TABS

June 1970 Vol. 28 No. 2

TABS

Published by
Rank Strand Electric Limited
29 King Street, Covent Garden,
London W.C.2

Editor: Frederick Bentham

June 1970 Vol. 28 No. 2

Editorial

Put and Take 39
Ends and Means 39
Let there be Dark 41
Up the Billabong 42

Aurora Australis II *by Denis Irving* 43

New Winter Garden Theatre *by M. J. Percival* 53

The Gardner Centre for the Arts *by Norman Marshall* .. 58

Theatre Royal Back Drawing Room 62

Techniques of Stage Lighting 63

Designing a Theatre *by Frederick Bentham* 67

Theatre of War *by Francis Reid (et alia)* 72

Stephen Joseph's Ideal Stage 76

Book Review 76

Cover picture: Clive Donner's production of Twelfth night at The Nottingham Playhouse. Designer Robin Archer. Lighting by Rory Dempster.

Put and Take

There used to be a game with a small six-sided top which when spun came up with the legend *Put two, Take one* and so on. It being Budget evening as we write, the easing of Selective Employment Tax on theatre productions caused us to muse on the whole question of National and Civic support of theatre. It does seem odd that a government which boasted with a degree of truth of its increased contribution to the Arts Council for theatre subsidy should have taken some of it back with a tax like S.E.T. which was bound to hit theatres and productions hard. The cinema found a legal loophole early, as theirs only land up on processed celluloid and this was manufacturing and therefore exempt. It had to be admitted that the manufactured element of plays, although at times all too apparent, was a by-product so to speak.

A nation is a large affair and its government complex, so it is understandable that the right hand may not know what the left is doing even though both are right or rather left in the present case. No such excuse can hold at Civic level. Except for the G.L.C., and no complaint lies there, the finances cannot be that big and complex that councillors are not aware when their subsidised theatre involves a punitive rent or lease. This is *Put two* and *Take one* or even *Take two*. Before long it might be a case of *Take three*—a strange subsidy.

It is easy to see why the report of the Arts Council Theatre Enquiry says, "It is a matter for grave concern that the companies operating in the new purpose-built theatres have the biggest financial burdens to bear and, unless a different system is adopted, several more companies who are to have new homes will find themselves saddled with heavy rents .... repaying .... *the total cost* of their new theatres.

The report continues, "These heavy mortgages which the tenants of the new theatres have to meet make a very big hole in Arts Council subsidies. Some amelioration of this mortgage system would be very desirable. Why should a civic theatre not be considered an amenity comparable with a municipal library or art gallery, provided free by the Corporation?"

There can be no doubt that the Puritan sense of theatre as an illicit pleasure still lingers on—theatre is entertainment. Libraries and museums are education—quite different. What then about parks and gardens—are they not expected to pay their way? They too are different—recreation, sport and fresh air are good and clean, will build a straight-limbed and better Britain. Is it not time to revise this notion? The parks are often the places for "goings on"—not even behind the bushes now. You cannot get up to much real mischief in a theatre seat—really you cannot, no matter whose make it is.

Ends and Means

One of the questions, burning, tepid or cold, of today is "Why do soup spoons contain so little soup?" It cannot be because we are short of soup, indeed metaphorically speaking the world is almost continually getting itself in and out of it as one crisis succeeds another. As for the stuff itself billions of cans await the tin opener. Out it gurgles ready to serve or condensed requiring the addition of but its own weight in water or milk—or brandy if tastes run that way. A touch of high-speed gas or electricity and there it is piping hot and ready for enplating.

Nor is the loss of a tin opener serious, for we can buy the mix in packets. Indeed in modern houslets it may well be preferable to invest in a library of packet soups as being less space consuming than the tin cans. In our practical (and efficient?) age

the packet soup has much to commend it, the bulky ingredient—water—can be laid on by pipe and the succulent and nourishing but minimal element by the sachet.

There is a further advantage of the packet in that it displays in full colour the splendid promise trapped within. Pictured thereon is no mean puddle of Brown Windsor or the like. The soup creators show the piles of onions and vegetables—the fruits of the field and products of the chase which were around somewhere when the packet was sealed.

The process following the addition of the water tends to be slow however, when compared with the can. One stirs a khaki-coloured mess called vegetable soup maybe for twenty minutes before it blossoms and the promise of the packet finally flowers. Then reluctantly two or three mini-peas and some microslivers of dwarf carrot float to the surface. It is of course possible to take longer to make soup—the traditional stock pot can simmer for hours, even days. Alternatively if one has a penchant for really long-term planning the soup can begin with a seed packet or a baby venison and mouthwatering anticipatory months pass while they grow up to pot-worthy size. Vegetarian or carnivore there is a soup to suit. Happily one can add rich or poor also, because the soup kitchen is the ultimate line of defence for the famished.

Now for the paradox. Examination of any commercial soup literature will show reference to generous servings. A small packet roughly the size and thickness of an envelope containing an income tax Notice of Coding (form H.M.T.O./97638/13/IOU) will promise six generous servings, and provided one does not stint the water (milk or brandy) this promise can be fulfilled. Then comes the frustration, the modern soup spoon (Design Centre award or no) is completely unsuitable for the conveyance of the requisite volume of liquid from plate to mouth. The device is not really a spoon at all; there is no real bowl, only a slight dent. It is a kind of metal chopstick with a spatulate end.

A soup spoon used to hold more than a soupçon, why then is it no longer so in this age of plenty, we asked a distinguished authority. His answer was simple, "You have to make it that way in order to suit today's advanced manufacturing processes." Surely "advanced" is the wrong word. A manufacturing process which cannot make a spoon which works, is "backward" and a long way backward at that—way beyond the Bronze Age. The Beaker people must have mastered the hydraulics of soup consumption every bit as well as they had the mechanics of trilithon erection at Stonehenge.

The next answer we received was that it saves metal, and we do not believe that either. Seeing the way we squander metal of all kinds in all directions the idea that soup spoons are singled out for metal conservation will not wash. Besides if this is really so, it would be better to produce fewer of them but ensure that they did work. A loving-spoon could be passed around or drinking straws issued. Even the Potage St. Germain could be dealt with, by using a boy's peashooter in reverse.

Of course this is all nonsense. The true reason why the design of these essential articles is wrong is because of Design. This is confused with styling. It is something which because it complies with current fashion *appears* to have integrity. There may be no more of the essential ultimate truth in most of today's design than there was in yesterday's. The engineering or functional purpose is either hidden in a cocoon of styling so deep that one can scarcely get at it or when the nature of the object does not permit this, as with our spoon, its true function is bent and thwarted. The package or case today rates higher than the content and even scientific instruments fall under the spell. Of course there are those splendid occasions when packages, containers, or housings—mechanics and ergonomics—all function as one. We *appear* to achieve this bullseye more often than is in strict truth the case. Cunning printing, colouring or other superficials deceive the customer as they probably deceived the designer himself.

What has all this to do with TABS. Does this mean that "Both sides of the curtain" also takes in the canteen? Not really; but we all face the packaging problem. What shape should a theatre seat take? A comfortable one to sit in—no half measures here, one would hope—no place for the half-bot. A stage spotlight or a lighting control—what concession should it make to beauty? Is any concession necessary? Is the case or the colour the only thing that is really new or even perhaps just the label?

Nor should it be thought that it is only the white marketeers—the world of big business that passes off fashion as progress. What about all that glass the architects use; do we really want to live and work in a giant window? Is it practical, is it really beautiful? What about the "exciting" shapes some theatres are made to take and those dressing rooms on the fourth floor without windows because the façade dictates otherwise? However, let us limit our objectives; begin by sending these new soup spoons to Coventry or rather back to Sheffield.

Let there be Dark

The village of Frankfield has been in the news. Not because of some special feature it has or is about to have. It is in the news because it has raised its rural voice to say "No" with a firmness not heard since the palmy days of "Niet" and "Non". There is a difference, however. It is not a one-man utterance but a democratic chorus—a small chorus because it is a small village, but they are united. They do not want electric light in the village street. In fairness it must be added they do not want street lighting of any kind, be it high-speed gas, Aladdin or Esso's paraffin or low-glim candles.

It may be suspected that this arises from an essential meanness, they do not want to fork out—preferring to allocate their penny rate to the parish hall or the organ fund. This is not so, the fact is that someone was proposing to *give* them their street lighting. Much to his surprise the villagers have looked the gift lamp in the filament and liked not at all what they saw there. The interviewers and reporters go into action "You can't not want lighting?" In determined but not particularly rural accents the reply comes "Oh! Yes we can't not"—or words to that effect. "How are people going to find their way?" "Like they always have done. Use torches. Anyway they folk about at night use cars."

This last is rather a sad let-down, a chink in the resistance to civilisation and we suspect through a chink in the parlour curtains the blue glow of the "tele" can be espied. One wonders in what socio-economic grouping—A, B, C1, C2, D or E—the marketing experts would place this village?

As manufacturers who depend absolutely on people loving lighting, let us pause to give three obfuscated cheers. Decisions on dark are a fundamental part of light. All modern man seems to consider necessary is to squirt more and more of the stuff about, but there can be no brightness without darkness to set it off.

Then again, what about the joys of little light—the visual pianissimo. We do not need to have every nook and cranny pitilessly exposed. Indeed where the eye strains for the minutest visual clue the imagination takes flight. Thus we of TABS find ourselves perversely cheering this sturdy independence in the pursuit of dark but it has to be admitted that we rather congratulate ourselves in this instance on not being in the street lighting business.

Bound Library Copies

A limited number of TABS Vols. 25, 26 and 27 (12 issues) have been bound together and are available on reciept of 50/- (£2.50) to include postage in U.K.

Index

An index for TABS Vols. 25, 26 and 27 is available free of charge for those who wish to bind their copies.

Up The Billabong

Australia is in the news with the celebrations of the bi-centenary of Captain Cook's discovery. He had been ordered by the Admiralty "to proceed to the southward in order to make discovery of the continent abovementioned". The temptation to express surprise that such lump of land—a continent no less—should remain undiscovered, seeing that Van Diemen managed to find the much smaller Tasmania to us nearby, is hastily suppressed lest we betray our English ignorance of who did what down under and when. One of the methods of celebration civilization imposes today is Son et Lumière. Devotees of this ornament de la culture francaise will recognise that the Australians have proved apt pupils and captured the technique exactly. The script of a presentation at Captain Cook's cottage in Melbourne opens:

"The place: a humble labourer's cottage—even smaller and more humble than the one before us now.

Location on the map: Marton, a tiny village in Yorkshire, England.

(*A woman moans in pain. An owl hoots*). *There, lass, there. Pray God it will be over soon. Aye.*

A woman near her time surrenders to an agony that is more ecstasy than agony.

(*A baby's cry breaks into the music*).

The life that was part of the woman's life is now a life apart, launched upon the seas of time, absorbing through its five senses the thing called being. For good or ill, it is a part of history. And history's clock stands at A.D. 1728.

It's a boy.

Is she all right?

Aye. Nowt to worry about.

Thank God for that.

It's a fine, healthy looking wee thing.

How is wi' ye, lass?

James, my dear. It's so glad I am ye have a son."

. . . Later to continue

"We move now to the office of Walker Brothers, of Whitby—the Walker Brothers, Quakers, and shipowners engaged in the coal trade.

(*The cries of seagulls are heard, the slap of water on moored boats, and creaking spars.*)"

Resisting the temptation to continue this in extenso as our contribution to the festivities, especially as we did the lighting for it out there, we have instead contented ourselves with part two of Denis Irving's Aurora Australis article. He has been in charge of Melbourne Strand Electric for many years now and his first article for TABS appeared in April 1959. His most piquant contribution described in April 1962 a jail which had been converted into a theatre—maybe one day the reverse may befall one of our own reinforced concrete entertainment mausoleums.

In a world of exports Australian imports take off regularly from Rank Strand Electric desks in Covent Garden. One such is Peter Fitzwater a familiar figure along the lower reaches of the River Danube and the River Litani. At 3 Salisbury Road (Hong Kong!) it is Nick Dowling who looks after Rank Strand's Far Eastern outpost. Back at Covent Garden, Lynn Wright puts into aero orbit both Aussie and Pommie with we hope equal impartiality while ambidextrously handling that most static of commodities the customer waiting for service in the showroom.

High on Olympus (Mount Kosciusko?) resides Alex Macfarlane head of our Overseas Marketing who once upon a time worked with Denis Irving in the Union Theatre, University of Melbourne; but we can assure you that there is no case for a TABS exposé of "cobberism"! The others had camped under the shade of our equivalent of a coolibah tree before Alex arrived on the scene.

To conclude, if you would like to know what the Billabong of our title is, we have been authoritatively and unitedly informed it is a "creek".

Aurora Australis II*

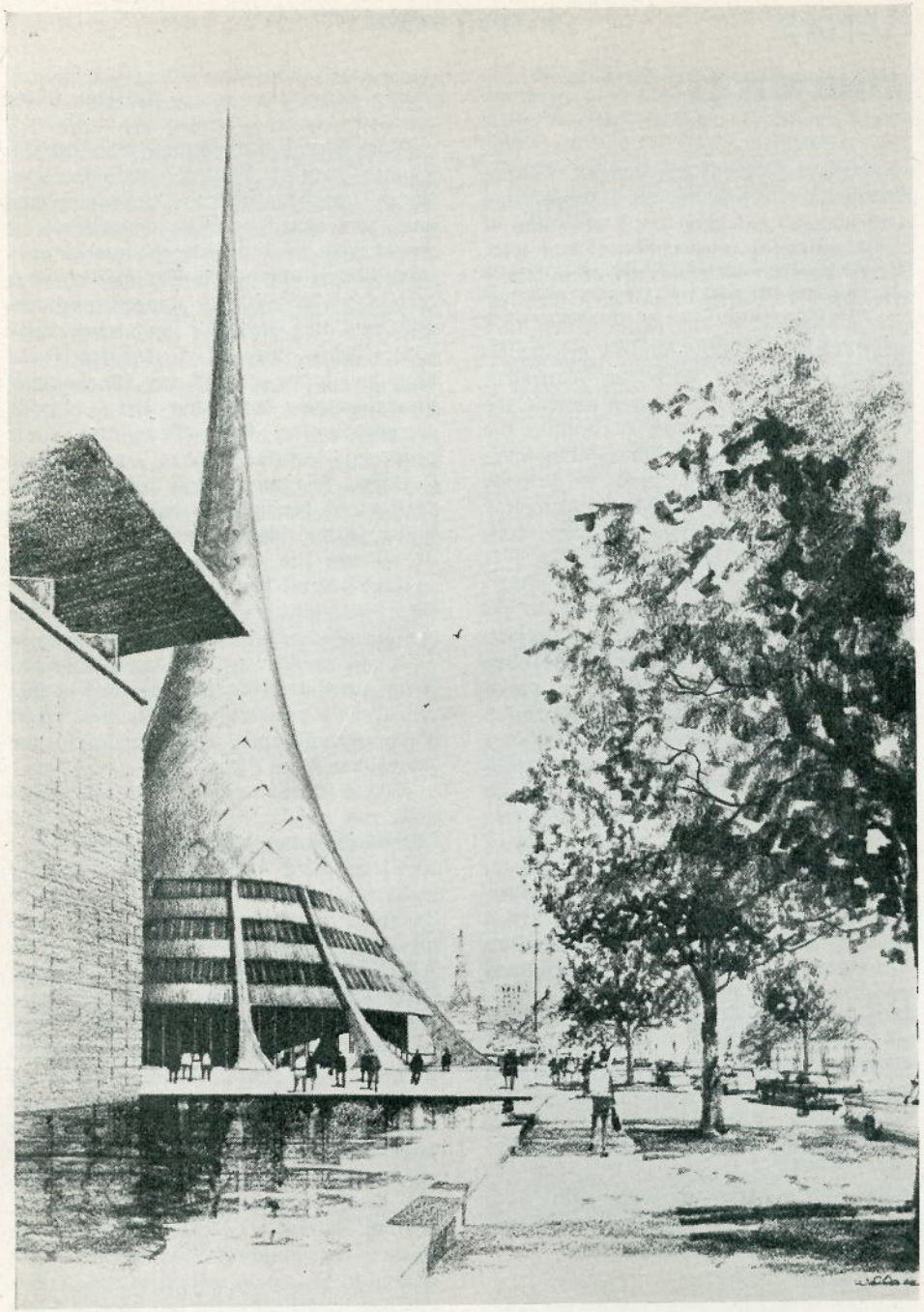
by Denis Irving

The Australian Council for the Arts, administers limited government finance intended to cover production and operating costs and not concerned with provision of capital sums for construction of buildings. Special government grants are occasionally available for construction of civic theatres, and a number of our major cities have theatres either just built, under construction or being planned. With the Australian Elizabethan Theatre Trust ever present, the overall aim is to establish or continue the existence of permanent drama companies in each State capital, and to provide facilities for the Australian Ballet Company and the Australian Opera Company, both of which tour throughout the country. It is also felt that some experimental or workshop theatre spaces are needed, and so the final phase of construction of the Victorian Arts Centre is to have four auditoriums including a 1,700-seat ballet or opera theatre, a 750-seat drama theatre and a small experimental drama studio. The first stage consisting of Galleries, Exhibition areas and Great Hall has recently been opened. The sketch plan and section shown overleaf gives some idea of the layout of the theatre complex, which is unusual in that all the theatres are situated below ground level, a planning decision which arose largely as a result of difficulties encountered due to the site being reclaimed marsh land near the banks of a river. The design is an interesting contrast to some of the Izenour inspired civic theatres in America which use one technically complex auditorium which attempts to carry out the functions of the several theatres in the Melbourne design. This is the first seriously planned theatre complex in Australia and there is no doubt that the architects have taken note of the recent unfortunate sequence of events in Sydney.

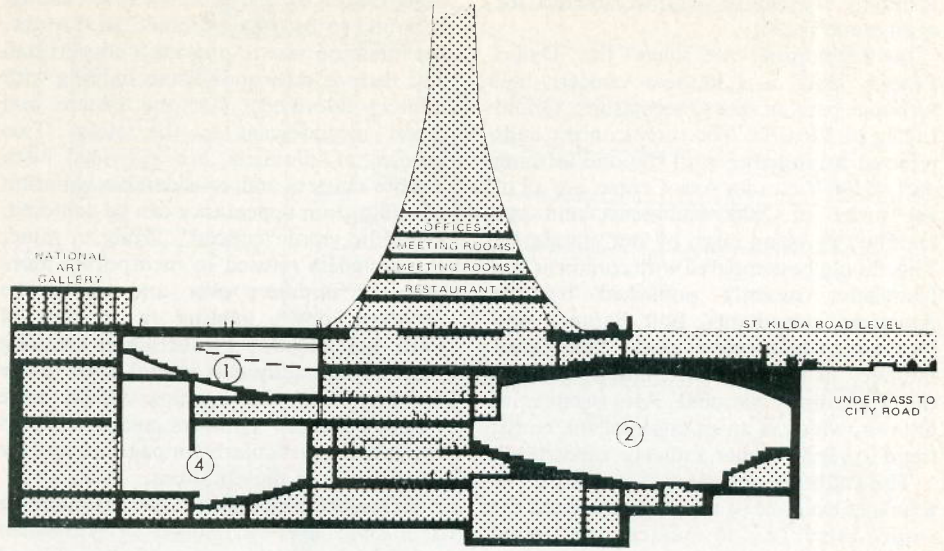
Work there is at the moment almost at a standstill, whilst detailed re-planning continues. The shells have now been completed and undoubtedly look magnificent—it would seem hard to make the interior anything like as impressive. The major hall is certain to be used for concert purposes only and the workshop and scene dock spaces below stage which perforce would have had to be used in any set changing procedures, are now being used to provide accommodation for offices and some proposed lecture theatres and cinema facilities. The minor hall will be reconstructed to become the ballet and opera house, part of this reconstruction consisting of moving the enormous drum revolve upstage several feet in order to get a pit large enough to house a full orchestra. The subterranean experimental theatre remains as is—we could wave the flag a little and point out that Strand Electric has in fact already lit a production in this area, albeit a temporary fit-up, as a presentation for the Australian Wool Board.

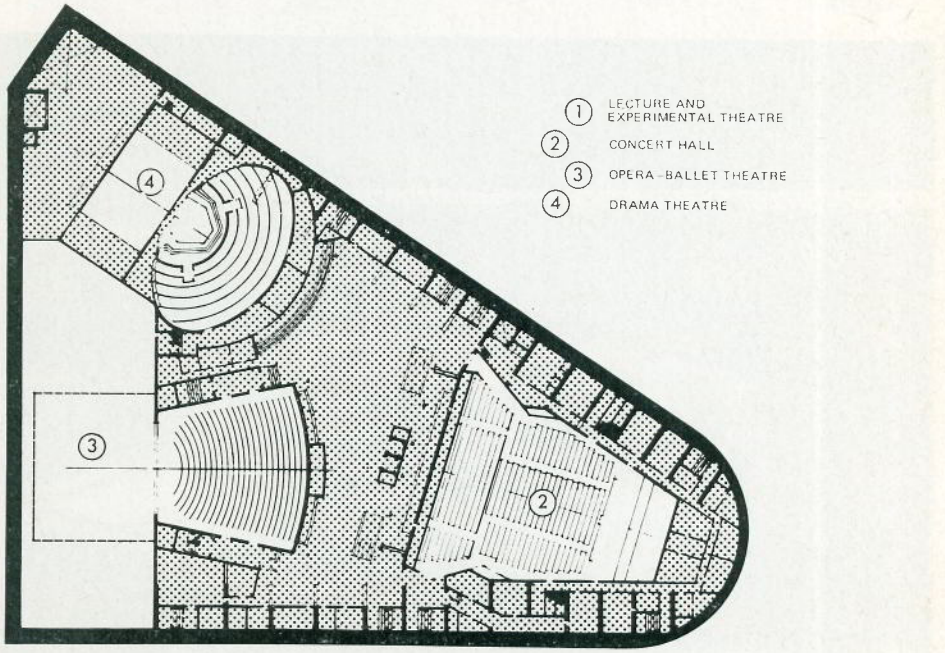
Two Australian cities, Perth and Adelaide, run regular festivals not unlike the Edinburgh festival. Both of them at present have one thing in common, that is, they have an extreme shortage of suitable buildings, particularly for the larger scale productions. Plans are well under way in Adelaide for the construction of a Festival Theatre which started life primarily as a concert hall but has developed stage facilities and lighting equipment suitable for the short term accommodation of visiting companies, both indigenous and overseas. Some American influence is evident in that it will have an adjustable proscenium, and an orchestra shell which can be flown away when not required. Seating capacity is over 2000 and in essence the building is a smaller scale edition of the opera section of the Ottawa complex described in the last issue of TABS. Perth is planning a new concert hall along the lines of the Royal Festival Hall,

* *Aurora Australis I appeared last December in* TABS *Vol. 27 No. 4, pp. 33–42.*



Artists' impression of the spire for Victorian Arts Centre, Melbourne. The theatre complex is all below ground level as the section opposite shows.





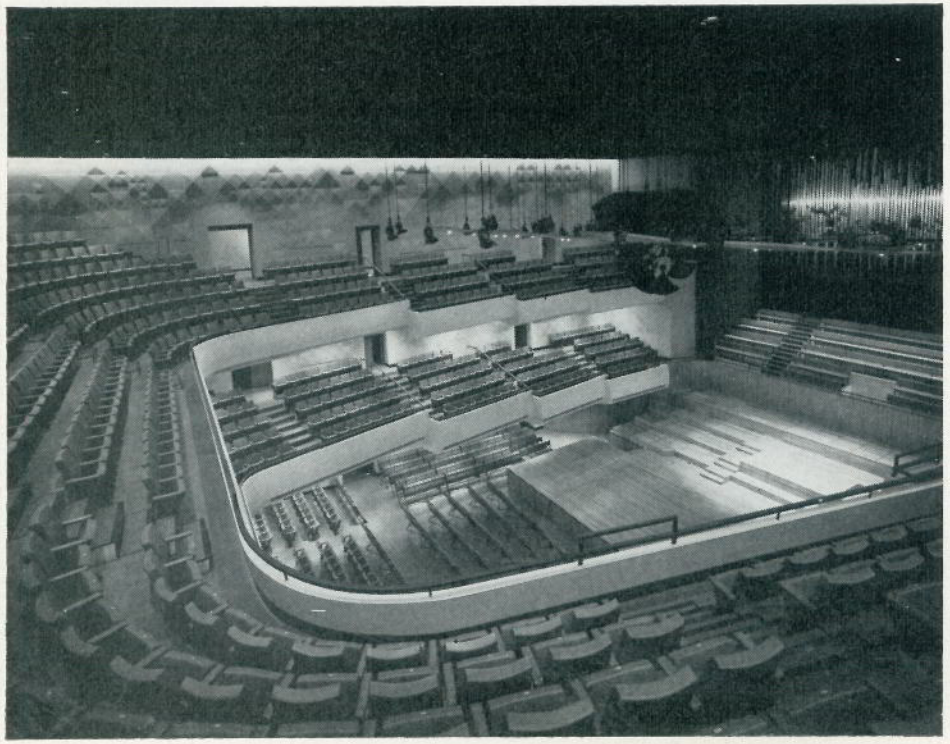
Sketch plan, and above section through Drama Theatre axis Victorian Arts Centre, Melbourne. Architects: Roy Grounds & Co. Pty. Ltd.

including reasonable lighting facilities for open stage ballet.

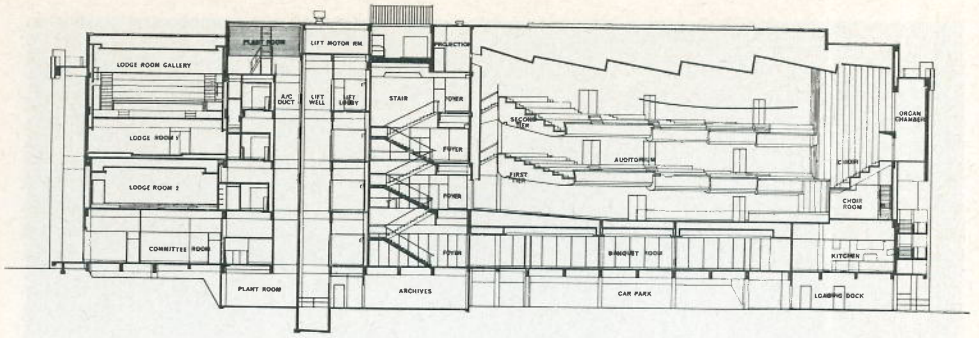
In Melbourne, we have the Dallas Brooks Hall, a 2,300-seat concert hall forming part of the Freemasons Grand Lodge of Victoria. The three concert halls referred to, together with the one forming part of the Victorian Arts Centre, are all of the order of 2,000-odd seats and are regarded as being large by our standards. This should be compared with comment in a Newsletter recently published by the American consultants, Bolt Baranek and Newman, which refers to the "feeling of intimacy in the 2,300-seat opera house in the Canadian National Arts Centre in Ottawa, which is an example of the recent trend towards smaller audience capacities".

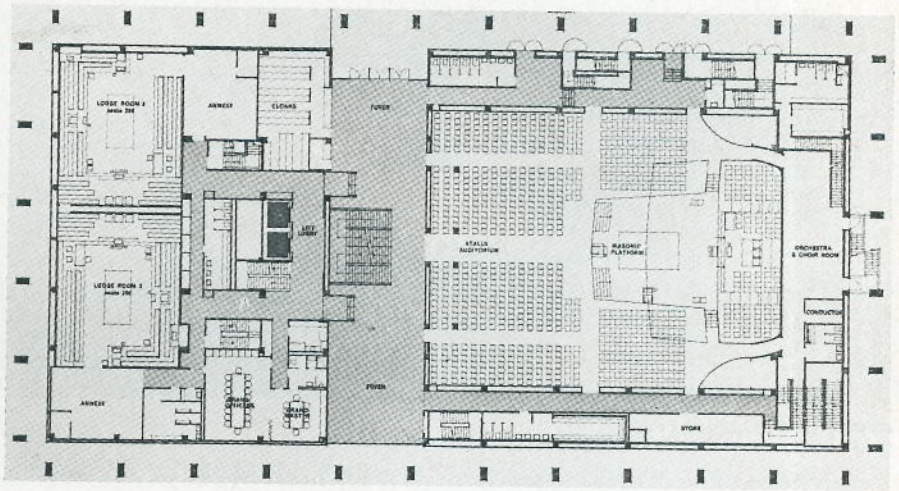
The Dallas Brooks Hall is proving to be a further example of the problem found the world over, i.e. no matter what good intentions the architect may have at the design stage, the eventual use of a building is bound to be quite different. In this case the intention was to provide a concert hall and there is dual auditorium lighting with indirect fluorescent for one system and direct incandescent in the other. Two groups of dimmers are provided with remote masters and considerable variation of auditorium appearance can be achieved. With the word "concert" firmly in mind, the designers refused to incorporate more than 12 dimmers over and above the orchestra down lighting (a mixture of Patt. 123 and 223 Fresnel spots on long suspensions), although several users of the building since its opening would have welcomed more dimmers and associated equipment, particularly for pageants and for modern dance presentations.

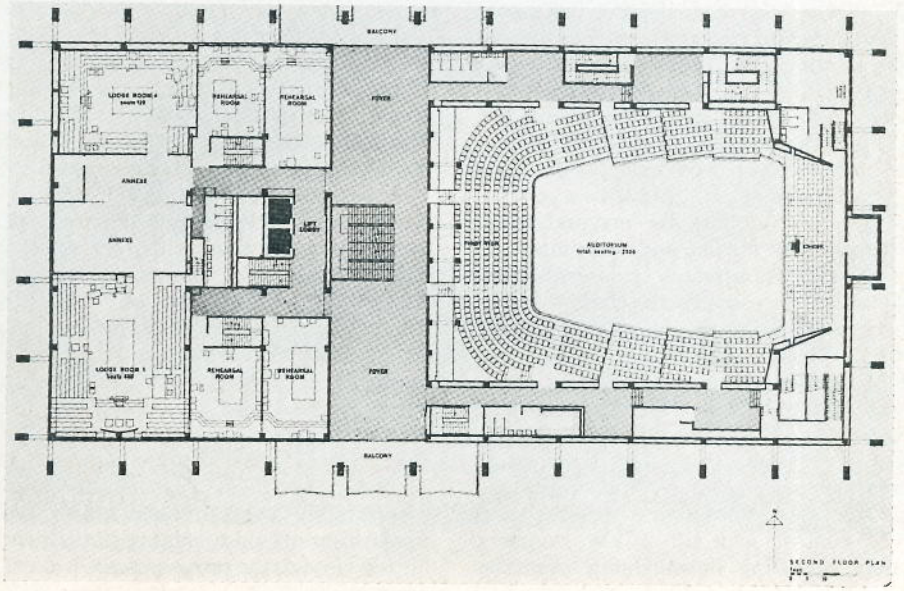
Reference was made earlier to planning at a civic level—a number of Australian municipalities now seem to have achieved

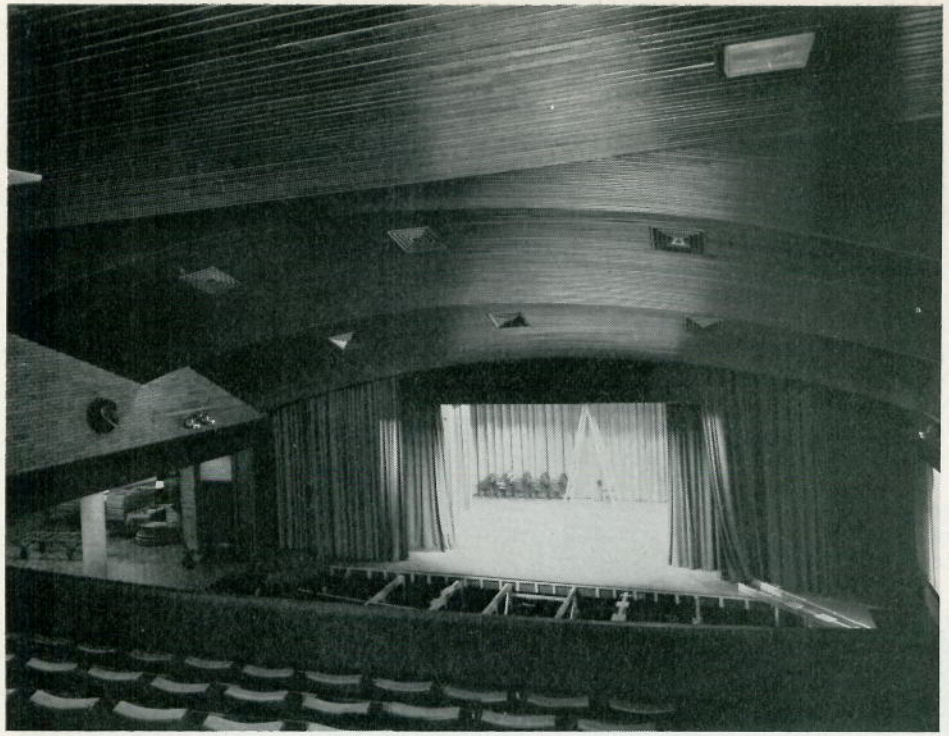


Dallas Brooks Hall, Melbourne. Architects: Godfrey and Spowers, Hughes, Mewton and Lobb. Opposite page, first and second floor plans and section.









Camberwell Civic Centre Victoria: theatre (500 seats).

their basic objectives such as roads, sewers and other services and are now looking to building projects of a more prestige nature. Some of the earlier efforts were disastrous examples of so-called multi-purpose halls which are no use to anyone, but some of the designs currently in preparation in Victoria are rather more enlightened and are showing a definite trend towards a separation of areas intended for mayoral balls, exhibitions and the like and those intended for stage performances or any other activity where visibility and audibility are of greater importance than sheer enclosed volume. The most recent one to be completed, that at Camberwell—not far from Strand Electric's new home in Burwood, Victoria—is a typical example of one which has a large flat-floored hall for the prestige occasions, and a separate, smaller, reasonably well equipped theatre. The hall has a JP.20 control with all 5 kW dimmers mainly operating downlighting over the platform area. There is something like 40 kW of general lighting in the main hall. The small theatre has an SP.40 in a control room at the rear feeding a typical small stage arrangement having two F.O.H. bridges, two spot bars and cyc. flood bar with full cord and jack patching between the dimmers and the various stage outlets.

New South Wales unfortunately still shows a regrettable tendency to remain with the single auditorium with the inevitable sight line problem imposed by large flat floors, a notable exception being the Albury Civic Centre which has its auditorium floor not only raked but dished towards the centre as well. This somehow gives the audience a greater sense of improved sight lines than would be imagined from pure consideration of the geometry. The effect is somewhat spoiled, however, by having a raked stage, and a single front-of-house lighting slot which is far too close to the proscenium.

One state of Australia, i.e. New South Wales, at present has legislation permitting the use of poker machines. Consequently, a number of clubs have struck it fairly rich with the income from these machines, although it must be admitted that their incomes pale into insignificance when compared with the enormous casinos in Las Vegas. However, in common with Las Vegas, most of these establishments do include some type of performance area the quality of which ranges from simply terrible up to professional theatre standard. Most of these buildings have flat floors, the audience being seated at normal dining tables randomly arranged. One or two better ones have some form of stepped floor, with tables at each level. One country club is noteworthy in that the auditorium lighting is by means of Patt. 23's concealed behind a cornice on each side wall which light floating ceiling panels in various colours. This makes interesting comparison with one of the new cinemas off Leicester Square, London, whose house lighting consists largely of Patt. 263's masked off to light the side walls.

Speaking of side walls, brings back to mind the SGIO* Theatre in Brisbane, Queensland which can be said to have no side walls, or if you prefer, no roof, the interior consisting of a series of overgrown shingles on a suspended frame which is semi-circular in cross section. As the photographs show, this gives the theatre a great feeling of space, but gives a rather strange impression of the stage itself. There is a large orchestra pit with two lifts, the up stage edges of which form a curved line which projects well back behind the line of the proscenium wall. Following this line, but several feet upstage of it, is a curved safety curtain and the resulting gap between it and the chord to its curve formed by the

* *Not so romantic as it seems "State Government Insurance Office".*

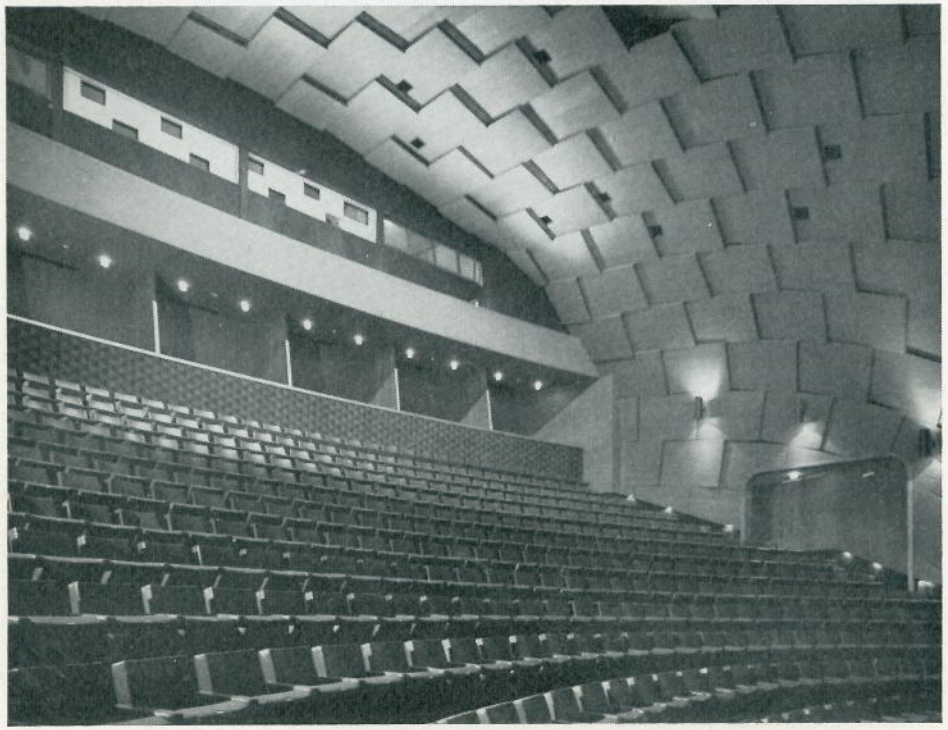
SGIO theatre Brisbane Queensland. Stage lifts provide a forestage following the third line of seats which are removable.

proscenium wall had to be filled in with concrete, thus making a rather awkward projection into the stage tower which pushes the first usable set of lines well up stage as shown by the position of the first set of legs and border.

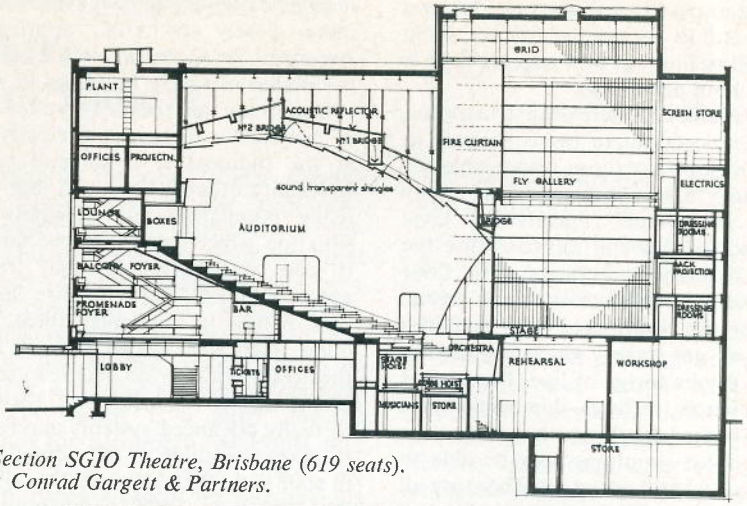
Front of house lighting is from three bridges above the shingles, some of which are arranged to be tiltable to form apertures for spotlights where required. Similar arrangements are made for side lighting positions closer to the stage. Control is by means of an LP.80 (at the moment having only 60 of its dimmers installed) situated in the control room at the rear of the auditorium, giving an excellent view of the stage unfortunately marred by the architect's selection of tinted glass for its window.

The flat auditorium floor syndrome is not restricted to the designers of clubs. In most states of Australia there is a heavy programme of construction of schools, and most schools include somewhere some form of hall which is usually combined with a gymnasium. Despite the fact that most of the larger schools have spacious classrooms or lecture theatres which could easily be extended to provide drama facilities, most planners seem to think that the solution to the provision of these facilities is to put a singularly inadequate proscenium stage on the end of this multi-purpose hall-cum-gymnasium. It is to be hoped that one day some enlightened school design man will see the descriptions in TABS of buildings such as the Leeds School Hall* and take a lesson therefrom. The Victorian Education Department has for some time been preparing designs for an experimental school which incorporates a theatre not unlike the Octagon, Perth,

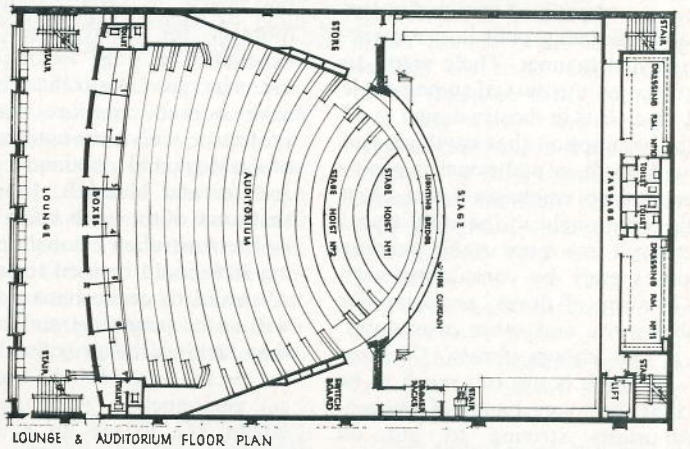
* TABS, *Vol. 23, No. 3.*

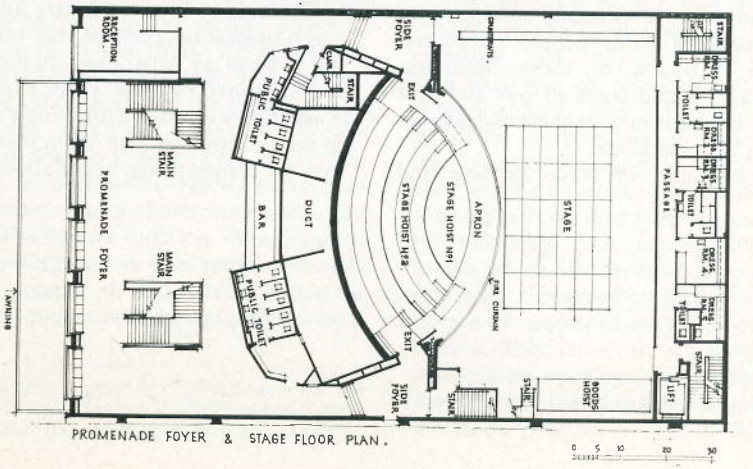


SGIO Theatre auditorium showing boxes with control and projection rooms above.



Plan and Section SGIO Theatre, Brisbane (619 seats). Architects: Conrad Gargett & Partners.





referred to in part I of this article, and we look forward to seeing the first of these constructed to find out how acceptable it is to the teaching personnel.

It is a source of increasing frustration to me, and no doubt to my colleagues in other countries, that those responsible for the planning and construction of many buildings in schools, universities, civic centres and the like still fail to realise the inherent differences between flat floor activities such as exhibitions, whist drives, gymnastics, etc., and raked floor activities (auditorium, not stage!) which include not only the various forms of live theatre, but also conferences, lectures, demonstrations, films, and indeed anything where a number of people must simultaneously be able to see and hear what is going on. There are all too many cases recently of lecture theatres and similar areas being built in a remarkably shortsighted manner. There seems to be a reluctance on the part of some people to consult specialists in theatre design due I think to the assumption that anything said by them will result in additional expenditure. It cannot be emphasised too often that a little forethought in the early stages can in fact result in a more usable building at less cost, merely by considering such things as location of doors, provision for future cable ways, and other procedures. To twist a well known phrase, "Theatre will out"—surely it is not too much to be expected that the many bands of impecunious enthusiasts striving to put on performances in inadequate buildings get some assistance from people concerned with the provision of those buildings. And, please, would some of our architect readers visit the results of their endeavours and learn by experience.

The techniques of stage lighting and mechanical equipment in Australia follow more closely the U.K. approach than American or German, and it seems that the design of future buildings in Australia will continue that trend. There is a shortage of technical staff here, principally because at the moment it is difficult to ensure continuity of work for them, but with our rising population and economy it is a situation which must improve fairly soon. It does mean, though, that we cannot accept methods which require large numbers of men to implement them, and it is quite likely that when any of the early theatres eventually do decide to scrap their grand master boards, then they will go to really advanced systems purely in order to take advantage of the potential savings in staff and rehearsal time. One difficulty is that there is little opportunity at the moment for interchange of ideas and experience in stage techniques, and there are very few Australian architects who have worked on more than one theatre project or who have compared notes with others to avoid continued perpetration of architectural blunders. It is to be hoped that some of the funds being made available by the Australian Council for the Performing Arts could be used to sponsor visits to Australia by technicians and designers as well as by producers and performers, and that facilities be provided in the not too far distant future for the training of technical personnel in Australia. Some of us would like to see an equivalent to the Association of British Theatre Technicians —as a suggestion, perhaps that body would like to form an Australian chapter. If anyone is inspired by these words to an interest in assisting with such a formation we should be very pleased to hear from them, with a view to commencing negotiations.

New Winter Garden Theatre Drury Lane

by M. J. Percival, ARIBA

The design of the new Winter Garden theatre, due to open a year from now, arises directly from the particular circumstances which governed its rebuilding: that it was part of a mixed development by a property developer* and as such was a speculative venture, and also that it was not to be just another auditorium to be turned into a cinema as soon as decently possible. A theatre is a fairly unusual speculation for a property developer and therefore, unlike an office block, an unknown quantity except for one obvious fact; it is not financially viable to build another standard theatre in London.

The objective of the design therefore was to produce a scheme which could be made successful commercially, but also, since it had to operate as such, would be valid theatrically. Since it was to be a commercial theatre this meant that it had to be able to operate in a conventional way, but we also felt that it would have to take a more unconventional form if it were to be sufficiently adaptable to attract different kinds of production and ensure maximum use.

By the same token, the form which emerged in pursuit of the theatrical objective had to suit the second objective which was to be able to use the theatre for other activities at other times of the day, to get more total use out of the building. The crux of the design was to satisfy the conventional theatre requirements in a sufficiently unconventional way to make possible a wider variety of uses both inside and outside the theatre function. What applied to the auditorium in this sense obviously applied equally to the ancillary accommodation particularly in the public areas; these would also need to be compatible with a variety of uses.

Commercially it boiled down to these two things: keep the theatre in use for as many days in the year as possible, and for as many hours in the day as possible.

There seemed to us to be two equally important basic design criteria for an adaptable commercial theatre. First, that changes from one form to another must be simple, quick and easy to operate. A complete change must take minutes rather than hours if it was to make commercial sense. Second, whatever arrangement was set up, the room must remain a completely designed entity without any feeling that the set-up was temporary. In a commercial theatre it had to be done by magic. The first stumbling block on both counts was the fixed proscenium arch and the iron curtain which proved to be totally incompatible with our aims. With the relaxation of the G.L.C. regulations governing the construction of scenery from the fire risk point of view, we felt it reasonable to dispense with these elements, and give ourselves space in which to manoeuvre.

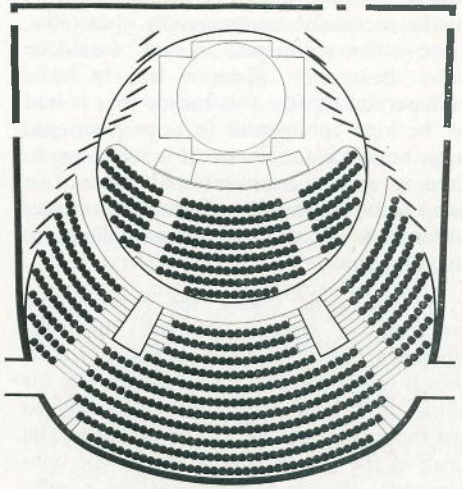
The omission of the proscenium arch resulted in the development of a series of movable wall panels, one of whose functions was to re-provide that facility when required. The panels are the same width as the fixed panels which line the curving wall enclosing the auditorium and they will be covered with the same textile fabric finish so that their appearance will be identical. The adjustability of the panels which lead in from the audience to the stage is planned to give a fairly subtle degree of control of the shape of the auditorium. That is to say, whatever width of proscenium opening is to be formed with these panels, this being their basic function, it will be possible to mould the shape of

* *The theatre is part of a development by the Rodwell Group Limited, a wholly owned subsidiary of Star (Great Britain) Holdings Limited.*

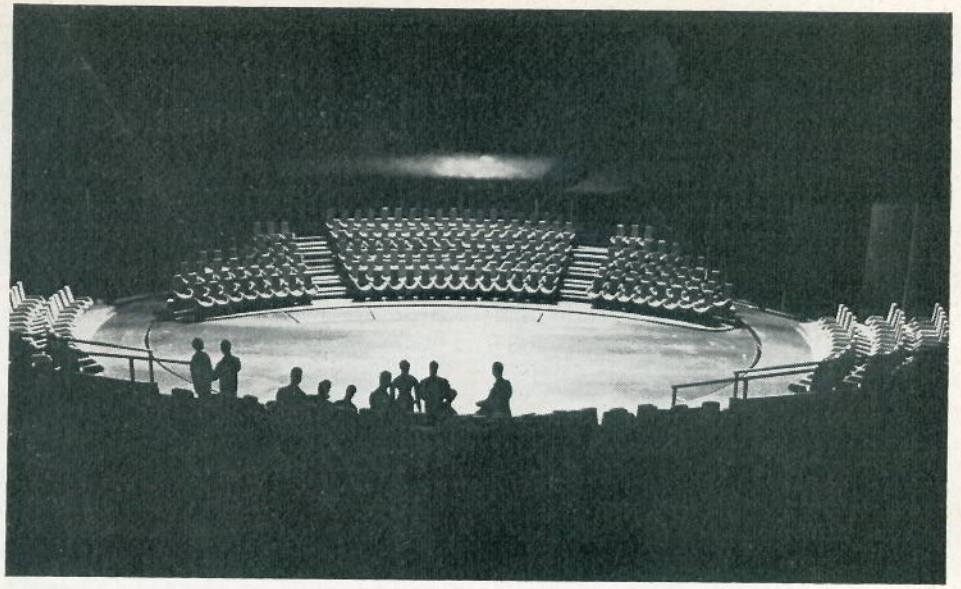
New Winter Garden Theatre London. Model and plan revolved for End Stage.

the walls to give a continuous curve, to maintain the flow of the walls from auditorium to stage and avoid any abrupt or unsympathetic changes of direction. We hope that this flow of walls on to stage, coupled with the projecting forestage and the fact that the stage and the main gangway meet at the same level, will have the effect of diminishing or blurring the break between stage and seating and will help to develop the contact between actor and audience. The radiating seating tiers and shallow depth of the auditorium—60 ft. from forestage to back row—are also aimed at creating an intimate room although with a seating capacity of 911.

The first five wall panels each side can track and pivot and conceal lighting positions for both proscenium and in-the-round. The remainder are freely mobile units, running on casters and supported by hinged swinging arms mounted on the walls. They can therefore be used in a very wide range of positions to form a false proscenium or a series of false prosceniums, varying in size, up to a panoramic end stage 90 ft. wide. Those not in use can be pushed back against the walls or grouped out of the way.



The main revolve is 60 ft. in diameter and carries 206 seats in eight tiers. Before realising that we could do this with radiating seating and a gangway at stage level, we had examined all the methods of shifting banks of seats which we could find or think of, and had decided that they were either too cumbersome, or too wasteful in terms of both space and seating capacity.

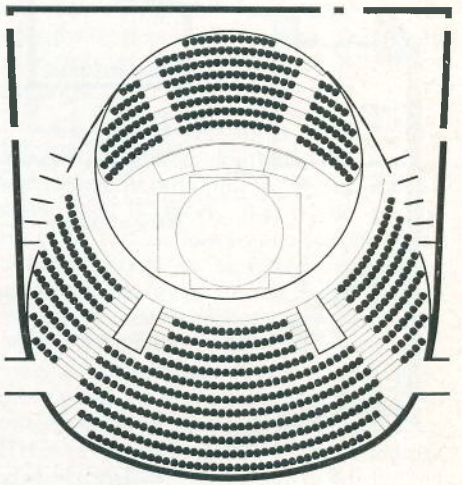


New Winter Garden Theatre London. Model and plan revolved for Centre stage.

The advantage of revolving seemed to be that it was economical in the use of space, involved no change in the number of the audience and, thereby, required no storage of seats. Above all it was quick and simple.

The revolve contains a standard set-up of orchestra elevators, three in number, to provide large or small orchestra pits or the projecting forestage when raised. The main stage area contains a grid of traps which interchange with a stage revolve 23 ft. in diameter. The main revolve is electrically driven and takes two minutes to travel through 180°.

The seating tiers are then mechanically raised, increasing their rake as they rise, until the front seats are at stage level and the pitch of the steps matches that of the main fixed seating tiers, giving a form of the theatre-in-the-round. This operation is performed by electrically-driven screw jacks and takes one and a quarter minutes. As an added facility the seating tiers can be arranged to step up in pairs or set level with the stage. Being part of the whole self-contained unit, the elevators, traps and stage revolve are all available for use in either situation.

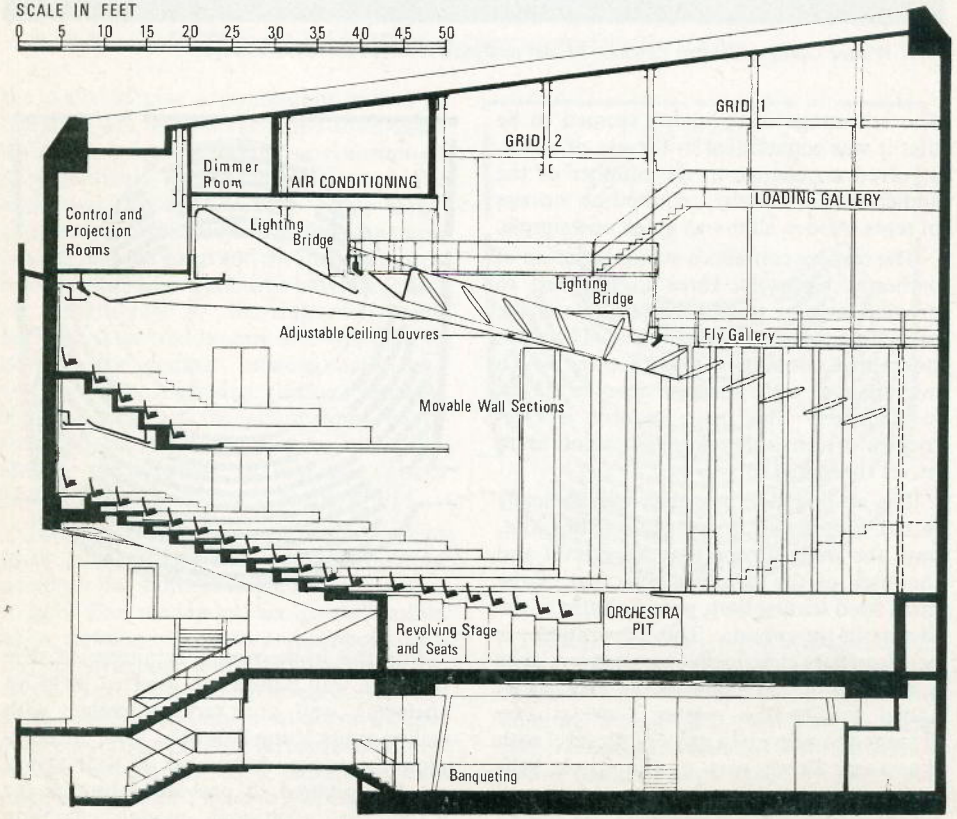


For the in-the-round arrangement, the movable wall panels are used to form an enclosing wall and serve, together with ceiling units slung from the grid, to complete the room. A number of wall panels may be pivoted to provide entrances for actors or additional recessed lighting positions.

The form of the ceiling is derived directly from the demands of stage and house lighting, air-conditioning outlets, control and projection room positions and the straight design problem posed by the variable arrangements of walls and seats. The adjustable part of the ceiling consists of a series of parallel louvres forming a tipped circle above the main revolve. These are acoustically reflective and by being convex in section will reflect sound from either of the two main stage positions and in both directions. Those which are not flown from the grid for theatre-in-the-round, form a permanent ceiling, the angles of which can be adjusted for lighting purposes or set in a vertical position to allow elements of scenery to be dropped through from the secondary grid on to the in-the-round stage.

This grid is served by 10 six-hundredweight capacity motorised hoist units, with provision for later additions. The main grid is a conventional double-purchase counterweight system of 48 lines.

The main stage lighting positions are from a semi-circular bridge which runs outside the edge of the adjustable ceiling with lights mounted to throw between it and the fixed ceiling. The ends of the semi-circle are joined by a straight lighting bridge roughly above the fore-stage. This is intended for lighting both in-the-round and proscenium, the angles of the ceiling louvres being set accordingly. A further semi-circular line of lighting positions is located on the walkway in front of the



Section New Winter Garden Theatre. Architects: Sean Kenny and Chew and Percival.

control rooms and a third, right at the back of the auditorium in the ceiling over the balcony, provides for the flatter angles, backed up by two banks of lights housed on the balcony itself.

Lighting and sound control, projection room and follow-spot position overlook the stages from above the balcony, through a great split in the ceiling planes.

The non-theatre activities for which the auditorium will be used will be conferences, lectures or symposia, of a professional, industrial, commercial or political nature, together with product launches and trade shows. Either arrangement of the auditorium will be available, with the in-the-round set-up being more suitable in some cases. The main foyer and bar area underneath the auditorium will be used for breaks for drinks, for informal discussions and for exhibition purposes. The restaurant/banqueting area at first floor level will be available to serve lunch to delegates or representatives.

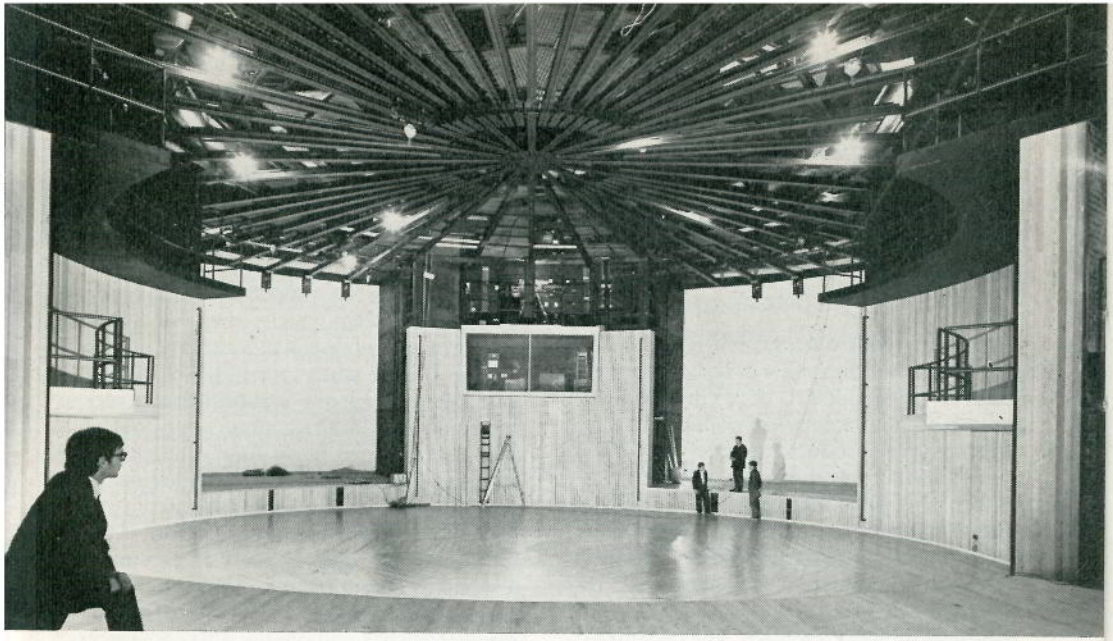
It is also hoped to use the auditorium for concerts or festivals of band music, popular classical, and all sorts of lighter music. For much of this the in-the-round arrangement will be suitable, particularly for singers, with an orchestra on the stage in front of them.

The other main use will be cinema for late night shows or for full time evening use as an infill between live productions. The projection room is much too high for the ideal projection situation, but with a few mirrors it will be possible to work within acceptable tolerances.

The banqueting/restaurant area is planned for multi-use both independently and as a general purpose ancillary to the auditorium; in joint use for exhibitions or demonstrations in conjunction with a conference; independently for smaller scale product launches, sales promotions, trade shows, particularly fashion shows; in both cases for meals or drinks. Its main evening use will be late dining/cabaret/night club, with banqueting and annual dinners as an infill. Underneath the whole site of the development is an underground car park for about five hundred cars, which is an obvious asset for all the activities proposed. We hope that being able to book a car space, theatre seats and dinner all at the same time will encourage the public to use the Winter Garden and patronise it regularly.

This scheme is aimed at solving the particular problem which arises out of the very limited commercial viability of the London theatre when related to the cost of building. As such the solution has a very particular and limited application but it gives rise to some fairly basic thought on building for entertainment and leisure in more general terms. Quite apart from the raising and subsequent amortisation of the capital cost of building, there is the simple problem of operating at a profit, or at least without losing money. The more serious forms of what I will continue to call entertainment can be kept alive by subsidy in certain contexts and it is good to see that considerable extensions of the subsidy system may follow the latest proposals of The Arts Council Theatre Enquiry.

While, however, it is undoubtedly acceptable, indeed desirable, that certain specialised unprofitable activities will always need support, the whole general range of serious and not-so-serious entertainment would be healthier and perhaps more adventurous for being independently financially secure. Linked with other forms of leisure activity, perhaps the principle of making every square foot of building do more work, be more useful and earn more money could produce such independence. If it is an economic fact of life that buildings used for three hours per day or for limited seasons cannot pay their way, and a commercial fact of life that the public will not pay anything for sub-standard facilities but quite highly for good facilities, then there may be a case for purpose-designed, good quality, multi-use, flexible buildings for entertainment and leisure activities of all sorts, serious and flippant, each supporting the other and guaranteeing the success of the whole.



The Gardner Centre for the Arts

by Norman Marshall

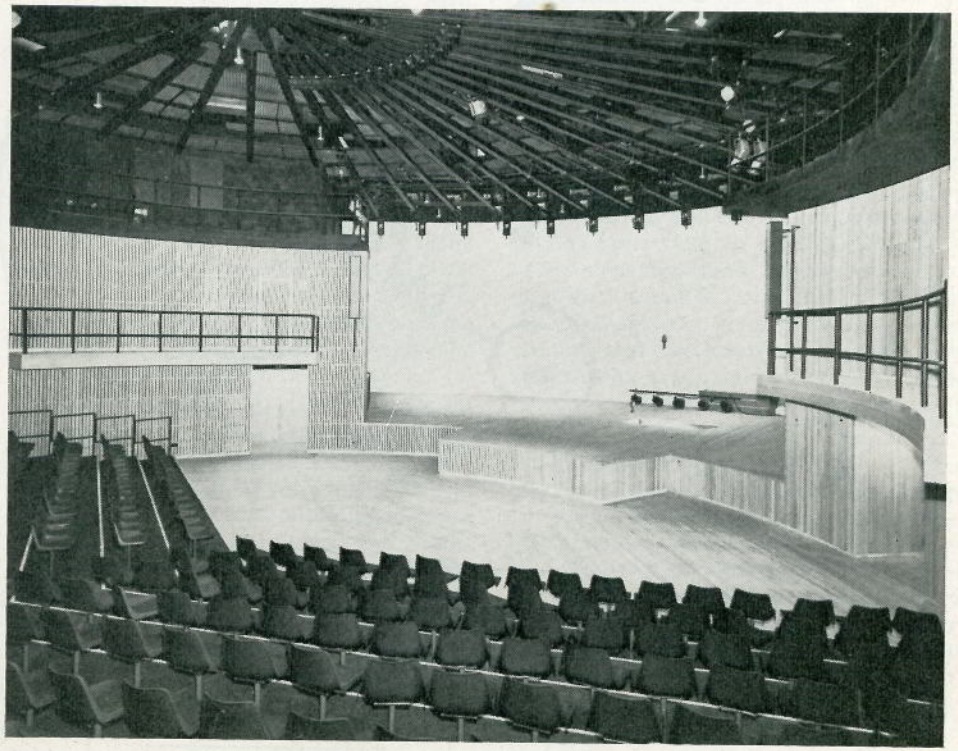
The Gardner Centre for the Arts at Sussex University is designed to demonstrate the essential unity of all the arts by creating within a single building a theatre surrounded by studios for music, painting and sculpture for the use of students at the University and professional "artists in residence" including writers and film-makers. Sean Kenny, the theatre consultant to the architects, describes it as "not a theatre but a room—a room which can be used for the arts. It can be adapted as necessary for drama, music, opera, ballet, painting, sculpture or anything else. The way the room is used will depend on the ideas and needs of the people using it. Everything is adaptable, including the seats. There are no seats unless you want them; and if you want them you can have them and put them anywhere—on any or all of the stages in the auditorium, or anywhere else you like. It's up to you."

It is still too early to say to what extent adaptability has been successfully achieved because since the theatre opened last November by no means all of its possibilities have been tried out. For instance, there are those two stages at the opposite end of the room from the proscenium stage on either side of the control room from which however they cannot be seen. The idea is to use the stages either singly, or both in the same production, perhaps simultaneously, or to use them in conjunction with the main stage, making a three-stage theatre with the audience moving about on the floor of the auditorium from which the seating will have been removed: or maybe the swivel chairs will be used to enable the audience to face both ways, although their view of the stages would be unsatisfactory as obviously this two-way seating cannot be raked.

A Doll's House was played on a shallow open platform stretching nearly 60 ft. from wall to wall at the end of the auditorium opposite the main stage. The wall of the control room was covered by the flats which backed the full length of the platform. The fact that this is an experimental theatre justifies trying out this unexpected use of "the room", though *A Doll's House*, which needs a sense of stifling enclosure, was hardly the play to be made the subject of this experiment. But I am doubtful if any play could have been presented advantageously on that oddly elongated stage. As there was only one awkwardly improvised upstage entrance the cast had to make most of their entrances from either side, which often meant they had to scurry along to reach the actors in the centre of the stage in time. The seating stretched along almost the entire width of the stage, so when a scene was played on one side of the stage the audience far away on the opposite side of the auditorium were almost completely isolated from the scene.

An original feature of the auditorium are the platforms half way up the walls on either side of the proscenium stage. Stairways can be attached to them so that they can be used for entrances on to the stage. In the University's Theatre Club production of *Serjeant Musgrave's Dance*, one of the platforms, with the rails removed, was effectively used as a bedroom in the inn.

When the tiered seating is in position for the proscenium stage there remains a yawning gap between the front row and the stage which has to be filled in with six or seven rows on the flat floor, providing poor sight lines. A small platform protruding from the stage serves as a forestage or can be sunk to provide an orchestra pit. As a forestage it is an awkward size and shape for the actors: as an orchestra pit it limits the number of musicians to seven or eight. Had the orchestra lift been sunk another

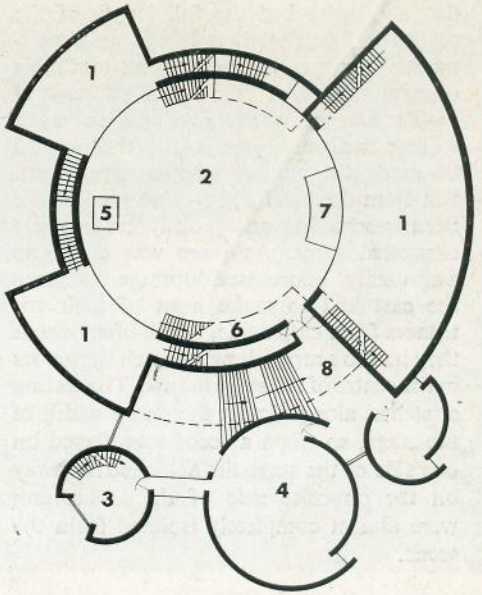


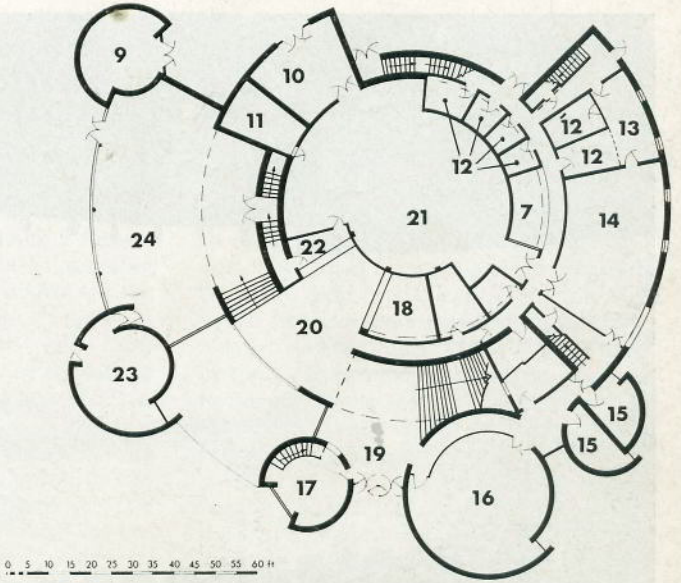
Gardner Centre for the Arts, Sussex University. View of theatre space looking towards main stage. Photo' top opposite shows other end with the two smaller stages separated by the lighting control room.

four feet it could have been used as a lift from the workshop area and would have made the access of scenery to the stage much easier than it is at present.

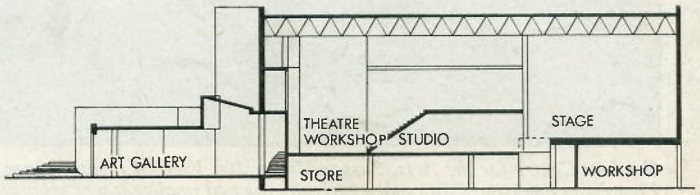
The University Theatre Club in *Serjeant Musgrave* made good use of the expanse of floor left by the bleacher seating. They built out a very large forestage enclosing the permanent forestage. Nearly all the play was acted on this stage with most of the main stage curtained off. The actor-audience relationship was excellent.

The theatre has not yet been used for a production in-the-round, but for *The Nuns* it was converted into a satisfactory thrust stage, apart from the fact that in the planning of the building insufficient thought had been given to how to get the actors on to this form of stage. The same





1. Stages
2. Theatre Workshop Studio
3. Office
4. Gallery Painting Studio
5. Floor Traps
6. Balcony Over
7. Stage Lift
8. Upper Foyer
9. Sculpture
10. Sculpture Studio
11. Switch Room
12. Dressing Rooms
13. Green Room
14. Workshops
15. Music Rooms
16. Painting
17. Office
18. Cloaks
19. Foyer
20. Exhibition Area
21. Store Area
22. Bar
23. Group Music
24. Art Gallery



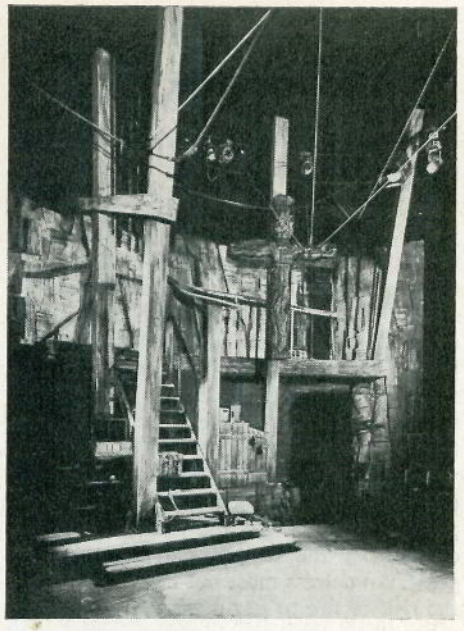
Gardner Centre for the Arts. Architects: Sir Basil Spence, Bonnington and Collins.

applied to the stage used for *A Doll's House* when the actors had to follow a long and devious route from their dressing rooms to the stage, passing through the bar and a public corridor. In whatever form the theatre is used there are too few entrances for the actors.

Many of the deficiencies of this building are due to the fact that it was planned for a larger budget than was eventually granted. Crippling cuts had to be made in the technical equipment. The flying system was reduced to the barest minimum and drastic economies made in the lighting. But the number of lamps is ample and the lighting can be re-rigged for the various forms of stages easily and rapidly. The same cannot be said of the seating. It is said to take a number of men twelve hours to change it.

The fundamental reason for the difficulties of working in this theatre might be the circular conception of the building itself. There would also seem to have been insufficient consultation with experts in various branches of the theatre. There are too many of the old, elementary mistakes. For instance, the control room is too narrow for anyone to pass along it when the operator is at his desk, and it is not completely soundproof. Incidentally, that huge window of the control room has been having a poor time of it so far. After being obscured by flats for *A Doll's House* a black curtain had to be dropped over it for the in-the-round production as sections of the audience were distracted by seeing the performance reflected in the glass.

As has happened all too often in recently built theatres, the comfort and convenience of the audience seems to have been an afterthought. Presumably the ill-designed, viciously uncomfortable seats are due to last-minute economies, but almost any economy should be considered before saving on the seats. The steepish staircase leading to the auditorium has no handrail for those who find stairs difficult, the main entrance to the auditorium is too



Gardner Centre. Setting for "The Nuns" by the Centre's theatre consultant Sean Kenny.

narrow, causing a bottleneck when the audience is leaving at the end of the performance, and the heating system is so noisy that it has had to be switched off during a play. The bar is pleasantly situated a few steps from the art gallery so that one can stroll round it, drink in hand, but the cramped space in which the bar, the coffee counter and the cloakroom are jammed up together looks suspiciously like one of those spaces which somehow just emerge when a building is being planned.

Although the deficiencies of this theatre do not prove that it is impossible to design a thoroughly workable adaptable theatre for an audience of up to 500, it does show how fantastically difficult is the task, and how it cannot be achieved without immense forethought and the utmost use of expert knowledge from every branch of the theatre.

Theatre Royal Back Drawing Room

A lighting abstract from 1879.* Researched by Brian Legge.

"To light the stage well is an important point. All the light should be thrown upon the actors from the front of the stage, or at the front sides of the scene, so that there should be no shadows cast on their faces, as would be the case if the light came from behind or above them. Footlights are necessary; small oil-lamps with glass shades over them answer well; or, failing these, wax candles, if put close together, will suffice. There *must* be a wire put at a little distance from the footlights, and interposed between them and the stage, or the chances of the dresses catching fire are great. An actress must not have to think of the risk of fire to her dress every time she moves."

"A table at each side of the stage, with a good moderator lamp on it, makes a pleasant light. There ought also to be a bracket or two on each side of the stage, with lamps on them. The more the stage can be lighted from the front the better, so that the different expressions of the face may be well seen. The room for the audience ought to be darkened at the time of the performance, to enhance the effect of light on the stage; but as it is dismal to come into a dimly-lighted room, it is well to have the lights so managed as to make it possible to remove some of them when the curtain is drawn up. The curtain should draw up, not aside. The drawing up of the curtain wants much rehearsing to avoid a hitch. In lighting the stage it is well to avoid gas, for it is a trying light, and a hot one, and the stage ought to be kept as cool as possible."

"It frequently happens in plays of all kinds that the stage is supposed to grow darker or lighter, either suddenly or by degrees. Most of our readers have probably observed how, when the stage of a real theatre is dark, the appearance of one small candle creates a sudden blaze of light, which is of course produced by the prompter's turning up the stage lights when, or, if things are badly managed, before, the candle makes its appearance. If gas footlights are employed in private theatricals, there is of course no difficulty in producing either a sudden or gradual increase or decrease of light. But if candles or oil lamps are used, it will be well to have some little way—say six inches—between them and the actors, a board running the whole length of the footlights and working on a hinge, so that it can either lie flat on the ground, or by an arrangement of pulleys be moved about by the prompter so as to partially or wholly cover the footlights on the stage side. For moonlight effects tinted glass in a wooden framework can be substituted for the board."

First Night of an Unappreciated Melodrama.—*He.* "Are we alone?" *Voice from the Gallery.* "No, guv'nor; but you will be to-morrow night."

Reproduced from The Punch Library of Humour "At The Play"

* *Amateur Theatricals by Walter Herries Pollock and Lady Pollock.*

Techniques of Stage Lighting

Précis of paper given to the Illuminating Engineering Society on March 11th, 1970*

Francis Reid, who is a theatre lighting consultant, said that stage lighting was not a science but rather an uneasy marriage between science and art, in which the results could be judged only subjectively. His paper, therefore, was the response of one individual practitioner of the art of lighting.

Stage lighting had to be related to the overall style of production and to contribute to this style. Consistency was the key. Leaving out some contemporary aberrations, the whole concept of theatrical experience assumed a visual relationship between the audience and the actors, especially as facial expression and body movement were a vital part of the actor's armoury. Illumination as such must therefore relate to the size of the auditorium. Apart from this basic provision, directional "portrait" lighting could keep the actor "solid", but lighting had also to separate him from his background and to give dimension to the scenery. Again it had another function, which was to direct the attention of the audience to a particular part of the stage action, either as a rapid cut from one area to another, or as a subtle shift of emphasis, effective for this purpose, but unnoticed by the audience.

Naturalistic styles of production required lighting to suggest time of year, time of day, etc., whilst at other times it could set an emotional environment. There was bound to be a conflict of aims and the optimum use of atmosphere was not always compatible with optimum illumination.

Mr. Reid considered that the greatest problem in stage lighting was to reconcile the lighting of actors with the lighting of the scene. If an unrestricted range of lighting positions were available, then this difficulty would be minimised but choice of position was always severely limited—in the auditorium by the architecture—on the stage by the scenery. He thought that this was a factor which had led to the complexity of many stage lighting layouts. He saw the lighting on the stage as governed by three variables—intensity, colour and direction, most of which were subject to the lighting control system. Intensity by dimmers, colour and direction only within the limits imposed by the combination of light sources which had been positioned, coloured and focused, prior to the performance.

Mr. Reid referred to the remarkable developments of lighting control systems and the less remarkable changes in lanterns, and went on to describe the choice of a lantern for a job and its rigging. The types generally available were:

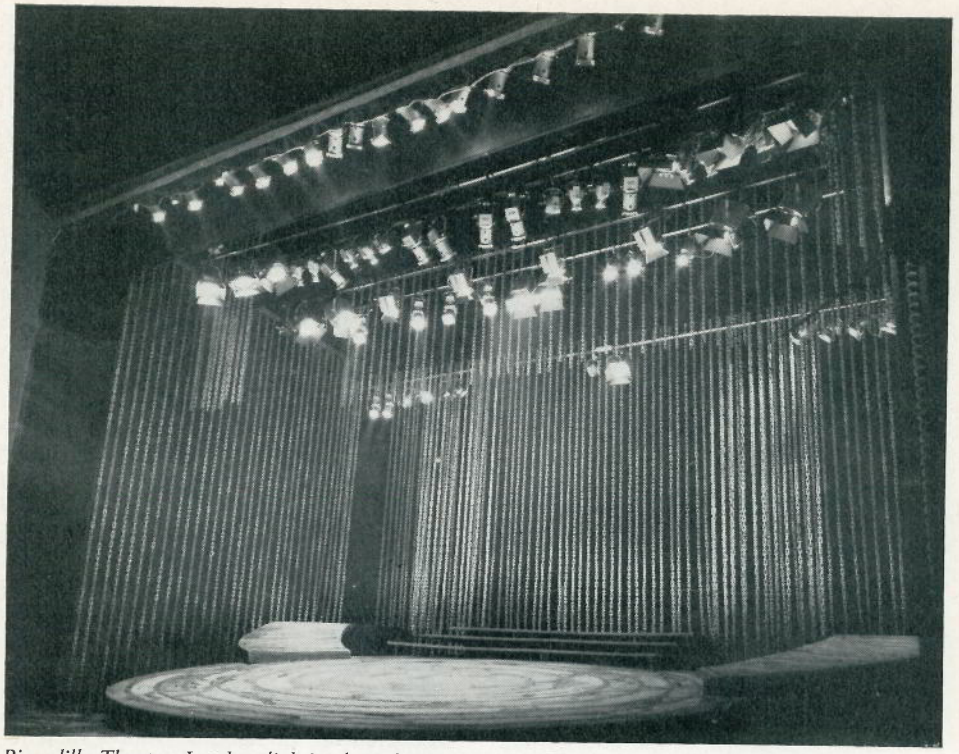
Floods: Wide angle softlights comprising lamp and reflector with no beam control and available in ratings of 200–2,000 W.

Fresnel spots: Units in ratings of 500–2,000 W. in which movement of the lamp and a simple reflector relative to a Fresnel lens gives a circular, variable angle, diffuse, soft-edge beam. Limited control of beam shape is possible by means of a barn-door attachment.

Profile spots: Available in ratings of 500–2,000 W. Light from a more sophisticated reflector system, normally ellipsoidal, is focused by a single objective, the beam size and shape are controlled by an adjustable gate.

Beamlights: Spotlights using a parabolic reflector to give a near parallel beam. They operate at 24 volts and are available in ratings of 250–1,000 W. These are similar in principle to the Pageant lantern,

* *Mr. Reid's paper will be printed in full with the discussion in* Lighting Research and Technology (*Published by the I.E.S. York House, Westminster Bridge Road, S.E.1.*).



Piccadilly Theatre, London, lighting by John B. Read for Edward II.

largely but not always satisfactorily, replaced by the Fresnel.

Condenser lanterns: These units, in ratings of 1,000–5,000 W., have sophisticated optical systems and are used chiefly for the projection of slides and the production of special optical effects. He pointed out that fluorescent lamps had, to this date, found little application on the stage.

In a new theatre it was customary to make provision for lighting equipment by concealing accessible horizontal bridges in the ceiling and accessible vertical slots in the side walls. In older theatres, positions had to be contrived on the front of the balconies, in side boxes, and in any other suitable place that presented itself. Profile spots were normally used in these auditorium positions because of the absence of spill-light which, if present, would light the auditorium itself.

In theory, the Fresnel spot with its soft edges should be the ideal lantern for the majority of on-stage work. In practice, many lighting designers preferred to use profile spots thrown out-of-focus. The use of flooding equipment was normally restricted to the lighting of areas of painted scenery such as backcloths, but it was becoming increasingly common to use in addition some spotlights on specific areas of the painted cloths in an attempt to inject an additional feeling of dimension.

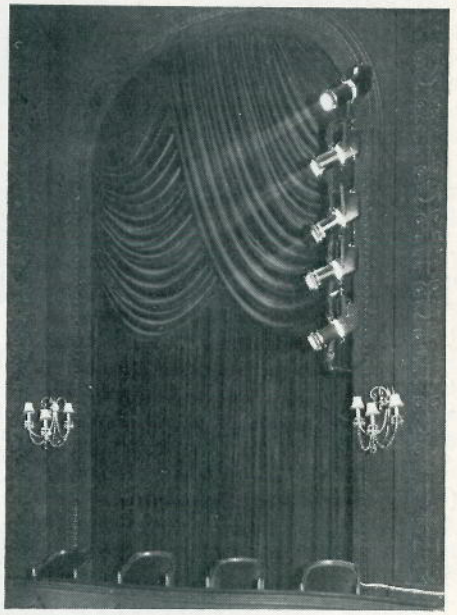
Lighting equipment clamped to standard 2 in. outside diameter scaffolding bars. When used horizontally these were known simply as "bars" and when used vertically as "booms". In larger repertoire theatres, particularly opera houses, the lighting was carried on a structure of bridges and towers which permitted easy access for the focusing and colouring of equipment.

Coming to his own work he emphasised the relatively recent arrival on the scene of the professional lighting designers. The Society of British Theatre Lighting Designers had been founded only in 1961. A need for a lighting designer arose mainly from the evolution of lighting techniques with complex multi-lantern rigs, which a director would find difficult to control without ignoring his primary responsibility for the complete production. The lighting designer was a member of the production team with an important contribution to make to the director's conception of the whole. To be of any value, he must be in from the beginning. He would have no chance of doing useful work if called on at the last moment.

Mr. Reid outlined the differing procedure when lighting for long run West End productions or for repertoire work. He considered present techniques to be the result of the former, and said that new thought should be given to the latter. Whatever the theatre, planning was essential, as the most expensive item in the production was time—especially for lighting which could be done only with the scenery in position and a large technical staff in attendance. He recognised, however, a danger in too much planning within an artistic enterprise. This could lead to playing safe and choosing the known solution. His own experience was that the exciting things in lighting had always happened when he had not gone by the book, but there had to be a book not to go by.

Glyndebourne Opera House, Francis Reid at the stalls control.

Planning resulted in an end product—the lighting layout, from which the staff could rig, connect and colour all the lanterns. Then came the most tedious operation, setting them one at a time and this with constant pressure from other departments to have done with it. Thence to the stalls to sit with the director and the designer to begin to weld all together into pictures and to plot for subsequent reproduction.



FOH spots Piccadilly Theatre London, Man of La Mancha, *lighting by Francis Reid.*

For repertoire work with daily changeovers and sometimes twice daily to allow for rehearsals the West End approach was almost impossible in the time. Frequently the answer was to use a similar layout but to restrict the number of lanterns which could be refocused or reangled from production to production. Limited access and an overworked staff increased the margin of error.

In conclusion, Mr. Reid outlined some developments he considered essential for repertoire work. Most of these related to simplifying the problems of rigging and setting, but he made a strong case from his experience at Glyndebourne for the lighting designer and the operator being the same man.

Ashcroft Theatre Croydon

This theatre has been redecorated (photo above) and certain alterations made particularly in the proscenium area to lessen the barrier provided by the original permanent (1962) Juliet balcony and forestage side doors (photo below). Decorative fittings have been added to help break up the side walls and the ceiling fittings recessed to make them look less industrial.

Architect: Robert Atkinson & Partners; alterations Hugh Lea, ARIBA Borough Architect.

Designing a Theatre

Part of the introduction to NEW THEATRES IN BRITAIN*
a TABS publication by Frederick Bentham.

There are four main forms a theatre can take: proscenium stage, end stage, thrust stage and theatre-in-the-round, the last named being known as arena stage in America. It is sometimes difficult to classify a particular theatre because flexibility in its planning can allow it quite easily to take two adjacent forms on our list of four. To adapt to all four however it must be small, the smaller the better, when it becomes known as an adaptable theatre or studio theatre. The four basic forms involved are just the same.

When the hall is only a part-time theatre and may have to cater for ballroom dancing, exhibitions, banquets and so forth it is known as a multi-purpose hall. The dangers can then be summed up as "suitable for everything, good for nothing". Nevertheless the project may have to be undertaken for a small community.

Some conflicts of use are so obvious as to make it easy to understand the traps they present and to take steps to avoid them. For example, ballroom dancing needs a flat floor whereas all forms of theatre need a stepped floor to give members of the audience an unobstructed view of the stage floor upon which the actors walk or dance.

The flat floor uses of the hall, it is easy to see, are thus at the opposite pole to the theatre uses. What is not at all obvious at first sight are the differing needs of two types of theatrical performance. For example, in setting out to design a real theatre, the brief may declare that it should be suitable for both drama and musicals. It can go on and state helpfully that only amateur performances of the latter are envisaged and thus extravagant provision to take a West End show or Sadlers Wells Opera Tour can be avoided. So far so sensible but all is not well, alas! There is a hidden conflict to be resolved. The trouble lies in the fact that amateur drama represented by the members of the British Drama League benefits from an intimate audience—an auditorium of about 300 seats whereas amateur operatic societies, members of National Operatic and Dramatic Association need an audience of 800 or more.

The theatre should be a proscenium theatre for the latter with a curtain whereas for the drama it need not be, but even if everyone is agreed on sharing the same theatre form there is still the problem of seating capacity to be resolved. To make things more difficult the very form which needs the most seats will have its space encroached upon by the large orchestra required between audience and stage. This demand for a large seating capacity is no mere whim. An amateur musical will hire expensive professionals for the orchestra and even sometimes to sing a particularly critical role. They have to keep the number of performances to a minimum and yet they often, particularly in some parts of the country, have a very large following. Even with 1,000 seats it can be a case of full houses for a week. The large chorus breeds a ready made audience of followers whereas a drama may have a cast of less than half a dozen.

Irrespective of actual audience numbers music needs volume of auditorium to achieve a live acoustic. So an intimate dramatic theatre will not make a good concert hall even if we eschew actual dramatic musical presentation. Theatres

* *8vo, 144 pages with plans and photographs of seventy-eight new theatres, professional, amateur, university and school. Send 10s. to include postage to Rank Strand Electric, 29 King Street, WC2E 8JH.*

can, however, double as specialist cinemas. Thus a theatre may be used for four weeks in a year as a B.F.I.* cinema. The reproduced sound needs a different acoustic from drama but a compromise is not difficult. It must be remarked in passing that the form of theatre plan will be important because the modern wide screen rules out side seats—the audience must confront the screen. The theatre of confrontation is, fortunately for the cinema, still the commonest form of live theatre.

Another shared use which can be helpful in schools and colleges where theatre or indeed any kind of entertainment is an occasional activity is that of the lecture theatre. These come both large and small with well-stepped seating to enable the demonstrations on the platform easily to be seen. Something known as a teaching wall can carry the projection screen, blackboards or the more up to date whiteboards and other essential equipment for such places. This wall can be shifted as one unit to reveal the stage behind as in the Renold Theatre Manchester. Likewise the desk part of the seating can fold down out of the way.

Approaching theatre from the musical angle only, it is possible to design a concert hall with sufficient flexibility that it can be suitable for ballet and some other musicals —even opera to some extent. The well-known solution at the Royal Festival Hall is an unhappy one because there the original aim was to build a concert hall only, and the requirement of a ballet stage was added to the architect's brief too late. Once it is admitted at the design stage that any concert hall will also be used for some such other activity (and they all will be) then it is possible to make reasonable provision. Both at Croydon and Corby there are examples of a complex containing both multi-purpose concert hall and separate drama theatre. One has to choose one's words carefully here. Concert halls like theatres come in many sizes but in this context it means a large place for symphony orchestra and perhaps a choir as well. The small intimate hall for soloist or chamber music is better referred to as a recital room. The Purcell room on London's South Bank with 400 seats is a good example. It is important to bear in mind that any kind of dramatic activity demands backstage facilities on a quite different scale from concert hall work, however large the orchestra and chorus. The cast and chorus of an operetta or a *corps de ballet* have to make up and a change of costume may take place not once but several times during a performance. Then there is the complication of scenery and lighting.

Of the four forms of theatre we began with only one, the centre stage or theatre-in-the-round, will not use scenery. One form—the proscenium theatre—has no purpose at all without changeable scenery. The in-betweens, the open end stage and the thrust stage will sometimes begin with a declaration of non-intent, so to speak—"We shall not use scenery", but it is most unwise to depend on such a statement for the man who makes it has a way of moving on and his successor, the new director, will take a different line.

The key word in theatre design is flexibility rather than adaptability. It is better to choose a form, accept its discipline and make it as good as possible of its kind. In the course of drawing up the brief and in the planning it will be found that there are certain other things the form can also be made to do easily if treated flexibly. On the other hand aim half-way between two forms to hedge the bets and the chances are that neither will come off properly. Aim at complete adaptability and or multi-purposeness and everything will become a makeshift.

Makeshift is a disaster because a real theatre has to be a good building—a work of art in its own right, not just a studio. At one moment it has to be the star, so to speak, drawing attention to itself, and at the next it must retire into a supporting role —provide the comfortable but unobtrusive accompaniment to help the audience see and hear the actor upon the stage. To devise an inspiring yet retiring building is artistically a hard task to set any architect. Yet on top of this are the pure mechanics of the building to contend with. These are complex and technical. The accommodation of the audience to see and hear brings with it the problem of heating and ventilation made more complicated by the fact that this should not really be allowed to contribute any ambient noise to the auditorium at all. Not only has the ventilation to cope with extremes of climate but also variation in number of audience and of stage lighting kilowatts. The amount of heat both can generate is remarkable, but at other times the place can be thinly populated and there is little or no (if films are shown) stage lighting at all.

It is necessary to remark on the need for planning for motion—for good circulation. This applies everywhere, but is felt most by the final arbiters—the paying public—out in the front of house. From the moment they attempt to buy their ticket, maybe weeks ahead, to the final struggle to find the car or queue for public transport to go home they are being influenced in their decision to come again, and no theatre can survive on a diet of once only visitors. An exceptional attraction can draw a full house into any kind of theatre, but the aim is to get the public to come again and again until it becomes a habit. This is accepted nowadays and steps are taken to make the theatre attractive by day, comfortable and handy, a place to drop in on for morning coffee, for lunch and dinner, to see an exhibition. All this luxury may go for nothing once a show is on because the place then develops a rush-hour complex. A rush hour of ten or fifteen minutes into the bargain.

A great handicap is the fact that most people concerned with building theatres seem to assume that only architects can read plans or need to. They then recoil with surprise when something takes concrete shape yet it may have been on the plan all the time. It is one thing to declare that one cannot read music or Chinese but sheer affectation to say one cannot read a plan. These are drawings of the simplest type, i.e. flat representing two dimensions at a time. Except for a few simple symbols representing a door or window or an arrow to show whether a staircase goes up or down there is nothing ordinary mortals need worry about except scale. With very little practice it becomes possible to visualise oneself walking about the building—not alone of course, but in the case of the front of house with a great concourse of others.

The success of the plan can be judged from the flow; good design should lead the audience from the theatre entrance to their seats without any acute changes of direction and with an absolute minimum of signs. Conflicting paths have to be avoided. Where is the box office queue going to form; there is bound to be one sometime? Will it block anything? Does the flow take the audience past the vital staircase instead of allowing it to collect them? Is there a passage with a blind end leading nowhere or worse still, if it is an impressive one, which ends in a small door labelled "private"? Will the scenery have to be manhandled around corners it cannot conveniently take in order to get from workshop to stage, or do the principal actors have to run up a flight of stairs to get on the stage? If so then, however exciting the intention, the plan itself and therefore the theatre will not work.

Space is not a universal panacea either. All of us know of road junctions which have been improved by blocking up part of the wide open areas. It then becomes obvious which route to choose. Commissionaires erecting a temporary Hampton Court maze of ropes in the foyer to direct the interval queue for coffee indite the architect and client alike because this could have been spotted beforehand on the plan. People should not arrive at the bar only to discover that some other part of the theatre is able to get there out of turn or even that it is hogged by an audience from another theatre or activity in the same building. The early arrivals then have to leave the counter and the late ones still have to get there, and conflict arises. Finally there may be a rush back to the auditorium only to get lost on the way and then finally

* *British Film Institute.*

to struggle through the only obvious doorway along with everybody else.

There is a danger that the only audience movement considered in detail is that to cope with regulations, but these are mainly concerned with decanting the public hastily outside in an emergency with a drop of smoke and flame to encourage them on their way. Normally people tend to use the way they came in as the way to go out and in any case during the ten or fifteen minute interval, outside is not where they want to go at all. Thus not all the exits and passages on the plan are necessarily in use for normal purposes.

It would be presumptuous of me to write of such things for an architect but there is much that is special to theatre right through a building. The preoccupation of the plans and photographs with just the auditorium and stage (the TABS speciality) makes it all the more necessary to stress the peculiarities of theatre planning, both front of house and backstage, outside these areas. Some of the theatre requirements such as offices are not peculiar to a theatre at all but occur in any kind of business that has to be administered and which has things to sell to the public. Curiously just because offices are so ordinary the need for them often gets eclipsed by the more glamorous pre-occupations. The repertory theatres will have to construct and paint scenery which means that there will be a workshop requiring provision for staff including the scene designer to be housed, together with store for both raw material and completed scenery and also some machinery, the largest of which is the paint frame for backcloths.

The get-in for scenery toured from other theatres is very important even where the theatre is intended to originate its own productions. This get-in should be as direct as possible from road truck to stage or scene dock. The A.B.T.T.* offers the services of its Architectural and Planning Committee to discuss the plans of theatres. The earlier their advice is taken the better and they can be consulted at the time the brief is drawn up. Once the concrete is being poured, and it is a sad fact that architectural fashion decrees that the most intractable building medium known to man—fair-faced reinforced concrete — is *de rigueur*, then not even a road drill can be used to make the simplest alteration.

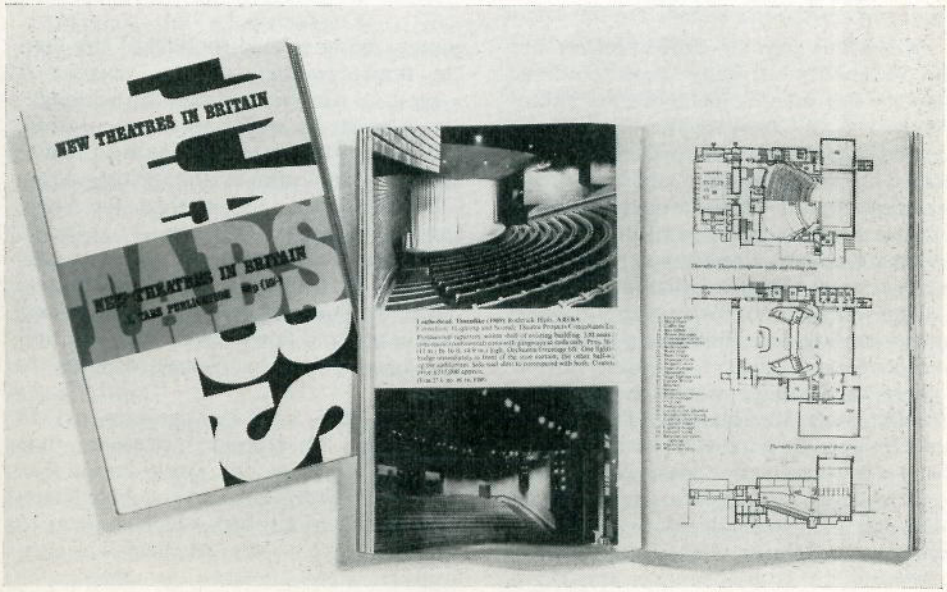
The A.B.T.T. committee consists of theatre technicians and architects who examine the plans, whatever the form of theatre, to see if it is a practical place in which to work, to employ the strange crafts associated with the running of a successful theatre. They are volunteers giving their services to their association in the interest of better theatres. For the detail work a theatre consultant should be employed in much the same way that a ventilation, acoustic or electrical consultant might have to be employed depending on the nature of the project.

It is now time to return to the heart of the theatre—the auditorium and stage—and consider the four main forms: proscenium, end stage, thrust stage, and theatre-in-the-round (arena). In each case we shall be concerned with the bringing together of the two elements described by John English as "the theatrical world" and "the real world". These two worlds meet but remain quite separate. No amount of juggling with words can alter this. The theatre contains the entertainers and the entertained. There is talk about the one space for players and audience of say theatre-in-the-round and the two spaces, stage and auditorium, of the proscenium theatre. Some going so far as to refer to the latter as a picture frame stage. Except in opera where audience and performer of necessity confront each other over a vast illuminated orchestra chasm no modern proscenium theatre will appear to provide structural separation or a picture frame unless the style of production demands it, in which case the scene designer puts it there as a temporary expedient.

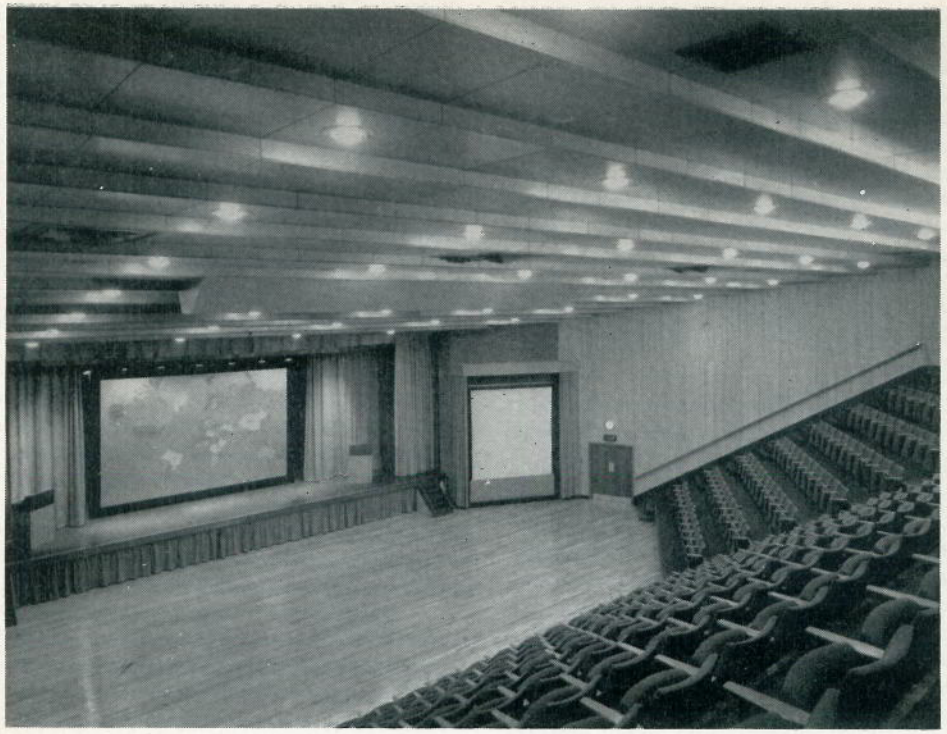
The reason why one space or two space theories make a bad starting point when planning a theatre is that the audience go to a theatre prepared to suspend rational thinking at the slightest pretext—to assist in a performance. In so doing they never kid themselves that they are other than where they are, any more than does the reader well away with a novel in the fireside chair. It is sad that one has to waste time stating that the audience knows that the strangling in the *Duchess of Malfi* does not take place, however realistically done. That they realise a scene and the life on the stage does not continue into the wings.

If the public do not think of these obvious things, why then should they concern themselves with the much greater subtlety of whether the theatre consists of one space or two. It is the directors and architects that worry about such things when they try to formulate a philosophy to explain what they do or have done. The public will go to a good play and not worry whether the subject or its mode of presentation is of the moment or not, as the great success of the box set play *Conduct Unbecoming*, at the Queens, shows at the time of writing.

A good theatre building consists in equal part of the practical and the inspired. The inspiration required is that elusive quality known to all creative workers, the struggle for that inner satisfaction when something clicks and is right for that moment of time and can be given the permanence of letterpress, drawing, brickwork or concrete. Unfortunately it is not possible to legislate for inspiration but it is necessary to stress that this is a highly desirable component of a theatre building. A theatre is not just another job any qualified architect can be expected to undertake successfully and it will be obvious that some of the theatres are more successful than others and this does not necessarily depend on size, type or the amount of money available. Some contain serious faults and some are quite uninspired, but quite a number are excellent examples of their type. They must not be judged purely from plans and photographs; the only true way to get the feel of a theatre is to see a show there.



* *Association of British Theatre Technicians, 9 Fitzroy Square, London, W.1.*



Theatre of War

by Fancis Reid (et alia)

Earlier this year an expedition set out for Camberley. Usually TABS coverage involves one man, sometimes plus photographer. In this instance the photographs already existed, so the presence of the editor, assistant editor and also ace reporter Francis Reid would seem to indicate overcoverage. The truth is that we had heard that the theatre was remarkable and we knew that the cellar of the Staff College was bound to be a good one, so no further explanation should be necessary as to motive.

The Staff College itself is housed in a splendid early Victorian building (classic not Gothic) which in every way acts out the role it is intended to play. There is that essential mixture of the theatrical with the solid and permanent which they knew so well how to achieve. One could not help comparing, to its disadvantage, the Montgomery Wing erected in 1968 at the rear. No doubt excellent for its purpose it suggests a temporary prefab or exhibition unit whereas to walk the stone corridors and halls of the main building is to realise that tradition endures, the British Army is something far more than the mere mortals which compose it.

The history of the Staff College as published in an official booklet nevertheless shows that the college has had its all too human ups and downs in the years since it was inaugurated by Royal Warrant in 1801.

The building itself was designed in 1858 by James Pennethorne, at one time assistant to Nash, and work started one year later. The Mess Room and Ante Room were first to be finished, which suggests to us a keen eye to the practical which is, however, countered when the official guide remarks, "Despite the design of the Main Hall, which is that of a Roman bath, Mr. James Pennethorne, the architect, had contented himself with imitating ablutionary arrangements without providing any. The only hot water system was a small side boiler in the Mess kitchen and a modest range in the servants' kitchen on the second floor."

It would be a pity if our notes of an essentially happy visit were to remain flippant and neglect the serious business for which the Staff College exists, and one cannot do better than to quote the booklet with its extract from Sir William Robertson's Farewell Address to students passing out in 1911:

". . . Remember that when the day for fighting comes the qualifications demanded of you whether on the staff or in command will include in addition to a good theoretical knowledge of your professional duties, the possession of a quick eye, a good digestion, an untiring activity, a determination to close with your enemy and a firm resolution not to take counsel of your fears . . . ."

As to the theatre which was the object of our visit, this is quite separate and lies well back behind the main building and is surrounded on three sides by cricket fields, a unique setting for a theatre, we suspect.

Although the Alanbrooke Hall was opened in 1961, the only clue to its age is its Saturable Reactor lighting control. It is a tribute to the building's design and construction that after ten years of intensive usage, it still appears a new theatre both in conception and execution. And let us hasten to add that its sparkling new appearance is due to the choice of suitable finishes in the design rather than to the application of the time-honoured military technique of surface cleanliness in which 22741945 Cpl. Reid once received intensive tuition at Catterick under the guidance of Sergeant Bull.

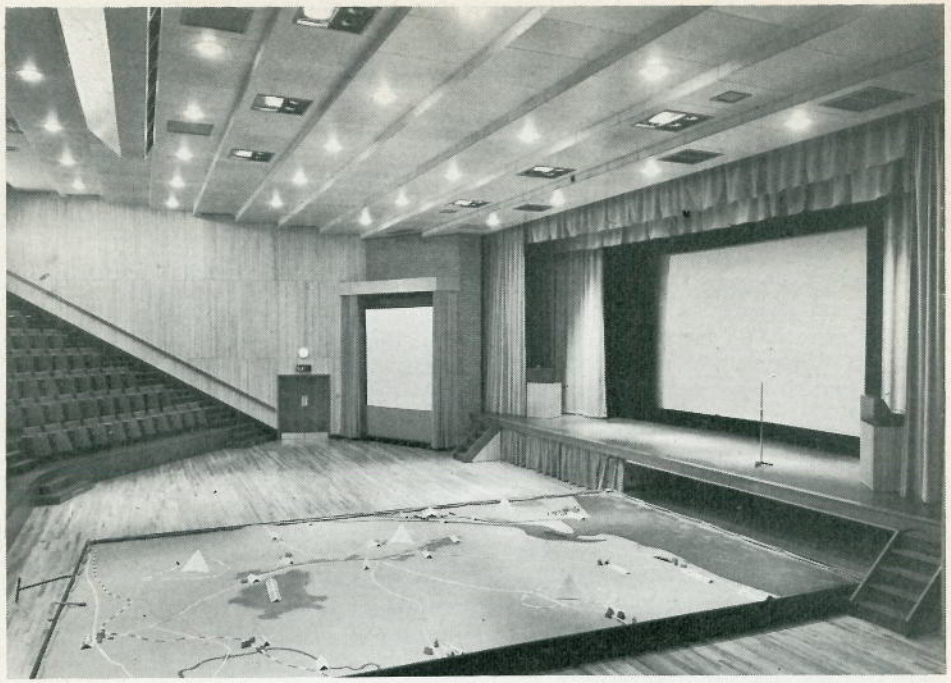
Although musicals, plays and pantomimes have all graced its stage, the Alanbrooke is not basically a theatre of entertainment. It is a theatre of war where the tactics of the battlefield can be demonstrated and discussed using every appropriate device of modern theatre presentation. In current jargon it might be described as presenting "mixed media shows played in repertoire". A feature of these presentations is the meticulous care with which they are rehearsed: who will be the first General to admit in his memoirs that it was lack of rehearsal that brought about his defeat?

The sightline problem of this theatre is similar to that which confronted the architect of an earlier mixed media theatre —the London Hippodrome: the necessity of providing sightlines both to a conventional proscenium stage and also to an arena in front of that stage. At the Alanbrooke a conventional stage is flanked by projection screens and between the audience and stage there is a floor area where large castored sand models of battlefields (normally stored under the stage) can be displayed. The sightlines work remarkably well, but because of the non-seated area, it is interesting to note that the back rows of seats feel nearer to the proscenium stage than do the front rows.

In a conventional theatre, the acoustics need only take into account the necessity of the audience to hear the actor: indeed there are occasions where the less the actor hears of his audience the better. However, under lecture theatre conditions not only must the audience hear lecturers, actors, sound films and other effects, but the lecturers must be able to hear members of the audience speaking from their seats during question time or at conferences.

The stage has a flytower equipped with counterweight sets for flying lighting, projection screens, display panels, curtains, scenery and a cyclorama. There is a back-projection room for slides and shadow plays, and the control room facilities at the rear of the auditorium include 16 mm, 35 mm, various still projectors and a room for lighting and sound control. An interesting feature of the lighting installation is the use of U.V. floods over the model for simulation of night battle conditions.

The dressing rooms, prop rooms, etc., are well equipped with daylight, a facility not always found in more pretentious theatres.

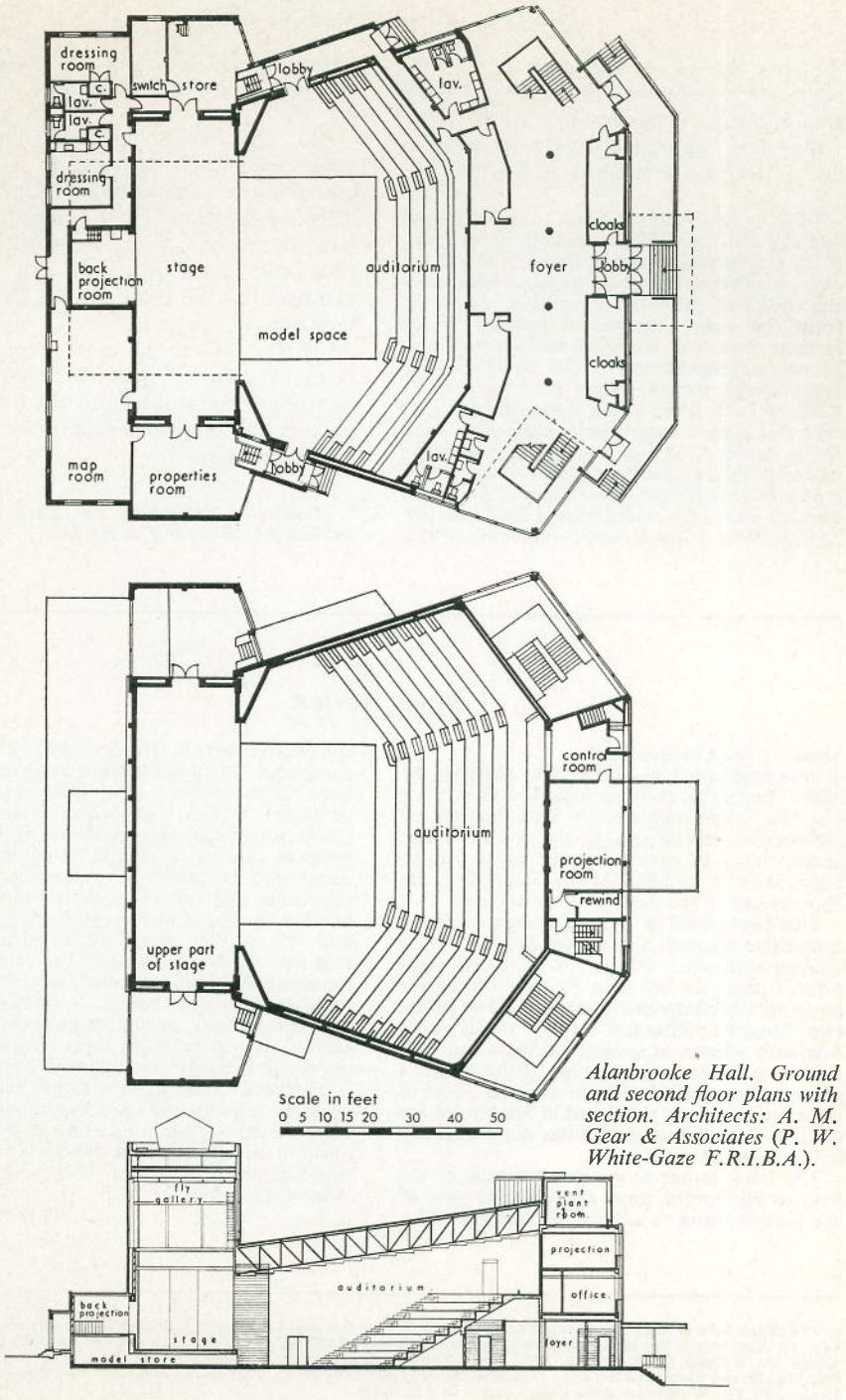


Alanbrooke Hall Camberley. View showing one of the pair of sand tables in the forward position. Note FOH lighting position on ceiling top left and one of the auxiliary display screens which flank the stage.

The days are fast disappearing when a theatre could be regarded as a building which had a limited use for perhaps three hours a day plus a couple of matinees. As we begin to plan our theatres as multi-use auditoria, we can gain much by study of buildings such as this and in a well-staged concise demonstration, TABS was shown just how wide is the range of possible uses of the Alanbrooke and how easily these can be integrated.

This building is by the same architect as the Eton College Farrer Theatre (see TABS, Vol. 27 No. 1) and both show an ingenious interpretation of their briefs in terms of multi-purpose usage: it would be very interesting to have a small civic theatre from the same drawing-board. Meanwhile one hopes that the Alanbrooke Hall will be the very last "Theatre of War" that we shall ever require and that in the fullness of time it will become an auditorium not where the tactics of war can be planned, but where the concept of war can be acted out as a fragment of history.

This article, however, had better end on an essentially practical note. Within reach of the occupant of the centre seat of the front row is a switch. This puts on a red lamp above the proscenium which can be seen by everyone except the lecturer. Should the brigadier consider that the proceedings have gone on long enough or that the claims of thirst have a higher priority, on goes the lamp and all discussion and questions cease. As a lecturer ourself the effect can be imagined; "What have I said?" as audience response suddenly dries up. Of course there could be an occasional lecturer who goes on so long that the discussion time never arrives, presumably the red lamp signals "target-bushy-top-lecturer-12 o'clock-five-rounds-rapid . . . . COUGH."



Alanbrooke Hall. Ground and second floor plans with section. Architects: A. M. Gear & Associates (P. W. White-Gaze F.R.I.B.A.).

Stephen Joseph's Ideal Stage

We have referred in the pages of TABS to the need to keep down the size of the acting area in theatre in the round.

The late Stephen Joseph's remarks in one of his books* emphasised this:

"The precise size is hard to specify. But 18 ft. by 21 ft. would be reasonable dimensions. If the acting area is smaller than this it will not only restrict the playing space (and consequently the choice of play) but it will also make the front row seem cramped in relation to the farthest rows. This cramping effect is the result of wrong proportions; it can be felt in the Scarborough theatre, where the stage is only 12 ft. by 16 ft. If the acting area is much bigger than our present suggestion it may often seem to be deserted, and people in the back rows will really feel remote from actors on the side of the stage farthest from them. Even at the Victoria Theatre, where the acting area is 24 ft. (*sic!*) by 22 ft. with six rows of seats, something of this remoteness can be sensed, and it features in criticisms of the Arena Theatre in Washington DC."

This has been confirmed by Peter Cheeseman when he wrote to us recently correcting the measurements of the Victoria Theatre, Stoke-on-Trent. These have apparently always been erroneously given (not only in the pages of TABS *vide* the extract from the book above) they are in fact 26 ft. (7.9 m) by 22 ft. (6.7 m). He goes on to say, "Over the ninety-nine productions to date we have on a number of occasions been troubled by the problem of making the acting area smaller but never of making it bigger."

* *Theatre in the Round, by Stephen Joseph, published* 1967, *Barrie & Rockliff.*

Book Review

Shaw—"The Chucker Out".
A Biographical Exposition and Critique by Allan Chappelow. (George Allen G Unwin. 75s.)
The title is one suggested by Shaw himself for the portrait reproduced on the cover. A nice conceit but it is, perhaps, stretching it a bit to claim that "it symbolizes the iconoclast, the chucker-out of the dead wood of society".

The book itself is the impressive result of exhaustive research and patient assembly by a diligent enthusiast. Of the 558 extremely well-printed pages no less than 30 are required for an unusually comprehensive index. Most of the two hundred thousand or so words were originally written or spoken by Shaw and they provide a fascinating selection of the master's polemics on a wide variety of subjects. Most of the material is now published in book form for the first time and some of it has not previously been published at all.

The book is not so much a portrait of the famous playwright, more a panoramic view of the human being to whom play writing was a compulsive art in the exercise of a social conscience. It should become an essential text-book for the student—sixth form or university, perhaps; W.E.A. probably; Labour and Conservative Colleges undoubtedly: for these political students it should be compulsory. It could also be informative reading for those producers and actors to whom Shaw is just another dramatist with an aptitude for comedy and who, in their productions, betray the fact that they cannot have read (? understood) the provocative prefaces and have failed to recognise a unique theatrical expertise. To any Shavian the book demands a place on his book-shelves. It will be taken down frequently and opened at random: it will always be rewarding.

The book could help to dispel many of the popular misconceptions about Shaw; but it **won't. G.B.S. c**oudn't dispel them when he was alive: it is too much to expect him to do it posthumously, **even** with the expert help of Allan Chappelow.

PERCY CORRY