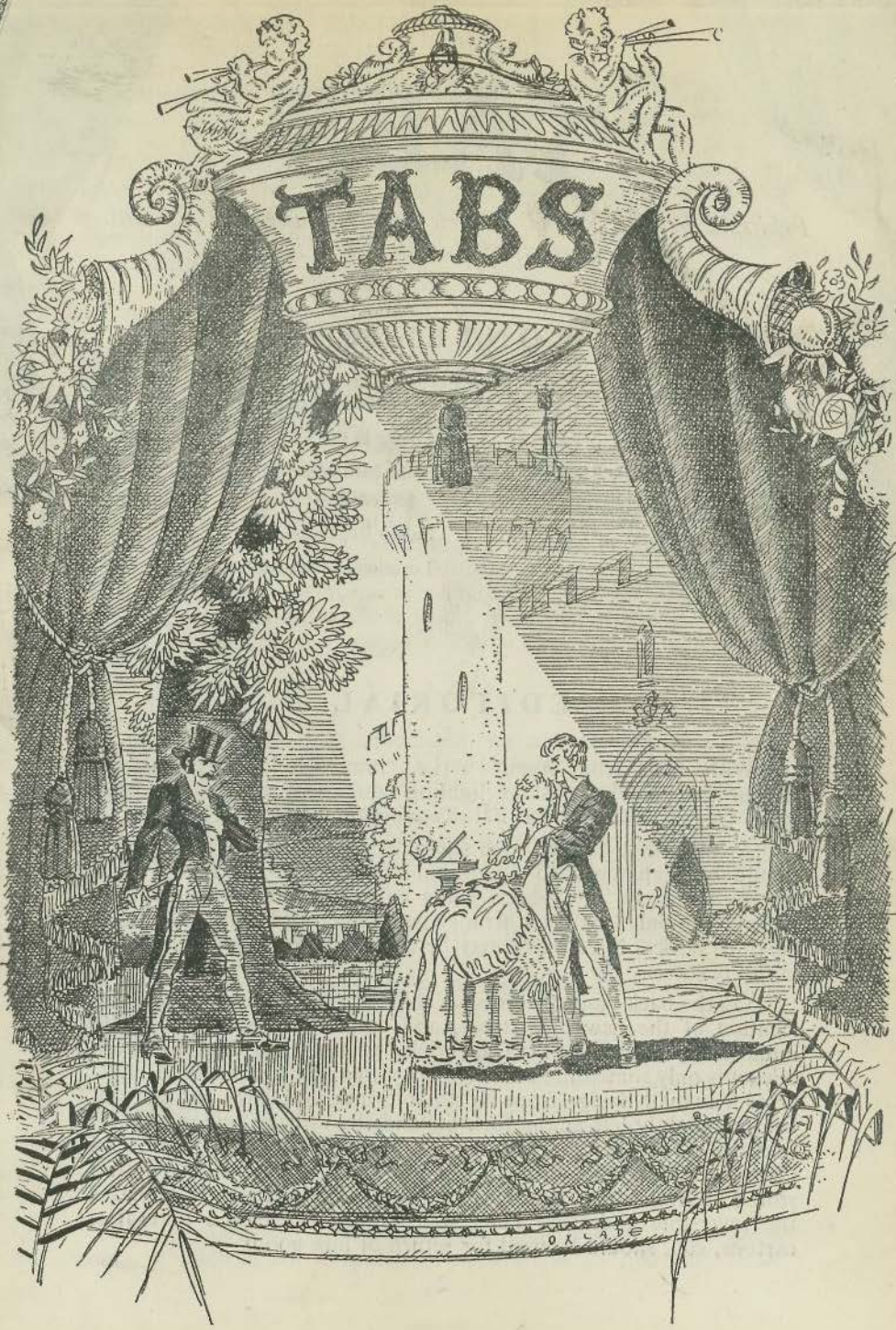


# TABS



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# TABS

*Published by The Strand Electric and Engineering Co., Ltd.  
in the interests of the Amateur Theatre*

## CONTENTS

	PAGE		PAGE
Editorial ... ..	2	What's on in the Off Season ...	21
A Trend of Modern Lighting by J. Davis ... ..	5	Strand Hire Department ...	22
The Show goes on ... ..	7	Summary of "Stage Planning and Equipment" ... ..	24
Designers must Design ... ..	8	Copyists must heed Copyright	26
Fluorescent and the Future ...	11	Colour Charts and Colours ...	27
Plotting for a Pageant ... ..	15	Book Reviews ... ..	28
The Colour Medium ... ..	18	Credit where Credit is due ...	31
The New Strand Electronic Stage Lighting Control ... ..	19	Location of Hire Stores ...	32

## EDITORIAL

Much water—metaphorical at any rate—has flowed under the bridge since our last issue was published. We ourselves have experienced the busiest summer in the history of the Company. Lack of space rather than a surfeit of modesty prevents us from listing the many and varied things that we have been up to, but mention should be made of the forthcoming installation of a Light Console control at the Stoll Theatre which with those at the Theatre Royal, Drury Lane, and London Palladium, will bring the total in the West End of London up to three, between them controlling 527 circuits.

\* \* \*

The next few months will also see a 144-way Electronic Control installed at the New Theatre, London—the present home of the Old Vic Company. Readers will remember that both Console and Electronic types of control were described in our last issue, but in view of the many new features involved and the interest which has obviously been aroused on all sides we make no apology for enlarging on the facilities of the latter on page 19 of this issue. We are fortunate in being able to record the personal views of Mr. Basil Dean.

A demonstration of fluorescent lighting as applied to the stage which was given in London during the summer will doubtless have escaped the notice of the majority of our readers. While the technical press devoted a certain amount of space to the electrical and financial aspects of this subject, they did not in our opinion consider the problem adequately from the theatrical angle and our own views are expressed on page 11. A point omitted presumably because it is not merely a problem of "theatre" is the danger attending the eventual disposal of lamps which have finished their useful life.

The risk of poisoning when breaking up these lamps is, we read, quite serious and it has been suggested that they should only be smashed under water and then only in a fine mesh wire basket. Accidental breakage of fluorescent stage equipment might therefore be capable of serious consequences.

Nevertheless, we must preserve an open mind to any developments which come along, whether they embody fluorescent or other new types of light source. No doubt all lamps as we know them today will be considered antiquated before so very long.

\* \* \*

Having, in the article on fluorescence, expressed ourselves on the decreasing use of general overall flooding of the acting area in favour of localised illumination, it is interesting to find these views confirmed by Mr. Joe Davis, Lighting Engineer to H. M. Tennent Ltd., whom we have asked to contribute to this issue. These people should certainly know what goes on, since their play-producing activities range from musicals such as "Oklahoma" to the straight and dramatic such as "Death of a Salesman". At the time of writing they have eight shows running in the West End and another two in production.

\* \* \*

The author of the "Must" series, which have been appearing in "TABS" since the war, takes his copyists to task on page 26 of this issue. It should be understood, however, that his remarks apply equally to any other articles which appear in "TABS", in fact to anything which is not strictly a news item. Any matter which appears with a name, nom de plume or initial appended thereto must be regarded as sacrosanct until our written permission to reproduce in part or in whole has been obtained. Such permission is usually given only too readily and we are happy to lend any illustrations or blocks which may be required. On the other hand it must be remembered that certain of our contributors earn a living from the words which flow from their pens and their interests must be safeguarded.

\* \* \*

Our Hire Department Stores have removed to 271 Kennington Lane, S.E.11. A note about this will be found on page 22 and directions for finding it on the back cover.

Our latest and, to date, most ambitious publication "Stage Planning and Equipment" for multi-purpose halls in schools, colleges, little theatres, civic theatres, etc., made a somewhat belated appearance during the summer and has been in brisk demand ever since. A certain number of copies are, however, still available (5s. 4d. post free) and a review appears on page 29. A summary of the contents and a specimen page from "Stage Planning and Equipment" will be found on pp. 24 and 25.

\* \* \*

Another book of a somewhat similar nature has also recently been published. This is "Civic Theatre Design" by Richard Leacroft, a review of which appears on page 29. So as to ensure "fair do's" all round, the review of our own book is quoted *verbatim* and *in toto* from the "Architect's Journal", while Mr. Leacroft's book is reviewed by an architect who is a member of the Royal Institute of British Architects.

\* \* \*

The telephone number of our London Head Office has been changed to Temple Bar 4444. We trust that the increase in the number of our G.P.O. telephone lines to 16 and the introduction of a second switchboard and operator will prove of assistance to all concerned.

\* \* \*

We have not hitherto reviewed books which are not directly concerned with the theatre. We are, however, making an exception in the case of "Painting and Decorating" by A. E. Hurst, F.R.S.A., F.I.B.D., since as our reviewer says on page 28, "the general principles and much of the craftsmanship examined . . . apply equally to the live theatre as to the living room".

\* \* \*

Readers notifying us of a change in their address should be sure to send it to the *Editor* of "TABS" and, even more important, give their *old* address as well.

\* \* \*

We are asked by our Hire Department to point out that no Credit can be allowed for used colour media returned in frames. We cannot undertake to assess prices for, or to stock secondhand goods of this nature and no one would thank us for supplying faded or brittle material. While on the subject, we may as well point out again, that since the war, colour media is not included in our hire charges for lanterns, but must be purchased outright.

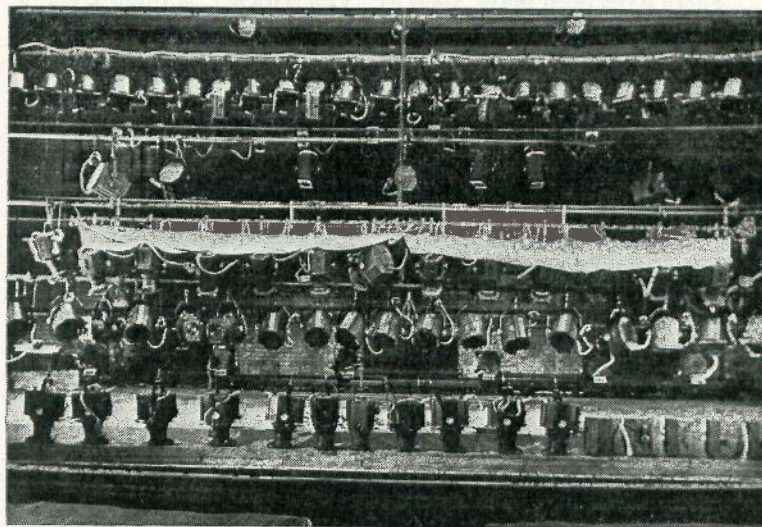
## A TREND OF MODERN LIGHTING

by

J. Davis, Lighting Engineer to H. M. Tennent Ltd.

Most amateur societies have, at some time or other, to deal with the problem of ordering lighting equipment for their stages. As financial resources are usually very limited, it is essential the equipment selected should provide a general basic lighting layout suitable and adaptable for any type or production the society may decide to do. It may, therefore, be of interest to know some of the changes taking place in the professional theatre in the design and control of the lighting of plays.

A few years ago a theatre fitted with the following equipment estimated they had a standard installation sufficient to cater for the average production: Compartment type Footlights, a set of Battens depending on the depth of the particular stage, and a Spot Batten, Front of House Spots, Stage Dip Circuits, a Special Effects Main for supplying temporary switchboards and Arc Lanterns in the Front of House for use with musical productions. The type of switchboards varied but were usually the master control type. A production requiring equipment in excess of this installation carried the additional apparatus and temporary switchboards with them and it was considered to be unusual requiring specialised lighting.



Some of the hanging equipment used for lighting a current Tennent production.

Having had the privilege of working for the late Julian Wylie (I can remember in 1933 travelling the first set of twelve temporary Front of House Spots for his "Gay Hussar" production), C. B. Cochran, Komisarjevsky and my present management, I am afraid the *unusual* happens far too often for it to be unusual.

In post-war years, producers have become more "light conscious" in appreciating how much lighting can help the mood of a scene and define the atmosphere for a play. The general trend has shown that any equipment of a static nature is liable to prove unsatisfactory.

In 1947 Mr. Glen Byam Shaw directed a production of "Antony and Cleopatra" with Dame Edith Evans and Godfrey Tearle. The setting by Motley consisted of a massive centre column with stairways, a balcony and sliding partitions with insets. A set of tabs was used for the tent scene. A large cyclorama cloth, with a three-colour lighting system, encircled the entire stage and was used as a background to convey the changes of time and place. Throughout the play the scene changes were operated in full view of the audience and simply consisted of a cross-fade in the lighting, changing the mood and the action of the play from the coolness of a Rome winter to the warmth of Alexandria, or isolating areas of the stage as required. This was an excellent example of how much can be achieved with flexible lighting.

In recent years the use of area or group type of lighting has been more frequently used, especially with the design of the split or sectioned type of stage setting.

There have been plays, such as "Our Town", without scenery, where the atmosphere of the play was created entirely by lighting and quite a number of plays have used the sectional type of set, allowing for two or more scenes to take place at the same time. Instances of this are "Crime and Punishment", "The Glass Menagerie", "I Remember Mama" and, more recently, "Love in Albania" and "Death of a Salesman". This principle of lighting will also be used in the forthcoming production of "A Streetcar Named Desire". In these plays the lighting has to be planned to allow individual areas of the stage to be controlled as desired, and when required, two entirely separate moods of lighting can be shown at one time. Naturally this calls for careful planning and flexibility of control.

The most constant problem I have met, when arranging the lighting of a play, is to find that the theatre cannot supply the number of individual circuits required to allow independent control of units. This usually means disconnecting existing batten or sundry circuits and utilising them to supply additional equipment. One of the complications created in these cases is mainly due to the fact that the dimmer loading on the circuits is not of the required wattage. The alternative is the use of temporary boards providing the local licensing authorities will give the necessary permission for

their use. I would like to stress here that in my experience, the number of circuits allowed for the stage can never be too many.

Most of these complications are being eliminated in the latest type of installation and the introduction of the electronic switchboard will provide operational control hitherto impossible. The general aim now is to provide a number of circuits terminating at plug points fitted at convenient positions on and around the stage and in the flies for use with hanging equipment. These circuits are controlled by a switchboard capable of individual or master control (for my preference the electronic type is ideal). The Front of House Spots can be supplied on the same principle, to allow for the use of any type of spot.

I think Footlights and No. 1 Batten are still useful for comedy, or farce type of lighting, and if these are made up in sections and fed via the plug principle they can easily be removed when not required.

Finally, every production presents its own problems, and since alterations in the design and use of equipment are constantly taking place, the keynote for any installation should be mobility, whether it be spot batten, cyclorama, flood bar or front of house. In the case of spots, it is a great advantage if these are fitted with some kind of beam control, since, as I have tried to indicate, the demand to-day is for the lighting of specific areas in preference to a general and comparatively uncontrolled flooding of the Acting Area itself.

\* \* \*

## THE SHOW GOES ON!

Two examples of the Strand Export Service are considered to be of interest.

A South African customer wrote enquiring about a complete equipment for his theatre on 27th July. This consisted of Battens, Footlights, Spots, Floods and Dimmers. The order was confirmed on 3rd August, the equipment was manufactured, packed and flown out by charter plane to Nairobi, where it was received on 24th August.

On another occasion a customer touring in Denmark had a road accident. He telephoned us at midday, stating that all his Reflectors were broken. The necessary customs formalities were completed and the replacements left by the 4.30 p.m. plane, arriving in Denmark the same day.

## DESIGNERS MUST DESIGN

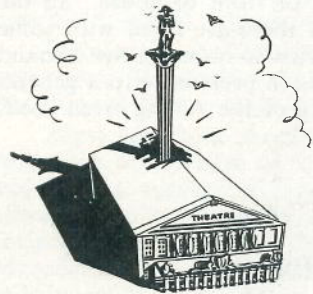
Contrary to a rather popular delusion, the ability to paint pretty pictures in poster colours is not the most important of the scene designer's assets. As an aid to salesmanship such ability has its points, but what are being sold are ideas. An attractive box helps to sell chocolates (at times when their sales need help), but it is the contents that stimulate goodwill. The good designer must know how to present his ideas, but it is the ideas that really count. The pretty picture must be a translation in two dimensions of ideas that must be expressed in three.

The students who yearn to design settings and costumes for the stage are legion. They are completely undeterred by the fact of knowing rather less than nothing about the stage and its mechanics. That doesn't seem to be at all important. Their designs, of varying degrees of attraction and repulsion, quite probably give the creators a lot of joy and it is unlikely that they do any serious harm to anybody else. It is probably quite exciting to devise a setting that would defy any human stage director to make or fit on any stage outside Hollywood; but that sort of frivolity is unlikely

to achieve very much. Those who find the urge to design irresistible should avoid all airy-fairy flights of fancy until they have mastered the rudiments of levitation. True, they may point to the 100-foot columns of Gordon Craig and the fallen arches of his giant architecture. If it's laughter they're after, that's fine.

If we exclude the higher flights, since genius is a law unto itself, we have to accept that the artistry of the designer must be subsidiary to and complementary to the pro-

duction as a whole. Although the setting must provide a picture capable of being judged as a work of visual art, it must have some credibility. And it must be possible to translate it in terms of wood, canvas and paint within the three dimensions of the stage for which it is intended. The student designer should never (well, hardly ever!) indulge in purposeless abstractions. A stage setting has a purpose. The purpose might be hard to find, sometimes, and when found might be even harder to justify; but a justifiable purpose may be assumed. Let him take a play by Shakespeare, preferably one he has never seen on the stage and devise the setting for that play from scratch. He cannot begin to design until he has read the play—and that should do him a lot of good. He will find that as



• “setting that would defy fitting on any stage outside Hollywood”

Shakespeare wrote for a stage that didn't use scenery, he put the scenery in his lines. The designer makes a start, therefore, with an advantage; and if he is capable of being inspired at all, it should be possible for our greatest poet-dramatist to provoke inspiration. And he need not be afraid to let himself go; Shakespeare has survived worse treatment than anything he is likely to mete out.

If the designer has not a producer to help him he must assume that he is producing the play himself. It is important that the setting should reflect the mood of the production, assuming it has one. And the result must be expressed in theatrical terms. The designer, like the actor, must avoid confusing realism and reality. His setting must not only express something of the spirit of the play and of its production but it must be expressed with subtlety and significance. It must also have an inherent quality of style. It is most often successful when it is imaginative and suggestive; simplicity frequently scores when elaboration would fail. The design must show some sense of the appropriate. The blasted heath in “Macbeth” should more properly indicate the ravages of the elements than a justification of the expletive of the producer.



“must show some sense of the appropriate”

To the designer a scale rule is as important as his pencil and brush. If he doubts it, let him try to make a scale model from his picture. Whether he doubts it or not, the model is a necessity. He should have decided the size of his stage before he began to design; if he didn't he will probably find the model at  $\frac{1}{2}$ -in. scale to be a source of constant family friction in any ordinary suburban semi. And a  $\frac{1}{2}$ -in. scale should be regarded as the minimum. One inch is better; it adds greater emphasis to the mistakes, especially when models of the actors are added, as they must be. Their presence will often betray an absurdity that might otherwise be missed.

Although sketches and models will emphasise the problems involved they will not necessarily solve them. It is very easy for a cartridge-paper column, measuring 10 ins. high and 3 ins. wide, to be moved about by a couple of dainty fingers. If stage hands had to hump four of them, measuring 20 ft. by 6 ft., it wouldn't be at all funny; but their language and behaviour in a quick change in a blackout would be. The designer should have definite ideas about the handling of the scenery and its disposal when not in use. If he hasn't . . . and quite often he hasn't . . . the people making the scenery have to supply them. Without knowledge born of practical

experience on the stage and in the scenery workshops, the designer is working in the dark. He must know something of the construction and painting of scenery in full size and must be familiar with the methods of handling and disposal of that scenery at speed. It is obviously useless to design settings that depend on numerous cloths and borders being flown away when the only grid possessed by the theatre is in the backyard.

A designer should never have the temerity to create a stage setting until he has spent a lot of time observing how it is made and painted; he should also have some first-hand knowledge of the blood, sweat and tears that are expended between the time the scenery arrives on the stage until the merciful fall of the curtain on the first night. If he has actually helped to make and paint the scenery

and has handled it on the stage during the show (as he will have done if he is really serious about designing), he will know a good deal more about what he should design than he can ever learn by watching other people suffer. No matter how carefully he has scaled his drawings and models, when the full-size units are placed in position on the full-size stage, he will become conscious from the front row of the stalls of some amazingly tiresome sight lines that he ought to have provided for and didn't. He



"if he has actually handled it on the stage"

will also find that one set of lines can only be used for one purpose in one production. If a cut-cloth for Scene 3 should be in exactly the position used for a border in Scene 5, it's just too bad.

Obviously, before any designer dares to offer the florid fruit of his tree of knowledge to any unimpressible impresario, he must have the certainty born of bitter experience that his designs will work. He cannot gain his experience in the cloistered seclusion of his garret studio, but only on the stage, where he hopes one day to see his masterpieces. He would do well, first, to find a job as a member of a stage staff under a stage manager who really knows what's what. Let him work as scene-shifter, as fly-man, as props, and as a member of the electrical staff. If he is very, very good he might achieve the dizzy distinction of becoming a switchboard operator. He will then learn that lighting really is important to the designer. He will learn how simple it is to transform what was intended to be an exquisite poem of lavender and pink into a dreary doggerel of spectral anonymity by a little insensitive lighting. He can, if he will, learn the art of using his pigments as light-

sources, reflecting the colours of his pattern and giving subtle emphasis to his design.

The way of the designer is hard unless he is born lucky and has a pleasing line in bluff; in that case he might possibly be able to ignore the exasperating limitations of space and a scale rule and persuade people he is a genius whose inspiration is far too precious to be confined within the conventionally mundane and the merely mathematical. And why not? That's as good an excuse as any if he is too idle to learn the technique of his art. P.C.

\* \* \*

## FLUORESCENT AND THE FUTURE

Some observations on the possible application of fluorescent lighting to the theatre stage.

The proposed introduction of any new system of stage lighting should not be allowed to pass without notice, but in commenting on any new article or system it is always difficult to draw the line between shortcomings which may be overcome by future development and weaknesses or misapplications which will always be inherent. So it is in a review of the present subject.

During the summer, demonstrations were given of a stage lit by fluorescent lamps. These are now in such common use in one form or another that it may suffice to point out here that the lamps employed produced light in a variety of colours without the use of colour filters, through the fluorescing or activating of the powders coating the tubular glass envelopes.

The demonstration installation consisted of footlights, battens and wing floods, all using 2-ft. 40-watt lamps arranged in four colours together with a hand-operated control board. Ordinary incandescent spotlights were, however, also used.

Let us examine the claims made and results as seen, under various heads:

### Initial outlay

Some comparative figures have been worked out for a footlight and dimmer control, therefore:

1. On a fluorescent system, the footlight costs twice as much as incandescent. This no doubt is owing to the transformers, chokes, etc., required (apart from the dimmers) by the former.
2. A set of lamps for the fluorescent footlight costs five times as much as the incandescent.
3. The control board for fluorescent costs twice as much as the cheapest non-interlocking board for incandescent or about the same if interlocking facilities were provided on the latter.
4. Seeing that every pair of lamps in the fluorescent have to be controlled separately, nearly five times as many wires have to be run to the switchboard, though they can be of lighter gauge than those required for the incandescent. After taking this into account the wiring to the fluorescent article will be over three and a

half times as costly. This does not include the additional cost of housing the greater number of wires in conduit or trunking.

### **Economy in Running**

There can be no question that fluorescent lamps are much more efficient than incandescent when regarded on a lumen (or light output) per watt (or current consumed) basis. This is true whether we are considering so called "white" light or coloured, but there are at present certain serious limitations to the fluorescent colour range.

### **Upkeep**

Considerable savings are rightly claimed in connection with colour media. These are used to a very small extent with fluorescent and where used their life is considerably prolonged through the coolness of the lamps. The question of colour and colour media will, however, be examined more fully under the heading "Colour" for the sake of convenience.

Lamp replacement on the other hand works out differently. The cost of a new set of lamps for the given length of footlight (26 ft.) shows that incandescent costs about one fifth of the price of fluorescent. If we assume, however, that fluorescent lamps should be replaced every 2,500 hours and incandescent every 1,000 hours—the manufacturers' rated life for the lamps—the saving is still 2 to 1 in favour of incandescent.

### **Dimensions**

The physical dimensions of all fluorescent equipment seen was so great as to render it unpractical theatrically. The footlights for example projected (from memory) about 9 ins. above the stage. The switchboard also seemed to be oversized for the equipment it controlled.

### **Dimming**

At the recent demonstration, fluorescent dimming seemed to leave something to be desired. The lamps appeared to black out before being as dim as they should be, while the re-striking level when coming up from blackout seemed too high.

### **Interchangeability**

This is all important in any theatre. If incandescent battens or footlights are replaced by fluorescent additional wiring will have to be installed. If the change is in the reverse direction, i.e. from fluorescent to incandescent there will be over many wires installed, probably of too light a gauge. It might be possible to overcome the latter point by breaking the incandescent load into more and smaller circuits, but in any event and in whichever direction the change is made, the dimmers would have to be replaced, or at

any rate rewound as the resistances required for dimming the two types of lamps are quite dissimilar. A more serious aspect of the same problem lies with dip or plug circuits, which nowadays constitute by far the greater proportion of any installation. Some of these would have to be reserved specifically for incandescent and others for fluorescent equipment, with different dimmers, wiring and plugs. As it changes colour by using different coloured lamps of varying intensities simultaneously, a fluorescent floodlight will need not one but three or four plugs and a corresponding number of dimmers on the board.

### **Light Distribution**

The present and obvious arrangement of fluorescent lamps in battens and footlights is end-to-end in rows, one row per colour. This gives continuous bands of light across the stage from float and each batten. In the case of footlights particularly, this feature is to be welcomed as it minimises if not abolishes actors' shadows. It was felt, however, that at the demonstration there appeared to be a certain "flatness" in the stage picture. This would have been overcome by the greater use of individual sources such as acting area lanterns, spots, pageants, etc. It is not within the scope of these notes to comment on the trend towards the use of the latter "zone" lanterns and away from such general lighting units as battens and floats, but it is only proper to note this trend and to note likewise that at present fluorescent lighting has no counterpart to the projector lamp. At present therefore, one can only visualise fluorescent lighting being used for general lighting of the stage and this at a time when the tendency is towards localised or area lighting.

Leaving the acting area, however, experience may show that there is an opening for fluorescent lighting of cycloramas. In the great majority of cases these are lit at the top with some blue hue, and an efficient range of blue fluorescent lamps or perhaps white lamps with blue filters might open up possibilities in view of the inefficiency of tungsten lamps in this direction.

### **Optical Efficiency**

By this is meant the ratio of light produced at the lamp to that delivered where required on the stage. Although lamps of up to 5 ft. in length are being considered for auditorium lighting, for the more sensitive dimming required on the stage is is apparently desirable to use tubes which are fatter in relation to their length. Hence the lamps used are  $1\frac{1}{2}$  in. diameter and 2 ft. long. Now these tubular lamps deliver as much light backwards as forwards, i.e. as much away from the stage as towards it and it seems an impossible task to utilise anything but a fraction of the backward half. Anything in the nature of a parabolic or cylindrical silvered or polished metal trough for each tube will not do, as the backward light cannot be re-directed through the lamps, whose fluorescent powder coating

makes them largely opaque. Furthermore these tubes are mounted side by side in as many rows as required—for a footlight three or probably four—and there is not sufficient room for wide mouthed reflectors. If on the other hand a single reflector were used to embrace all three or four rows, only one row of tubes would be near the focus of the reflector and the different colours would be reflected in different directions. As far as the direct light from footlights is concerned, the lowest row of tubes will not strike the back of stage nearly as low as the top row and the result might be disconcerting bands of colour across the stage. The same would be true of a batten hanging in front of a cloth with a border between the two. To revert however to reflectors, the only answer would appear to be a single non-specular shield which was common to all tubes with a consequent loss of control of light which can ill be afforded.

### Colour

As we stated earlier, the range of fluorescent colours available is very limited—until recently it was, and indeed may still be, confined to a few pastel hues. For the theatre this is inadequate and more saturated colours must be produced. It is unthinkable that a theatre should stock a wide range of saturated *and* pastel coloured lamps and the presumption must be that saturated colours will be the ones installed and that pastel hues of light will be obtained by mixing the saturated tubes on dimmers. The present pastel lamps can be made more saturated by using colour filters but at the expense of efficiency. It also seems probable that the production of saturated colour tubes will be accompanied by a serious drop in the lumens/watt output, in which case the major claim for fluorescent may well be reduced almost to vanishing point. In connection with saturated colours it must, however, be remembered that intermediate pastel hues obtained therefrom do not necessarily produce the same effect on coloured materials as do hues from single filters—which are often intentionally impure—even though the colour of light appears the same to the eye in each case when matched on a white screen.

What conclusions then can one come to? Running cost (current consumption) is very distinctly in favour of fluorescent. Initial cost of equipment, lamps and installation is very definitely in favour of incandescent as are lamp replacements but not colour media replacements. The application of fluorescent is confined to general lighting at a time when it is fast going out of favour, against which must be put the value of a shadowless footlight and the possibility of using it for cyclorama lighting. Lack of interchangeability with other lighting equipment is in itself a major disaster. The range of colours at present available is inadequate for theatre work and it is questionable, to say the least, whether the production of saturated colours will meet requirements any more than did the use of primary colour filters many years ago. But this is where we came in!

## PLOTTING FOR A PAGEANT

Pageants can be rather dreary affairs—except for the people who “wear” the woad or defy the foe in shining armour. Pageants can also be exciting affairs for actors and audience when staged with such a revue technique as that adopted by Mr. Heath Joyce, who has produced many very successful spectacular shows of this kind. The most recent was the Quincentenary Pageant in Nottingham, which was an outstanding example of the use of light as an integral part of a production.

The producer himself controlled by telephone, from a control room in the auditorium, the operation of portable switchboards which were so placed that the operators could see the stage. In addition to battens and cyclorama footlights, there were nearly 200 individual lanterns of 1,000 watts each. The visible stage area was 100 ft. wide and 36 ft. deep. The lanterns were so placed that lighting was directed to whatever part of the stage required to be illuminated whenever it was required, with appropriate intensity and colour. The portable switchboards had a total of  $114 \times 1$  k.w. and  $24 \times 2$  k.w. dimmers, each with an identifying letter and number.

We reproduce Mr. Joyce's lighting plan showing the position of each lantern, the position and spread of each beam of light, the colour used and the letter and number of the dimmer control. It will be realised that the lighting of such a production was no matter of frantic improvisation at a dress rehearsal. The layout was the logical result of the actual lighting effects required and represented hours of careful study by the producer long before the time of installation. When that time arrived there was a pre-determined position for each lantern which, once fitted, remained “put”.

The essential point is that the equipment for a lighting fit-up cannot be effectively planned until the lighting effects required have been decided and plotted. It so frequently happens that the amount of equipment ordered is a more or less intelligent guess and the positions are equally vague until there have been protracted sessions of trial and error.

Because of the early planning and the scrupulously detailed designing of the lighting effects, the producer or his assistant was able to give clear and precise instructions to the switchboard operators throughout the performance. The lighting, like the music, achieved a rhythm and significance that merged into the performance as an inseparable part of a complete whole. It was not a demonstration of stage lighting; it was masterly use of lighting for its real purpose.





## THE COLOUR MEDIUM

A historical note by F. J. Green

When we consider the care and attention devoted to the art of lighting rightly considered essential in the theatre today, do we ever pause to think how some modern productions would fare without the aid of coloured light? And yet the whole of the art has been developed within a comparatively short time.

Gelatine colour filters were originally used as tinters in the "Magic Lantern" shows and it was not until around 1895 that they were introduced into the theatre in this country by the late T. J. Digby, who used a very limited range of about 10 colours. The original shades are still in use, but during the years additional colours have been made to meet certain definite needs, until we now have a range of over 40 colours.

It is interesting to recall how some of these newer shades were called into being. For example, No. 7 Pink had been successfully used for many years, but on one occasion an urgent complaint was received that the famous actress Ellaline Terriss' face appeared to have a blue tinge when this pink filter was used although the effect had never been noticed before. Subsequent inquiries elicited the fact that this actress was using a new facial make-up and in order to overcome the difficulty No. 9 Pink was made. After some years, the same complaint was made again by the same actress about this new shade and to meet this No. 8 Pink was developed. Gradually, however, the original No. 7 came back into favour again.

The original blues were made so that two No. 17's equalled one No. 18, two No. 18's equalled one No. 19, etc., but in the course of time the standards varied until No. 19 was almost as dark as the original No. 20 and so No. 32 was introduced to fill the need of a filter between No. 18 and No. 19. Much more recently No. 40 has been made to close the gap between No. 17 and No. 18.

No. 18 was for many years known as "Murder Blue" and it is a fact that when Sir Henry Irving was performing in "The Bells", at the Lyceum around 1899, a member of T. J. Digby's staff called at the factory about 6 o'clock one evening in very great distress. It appeared that at the matinee performance all the No. 18 Blue had been spoiled and the irate Sir Henry had declared, in no uncertain manner, that he could not do the murder that night without it. Incidentally, is there any connection between this fact and the expression "To Yell Blue Murder", which was fairly common some years ago?

No. 36 Surprise Pink, is a colour that was originally made for one particular show in 1930, namely Hassard Short's production of "Waltzes from Vienna", but it quickly became a favourite shade and is considered by many to be an essential.

Apart from their modern use as diffusers, "Frosts" were formerly used as dimmers for Limes and Arcs and for this purpose a particularly dense one was used, known as No. 1 Frost, now no longer made.

Thus it will seem that although coloured Gelatines have been in use for such a small part of the theatres' life, their development has been comparatively rapid and by no means casual. This development has kept in step with, or has been brought about by the development of the art of using coloured light on the stage; that development which has brought us from the crude effects that many of us can remember, right up to the wonderful effects produced by modern technique and apparatus.

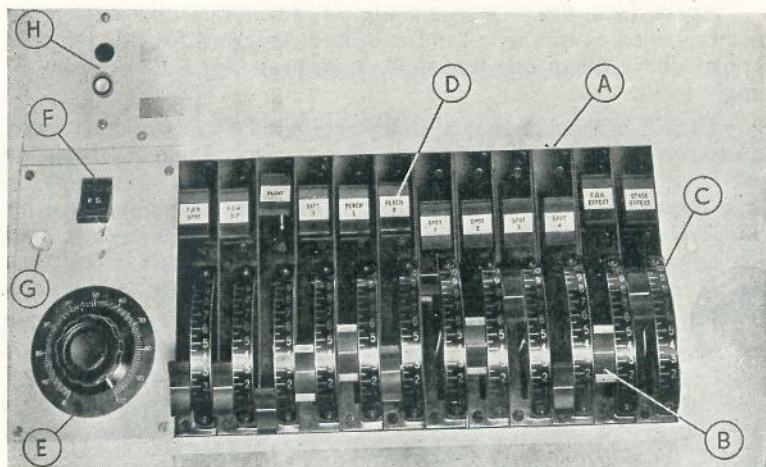
\* \* \*

## THE NEW STRAND ELECTRONIC STAGE LIGHTING CONTROL

In our last issue we gave a very bare outline of our latest type of stage lighting control. We are—and we venture to think justifiably—extremely proud of this development and the comments of various overseas visitors from various parts of the world lead us to believe that we are really ahead of the world in this direction. Lest we blow our own trumpets too long and too loud, here is the opinion of an independent man of the British Theatre, a well-known Producer—and if we may say so—an exponent in the use of stage lighting, Mr. Basil Dean.

"After witnessing a practical demonstration of the new Strand Electronic Switchboard and Remote Control System, I have no hesitation in declaring this to be the most important advance in electrical equipment for the stage that has been made since 1939. The use of the electronic valve gives maximum control by the most economical means. And it is the first instance that I know of where the theatre has seized upon the latest scientific developments before they have become a commonplace in other industries. Modern stage lighting, as it gains in power and flexibility, is of increasing importance in maintaining the correct mood and atmosphere of a play. Consequently, all who are interested in the art of stage presentation will welcome the new equipment. The Strand Electric and Engineering Co. are to be congratulated upon their enterprise." Thank you Mr. Dean!

Here are some further details of the Control. The illustration on p. 20, shows a close-up view of one row of dimmers with its associated master controls at the left. Each dimmer way is represented by a moulded unit panel (a) carrying a miniature dimmer handle (b) working over a graduated scale (c) together with a two-way and off switch (d). Some idea of the compactness of this arrangement may be gathered from the fact that the overall dimen-



sions of the unit (a) are 1 in. width  $\times$  6½ in. height, regardless of dimmer load. Dimmer ways are arranged in rows in the usual way, each row having its master dimmer (e) master switch (f) and pilot lamp (g). The actual number of rows and total number of dimmers will of course depend on the size of each installation, and the complete set of circuits constituting the panel are controlled by a master switch (h) and master dimmers which are not shown in the illustration. The switches (d) and (f) are both of two-way and off type, and according to their settings the following facilities are provided. Any circuit may be switched or dimmed individually, or for group operation may be controlled by the row master controls (e) and (f). The former—the row master dimmer—operates electrically rather than mechanically and in consequence all circuits in that row are dimmed proportionally. In a similar manner the circuits on any or all rows can be controlled by the panel master switch (h) and panel master dimmer at will. Further master switches and dimmers are provided so that selected circuits may be switched or dimmed on one cue and the remainder similarly controlled at a later cue.

The nature of the electrical circuit is such that it is possible to duplicate the entire panel making one or other of the two halves operative by the movement of a single control. Thus any number of circuits desired may be dimmed or brightened to pre-selected intensities at any moment at any desired speed by the movement of a single handle. Ordinary simple cues are worked on a single panel and the operator can set up any complicated changes of lighting on the duplicate panel at leisure.

Space will not permit mention of the many other facilities which this type of control offers, but it is to be hoped that it will be found possible to give a fairly detailed description of one of the interesting contracts in hand in a future issue.

## WHAT'S ON IN THE OFF SEASON

### Out of Town

*For the information of any readers who suspect our activities are really confined to London, we append the following notes from our Manchester branch. Our London staff are still too out of breath even to whisper what they have been up to at Empress Hall, Earls Court, Haringay and the like, apart from "normal" theatre activities.*

During the Summer months our overworked staff normally expect some slight reduction of pressure, apart from an early activity at the seaside resorts. This year the expected lull was long delayed and activity on the coast—and in London—was feverish. We give a brief survey of a few of the jobs that had to be tackled with apprehensive eyes on calendar and clock.

Blackpool this year had fourteen "live" shows, most of which had special lighting needs. Included was the Tom Arnold-Jack Taylor water spectacle at the Derby Baths for which it was necessary to instal 218 1,000-watt lanterns over the swimming bath. The ceiling consists of an area of over 8,000 square feet of glass lay-lights at a height of 40-feet. All the lanterns were suspended on barrels which had to be hauled into position over the water and as it was not possible for the bath to be emptied our engineers did some tricky work on demobilised R.A.F. rubber-dinghies during installation.

Within a week, the Hippodrome, Blackpool, was transformed from a cinema to a temporary theatre with a Nesbitt stage show for which it was necessary to instal 126 lanterns. The lighting was controlled by portable interlocking boards with 54 dimmer ways.

At Morecambe, in less than six weeks from excavation for the foundations, a large Bellman hanger was erected and transformed into a fully-equipped Ice Theatre seating 1,800 people. The ice-stage measures 50-ft. by 50-ft. and has four-colour lighting provided by over a hundred floods, acting areas, pageants and spots and four Sunspot arcs. At 6.30 p.m. on the opening night what should have been a smooth expanse of solid ice was an irregular mass of semi-coagulated crushed ice with a liberal covering of still liquid water. At 7.30 p.m. the curtain rose and a crowded house saw a show that went through without a hitch but not without an occasional splash.

For the Nottingham Quincentenary Pageant the large Ice Stadium was transformed within a week to an arena theatre with a 120-ft. long stage occupying one side of the stadium. The lighting consisted mainly of spots, floods, pageants and acting areas—190 of them, suspended on mammoth barrels and controlled by portable boards with 138 dimmer ways. The whole lot was dismantled and cleared within 36 hours of the last performance.

On the night of July 12th, within an hour of the end of the performance at the Icedrome, Blackpool, the fire brigade were

fighting a fierce blaze in the dressing rooms and on the stage. All the scenery was destroyed. The stage lighting equipment was very badly damaged, much of it irreparably. Over 140 lanterns suspended over the ice-rink crashed down and most of them were beyond repair. The console-type desk and the motor-driven dimmer bank which it controls were miraculously saved from all but superficial damage. Although it was necessary for the large span roof to be jacked up and for twisted steel girders to be removed and replaced before the rink-lighting equipment could be installed again, the show re-opened on August 17th, completely re-equipped.

Which was *one* way of spending the holiday period at the seaside !

\* \* \*

### STRAND HIRE DEPARTMENT

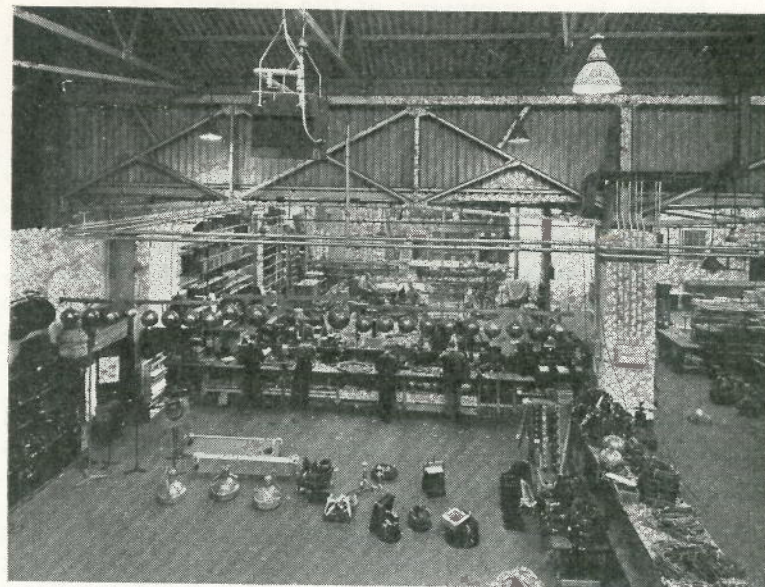
The Hire Department began with the firm in 1916 in small premises in Long Acre, W.C.2, and in 1919 moved to Garrick Yard, St. Martin's Lane. In these days cable was measured in inches and spotlights had christian names. The stores occupied 400 square feet and the one foreman had, it is said, flat feet. By 1924 we had moved to premises in Floral Street and these were gradually enlarged. This enabled increasing stocks to be held but the handling of the volume of work became more and more difficult since the equipment was stored in a labyrinth of small rooms connected by torturous staircases. In addition the original advantages of a central position were gradually negated by the increasing traffic in Floral Street and the neighbouring market area.

In 1948 therefore, premises were acquired at 271 Kennington Lane, S.E.11, and were converted to house all the stores and workshops of the department on one floor.

The changeover took place during the Easter week-end 1949, in order to avoid interruption in normal work and although to commence with the site seemed distant, deliveries became quicker and the handling of orders much simplified.

The Showroom and office staff remain at Floral Street but all equipment must be returned to Kennington and personal collections made from there.

*The two photographs opposite show (top) part of the new Kennington Hire Stores repair shop and (bottom) part of the stores before war damage repairs were carried out.*



*Below is a summary of the contents of our new book "STAGE PLANNING AND EQUIPMENT," by P. Corry, referred to on page 4. Opposite is reproduced a specimen page.*

**SECTION 1. Design of Stage in Multi-purpose Halls.** Sight-lines; Planning; Prosc. width; Stage depth; Wing space; Stage area; Cyclorama; Prosc. height; Height above stage (a) With Grid, (b) Without Grid; Fly Galleries; Apron Stage; False Prosc.; Stage Floor; Circulation; Safety Precautions; Lighting Bridges; Back-stage accommodation.

**SECTION 2. Stage Equipment.** Stage Draperies; Pelmet; Borders and Ceiling Cloth; Curtain Tracks; Suspension Gear; Cine Screen; Sound Effects.

**SECTION 3. Stage Lighting Equipment.** Footlights; Battens; Cyclorama Lighting; Spot Lanterns; Flood Lanterns; Stage Plugs; Fixing Gear; Switchgear; Auxiliary Switchboard Supply; Siting of Switchboard; Mains Supply; Auditorium; Projection Booth; Wiring.

**SECTION 4. Equipment for Existing Stages.** Existing Stage with Proscenium; Existing Platform without Proscenium; Fit-up Frames.

**SECTION 5. Stages in Junior Schools.** In the absence of a general policy, proposals are submitted for a new type of stage, designed to meet the particular needs of Junior Schools but which could be used for certain types of Senior productions. Plan and section drawings included.

**SECTION 6. Schedules of Equipment.** Lists of equipment are suggested, with approximate costs.

Part 1. For New Buildings.

Part 2. For Existing Buildings.

Part 3. For Junior School Stage suggested in Section 5.

**SECTION 7. Drawings. Abbreviated Glossary of Stage Terms.** The book is liberally illustrated and includes double-page drawings of complete stages so inserted that when opened they are adjacent to appropriate text.

to forfeit the advantage of footlights for the greater usefulness of adding colour to the bottom of the cyclorama. If plugs at front and back of stage are wired in parallel and the footlights supplied in 6ft. sections with inter-connecting plugs the two alternative uses are available to the producer. The disadvantage of this double use is that the footlights, which accommodate either 60 watt, 100 watt or 150 watt batten lamps, require less intensity of light than when used as a cyclorama groundrow. 60 or 100 watt lamps would be suitable for footlights whereas 150 watt lamps would be desirable for the cyclorama lighting. This might complicate the rating of the dimmers used for the dual circuit; within certain limits, variable-load dimmers are available for use in such circumstances.

Footlights should be so fixed that the top of the lamp filament is level with the stage floor as shown in Figure 22. It is, therefore,

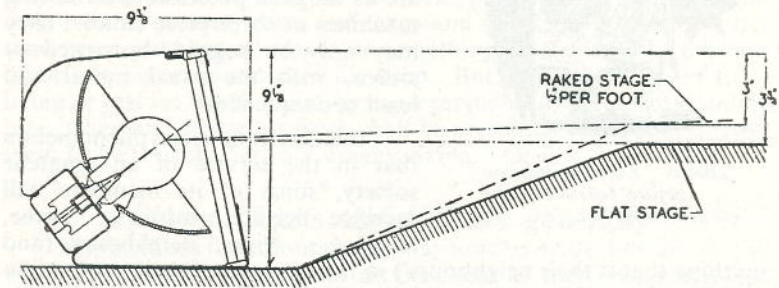


Figure 22.

Section showing correct position of footlight in relation to stage floor.

not possible to avoid some projection above stage level but this does not exceed  $3\frac{3}{4}$  ins. when the Strand Electric "S" type is used. Spill of light on the sides of the proscenium arch must be avoided. The wide angle (120 degrees beam angle) reflectors used in the "S" type footlights permit the use of shorter lengths. If fixed at the edge of a 3 ft. apron stage it would be adequate to instal a 12 ft. length footlight if the proscenium opening were 24 ft. wide, thus leaving a margin of 6 ft. between each end and the line of the proscenium opening. If, as recommended earlier, the apron stage is 6 ft. deep it is preferable to dispense altogether with footlights as unless they were restricted to about 6 ft. in length there would be some spill of light on the proscenium front. The footlights could best be used as a cyclorama

## COPYISTS MUST HEED COPYRIGHT

This addition to what a correspondent has named the "Must" series, is provoked by the sight of a truncated version of "Critics Must Criticise"\* in another publication, reprinted with acknowledgments to an operatic society who had apparently assumed the right to publish it in their programme without divulging its original source. It is evident that programme editors and/or publicity secretaries might also be in need of a little gentle guidance.

The law of copyright is intended to protect writers from all copyists who imagine that anything in print may be used with impunity and without permission. The offenders are mostly impeccable citizens, whose normal social behaviour eschews anything in the nature of petty larceny or shop-lifting. They will almost always ask permission of their neighbours before borrowing the garden roller or the illicit hose and will probably be shocked and surprised to learn that printed words are as tangible possessions as sewing machines or three-piece suits. They may only be begged, borrowed or stolen, with the usual moral and legal consequences.



*"always ask permission  
... before borrowing the  
garden roller"*

It is a curious social phenomenon that in the service of an amateur society, some of its members will sacrifice leisure, business, home, happiness, wives, neighbours (and anything that is their neighbours) in the interests of their production of "The Desert Song" or "Quiet Week-end" and will be quite pained if anybody fails to appreciate the purity of their motives or to share their sacrificial enthusiasm. They will work harder without financial reward than ever they do for the weekly pay-packet or the monthly cheque and if they happen to be producing for the benefit of some charity, will be positively shattered if anybody who requires payment for his services has a marked preference for choosing for himself the charities he wishes to benefit. The production of a stage show has ousted the bazaar and sale of work as a means of extracting contributions to favourite funds from the pockets of acquiescent friends and the belief that a little gratuitous acknowledgment in the programme is generous reward for any kind of service is one that dies hard.

The bank balances of many playwrights have suffered sadly because some promoters of amateur stage shows think they can't afford to pay royalties. This sort of myopic morality is less prevalent



*"bank balances have  
suffered sadly"*

than formerly, due possibly to the fact that authors' agents have become more vigilant about the activities of the pirates, but it is still with us. Everybody realises, of course, that any writer should consider himself sufficiently rewarded by having his words printed in a souvenir programme or spoken from a stage without being at all fussy about whether the authorship is acknowledged, whether his work is presented whole or in part or whether his permission has been obtained. If he does not appreciate the honour done to him by being remotely associated with the work of the Puddleton Players in their production of "The Pirates of the Pens", he is just one of those niggling narks who fail to understand the artistic urge and charitable impulse of the amateur theatre in general and the P.P.s in particular. But alas, he is also human (or practically so) and has the common failing of expecting credit (even if little credit be due) for his work. Also he often has the common liability to rent, rates and taxes and if he is a full-time author (and not a plumber or draper or something on the side) he depends on selling his words to earn his keep. But whether he writes for a living or just for the fun of it, he has a prejudice in favour of deciding how, when and where his work shall be presented. And that doesn't seem to be terribly, terribly unreasonable. Or is it? P.C.

\* \* \*

## Colour Charts and Colours generally

Applications for colour charts may now be made, but in order to obviate much correspondence in the event of there being any last minute hitch in delivery, we ask you to be patient if you should not receive one just by return of post. It will be sent as soon as possible. And will owners of model theatres refrain from ordering one booklet per day until they have fully equipped their stage free of charge. We have a simple method of checking this, but we hate being rude.

The new books are made up with Gelatine this time, not Cinemoid as heretofore. We must point out that in certain colours there is a slight difference between Gelatine and Cinemoid masquerading under the same colour number. Under the auspices of the British Standards Institute, work is progressing on matching the two materials as closely as is technically and economically possible. Furthermore, once standardised it will be possible to check each batch received from the manufacturers by really scientific methods to ensure consistency, the old method of matching by eye having been found inadequate over a period of time. So if for a little your colours seem on occasion to be slightly "off colour" bear with us and remember we are doing our best to ensure that "it will all come out in the wash" in the end.

\* "Tabs" Vol. 6, No. 2, Sept., 1948.

## BOOK REVIEWS

"STAGECRAFT FOR AMATEURS" by F. A. MARTEAU AND J. HOLGATE,  
*Published by International Representations Ltd. 5s. net.*

In their introduction the authors state ". . . this little book aims at helping both beginners and experienced amateurs". The former—and particularly perhaps actors within that category—should pick up useful hints. On the other hand, such explanations as "taking a curtain" means "the bowing of the actors at the end of a play" and such advice as "if clothes are borrowed from other members of the Club or hired from a Theatrical Costumier, special care should be taken of them" are, however, surely redundant to all but the complete novice. Too much has perhaps been attempted within the limited scope of 58 pages, but anyone who is contemplating their first appearance "on the boards" would no doubt attend their earlier rehearsals with considerably greater confidence and understanding of what was required of them if they had previously read this little book.

M.C.

"PAINTING AND DECORATING" by A. E. HURST, F.R.S.A., F.I.B.D.,  
*Publishers: Charles Griffin & Co. Ltd. 32s.*

This is a completely comprehensive textbook for the guidance of "Decorating" artists and craftsmen, written by one who is a sensitive artist and an experienced craftsman. It is a book that should be in the library of anybody with an executive interest in scenic design for the stage. Although there is inevitable emphasis on the art and technique of mural work of the more enduring kind, the general principles and much of the craftsmanship examined by Mr. Hurst apply as equally to the live theatre as to the living room. His chapters on Drawing and Design, Applied Decoration, Heraldry and Colour cannot fail to be fascinating to the scenic artist and designer and are thoroughly informative as well. Mr. Hurst deals very briefly with lighting but includes a clear and useful explanation of the true relationship of pigment colour and light; he stresses the need for co-operation between the mural artist and the lighting engineer.

This is not a book to be read and put aside. It would add dignity to any book-shelf; but it will have served its purpose best when it shows the signs of much usage. The writing is simple and sincere, with occasional flashes of passionate conviction; its main purpose is summed up by the author in a sentence modestly tucked away towards the end of the book: ". . . the world's greatest paintings are the result of *craftsmanship* wedded to *art*, the important point being that the artist cannot express himself to the full until he has mastered the *technique* of his job". We couldn't agree more.

P.C.

*By kind permission, the following review is reprinted verbatim and in toto from the "Architect's Journal" of 11th August, 1949.*

"STAGE PLANNING AND EQUIPMENT FOR MULTI-PURPOSE HALLS" by P. CORRY, *The Strand Electric & Engineering Co. Ltd., 29 King Street, Covent Garden, W.C.2. 5s.*

"A really excellent short textbook about small stages and their equipment. Very clearly written and illustrated, pp. 115.

"This small book is an example of the way in which technical information is best presented to architects. There are seven sections to the book: the first deals with some theoretical problems in the design of stages for multi-purpose halls—with special reference to schools, and the second with detailed information about stage equipment. The third deals with stage lighting equipment and the fourth and fifth respectively with equipment for existing stages and stages in junior schools. Section 6 is a schedule of equipment (with approximate costs) and Section 7 a very useful glossary.

"The subject matter is dealt with factually and in the choice of illustration there is a sensible balance between drawings and photographs.

"The text is not lacking in humour despite the essentially practical manner in which it is presented.

"If one were to find criticisms, they would be first, that some of the problems in secondary schools such as the provision of 'free activity space' are not fully recognised and second, that there is throughout a bias towards over-equipment, especially in so far as junior schools are concerned, where the theatre form may not be altogether appropriate. Money permitting, however, there is every advantage in providing in the first place what is so often added inconveniently at a later date.

"To anyone concerned with schools, village halls or small theatres, who is not already thoroughly familiar with stage design and equipment, there could hardly be a better guide."

"CIVIC THEATRE DESIGN" by RICHARD LEACROFT.  
*Dennis Dobson, Limited, London. 123pp., 32 line diagrams. 10s. 6d. Sept. 1949.*

This book, the most recent addition to a comprehensive series, is issued under the general title of "The International Library of Theatre and Cinema", edited by Herbert Marshall. The author, an architect, has had considerable experience in "theatre"—especially repertory—and has produced an interesting and well written book with excellent illustrations. Wisely, he has based much of his opinion upon an understanding of the history of the theatre and develops his argument following a comparatively lengthy historical survey—with a special bias towards the Georgian theatre.

It is clear that his interest lies in the working side of the stage-end of the theatre and thus, the main contribution lies in his understanding of back-stage work, including scenery and the simpler mechanical equipment used in handling it. Much space is given to the ancillary and contiguous spaces connected with the stage and useful detail is given regarding the requirements for making both scenery and costume. Little attention is given to the planning of the auditorium proper, although the problem of the proscenium opening is tackled with spirit and vigour—and a certain amount of Georgian influence. The “front of house” is examined and the purposes of the functions of the main rooms explained.

It is claimed that the book has been especially written for architects and local authorities, so that the position of the civic theatre be better understood during the present period of planning activity but building inactivity. The purpose is admirable. It is doubtful, however, if either the architect or the local authority will feel fully satisfied with the book in its present form. The architect has, for far too long, been divorced from theatre practice so that its planning essentials are not understood. It is to be regretted that “Civic Theatre Design” does not fill the need for a balanced understanding of the planning problems involved due to the emphasis laid on certain functions and obfuscation on others. The local authority too will search in vain for help on problems of traffic circulation, adequacy of site, etc., for their interests are treated sketchily. Nevertheless, although one may find difficulty in agreeing with the author regarding the stated purpose of the book, one is very grateful that the wealth of information it contains has been placed on record, in the hope that the promoters of the future civic theatres will at least realise the need for reconsidering the working parts in a new light and in a direction woefully misunderstood in this country.

In point of fact, the book falls between two stools; it is certainly much more than it claims, namely to be “an introduction to theatre design”, but it is not adequate for, nor does it contain the balance for a text book. When analysing the stage, certain very arbitrary standards are quoted, for which no derivation or authority is given. This procedure can be exceedingly dangerous, in that the blind acceptance of data used in designing may cause serious restrictive results in the eventual theatre plan. Undoubtedly standards in planning are urgently needed, but it must be admitted that the theatre is still elemental in character and until factual evidence is available, following serious experiments in planning, it may be wiser to state the actual principles that are in themselves basic for theatre development.

Mr. Leacroft is genuinely, and rightly concerned about the juncture between stage and auditorium. Much space and spirited argument is devoted to the reason for the elimination of the pro-

scenium arch, as such, in the hope of creating greater intimacy between actor and audience. How much this need for intimacy is influenced by acoustics, seeing, or even the “mumblings” of the contemporary actor, is not yet known and could with great benefit form the subject of intensive research. One thing, however, is certain, although there is general need for intimacy through the reconsideration of the proscenium area, the problem is complex to a degree and it is doubtful if the suggestions made will meet with unanimous approval. One of the serious handicaps appears to lie in the need for satisfying the “Regulations” and in particular those appertaining to fire precautions. The two main influential documents at present in use are those of the L.C.C. and the Home Office. Neither of these documents appears to be abreast with the times and until they are revised in the light of current knowledge not only of fire, but also of the theatre, it is doubtful if any serious experimentation can be carried out.

The absence, in a comparative way, of information concerning the auditorium is disappointing and perhaps inexcusable and forms a serious weakness in the use of the book. The auditorium as a space related to the stage and front of house, is still a subject unexplored. Little is known about the practical application of acoustics, sight-lines, ingress and egress of persons and of course, the psychological effects of colour and pattern and number of audience (700 is suggested) is anybody's guess at the present time. The illustration on page 82, of the arrangement of boxes across the rear wall, indicates that Mr. Leacroft has some interesting views on the problems of auditorium planning and one feels regretful that he has not had more to say on the subject.

Lighting, one of the most important and influential subjects in theatre planning, is dismissed cursorily in just more than three pages. There is a great need for an authoritative guide to planners, the current literature being generally inadequate.

The book is cross-referenced with footnotes in a most useful manner. It is printed well and the illustrations are clear, concise and beautifully drawn. “ARCHITECT.”

#### CREDIT WHERE CREDIT IS DUE

Goods are not infrequently returned from hire bearing no indication of the sender. Although we clean and repair as necessary every article before despatch, we have not the same happy disposition as some laundries in the matter of relating what goes out to what comes back, and our equipment does not all bear personal laundry marks.



