

TABS

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Cover Picture: *The New Abbey Theatre, Dublin—Architects, Michael Scott and Partners. Photo by John Donat Photography.*

Editorial

Insurance or How to Muck it Up	2
Journals	3
Strand Electric in the U.S.	4
Two Strand IDM's for Ottawa	4
Theatre Plans Addenda	5 & 37
<i>Ireland's National Theatre by Percy Corry</i>	6
<i>Some Guidelines for Theatre-in-the-Round by Donald C. Mullin</i>	12
<i>Ideals and Realism in Lighting Control (II) by Frederick Bentham</i>	18
<i>Scandinavian Seminar Oslo by Peter Moro F.R.I.B.A.</i>	23
<i>Some Advice on Stage Lighting by B. E. Bear</i>	27
<i>A Georgian Playhouse by Geoffrey Hodson</i>	34
Correspondence	39

Insurance or How to Muck it Up

It is a well-known feature of those who are not sure of themselves that they put too much into their argument. Thus it may well be that they easily convince with their simple logic and then go on with alternative arguments intended to endorse but which only cloud and fog until the beauty of the original concept, its clarity, is lost and from then on the argument is also lost.

In the world of the theatre it is the spirit of "one more" or "adaptability" which bedevils design today. That extra preset or group "in case" tagged onto a design may well mean disaster. A man who has found at last the formula for serving two masters is not going to find it easier to serve three. Consider that miracle of mechanical design conceived long before ergonomics were even heard of, the pair of braces (suspenders to the Americans). The beauty of the design lies essentially in the unification of twin forces. Thus the front of the trousers hold up the back and the back the front, the left side the right and the right the left. At each point of attachment two buttons strain against but in so doing support each other: Beautiful!

Now let us imagine we attempt, as could be justified, to add one more. To make all safer than safe. How unhappily an extra loop made off to a third button at each point of attachment, would sit. Then what is to be done with the third brace, this will be as *de trop* as a third cup in another form of suspensory mechanism.

So too with a theatre. That extra is all too likely to be one too many, a physical hindrance not a help in its equipment and if not

a solid barrier then a mental one in its architecture. The members of the audience are unlikely to find two different entrances twice as convenient as one. The verdict is more likely to be not half as convenient.

Now we come to the point. What about the relationship of audience to actor, the form of the theatre? Is a theatre which is adaptable to two different forms twice as effective or not half as effective. We believe the latter is the case. Design of a single form is so difficult that seldom can we say the job is absolutely successful. Each bit of cover taken out in adaptability increases the risk insured against. For adaptability is compromise and man is never stimulated by compromise. Decide on the form of theatre you want and stick to it.

Let us conclude our sermon with an adaptable sentence. So it is that we do or do not find that we should or should not employ or reject a large or small stage or arena.

Journals

Congratulations to *Buhmentechische Rundschau*, whose July issue is number one hundred and to Prof. Walther Unruh its editor. This issue of our own TABS is our seventy-first, so both these European journals are aged indeed, when compared with *USITT's* journal *Theatre Design and Technology* whose issue No. 5 has just reached us. This rapid receipt of the July issue is the first fruit of an extra rapid interchange arranged between Editor Ned Bowman and the Editor of TABS on recent visits to each other's countries.

USITT gave us a very complimentary, if indiscreet, review in their last issue, with the result that there has been a great increase in the number of applications from the United States for TABS. These are usually accompanied by a request to know what the subscription is and we take the opportunity here to repeat that there is none. TABS is issued free and post free to *all*. Only one qualification is made and that is that the applicant must express a wish to receive it. At the same time we would appreciate in return if we could be notified when for one reason or another the need to send it has ceased; after all, interests do change and time does exact a toll.

We are taking steps to improve distribution and by the end of the year, with a few exceptions, overseas copies will be posted direct from England. Applications for inclusion on the mailing list may be made direct, but a temporary bulk issue for a particular conference, for example, may be served with less delay from the nearest Strand Electric office or agent, a list of which is available on application.

A particular headache is the way theatre people and students, in particular, move around. It would be very helpful to us and also to yourselves if you made a point of notifying us immediately any change was made. It is not sufficient to rely on Post Office forwarding, this simply doesn't work!

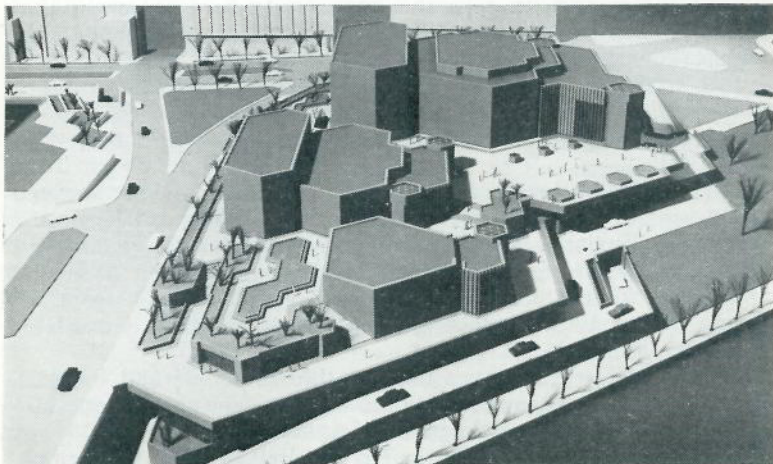
Strand Electric in the U.S.

In order to improve the availability of Strand products in the U.S. we shall be operating a company from Minneapolis. The exact title under which it will be incorporated is not known at the time of going to press but in the meantime all enquiries will be dealt with by Norcostco, 3203, North Highway 100, Minneapolis, Minnesota 55422, Tel: 533-2791, who are our Agents for Minnesota, North & South Dakota, Nebraska, Iowa, Wisconsin and Upper Michigan.

Two Strand IDM's for Ottawa

The Strand Instant Dimmer Memory system which was described in TABS last December and demonstrated publicly in our theatre last March has been ordered for the National Centre of Performing Arts now under construction in Ottawa. This complex will house an Opera House of 2,300 seats, a Drama Theatre of 900 and an experimental Studio of 300 seats. The architect is Fred Lebensold who was responsible for the 3,000 seater Place des Arts, Montreal.

Our own theatre has been equipped with this system and the desk is extremely small, the one shown being for 150 channels, (60 fitted), 100 memory presets and is only 36 in. wide by 25 in. deep by 30 in. high. It always has been a feature of the Strand system that the channel operating rocker tablets to raise and dim form their own mimic diagram display. In consequence, to increase this desk to 300 channels the rows of 20 rocking tablets would each be increased to 40. This only adds another 15½ in. on to the width. This control will be used for all demonstrations this autumn. In this way the control will receive regular use on a variety of types of work, including some much requested recitals of colour music.



Model of the Canadian Centre for the Performing Arts, Ottawa.



System IDM. Model illustrated is for 150 channels (fitted 60).

Using the prototype control it has proved possible to simplify the electronics to some extent, but it has confirmed the wisdom of keeping the operator's controls and routines of use "dead simple". Group masters are neither fitted nor are they necessary, the whole approach being to record a series of pictures each complete in every detail. These pictures are faded from one to the other, usually by using the two master faders on the lower right-hand side panel. So far from proving a restriction the relaxed ease with which the control can be played greatly increases what one can do simply because one can dare to do it.

Theatre Plans Addenda and Corrigenda

As TABS readers will remember, our June number was a special devoted to "Theatre Design in Britain" and contained plans and photographs of some 35 post-war theatres. We said at the time it could not include all. There were three omissions, however, to which reference is made in this issue. These are Scunthorpe, which claims the distinction of being the first post-war civic theatre and those at Torquay and Weymouth which are typical examples of the seaside resort theatre.

The Century at Keswick have also laid claim to be included in our anthology. But interesting though this is in being a series of vans which, joined together, make a 225 seat theatre capable of being set up anywhere, it hardly qualifies as a permanent theatre. It was, however, described and illustrated in TABS Vol. 12 No. 2. Two corrections concern the Oxford Playhouse where the seating capacity should read 700 not 849, and the Mermaid where the stage width was stated incorrectly as 39 ft. in the early copies but got corrected to 49 ft. for the rest of the run. Also the Richmond control is system SR not LC as quoted in the schedule.



IRELAND'S NATIONAL THEATRE

by Percy Corry

It was on July 18th, 1951, that Dublin's Abbey Theatre was destroyed by fire. It was also on July 18th, fifteen years later, that President de Valera opened a new Abbey with a National Theatre Society in occupation.

The old and the new theatres occupy the same site. The cost of the new theatre is said to be about £600,000: the old Abbey was created in 1904 at a cost of £1,500 to provide a home for the Irish Literary Society's drama section. The money was provided by Miss Horniman who, when her connection with the Abbey ceased, formed the Gaiety Theatre Company in Manchester and, as a result, is generally credited with having started the repertory theatre movement.

During the first quarter of this century the Abbey created a great international reputation. It was not just a theatre: it was a compelling voice of Ireland, or perhaps one should say a chorus of voices. Yeats, Synge, the Fays, Sara Allgood, Maire O'Neill, Barry Fitzgerald, Arthur Sinclair, St. John Ervine, Lennox Robinson, Sean O'Casey, the redoubtable Lady Gregory and a score of others, all making significant contributions. There is now much emphasis on the glories of the past, which is understandable, and

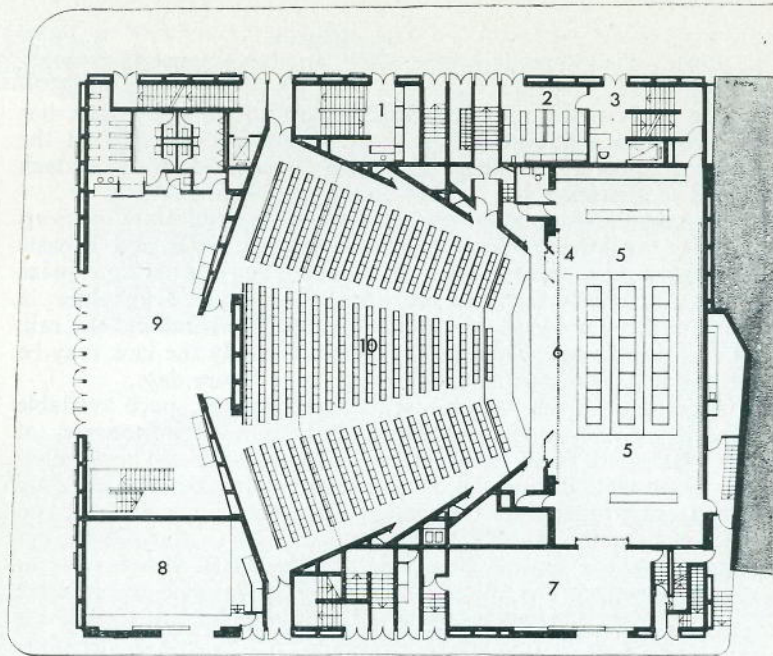
some may reflect wryly on the hard struggle for survival by those who created the glories at a time when tangible appreciation would have helped.

The exterior of the new theatre has an austerity that has provoked some criticism but it is an acceptable austerity in the general architectural context. The main entrance does rather lack compulsive invitation but there is no austerity inside.

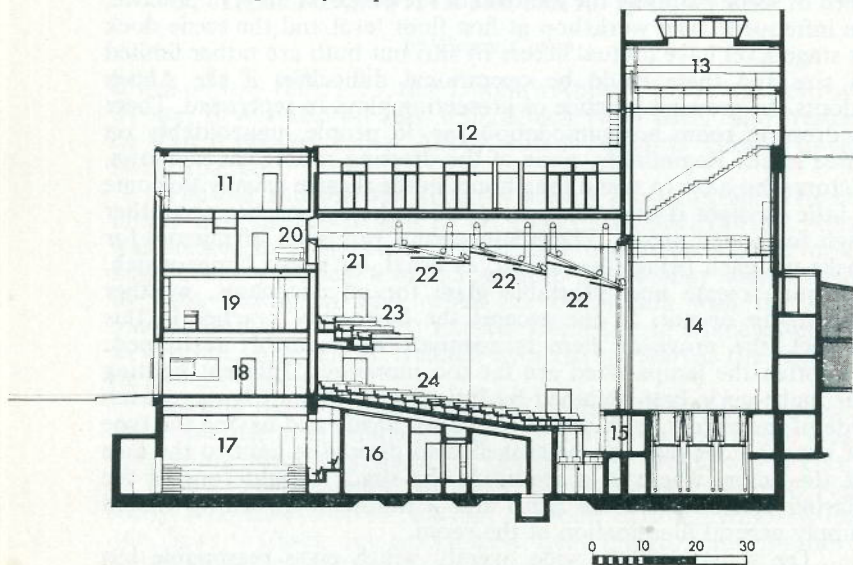
Nostalgic insistence on the old site has created many obvious difficulties for Michael Scott and his associates. It is now a basic need that a new theatre must have adequate car-parking space on the site, unless facilities are already adjacent. Difficulties in parking and the prospect of walking through the wind and the rain may well deter many potential playgoers. Possibly the lack may be remedied if the site can be extended at some future date.

Although the site has imposed limitations, the space available has been used to good advantage. There is not a restaurant, of course, but there is an excellent bar, planned to avoid congestion as far as possible during the usual interval stampede. The building is four storeys high, with a basement 22 ft. below ground level and extending over the whole site. The stage depth is only 28 ft. but forestage lifts can extend the acting area by 14 ft. if two rows of seats are sacrificed. The lifts can, of course, also provide an orchestra pit. In addition, the main stage has three large lifts to vary levels of acting area. A paint frame is suspended at the rear of the stage and can be flown away when not required. Its working platform can be collapsed but as a resident company is likely to be in constant need of scene painting, the removal of the platform may, in practice, be infrequent. The workshop at first floor level and the scene dock at stage level have mutual access by lift, but both are rather limited in size and there could be operational difficulties if the Abbey adopts the growing practice of presenting plays in repertoire. There is dressing room accommodation for 36 people, unavoidably on three levels. Regrettably, none of the dressing rooms has windows. Actors who have to spend long hours in the theatre usually welcome a little daylight if they can get it. The make-up benches are rather high for seated actors. There is generous provision of mirrors for make-up, each being surrounded, as usual, by naked lamps which, as usual, create uncomfortable glare for all occupants, whether making-up or not. If one accepts the customary practice in this respect, the provision here is adequate and sensibly restrained: too often the lamps fitted are far too numerous. Efficient lighting for make-up is best obtained by fitting one 150-watt lamp at each side of the mirror, enclosed in a reflector shade and having the type of lamp holder that can be swivelled to direct the light to the face of the actor, where it is required; the shade should conceal the glaring nakedness of the lamp and a normal light fitting should supply general illumination of the room.

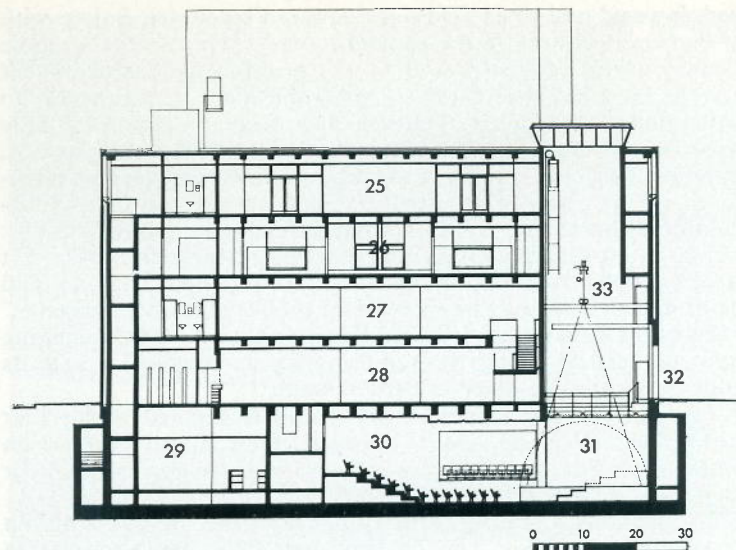
The stage is 72 ft. wide overall, which gives reasonable but minimal wing-space and there is a 59 ft. grid with 39 single purchase



Abbey Theatre—ground floor plan.



Longitudinal section.



Cross section showing the Peacock auditorium, stage and stage tower.

Key to Plan and Sections

- | | | |
|-------------------------|-------------------------|---------------------------|
| 1. Peacock entrance. | 13. Grid. | 25. Rehearsal room. |
| 2. Green room. | 14. Abbey stage. | 26. Control room. |
| 3. Abbey Stage Door. | 15. Orchestra pit. | 27. Abbey lounge. |
| 4. Variable proscenium. | 16. Peacock scene dock. | 28. Abbey foyer. |
| 5. Abbey Stage. | 17. Peacock auditorium. | 29. Peacock lounge. |
| 6. Safety curtain. | 18. Abbey foyer. | 30. Peacock auditorium. |
| 7. Abbey scene dock. | 19. Abbey lounge. | 31. Peacock stage. |
| 8. Upper Peacock stage. | 20. Control room. | 32. Peacock loading dock. |
| 9. Abbey foyer. | 21. Fixed ceiling. | 33. Peacock stage tower. |
| 10. Abbey auditorium. | 22. Spots. | |
| 11. Rehearsal room. | 23. Balcony. | |
| 12. Roof terrace. | 24. Stalls. | |

4-line counterweight sets. The proscenium opening, created by the side walls of the auditorium, is 40 ft. wide. This width can be reduced by manually operated sliding panels, fitted in grooves at top and bottom and extending the full height of the opening. The effective height of the opening can be varied by adjustable ceiling panels over the auditorium, which do not extend to the full width of the auditorium and therefore avoid any emphatic framing of the stage. These sound-reflecting panels are a novel feature. There are three of them, and they consist of steel frames to which are screwed 3 in. by 2 in. timber frames with $\frac{1}{2}$ in. blockboard on top and bottom, thus creating a 2-in. cavity between the blockboards. The panels are suspended from the concrete roof beams and may be

raised, lowered and tilted. They are powered by electric hoists, with push-button operation in the control room, where there is a mimic indicator which can be pre-set to the position and angle of tilt required. Spot bars are fitted to the front edges of the panels to accommodate the F.O.H. lanterns and there is access—slightly hazardous—for focusing, etc. The panels can be lowered to 5 ft. from stage level for lantern re-arrangement and for general maintenance. An important purpose of the panels was to provide adjustable sound reflection. In this connection the architects state: "Although acoustically useful, the position of the reflectors is not critical for good acoustics so that the other functions (lighting and general appearance) can be allowed to dictate their deployment." In view of the difficulties sometimes experienced with F.O.H. lighting from fixed ceiling slots, this adjustability is interesting and its usefulness in practice deserves careful study.

The lighting and sound control room is situated at the rear of the circle, with good view of the stage: there is also a projection room at each side of the control room and these can be used for follow-spots.

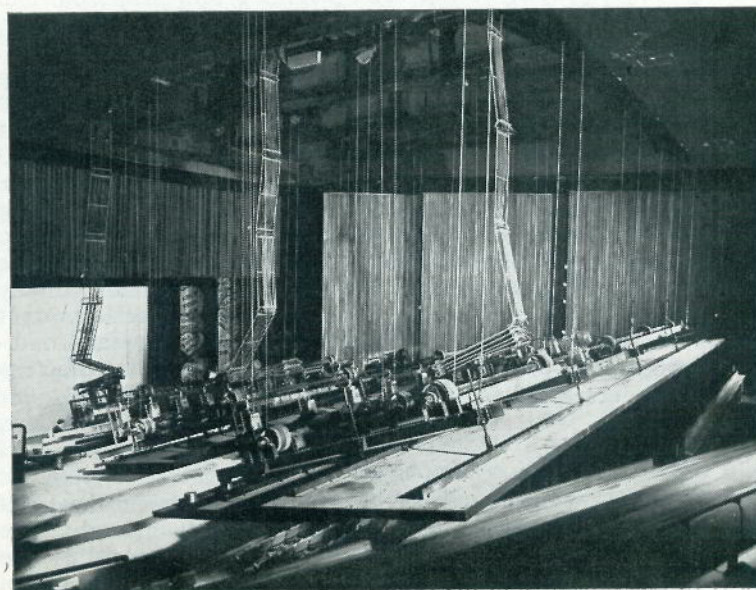
The maximum seating capacity is 628; there are 531 seats on the raked ground floor. The balcony seats 97 in three rows from which there are good sight-lines to the full depth of the forestage. The auditorium is fan-shaped, varying from 40 ft. at the front to 85 ft. at the rear: total depth from stage front to rear wall is 60 ft. The hardwood strips fixed to the acoustically treated walls create an attractive boundary under full light and fade away effectively when the house lights are out. The whole effect is pleasing and intimate. The pedestal tip-up chairs are comfortable and are covered in blue Irish tweed. The carpets are hand-made rugs from the West of Ireland and one of the heating boilers is fuelled with Irish turf brickoons. Nice touches for a national theatre. Some details of equipment are given as an appendix.

At present in course of construction is a small experimental theatre, the Peacock—(may it have many Junos)—which is to have some adaptability. Rather surprisingly for such a theatre it has a fly-tower, although the stage will be only 50 ft. wide and 20 ft. deep. It will be possible to create a central acting area of 20 ft. by 20 ft. and it is understood there will be a novel arrangement for adjusting the seating, the maximum capacity of which is 157. A further report on this supplementary theatre should be made when it is completed and is operating as a theatre workshop.

Although in recent years the Abbey has followed a policy inclined towards national exclusiveness, many of its best friends now believe that a more outward-looking policy is probable and that the Irish theatrical genius will have opportunity for expression in a wider, international context, to which the purely Gaelic could be complementary. The art of the theatre has no frontiers and the new Abbey Theatre and its company have sincere well-wishers all over the world.



Abbey Theatre auditorium showing ceiling slots and FOH spots (see schedule of equipment on following page). The suggestion of benches in the balcony originates in the timber book ledges at the backs of the seats. (Below) Ceiling sections lowered to balcony level showing the raising gear and flexible feeds for lighting.



Stage Lighting Equipment at the Abbey Theatre

Ceiling slots (three): 30 Patt.264 1 kW Bifocal Spots, 10 Patt.223 1 kW Fresnel Spots.

Side wall slots (2 each side): 20 Patt.264 1 kW Bifocals.

Spot Bars (three): 26 Patt.223 1 kW Fresnels, 17 Patt.264 1 kW Bifocals.

Cyclorama (top): 24 Patt.223 1 kW Fresnels. *Cyclorama (bottom)*: four 6 ft. sections Ground Row.

Portable: 6 Patt.243 2 kW Fresnels, 6 Patt.223 1 kW Fresnels, 1 Patt.152 4 kW Effects Projector, 2 Patt.293 2 kW Follow Spots.

Dip sockets are sited in two 12 ft. long troughs to remove surplus cable from stage floor and give flexibility.

Lighting Control: 120 C.D. 2-preset, 14-memory electro-mechanical system with 86 Resistance and 34 Transformer Dimmers.

Sound: Stage performances to dressing rooms with paging for stage manager. Microphone and speaker from S.M. to fly gallery. Prompting through perch speakers. Effects operated from console in control room, with 2 record players and two 4-track tape recorders.

SOME GUIDELINES FOR THEATRE-IN-THE-ROUND

by Donald C. Mullin

Mr. Mullin, who is Assistant Professor of Drama, College of St. Benedict, St. Joseph, Minnesota, U.S.A., has already contributed to TABS, Vol. 23, No. 2, on lighting for theatre-in-the-round.

Staging in the round is becoming increasingly popular in the U.S. as a form for small or secondary theatres, partly because existing buildings may be converted from other uses to "rounds" without ruinous expense. Much has been published in recent years about theatre-in-the-round, but articles usually restrict themselves to specific technical recommendations, leaving the form of the stage and hall untouched. For those contemplating a change to staging in the round, a review of some of the elements peculiar to this form may be pertinent. There is no "ideal" form for the round, no more than there is one for the proscenium theatre, for there are entirely too many variables to allow such a presumptuous declaration. It is possible, however, to consider the form of the stage and auditorium and to arrive at a recommendation that will be satisfactory for the production of a number of differing types of plays.

The Acting Area

One of the major advantages of the average proscenium theatre is that there is no delimiting edge to the acting area other than the apron. The setting may be as large or as small as required for the play. In most theatres-in-the-round, on the other hand, the position

of the first row of seats acts as a definite limit upon the shape and size of the stage. The acting platform may be "hard-edged" or "soft-edged", in that there may be a permanent and distinct division between seating and the stage or one that is temporary and indistinct.

"Hard-edged" or geometrically-formed stages include the curved and the rectangular, with polygonal shapes also occasionally intruding. Examples of curved stages may be found in the Theatre en Rond, Paris, and the Arena Theatre, Houston (circular), and the Tufts Arena Theatre, Medford, Massachusetts (elliptical). Rectangular stages are familiar to us in the plans of the Washington, D.C., Arena and of Stoke-on-Trent. Polygonal stages may be found at Margo Jones's old Theatre 47, Dallas, and at the Teatro San Erasmo (trapezoidal and octagonal).

Acting area configuration is usually determined by the type of play most commonly produced and based upon the requirements of that type. A circular or elliptical stage is popular with producers offering opera or musical comedy, and with some producing plays from the historical past. A curvilinear form, as any text on the psychology of design will tell us, is most easily associated with fanciful or comic productions, or with those whose movement patterns tend to be indirect and artificial, as in mannered comedy, antique or baroque drama, or plays with music. Since such elliptical forms and undulating curves are the distinguishing characteristic of baroque design, a stage of this shape brings this period immediately to mind. Occasionally the contrast between realistic straight-line movement and a curved stage can be effective. Usually it is psychologically contradictory and thus paradoxical and confusing.

While the curved stage is to be recommended for the production of plays suitable to its shape, it is not suitable for realistic drama for the following additional reasons: (1) The actors tend to rotate like fish in a bowl, developing curved movement patterns conforming to the curved edge of the stage; (2) On a circular stage, crosses are all of the same length, due to the constant diameter, leading to monotony in blocking or to noticeable attempts to break up the pattern; (3) Realistic room forms cannot be accommodated unless part of the stage is masked off, reducing the acting area and forcing parts of the audience to view the scene across a no-man's-land that is not otherwise justifiable.

A rectangular stage is suitable for plays demanding a realistic outline conforming to interior architecture, but the shape is not suitable for the proper pictorial representation of non-realistic plays or of open exterior scenes, since (1) the "hard" straight edge is psychologically inappropriate for fanciful drama, comedy, and the natural outdoors; (2) the sharp corners are deep wedges into the audience seating areas, and blocking within these spaces is remote from patrons on the other side of the stage, being roughly equivalent to scenes in the proscenium theatre played close to the back wall; (3) a perfectly square stage is much more restrictive and

inhibiting, both practically and aesthetically, than any other shape, as anyone who has worked within such a form can attest.

Neither the rectangular nor the curved stage is suited to plays whose design psychology requires unidentifiable free-form shapes. Rigid geometry conflicts with the need for complete visual or emotional freedom in this context, and tends to suggest an enveloping frame of reference which, for the play, does not exist. Lighting alone cannot delimit or shape a stage, for spill and floor reflection in the round are more acute problems than in the proscenium theatre, and usually prohibit such demarcation. Only very large stages can provide limitations through light, since the vastness of the acting area will allow selection of acting area shapes as necessary, as in the Washington, D.C., Arena. Stages of this size, as is generally agreed, lose the very intimacy for which the round form is valued. This matter is academic in any case, since the type of organisation planning to stage in the round would not normally find itself burdened with such large halls.

A solution to the problems noted above may be found in the "soft-edged" stage. By laying out a basic acting area with a rectangular form but also with curved or mitred corners (Stoke-on-Trent), many objections to any readily identifiable geometry are partially overcome. Further, by installing the first row of seating so that it may be removed easily in short sections, the stage is allowed to flow into whatever shape seems desirable. By removal of selected seats the blunted rectangle may be converted into a free-form merely by an extension of light and of painted floor treatment, without any acting space being sacrificed at all. Realistic settings may be accommodated readily by the straight sides of the unmodified stage, and the curved corners reduce the feeling of remoteness of actions taking place therein.

Seating, Stages and Aesthetic Distance

In spite of the vogue for encouraging audience involvement by allowing patrons very close to the acting area or by allowing actors in the audience, it is usually agreed that some barrier between actor and audience is desirable. This may take the form of a narrow but distinct amount of space, a shallow pit, a wall, or be created by the raised edge of seating rostrums. Placing seats too close to the action not only restricts the acting area by allowance for outstretched feet, but also allows the first row to be bathed in spill and reflected light from the stage. If the acting level and the first row are at the same elevation, furthermore, this part of the seating will be on the same plane as the stage and thus associated with it, while the actual aesthetic separation between stage and audience will start at the second, raised, row of seats.

Raising the stage will provide a separation, but will make first row viewing unnecessarily awkward. Raising the first row will give a better sightline, but the edge of the raised row rostrum will present

a hard delineation between seating and acting areas. Proper distance as well as freedom from undesirable demarcations may best be realised by the provision of a slightly raised stage, a raised first row, and a shallow pit between them that is a few feet wide. The stage may then assume a shape of its own not necessarily conforming to that of the seating rostrums, and may be altered easily by the introduction of rostrums into the pit to enlarge the acting area a few feet in any direction into whatever configuration suits the production. The adoption of this plan provides a stage that may have its own shape, a small but effective aesthetic barrier, and the possibility of extension of the stage into the barrier area, thus provides not only for an increase in stage size but also for an amorphous free-form.

The Aisles

Aisles are designed for access to seating and to provide means of rapid exit in cases of emergency. In the proscenium theatre these are the only considerations, and aisle patterns frequently are regulated by law. In the round the aisle pattern serves the same functions, but an additional one is also of considerable importance. The aisle is frequently the only way for the actor to get to the stage. Actors and crews operate from the aisles, making entrances and exits, changing set-pieces and properties, all by using the same aisles as do the audience. A large theatre-in-the-round, with many seats, may well have enough aisles for audience traffic and safety to serve production requirements quite well. It is the intimate house with fewer audience requirements which needs careful planning.

The number and placement of the aisles has a great deal to do with the "feel" the audience will get of the house and production. Two wide and bold aisles at opposite ends of the stage may well serve as sufficient movement channels in intimate theatre productions, but the psychological effect of such a design is bad. The audience cannot but feel that they are sitting by the side of a stream, watching one segment of a flow of activity that starts offstage at the unknown beginning of one aisle and ends offstage at the unseen end of the other. All blocking must follow the stream, and actors to one side of the direct path on stage seem to be caught in eddies rather than forming effective scenes. The centre of the stage is not the centre of the acting area, but the middle of a path that divides the stage into two distinct parts. Other patterns where the same straight-through effect is given are equally disturbing. Whatever the arrangement, the audience must feel that the actors have come on stage to stay a while, and that the stage is a place, not a pause. For this reason it is wise to avoid opposite aisles of the same dimensions, no matter how they are situated, and to depend instead either upon staggered aisles or upon ones of obviously different sizes.

It may be possible, with raised seating, to have aisles that are a series of steps. If the auditorium architecture presents this develop-

ment then additional and separate aisles must be provided for actors and crews. It is not always possible to consider separate flat-floor aisles for technical reasons only, especially in conversions of buildings from other purposes to a theatre-in-the-round, due to space limitations, but the difficulties associated with poorly planned access routes cannot be exaggerated.

As in the proscenium theatre, the theatre-in-the-round must adapt itself to rapid and silent scene changes. The round does not have the flexibility of the proscenium form in the handling of scenic pieces, but changes may, with foresight and careful rehearsal, be very rapid. Round theatres with fly systems, wagon stages, sinking stages, and other methods of shifting have been designed but none have been built. Rudimentary flying systems are common in the American summer musical tent, and the Washington Arena has a somewhat more substantial flying rig. The average group, however, has neither the space nor the funds for such equipment. For the average, then, almost all shifting is managed by the carrying of units on and off the stage. The requirements for the management of such changes are few, but they must be closely observed.

(1) There must be one aisle free for the quick and silent exit of the cast on stage when the blackout occurs at the end of a scene.

(2) An additional and separate aisle must be provided for the crew to enter at the moment of blackout.

(3) There must be an aisle free for the crew to exit at once, without having to join an Indian-file of actors trying to get off in the dark.

(4) One crew entrance aisle and one crew exit aisle must be large enough to allow the passage of the largest scenic piece likely to be used in the theatre. These aisles are best located reasonably opposite each other.

(5) All stage access aisles must be completely free from steps. If the stage is raised then the aisles must ramp up to that level.

With sufficient traffic aisles and with a liberal use of luminous paint, changes may be made in the dark with the same facility observable in proscenium blackout changes.

Stage "Room" Size

Proscenium arches, however draped or portalled, give a sense of proportion to the stage space concealed behind. What appears on the stage is delineated by this proportional frame. Many refer to the "space stage" as something highly desirable, in which there is no delineation of the general envelope in which the actors are seen. Few plays are so universal or grand in theme, however, that they can expand their environments indefinitely. Limitations are a psychological requirement for any play. The eye and the mind can only grasp so much space as relevant to the scene played within it, and one of the virtues of the well designed proscenium theatre

is that it observes this requirement, and can even be adapted to other sizes as the requirement changes.

The theatre-in-the-round is bound by no walls, no curtains or portals. The only limitation on the acting space is the edge of the acting area. When this is, as part of the design, amorphous, the space is not framed at all. Although thrust stages are not our concern here, this "roofless" appearance may readily be noted at the Questors Theatre, at the ANTA Theatre in New York, and at the Tyrone Guthrie Theatre in Minneapolis. A necessary visual limit may be imposed by the planning to effect what frequently happens by accident. An overhead "roof" to the acting area which will serve the same function as the draperies or portals on a proscenium stage is usually already in place in the round, namely the lighting grid. A barrel grid for lighting instruments is a necessary furnishing for any theatre-in-the-round, and the relationship of this grid to the stage effectively establishes the overhead space psychologically available to the production. In many summer musical tents in the States, this grid serves as a support for a decorative border or teaser which effectively establishes the stage space both vertically and horizontally. A grid section that can be raised or lowered as required provides a separate and flexible room "ceiling" that may be adapted to production requirements for aesthetic as well as for technical reasons. The actual design of such a grid will depend entirely upon local conditions, and its suitable arrangement has been covered in such articles as that of Stephen Joseph in the December, 1964, issue of TABS. While hall availability may determine the overhead space available for use, a structural ceiling lower than 12 ft. is fiendishly difficult to use as a mount for lighting instruments, while one above 18 ft. will require instruments of greater intensity and of narrow focus, such as mirror spots—an expensive matter.

There is much more to be said about architecture for the round, but such has been said well elsewhere. My purpose has been to direct attention to several factors that may be overlooked in the establishment of a general arrangement suitable for such production, factors that are not normally considered in articles dealing with the subject. We should realise that the theatre-in-the-round is not, *ipso facto*, an "experimental" form of theatre architecture. The round form has progressed beyond the point where sins of omission and of commission will be forgiven because the staging method is new and untried.

A well designed and carefully thought out theatre-in-the-round may be installed in almost any hall of reasonable size with the minimum of expense. Productions may be mounted without the staggering costs of elaborate scenery. Such considerations are certainly in its favour. Even if this were not the case, however, round production would still be a valid means of theatrical production, being intimate by nature, pleasant and informal in actor-audience relationships, and, somehow, making even the most earnest amateur appear more lifelike and stimulating in his rôle.

IDEALS AND REALISM IN LIGHTING CONTROL (II)

by Frederick Bentham

This is the second and concluding part of an article begun in TABS, Vol. 24, No. 1 (March), and was held over on account of the special architectural number of June.

In the previous article we considered the great revolution of 1965 in lighting control for which the solid state controlled rectifier device known as the Thyristor was responsible. The new availability of presetting if not for all, then for all who need it instead of for those that can afford it, was described. "New" can, of course, be a misleading term, and I was intrigued to find that Strand Electric to date have supplied over 7,000 of these dimmers, which means over 14,000 Thyristors. This number emphasises the fact that although 1965 saw the greater availability and reduced cost which enabled other systems to be superseded, we have been making this kind of dimmer for a number of years now. In fact, our first Thyristor dimmer was demonstrated in 1959 and at first, while the thing was really new, installations went only to those who could watch and report on performance of this form of electronic equipment, and this meant mainly television studios at home and abroad.

Development goes on, and the rest of this article will be taken up by what I consider to be an important advance and the most intriguing control in the middle price range. Simple to understand, compact and easy to service, it is a control that I get a lot of pleasure from working. Of course, compared with system IDM, which I described last December and demonstrated this March for the first time, its achievements are humble; but they are satisfying and have a task to fulfil none the less.

This time last year we were busy installing a new control of 140 Thyristor channels in the National Theatre (Old Vic). The control was to have three presets, and Richard Pilbrow, their lighting adviser, was anxious to be able to form two, preferably three, groups quite independently on each preset. This is a revival of the practice on the two-preset electronic (thyatron valve) controls of the immediate post-war period. Separate selection of groups on each preset has the advantage of increasing the number of groups of lighting available, but has a definite drawback in creating twice as much work when cross-fading from preset to preset, because then the groups must be exactly matched.

When the cost of the extra switches and wiring is added, then on balance I consider the use of common groups has the advantage, but if an automatic matching system could be added to the independent group selection then one would enjoy the best of both worlds.

To prevent unpleasant proliferation of switches (420 three-position no less) at the National; the luminous dimmer lever already



Fig. 1

described in TABS* was used. The touch contact on each scale was employed to identify the channels concerned when using a white, red or black master select push. This operated a pair of relays which not only routed that channel on that preset to the correct master but displayed the fact by internal illumination of the scales in white, red or no light as appropriate. Black can be regarded normally as off, but consists of a busbar with its own master, usually kept down, and can therefore be used as a group if required. Thus a group on red and one on white could be cross-faded within a preset while other channels on black did not change. Although there was much that was good about this system I was conscious of some dissatisfaction; one did not shout "eureka" or feel bang on target.

Anyone who has created anything will know the strange feeling of design being right. At Covent Garden, for instance, although I was quite pleased with it, the system could have made much better logic with three presets rather than four. An element of compromise—the sharing of the memory groups between pairs of presets—could have been avoided.

So, too, at the National, here was a good idea but not good enough. Considering the simple job they do there are a lot of relays, 840 for the channel routing alone and a lot of wiring. It is one thing

* Vol. 22, No. 3.

to do all this when memory groups are involved, but the money would not run to that adjunct.

Research had, however, been going on into solid state switching in which there are no moving parts and everything is miniature anyway. The problem was therefore passed to the electronics department. During the autumn they came up with the answer and the result is system LP (Luminous Preset). All routing and indicator switching now takes place on a small printed circuit card which forms an integral part of the plug-in luminous dimmer unit. The photographs (Fig. 2 & 3) show the difference in size between the new unit and the relay bar

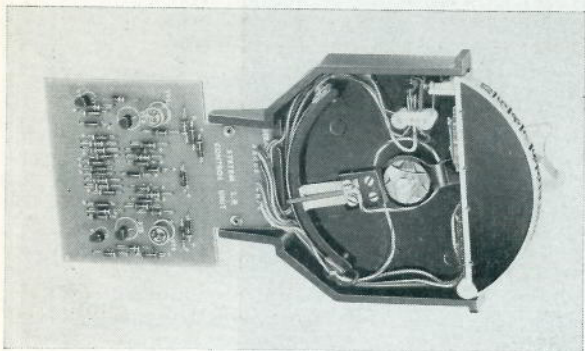


Fig. 2

it replaces. Not only this, but as all this takes place on the back of the dimmer lever, wiring is reduced to simple busbarring and cabling across the dimmer lever sockets. The large relay banks (Fig. 3), the enormous jig-made cable forms all vanish. Furthermore, there is no need for a specialist to trace out faulty contacts. Should any channel play up, then the lever is just extracted from the front and a new one plugged in. This is of little weight so replacement by post is obvious.



Fig. 3

Enough about circuitry. What does this system do? What facilities does it give the operator? This is how *any* stage lighting control has to be judged; the electronics are only incidental.

On System LP the dimmer scale itself is translucent and carries two internal indicator lamps, one red and one white. In addition the scale can be depressed against a spring to use it as a push button for routing purposes (Fig. 4). The levers mount at $\frac{5}{8}$ in. centres horizontally and $4\frac{1}{4}$ in. vertically. All confusion between one lever and another is avoided by the special cutaway shape of the dimmer knob which not only provides ample space for the finger to rest but places it over the scale to which it refers.

The recommended form (Fig. 5) has three presets, each of which is mounted as a horizontal row over the other. This allows easy operation within a preset and also facilitates matching when necessary of intensities from one preset to another. Other than the three preset levers per channel, there are only the master controls, no separate grouping push buttons, switches or indicator lamps being necessary. Indication and selection is at the dimmer levers themselves with consequent reduction both in space required and in uncertainty in observation.

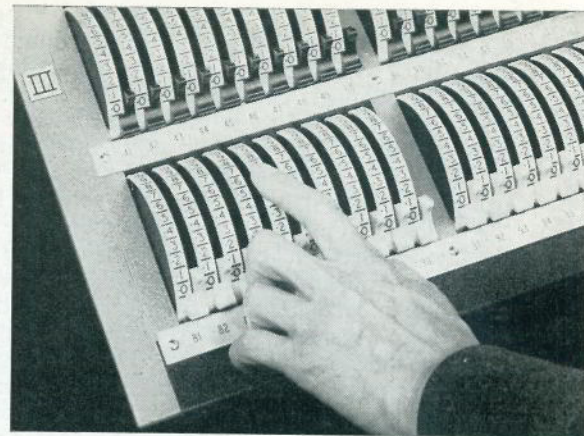


Fig. 4

Master controls are kept as simple as possible and are concerned with grouping on to the two master faders (the white and the red) per preset. To do this there are five master push buttons to each preset—All White, Individual White, All Black, Individual Black, and Individual Red. The Individual White and Individual Red pushes are used to set up groups on the White and Red faders.

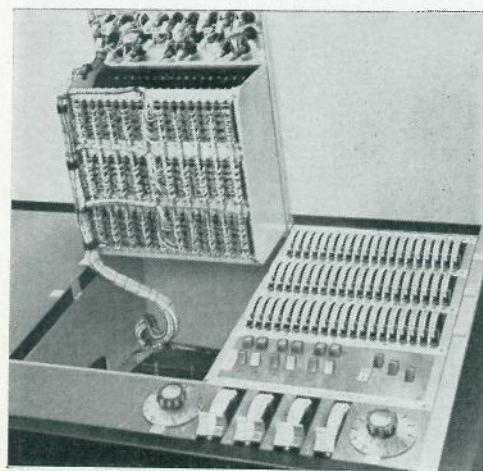


Fig. 5

Any dimmer scales touched while either push is held will be routed to the appropriate fader and light up in White or Red. In addition dimmer channels can be selected as common to both faders and display both red and white. Thus, a preset can in effect be formed into three groups and a cross-fade be carried out with some channels, for example the sky, remaining static, without resort to another preset. Channels are removed from a master fader by using the "Individual Black push" in the same way.

The "All White" or "All Black" pushes operate without the need to select individually at the dimmer scales. This can be very useful when simple non-group presetting is required since at a touch all channels can be set on the white. These "All" pushes are also helpful when setting either nearly full or almost empty combinations. Thus, if a lot of channels are concerned they can all be set "on" at one touch and those not required then removed using "Individual Black" and/or "Red". In the same way using "All Black" the preset can immediately be cleared to "off" and the few required picked out in white or red or both as appropriate.

It is important to realise that the groups formed on system LP are quite independent on each preset. In this it differs from the push button system S.P. (Fig. 1) described in part (I) of this article. Thus six independent groups or blocks of light, or nine if the commons are included, can be set at any one time. It is not difficult to imagine raising first this block of light and then that. All the lanterns of the groups are still under individual control for balance and change if necessary.

In other control systems this practice of separate grouping to each preset as already stated entails extra work in matching groups when cross-fading group by group from preset to preset, but on system LP such matching, when required, is quite automatic. All that is needed to press either of the two amber matching pushes associated with each preset master. These can either couple down the group of another preset as an addition, or if "All Black" is pressed first, as a substitute.



Fig. 6

The red lamps need not necessarily be used together as the master group they may form, but can act as "markers" to identify a series of scattered dimmers to be brought in sequentially one after the other by hand. Likewise, in a part of a show depending on several switching changes in rapid succession one or two of the presets can be used for setting these in advance merely to be copied onto the active preset when required. Since the inactive preset master faders would be kept off, such use of the touch contact facilities would not prevent the actual dimmer levers on these presets from being already set at a series of levels ready for later use.

The compact nature of the dimmer lever and its integral routing card makes possible self-contained desks for forty to eighty channels as already shown above. The width of the latter being 57 in. overall. However, for this, and certainly for larger ones of one hundred or over channels, the ergonomic wing unit and a separate small centre desk will be preferable. Figure 6 shows what this would look like in a room at the back of a theatre auditorium. It will be clear how conveniently close to hand everything is. A single-sided wing leaves space for auxiliary controls or other equipment on the operator's other hand as in the photograph, where a switch patch panel and remote colour filter change controls are in fact accommodated.

An illustrated guide in full colour is available on request summarizing in compact form all the control systems of the new Strand thyristor range. Ed.

SCANDINAVIAN SEMINAR OSLO

by Peter Moro FRIBA

The fourth Scandinavian Seminar took place in Oslo from May 31st to June 9th, 1966. This is an event which is held in a different Scandinavian country every year, and is a forum for discussing problems concerning the theatre. The seminar is financed by contributions from the various countries concerned, and each one sends a selected number of promising young people who work in theatre, either as actors, directors or designers. Only the speakers are drawn from countries outside Scandinavia, and in this case consisted of Disley Jones, Robert Ornbø and myself from England, and Josef Svoboda from Czechoslovakia. There were also a number of Scandinavian lecturers, such as Professor Markelius who spoke of his plans for the City Theatre in Stockholm. Everybody connected with the seminar lived in a comfortable timber-built hotel in the pine forests, just outside Oslo. An agreeable building which, with its social rooms and lecture room, was well equipped for conferences, and is in fact exclusively used for similar purposes.

Being the first speaker on the programme, I took great care to keep my paper clear and to the point, as I felt that this would influence the quality of the discussion which was to follow. All participants were issued in advance with a book called *Scenographie*

Nouvelle, published by *Edition Aujourd'hui*, in order to provide a common talking point. But as this book contained a large dose of schemes which were as ingenious as they were impracticable, and merely destined to appear time and time again in books on theatre design, usually under the grandiose title of "Total Theater", I suggested, not unreasonably, that the discussion should be limited to theatres as places where plays could be performed. This ensured that the subsequent discussion had an air of reality. Although this is not the place to go into detail about my paper, one of the things I tried to do was to put adaptability, which still haunts theatre people everywhere, in its proper place.

Luckily the official language of the seminar was English. This was not, as I at first thought, out of politeness to the three English participants, but because of the Finnish contingent. Whereas Norwegians, Swedes and Danes can understand each other, Finnish is the odd language out and has an entirely different root from the rest of the Scandinavian countries. Everybody in Norway seems to speak English pretty fluently, including the Norwegian policeman I met on the boat going over. He, incidentally, told me that he goes to the theatre in Oslo once a week!

The next speaker was Robert Ornbo who talked about modern lighting techniques. This aroused much interest especially amongst a number of the younger members of the seminar who seemed to follow him around like disciples ever after.

On the second day I talked about the Nottingham Playhouse, which most of them had heard of and some had actually gone to see. After this, Professor Markelius showed plans of his ill-fated scheme for the City Theatre in Stockholm, on which he has worked for a great many years.

The third day, fresh from London's West End theatre, arrived Disley Jones, who spoke about modern mechanical methods of stage design in the commercial theatre. During the course of his lecture he showed a film of his work for *Come Spy with Me*, which illustrated his idea on scenic kinetics, in the form of scenery moving about by means of small built-in electric motors. With this he anticipated, although in a modest way, Joseph Svoboda's contribution the following day.

Svoboda was undoubtedly the star turn of the seminar, and showed what can be done if you have all the backing you want, as well as a phenomenally inventive mind. A special exhibition was arranged in a large hall in town to house models and photographs of Svoboda's various designs for the National Theatre in Prague. His approach to stage design, which has become known internationally since his *Laterna Magica*, is pretty unique in as much as his scenic effects change as the mood during a production changes, and in places seem to transgress into the realm of the director. Astonishingly, his sets, which consist of trickery rather than solid matter, are cheap and certainly not bulky; the costs for twenty productions a year average £5,000 a piece, some probably more

expensive than others. One of the most amazing sets shown was a 30-ft. wide staircase which rose from the bottom of the orchestra pit, through the proscenium to the grid in one broad flight. On this Sophocles' *Oedipus* was being performed. The stairs were semi-transparent to enable the conductor to see movement above, as the orchestra was below the stairs, and was heard through perforations in the stairs. This fantastic piece of stage design had to be removed and stored away frequently, as it formed part of a repertoire. Also impressive, was his production of *Rigoletto*, performed sideways, i.e. with the set turned 90 degrees. The audience watched the performance as if it were seated in the wings, and with off-stage "goings on" visibly superimposed.

This was the fourth time that I had participated in a gathering of this kind, and it was interesting to see that certain patterns are emerging in regard to theatre design. The two most tangible facts are that it is now generally agreed that no opera house should seat more than 1,300, and for drama no theatre should seat more than 900. The second point is that permanently built-in machinery is undesirable and tends to restrict flexibility. The future lies in the direction of light, projection and scenic kinetics, consisting of either hand-operated or self-propelled units, which are specially

Set by Svoboda, Sophocles' King Oedipus, National Theatre, Prague.



made for each production. It was also generally agreed, and Svoboda confirmed this, that a large proscenium opening adds enormously to the cost of sets; the fact that he is conjuring up his magic world within a proscenium which is just over 31 ft. wide is ample proof that this kind of opening is in no way restricting the scope of a stage designer.

There is little doubt that everybody would like more flexibility in theatre design. There is, however, hardly any agreement as to how far this should be taken. The notion still persists that the most desirable theatre is one which allows total flexibility; a space where the stage and audience can be arranged in an infinite number of permutations. To my mind there is only one way to settle this proposition once and for all, and that is to build such a place. There are no technical difficulties in doing this. If this were done I predict that the limitless possibilities of such a theatre would have a devastating effect, particularly on the director who would soon long for sensible limitations, without which an artist is utterly lost.

Among the last lectures was a talk by a Swedish director who had actually produced an opera in the arena form. This I had to see and stayed an extra day to see how he had performed this miracle. In a small improvised hall seating only 200, a special opera written for the purpose was being performed. It had only two or three characters and a chorus off stage. The orchestra, with two conductors, was arranged in an outer ring behind the audience, and loudspeakers were placed in various positions around the auditorium, and underneath the stage. Although his talk was extremely interesting, and by all accounts his production most successful, this experiment had in no way brought us nearer to solving the problem of how to do *Aida* in the round.

There were free tickets available for theatres and cinemas in the evening, and while watching Ibsen's *Dolls' House* in its original language, a running commentary was whispered into my ear by a kind Norwegian director.

The light northern nights made it difficult to distinguish between night and day, and meetings and discussions continued into the morning hours, while birds were singing in the pine trees outside. Many new schemes were being discussed and drawings of some projects were produced. They were, on the whole, no better than those produced here, and showed the same mistakes and misconceptions. Unfortunately, in the absence of something like the ABTT advice service, they have nobody to turn to for informed and impartial comment.

The whole seminar was organised with great efficiency, and one went away with the impression that this was a beautiful and hospitable country, with charming people who had great affinities with our country. In the BEA Trident on the flight home, I thought about this, the anemones and the patches of snow still surrounding our hotel, drinking my first glass of warm lager since I had left England. . . . I knew I was on my way home.

SOME ADVICE ON STAGE LIGHTING

by B. E. Bear

In 1947, Mr. Bear just returned to Strand from the war wrote a small black booklet of only twenty pages to summarise his approach to the art of stage lighting. Published "anon" in accordance with the policy of the time the booklet was later enlarged to form a handbook on the use of Strand equipment as well. It is our fervent desire to tackle a new edition one day if only technical development would pause long enough to permit it! Meantime the original "advice" of 1947 still seems valid for those, the majority, who work with some form of proscenium. The Editor hopes that this will do something to compensate for the, to them, over concentration on open stage experiments. Readers should remind themselves that these were the days, four years before the coming of the first Patt. 23 Baby Profile and of the Junior (HA) board and ten years before Baby Fresnels could become commonplace. The amateur had very much to live on reach-me-down versions of professional practice.

It has been said that when we supply stage lighting equipment the paints and brushes are, in effect, provided but that the user must provide the canvas, the technique and the artistic ability. To extend this simile, although we can always tell how much paint will be needed for certain sizes of canvas, we can never supply the artistic ability. However, advice can be offered on the technique. If the recipient has no artistic ability this advice will help; if he has a little it will help him more; but if he is an artist he will probably ignore our advice completely and go his own way to a success greater than any that technique alone will ever give.

For all that, a basis of technique is essential to all creative work. At first reading, our advice may appear obvious but, in the same way that some accidents occurring in a production are so serious that they are funny, so some advice is so obvious that it is constantly ignored; here it is, however.

When planning a production, it is important to forget what has been done previously and to forget completely what resources of lighting are available until it has been decided exactly what it is wished to achieve. This aim should be fixed quite clearly in the mind, regardless of the difficulties; then, and then only, should it be related to the available resources.

The best creative work is often done because of limitations. These force one to think more deeply of the problem and having a clear aim in view will ensure that a lack of equipment alone does not cause defeat.

Why does one light a show? What is one aiming at? What in brief is the purpose of stage lighting?

- (a) To illuminate the actors in such a way that their gestures, movements and expressions can be seen and appreciated by every member of the audience.
- (b) At the same time, so to illuminate the setting that this forms

a credible background which will assist the actors in their interpretation of the play, and add atmosphere to the production.

An actor firstly uses his voice and, unless he can be seen he will soon not be heard. Since he must be heard by all, so then must he be seen by all. This is a problem peculiar to the Theatre, where an actor's voice must carry over some distance, and the success of Radio plays is not a valid argument that the unseen can be heard. Apart from his voice our actor will use gesture, movement and expression which must be seen, in so far as they are essential to his interpretation. Even if a scene represents night, the actor must be lit; but the audience must believe it is night. Hence the lighting should appear natural without necessarily being realistic, and by itself should be unobtrusive—the exception, of course, being the spectacular production where the lighting might play a part on its own.



Ignore our advice completely and go his own way.

It is easy to light the actors and it is easy to light the stage to give a credible picture; the problem is, however, to do both at the same time.

If one fails in either, so will the production fail to carry the audience. It should be remembered though that, at the outset of a play, the members of the audience are in a receptive mood and that they will remain so unless they are strained or distracted. Provided, therefore, that one knows exactly what effect is wanted, it can often be merely suggested, leaving the rest to the imagination.

One must always be theatrical, which means that understatement or overstatement may be used so long as the aim is known. If, however, the actors are underlit, the attention of the audience will flag and wander owing to strain and, when that happens, one has failed. To provide against this, the lighting should be studied before the first night, with actors on the stage, and from every position in the auditorium.

Now what must be considered in order to achieve the above? There is a logical order in which to think about lighting a production; not, of necessity, a logical order in which to light it. It is a question of progression from *what one wants to do* to *what to use to do it*.

The audience will be viewing the performance through what is known as the "Fourth Wall", which hides all stage contrivances, and although outside the theatre all of them know this, whilst they are inside "make believe" must make them forget the mechanics

of the theatre. What then, from the point of view of the audience, lights the stage? In any scene, what is the apparent source of light? On this the whole lighting design depends. The two main divisions, Natural and Artificial Light, can be sub-divided into Daylight in open scenes or through windows, doors, arches, etc.; Nightlight from moon, stars, etc., and Artificial Light from chandeliers, floor-standards, wall-brackets, candles, property fires, etc. For the moment we will consider how best to suggest that the apparent source of light is the real source. Although daylight is normally diffused, it is usually accompanied, on the stage at least, by sunlight to suggest the time of year or day and to add atmosphere; some sort of directional lighting will therefore be required. Whether this light comes through windows, doors, trees or wings, it can be simulated with either spotlights or floodlights. If floods are used they serve the additional purpose of lighting backings at the same time, but spots are generally to be preferred, since the intensity of light and the control of the beam are greater; the direction of the light is therefore more marked. Whichever are used should be on stands offstage, so placed that they will give the effect required but without throwing shadows of persons offstage onto the setting. They should be set as high as possible. The size and type of unit will depend entirely on the size of the stage but in general the wattage should exceed that of any other spotlights in use. Moonlight will, of course, be contrived in the same manner, subject to colour and intensity.

Where the set is presumed to be lit by artificial light, as if from fittings of one sort or another, the best approach will be to use spotlights to cover the areas presumed to be lit by each fitting. Often, too, it will be advantageous to link the fittings with the spots covering their area on the same circuit so that any change of light on cue will be easier to control. The normal position for such spots will be on the No. 1 Bar, just behind the curtain above the proscenium arch. In the absence of spots or other special equipment for this purpose it will be necessary to attain the effect by alteration of the intensity or colour of various parts of the batten or footlight.



The problem is to do both at the same time.

This apparent source must now be built up to fulfil the main intention, the lighting of the actors, and to give extra weight to the lighting of the setting. It will be remembered we stated that the actors must be lit so that their gestures, movements and expression can be seen and appreciated by every member of the audience. Here

then is the most important task. It has been placed second in our considerations, however, as the apparent source will condition all that is done. It will be realized at once that since the actors are at all times observed from one direction (fourth wall), any lighting to be effective must come from this direction; usually then the main equipment will be placed on the No. 1 Bar, i.e., behind the curtain and above the proscenium—which, apart from any suitable position in the auditorium, is the best.

Here one should try to assemble units for controlled lighting of areas (spotlights) and other equipment for more general lighting of the stage (floodlights or battens). The latter will provide the basic light; the former emphasis, direction and atmosphere. In deciding how many of what are needed, one should ensure that it will be possible to light all areas in which action takes place, sufficiently for the actors to be seen by every member of the audience and to maintain the impression of the apparent source. As a generalisation, it will be found that spotlights are more necessary for scenes lit by artificial light than for daylight effects and, when



Spots are generally to be preferred.

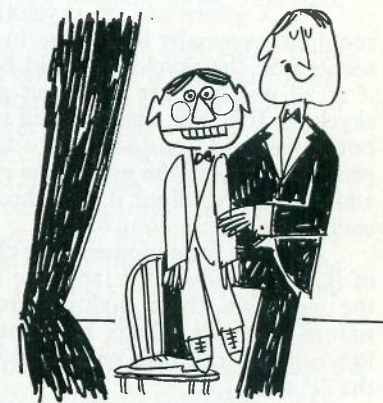
setting them, it should be remembered that it is logical to light areas Stage Right with spots from the Left and vice versa. It should also be remembered that an apparent direction, in keeping with the general design, can be suggested even with spots throwing in opposite directions by a variation in intensity of the two spots. When setting units, the difficulty of resetting them in an interval and the possibility of planning them to serve several scenes should be considered. If individual spots or floods are beyond available resources, an attempt should be made to vary the batten as discussed before, to obtain the necessary emphasis.

Now comes the first snag. Using the main equipment on the No. 1 Bar one will discover that actors coming down stage to within three or four feet of this position, being lit only from above, appear unnatural; there will be hard shadows under their eyes, nose and chin, and some sort of corrective lighting is called for. If the actors are seated at a table or desk, the provision of a white tablecloth or blotter will throw light back on their faces but this will not cure everything. It will be apparent that footlights will help as also will some lighting from the auditorium. Footlights have the disadvantage of tending to throw shadows on the back-wall if the intensity is not controlled and, whilst they will assist materially in lighting persons some four or five feet back from the front of the stage, they are of

limited value for anyone closer. Front-of-House (F.O.H.) spotlights from the auditorium in conjunction with these other forms of lighting are the answer to the problem. In principle, they are more use than spotlights on the No. 1 Bar but in practice, it is seldom possible to find positions for enough of them. For correcting the light from the No. 1 Bar, however, they should be placed sufficiently high not to throw shadows of persons, some six or seven feet up stage, on the back wall and not too close to the stage or they will have the same disadvantages as those on the No. 1 Bar. Often, on an average stage, one spotlight each side of the auditorium, fixed to the wall to cover the opposite side of the stage, will be more effective than a footlight, provided the stage is not too high. If the stage is high, the fact that the audience looks up at the actors renders the faults of top lighting more apparent.

Spotlights or floodlights on stands, either on the stage or on the floor of the auditorium, are not advised for lighting the actors, as the resultant shadows are too prominent. If, however, one can use spots on Perches, which are positions high up each side of the stage behind the curtain, they will be found a very useful source of directional light, which can be sited sufficiently high to avoid shadows on the set without being so high as the No. 1 Bar. Dependent on the size of the stage and the nature of the production, further lighting from above may be necessary for actors in areas which cannot be covered from the No. 1 Bar, especially if Borders rather than a ceiling are in use.

We are now left with the problem of making sure that the audience believes in the setting. The first thing to consider is the building up of the general lighting to give the appearance of an intensity such as one would expect to find if the apparent source were real. For example, if there is sunlight streaming in through a window, the general intensity must be higher and much more even than if an oil lamp is the apparent source. In the latter case one would expect a considerable amount of shadow in the room. Apart from giving this correct atmosphere to the set, the general lighting serves to smooth out the spotlighting of areas and can still be modified by colour or intensity to maintain an apparent direction. The most usual units for this purpose are battens or floodlights used on the No. 1 Bar. When using a ceiling this will suffice, but if there are borders, it will be found that lighting from this position tends to throw a shadow of the first border on the back wall of the



Maintain the impression of the apparent source.

set, and that further lighting is required behind the borders. A study of the sight lines of the stage may show that a combination of ceiling and border could be used instead of a No. 1 border thus giving more freedom with units on the No. 1 Bar.

In general lighting, one should not forget the possible use of spots directionally to give form and body to the set itself, thus making it far more credible.

To sum up: For general lighting one must ensure that it conforms to the apparent source; it can be uneven but must not be patchy; for daylight it should cover the set far more evenly than for artificially lit scenes, where it is often an advantage to allow the top of the set to disappear. This adds height and is worthy of note for any stage or scene where the height is limited.

Still dealing with the setting, consideration must be given to Backings and Skycloths. Backings are the pieces of scenery, most often forgotten, consisting of flats that mask doors, windows, arches, etc. These should never be left unlit unless, of course, the plot demands it for effect; there is nothing worse than an exit into outer darkness. Even if resources are the minimum, a couple of lamps can usually be found to put behind a door and, as progress is made, floodlights will be found useful; care must be taken in positioning them so that coming actors do not cast their shadows before them. Window backings should suggest the appropriate time of day and be so placed and lit that shadows of the window-frame are not cast on the sky by the stage lighting.

For Cycloramas or skycloths a more elaborate treatment is required, especially if the area in view is large. Firstly, painting any scenery on the skycloth should be avoided; to be preferred instead, if at all possible, are a cut-out groundrow or tree in front of the skycloth. It is true that this will use a little more of the stage depth, but it will add considerably to the apparent depth of the sky. For general purposes the cyclorama or skycloth should be finished matt white and any colour it is wished to show can then be obtained by using a suitable colour filter.

Leaving, for a moment, the choice of colour, there are three ways of lighting a skycloth; from the top, from the bottom and/or from the sides. Of these, lighting from the sides should be avoided; nature generally affects horizontal lines, seldom vertical, and side lighting of a skycloth will result in a noticeable drop in intensity in the centre.

Whether one lights from the top or from the bottom depends on the effect required, on the available space and on the resources. It is best to use a combination of both, each with a different colour to obtain gradation. Day scenes will usually require to be lighter at the top than at the bottom, while early morning and evening scenes will be the opposite. If there is neither the space nor the resources to do both properly, it should be remembered that it is not always necessary to use a magazine groundrow to get an effect. If the main lighting is at the top it can often be improved with two

or three lamps behind the groundrow, throwing it into relief and adding depth.

For the top lighting, dependent on the size of the stage, one can use either wide angle magazine batten or wide angle floodlights. If the former is used with all compartments the same colour it will need to be at least 18 inches from the skycloth to work efficiently; if the four circuits are of different colours, it should be at least four feet away. Whilst the light will be even at these distances, it will not be thrown very far down the cloth at 18 inches, and care will have to be taken of the tilt of the batten to obtain the best spread. Wide angle floodlights will need more space. For bottom lighting, wide angle groundrow is used and the same considerations of distance apply; floods are not suitable for this work. To achieve a credible effect, patchiness or spottiness must be avoided at all costs.*

Postscript 1966

How do things differ today? To my mind, in intent not at all but in the tools for the job there is great simplification. Re-reading the extract I regret a sort of defeatist approach to the problem of F.O.H. lighting positions, my continual reference to stands on the stage, and in seeming to have a tolerance of flooding battens that I did not, then or now, fell. Nor was there any consideration of the different styles of production and forms of staging which today are so dominant specially in Schools and Colleges.

So strong in those days was my conviction that some logic had to be applied if anyone was to benefit that it is difficult for me to add much to what I then wrote though others might not be so inhibited. Therefore it might be salutary if today's users were to enter the arena or step upon the stage and give us "some new advice". It might, however, still be worth restating that the lighting designer is to my mind a translator for the director. He translates the visual demands of the director into technical methods and is responsible to the production not for it. In short, having pointed his lights at the actors his essential tool is then the lighting control. This is for balance and for transitions. Its object is not a display of virtuosity and a minimum number of cues well carried out is good lighting. A cue which needs great dexterity on the part of the operator needs time to rehearse it and if this is lacking it must be simplified. Once wrong is once too many. The visual picture can be maintained only by the careful use of the lighting control and it has within its proper use the miraculous ability to rivet attention on the right part of the stage.

*Compare this with deliberate break-up using Linnebach projection. The article in TABS Vol. 23 No. 3, on this subject has been reprinted as a pamphlet.

A GEORGIAN PLAYHOUSE

by Geoffrey Hodson

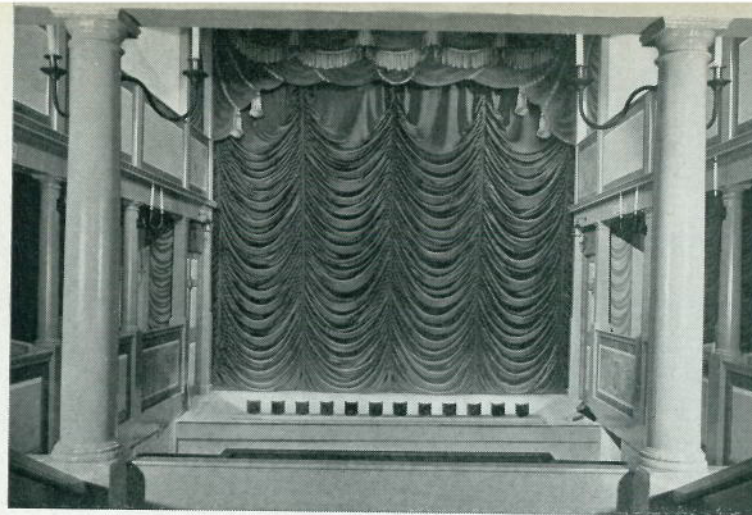
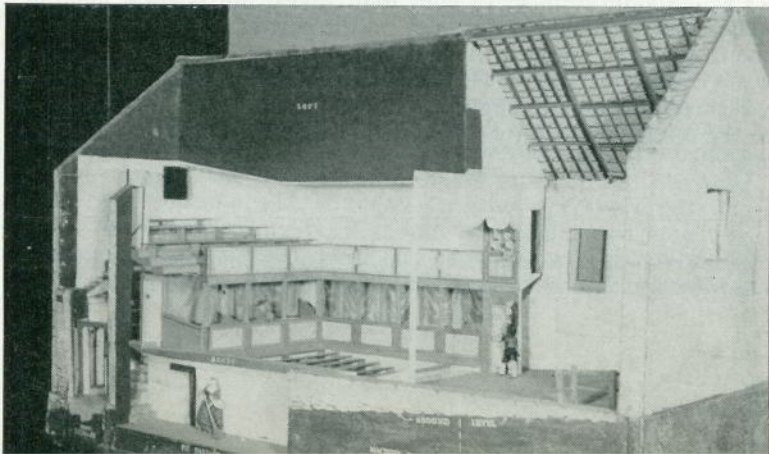
Mr. Hodson is Senior Inspector of Drama for the Inner London Education Authority (ILEA) and Hon. Sec. of the National Association of Drama Advisers.

Galleryites are familiar with the proof of the theory that hot air rises, but the top shelf at the reconstructed Georgian Theatre in Richmond, Yorkshire, seems to furnish an extreme example of this phenomenon. In our case no doubt the words Nahum Tate chose to re-order Shakespeare's *King Lear* text added to the hot air, plus the company of two rows of Strand Electric ironmongery, but the top shelf audience is the most energetic you will see anywhere. The top back rows in the side galleries only sit during the interval or when the action is directly below them. At all times it is fair to say that they participate.

But it is no penance to sit and listen in this charming theatre, because the acoustics are probably the greatest of its charms. For once actors can forget about the people on the back row. Vocally they can achieve the intimacy of the radio or television performance. Indeed Cordelia, whose part was liberally sugared o'er with Tate, seemed much more effective in this playhouse than when she was forced into a slightly more declamatory style at the Toynbee Theatre where some insensitive souls dared to laugh at the sentiments she was expressing. On the other hand, the rhetorical set-piece from *Edgar* or *Lear* could be given full vent.

Our company of London teachers discovered that the Georgian Theatre stage forces the actor into an intimate contact with his audience. Becoming aware of the extraordinary sight lines in a rectangular-shaped auditorium the actor's instinct makes him come downstage as much as possible. We built groove and shutter type scenery, and it seemed to be perfectly natural to play in front of it, not in it. We could find no documentary evidence about whether eighteenth-century actors used upstage entrances and exits, but in practice we found downstage entrances and exits more effective. The tent scene in which *Lear* is discovered asleep attended by a doctor

Model by Richard Southern of Georgian Playhouse, Richmond.



Restored Georgian Playhouse, Richmond.

was played well upstage so that he could be revealed as the shutters were slid away, but a very early opportunity had to be devised to get him out of bed and downstage.

Wing space is practically non-existent, and the designer began by allowing 18 in. between the walls or fixed apparatus and the perimeter of the set. In practice he was able to add another 6 in., but with an opening of only 15 ft. 6 in. he had to exercise considerable ingenuity. To add to his difficulties the geography of the stage floor is peculiar in the extreme, and so the carpenter had to build a false stage that offset both rake and camber. The result was found to be very pleasing, and the I.L.E.A. has offered the set to the theatre.

The intimacy of the theatre begins with the two small dressing rooms from which spiral staircases give direct access to the upstage corners. There is no eighteenth-century stage machinery in the space directly below the forestage, but racks of remote control chokes give a concession to the twentieth century. By now extra dressing rooms will have been added to the side of the theatre.

It was relatively straightforward to make decisions and designs on costumes and sets in the eighteenth-century style, but what does one do about the lighting? Candles and oil were the sources of illumination in the eighteenth-century, with candles alight all the time in the auditorium and probably a chandelier over the stage. The stage lighting improvements Garrick introduced in the middle of the century would probably have been used in this Yorkshire theatre when it was opened towards the end of the century. But even so we felt no modern audience would tolerate inadequate illumination. The director and designer decided not to use directional lighting to emphasise acting areas, but to change lighting intensity and occasionally colour with scene changes to help mood. The lighting plot was kept as simple as possible and rehearsed very carefully. It was probably unnoticed by many of the audience, and one newspaper notice said that the lighting had been used unima-



Death of Edmund scene from Nahum Tate's King Lear shows groove and shutter scenery and false stage at Georgian Theatre.

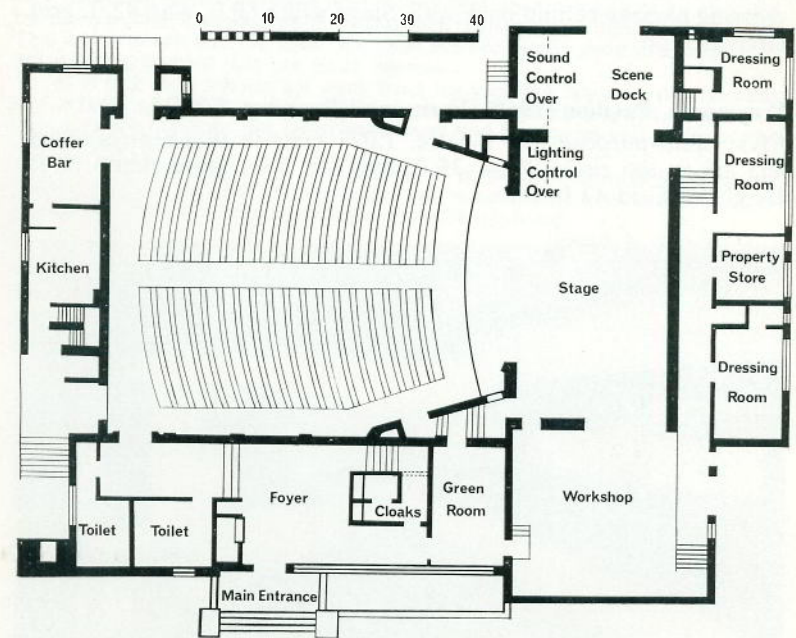
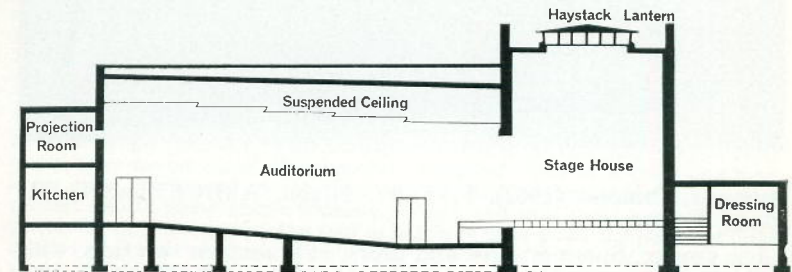
ginatively. We had tried to use some imagination into how to use modern lighting in simulated eighteenth-century conditions.

This attempt at simulation inevitably left a slight academic air over our production, and there was nothing we could do to recreate the social conditions of the century whose taste preferred Tate to Shakespeare. But the forty or so London teachers certainly, and many of the seven hundred spectators who kindly provided three full houses, probably learned a good deal from the combination of playing this text in this theatre. Tate has been abused for adaptations of Shakespeare, but the whole century must also be condemned on this charge. In presenting the play we tried to work out why a man of Garrick's presumed intelligence and ability could retain even part of Tate's work in his own version of *King Lear*, and from the analysis we found that Tate was a very good theatre craftsman. He knew his times, and what is more he knew his theatre. Our director, Richard Doubleday, has earned his daily bread and butter for many years directing the weekly parts of several well-known commercial television drama series. After forcing the genius of Shakespeare's lines out of his mind, he found he was working on a script whose writer would clearly be earning a very respectable income in the modern entertainment world.

This fact is not apparent on first reading Tate because one knows Shakespeare's work so well. But the script plays beautifully, and a real Georgian Theatre as a setting provides more evidence in its favour. It was a privilege to be allowed to work in such an exciting place, and the theatre as a whole owes much to the voluntary helpers who make this Georgian Theatre a working theatre as well as a museum and a place of pilgrimage.

Scunthorpe Civic Theatre (1948) J. W. Taylor, A.R.I.B.A.

Professional/Amateur. 344 seats in one raked tier. Pros. 24 ft. by 14 ft. Stage depth 22 ft. plus 7 ft. 9 in. permanent forestage. Limited flying facilities which it is hoped to improve. Switchboard JS 24 (direct operated) Circuits 6 F.O.H. and 18 stage. Administered by the Libraries Dept., Scunthorpe Corporation, and associated with professional tours of the Lincoln Theatre Company.





Torquay, Princess (1962). F. T. W. Nixon, AMICE, and G. R. Todd, FRIBA.

Civic theatre. Summer show and tours. 1514 seats in two tiers, with 9 rows in the circle. Pros. 34 ft. by 16 ft. Stage depth 27 ft. with crossing passage behind back wall. Stage width 60 ft. with 42 ft. grid. Orchestra pit.

Weymouth, Pavilion (1960). Verity and Beverley, FRIBA.

Civic multi-purpose hall theatre. 1,027 seats in two tiers of which 465 are in the circle. Pros. 35 ft. by 17 ft. 6 in. Stage depth 30 ft. Height of Grid 47 ft. 6 in.



To complete your anthology of New Theatre Plans detach this page and file with Tabs Vol. 24 No. 2.

CORRESPONDENCE

PLANNING FOR DRAMATIC EDUCATION

Dear Sir,

In answer to your request for opinions on Dramatic Education and the provisions desirable, I think Mr. Corry has made some very practical suggestions and to some extent provided a new outlook on the subject. I am not a teacher but I have had considerable experience of drama in schools and I would think that provision of facilities on the lines suggested would be valuable training for school children not only in dramatic techniques but also as an aid to development of personality as mentioned in the article.

However, I must put in a plea for teachers to avoid "doing" the whole performance themselves. In far too many schools drama still becomes the business of presenting a play for the public and nothing else. I do feel that to perform a play is both a logical and necessary end to any course of dramatic education but this play so often is produced by the English mistress, has scenery made by the woodwork master and painted by the art master and the costumes are made by the needlework mistress. For no very logical reason the lighting is usually the responsibility of the physics master—apparently because he teaches "electricity" and "light".

The paragraph above must not be read as if I wish to decry the efforts made by these people, I do not. What I complain about is the fact that many of their pupils have no notion of planning the "technical" side of a show and have never been encouraged to use their own ideas. Regrettably this tendency is present also in many teacher training colleges and thus there seems to be no possibility of it dying out. The staff of a school must guide the pupils in these aspects of drama but this guidance must never take the form of an imposition of the ideas of the staff. It seems to me that to repress the ideas of a child is a very bad thing, surely anything new, in any field must come from an idea and the more a child is allowed to have ideas then the more new things we will have. This is not to say that the ideas of a child are necessarily good but unless they are at least suggested they can never improve.

It is high time schools got away from the idea that lanterns, switchboards and scenery are either too dangerous or too difficult for pupils to handle. If they are then someone has failed somewhere and the sooner this is discovered and rectified the better.

As a final thought, it is possible that if pupils were allowed more say in the presentation of plays the apallingly low standards of technical production in many schools and training colleges would be improved.

PHILIP L. EDWARDS.
Aberystwyth.

Dear Sir,

At the end of a stimulating and very practical article on "Planning for Dramatic Education", Mr. Corry asks for further opinions. As a teacher of English who has a particular interest in drama I feel there are a few points that should be made.

First, Mr. Corry complains that while for thirty years "some of us have damned the conventional assembly hall" . . . they "have had too little effective support from those who have to suffer the inadequacy of such halls". Perhaps he is unaware of the very limited extent to which teachers' views are taken into account, even in relation to the construction of specialised teaching accommodation. The situation is not much better when the building is built, since so many necessities are often missing that extensions that will only be used at infrequent intervals are very difficult to justify.

More fundamental, how many teachers are aware of the way in which cost limits have affected school building? Essentially, this Ministry limit on the average amount per pupil the building was allowed to cost was a most effective instrument for pegging the construction costs of new schools. What it provoked was careful investigation by architects to see how an area could be used for many purposes and an inevitable reluctance to spend money on what appear to be luxuries. As a result most new schools have halls that are not only used for dining but also for assembly, if not for teaching, and there is inevitably a heavy pressure to design multi-purpose halls. Until architects can plan more freely they are going to be tempted to design the D.E. Room as merely a slice cut off a larger area. It is essential, I feel, that the D.E. Room be an independent structure so that children need not be overlooked and can make a noise without disturbing others. An independent structure is also less likely to have too high a ceiling (young children can become exceptionally excitable in a large space) or the nooks and crannies an adapted stage area might offer (think of the inexperienced teacher and the naughty class up to mischief behind the wing curtains).

Second, even assuming the difficulties of the cost limit per place have been overcome it is still almost inevitable that every teaching area should also be an administrative area. That is, the D.E. Room will also be expected to serve as a base for a group of children for registration and for storage of their belongings. An alcove in one corner taken from the space allotted for scenery storage might usually contain a small quantity of stacking chairs as well as coathooks and lockers. Alternatively, a bench might be provided along one side of the room—with locker space underneath. Certainly some seating is desirable—not all children wish to sit on the floor. If an alcove is provided, I would also suggest that a light metal shutter be provided to close off the area. Any room with such heavy traffic should avoid incentives to theft.

Third, if there is an "insistent demand" for sound equipment then the room must also be planned for this. That is, the room should also include a small cubicle suitable for use as a recording control room (12 ft. square, say). Even if this room is completely bare of equipment it should be part of the initial design, as this is by far the best stage to ensure reasonable soundproofing. We tend to forget that for some children there is a great deal of pleasure and excitement to be gained from such work behind the scenes, while acting is a painful and rather frightening ordeal.

I hope these comments will not sound too disgruntled. Until teachers have thought out as clearly as Mr. Corry has done what they mean in practical terms no architect can be expected to take them seriously and I, for one, am most grateful for his article.

P. R. FOZZARD.
London W.14.

NEW PUBLICATION

Our March issue contained advance notice of a new publication "The Design of Drama Spaces in Secondary Schools" which the National Association of Drama Advisers had prepared. Strand Electric have agreed to publish this booklet for the Association which will be ready at the end of September. Copies will be available free on request, either from the Association or direct from Strand Electric.