helge Westermann, 111 W 57th St., N.Y., concerns itself with an informal discussion and critique of new theatre structures. Any member of the Institute who wishes to submit plans, either preparatory or finished, should do so by writing Mr. C. Ray Smith, c/o Progressive Architecture, 430 Park Avenues, New York, N.Y. 10022.

New Theatre Openings

The 3250-seat Pavillion of the Los Angeles Music Center was formally dedicated in that city on December 6, 1964. John C. Knight is the Project Architect; Welton Becket and Associates, Architects and Engineers, designed the Pavillion. Consultants to the architects were the following: Dr. Vern O. Knudson, Acoustics; Paul Veneklasen, Acoustics; Dr. Robert Leonard, Acoustics; Ben Schlanger, Seating; William P. Nolan, Stage Engineering; Jean Rosenthal, Stage Lighting; Jo Mielziner, Theatre and Lighting; Stacy and Skinner, Structural Engineers.

ALL WHO ARE INTERESTED IN THE MOST RECENT DEVELOPMENTS IN ARCHITECTURE, DESIGN AND TECHNOLOGY FOR THEATRES AND AUDITORIUMS WILL WANT TO ATTEND

THE 1965 CONFERENCE

UNITED STATES INSTITUTE FOR THEATRE TECHNOLOGY

Indiana University
Bloomington, Indiana

Friday, April 30
Saturday, May 1
Sunday, May 2

HIGHLIGHTS OF THE PLANNED PROGRAM

Friday

Tour of Theatres and Auditoriums
Clowes Memorial Hall, Butler University
Hall of Music and Experimental Theatre, Purdue University
Theatres and T.V. Facilities, Indiana University

Saturday and Sunday

Technical Discussions
Quartz Lighting
Electrical Winch Rigging
Wireless Michrophones
Intercom Systems
Projections

Architectural Discussions
Thrust Stage Form
Three-quarter Round Theatre
Opera Houses
Civic Centers

Planning Discussions
Symphony and Concert Halls
Fine Arts Centers
Civic Centers
Repertory Theatre
University Theatre
Opera Presentation

Discussions with Nationally and Internationally Known Experts in These Fields

IES Tour of CBS Broadcast Center

The Illuminating Engineering Society cosponsored with USITT a tour of the new CBS Broadcasting Center located on West 57th Street, N.Y. during the evening of November 19, 1964. The meeting was held in Studio #41, the largest of the six studios in the building. Mr. Bramley, chairman of the Society, opened the proceedings with the introduction of Mr. Charles Neenan, Managing Engineer of the Center.

Mr. Neenan pointed out many of the features of the studio to the audience. The room has a floor area 96 feet by 88 feet with a grid height of 24 feet. One end of the room has a slightly higher grid area that has counterweighted battens for flying scenery and winch operated light battens. This feature allows for the production of theatrical shows. An off-white double-woven scrim cyclorama, the full height of the room, moves around on a series of tracks with track switches that allow for many different placements. The floor is an isolated concrete slab set on coil springs to prevent any structure-transmitted sound from entering the studio. The surface of the floor is a special nonslip plastic coating that further deadens the sound.

Catwalks are spaced at rather close intervals over the entire grid area for easy access to the lighting equipment. The instruments are all hung on special vertical hanging rods developed by Pete Howard, an Institute member. These rods are attached to the grid by means of a woven steel-mesh sleeve through which the rod slips. This sleeve grips the rod whenever down pressure is exerted permitting the instruments to be positioned easily at any height in the studio. The electrical patch panel is at grid level, while the lighting control is on floor level. The placement of the lighting control and the audio control consoles alongside of the video control is an innovation the CBS officials are very happy with, as it permits a closer coordination of the entire technical process. The control board is usually manually operated although a system is being developed where a remote computer will provide infinite preset possibilities. The dimming is handled by 100 12 KW. magnetic amplifiers, and four additional 36 KW. mag-amps for the cyclorama lighting circuits. The rather large size of these units will be necessary when CBS starts color transmissions in the near future.

Following Mr. Neenans description of Studio #41, the members, in small groups, toured the various technical areas of the Center. The video tape center contained 24 transisterized RCA video tape machines which were in constant operation. Next to this room was the film and tape library for all of CBS operations. Following along the corridors, we came upon the telecine room containing several of every kind of projector that could possibly be used for slides, film and kinescope. The transmission center was a vast complex of electronic gear with monitors everywhere so that all material being presented by the facility to either local, network or delayed network could be viewed. But the most impressive item was MAX. MAX

stands for Master Assigning Exchange and he is duly enclosed in an antiseptic glass enclosure allowing him to stare out at us. The purpose of MAX is to keep tabs on all equipment and how it is being employed at the present as well as the future. MAX, the electronic production manager, is coordinated by a couple of computers which, incidentally, will eventually be programmed as infinite preset devices for the lighting control boards. The dimmer room was removed from the rest of the installation and contained the 350 magnetic amplifiers used to control the lights in the six studios. The final area viewed was the control room for Studio #41 which has all controls for lights, sound and video in a side by side relationship so that the director and technical director have a complete command of all operation

The next item on the agenda was the showing of the film, "Lighting for Television" produced by Joseph Flaherty, Diredtor, Technical Facilities Planning. This short film was an excellent introduction to theatrical lighting theory and practice for the stage as well as television. Mr. Flaherty noted that in addition to lighting the set and the actors for dramatic reasons, the lighting for television also serves as an activating agent for the imaging system that is transmitting the scene. It is hoped that this film will be made available to theatre schools for viewing as it demonstrates, in twenty minutes, more lighting theory than many lectures given during a school semester.

Mr. Sal Bonsignore, Chief Lighting Director for CBS Network, conducted a live lighting demonstration on a set in the studio as the final part of the program. He first defined the step by step process the designer must follow in lighting a show: reading the script, conferring with the director, attending a runthrough to follow the mood as well as the action, drafting the light plot, and supervising the hanging of the instruments. Mr. Bonsignore emphatically stressed the use of a minimum number of instruments, as he felt that a crisper effect as well as more dramatic quality would result.

With the aid of an attractive blond, Mr. Bonsignore proceeded to light out the scene. The first light, a 2KW Fresnel, served as the Key Light -- the main front light source. This was complimented by another Fresnel from a slightly different angle and at a lower intensity which was the Fill Light. The Backlight, used to separate the actor from the set, should be used sparingly, he cautioned, to avoid confusion of too many light-source directions. Modeling Lights picked up the set itself and included large 5 KW Fresnels shining through the window for sunlight giving a feeling of reality to the scene. By changing the angle and relative intensity of these modeling lights, the mood and time of the scene were changed. Cross Lights served a dual function of backlighting or modeling, depending on the position of the actor, and was most useful for group shots. Finally, the scene was conpleted by the addition of the Base Lights, a series of floodlights used to raise the general illumina-

tion level of the scene to a practical level for adequate camera pickup. With the completion of the demonstration, the meeting was adjourned for the evening.

Newsletter Copy

The Editor of the Newsletter would appreciate receiving material for inclusion in the Newsletter from the many members at large. All theatrical activity does not occur in the New York area alone and the organization should be informed of the happenings around the country, if we are to a true round-table of ideas as expressed by Mr. Rubin. Any information concerning theatre buildings, equipment, engineering or artistic techniques should be forwarded to this office for publication. Letters to the Editor will be printed when pertinent. Please address all correspondence to:

Jay B. Keene
Dep't. of Speech and Drama
Queens College
Kissena Blvd.
Flushing, N.Y. 10067

This Newsletter is made possible by the following Sustaining Members:

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