

TABS

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in the interests of the Amateur Theatre*

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EDITORIAL

It is several months now since the last issue of "TABS" made its appearance but our 'Creative Ego' has not been dormant all this time.

In the interval we have produced two new publications—one a booklet entitled *Some Advice on Stage Lighting* and the other a *Glossary of Technical Theatrical Terms*. To be strictly accurate, the latter is at present in the hands of the printer, but will be available for distribution in November. *Some Advice* is just what its title implies, and we will not attempt to give a precis of it here, more particularly since the chief conspirator is at present looking after a new Strand Electric installation at the Opera House in Ankara, Turkey. He cannot therefore defend himself, except by air mail, but of course that becomes expensive. Just to whet the appetite, however, we will quote a line or two.



"Why do you light a show? What are you aiming at? What in brief is the intention of stage lighting? We've produced the following definition:

"To illuminate the actors in such a way that their gestures, movements and expression can be seen and appreciated by every member of the audience.

"At the same time so to illuminate the setting that this forms a credible background which will assist the actors in their interpretation of the play and add atmosphere to the production."

Although no less a person than Mr. Emlyn Williams has written the preface for this little book, it is intended for the Amateur Theatre and the advice given in no way pre-supposes a comprehensive and expensive stage lighting equipment.

Mr. Williams preface is reproduced on page 10 of this issue. The booklet, incidentally, is free on request.

The *Glossary* gives a pretty comprehensive list of all those terms which the technician of the Theatre might require to know or use in the execution of his duty. The cover of the *Glossary* is reproduced on page 11 of this issue and it will be noted that the trifling charge of 2s. each is being made, and that all profits are being devoted to the Actors' Orphanage. Seeing that *Tabs* is free and *Some Advice* is likewise, we suggest to our readers that a graceful way of showing their appreciation would be the immediate ordering of one or more copies of the *Glossary* now.

If a subscriber should not receive an immediate reply, let there be no panic. It will probably only be due to a technical 'itch' at the printers.

* * *

We thank those of our readers who have been good enough to send us in articles for "TABS" during the summer months. Unfortunately it is not possible to use all of these at once, but if we can see no prospect of publishing any of them for some time to come, we will return the manuscript so that they may, if desired, be used elsewhere.

* * *

Our 'Creative Ego' has just reminded us of another venture—a little item which looks like the fixture card of the Bowling Club at Little Market Droning. It contains much useful information on the gentle art of Colour Mixing and will be found a useful adjunct to our series of articles entitled *Colour in the Theatre*. Once again this is free on request, so 'Ego' will take an even dimmer view if the *Glossary* is not ordered at the same time as all the rest.

* * *

In our issue of December last we mentioned what was in effect a Scholarship of Drama which had been established by a school dramatic group whereby ex-students could attend at the Royal Academy of Dramatic Art, all fees paid. News now reaches us of a Scholarship scheme organised by the Brighton and Hove Operatic Society. Under this scheme a sum of money is set aside towards the cost of training the voice of a member of the Society. The conditions lay down, *inter alia*, that applicants shall be below twenty-six years of age and must in the opinion of the Committee, have sufficient talent and ability to benefit by the proposed training. Moreover, they should be otherwise unable to undertake such training. We commend this admirable idea and would be interested to hear of any similar arrangement organised by other societies.

Two Stage Carpenters met at the local, and the following conversation ensued :—

“ Hello Charlie, how’s the garden.”

“ *Garden ? I haven’t got one.*”

“ Been helping the neighbours, then ? ”

“ *No, what do you mean ?* ”

“ Well, what do you want with those things ? Shears, aren’t they ? ”

“ *Oh these. Yes. I take them to the Theatre every night. Couldn’t be without them.*”

“ For the love of Mike, why ? What does a Stage Carpenter want with shears ? ”

“ *Oh, didn’t you know, old man ? I am working at the Open Air Theatre now.*”

* * *

The following is not an isolated case, it is one of many—indeed one of far too many. A package reached us from a customer with its contents damaged beyond recognition and there was no indication as to the sender. We could not claim on the Railway Company, nor could we advise the sender to do so. Meanwhile the sender is still being charged week by week for the hire of what he has finished with ; furthermore he will not get credit for the return of the case. A sorry tale, and the moral is clear enough. We do all we can by numbering cases, cartons and so on, but even this falls to the ground sometimes.

SPIVS’ CORNER

It was Christmas day in the Workhouse, or more accurately, Christmas Eve in the prison, where the Padre was conducting a dress rehearsal of the annual Pantomime. In accordance with the wishes of the Governor, both warders and prisoners were taking part. This presented the Padre-Producer with certain administrative problems, not the least of which was the fact that although the warders could invariably be relied upon to tell the truth, the prisoners in question invariably did just the reverse. This latter point is important in view of what follows.

A particularly dramatic moment had been reached at rehearsal when the Fairy Queen (shop lifting) was doing her stuff with Cinderella (breaking and entering) when a fiendish noise broke out in the orchestra where a cosy poker hand was in progress. Investigation by the Producer showed that at least one member of the cast was involved. Disguised in his wig, grease-paint and costume, it was impossible to tell whether the individual in question was a warder or a prisoner. The Producer asked him therefore, “ Are you a warder or a prisoner.” The miscreant replied unintelligibly, being more than somewhat hampered by a beard which had hitherto served as a sporran. The Producer, therefore, turned to the nearest two individuals and asked them in turn what No. 1 had

actually said. No. 2 replied "he said he was a prisoner." No. 3 however, said "he said he is a warder, but he is lying."

Bearing in mind that warders always spoke the truth and prisoners always lied, which were which? Which of the three were prisoners and which were warders? Answer on page 10.

BIBLIOGRAPHY

We give below a short list of books on the technical aspect of the theatre. If any reader would care to add to this list we should be pleased to publish a supplement at a future date. Technical books only please!

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- ✓ Stage Management—Peter Bax ... *Lovat Dickson, 1936.*
- ✓ Practical Stagecraft for Amateurs—Jevan Brendon Thomas ... *Harrap, 1936.*
- ✓ Stage Lighting for Amateurs—Peter Goffin ... *F. Muller, 1938 (New edition, 1946).*
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PRODUCERS MUST PRODUCE

The producer of professional companies has the right to expect all his cast to have acquired acting technique. The producer of amateur performers is wise if he restrains his expectations and sticks to hope ; he will also probably need lots of faith and charity. If he isn't capable of imparting knowledge as well as inspiration and guidance, he should leave the job to somebody else. He need not himself be a brilliant actor but it is obviously helpful if he can do the actor's job reasonably well. Many actors are incapable of understanding the difference between what the producer wants and what they think they are doing unless it can be effectively demonstrated. When, as so often happens, the actor just isn't able to do what is wanted, the producer must not utter despairing sighs to high heaven, but must patiently set about adjusting his conception to minimise the loss due to limitations he cannot help or alter.

Like the good actor, the good producer has ability plus. Somebody once defined genius as 10% inspiration and 90% perspiration. The 10% is the plus and is probably the measure of difference between artist and craftsman. A producer must be both artist and craftsman and must shoulder the responsibilities of both ; he must not claim the privileges of either. He must possess all the virtues of an archangel and none of the vices of common humanity. He must be a painstaking teacher and faithful friend. He must be



"... a leader of women"

an inspired and inspiring leader of men. If he should also prove to be that rare phenomenon, a leader of women, he may count himself as thrice blessed and unique among his fellows. Play production is a collective art and the producer cannot act as intelligible interpreter between the varied artists and technicians, as he must, unless he has a good working knowledge of the functions of each.

The producer who knows his job will not expect his own production to conform exactly with that of any other producer. He should not imitate some other production. If the book of the play is an 'acting edition' he will realise that usually the stage directions are based on the original professional production and he will not be so naive as to assume that what was appropriate to the stage of Drury Lane can be applied to his fit-up in the Village Institute at Much Prompting-in-the-Part. He must start from scratch. The golden rule of play production is that there is no golden rule. Anything is permissible . . . if it comes off. There is much virtue in 'if.' The technique of the intimate theatre cannot be properly expressed in terms of the expansive theatre. What may be acutely significant in the former becomes pale in-

significance in the latter. Each production is an individual expression and will bear the imprint of the producer and his team who should accept the responsibility and opportunity involved and avoid becoming crude imitations of their betters.

Methods of production vary and it is right they should do so . . . within limits. The producer who neglects the mechanics of production for interpretation will probably find his cast woffling about, ineffectually mistaking good intentions for achievement. It is extremely dangerous to allow movement and business to develop 'naturally'; acting must not be natural. Realistic acting is that which presents an *illusion* of reality; it demands conscious control. The actor who wallows in an emotional morass of self-conviction



" . . . an emotional morass of self conviction "

usually succeeds only in convincing himself and is bitterly indignant when some candid critic tells him his performance was terrible. A development of the mechanics of the performance—the technique—is the producer's first job, but he may not neglect interpretation, even in the early stages; so many actors find it difficult to correct faults when they have memorised lines with the wrong intonations, accents, pauses, etc. Our producer will, of course, insist on his cast memorising the *meaning* of the lines as well as the words. So that it will be an obvious advantage for him to have something more than a vague knowledge of the play before rehearsals begin. Not only will he have studied the lines critically, but will have drafted the actors' movements and business, the shape and size of the settings, the nature, period and disposition of the furniture and props., and have quite an idea of the lighting effects he will need and the method of getting them. He will have evolved a broadly conceived working plan of the play, a conception which must be sufficiently elastic to allow of subtle variations in development. He will find it advisable to make a scale ground plan of each setting, taking care that the scale also applies to the furniture, or his moves will go sadly adrift when the furniture ultimately appears and he finds an unfortunate lack of acting area between the aspidistra and the horse-hair sofa. His stage manager will also have a much greater respect for him if the plan shows some recognition of the limitations of space available.

Preferably at the first rehearsal, the producer should present the cast with a complete list of rehearsals which should be as many as possible. There is a popular objection to having a lot of rehearsals on the ground that the actors 'become stale'; this is arrant nonsense and there would be fewer first-night excuses if there were more rehearsals. The producer should sectionalise his rehearsals as far as possible to prevent the small part people having to endure hours of inactivity. The keen ones don't mind an awful lot as they

can learn from watching rehearsal of others and thinking how much better they could have played the parts ; but it is not difficult to specify which scenes will be taken at which rehearsals and so give those not required the option of staying away.

The producer's prompt copy will have been decorated with copious notes (probably intelligible only to himself) before rehearsals begin ; it is an advantage to have a copy interleaved with plain paper. He will use this copy for constant reference during the first few rehearsals. After that he should hand it to his prompter or stage manager as once the play has begun to take shape his eyes must be constantly on the stage. It is an important part of his job that he should create a constant succession of stage pictures that move effortlessly and with an apparent inevitability, each having its essential focal point that gives significance to the scene. This creation is a gradual process that may only be refined by constant critical vigilance. It is as important for the producer to forsake his book as it is for the actor. Neither can do the most exacting part



“ . . . with a book in his fist.”

of his job with a book in his fist, and the producer who recognises this simple fact will be entitled to be ruthless with the actor who neglects it.

The producer who is sure of himself never resorts to bullying : he doesn't need to. Neither is he vague and indefinite. He is not afraid to change his mind or to admit he has made a mistake. He will do both. But he must be interesting. A bored cast will not do good work. Although a producer cannot make a bad cast into a good one, he can make them appear less dreary. He must try to get both pace and poise ; he won't always get the latter, but cannot be excused for failure to get the former. And mere speed must not be mistaken for pace.

Early conferences with designer, stage manager and electrician are essential. They should not be expected, or encouraged, to work independently ; collective art requires co-operation. Its absence means frayed tempers and frustration, and ineffective performances. To organise such co-operation will probably provide a nice exercise in diplomacy and tact, but far too many producers are content to leave such details until the dress rehearsal, often because they don't really know what they want. They know what they don't want—and usually get it. This applies particularly to lighting. Too frequently, the producer who knows little or nothing of the limitations of his equipment is mistakenly violent with the switchboard operator if the dawn comes up like thunder, when it is supposed to ' walk o'er the dew in russet mantle clad ' ; the blame probably lies with the Committee which failed to vote money for the necessary dimmers, or with himself for not having considered his lighting earlier.

Arrangement of the lighting must not be left to chance or a last minute frenzied exercise of trial and error. It should be carefully planned well ahead and a lighting and scenery rehearsal arranged before the dress rehearsal. Or dress *rehearsals*—as if at all possible, there should be two ; the first will provide an opportunity for discovering all the things wrong and missing. The second dress rehearsal should proceed exactly as if it were a public performance, without interruption. There is a popular fallacy that a bad dress rehearsal means a good first-night ; the truth is that after a bad dress rehearsal anything seems good. The quality of the dress rehearsal is a true measure of the efficiency of producer, cast and stage staff. Unfortunately so many amateur societies have to hire unsuitable halls with unbelievable inconveniences ; in their case it is doubly necessary to have two dress rehearsals and therefore doubly tragic that they rarely have the opportunity of getting them.

He who cannot bear to see his ideas mangled and inspiration dissipated must pause ere he allows himself to be caught up by the damnable fascination of play production ; he had better stick to chess. His rewards will be few and disappointments many. Just occasionally he will have the indescribable thrill of seeing an inspiration consummated by achievement. On such occasions he will feel rewarded for his lavish expenditure of blood and sweat and tears.

P.C.

LIGHTING IN CAPTIVITY

We are indebted to "The Illuminating Engineering Society" to reprint the following by R. A. Eshelby, Esq., from the proceedings of the Convention of the Society held in London, May 14th to 16th, 1946.

"Speaking of prisoners of war in a German camp, Mr. Eshelby said :

" For a theatre they were allowed to use a bare barrack building, measuring about one-hundred feet by fifty feet, and it took them six months to convert it for their use. Shows could only be given during the daytime as they were not allowed out of their barracks at night—this meant that a supply of electricity had to be available by day instead of only by night as was the rule. Apart from being useful for the stage lighting, they were glad of the power supply by day so that they could work their hidden mains-operated radio for more hours per day.

" Lighting equipment had to be borrowed or improvised. Wiring and lamp-holders were in short supply and had to be removed from other parts of the camp. Knife-switches were made from the wire-banding of Red Cross parcels, water-type dimmers and reflectors from food tins, whilst solder for the metal work was obtained by scraping solder from the sealing holes of such tins. Colour screens were devised by using the coloured transparent wrappings from various food containers.

" Several slides were shown of various shows which the prisoners produced, the effect produced being far superior to what one might

be led to expect from the improvised equipment described above. Considerable patience must have been needed to produce the very realistic standard and wall lamps used as 'props,' which were actually made out of pieces of barbed wire and wooden brackets . . .

"Towards the end of the war when the Russian troops were advancing into Pomerania, the power stations were put out of action and for several weeks they had no light at all. They then devised 'super' oil-lamps which, unfortunately, consumed margarine for fuel. In the theatre, rather than stop productions, the stage was modified to allow the maximum use of daylight from the side windows near the stage. By erecting a suitable reflector and baffle boards to direct as much daylight as possible on to the stage, a quite reasonable effect was produced."

OPERATION OHM

Another Resistance Movement Story.

Even now the time and place are best left unmentioned.

Outside an aircraft droned overhead. Traffic echoed down the dark street and then all was still.

In the cellar which did duty as office, equipment store and meeting place in turn, for the hundredth time P. quietly whistled the opening lines of a tune he had heard on the wireless from London.

The suspense was becoming unbearable. Tomorrow was *the* day, the day against which the group had planned and prepared for so long. Everything had been worked out to the last detail ; or so they had thought until the leader, X, had only yesterday discovered that a vital piece of equipment was lacking, and that he, P, was to blame.

The whole venture was now at stake unless the vital supplies arrived in time. Frantic messages had been sent through trusted friends of the group, but would they get through ? would they be understood ? and would the equipment arrive in time ?

For weeks all members had been coached by X in the various roles they would have to play. Weapons had been collected and it had seemed that nothing had been overlooked. Then this had happened.

A lorry rumbled down the street and drew to a stand-still. A door opened and shut and P could just hear their voices as the driver was interrogated by the guardian of the door. Then suddenly a telephone concealed under a heap of clothes buzzed on the floor at P's feet. Softly closing the door, he uncovered it and listened. "That you P? The STRAND have just delivered those arc resistances you forgot to order, you'd better tell X, he's up on the stage waiting to start the lighting rehearsal."

LIGHTING IS IMPORTANT

by Emyln Williams

Being the preface to the new booklet "Some advice on Stage Lighting" referred to in the Editorial.

It is extraordinary how little a critical audience, even at a professional performance of a play, realises the immense importance to the general effect of the mysterious process known as 'lighting.'

Most people seem to think that when the author writes "The room is delicately flecked with sunlight" it's just a question of stabbing on all the lamps available; and when "darkness slowly fills the stage" you just stab a few of the lamps off; and for a blackout, you stab them *all* off—what could be simpler?

But I've known delicate idyllic scenes lose their effect entirely through crude and thoughtless lighting, and dull flatly-written scenes given an entirely new and valuable suspense through crafty distribution of light and shade. To certain effects the lighting can contribute as much or as little as the acting; an artfully sustained 'check' can charm an audience into the exact atmosphere of nostalgia required by the author, as surely as a badly jolted one can worry the same audience.

And the more delightfully natural the acting of the leading lady, the more subconsciously shocked your audience will be at her crossing the room and turning on a standard lamp which most mysteriously refuses to light the area immediately surrounding itself, but by some system of bent rays (not explained in the dialogue) bathes in a surprised splendour a staircase 15 yards away, round the corner! And the husband of the same leading lady, having watched her entranced at her dressing-room mirror, a dream of beauty, has been known to sit in the stalls five minutes later horrified to see that in those five minutes his wife has aged ten years and developed a richly muddy skin into the bargain, thanks entirely to overhead spots badly distributed.

Yes (I speak both as actor and as author), lighting *IS* important!

SPIVS' CORNER

Answer to problem on page 3.

Consider what No. 1 (the bearded one) was trying to say. If he had been a warder he would have told the truth and said so. If on the other hand, he had been a prisoner he would have lied and equally claimed to be a warder. It follows therefore, that quite regardless of what No. 1 was, he would have replied "I am a warder." When the Producer appealed to No. 2 for assistance, the latter said No. 1 had claimed to be a prisoner. This we now know to be incorrect, therefore, No. 2 was a liar and therefore, a prisoner himself. No. 3 on the other hand, when asked, spoke the truth about No. 1. No. 3 was, therefore, a warder and is to be believed when he said that No. 1 was lying. No. 1 was, therefore a prisoner.

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COLOUR IN THE THEATRE—No. 3

We have seen that white light is the result of many colours (the spectrum) striking the eye simultaneously and that colour is commonly produced by filtering off to a greater or lesser degree, the unwanted colours ; either by means of colour media, such as dyed gelatine between light source and the subject ; or by applying a pigment to the subject in the form of paint or dye. When two or more filters are placed in front of a lamp then only colours passed by both will be transmitted (e.g. 16 Bluegreen and 26 Mauve both pass Blue). Similarly filtered (coloured) light striking an object treated with pigment will cause the latter to reflect only colours common to the filter and pigment.

Such mixing of colour filters and or pigments is known as subtractive mixing ; a very appropriate term, for the more colours we appear to add, the less light we obtain, until the result is black. This may be tested by adding a variety of water colours together, or more conveniently by placing several coloured gelatines behind each other (Fig. 1). If pale tints are used then a lot of them will be required before anything like black is produced, because none of these tints by themselves completely suppress any colour. However, when strong colours (saturated hues) are used then very few will have to be put together and in fact careful selection, such as a Red No. 14 and Bluegreen No. 16 will practically do the black trick with but two filters.

Taking three very impure colour pigments which appear as Red, Yellow, and Blue we have the so-called primary colours known to, but seldom used by, the painter. These can be represented by filters No. 15 Magenta, No. 1 Yellow and No. 16 Bluegreen. Place these across one another as in Fig. 1 and three colours appear at the overlays ; true Red, Green and Dark Blue. These latter the painter would call secondaries since they are produced by mixing his primaries. These secondaries are purer colours produced by subtracting colours not common to the pairs of primaries mixed.

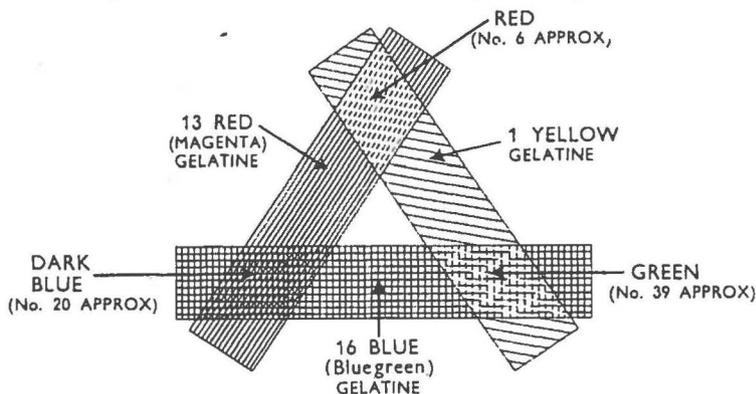


FIG. 1. SUBTRACTIVE MIXING (PIGMENTS)

In the Fig. 1 experiment, equal mixtures of the primaries are used but unequal mixtures should be tried by doubling or trebling one of the filters. Compare the greens produced by using :—

- (a) 1 Thickness of No. 1 (yellow) plus i.e. behind (or in front of)
1 Thickness of No. 16 (bluegreen).
- (b) 3 Thickness of No. 1 (yellow) plus i.e. behind (or in front of)
1 Thickness of 16 (bluegreen).
- (c) 1 Thickness of No. 1 (yellow) plus i.e. behind (or in front of)
3 Thickness of No. 16 (bluegreen)
- (d) 3 Thickness of No. 1 (yellow) plus i.e. behind (or in front of)
3 Thickness of No. 16 (bluegreen).

Try the experiment using No. 1+No. 15 Magenta together and also No. 16 and No. 15 Magenta.

By try the experiment I mean really do this with cut pieces of gelatine, don't just read what I say ; the experiment is attractive and once done the result sticks in the head in a way that printed statements never can.

Mixing two secondaries, for example the red and green produced above, will of course produce a duller colour made up of the colours common to both which were originally imperfectly filtered out. The secondary red will pass (or reflect) some orange and yellow even a little green in addition to the dominant red, the green is obliging in passing some yellow and orange even a little red. Putting these together the dominant hue tends to shift to orange more of which is common to both secondaries and thus the result is a low intensity orange, i.e. brown.

Additive Mixing

As readers of the previous articles will know the words " add " and " addition," also the plus sign + used above and by painters for centuries are incorrect ; today we must substitute the words " subtract " and " subtraction " and the minus sign (—) to avoid confusion with true additive mixing, which has only come into common use in the last few decades with the development of electric light and dimmer control.

The moment we take filters representing two of the painters' primaries, say No. 1 Yellow and No. 16 Bluegreen, place them in different lanterns and superimpose the resulting coloured lights we enter a new world. We are constantly getting pale tints or white light. This should not surprise us as *adding* yellow No. 1 (transmits red, orange, yellow and green) to blue No. 16 (transmits green, bluegreen, blue and violet) presents to the eye simultaneously red, orange, yellow, green, bluegreen, blue and violet which is near enough the complete spectrum and consequently is seen by the eye as white light.

Obviously pigment primaries are going to be no use to us and resort must be made to filters passing a less wide range of colours ; the painter's secondaries, red, green and dark blue. These turn out to be exactly what is required and from now on I shall refer to No. 6 Red, No. 39 Green and No. 20 Blue as the primaries and the

painter's primaries become the secondaries. In such a manner the upstart light artist dismisses the centuries of tradition behind the nomenclature adopted by the Painter (pigment artist)!

Unfortunately there is no alternative ; all colour as seen by the eye is a *reflection of light* from which some colours have been removed. On this count, the colours that are primary in light must take priority.

The general state of affairs can be represented by a colour wheel (Fig. 2) the three primaries (light) are shown boldly—Red No. 6, Green No. 39 and Blue No. 20. Between each of these we get the secondaries, the result of mixing two primaries—Yellow No. 1, Bluegreen No. 16 and Magenta No. 13. Just as the experiment of mixing different proportions of colours subtractively, produced a variety of colours, so varying the proportions of, for instance red and green light, will produce Light Red, Orange, Amber,

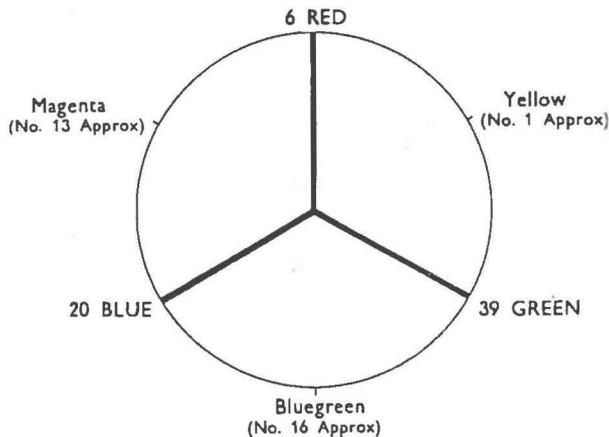


FIG. 2 ADDITIVE MIXING (LIGHT)

Yellow, Light Green and these could, in fact, be set out round the wheel in addition to the secondaries. The reader is advised at this point to carry out the experiment described and illustrated by diagram in the first article of this series. Those who never had or have lost this issue of "TABS" will be relieved perhaps to hear that a somewhat similar experiment—though more elaborate—will be described in the next article.

One peculiarity of our new secondaries is that they are twice as bright as the primaries whereas in the pigment it is the primaries which are brighter. This is an advantage as we shall find when we consider cyclorama mixing, since we seldom require anything but mixtures thereon.

Switching on Red and Green floodlights and seeing the resulting yellow tends to make one speculate on the nature of colour vision. After all if we compare the octave of light to that of music we perceive a very intriguing difference ; sound two notes in the octave

simultaneously and we continue to hear both ; put on two colours from the spectrum say Red and Green and both vanish to be replaced by a totally different colour, Yellow—a fact that seems to escape the notice of many colour music enthusiasts who seek to create a visual art analogous to the aural art of music.

There have been many theories of colour vision (none confirmed by physiological findings) and one still in common use is that of Thomas Young, who lived a hundred years ago. For stage lighting we need look no further, since it covers all our phenomena and bearing it in mind we can predict what is likely to happen when we do this, that and the other.

This theory assumes that there are three sets of receptive instruments associated with the eye. The first is most sensitive to the red end of the spectrum ; the second to the green or middle section ; and the third to the blue violet end. These do not have sharp cut-offs in sensitivity but rather trail off gradually as shown in Fig. 3. From this theory we would expect the eye to be unable to detect the difference between a yellow which must be perceived by the red and green receptors and a red and green mixture which acts on the same receptors. When all three are stimulated white light is seen. All this is exactly what does happen.

Adding together the three colour response curves we would expect the eye to function more efficiently in the centre green region of the spectrum rather as shown by the dotted line in Fig. 3 and this is also confirmed in practice.

Several other experiments also tend to endorse this theory. Put on a red and a green flood full on—the result is amber ; give the eye half a minute or so of green only, then put on the same mixture—the result is orange; repeat but give the eye a dose of red first and the identical mixture will now appear yellow-green. This experiment suggests that the three colour receptors can become

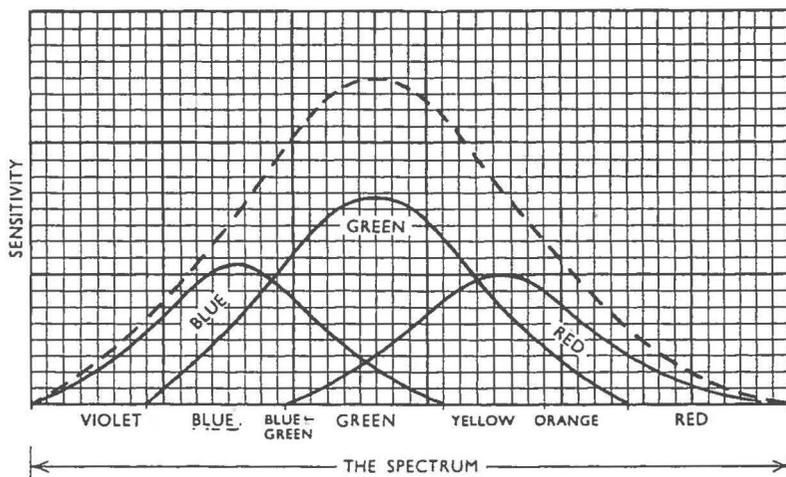


FIG. 3.

tired in use. With Fig. 3 still in mind, it is easy to understand why we can give the eye the impression of white light using only two colours instead of three ; for example using yellow and blue, or red and bluegreen. Such pairs of colours are known as "complementary" and appear opposite each other in our colour wheel (Fig. 2). It is important to note that this complementary effect operates even if the red and bluegreen, for instance, are narrow bands extracted from the spectrum rather than the wide band stage filters, which combined would present all the colours of the spectrum anyway.

F.P.B.

The next article in this series will be on "Three-colour Mixing on the Cyclorama—the Pro's and Con's."

GAS STAGE-LIGHTING

We are indebted to Miss M. St. Clare Byrne for the following information.

The Lyceum first used gas on the stage on 6th Aug., 1817, and in the auditorium on 8th Sept. of the same year.

Drury Lane first used gas in both stage and auditorium on 6th Sept., 1817. The latter was therefore the first theatre to use gas throughout, and the former the first to use it on the stage.

The experiments at the Lyceum in 1803/4 mentioned in the last issue of "TABS" were lectures and demonstrations, and *not* theatrical performances.

* * *

SHAKESPEARE MEMORIAL THEATRE

My dear "Bacon,"

Not content with unsuccessful efforts to prove that you wrote the Bard's works, you are now, I fear, in the last issue of "TABS," severely misjudging the work of the Theatre in his birthplace.

Stratford, to the world, is second only to London, but except for a Royal occasion in the latter, nowhere in England is a yearly gathering held such as on April 23rd at Stratford (Shakespeare's birthday). At times, more than seventy nations have been represented on diplomatic level. During the season by far the greater percentage of our audiences come from afar and local support could never fill the theatre. Stratford has many first-class hotels. They are always full of visitors who not only want to see the antiquarian monuments of the district, but also demand to see the plays performed.

Why do we run Sunday concerts? Again to give entertainment to the visitor on what might otherwise tend to be a dull day. We would give theatrical performances if it were not against the licencing laws. You ask what connection the Birmingham Orchestra has with Stratford; surely it is obvious that as the towns are but 20 miles apart it is a matter of convenience.

We would send a company on tour in England, but is this necessary? Has not Mr. Wolfitt filled this work? Stratford is not a National, but an International Theatre.

"From the four corners of the earth they come to kiss this shrine."

We would be failing indeed if we were to concentrate on commercialised Shakespeare in the Metropolis.

L. STOKES-ROBERTS.

THE PLAYROOM

The christening of the theatre was easy. It had been a playroom for the children, and when the adults moved in, it remained—the Playroom. It was in the garden, a wooden building measuring 20ft. by 50ft. The floor was littered with the nostalgic paraphernalia of childhood, model railway engines standing dejectedly in sidings, lines and stations, a superannuated rocking horse mourning his motionlessness, cricket bats and several partially strung tennis rackets, editions of Henty and Fennimore Cooper, and bound volumes of "Chums." These relics had to be removed for the space they occupied was now the auditorium, capable of seating 105 people on a cold night and about 90 on a hot one.

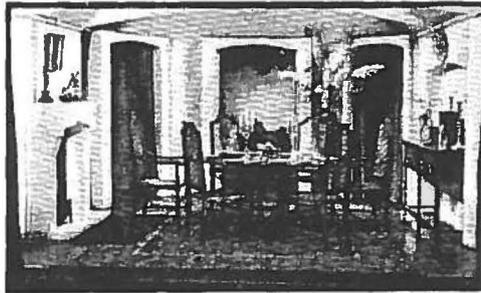
The entrance was in the centre of one of the narrow sides of the rectangle and 25ft. down the room, a partition wall was pierced to form the proscenium opening. The dressing rooms were behind the stage. The proscenium opening measured 12ft. 6in. by 7ft., the dimensions of the stage were 13ft. wide by 16ft. deep. This allowed a wing space of 3ft. on the prompt side and 5ft. on the O.P. side, much of which was however taken up by the switch-board. At the back of the stage, between the back of the stage set and the dressing room wall, was a passage 4ft. wide and this, with a back cloth provided an entrance upstage. The dressing rooms occupied the full width of the building with a door at each side leading into the wings. The room itself was divided by a partition wall with a connecting door. During the progress of a play in which an open door or French window up stage was being used, the back stage passage was closed to casual traffic and the only way from one side of the stage to the other lay through both dressing rooms. Newcomers to the cast were sometimes a little bothered by sudden excursions through the rooms at (what seemed to them) inappropriate moments, but they soon learned that modesty was of secondary importance to an accurately timed entrance. The dressing room, in addition to its main function, also provided a dump for stage furniture, flats, props and anything that the stage manager did not want at that particular moment (including, as the evening wore on, his coat, waistcoat and collar). Under threat of mutiny from the cast, he occasionally consented to use a side door into the garden, and there deposit some of his bulkier furniture. On several occasions a large tent was put up outside to serve as a scenery dock.

The scenery consisted of flats constructed of a one inch thick framing with plywood on both sides, which fitted into grooves on the stage and ceiling and this created a box set. These could be shifted and rearranged (easily, in theory, with sweat and profanity in practice), so that doors, windows and fireplaces could occupy various positions, thus creating numbers of interiors from the same component parts. It was surprising how many rooms could thus be devised though it must be admitted that not a few of them were

somewhat bizarre in shape and it would have required enormous ingenuity to reconstruct the architecture of the rest of the house.

This infinite variety was assisted by the fact that the flats were reversible as well as mobile. One side was panelled in light oak, the other was plain and could be distempered. The oak panel set was extremely versatile and featured with equal assurance either as a dining room in a French Chateau or the cabin of a ship. Its regular appearance grew into quite a tradition and our regular patrons felt that an evening was incomplete without it. They were seldom disappointed.

With such comparatively simple means it was found possible to stage almost any play with interior sets. On one occasion when an entrance was mechanically difficult the problem was solved by



bringing the players in through the auditorium. The lowness of the stage and the absence of footlights (on this occasion) made such an entrance easy and natural.

It might be imagined that on a stage so small and so close to the audience (5ft. separated the front row from the stage) the players would appear to be crowded and movement restricted. This was emphatically not the case. Obviously movement had to be studied and precise and limited to what was dramatically necessary. But so it should be on any stage—a fact which amateurs, loosely roaming around the stage, often fail to realise. No necessary or significant movement was ever sacrificed to the size of the stage. The largest "crowd" scene ever staged comprised 14 people. It was a crowd but it was not a mob. They were so grouped that the picture was not untidy and they came on and went off without a scramble. This was possible because after prolonged rehearsing each one knew exactly where and when to move and where to stand. In the production of "Strange Orchestra" the difficulty of numbers was solved by building a dais, about 8in. high, up stage, so that the producer had the advantage of being able to group his cast on two levels.

The dais, which was built the full width of the back wall of the set had exits left and right through arches. This was the first time

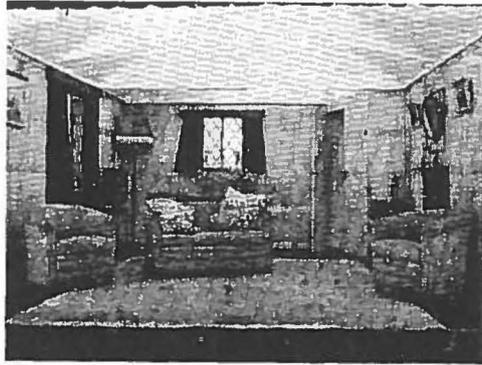
that a departure had been made from the ordinary door in a flat and the fact that the arches were built of thin plywood to simulate a wall several inches thick and had a suggestion of a capital at the top of the vertical pillars, all tended to add to the solidity of the set. This considerably increased the effect of entrances and exits and of some short scenes that were played on the dais.

The dimensions of the stage and the proximity of the audience made the Playroom a good school for actors. It was impossible to get away with anything on that stage. Movement, gesture and business *had* to be neat and clean, lines *had* to be perfectly learned. The slightest clumsiness or "fluffing" was immediately noticeable. Few of the plays produced had anything terrifying in the way of effects but a very creditable revolution was managed in Noel Coward's "The Queen was in the Parlour." Only one electric gramophone was available so the sound of angry or cheering mobs had to be supplemented by portable gramophones. These were controlled by stage-hands in the dressing rooms, the varying volume of sound being achieved by carrying the gramophones between points furthest from and nearest to the stage. The effects men, convinced as always that nothing mattered in the play except their particular job, were immensely serious and a back stage visitor was surprised one night when one of them, gramophone in arms, advanced on him, shouting over the din, "Get out of the so-and-so way, I'm an angry mob." The spectacle in the dressing rooms was comic but the effect in the auditorium was most convincing.

In this same play occurred one of those incidents which take their place as imperishable anecdotes in the history of any society. The leading lady had a dramatic curtain line, guaranteed to wring the stoutest heart. It was preceded by a weighty pause, the line being uttered when the tension was stretched to breaking point. She had timed it to perfection after much rehearsal, she knew the audience would be eating out of her hand—and she revelled in it. On the first night the exquisite moment arrived. Not a cough or a shuffle or a rustle of a chocolate box from the audience. She paused—and went on pausing. And then the line was uttered. But not by her. By a hoarse voice from the O.P. side, a voice intended to be a whisper but which rasped across that stage and through the auditorium like the sound of a blunt saw cutting through plywood. The stage manager, waiting to lower the curtain had suddenly panicked at the protracted inactivity on the stage and had hurled himself into the role of prompter. The subsequent interview between him and the leading lady was, to the onlookers, entertaining and instructive. She was his wife.

The popularity of the Playroom venture was immediate and after a few productions it was decided to produce a "season" of five plays, each play being put on for five nights. The audience were invited to become subscribers; they paid their annual subscription and tickets were sent to them for each show. This arrangement

saved a great deal of box-office work. The social side was enhanced by having a long interval in which coffee was served, in the theatre in the winter and in the garden in summer. As time went on various improvements were made. The proscenium opening which had been merely an opening in the end wall was built out with plywood to give the appearance of side pillars and the curtain was thus set back from the line of the wall by about 2ft. This was done not only for appearance but also because it gave room all round the proscenium opening, on the stage, for lights to be accommodated, including a number of spots for down stage illumination.



Some front-of-house spots were also fitted at about the same time, the switchboard was rebuilt and new seats were purchased for the audience who had uncomplainingly suffered the hardness of the old chairs. The switchboard was on the O.P. side and consisted of a sheet of laminated wood 6ft. by 4ft. and 1in. thick and fitted with a dozen dimmers, 500 and 300 watts, and 24 circuits to various parts of the stage and front of the house. The fittings consisted solely of small procelain fuses, five or ten amp switch sockets and plugs, and tumbler switches. Along the top of the board were 24 sockets any 12 of which could, if desired, be fed through dimmers. Above the board dangled two dozen numbered five amp. plugs which were wired to numbered sockets in all places where lights could possibly be needed, battens, perches, ground row lights, front-of-house, etc., etc. Certain circuits could be controlled by a mercury break switch for a silent black-out. No attempt was ever made to construct lamps out of biscuit tins in the proverbial amateur manner, and the complete lighting equipment consisted of :—

One 500 watt Flood, four 250 watt Spots, six 150 watt Baby Floods.

The mains were brought in to an ironclad switch and distribution box, with six circuits. One of these fed the main switchboard whilst others looked after house lights, dressing rooms, stage working

lights, gramophone, electric fires, etc. It was flexible and simple to operate and once a lighting plot had been settled, the whole thing worked quite smoothly.

Below the switchboard was a twin turntable electric gramophone with one loud speaker to provide music for the audience and a mobile one for stage effects.

From the actors point of view it was a singularly happy society and free from the jealousies and bickerings of amateur theatricals. Everyone knew that to act for the Playroom meant serious study, strict punctuality and constant attendance at rehearsals. It was not enough to know your lines and wear pretty frocks. It was a lovely little theatre to play in. There was a friendly intimacy between actors and audience which was heart-warming to the most nervous performer.

The Playroom was an early war casualty. True it survived physical destruction but its identity was lost when it was turned into an office. Typewriters clattered where the audience had applauded, typists powdered their untheatrical noses in the dressing rooms, ledgers replaced playbooks and the actors dispersed to take other and different parts elsewhere. The time for playing was over.

D.J.H.

BROADWAY—TIMES SQUARE AND ALL THAT

Mr. Appleby - Director and Manager of our Theatre Lighting (Sales) Dept., visited U.S.A. during the Summer. Here are some of his impressions.

It was with much excitement that my wife and I sailed into New York's Hudson River on the "Queen Elizabeth" after a somewhat dirty passage across the Atlantic.

The visit to this centre of the Entertainment Industry of America was my first and fulfilled a long desired wish. The object of the visit was to form a liason with the American Experts and Manufacturers of Stage Lighting Apparatus with a view to the exchange of ideas between the two Countries, and I am happy to say that the Americans not only endorsed the scheme but did all they could to ensure that I was shown everything there was to see.

It was my pleasure to visit Yale University as the guest of Professor Stanley McCandless and to lecture to the Students in the Drama School—the most complete school of Drama I have yet heard of. It covers all phases of Theatre whether Lighting, Acting or Props, etc. Here they were demonstrating a new type of Switchboard invented by Mr. George Izenour and the first full scale attempt to apply electronic intensity control to lighting for the legitimate stage. From a stage working point of view its big attribute is the pre-setting of cues and dimmer positions, this of course is not new in America. Izenour dispenses with the actual

reactors as all dimming and switching is done in the electronic valve (tube), and an asset is the extreme compactness of the control panel itself, all of which I understand was made by hand by Mr. Izenour himself. To demonstrate the Board a play was selected in which there were 273 lighting cues in 30 minutes. The play was unique in that the whole of the scenes were projected from the back on the Linnebach principle.

There is a rather strange position in the American Theatre as the most expensive and efficient switchboards are not found in the Professional Theatre but in the Universities, High Schools and Civic Auditoriums.

Every theatre in New York has a Stage Switchboard, but it is not used, the show being worked from Portable Boards.

Outside New York there is no stage lighting equipment in the professional theatres at all, just a pair of mains in the corner of the stage ; which of course means that the touring company has to travel everything electrical. There are of course exceptions, such as the Chicago Opera House, the Metropolitan Opera House, the Ziegfeld, the Centre Theatre and the Music Hall in Radio City, all of New York. In these latter two Theatres, we witnessed the most beautiful coloured lighting effects I have seen in my forty-odd years of Stage Lighting. In the former was a Ballet of sixty-two who were the most perfectly drilled troupe I have ever seen. Add to this the beautiful decor (using a cyclorama) and the perfect lighting, and one has an act superb. The Music Hall is big—it seats 6,150 and has a proscenium opening of 100ft. and a stage depth of 69ft. The acoustics are perfect. There is an operator at a sound control at the back of the circle, and he not only controls the sound reception in any part of the house, but by 30 microphones on the stage, can regulate the voice of an actor wherever he is standing. The Switchboard is placed in front of the orchestra lift, so that a full view of the stage is obtained. It is a preset board, by which I mean that not only the circuits can be preset but also the position of the Dimmers. I have seen the work of many outstanding showmen—Wilhelm, Baskt, Comelli, Louis Fuller, Rheinhart, Oscar Ash and Robert Nesbitt and to these I must add Eugene Braun who devises and arranges the lighting of these marvellous shows.

At the Centre Theatre we saw Sonja Henie's Ice Ballet. Here again scenery and lighting delight the eye—Eugene Braun again.

I was privileged to go back-stage of many of the Theatres and one marvelled at the enormous amount of lighting apparatus for the Musical Shows. The majority of the lighting was by means of Spot Lanterns, all of which are 500 watts. The American projector lamp is about one-third the size of the English type, and in addition has a very much higher lumen output, so where we would use a 1,000 watt size they find 500 watt more than sufficient.

There are normally three types of Lanterns used. First the Fresnel Spot which is practically the same as our English design,

with the exception that the lens is of Fresnel type—a step lens which being thinner than Plano Convex, allows more light to pass and at the same time gives a soft edged beam. These lanterns are used mostly to give general light to the Acting Area and are situated on the Circle Front where there are usually 36; one of the Spot Bars (there are usually two, where we use one), and on what the Americans call Tormentors and Ladders. The former are known in England as “Booms” and consist of an iron pipe secured to the Stage floor and rising to about Fly level and on which various lanterns are fixed. The latter consist of a pair of pipes about 6ft. apart which are suspended as a unit from the Flys and Grid, and extend to about 8 or 10ft. above Stage level.

The second type of Lantern is very much like the English Mirror Spot. It employs a spun aluminium anodised reflector (alzak) of ellipsoidal shape. They are made in sizes from 250 watts up to extremely high wattages, but in most of the Theatres, 500, 1,000 or 1,500 watts are employed. These lanterns which are mainly used for picking out the high lights on the stage, are used in the same positions as the Fresnels. They have variable horizontal and vertical shutters or Iris Diaphragms as the situation demands.

The third type of Lantern is called a Projector and is not unlike our Pageant and Acting Area Lanterns. It has focussing arrangements so that either a narrow parallel or a diverging beam can be obtained. In the majority of cases the lantern provides *BACK LIGHTING*. This is used in most of the Theatres and consists of strong beams of light thrown down-stage on the back of the actors. The effect is to make them stand out stereoscopically from the scenery, etc.

At Radio City Music Hall and the Roxy they have hanging up amongst the Sky Borders, 2-kilowatt Spots on which the colours (four) can be changed from a remote position. They are operated on the Selsyn motor principle.

Their Battens are much larger than those in England having 500 watt Lamps at 10½in. to 12in. centres, and fitted with domed aluminium anodised reflectors with a frosted finish. In the main they have, as in English musicals, become secondary as regards lighting, and their main function is to light the Backcloths. Much attention is paid to the lighting of this item of scenery—it is always brilliantly illuminated both from the bottom and the top. The lighting of the Plays is always devised by the Scenic designer.

During my stay I was glad to be able to visit leading dimmer manufacturers in the States. Like ourselves they are constantly experimenting in new types of gear, and much progress has been made with presetting of Dimmers, the use of Thyatron Tubes, Selsyn operation of Dimmers, and tapped transformers which they call “Autostats.” I was surprised to hear that the Dimmer Manufacturers only deal with Dimmer Gear and its control apparatus. They do not make the complete switch boards.

Of the Musicals in New York the three outstanding examples of good and spectacular lighting are Carousel, Finnigans Rainbow and Briga-doon. In all musicals, mime and ballet play a very important part and there is no doubt that American Ballet is the equal of the Russians and our Vic-Wells.

It was somewhat of a shock to find no BARS in the Theatre and furthermore NO SMOKING, but then one mustn't smoke in the Tube Railways, the big Stores or the Cinemas, unless you are sitting in the top circle.

It was my good fortune to visit the Hunter College for Girls and inspect the most perfect stage in an Educational Establishment I have ever seen—Cyclorama, Spot Battens, Boomerangs, Counterweights, a grid 64ft. high, and finally a Switchboard (the cost of which ran into four figures) with presets of switches and dimmers and a duplicate control board which can be wheeled out into the stalls for rehearsal.

Barnum and Baileys and Ringlings Circus at Madison Square Gardens gave one so much that it was impossible to concentrate on the whole show. The Arena is about the size of that for the Military Tournament at Olympia. There are three rings and two platforms between the rings. At one time there were seven Trapeze Acts at work high up in the roof, all going at once. The Circus has gone to the stage for its production, which is by John Murray Anderson who produced Cochran's "League of Notions" in London in 1924-5. A joint musical effort by 25 elephants and 25 dancers was a unique and pleasing combination. It was here we saw the only example of hustle. All through the show there are male attendants in white uniforms selling peanuts, ice cream, bottled beer, chewing gum, clowns' hats, cowboy regalia, etc. The gangways are steep and these men climb up and down at great speed all night long.

Harking back to the Theatre, we found that their range of Gelatine colours was as great as ours, but extremely thin and not so robust. But then they are not perturbed at having to change the colours every five or six days. What is far more important, they DO change them at the first sign of deterioration.

The Cinemas rather surprisingly do not use any coloured lighting to enhance the presentation of the film, whilst screen curtains were conspicuous by their absence. Several New Yorkers said to us "Aren't your English Films wonderful!"

One thing we shall never forget is the friendliness and hospitality of everyone we met—not only our business friends and acquaintances but the little chap round the corner who told us how to get to somewhere or the other. When you thanked him and he said "You're welcome," one knew that he really meant it. Yes, a great city and a charming people. Long may they prosper.

L. G. A.

REGULATIONS AND RULES FOR PLACES OF PUBLIC ENTERTAINMENT

One often hears moans and groans about the restrictions and regulations enforced by the various licensing authorities. Some people even go so far as to state that they are in some cases quite unnecessary and unwarranted ; and yet if we look back over the last twenty or thirty years, we in this country can congratulate ourselves that there has been no serious loss of life due to fire or attendant panic. This low casualty rate we can definitely attribute to the careful watch and the regulations demanded by the Authorities. Let us therefore examine some of these alleged impositions and see whether the moans and groans are justified. For the purposes of this article I propose to work on the regulations of the London County Council which, with one or two minor exceptions, can be taken as representing the majority of Licensing Authorities requirements.

Seating

If the hall is regularly used for a closely seated audience, the seating must be firmly fixed to the floor ; but if not regularly used and chairs are employed, they must be battened together in lengths of not fewer than four chairs.

The whole of this regulation is to avoid panic casualties. Loose chairs turned over by a rush of panic stricken people cause an unseen obstruction. Over goes a short sighted lady, and before you can count five there is a crowd of people piled on top of one another, with the grave risk not so much of danger from the fire, but of suffocation.

Colour Media

One often hears complaints about the strictness enforced on the non-flam qualities of colour media used in Stage Lighting. It is often said " but that will never catch alight on its own in that lantern." NO it probably won't, but if a flame from a fire started outside the lantern reaches the media, it immediately becomes fuel to add to the fire, and therefore the less inflammable it is the better. This of course applies to everything used in the Theatre, and explains why scenery and draperies have to be treated with a fire resisting solution.

Switches and Dimmers on the Neutral Wire

Many of the Electrical requirements of the London County Council are also those specified by the Institution of Electrical Engineers in their published Regulations for the Electrical Equipment of Buildings.

Their regulations stipulate that no fuse or non linked switch shall be inserted in the middle wire, common return or neutral of an Electric Supply.

To the non-technical the reason may be puzzling, so let us try and make this a little clearer. Current goes to an electric point by means of the "red" wire which, if the system has been properly installed, is connected to the positive or outer of the supply, and returns by means of the "black" wire which is connected to the negative or neutral. If the switch is inserted on the "black" wire, then it is obvious that there is current right up as far as the switch; which means that the circuit (which may be a Lantern on a plug point) is alive and should there be an earth on the lantern, the turning off of the switch will not prevent the person handling the lamp being liable to a nasty shock.

I personally have seen a nasty accident with an explosion box. The "bang" at rehearsal had not occurred, and the engineer had asked the switchboard attendant to "kill" the circuit which he did, not with the switch but with the Dimmer. The explosion went up in the man's face. The Switchboard attendant maintained that as there was an "off" position on the dimmer, the circuit was dead. It would have been, if the dimmer had not been connected in the neutral.

In a permanent installation, this can always be covered when the apparatus is installed; it is with the temporary connections and temporary switchboards where the mistake is likely to occur, and it is important to see that the mains feeding temporary boards are arranged so that the bus bar to which the Dimmers and Switches are connected is attached to the Positive or the Outer.

What is Meant by Secondary Lighting

All portions of the premises to which the public have access must be provided with two independent systems of lighting. The main lighting is always referred to as the primary and the remainder as the secondary. This latter system must not be in any way dependent on the former, as it is required to give sufficient light to enable the public to see their way out of the premises AT ANY TIME. It is therefore essential that the source of the supply of the secondary or safety lighting (if it is electric) must not be taken from the same mains or generating station as the principal supply. In London it used to be possible to take this supply from an entirely independent Supply Company, but the introduction of the Grid system which linked all the Electric Supply Companies together made this impracticable, as of course the Companies were no longer independent of one another. This led to the introduction of Electric Batteries in the Theatre, to provide the Secondary Lighting. There are very definite rules as regards these Batteries, details of which can be obtained by reference to the published regulations. Other alternative light sources are allowed such as Gas, Candles or Night Lights, but the latter two are seldom seen and the former is rapidly dying out. In many of the London Theatres quite a large number of Auditorium Primary and Secondary Lighting points used to be installed, and those *other than* Exit

Signs may be extinguished during the performance provided there is an attendant standing by the control switches the whole time that they are out. The introduction of the Electric Battery has however, influenced the Theatre to line up with the Cinema and to provide lighting that can remain on during the whole of the performance. The intensity required during the performance under the Cinematograph Act is .025 of a foot candle, and such an intensity in no way interferes with the show. All Exit Doors have to be fitted with a Sign *internally* illuminated with the word EXIT in 7in. Block Letters, illuminated by both primary *and* secondary systems and these must be alight the whole time the public are in the Theatre. No other signs may be internally lit. Back stage corridors to dressing rooms and all passages need only have secondary lighting, whilst the Electrical Intake Rooms MUST have light from both sources.

Stage Lighting Apparatus

All Battens, Lanterns and similar fittings must be of hard metal of not less than No. 20 standard gauge (.039in.) to withstand not only rough stage usage during quick changes, but also the wear and tear of moving from theatre to theatre during a tour. If it is necessary to use wood for any Electrical purpose it must be of Teak or English Oak and of an approved thickness.

All Battens, Lanterns, etc., must be efficiently ventilated and ALL METAL WORK must be earthed.

Suspension of Battens

These, must normally be suspended by means of at least three Steel Wire Ropes, although by special approval of the Council, other methods may be employed in small halls.

Radiators, Convectors, etc.

These must not be installed without the consent of the Council and if allowed must be securely fixed and must be provided with a wire guard of close mesh, which is 6in. from any position which is at a high temperature.

I recall the death of an actress whose long ballet frock came in contact with the element of an electric fire in her dressing room.

Control of Lights in Public Portions of the Building

In no circumstances are local switches allowed where they can be reached by the public. They must all be centralized in positions accessible only to the staff. This is generally a switch room. In some of the older Theatres there are switches that can only be operated by means of a Key, but these are no longer employed in modern installations.

I have only outlined a few of the regulations, but their necessity will I am sure be agreed by the reader, and give him an insight into some of the methods that are employed for "THINE ESPECIAL SAFETY."

L.G.A.