TABS

Published in the interests of the Amateur Theatre by

The Strand Electric and Engineering Co., Ltd.

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EDITORIAL

The Editor of Tabs is anonymous but we would be lacking in appreciation not to acknowledge here the work of Mr. H. M. Cotterill, a Director of Strand Electric, who has now handed over this work.

He launched the first number in September 1937 and eight issues were published up to March 1939. In 1946 he recommenced this work and set the magazine on solid ground with three issues each year. To date there have been forty issues involving some quarter of a million copies.

He can well be proud of the idea and its development and the present circulation of 10,000 copies of each issue throughout the U.K. and in thirty-nine overseas territories bears testimony to his efforts.

Head Office Hours

Head Office (Covent Garden) and Hire Stores (Kennington) are now normally shut on Saturday mornings except for a skeleton staff from 9 a.m. until 12.30 p.m., to deal with emergencies.

Help Yourself

To assist those who are collecting or returning Hire equipment and who cannot call in normal working hours we are, as last year, keeping open the Kennington stores on Fridays and Mondays until 7 p.m. This arrangement will commence on Friday, 6th September, and will operate until the end of April 1958. Notice of intention to call should be given when the order is placed, with the date when it is proposed to call, so that we may have the equipment ready.

"Son et Lumière"

To those of us who practice or follow the art of lighting for theatrical effect the arrival of "Son et Lumière" in this country is of immense interest. This is solo lighting as the star attraction and audiences attend in fair numbers, and pay into the bargain, to see a dramatic combination of two ingredients each familiar for a long time—(a) the radio feature and (b) the floodlighting of notable buildings. We may not all agree as to the extent to which the two examples in this country succeed; but these are only a beginning and there is no question that in France, particularly at Versailles, the results are brilliant. "Son et Lumière" is a new entertainment but in fact represents yet another attempt to wed light and sound. This, generally known as Colour Music, has fascinated man for centuries; but it is only in the last two or three decades that the technical aspect has not proved the stumbling block. What now has to be decided is what we want to do, rather than how can we do it.

In view of the interest of the subject we intend to publish an article in our next issue.

Gaiety Theatre, London

Many readers will have seen recently that this famous London Theatre is now being demolished. Mr. L. G. Applebee tells us that his father George Alfred Applebee joined the old Gaiety Theatre in 1885 as Master Gas Man. The theatre was rebuilt on its recent site in 1903 and Mr. Applebee's father continued working there until 1914. He was, early in his career there, sent by George Edwardes (The Guvnor) on a course at the Birbeck Institute to learn about the "new fangled electricity" and was responsible for the design of the equipment for the new installation. Most of this was made by the Imperial Lighting Co. Ltd. (now a subsidiary of Strand Electric). It was at this Theatre, Mr. Applebee tells us, that Black (U.V.) Light was first used for theatrical effects.

"Entirely Lighted by Electricity"

Running parallel with Mr. Applebee's link with the Gaiety Theatre, London comes a contribution from Mr. Geoffrey Snelson of Brixham who writes on page 16. He joined the Savoy Theatre, London in 1890 and studied production under W. S. Gilbert, Charles Harris, Richard Barker and others, and has been actively engaged in production ever since. He must be one of the few original "Savoyards".

Theatre In The Round

Mr. Stephen Joseph, a director of Studio Theatre Ltd., has been spurred to write his views by Dr. Richard Southern's article in our last issue.

For those interested Studio Theatre Ltd., is a non-profit-distributing company running the Studio Theatre Club which puts on some ten plays *in the round* each year at the Mahatma Gandhi Assembly Hall, 41 Fitzroy Square, London, W.1, on Sunday evenings. Particulars of membership (5/- per year) can be had from the Secretary, 5 Belsize Park Gardens, London, N.W.3.

Readers' views on this form of production will be welcomed.

A Stage Director on Noise

Mr. Osmund Willson, well known in the professional theatre as a stage director, writes in a light vein on a subject which all of us will agree is very serious.

Obituary

It is with much regret that we record the death of Mr. C. Harold Ridge. Mr. L. G. Applebee who knew Mr. Ridge personally writes: "Harold Ridge greatly influenced the art of Stage Lighting, being quick to see the enormous advantage of directional lighting made possible by the installation of the incandescent spotlight in the early nineteen-twenties. His first book on the subject was published in 1928. At the now defunct Festival Theatre, Cambridge, his association with Terence Gray was considered at the time rather revolutionary, but it did an immense amount to encourage the use of lighting as a very necessary and essential part of Dramatic expression.

Later, in partnership with F. S. Aldred, he practised as a Lighting Consultant and was responsible in this capacity for the Shakespeare Memorial Theatre, Stratford-on-Avon and the New Theatre, Oxford. They published 'Stage Lighting, Principles and Practice' in 1935 and this was for a long time the standard work in this country on the subject.

Unfortunately his health caused him to retire from active participation in his field at a comparatively early age."

AUTUMN PROGRAMME

"Basic Stage Lighting." 1957/58 Edition. Demonstrations and Talk. By Frederick Bentham.	Thursday, October 10th
"Lighting the Scene." Mock Rehearsal and Commentary. By William Lorraine and Frederick Bentham.	Wednesday, October 30th
"Colour and Directional Light as Applied to the Stage." Lantern lecture. By L. G. Applebee.	Wednesday, November 20th
"Producers Use of Light." Lecture and Demonstration. By P. Corry.	Thursday, November 28th
"Basic Stage Lighting." 1957/58 Edition. Demonstrations and Talk. By Frederick Bentham.	Tuesday, December 3rd
"Lighting the Scene." Mock Rehearsal and Commentary. By William Lorraine and Frederick Bentham.	Tuesday, December 17th

The above will be at 6.30 p.m. on each day. Entrance to the Theatre is at 29 King Street, W.C.2, from 6.15 p.m.

Those wishing to attend should apply in writing as early as possible to Head Office, 29 King Street, W.C.2, marking the letter "Demonstration." Personal applications can also be made at the Hire Showroom, at the same address, and Sales Counter in 25 Floral Street, W.C.2, but should be confirmed in writing.

The New Season's Demonstrations

In recent years the aim has been to provide a balanced course of lectures in our Demonstration Theatre, 29 King Street, W.C.2, which covers all aspects of Stage Lighting. This principle is continued this year and the lectures scheduled above, together with lectures to be published in the December issue of TABS cover an even wider range than usual. The "Basic Stage Lighting" lecture provides the groundwork on which all the others are built. To those who have already attended previous years' lectures a new item will be noticed, "Lighting the Scene".

The "Lighting the Scene" demonstration is, in our opinion, the most exciting venture we have staged yet. This was given a tryout for one performance at the end of the last season and received a very enthusiastic reception. The object is to demonstrate how a basic stage lighting installation can be used to provide a range of lighting and changes, such as might be encountered in any play. Messrs. Lorraine and Bentham combine in a double act in which Mr. Lorraine carries out the lighting and Mr. Bentham is producer, playwright and electrician. This enables Mr. Lorraine to demonstrate the methods he has adopted in lighting the many shows with which he has been associated.

The whole procedure is carried through with a mock rehearsal followed by a "run through". To make sure that the changes and lighting are within reach of everyone, all the cues were in fact carried out on the Junior Board in the Demonstration Theatre. As the Production has some 160 lighting changes, due to the combination of mock rehearsal with show, this was no mean feat.

We do suggest that all those who wish to obtain an insight into the lighting of an actual show as distinct from lighting of the stage, should try and attend this particular demonstration and in consequence, several repeat performances are being staged.

Recorded Lecture

This autumn an experiment is being made of offering a completely canned lecture in the form of miniature slides and tape for use by Societies and other interested groups who are normally unable to come to our demonstration theatre. It has been a criticism of our activities that while London has been well catered for, others have not been so fortunate. It is true that both Mr. Applebee and Mr. Corry have lectured extensively up and down the country, but the essence of the demonstration theatre programme has been to provide a variety of viewpoints with regard to Stage Lighting and associated

matters. Furthermore lighting demonstrations can usually be more adequately prepared in our own theatre.

Should the lecture which has been recorded be a success, others will follow as it is intended that these lectures should be available to all those who are prepared to pay the necessary carriage to and from London. The user is responsible for the safe custody of the equipment and its prompt return, and in addition we are asking that a cheque for one guinea should be sent to us made out to the Actors' Orphanage.

The lecture consists of some 40 coloured slides mainly photographed in our own theatre which are mounted in a magazine for use on Aldis or similar projector. Two of these slides are reproduced in black and white on page 13. Should a projector not be available (at least 500 watts is recommended) then we are prepared to hire one. The slides are arranged in the correct order and cues are given in the tape recording; thus the tape is put on and the instructions to the slide operator will be issued by the absent lecturer. The tape which plays for exactly one hour is the standard $\frac{1}{4}$ in. tape and can be played on any machine which runs at 33 I.P.S. and which can take spools of 5³ in. diameter. Should it not be possible to provide a tape reproducer, though nowadays these are so common that it seems unlikely, then a typed script is available for use with the slides. But we must emphasize that the effectiveness of the lecture is largely a matter of having the correct tape accompaniment. In the lecture at present available the two lecturers, Messrs. Lorraine and Bentham, attempt to give a condensed version of the demonstration "Lighting a Scene" referred to on the opposite page.

Thus, thanks to colour photography and tape recording it is possible to give quite a tolerable substitute for the theatre demonstration to any group who find themselves unable for geographical and other reasons to attend the real show in London.

Where comparatively large audiences are in question or where the area is reasonably accessible to one of our branches or centres then the Strand Electric could send someone to supervise the presentation of the lecture and to answer any questions which may arise afterwards. A nominal fee would be charged in this case to cover expenses. Nevertheless, we are anxious that no group, however small or remote, should consider themselves barred from taking this lecture which we feel sure they will find instructive and entertaining even when performed entirely robot fashion.

Applications for use of the lecture should be made to our Head Office marked "Recorded Lecture". Several alternative dates should be suggested as demands will be heavy and for ease of allocation, if one day only in any week is suitable this should be mentioned.

THEATRE IN THE ROUND

Some Technical Considerations

by Stephen Joseph

The idea of a flexible theatre is excellent. To be able to have at will a conventional proscenium stage, an open stage or an arena stage is an exciting prospect for an adventurous theatre company. At the present time in this country it is something of a dream, for a flexible theatre that will serve each of its forms equally well is bound to be extremely expensive. It may be feasible on a very small scale indeed, but this will never be a commercial proposition. But if the idea of a flexible theatre is a good one, an absolutely disastrous idea is a common one of a multi-purpose hall. Now that the experimental forms of staging are becoming popular, architects and designers are tempted to draw up plans for a theatre that can serve every purpose without flexibility. The results of this are that no single form is satisfactorily served. Nothing could be worse for the reputation of experimental theatre—or, indeed, for the theatre itself. A badly designed theatre, whether it is conventional, open stage or arena stage, will chase people back to their television sets as sure as cock-crow.

It is interesting to note that the only flexible theatre in the country, Mr. Richard Southern's Bristol University Studio Theatre, is extremely small. But even this theatre serves the needs of theatre in the round quite inadequately—the stage area is raised and this is useless. The proposed flexible theatre being built at Ealing by the Questors will rely to a great extent on much labour from members. Fortunately the Questors is a long-established and excellent company and members will carry the burden willingly. But this theatre, to judge from the plans, will not turn into an open stage very well, since it cannot have the strong architectural back wall that served Shakespeare so well. Besides, the arrangement of the auditorium for arena staging is by no means ideal.

A company wishing to build a theatre might consider these principles. A flexible theatre is extremely expensive. A compromise theatre is worse than useless. It may in the end be wiser to choose simply one form, even if it is novel (in our day)—as Bernard Miles has chosen the open stage for his theatre in the City. But an ambitious company might consider the idea of building one form of theatre with a service block (i.e. dressing-rooms, stores, offices, cloakrooms, foyer, green room, etc.) that can administer this theatre, and then adding other forms of theatre that would use the same service block. The important relations between audience and actors can then be arranged in the best possible way for each form of theatre, while a real economy is effected in building a single service block. A theatre centre of this sort will depend on knowledge derived from experimental forms already in operation. The conventional theatre has

been with us long enough for us to be able to design a reasonably good one if we go about the task sensibly. We also know a good deal about the open stage, which has a strong appeal in this country, thanks to our reverence for Shakespeare. But we know very little about the arena stage. In fact, owing to the courageous activities of John English, the very term is ambiguous, and he uses it to describe what is in fact half-way between a conventional and an open stage. It is a good idea to use the term theatre in the round to describe only the form of theatre in which the acting area is surrounded on all sides by the audience.

Theatre in the round presents us with the simplest of architectual forms. It gives theatre artists and technicians immense scope for using their skills in exciting and ingenious ways. And it is extremely economical. Theatre in the round could therefore play a leading part in the experimental activity that is a necessary part of any flourishing dramatic epoch. In this country there is at the present time only one professional company that has done a considerable amount of work in this form. The Studio Theatre company has presented summer seasons at Scarborough, monthly Sunday club performances in London and special performances in Harlow new town. From the experiences of this company, certain conclusions may already be drawn. There are good ways and poor ways of doing certain things, especially certain technical jobs. These may be worth noting for the benefit of all who come fresh to the idea of theatre in the round.

Firstly, it is essential that each row of seats is raised in turn. If possible even the first row should be raised. The slope should be steep, and ideally it should increase in steepness as the rows are further away from the area. If the rows are not raised the audience will not see the actors. Further, raising the seats makes it possible to light the acting area without spilling into the audience and to mark the essential separation between them. Raising the acting area like a boxing ring is useless, as it precludes the use of any furniture on the stage and makes lighting, except from steep angles, extremely difficult.

Secondly, in building or converting a hall for theatre in the round it is worth remembering the following particular requirement from the actor's point of view. Whichever way the actor turns, there are as many people on his left hand as on his right. But that does not mean that there are the same number of people facing him as he turns round. If the plan of the hall is a perfect circle or square, this may, to all intents and purposes, be the case. But few halls have such a plan, and it is almost certainly not ideal. Probably the ideal plan and seating arrangement would be like that of the Teatro Sant' Erasmo in Milan. Here the hall is long and fairly narrow. The



"Idol in the Sky" produced at Scarborough by the author. There are 248 people in five rows all round the acting area yet the lighting from the eight Pattern 23 Strand Spots is so localised that the audience is barely discernible in the photograph. A hanging mobile is the only scenery used.

audience is ranged in two steep banks at either side of the acting area, with a few seats only on the other two sides. This arrangement retains the acting conventions of theatre in the round. It allows the walls of the hall itself to become part of the acting area when required —particularly useful for balcony and battlement scenes and for settings, which might be built out, depicting different floor levels. And this arrangement allows easy entrances for actors and scene-movers. Few people who have been to the Teatro Sant' Erasmo have failed to be impressed by the magic of their scenic arrangements. It is not discouraging to note that this shape is the commonest among halls already existing, and, of course, it presents the easiest of architectural problems.

Thirdly, lighting should be arranged all round the acting area, perhaps in three groups at 120° to each other, or in four groups. Lights should shine down at an angle of about 45°-60°. A very little light can be extremely effective. The Studio Theatre Company started with six pattern 23 mirror spots with 500-watt lamps—just the load for a 15 amp. plug. The company now rejoices in eight of these excellent lanterns. It is not necessary to use colour filters unless special effects are required. Fine modelling can be got by using secondary colours, each colour from one main direction only.

A single spot is of limited use as it produces such very different pictures from different parts of the auditorium.

Finally, a few notes that are obvious enough. A theatre in the round is best designed to seat between 150 and 300 people. No one in the audience should be far away from the actors. All the same, acoustic qualities of the hall need watching. Furniture and rostra must not interfere with the sight lines, which should also be watched when scenes are played by actors lying on the floor—fights, perhaps, or love scenes in the Forest of Arden. There should be as little as possible in the acting area—besides the actors themselves. For actors are what the audience comes to see—actors and a play. A good play. Of course, this raises the real difficulties of any form of theatre, but for theatre in the round the rest is remarkably simple.

THE CASE FOR "SPOTS"

by B. E. Bear

As generally accepted in theatre work "Spots" refers to lighting units with variable controlled beams, having a maximum spread covering say some 14 feet at 20 feet throw. The beams range from a deliberate hard framed edge for some purposes to an ill defined soft edge. Since they have these confined beams they are brighter—watt for watt—than floods; the brightness depending on the spread of the beam.

Floods, therefore wash light generally over the scene whilst Spots, accent certain features or areas. Whilst Spots are now an accepted part of any stage installation, the battle to improve lighting by their use was fought as recently as the late thirties in this country. At that time the flood type of battens and footlights were commonly top dog. Fig. 1 shows typical flooding light from this type of equipment. The lack of emphasis on the two characters is obvious as are the unwanted shadows on backing, etc.

The words "flood" and "wash of light" give at once an indication of the effect of a "non-spot". It is to a large extent indiscriminate and therefore flattening. Hence eventually the need for spots to give depth. Colour, as such, will not do this as everything seen by the human eye is evaluated for size, shape and relative position by its light and shade and only to a limited extent by its colour. Thus on the stage the normal forward and top lighting requires directional light to support it. Floods will not serve this purpose effectively as their beams are too wide and their intensity is not dominant enough.

Most scenes on a stage set out to represent a specific place and time which the audience need to appreciate. The programme note "Another part of the Wood—later" does not always suffice. Most scenes again come to life only if there is an apparent source of light to illuminate them. This may be as from sunlight, moonlight or some form of artificial light such as a fitting in a room, but whatever it is, it must be "mimicked". Whilst one knows one is in a theatre and that all is illusion, credibility is essential if the actors are to have a chance.

Often in a scene some areas are more important as playing areas than others, and since where light is, there will the eye look; one can help the actor by giving prominence to certain positions by means of spots.

Thus we have so far three good reasons for spots. These can be summarised as follows:—

1. To give the actors shape and to relate them to each other in the setting.

2. To suggest time and place in the picture.3. To accent important areas in the picture.

All three reasons may in fact be satisfied by the use of one spot, which may shine through a window across the stage suggesting sunlight, while cross lighting the actors and hitting a couch to accent it.

Reasons 2 and 3 above often telescope as for example with lighting fittings in use on the stage. A decorative fitting will light a real room but its own area will be brightest hence, on the stage, you should use a spot so that the effect of the lamp is credible. Subsequently more spots or some general lighting might be added slowly so that four or five are lighting the actors all as if from that fitting, as shown in Fig. 2. Notice how all three conditions above are fulfilled here. Also compare the same set in Fig. 1.

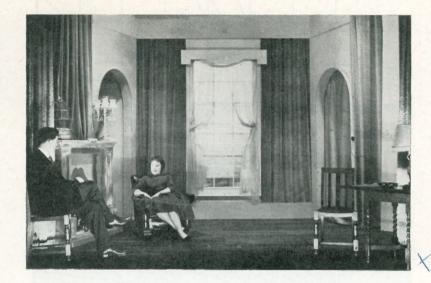
Now for a fourthly and very different usage—out in the auditorium. All will know that the most used position for lighting a stage is that immediately behind and above the proscenium opening. Whether battens, floods or spots are used in this position the first 5 or 6 feet of the stage underneath will be dead or excessively top lit. Hence the use of lighting from the auditorium. Here spots are by the nature of their beam the only useful source—and hard edged spots at that. It is essential to confine the light within the proscenium so as not to distract the audience. Many positions are chosen or forced on us for this purpose but ideally they should be some 15–20 feet out from the stage and at a level just above the top of the proscenium border. They should also be located to the sides of the auditorium rather than the centre. The three important factors are:

1. Keep light within proscenium.

2. Keep light off back wall of set or skycloth.

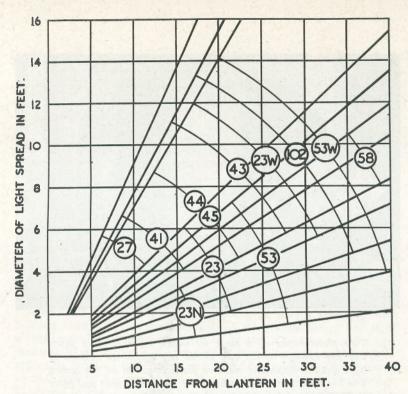
3. See that a balance of intensity between FOH and stage lighting is kept, otherwise abrupt changes of intensity as actors move up and down stage will surely distract.

Lastly for stages-in-the round spots are a must, as again lighting must be confined sharply within an area so as not to blind an audience sitting on all sides.



Two photographs of a stage set which tell their own story. The top example is flat and unreal and makes no attempt to highlight the important areas or focus attention on the actors. The lower picture on the other hand establishes time and place immediately whilst rivetting the audience's attention to the action of the play.





A diagram to show the area covered by lanterns at various distances, within the maximum and minimum spread of each. For example, the spread of a Patt 43 is adjustable between 3 ft. and $11\frac{1}{2}$ ft. on a 15 ft. throw or 4 ft. to $9\frac{1}{2}$ ft. on a 20 ft. throw. The diagram is comparative only. The lanterns are identified by the numbers in the circles. The new Patt 123, is not included in the chart but has exactly the same coverage as Patt 43.

These remarks cover spotlights which, once directed, are not moved during the production—at any rate in view of the audience. The use of following spots as in musical shows is outside the scope of this article.

The spotlights most commonly useful on a small stage are set out below:

FOH Patt 53 1000 watt hard edge.
Patt 23 W 250/500 watt hard edge.
23 M
23 N

STAGE Patt 23 W with diffuser to soften edge.
Patt 45 250/500 watt (latter only as new).
Patt 123 250/500 watt soft edge fresnel.

We intend to publish further articles on the use of spotlights from a variety of points of view personal to their authors.

—EDITOR

This new STRAND lantern gives a soft-edged beam, variable between 16° and 40°, which is exceptionally intense for the wattage. It is a companion to the well-known Pattern 23, of which over 20,000 have been sold in the past four years, and will be found ideal for situations where rapid spread is essential and where, as is often the case, a clear-cut beam edge is undesirable. Focused back it will give a narrow intense beam suitable for sunlight effects. Either a 250 or 500 watt Class T lamp may be used.



"LIGHTED ENTIRELY BY ELECTRICITY"

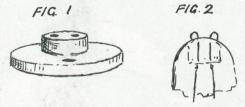
by Geoffrey Snelson

In these days of stage lighting, with its ingenious controls and wonderful effects, the average spectator (and perhaps user) probably never gives a thought to what used to happen in the early days of

stage lighting. A few words on this may be of interest.

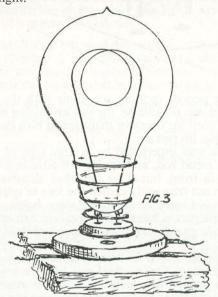
It was claimed, I believe rightly, that in 1881 the first theatre to be lighted entirely by electricity was the Savoy, and this was blazoned on posters, programmes and newspaper publicity as a great feature, which no doubt it was. In 1890 (when I joined the Savoy Company), the same conditions existed in general use, and continued to do so, with a few minor alterations, during the seven years I was employed there

The electrician, George Lyons, and his assistant, Jack Sayers, were in charge. As a boy, I used to watch them in their Chamber of Mysteries—the switch room—performing all kinds of magic with countless switches and awesome-looking dimmers. The supply was generated in a large cavernous apartment under the Savoy Hotel, and the cables led to the switch room in the corner of the stage. Whether the engine which drove the generators was worked by oil or gas I don't know, but I do remember that its fumes ventilated into Carting Lane, between the hotel and the Cecil, which was then under construction. I have vague recollections of large glass cells all around.



Stage battens and footlights were arranged in the same way as nowadays, but their construction would not pass modern authorities. The overhead battens consisted of troughs of sheet metal and along the centre of each was a board, about 5 or 6 in. wide on which were fixed the lamps at intervals of about 6 in. For stage purposes (as differing from F.O.H.) there were no lampholders as we know them, but bulbs were fixed by a crude though ingenious method. Two cotton and rubber-covered wires about 1 in. apart traversed the entire length, and corresponding with the distance between lamps and attached to short leads from the two main wires were small hooks, which protruded through simple earthenware bases in pairs (Fig. 1). On each lamp at its base were two loops, connected with the carbon filament inside (Fig. 2). These loops were hung on to the wire hooks and, in order to keep them taut to ensure a good connection, a spiral spring

was interposed between the lamp and the earthenware base, which was secured to the board by screws (Fig. 3). The troughs were suspended at an angle as in modern practice and, if colours were required, two or more circuits were provided with lamps dipped to appropriate colours. The old-fashioned carbon filaments were about equivalent in light value to a modern 25 watt or less and never produced a white light.



It was a common occurrence for a bulb to suddenly fall and break on the stage with a loud "plop," sometimes followed by the spiral spring. This, I was told, was due to vibration weakening the contact between hooks and loops and causing a spark which melted the metal of either. The pressure of the spiral spring did the rest. For lights in corridors, etc., a simple type of screw-in bulb was in use, and wires were protected by grooved wooden casings.

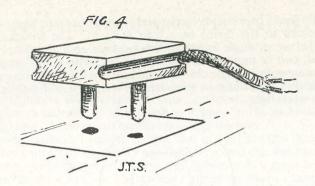
Dimmers were of the drainpipe type, working independently with worm wheel control and I used to wonder where the steam came from when they were long in use. The big switches when operated made a grand flash, which was frequently visible in front during a

dark scene.

There were no "dips," but at intervals in the stage floor were two-holed sockets, about 3×2 in., into which leads to odd lengths were plugged (Fig. 4). They were frequently left alive during a change of scene, and the clumsy plugs on being withdrawn often produced a bright flash.

Lengths behind wings and ground rows were on the same principle as battens, but were guarded by strong wire-netting, as were

the footlights.



For a long period, spotting was done with the old-fashioned "limelight" and was notable for the sudden hissing noise and diminution of light, until the operator managed to turn the lime cylinder

round and readjust his two jets.

This system was superseded by a large type of arc light concealed within a metal box, and having self-adjusting carbons and a condenser lens in front, but these had their disadvantages, as the great heat given out frequently caused the lens to split up into small pieces which would rattle down to the stage below, if not already deflected by some person beneath. To prevent damage caused thus, a strong wire net guard was added and saved many people from

injury.

Stage lightning, which is so simple nowadays, was a rather dangerous proceeding. One method was to have a long coarse cut file (in wooden handle) to which one lead was attached (provided with a suitable resistance), and a carbon rod, also in a wooden handle and attached to the other lead. Held in each hand (protected by rubber gloves) the carbon was touched against the file producing a brilliant flash, the duration of which could be made longer by a dragging contact with the file. The operator was furnished with dark goggles. The other method was with magnesium powder thrown upon a spirit flame within a metal cylinder. This created a great deal of smoke, much to the discomfort of performers, and was highly dangerous, and I remember at least two occasions when men were badly burned by an "unofficial" ignition of the magnesium supply, caused by flying sparks.

Taken as a whole, the self-contained supply of current was really good, though occasionally, for some obscure reason it would

drop to half for a while and then recover itself.

During my seven years at the Savoy there was only one failure, which speaks well for the electricians with their comparatively experimental outfit. The blackout occurred during the performance of a "curtain-raiser," but the situation was saved by the great gas "sunburner" (a large ornament, with hundreds of jets, suspended over the auditorium), being switched on at once. The fault was

speedily discovered and by the time the big show was due to begin had been corrected.

With all its weaknesses and faults, this home-made supply was a vast improvement on gas, which had to be used in such quantities from thousands of burners that the stage soon became like an oven, and as the show progressed the audience were sharing this discomfort. Incidentally, before the show, every gas jet in passages, etc., was lighted in case of a general breakdown.

Other theatres soon followed the example of the Savoy and some clever person invented a safe lampholder, and electric lighting in theatres became universal. It is good to look back over the years and to note the wonderful changes that have been brought about.

The lighting of theatres by electricity in its early days was hailed by the public as something wonderful, and they flocked to see the "new installation." No doubt the management were gratified by being able to venture on "A Theatre Lighted Entirely by Electricity," but one wonders what modern authorities would have to say about it.

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The above reproduction from an old Savoy Theatre programme of the turn of the century features the fact that "The Entire Theatre, Stage and Auditorium is lighted by Electricity".

YORK MYSTERY PLAYS, 1957

by P. Corry

For more than two centuries the York Mystery Plays were performed in the streets of the city on the day of the Feast of Corpus Christi. The performance began at 4.30 a.m. and ended late in the evening. The complete "Cycle" consists of 48 one-act plays, each dealing with a single episode in the history of the world (from the medieval Christian point of view), from the Creation to The Last Judgment. The "Craft Gilds" of York were each required to be responsible for the staging and performance of one episode, providing actors, scenery, costumes and properties, as well as the waggon-stage (known as a Pageant) on which the play was performed in various parts of the city. It is not without significance that the Crucifixion play was the responsibility of the Butchers' Guild.

The actual author of the plays is unknown; he may well have been a monk of St. Mary's Abbey, in the ruins of which the modern performances are given. Dr. J. S. Purvis, of York Minster, has transscribed the medieval script into modern spelling, but has preserved the poetic phrasing and language of the period. Although the plays are essentially religious, the dialogue has much robustness of Yorkshire dialect and humour, with quaintly rhythmic alliteration. Scenes of slapstick humour alternate with others of tender simplicity or

dramatic poignancy.

For the modern production the plays were adapted and merged to provide continuity of performance. The adaptation, first used in 1951, was repeated in 1954, but for the 1957 production Dr. Purvis had provided a revised script, which he considers to be a more faithful transcription of the original. Some episodes previously included were omitted and others were added. Although different professional actors were engaged for many of the principal parts, the producer, E. Martin Browne, again directed, and Norah Lambourne was again designer responsible for scenery and costumes. Formerly, the scenery erected in the ruins of the Abbey followed very closely the pattern of what was used on the waggon-stages. In 1957, the stage setting was more stylized and there was considerable use of a central open stage, on different levels. The costumes preserved a consistent approach in all three, but in 1957 there was greater elaboration of design and more vivid colouring. The lighting equipment used this year was much greater in quantity and in flexibility than in previous productions.

It is inevitable that opinions should differ about the comparative merits of the previous and present productions. One critic, summing

up after making the comparison, states:

"It is, however, a presentation of sheer delight. Movement, lighting—particularly again the final heavenly scene, and also the ascending into Heaven of Adam and Eve and other

souls liberated from Purgatory—and costume provide a shimmering kaleidoscope of colour and vitality which offset the chills of a typical mid-summer evening at the first performance on Sunday night."

The plays were performed nightly to an audience of nearly 2,000, for the full period of the Festival, June 23rd to July 14th.

From the lighting designer's point of view, the Mystery Plays present an exciting challenge. The performances began at 8 p.m., more than an hour before sunset. During the early episodes the lighting had little effect, excepting the illumination of God the Father and the heavenly hosts at close quarters; but before the end of the first part, at about 9.45 p.m., the lighting of the whole acting area had become a necessity. There was then still sufficient twilight to prevent any strongly dramatic or subtle control. But in the second part, beginning with the scene in which Judas collects his bloodmoney from the High Priests, the lighting became a vital part of the action. The scenes that followed were movingly intense: Gethsemane, Betrayal, Trial and Scourging; the procession to Calvary and Crucifixion; the Harrowing in Hell, the scene in which Jesus releases the Patriarchs from Hell's Mouth with the aid of Michael, who appears suddenly, high in the darkness, a gleaming figure in golden armour, sword upraised. The Resurrection from the Sepulchre is followed by the Ascension and, finally, the Last Day. As the trumpets sound, Good Souls and Bad assemble to hear judgment pronounced. The Bad Souls are consigned to eternal fiery torment; the flickering flames envelop the "cursed caitiffs" as, screaming and struggling, they are chased into Hell's Mouth by Satan and his devils. Then, as the strains of Gloria in Excelsis lead the chosen ones to celestial bliss, the darkness slowly follows them across the arena; finally, as the music dies away, all above is golden light and darkness covers the earth. Again the trumpets sound and the heavenly lights are gone.

The lighting of such a production out of doors has its special problems. Two 30 ft. high towers were erected at the sides of the seating stands and another on the control room, erected at the rear of the main stand, 40 ft. high. From these towers, 24 × 1,000-watt Pageant Lanterns, 16 × 2,000-watt Fresnel Spots, 6 × 1,000-watt Long Range Mirror Spots and 6 × 1,000-watt Patt 143 Spots were directed to the acting area. 8 × 1,000-watt Floods provided auditorium lighting from the towers. Hell's Mouth successfully engulfed four Flame Effects, several lurid spots, and half a dozen flash boxes which announced the various entrances of his Satanic Majesty. 500watt Baby Mirror Spots and 1,000-watt Floods provided the heavenly radiance, and numerous other Floods served the necessary purpose of enabling the heavenly hosts to descend to the adjoining gravevard and make a hazardous journey back to the reality of the dressingrooms and tents. The Electricity Board provided a temporary supply with a capacity of 90 kilowatts, most of which supply was required.

Portable interlocking dimmer boards, which had to be hauled up that 40 ft. to the control room, provided over 80 dimmer ways. More than $2\frac{1}{2}$ miles of cable connected the lanterns to the controls and controls to supply. For the second part of the production there were 58 lighting cues. These called for a sensitive feeling for lighting from the operators, as the timing of the changes and cross-fading was vital to the action. Fortunately the operators could see the whole of the acting area and were able to synchronize the changes visually.

Much preliminary planning was necessary. The only permanent structure on the site is what remains of the Abbey. In the design of the temporary structures for the setting, and the seating stands, provision had to be made for fixing the lighting equipment required in positions which made effective lighting possible. Plans and diagrams were prepared to show the precise part of the acting area to which each lighting unit must be directed. Provisional lighting plots were prepared before rehearsals were attempted. The trial and error method is never very satisfactory: in a production for which lighting rehearsals cannot begin before midnight, that method could be disastrous.

Colour was used in the lighting only for specific effects. Most of the units were without filters. In a production of this nature, with its carefully designed contrasts of vividly colourful costumes, colour filters in general were unnecessary: dramatic emphasis was best obtained by control of direction and intensity.

The York Festival now appears to be established as an event to be repeated every three years; but as Hans Hess, its Artistic Director says, the only certain thing in life is that life is uncertain. The production of the Mystery Plays alone is a vast undertaking. It would be difficult, almost impossible, to repeat it at shorter intervals. One can only hope it may become a permanent event in the theatrical life of this country.

No. 44 BLUE-GREY FILTER

A new CINEMOID colour has been introduced which is a close relation of No. 18 Light Blue. Its quality is best described by contrast. The 18 has a tendency to look greenish when compared to No. 44. On the other hand No. 44 looks bluey-grey in comparison with 18. The new colour is a valuable addition and would be particularly suitable for tranquil moonlight effects.

Although blue and light in tone, No. 44 is not a pale version of No. 41 (Bright Blue). It is definitely blue but quiet, with a tendency to evoke grey.

44 YEARS SAYING "SSH".

by Osmund Willson

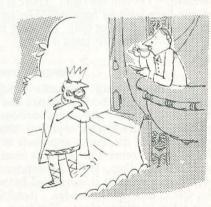
My title is a slight exaggeration because I have, mercifully, not been concerned that entire time with stage management. It will serve however to call attention to a strange phenomenon in the theatre—that of NOISE.

I imagine the problem has existed as long as the theatre and many a stage manager at rest in his grave will find comfort in the thought he has no longer to say "Ssh". It is baffling that adult people, who have worked in the theatre all their lives as stage staff, front of house staff, and actors, will still persecute us by talking and making various sorts of noises.

It is understood that such noises are seldom heard by the audience, but they can be a maddening distraction to the players. I

could pinpoint what I call the dangerous noise spots in most theatres and, returning after years, I still find people on "those stairs upstage O.P." discussing the racing and the dogs in those gruff undertones they amiably regard as only whispers.

When I see a roadworker's barrow and trestles anywhere near the theatre I am sick. I know that during a great scene an automatic drill will start. Children playing outside the stage door are another particular problem, because the more



The noise produced by the crash and rattle of tea trays.



Playing penny nap within 2 yards of the stage.

you chase them away the more they enjoy the game of dodging back even more noisily. Roller skating over your lead lights is a fine game and girders can be unloaded from lorries very simply by levering them with crowbars to the edge of the lorry and letting them crash to the ground.

One otherwise well disposed actor at the end of a run told me he would walk off the stage "if it happened again". I had heard nothing on the Prompt side. In the next scene I went under the stage and up to the O.P.

side to investigate and there it was "happening again"—three of the staff playing penny nap within 2 yards of the stage! You may see what I mean—adults, who had spent a lifetime in the theatre.

One of the finest noises can be produced by the elderly lady who puts her tea tray on the seat next to her, not realizing that it is tipped up. I could name several actors and actresses who would not be amused.

In one theatre where the bar is immediately behind the pit the noises of the preparation of teas were more than I could bear. When a charming usherette came through the doors to the stalls with the crash and rattle of tea trays I pointed to the stage and said with heavy sarcasm, "Do you see that? There is a play going on there and these people have paid to hear it." The reply deflated me, "Oh, I don't know anything about that. I'm only here to serve teas".

But why, oh why, must it go on?

Danger Fireworks

Playing with all fireworks which go flash and/or bang, one expects to "light the blue paper and retire immediately", It is a curious thing that the same devices fired electrically and called pyrotechnics are treated with gay abandon on the stage. This is a reminder that the latter approach is irresponsible and dangerous. We intend to reprint in our next issue an article published in TABS, Vol. 7, No. 3, Dec., 1949. Meantime—NEVER load or connect any such device without it is isolated by withdrawing a local plug under the sole control of the loader. Read instructions carefully. Replug only when everyone clear. Fire from a switch in view of and local to the device. The switch should preferably be double pole; if single pole care must be taken to see that it is in the live feed *not* the return.

LIGHTING CONTROL—IV

by Frederick Bentham

Our explorations up to the moment have shown us a variety of dimmers which can be operated either by levers directly near them or, more important, by mechanism usually known as a servo from a panel quite remote. One advantage of the latter is that the size of the dimmer no longer influences the size of the control panel. Even more important, the electrical means for control allows use of circuits for variable grouping up which leads to versatility on the part of the switchboard. We found also that there are some dimmers which are purely electrical ("all-electric") which can only be controlled remotely. These all-electric types include the saturable reactor, electronic and the magnetic amplifier. Now between the servooperated type and the all-electric type is one great difference, namely, that the latter require to be energized to hold their station. Thus, if a control lever is placed at half, the dimmer will give an effect corresponding to this half position, but if the dimmer is at any time disconnected from its lever it will revert to out—no light. With servooperated types the dimmer is driven remotely to half and, provided it has reached that position, disconnecting it from its dimmer lever will have no effect whatever. A comparison might be made to a water tap—the normal type resembles the servo, once the tap has been opened removal of the hand does not interrupt the flow of water; but there are sprung taps which require the hand on the knob the whole time the water is to flow and these correspond to our all-electric dimmer.

Armed with this knowledge we must now pursue the technique of presetting, and it will be convenient first to consider presetting within the limits of the all-electric system and then later find out if the servo system has anything additional to offer. Reference to Fig. 4 in the previous issue of TABS will show the type of panel we may expect in the case of a remote control dimmer board, neat levers mounted at about 1 in. centres and very compact switches above them. When presetting has to be considered a second set of levers is needed because we must be able to set the next lighting change while the present lighting is held. The circuits in the next lighting effect may be identical to those in use at the moment, but some of them, or perhaps all of them, will be required to take up different levels and thus Spots 1 to 5 perhaps increase in intensity, 6, 7 and 9 stay as they are, and the remainder decrease.

Having said we should use a duplicate set of levers, the question arises as to where we should put them; should each extra lever be mounted alongside its fellow and thus a particular circuit consists of two levers, the one on the left being preset one and that on the right being preset two. Or should we repeat the entire panel a second

time. In the present writer's opinion it is essential to carry out the second practice for most stage work. Even if we have presetting, a show is not going to be a matter of holding the effect on one panel, setting up the next, going over there and reversing the procedure to-and-fro each time a cue takes place—carefully setting up each change in advance. Cues do not come that way. Usually there is a period in the show when a lot of lighting changes take place and then there is a period of leisure when nothing happens. It is likely, therefore, that not only will we make use of twin panels, as has already been suggested, but we may have to do many cues by hand on a particular panel. This will apply specially when we have to consider changes which affect only some of the lighting. We do not want to spend a great deal of time on our switchboard setting up lever positions for lighting that has not to change. If the levers are mounted closely together they are to some degree playable and the fingers will easily shift adjacent levers. Furthermore, in massive changes involving large numbers of levers we can use the flat of the hand to push them up or down. This we could not do if we had to dodge the odd number levers simply because they belonged to the other preset.

Fig 1 shows a typical twin preset switchboard for up to 144 dimmers. The panels on the left and right are exact duplicates of each other and each of these panels alone is sufficient to work the entire stage. In the centre is the cross-fader and certain master controls which enable the change from one panel to the other to take place. In point of fact there may be many productions when the duplicate panel is not used at all, but as soon as we have a complicated change then it is obviously of great value to be able to keep our lighting on that on the left and set up an elaborate dimmer change on the right. When the cue for the change comes we shall simply move the cross-fader at the speed required and the lights will take up gradually the position that has been preset.

This form of panel can be provided to work with virtually any dimmer, including also the saturable reactor or choke. Needless to say, a saturable reactor board controlled this way will be rather more expensive than that controlled by a single set of levers, but nevertheless these presetting facilities are essential for numbers of dimmers of above 50 or so, in any theatre where heavy demands are made on the control board.

I made reference to a cross-fader and it is usual to find this device used on preset boards, but it is not essential and indeed it may well be that to use it is unnecessarily to limit the control. The principle of the cross-fader is that as it is moved the control current on one set of levers is gradually decreased while that on the other set is increased; so that more and more the new set of levers exercise greater influence than their predecessors until they take over completely. Now it may be that we do not want precisely this form of change, we wish to fade out the first lighting before bringing up the second, or we wish to add the second preset to the first: but neither of these things can be done

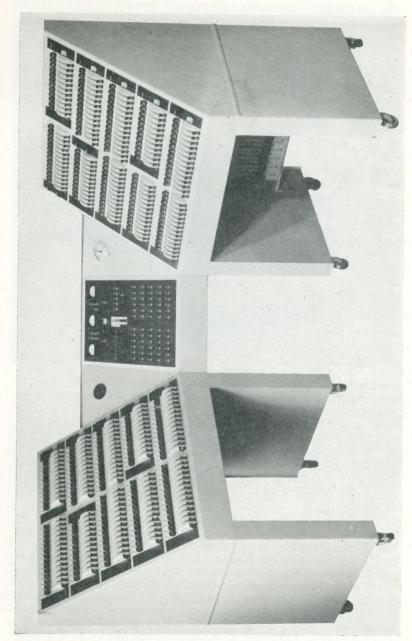


FIG. 1. 134-way, 2-preset control desk, New Theatre, London.

with a cross-fader, so that in my opinion a better principle is to provide a master dimmer to each preset only. Then we can operate the two handles as we like. If we have to blend from one preset to the other we work the two handles simultaneously, but if we wish to bring up one effect before leaving the other, obviously the second master dimmer is pushed up before the first one is taken down. This shows to even greater advantage if we allow ourselves two master dimmers to each preset and can select these by means of "three-position" switches above each individual dimmer lever. Thus a circuit can be on preset 1 top master or on preset 1 bottom master or in the centre position independent of either. This greatly increases the flexibility since we can do our cross-fades by going from the top preset No. 1 master to the top preset No. 2 master, or going from the former to the bottom preset No. 2 master, and so forth.

Flexibility must be the aim of any switchboard and, whereas an operator always hankers for the basically simple in the early stages of learning his board, he soon becomes dissatisfied if he is chained to a too regular routine. As the board becomes more and more familiar so the good operator can use all the hints it throws out, and believe me he soon needs every facility that can be put his way. One of the big features of designing lighting control boards is to balance this need for flexibility against the need for clarity. A board must be clear and easily readable—one must be able to assess what the switchboard is doing at the moment and what it will do at the next moment, when we move this or that master control. Too often the boards become covered with many levers and a multitude of switches which give varying paths and it then becomes impossible to feel at home. So much can be varied that one has no stable foundation from which to spring. Operator confusion is not merely the result of large numbers of controls; the switchboard of 100 dimmers is no more confusing than one of thirty; what does confuse is if a guiding logic cannot be found. Why was such and such a control put there and what is the relationship it holds to the controls on either side of it? What eye-catching plan is there? Do the controls fall naturally into memorable groups or do they form a jungle through which it is impossible to find one's way? A particular matter that needs attention is the provision of landmarks to enable one to locate oneself quickly.

We seem to have wandered off the main electrical theme. Returning to this, we left ourselves with duplicate sets of levers and this to many will appear to provide a switchboard with jam on; in fact, it seems impossible to desire more. However, it is a fact that proud owners of a switchboard with duplicate levers, i.e., a switchboard giving one preset change ahead of the lighting in use do find that they need more preset changes. This is particularly the case if they have more than 100 dimmers and, as we have seen, many theatres and television studios do in fact have more than 100. The need may also arise not so much from the number of dimmer levers, but from



Fig. 2. 80-way 10-preset desk, NBC colour studio, Brooklyn, N.Y.

the number of lighting changes a particular type of show calls for. Obviously, if we have periods where one change follows the other with extreme rapidity, or as in some television studios the operator has other tasks, other than switchboard working, to perform as well as actual changes, then we need to be able to set far more in advance. Cues may come too quickly or the operator may be too preoccupied at the time to finesse on the switchboard. Behind this notion we get more and more presets until even 10 is not enough.

It might seem that there is no particular difficulty increasing the number of presets; we already have, in Fig. 1, two panels, why should we not have three or four or five panels or even more? The main difficulties are space and extra work, because there will be a lot of setting (on, say five panels) of lighting circuits which simply do not change with each cue. For example, it may be that the sky is no different, although lots of fast changes take place in the foreground. Or it may be that the bulk of the circuits are in fact out and

the only reason for using the preset panel is that the few which have to move are scattered awkwardly over the entire panel.

In America there are many preset boards with as many as 10 duplicate levers to each dimmer. Fig. 2 shows such an example. This particular switchboard has only 80 dimmers, but it is easy to see from the photograph the effect of all the repeat levers. Even though this particular switchboard has 10 presets, other facilities are provided to help them out; in particular, extensive use is made of selection on group masters and any particular dimmer can be grouped at will to any one of eight masters. The various group masters and preset masters and cross-faders are on the centre section joining the two wings. This photograph in fact shows a highly ingenious and compact treatment of the multi-preset problem, and Mr. Ned Lustig, its designer, has put in considerable original thought. Another American designer, Mr. George Izenour, uses a different form of control shown in Fig. 3. In this case each circuit has 10 dimmer levers mounted on wing pieces either side, but there is a complete set of master levers (known as the rehearsal section) which forms the centre part of the control, and again this particular form has achieved considerable popularity. As a matter of interest, the dimmers in the Fig. 2 switchboard are magnetic amplifiers and those in Fig. 3 are electronic and in fact the Fig. 3 type of switchboard appeared first. Nevertheless, the form of dimmer is not mainly responsible for the difference in the form of these two switchboards. It is rather the designer's approach to the controls themselves, and both

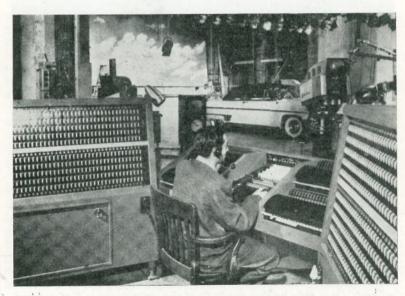


Fig. 3. 100-way 10-preset control desk, CBS Theatre 72, N.Y.

these designers have taken great care to obtain a control which does not merely use levers switchboard fashion.

The writer has had to deal with larger number of dimmers per installation than the two designers just mentioned and almost all the control boards with which I have been associated have been over 100 dimmers-150 or more being common. Furthermore, the majority of my work has made use of the magnetic clutch shown in Fig. 6 in the last article. This latter has given work in this country an electromechanical slant which makes for considerable differences. Firstly, multi-preset has never seemed attractive because obviously when one is considering 150 or 200 dimmer ways one instinctively recoils from any system which is going to multiply this number of levers many times; secondly, the use of the mechanical system removes the need to hold dimmers at their stations. This last is very important and has been outlined earlier, both in this article and its predecessor. But to repeat, the effect of an electro-mechanical system is to make it possible to design dimmer controls which are only concerned with changes of lighting and which do not have to consider lighting which remains as it is. The basic difference is so important that it is worth considering in detail. For example, if the opening lighting of a scene involves, say, 50 dimmers and this is followed by a change affecting 12 out of those 50 and the 12 which happen, as usual, to be awkwardly placed all over the board. Obviously on the all-electric system we have to reset the second preset panel to reproduce all the dimmers which do not move in order that we can bring in those few that do. Examination of stage lighting, and in particular television lighting control, shows that this kind of thing goes on pretty constantly. Let us now follow a different line of reasoning—setting for change only.

First consider the switchboard in Fig. 1. Suppose the dimmers are electro-mechanical, then we do not need to use either half of the switchboard to hold the dimmers at their position. Consequently if a change has taken place and the dimmers have taken up the positions preset on the left-hand panel, the switchboard can be switched off without affecting the lighting at all; the mechanically driven dimmers will now rest until issued with further instructions. We could in point of fact cut the main cable and take the switchboard away; it would still make no difference to the station of the dimmers. Therefore, we can go on to reset the levers on both panels, and thus are in the position of being able to preset two changes of lighting ahead on the identical switchboard which if it used all-electric dimmers could only set one ahead. A 50% increase in facility without any physical increase in size of the control board and without any increase in the number of dimmer levers the operator has to work. This is surely very exciting and is only in fact the beginning of the story, so naturally enough I will break off here and say "continued in our next issue"

DEAR SIR,

The time has come when I must regretfully relinquish the editorial chair of Tabs. May I therefore be permitted to cast aside the veil of anonymity under which I have sheltered since September 1937 and thank publicly, but also alas necessarily collectively rather than individually, all those who have helped Tabs along the road so far.

First of all there are our contributors. To those on the pay roll of Strand Electric I would say that although I may have chased them unmercifully for their offerings at times I have always appreciated that this work had to be done at home in the evenings and at the week-ends.

TABS has never paid its contributors and it is, therefore, to authors outside the Company to whom my thanks are primarily due. Theirs was a labour of love in more senses than one, for many of them are in the habit of earning money by writing when not acting, producing or otherwise working in the theatre. Authoritative articles from such sources have, I think, put Tabs in a class of its own and right outside the sphere of the trade journal.

Next I must thank all those editors at home and abroad who have so kindly allowed me from time to time to reprint from their papers, journals, newsletters and bulletins. I am flattered that we should have been asked so often to reciprocate by allowing Tabs articles to be re-

printed elsewhere.

I must thank my good friends, The Clifton Advertising Agency, one of whose partners produced the first (and I hope it will prove to be the only) cover design for Tabs. With unfailing good nature and patience this organisation has produced order out of chaos three times annually and has managed largely to conceal the fact that there was either far too much or far too little material for each issue.

The first issue of Tabs appeared in September 1937. The earlier issues consisted of 10 pages only, the illustrations and type setting were horrible and the contents generally would have failed any candidate for the "11 plus" exam. At this time Tabs appeared every two months and several issues were in fact printed and bound by ourselves at Head Office. It was in April 1938 when we first adopted the formula of three annual appearances which persists today. After our issue of April 1939 there was a rude interruption to our journalistic efforts until September 1946.

I think that my proudest hour as editor was when I was privileged to see the originals of two letters sent from Buckingham Palace to one of our authors. The first was in the personal handwriting of Her Majesty the Queen while still Princess Elizabeth. It read, "Thank you so much for sending us a copy of Tabs. I enjoyed reading the article so much, and it brought back many happy memories". The second letter was from one of the (now) Queen Mother's ladies-in-waiting. "I am commanded by the Queen to thank you . . . for your kindness in sending three copies of Tabs which Her Majesty and Princess Margaret were so delighted to see".

Who knows, but perhaps my next proudest moment will be when TABS achieves its hundredth issue or its 50th year. Until then I must sit back and follow its fortunes like a benevolent (and I hope uninterfering) grandparent. Meanwhile, my most sincere good wishes to my successors in office, to TABS and to all who work for it in whatever capacity.

H. M. COTTERILL.

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