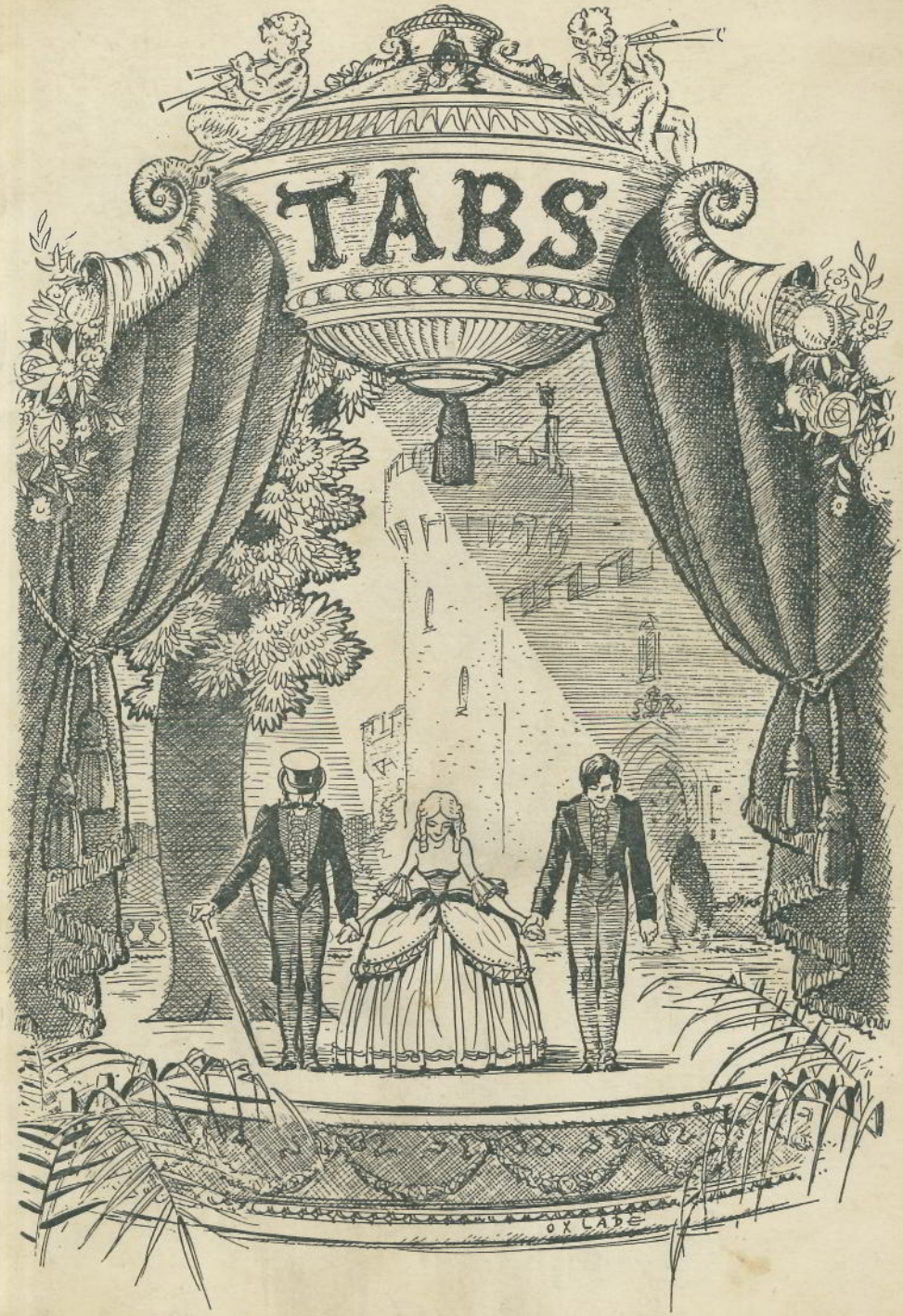

Volume 22, No. 1 GOLDEN JUBILEE March, 1964

FIFTY YEARS IN STAGE LIGHTING

A HISTORY OF STRAND ELECTRIC

That the Strand Electric has achieved its Golden Jubilee is due to the service of men who have found the work so absorbing that it became a way of life. These men, wherever on the firm's social ladder they have been found, had the power to infect both fellow workers and customers alike with their enthusiasms and skills. It is a tribute to the exciting nature of the work "Lighting for Entertainment" in its widest sense and the rather free organisation of the firm that it has been able to attract such men and hold them.

In this special edition of TABS *we of Strand Electric make our bow and endeavour to relate our history to that of the theatre of our time. Our author, the present editor of* TABS, *does not describe in heroic terms a super organisation of super men but tries to capture with affection the atmosphere in which we have worked. Such a history must dwell on the earlier days and on the names of those who served then in the front line of our theatrical activity. Others in clerical and manufacturing jobs, or even to some extent contracting, inevitably figure less but their contribution was of course equally vital. Members of Strand Electric who joined in the recent, by comparison, post-war years have in the interests of space had to be omitted entirely; but many are doubtless busy ensuring themselves and their doings a place in a further instalment of our history when the next landmark comes around.*

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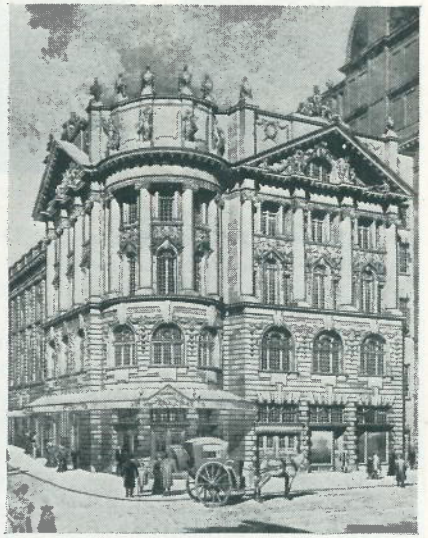
THE BEGINNINGS

In trying to tell of the first meeting of Arthur Earnshaw and Phillip Sheridan, the dates may not be accurate but at any rate the story is authentic.

Sometime in the early 1900's Arthur Earnshaw was Chief Electrician at the Paragon Music Hall, Mile End Road, London. About the same time Phillip Sheridan, having been the Electrician of the Gaiety, Dublin, left that city and came to London to take the job of Chief Electrician at the Crown Theatre, Peckham. Sports events among the various staffs of theatres and music halls were held from time to time at the Herne Hill Track and on one occasion Arthur Earnshaw got up a Tug-of-War team amongst the staff of the Paragon Theatre and Phillip Sheridan formed a team amongst the staff of the Crown Theatre. Both proceeded to Herne Hill Track on the appointed day and their actual first meeting was when their respective teams pulled against one another in the Tug-of-War event.

Duke of York's Theatre circa 1906.



Strand (formerly Waldorf) Theatre circa 1905.

Some years elapsed and about 1907 Arthur Earnshaw made application for the job of Chief Electrician at the Duke of York's Theatre, St. Martin's Lane, London. He was granted an interview to meet the then owner, Charles Frohman, and on arriving to keep this appointment, who should he find also waiting to see Charles Frohman but Phillip Sheridan. Arthur Earnshaw was the successful candidate.

Phillip Sheridan returned to Peckham, but in a matter of months became Chief Electrician of the Strand Theatre, London.

So we find somewhere in the region of 1907 or 1908, Earnshaw in the Duke of York's Theatre and Sheridan in the Strand Theatre.

In those days the theatre contractor for electrical equipment was T. J. Digby,* who not only supplied electrical apparatus to the various theatres but also contracted with the owners of the theatres to supply the electrical staff required. As the backbone of Digby's lighting was the hand-fed arc as many as forty men would not be unusual for a show and he had a very strict set of rules as to how they were to be used. He had little or no opposition and was in practically every theatre in the West End of London, with the exception of the Duke of York's and the Strand, where neither Earnshaw nor Sheridan would have him at any price and did all their own electrical work and found their own staff.

Arthur Earnshaw.

Phillip Sheridan.

Jim Woolnough.

After being some time at the Duke of York's Theatre, Arthur Earnshaw became acquainted with one of the travellers of the General Electric Company who used to call. He, Jim Woolnough, suggested that if Earnshaw should start doing private electrical wiring work in his spare time he would arrange extended credit for him from the G.E.C. After a little thought this suggestion appeared attractive and Earnshaw with his daughter Evie, to look after the office for him, started up in a little room at 65 Long Acre, London.

Unbeknown to him Jim Woolnough had told the same story to Phillip Sheridan at the Strand Theatre and one day Earnshaw was amazed to find that Phillip Sheridan had also taken a room at 65 Long Acre. From then on both of them tried to get private work, each at the same time attempting to steer the customer in his own direction. Naturally they met quite a lot while this was going on and eventually they realised that what they were trying to do was a bit silly and if they could combine resources they would have a better chance of building a real business. This, of course, they ultimately did, taking into partnership with them Jim Woolnough who carried on with the G.E.C. and gave as much of his spare time to the new firm as he could.

** Digby's firm was purchased in the late 'twenties by Imperial Lighting who in 1949 became part of the Strand Electric group.*

Garrick Yard

In 1914 they took an office with a workshop in Garrick Yard, 66A St. Martin's Lane, London, W.C.2.* The earliest clear documentary evidence of the Strand Electric is registered design No. 642614 of the 7.10.1914 for a Lantern Housing in the name of Arthur Earnshaw and M. Woolnough trading as the Strand Electric Co., 66A St. Martin's Lane, W.C.2. The 1914/18 war broke out but they carried on even though short of capital for development until eventually Phillip Sheridan joined the army. Very shortly after this Arthur Earnshaw was called up, but was rejected owing to defective eyesight. But, being an engineer, he had to work in a munition factory; yet he still managed to devote a little time to the Strand Electric, as also did Sheridan whenever he could get away from his duties as a soldier.

When they first started together they kept on their jobs as Chief Electricians and it was agreed that, should they be successful in building a business which would eventually occupy them full time, Arthur Earnshaw, being the elder of the two would be the first to drop his theatre job and go full-time with the Strand Electric and as the business grew Phillip Sheridan would follow.

In 1915 Earnshaw's boss, Charles Frohman, was drowned in the sinking of the *Lusitania*, and as the Strand Electric did not yet need him full-time he joined the staff of C. B. Cochran as his Chief Electrician which meant serving under him at the Garrick Theatre.

London 1915.

** Earnshaw was 41 years old and Sheridan 38.*

The death of Charles Frohman caused the Duke of York's Theatre to change hands and a lot of the electrical stock of the theatre was sold. Earnshaw was able to buy quite an amount of this, particularly decorative fittings and thus an early beginning was made with the Strand Electric Hire Department. When much later, in 1927, Arthur Bourchier died and the Strand Theatre changed hands Sheridan was able to augment the hire in much the same way.

The Strand Electric and Engineering Company was registered as a limited company with a capital of £750 on June 2nd, 1916. First directors were A. T. Earnshaw, P. Sheridan, and J. M. Woolnough and the first secretary, S. A. Birkett. Directors fees £46 per annum each. The office staff was William **(Papa) Brown, an old friend** of Earnshaw's, who looked after every**thing** with Miss Evie Earnshaw to do the typing and invoicing.

Papa Brown.

Mark Stables.

L. G. Applebee.

Things progressed satisfactorily, but unfortunately Messrs. Earnshaw and Sheridan were not getting on very well with Jimmy Woolnough.

Some time in 1918 things came to a head with Woolnough. Earnshaw and Sheridan had got to know Moss Mansell, who ran a business known as Mansell & Ogan Ltd. and used to manufacture resistances and dimmers for Strand Electric. They went to see Mansell and put their problem before him, and it was ultimately agreed that he would buy out Jimmy Woolnough and Mansell himself became a director that year (Woolnough resigned in the November).

The premises at Garrick Yard had been acquired from a certain Percy Boggis. Boggis had been Loïe Fuller's* electrician and broke away to run his own company. He was a specialist in lighting effects of the trick variety and staged ultra violet effects in 1916 using quartz lamps as sources. Frank Weston who had been with Boggis and then with Loïe Fuller joined Strand after his " demob " in 1919 and initiated the effects department. The wave effect from

** Loïe Fuller, a dancer, had a remarkable insight into the potentialities of electric stage lighting then in its infancy. Readers are referred to* Theatre Arts, *September 1962, Vol. XLVI, No. 9, for a very good description of her work.*

Arthur Bourchier's production of *Treasure Island* at the Strand Theatre in 1922 is probably the most intriguing of all optical effects.

In 1920 Earnshaw gave in his notice to C. B. Cochran and left the Garrick Theatre to become full time with Strand Electric on May 5th at a salary of £312 per annum. This did not please Mr. Cochran, but as he did not want to stand in Earnshaw's light he arranged to pay a retainer so that he could have first call on his services every time he did a production. With this retainer Earnshaw was able to buy his first car in 1923—a 1921 A.C.

Sheridan returned to the Strand Theatre and carried on there giving as much of his time as possible to the Strand Electric, finally joining the firm as a full working director on October 14th, 1921, also at £312 per annum. The list of employees that December totalled twenty-eight and among the names there appears that of Jack Madre who had joined in July of that year.

During the period from 1914 until Earnshaw and Sheridan were both full time, changes took place among the earlier staff. Borland who had been in charge of the workshop left and his **position was filled by George Gurling who, with the finish of** the **war left for the Princes Theatre. Wilfred Miller was engaged** in November 1918 as the first real Engineering Foreman and he stayed right up to his retiring age in October 1955.

Frank Weston.

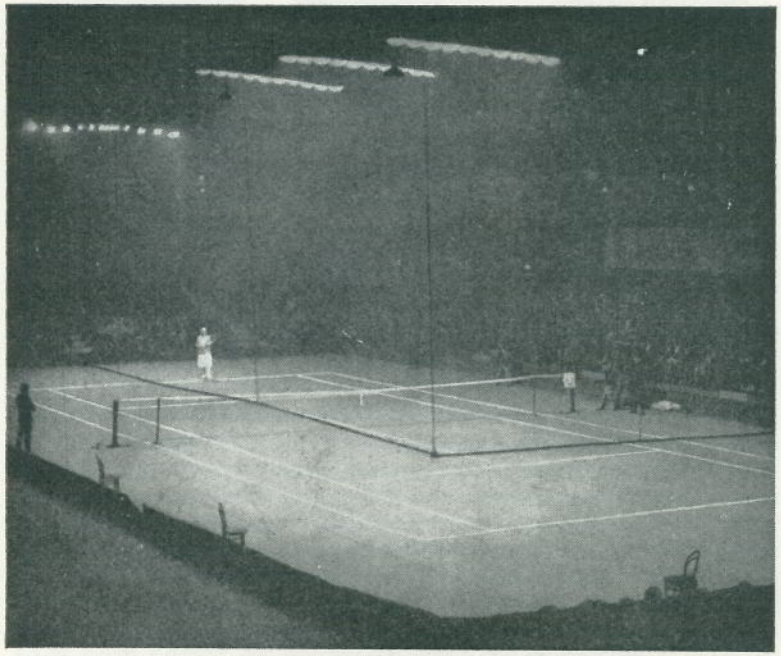
Bill Pepworth.

Wilfred Miller.

About the same time Mansell & Ogan had two of their men come back to them from the war, namely Mark Stables and William Pepworth, and as Mansell had now an interest in the Strand Electric it was agreed that Stables and Pepworth should join that firm. Their duties of course were very varied—not only were they wiremen, but they had to turn their hand to practically everything being in turn sheet-metal workers, sign makers and erectors, and even doing some lighting of productions.

L. G. Applebee relates that it was in September 1922 that he attended at Garrick Yard at 6 o'clock in the evening at the request of Phillip Sheridan. He found that the approach to the premises

was across a yard, paved with none too level cobble stones probably laid in the days of David Garrick. Then up a very decrepit staircase to the first floor where there was a small counter. Hung from the ceiling were all kinds of things such as lens frames, sciopticons, lanterns and so on, giving an impression of Alderman Fitzwarren's store in a provincial pantomime. He was met by the bearded Papa Brown who conducted him into the Directors office, almost having to use a shoehorn for the purpose. There was just room for the two desks plus a small table at which during the day Miss Evie Earnshaw worked. There he found Arthur Earnshaw and Phillip Sheridan and after discussion it was arranged that he should be taken on to cost the various jobs which had been carried out for many months past but not yet invoiced to the customers. During the discussion a deluge of liquid descended through the ceiling over Arthur Earnshaw and his desk; someone had upset the dipping acid that was used in the works to de-grease the castings. By now it appeared to Applebee that he was joining a somewhat strange firm and the same evening he was taken up to the floor above to view the so-called " works " which seemed to consist of a lathe that had seen better days, some drilling machines and a conspicuous anvil, apparently the piece of " machinery " most used.



Strand lighting for C. B. Cochran's presentation of Suzanne Lenglen at Holland Park in 1927.

Fashion and Tennis at Holland Park

In the course of a few months Applebee found himself tackling all sorts of duties, the main basis of which was the hiring of stage lighting apparatus and costing came a very poor second. The escape from his costing bench (bench, not a desk!) was occasioned by its location just outside the Directors office. This office was formed by a partition with a door and was quite open at the top and in consequence it was not difficult for him to hear most of any conversations that went on. One day they had an enquiry from an artist named the Marquis de Torna D'Orsay for an exhibition, or rather a fashion fair, at Holland Park skating rink (now a showroom for Austin cars). Both directors were so busy that neither could spare the time to handle the job; Applebee, the involuntary eavesdropper, being (as he says) rather bold, walked into the office and said, " You had better give that to me." Earnshaw took him to the artist's studio and thus Strand's first exhibition job materialised. All the stands were designed to blend into a Venetian setting.

The *Daily Telegraph* of April 17th, 1923, had this to say:

> " The Fashion Fair, organised by the *Daily Mirror*, which opened yesterday at Holland Park Hall, has been planned on unusual and strikingly effective lines. Lighting, which bears a leading part in the general scheme, has seldom been so fully employed as an adjunct to the display of beautiful dresses. Artificial illumination is used throughout the hall, but during the parades of mannequins coloured lights are thrown upon each wearer as she slowly passes up and down a raised platform across the hall, which throws up the hue of the gown or hat to the fullest possible advantage, different rays being thrown upon, say, a pink evening robe or a brown sports suit."

Holland Park Rink was also the venue in 1927 for C. B. Cochran's presentation of Susanne Lenglen. Strand did the lighting fitup and used their Sunray lanterns with daylight tint glass screens (Restlight) to light the indoor tennis court.

The *Daily Mail* of July 7th, 1927, reported:

> " The lighting, according to Mr. Howard Kinsey, one of the players, and Mlle. Lenglen was a vast improvement on that in the United States, there being no shadow on the ball. The players' only suggestion, Mr. Cochran adds, was that a darker green paint should be used, so as better to show up the white lines."

According to Applebee, for the following five or six years very often hours were from 8 a.m. to about 10 p.m., yet no one worried because the jobs were so interesting and so varied. Earnshaw was always there at 9 a.m. and usually left at 6 p.m., Sheridan usually arrived at midday and left at 10 p.m. At this time there was very little that was actually made in the works beyond repair work, decorative fittings for stage productions and the assembly of various parts which had been farmed out to outside firms of sheet metal workers and the like. There appeared to be only two types of stage lantern; the first a spotlight designed to take an electric lamp called a projector type of 400 watts with a life of about 200 hours. This lamp is said to have made its appearance from the U.S.A., being

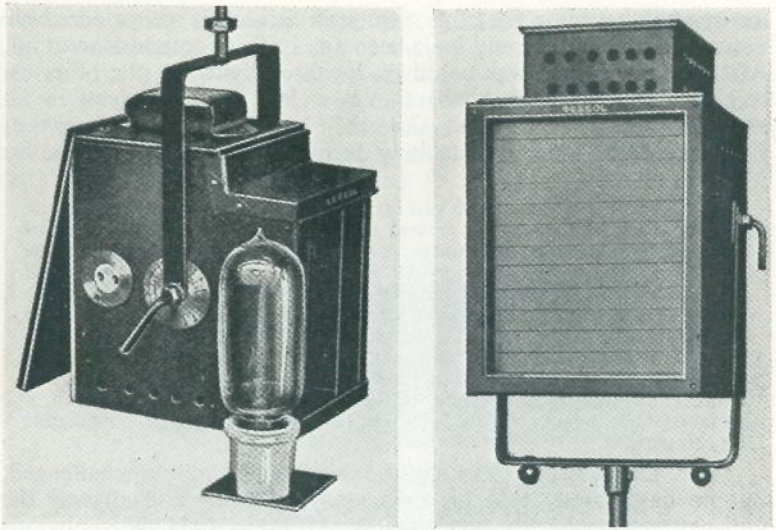
"The Willow Tree," Globe Theatre, Oct. 1917.

fitted into lanterns by Arthur Earnshaw for Gilbert Miller's production of *The Willow Tree* at the Globe in October 1917.* It was in fact just a square box with a lens. The lantern was made of planished steel. The other lantern was a flood used in the wings with no reflector, the inside being white.

Battens for Samoiloff

The coming of the gas-filled electric lamp led to the introduction of the magazine compartment batten. Up to that time coloured light was obtained by lacquering the lamp, but the heat of the new gas-filled lamp made this impossible so each lamp had to have its own compartment with a gelatine colour filter. Like other apparatus, the batten was made by an outside sheet metal firm and parts added and assembled mainly on the floor of Garrick Yard. It was about this time that Adrian Samoiloff appeared on the scene. Samoiloff was a refugee from the Russian revolution and was according to Applebee, " a mixture of electro-technician/artist though not of Royal Academy standard " and of course, a showman. His introduction of what became known as Samoiloff lighting was really the application of light using complementary colours to obtain

** More investigation is needed. All that is clear is that Earnshaw used some special spotlighting for " The Willow Tree." Applebee remembers that when he, on leave, went with his father (electrician at the Gaiety) to the stage door of the Globe hoping to have a look back-stage Earnshaw would not let them in.*



Early Strand 400 watt Spotlight and 1,000 watt Floodlight.

the effects such as changing George Robey, wearing a black dinner jacket, into a negro in green striped pyjamas—in fact he could change the whole scene, costumes, make-up, and scenery. It caused a sensation in the papers and it was claimed that the lighting itself put the takings up at the London Hippodrome revue. Great care had to be taken with the artists' make-up and each dressing room mirror had a small lantern over it so that make-up could be matched to the changes of colour which would be used. Strand Electric had to design the battens, etc., for Samoiloff and it was these that brought onto the scene George Lovell of Robinson King and the Sunray glass reflector which Strand were to use for many years to follow—small ones in battens and large ones in floods. This reflector has probably never been bettered, as the silvered surface gave high reflectivity and the break-up removed all striation; that metal reflectors are now all the vogue is a tribute paid to the need for robustness and for low cost. Samoiloff lighting, or rather the Sunray compartment battens, became all the thing and theatres began to install this apparatus to obtain the extra light even though they had no intention of using the various Samoiloff illusions.

It is easy to dismiss the Samoiloff compartment batten as merely a means of obtaining the startling changes of, say, " *Round in Fifty* ": but these new battens, so much brighter than the old open-type, and their equivalent in United States (known as X-rays, for some strange reason) became the " new " lighting. In contemporary argument of the early 'twenties one finds protagonists of two schools at war: what might be termed the Basil Dean-Schwabe on

the one hand, and on the other Samoiloff-Strand. It seems incredible nowadays that there could have been any basis of comparison at all. After all one system was based on localised light and the other on bright floodlighting everywhere. Yet a Mr. A. D. Peters, in an article entitled " Light and Colour " in the *Daily Telegraph* of February 14th, 1924, in attacking Basil Dean's lighting at the St. Martin's claimed:

> " A lighting system which can do all these things efficiently and easily already exists, but up to the present it has been put to the baser uses of engineering musical hall ' stunts ', and in consequence its value to the theatre may have been overlooked. I refer, of course, to the Samoiloff installation, which the Hippodrome first brought to public notice. In ' Brighter London ' Mr. Samoiloff shows what can be done in the modern theatre with light and its twin sister, colour. . . . The thing itself is trivial; but the method of doing it is of the utmost importance. The Hippodrome installation is a model of ingenuity and efficiency. Wonderfully flexible and entirely independent (if need be) of lights outside the proscenium arch, it seems to me far superior to the Schwabe. The cost of installation is negligible by comparison."

Mr. Dean, needless to say did not let this pass unchallenged, but he has already told his own story in TABS* and anyway the anti-batten case hardly needs stating today in 1964. It is obvious now that an accessory feature—the projected effects—of the German system furnished the opportunity for attack. It was assumed that the cyclorama must be covered with moving clouds and this on a small stage such as at the St. Martin's meant a low level of light for the acting area. In contrast the blaze-away boys with their battens and floats had lots of light everywhere. Lots of light is, of course, relative. There could only have been 20 ft. candles *full-up* whereas in the recent production of *King Lear*, the average for *moonlight* over the stage must have been nearer 60 ft. candles. The conclusion one must reach about the 'twenties and even later is that most people in Britain chose the lighting they wanted—battens and floats. It was not forced on them, the other system existed and could have been used as Mr. Dean showed in his own productions.

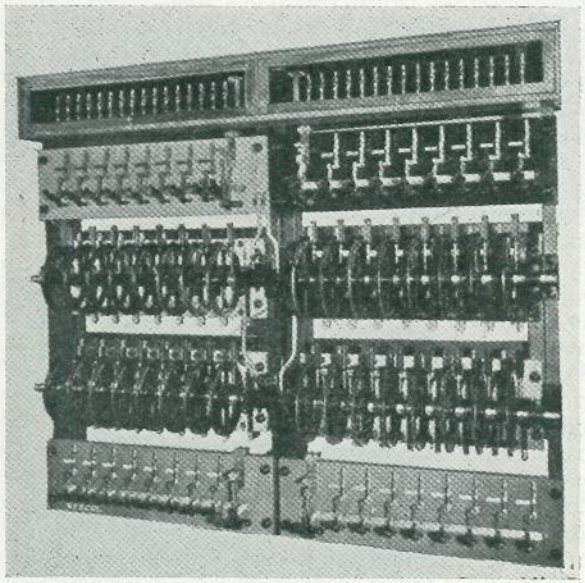
Our First Switchboard

In Applebee's opinion, Earnshaw and Sheridan were the most optimistic men he has ever known. Some of the jobs they took on made him shudder, but as he says " they always came out tops." He had not been long with the firm when Arthur Earnshaw, who knew he had been a draughtsman in electrical traction,† decided that instead of buying other people's switchboards Strand should manufacture their own. Applebee was therefore entrusted with the design of a stage lighting switchboard and dimmer regulator for the New Cross Empire. Not surprisingly, the great effort turned

* *Tabs, Vol. 20, No. 3, Dec. 1962.*

† *Laying out tramway poles in North London in the same office as the distinguished engineer Sir Owen Williams.*

out to be rather a copy of what had gone before. The dimmers at that time were of the liquid pot variety; practically every theatre preferred this type to metal resistances. There were a few of the latter at the Gaiety, London, and the Palace, Manchester, but even so they were operated in the same way as the liquid dimmers by means of tracker wires carried over pulleys to the dimmers which were remote from the control board.



Switchboard at New Cross Empire with remote tracker wire operated dimmers.

Miller and Applebee found the design of the board a headache because as was to happen so often later, there was not enough room on the stage. Great store was set by the final appearance of switchboards in those days so all busbars were gold lacquered and the slate panels were enamelled the colours of the lights which the switchgear mounted thereon was to control. Arthur Earnshaw had said when the designs were got out " the electrician is short in stature * so you had better keep the board low so that he can reach the switches ". Alas, when the Moss Empire engineer visited Garrick Yard to inspect the board he said " It's too low ". He was told the bit about the electrician's lack of height but his reply was " we're sacking him next week and his successor is over 6 ft." Other boards followed and the design progressed and grew into something rela-

* *This seems an extraordinarily mild remark, I can't help feeling that Applebee has bowlderlized something here.*—ED.

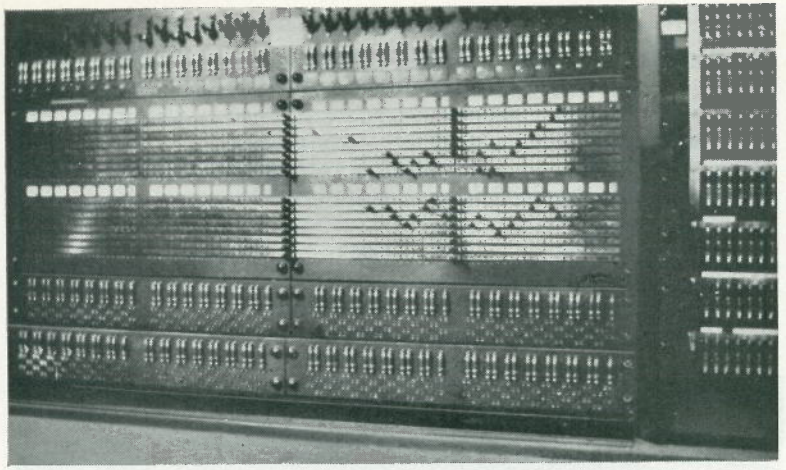
tively easy to make. It was the board for the Old Vic (1924) with its three-wire supply that first made Strand use dead front switchgear. And so Strand boards spread into the provinces with Moss Empires and the Howard and Wyndham chain of theatres in Glasgow, Edinburgh and Newcastle.

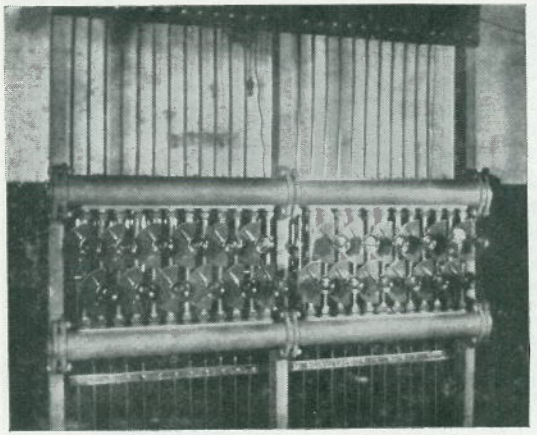
Parry Opera at the Royal College

The Royal College of Music board for their Parry Opera theatre (1925) however represented an entirely new type and was the design of a violinist student there named Michael Wilson. This lighting control was extraordinarily advanced at the time for it consisted of thirty-two hydraulically-operated dimmers used in conjunction with a patch panel. The object of the hydraulic system was to provide the very slow smooth dimming speeds required for opera. The installation functioned for many years and a more refined form was designed, known as the Salaman regulator, in which oil pressure was used. But the truth of the matter was that this system did not solve the problem of setting dimmers to levels and it never caught on. Pre-setting for speed sounds interesting but in practice it was very difficult to set the various valves to get the dimmers all moving at the same speed. The patch panel, however, was really something and consisted of a series of vertical busbars on the front of a slate panel and horizontal bars on the back. By means of special plugs any of the 120 circuits could be joined to any dimmer, or more than one circuit to a dimmer. The dimmers themselves could also be joined to any one of three main supplies to form groups. The number of holes to be drilled was colossal and this was done with a portable electric drill and it was reckoned that Jack Bennett (1919–1942), who did the job, had drilled through a distance equivalent to the height from the floor to the cross on St. Paul's Cathedral.*

To return to the professional theatre, it was the practice of the time, except at the Old Vic, to provide a set of four colour battens and footlights and stage plugs which were controlled from the switchboard as the theatre's permanent installation; any subsidiary apparatus such as spots, etc., were brought in by the visiting company along with their portable boards which had metallic resistance dimmers. As soon as a relatively inexpensive simple metallic resistance dimmer was imported from Holland, this, the Hasemayer, made it possible to provide a board with the dimmers mounted directly on its back and it was the convenience of this arrangement which ousted the liquid dimmer. Of course liquid dimmers remained in the West End for a very long time. Drury Lane, the New Theatre, the Garrick and the Coliseum and many others had them in use until finally they were replaced by modern remote controls installed in

** At least this remark affords the excuse to mention that St. Paul's Cathedral was provided in 1960 with Strand remote control of all lighting from dome to crypt.*





Patch panel and switchboard (above) and (left) hydraulic dimmer regulator for the Royal College of Music 1925.

the 1950s or thereabouts. Among the developments on the direct operated boards was the remote operation of the blackout switches, which up to that time had been, to say the least, a noisy nuisance. Contactors were put down in the basement and remotely operated from small tumbler switches.* Another simple improvement made necessary later on as the number of spotlights increased in theatres was the use of two-way and off switches so that these lanterns need not be tied to colour masters but could be switched independent of the blackout, as required.

** Some firms made very heavy weather of this putting a pair of large push buttons in a box and because these gave no indication there had to be a pilot lamp as well.*

Floral Street

The lease of No. 24 Floral Street was acquired in 1924, the firm having moved into that street two years previously at No. 28 opposite and in fact Strand Electric have had a stake in Floral Street ever since. For most of the 1920s and '30s we were on both sides of the road and when the police were not around, on the pavement and often in the street as well. All this property is of the Victorian warehouse type.

Stanley Earnshaw joined in 1923 and Henry Myers in 1924. Altogether by Christmas there were fifty-seven souls aboard and the turnover is recorded as £29,442 and the nett profit £522.

The Sheet Metal Shop, Floral Street, circa 1930. The 6 ft. Bender seen on the right is still in regular use, see p. 115.

When Stanley, Arthur Earnshaw's son, joined he was mainly concerned with clerical work, invoicing, keeping day-books, etc. In the evenings he frequently became an arc operator at dances in such places as the Hotel Cecil, Connaught Rooms, Abercorn Rooms, Northumberland Rooms, Hotel Metropole, etc. After several years of this sort of thing he was sent to the Empire, Birmingham, where Strand had obtained a contract to re-wire and re-equip. His job was to run the Stores on site, prepare all the time sheets and wages, buy the materials and act as mate to Mark Stables who was in charge.

According to Stanley his jobs with Stables varied from crawling under the floor helping to run conduit, to re-wiring and painting and re-erecting the sign on the front of the building.

During the evening, because there was nothing much to do Stanley hung about the theatre and got to know many of the variety acts of that time, and was also at the theatre when the Moss Empire's tour of Adrian Samoiloff's *Music and Magic* came in. His liking for the theatre and theatre people probably begins from that time.

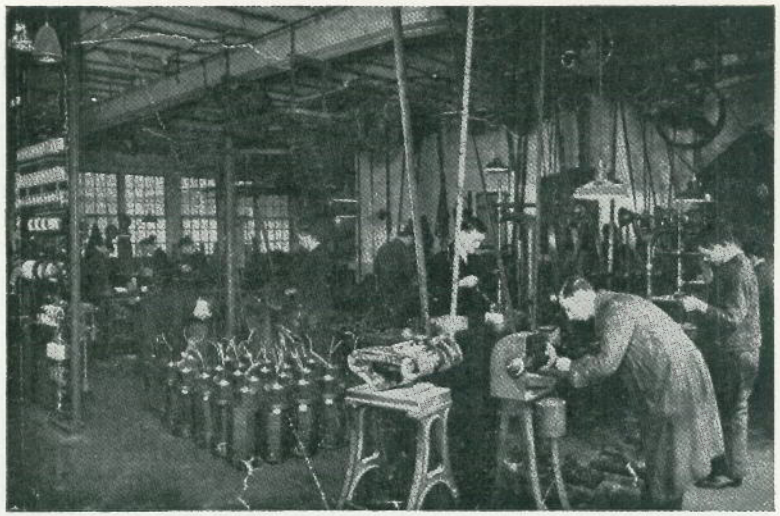
On his return to London he was put in charge of the stores. In those days they did most of their own packing and on occasions had to drive the van. During this time however he took every opportunity of popping into a theatre most evenings, first with Mark Stables and later with Jack Madre.

When Papa Brown was taken ill, Stanley was given his job and took over all the buying and the checking of Bought Invoices, etc. This put him in touch with all manner of suppliers and whenever anything difficult was required it was ten to one that he could unearth someone who could help. He managed to fall foul of Mansell because he discovered sources of supply in some cases considerably cheaper than Mansell and Ogan! This ability to ferret out things to a certain extent holds good today as we shall find later.

In spring 1932 Stanley was taken seriously ill and had a major operation. On his return to business he was sent to our new factory in Gunnersbury as an assistant to Moss Mansell. As his health was still a bit under par it was felt that this was a better bet for him than hanging around the theatres half the night. He did this job for nearly three years and got on well with Mansell, but he always wanted to get back to the theatre. When Arthur Earnshaw announced that he was going to take things a bit easier Stanley insisted on returning to town and spent a year going around with his father getting to know theatres and theatre people such as C. B. Cochran, Julian Wylie, Lee Ephraim, Jack Waller, etc. According to Stanley the first production he looked after on his own was C. B. Cochran's *Anything Goes* (1934) and *Streamline* (1935), both at the Palace Theatre, London. His function was to see that they had all their requirements electrically and help the producer Frank Collins on lighting matters.

Expanding Financially

Henry Myers before he came to Strand was with C. B. Cochran and relates how he used to sit on top of his stool in the office at 49 Old Bond Street when each week Arthur Earnshaw came in to collect his £2 retainer. As the weeks went past they got to know each other well and eventually Earnshaw asked Myers if he would like to join Strand Electric and within two months of doing so, on January 1st, 1925, he became secretary to the company, a position he still occupies. Henry Myers must hold the record for the longest occupancy of



The Engineering Shop, Floral Street, circa 1930.

the same post within the company. During this period the employees have increased from 66 to 543 (1962), the capital from £750 to £258,750, turnover from £36,111 to over a million and a half.

Myers, we have to relate, has been known to the staff if not to himself, for years as " screwdriver and pliers " or " screwdriver " for short. As he has always been the secretary his nickname has another connotation, and of course springs from the fact that his was the unpopular duty to keep the staff up to scratch and indeed the customers too in the matter of payments and credits. As custodian of the privy purse, overseer of time keeping, chief censor of expenses and the official dispenser of the too modest (in the eyes of the recipients) salary increases sanctioned in years past by the directors, Myers was bound to find himself low in the stakes for the most popular man in the firm. However, time the great healer has been steadily at work as the years pass and very many will genuinely be sorry when at the end of our Jubilee year Henry Myers passes the last petty cash docket (after a query of course) by dipping his pen into the inkpot and scratching out a spidery signature. Not for Myers of the millions and millions of signatures a ball or fountain pen, here on his desk lies the last survivor of real pen and ink, complete with Waverley nib.

Contracting Electrically

Electrical contracting, as distinct from wiring mainly for stage lighting, began for Strand in 1927 when Major Holmes became the manager of the new Contracts Department. Along with him came a

young Frank Church who was to become manager of that very department from 1940 onwards. Another well known name in those days was George Edney. Doubts were felt at the time about the advisability of our going into competition with some of our potential customers—other contractors. However, in practice it has worked out well. The Contracts Department has for many years been very much a separate entity with its own way of going about things. The true theatre fitup wiring work known nowadays as " black tape and string " was separate under Mark Stables. Since his death in 1947, although now part of Contracts Department it, due to the temporary nature of the work, tends to remain a separate division.

Signs of Those Times

In January 1926 a separate company, Strand and Interchangeable Signs with G. and P. G. A. Harvey (resigned 1930) as directors in addition to Earnshaw, Sheridan and Mansell was formed and began trading in April the following year. Signs inhabited the top floor of 28 Floral Street and in 1938 moved to their present premises at Langley Court. Jimmy Woolnough returned to act as manager of " Stransigns " as they became known for a time. He was succeeded by Stanley Scott and in January 1950 Edward Schofield (1925) took over.

Although no longer a separate company the Sign Department is very much a separate organisation—seemingly a poor relation. Very few of Strand Electric's premises have much claims to elegance externally but those in Langley Court surely rate lowest, sharing it not only with vegetables, often over-ripe, but also a pub and a couple of cafés (until one fell down) all of which make their presence felt. No attempt to prise Schofield out to more salubrious climes has yet succeeded, he likes to be there in the heart of theatreland. Inside one goes right back to the days of Garrick Yard, improvisation and re-hashing still play their part. Ancient sign letters held together by coat upon coat of paint, interchangeably serve the fronts of theatres as productions come and go. These letters are part of tradition and most theatre managers appear to want nothing better and certainly would not pay for it anyway. London's West End cinemas and curiously theatres too, when showing films, require something grander and these have provided more opportunity for Sign Department to show what they can really do.

Mention must be made of George Redman who joined in 1922 and of F. Andrews 1930. Redman is still with us but Andrews retired in 1946. Andrews was a frail little man with white hair and a cigarette permanently dangling from his lip. He was the inventor of SuNeon. This was a form of mirror letter which was intended to present as glorious an appearance by day as by night and formed the basis of the grander Stransigns.

In the 'thirties the Tivoli façade in the Strand was a very particular playground for signs but there were many others. Signs have never been really the same since neon replaced lamp letters. The chaser was a marvellous way to animate a border. From the beginning Strand did signs and an early one was Cochran's " Centre of the World " on the London Pavilion. This, although famous, was not exactly profitable for after Myers joined he discovered that this £1,500 job had never been invoiced, but the discovery came too late; Cochran had gone bankrupt and could pay only 2*s*. in the £, but for all this when the final balance is struck we " owe " more to Cochran than he ever could to us.

This was Piccadilly 1923. Strand " Covered Wagon " and other lamp signs on the London Pavilion including the " Centre of the World " slogan.

Another great showman was Julian Wylie who also went in for spectacle in a big way. Wylie was a stickler for detail and a favourite practice of his was to " call a round table " at which all were gathered together and their various jobs sorted out. Wylie was the only producer that Frank Weston ever remembers who saw through a trade secret of his. Whenever someone wanted, as they usually did,

an effect to run a little faster or a little slower than it possibly could, Frank used to say, " Leave it to me, I must have ten minutes or so but I'll see what I can do ". He would then have a quiet smoke and eventually switch on again to the complete satisfaction of whoever it was. Not so for Julian Wylie; one glance at the projected flame effect on the stage was enough, " You haven't altered it," he growled.

The name of Julian Wylie inevitably introduces Jack Madre, for no one in Strand, perhaps anywhere, has a better fund of stories of this great man of the theatre. Jack's mother was a wardrobe mistress to Cochran, so theatre was in his blood. After an early start in the Garrick Yard days as an errand boy he soon, like most people in the Strand, gravitated towards the work that suited him best but before this we find him as Frank Weston's assistant. Presumably someone considered that he needed taming. Frank's main job was of course the actual making of special optical effects, the technique of which is one of the lesser-known crafts. For example, the break-up glasses which give the movement for waves are defective parts of the glass sheet and many a time Frank has had a small square, just the right bad bit, cut out of a large sheet for him by Gosletts. The trouble in more recent times is that most glass today is too good.

Flames of Passion

Escape from the workshop came frequently in the 'twenties as effects had to be set up and often manned as well. For example, doing shows for the prologue of the film *Down to the Sea in Ships* at the Palace in the pay of the film company Frank and Jack reckoned they were making more money than their own directors back at Floral Street. The pursuit of realism in staging reached an all time high in the prologue to the film *Flames of Passion* at the New Oxford Music Hall. A special gas main was rigged and such splendid real flames resulted that they set the borders alight.

Life was not all work in those days as there was a great deal of inter-theatre sport. There was a Strand Electric shield to be competed for. The press cutting book shows it as having been won in 1928 by a team from the Shepherds Bush Pavilion thereby giving a hint of the large staff a super cinema employed in those days. Henry Myers was a sprinter with the North London Harriers and he is on record as having won the Actors and Managers 220 yards at the Theatrical Sports, Stamford Bridge, 1928. Applebee too, though better known for his rowing interest (shared with Arthur Earnshaw) and for swimming, also raced on dry land. Jack Madre went in for cycle racing and boxing was represented by Pestaille (1926) who was N.W. London A.B.A. flyweight champion 1929, 1930, 1932 and has been a well-known figure in hire department stores for many years. Frank Weston's game was Bowls and he won a number of Surrey County titles and his own Balham Bowling Club cup outright after five victorious years.

Within the firm cricket teams from head office and the works competed for the Moss Mansell cup. Jack Madre very early on in his career at Strand discovered in a dramatic way that his boss Arthur Earnshaw, not only shared his interest in cricket but in Surrey in particular. One fine weekday Jack slipped into the Oval for a pleasant

Arthur Earnshaw shared his interest in cricket.

afternoon; or at least it was until the interval when he happened to pass Mr. and Mrs. Earnshaw proceeding in a dignified manner to tea. The question that now troubled Jack was which eye had chanced to fall upon him? This was all important for, as many will recall, only one of Arthur Earnshaw's eyes was properly operational. No hint that he had been seen was vouchsafed at the Oval and there followed a couple of days on the rack for young Jack " had he or had he not been seen? " Some forty-eight hours later Jack was sent for and Arthur Earnshaw seated at his desk much as in the photograph, asked the single question, " Do you enjoy cricket? " " Yes, sir." " Good, then enjoy it in your own time!"

The Good Companions

It was a natural extension from effects fitups to touring with shows carrying a lot of elaborate lighting. Jack Madre often worked for Julian Wylie on tour and in London. Unfortunately Jack's stories of him need Jack himself in action—seen and heard!

One tale with a true theatre moral must be attempted however. During the pre-London tour of Priestley's *The Good Companions*,

Jack Madre went in for cycle racing (Sept. 1926).

constant trouble was experienced with the property gas chandelier for the scene where Miss Trant is induced to found the company. The aged and dingy appearance of the chandelier was just right, the feeble light emitted, thanks to the old 16 CP carbon filament lamps, was also just right, but the thing just could not be made to hang straight. The long tube from which it was suspended was slightly bent and Wylie made Madre promise to get it straightened in time for the dress rehearsal at His Majesty's on the Monday morning before their opening in town. This meant arranging to work on the thing on the Sunday back at Floral Street, but in spite of this the chandelier was not hanging for the dress rehearsal. Wylie took Madre to task and exacted a most solemn promise that he, Jack, would see the thing personally in position. In due course the chandelier was hung up nice and straight and Jack, arranging for the electrician to collect the precise carbon lamps carefully identified in their special wrappers took himself off. Alas for the show, the chandelier literally took the stage for blazing from it was the glare of 60-watt gas-filled lamps. Nothing could be done; for Wylie the scene was ruined and Jack who was profuse in his apologies, couldn't understand how someone could have muddled up the lamps, they were so clearly marked. Wylie cut this short with " Remember, young Jack, nothing can ever be right in the theatre until it is seen and rehearsed."

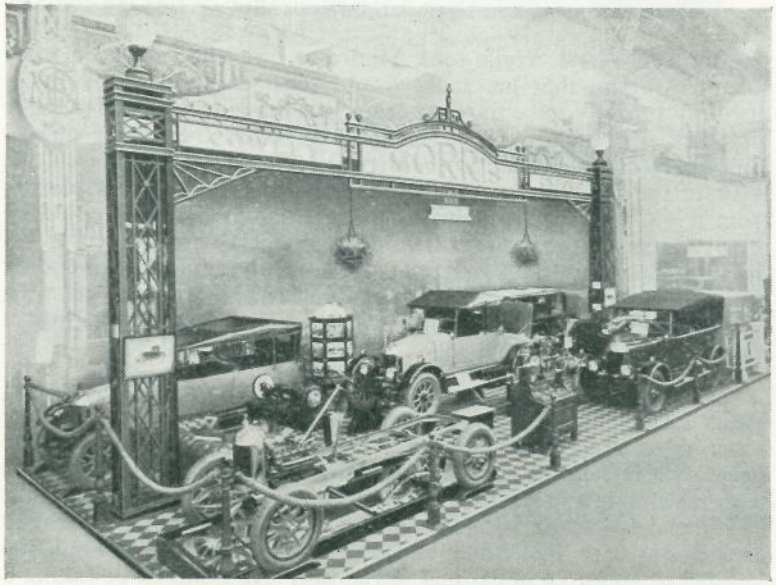
Julian Wylie's last show was the pantomine *Cinderella* at Drury Lane (1934). Stanley Earnshaw relates that there was a lovely water scene and Strand had wired the whole of the scenery in this scene with thousands of pea lamps and Fairyland strip. Wylie had been rehearsing and on his way out of the theatre, fairly late at night, he stopped and spoke to Mark Stables and him to ask how were they progressing with the Water Scene. They replied that it would be finished in about 24 hours and Wylie said " It seems to be taking a long time. Try and speed it up, I don't think I shall ever see it finished."

He walked out of the theatre saying goodnight to one or two people, the stage door keeper got him a taxi and he went home. That night he was taken ill and died.

Wembley Exhibition

The Empire Exhibition of 1924 and 1925 at Wembley for which the famous stadium was built gave the young Strand Electric many opportunities to show what it could do. The dioramas in the Gold Coast Pavilion and the waterfall for British Guiana and other display techniques were natural extensions of stage lighting. The Guiana waterfall was optically projected to cover 25 ft. high and 6 or 7 ft. wide using a 3,000 watt lamp as source. The joins between the pieces of mica which went together to make the optical effects discs of those days gave some anxious moments. These dark shadows looked terrible to Applebee and Weston; however, when the big noise came to pass the job he exclaimed with pleasure " you have even got the logs falling over with the water."

The first year of Wembley a Pageant of Empire occupied the Stadium, and incredible as it may seem today, this took three successive performances to tell the whole story. The Empire was quite a thing in 1924 and almost everyone who did something for the exhibition received a certificate signed " Edward P " making



Morris Stand at the Motor Show, Olympia, 1924.

" London Defended ", Wembley, 1925.

him a member of the Fellowship of the British Empire. Phillip Sheridan's is still preserved at Head Office as a curiosity.

In the Autumn of 1925 in the Stadium there was a searchlight tattoo. This was produced by Major W. R. Creighton and featured the Fire of London and London Defended with Strand Electric in action. The burning buildings were at one end of the Stadium which, as in the Pageant of the year before, had been reserved for scenery. This technique was to become very familiar, post second world war, when ice shows were put on in the large rinks like Empress Hall or the Empire Pool, Wembley (the latter not built until 1934). Shows at Wembley Stadium were open staging indeed, with eight Army searchlights at one end playing the role Sunspots do in the ice shows of today. Frames made up with gelatine colours were used on the searchlights and most of the local lighting of the display came from manned arc spots concealed in huts.

A Naval Mermaid

Wembley Exhibition had a remarkable theatre long forgotten but whose remains are still there in the grounds. The Admiralty theatre, as it was called, formed part of the Government Pavilion which was one of the buildings built in concrete to endure for ever. A noteworthy feature was the fact that the stage was at the lowest level (in accord-

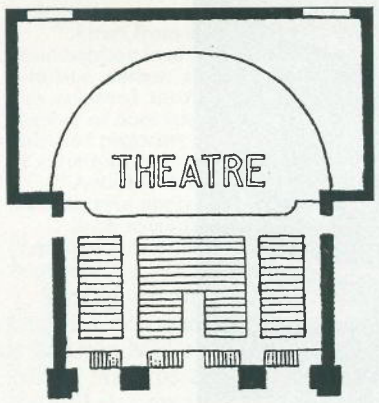
ance with the most advanced theories of the 1960s) and all the seating was stepped in 12-inch risers so that everyone could see the stage floor. The show was relatively short so the arrangements for clearing the place had to be very good to get a quick changeover of audience. After a film introduction the tabs opened wide to reveal a stage made of water in which was set a large scale model of the harbour at Zeebrugge, the edges of which were masked by a 68 ft. cylindrical cyclorama beautifully built of 4 in. brick.* There was a gradual sunset and the famous attack on the Mole and blockade of the canal was enacted by model ships moved by underwater bicycle chains along their allocated courses firing fireworks and filling the theatre with smoke.

Admiralty Theatre Wembley Exhibition 1924/25 looking down the stepped seating with the arc of the Zeebrugge Mole across the water-stage backed by scenery and curved cyclorama. Proscenium opening measures 48 ft.

The display was designed by Oliver Bernard, the consulting engineer was Sir Owen Williams, and Strand Electric did all the lighting. When T. J. Digby heard he had lost this contract, according to A. O. Gibbons who was with him at that time, he retired immediately to the Eccentric Club for a " fingernail " lunch. He at last realised that the days of the manned arc as **the basic stage lighting** were over. Among the lighting equipment was a cyclorama bank

* *The cyclorama still stands complete.*

with flat-fronted panorama lamps in four colours on a curved tower over the proscenium and a large single tiered switchboard, with appropriately enough liquid dimmers, ran across the width of the stage under the footlights. The operator had his back to the stage but he could turn and look over his shoulder to see the effects he was producing. Frank Weston comments that " the blooming shocks were nobody's business with all that water around." Oliver Bernard, a scene and lighting designer, made a sensation with his marble decor and " modern " lighting for the Tottenham Court Road Corner House which opened in May 1928 on the site previously occupied by the New Oxford Music Hall. Enthusiasm for this may be difficult to work up now and indeed much of it has been torn out and replaced, but it was a place of pilgrimage at the time and Bernard became **consultant to J. Lyons** and the Strand Palace, Cumberland and **Trocadero followed. The** electrician at the Admiralty Theatre was Kerlie Dever at one time of the Gaiety, Dublin, and a friend of Phillip Sheridan's. His assistant was Jack Burleigh who joined Strand in 1926 when the exhibition finished.



Plan of Admiralty Theatre.

The Royal Albert Hall

Open staging now a " virtue " has been a " necessity " off and on for years at the Royal Albert Hall and Strand's connection with this unique building goes right back to the twenties. Strand Electric have done countless fitups there and often provided the electrical staff to run the show as well. Recently in 1963 they put the seal on their career there when the Contracts department under Frank Church completed the re-wiring of the hall throughout from top to bottom.*

It seems a strange place to choose, but the Albert Hall was **sometimes taken for the première of a new film in those days.** An elaborate decor had to be rigged and lit as for example when in 1924 the *Sea Hawk* was presented in this way. There were six wave effects on arcs, a cyclorama completely covering the organ and lengths of batten across the stage and up the boxes at the side. These faced the audience to act as blinders as no curtain could be used. All this was rigged just for one night. In 1931 the Faraday Centenary exhibition was held there and in June 1934 a very

* *Not to mislead, they did not begin this rewiring in the twenties!*

Lighting fit-up by Strand for the Faraday Exhibition at the Albert Hall, 1931. Below shows location of Velarium floodlighting.

elaborate *Pageant of Parliament* and the Ford Motor Show. Of the latter the *Cinema* of November 7th, 1934, said:

> " The application of light to industrial display takes many forms, but the colour display by the Strand Electric and Engineering Co., Ltd., at the recent Ford Motor Exhibition held at the Royal Albert Hall ranks as a striking advance in illuminated commercial publicity.
>
> " Apart from an increased intensity of light on the box fronts, a heavy flood lighting load was concentrated on an enormous painted back-cloth of futuristic design, suspended in front of the grand organ. Colour-mixing was achieved through a motor-driven dimmer so that an ever-changing number of hues was presented. The coloured light changes impinging on the coloured pigments of the painting was responsible for an enormous number of variations.
>
> " Additional attraction was provided by spotlights of the various exhibits, thus applying the principle of lighting contrast to enhance visibility.
>
> " Such scientific application of light as distinct from ordinary distributed illumination is a most important factor in modern salesmanship and showmanship."

Boxing at the Royal Albert Hall, Olympia and elsewhere, brought a new use for the Strand Arena lanterns originally devised for Bertram Mill's Circus at Olympia. Boxing today is said to require nineteen lanterns and curiously, four less for wrestling. The Chelsea Arts Ball was an annual fitup which used to make Floral Street hum with tales of " goings on " retailed for days afterwards by those who worked the show.

Ballroom lighting seems to have been a natural offshoot of our theatre work. We find the young Strand Electric responsible for the fitup which turned part of Olympia each year into a ballroom at Christmas. Later, in 1929 there was the Locarno Ballroom, Streatham—Strand throughout. In those days, however, it would have been difficult to visualise the peak of elaboration required from us today for Mecca dancing as exemplified by the Hammersmith Palais (a very old name in dancing), the Empire Ballroom in Leicester Square and all those provincial Meccas which draw the youth of today.

When the Promenade concerts were driven out of Queen's Hall* by its destruction on May 10th, 1941, Hope Bagenal attacked the problem of the Albert Hall's acoustics and part of the solution he provided took the form of a soundboard suspended over the orchestra. Something had to be done about the lighting and Strand constructed, out of wood, because of wartime metal scarcity, two special battens open both top and bottom which gave a combination of direct and indirect lighting.

On the Way to the Forum

In 1923, not far from the Royal Albert Hall, at Shepherds Bush, another important event took place. The Pavilion was, in fact, a Mansell and Ogan job as sub-contractors to Alliance Electrical. The consulting engineer was Basil Davis, a son of Mr. and Mrs. Israel

** This famous concert platform was also lit by Strand. Seven Patt.* 56 1,000-*watt acting area floods in the ceiling,* 70 *ft. above, replaced in* 1935 *the Schwabe floods previously used.*

Shepherds Bush Pavilion 1924. The proscenium arch measured 55 ft.

Davis who were then building a circuit of super cinemas. The Shepherds Bush Pavilion was designed by Frank Verity in the spirit which he considered the Romans would have brought to the problem of the super cinema had they happened on it. This was no mere application of Roman decorative detail as was to happen in many a Forum cinema later on. This was a Roman cinema and it won the RIBA Gold Medal that year, a thing no cinema or theatre has done since. Installing the Compton organ there

was a certain Jim Pollard, the organist was Quentin Maclean and Jim Jordan was in charge of the Mansell and Ogan equipment. Years later, in 1939, these three were to come together again through the invention of a schoolboy member of the Pavilion audiences of those days.

The pavilion seated 3,000 and had a very extensive colour lighting installation in the cornices, laylights and in the principal decorative fittings. There was also an early motor driven dimmer and comprehensive stage lighting layout for the very wide, but shallow stage. Stage prologues to the big film were a speciality. One opened with a heavily bewhiskered Moses carving away on the top of Mount Sinai while a Strand storm cloud rushed by. After the Ten Commandments had been displayed with appropriate flashes of lightning the screen descended and the film took over. The stage was also used for interludes by the resident orchestra under Louis Levy and for distinguished visitors like Layton and Johnstone or Jack Hylton and his band. Lighting effects mainly on curtain sets were often of a high order. The projection room was in the thickness of the balcony, the ports being cut in the great box girder which supported it. Mansell and Ogan delivered their equipment bit by bit to the Pavilion by horse and cart hired from P. Mahoney of Soho Square and Jim Jordan not only often rode there in this vehicle but stood by for the opening night.

The last of the Davis cinemas was the 4,500 seater at Croydon which they kept after the rest had been sold to Gaumont British. Once again there was a large colour lighting installation in the auditorium and a large stage lit by Strand Electric which with some forward extension managed to take the Covent Garden Opera and Sadler's Wells Ballet when touring in the 1950s.

Cecil Court

Moss Mansell went into business as Mansell Ltd., the firm which Mark Stables joined straight from school and Bill Pepworth, shortly after, in 1910. Mansell also started a cinema, the Electric Theatre next door to the Old Swan in Church Street, Notting Hill Gate. Mrs. Mansell (they were courting at the time) well remembers making the screen surround of red velvet in her spare time. Pepworth was also expected to lend a hand at the cinema. The place opened in 1911 with the early Mary Pickford film " Muggsy's First Sweetheart," the music being provided by a piano. In 1918 Mansell was joined by Jimmy Ogan who had been a traveller for the famous engineering firm of Veritys. Mansell was not so much an engineer as an inventor for he had a fertile brain full of ideas, but it was largely left to Jim Jordan and Jack England (who joined as a draughtsman in March 1923) to give them working shape. H. O. Jordan, always known as Jim, joined Mansell and Ogan at 15–17 Cecil Court, W.C.2, in 1919, having spent a year at the Peugeot Motor Works and two years before

that in munitions at William Sugg where unknown to either of them Bill Buckle (present foreman of Gunnersbury sheet metal shop) was employed at the same time but in the sheet-metal department. Jordan took full charge of the Mansell and Ogan works as foreman in 1926 (the year of the General Strike) at the age of twenty-three.

Whatever Mansell was, he was certainly a business man and one who believed firmly in the principle of minimum expenditure. This made him an extremely hard taskmaster but at the same time provided a great stimulus to Jim Jordan's mechanical ingenuity. Incredible tales abound of the way in which Mansell's works got down to it and used what came to hand to achieve the impossible. The work was so varied and, because of Mansell, such a challenge to a man's skill that it is not surprising that so large a proportion of Strand Electric men came from Mansell and Ogan. To have worked there is a real hallmark. Their works moved first to Hop Gardens (in 1923) and in 1929 to 15 Floral Street, a few doors nearer to the Royal Opera House or to Bow Street Police Court (depending on the way the mind works) than the Strand Electric itself.

Mansell and Ogan made resistances, fan regulators and dimmers both as components and complete assemblies so it was not surprising that they should be acting as sub-contractors to Strand Electric. In fact they did very little directly under their own name preferring to supply to, for example, Alliance Electrical, Walturdaw, Berkeley Electric, GEC, Shipman and King and Film Agencies Ltd. The last named was, incidentally, an early Bernstein enterprise and some tough bargaining went on between the two firms.

Moss Mansell.

These were still the early days of electricity and the vast range of mass produced moulded components we know today had yet to come. Consequently dis-boards, switches, ceiling roses had to be made and not just picked off the shelf.* Mansell and Ogan made early wireless † components, crystal set tuning coils, rheostats, A.C. keys, lightning switches and much else. They also made battery chargers and undertook battery charging—the well known weekly family rite which followed the introduction of valve sets.†

They made their own gears and gear boxes and when on one occasion Jordan asked Mansell where he was to get a

* *These days are so near in time and yet so far away in practice; see* The History of Electric Wiring *by John Mellanby published by Macdonald.*

† *We use contemporary words as they place exactly the type of thing made.*

couple of worm gears needed in a hurry, the prompt retort was "make them". Many a time Fowler's *Mechanical Engineers Pocket Book* has been consulted by a Jordan looking for clues as to how to solve the latest problem. One of the problems that became increasingly pressing was the fact that they had no A.C. on their 200 volt D.C. premises. Eventually Mansell went out and returned to say that he had bought a converter. When it arrived, second hand of course, (Mansell loved Sales and Auctions), the motor part was found to be for 440 volts. The strange volts that came out when driven on 200 could be remedied by a transformer but the oddness of the periodicity can be well imagined. Even when Strand Electric and Mansell and Ogan finally amalgamated their works in 1932 the only portable voltmeter and ammeter they possessed between them was a small Weston instrument for reading up to 100 volts D.C.

On the insistence of the present author a Record A.C. and D.C. voltammeter was purchased for the Head Office theatre and Mansell liked it so much that he bought another identical one for the Works. Both have been in use ever since. One wonders what Mansell, who died in 1958, would say to the large and varied range of instruments that have to be on call today. However, in the 'twenties and most of the 'thirties, the important test was, " does the light look right? " This, plus a " Megger " to ensure the insulation was alright and therefore that whatever it was would not catch fire, and there you were.

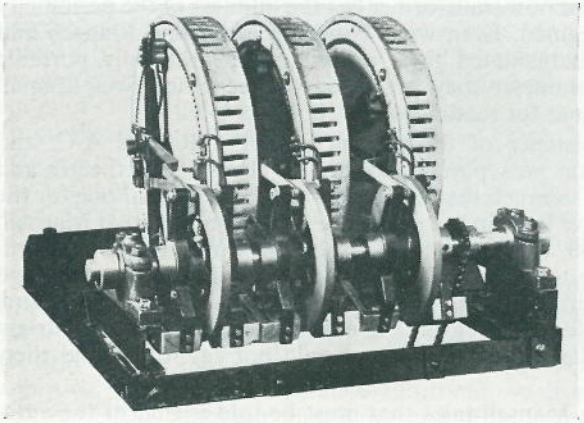
Among the Mansell tales that must be told is that of the automatic dimmer for the Classic Cinema, Belfast, the design of which began with making a choice from among the old packing cases in existence. Jordan relates that as the completed dimmer bank was finally pushed into this case it fitted so well that you could hear the hiss of the air displaced. Cecil plate dimmers with their 160° motion had to be driven by rack and pinion. The pinions possessed the extraordinary feature of not having a complete set of teeth. There was no special mechanical reason for this, it was simply a matter of using up a stock of blanks bought in a sale some years previously. Their diameter made it impossible to cut a full set of teeth for the ratio required. As half a tooth would in this case, certainly not have been better than no tooth at all, part of the blank was left quite blank!

A Magnetic Clutch

Moss Mansell will go down to posterity, however, as the inventor in 1929 of his magnetic clutch for driving dimmers. This device (patent No. 373,625) has had a very long run indeed. Many thousands of the original and still more thousands of the refined post-war model have given trouble-free service all over the world. It is still the basis of Strand Electric electro-mechanical dimmer banks today. Typically, it is very simple, almost crude. A soft iron wheel to which either of two dimmer links can be clamped by means of electro-magnets used directly on the driving wheel. One clutch

drives the dimmer up and the other down. In years to come over a hundred dimmers were to be assembled as regular practice on banks each with a single continuously running geared motor of ample power to allow a good range of speed control.

By this means all the difficulties which dogged others who used individual reversing motors were bypassed. The clutch is very responsive and its lack of inertia was to prove of great advantage in the avoidance of hunting when many years later a servo-positioning



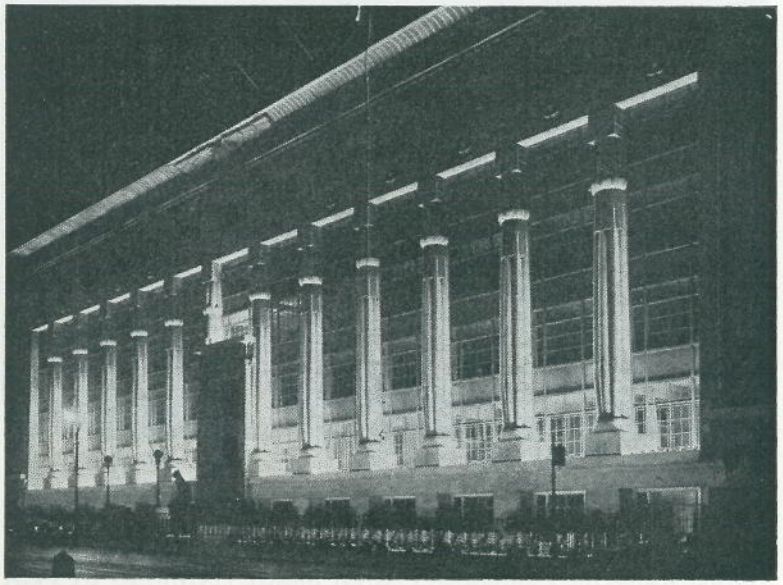
1929 early version of the Mansell magnetic clutch with Cecil plate dimmers.

device was fitted. Not that the clutch did not encounter teething troubles. The first big job for the ship, *Monarch of Bermuda* (1932), had to be removed after its tests and quite a different system supplied. The trouble being principally due to the limit switches which had automatically to cut the clutch at the ends of travel. Limit switches had to break instantly and remake positively and the problem was only completely solved when micro-switches came in after the war. Jobs like the Royal Opera House had to rely on a complex limit switch made by Mansell and Ogan themselves. The next clutch job, which like the *Monarch* was also for Basil Davis, was the Regal Cinema, Uxbridge, and was more successful, though in fact the dimmers had handles so that they could be hand-driven if need be as well. This was the only job so fitted yet the boss for the handle appeared on all castings until 1949, no one having troubled to remove it from the pattern. The Mansell clutch greatly eased the design of the Light Console for a clutch was essential to its working.

Black Cat Factory

A very large job for 1931 was the automatic dimmer control of 230 kW of outdoor floodlighting for Carreras Black Cat factory. This was a huge Egyptian Tobacco Temple—at least the architecture was Egyptian even if the tobacco was Virginian—situated in Mornington Crescent, London. A colour cycle of eight changes per

minute was provided by large dimmers driven by cams from motor-driven shafting. Everything depended on the dimmer driving rods following the profile of the cams, for which purpose cast iron return weights working over pulleys were fitted. The night before the official lights-up for the Illumination Congress a full load test was held at which it was discovered that the heat of the resistance dimmers caused sluggishness. The weights had to be increased by the following night. Jordan visited Gosletts in Charing Cross Road as soon as they opened to buy up scrap lead in any form he could lay his



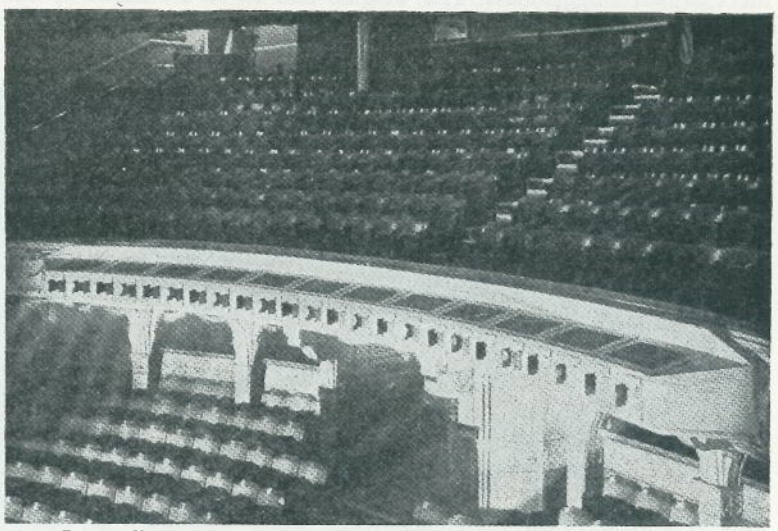
230 kW of G.E.C. floodlighting at the Black Cat factory in 1931 controlled by Mansell and Ogan automatic colour mixing dimmer.

hands on—flashings, bits of pipe, plumbing odds and ends. Meantime Mansell was turning out moulds for the weights for which he had to use the largest " ceiling blocks " for fittings in the place. There was a small forge at No. 15 Floral Street which could be used to melt the lead down and the secret was to leave the lead in the moulds for just so long—but no longer or the mould would be reduced to charred wood. Everyone, including Basil Davis whose job Carreras was, got down to it and as the weights were finished so they were sent off to load the recalcitrant dimmers.

Waltzes from Vienna

The arrival of true FOH spotlighting in the theatre is difficult to place exactly. Arcs or limes had of course been used for years at Upper Circle or Gallery level, of necessity at the sides—the proper

place incidentally for FOH lighting. Two special arc positions survive as circular apertures in each end of the Grand Circle at the Palladium, though arcs as a source have not been used there for very many years. The Adelphi, when reconstructed in 1930, had two arc positions either side (four in all) high up over the boxes in special rooms.



Bow Bells 1932. Dress-circle-front spot housing, London Hippodrome.

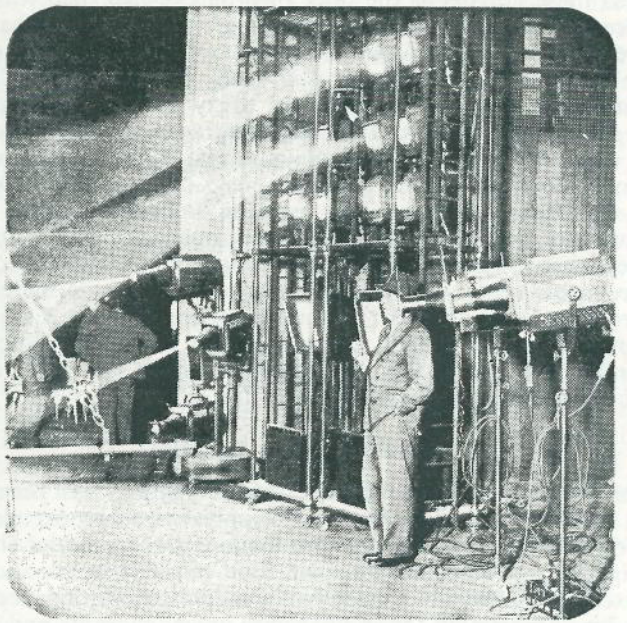
Basil Dean relates (TABS, Vol. 20, No. 3) that under his auspices there were four tungsten spots in a housing slap in the centre of the upper circle at the St. Martins in the very early 1920s. According to Harold Ridge the Cambridge Festival theatre (1926) had six FOH spots, one 500-watt one at each end of the Circle and four 1,000-watt in the centre of the Upper Circle. This seems to have been sufficient in spite of the deep and wide fore-stage and the fact that there was no footlight.

Front-of-house spots really hit the National Press headlines when Hassard Short used a battery of them on the circle at the Alhambra in August 1931 for *Waltzes from Vienna*. The lighting of this show made a great hit in London; for example, Alan Parsons in the *Daily Mail* (August 18th, 1931) said:

> " I do not want to depress our scenic artists . . . but it sometimes seems to me that as stage lighting develops more and more the scenic artists will become superfluous."
>
> " I grow more and more convinced that lighting has hitherto been in its infancy and that it is rapidly taking its place as far the most important of all the ancillary arts of the Theatre."*

* *A claim antedated by J. B. Fagan in 1919 in a paper to the I.E.S. and post-dated at regular intervals ever since.*

Hassard Short himself sent Strand an enthusiastic telegram in which he said, " Thank you for your very good work. I am delighted with the electrical equipment." The service, not the equipment, he had got from Strand must have been the cause of his pleasure. After all the Circle-front colour change lanterns were Kliegl type.



Hassard Short and the side lighting for " Waltzes from Vienna " at the Alhambra, London, 1931.

These early " changers " were direct acting solenoids enormous in size, pulling upon cranks and operating the four colour semaphores through concentric shafting. Each coil had a commutator fixed to its shaft, the object of which was to reduce the current to a holding level when the semaphore was right over. The commutator was crudely fixed with a large grub screw which also contrived to hold one end of the semaphore return spring. Once they were on site only Mark Stables could ever adjust the things. He has been seen to spend a couple of hours on one lantern alone. The trouble was that the point of current reduction had to be precise, otherwise the return spring took over and the semaphore would rock to and fro in frustrated indecision. If the current did not reduce on the other hand, the solenoid would burn out. Much later on Strand had Varley develop for them a constantly rated coil which did not need the commutator.

This front of house lighting now spread like a rash over the Dress Circle fronts. The photograph shows the London Hippo-

drome installation for Julian Wylie's *Bow Bells*. This type of lighting for all that it was made up of spots, was in fact floodlighting and was of course on the wrong Circle. Drury Lane had 26 lanterns on the Dress Circle in a dreadful Strand sheet metal housing which strangely enough nobody seemed to object to. Theatre owners accepted these horrors as the price of progress, like road widening, or office blocks today, never questioning them to check that they were really right. Drury Lane in fact did not install lanterns on the Upper Circle until 1958 for *My Fair Lady*. Cochran's *The Cat and the Fiddle* at the Palace Theatre had thirty spots spread over the Dress and Upper Circles. This floodlighting technique may have suited musicals but for straight plays, cages to hold a pair or four spots on individual circuits began to creep out front. The Old Vic had a short bar of spots hanging over the orchestra installed in the late 'twenties and when Sadler's Wells opened in 1931 this was repeated there. The Saville, when it opened in 1931, had four Venreco spots centre Dress Circle and one either side under each box properly built in as part of the plasterwork. At the Cambridge a Venreco installation had a roof position for a few which was later enlarged to give many more spots (a regular bridge)* for Basil Dean's production of *Hansel and Gretel* in 1933.

Adaptable Lighting for Hire

In some theatres the new front of house lighting was permanent but in others it was a question of supplying a cage or two with spots on hire for a particular production. On stage the theatres own lighting consisted of three or four colour battens and little else, except occasionally a spot bar. Production lighting depended on the hire department for spots, acting areas, pageants and all the rest. This applied equally to the West End and the provincial houses. In quite recent times an attempt has been made to recognise a West End stage for what it really is, a studio in which a set of lighting outlets connected to a good stage lighting control together allow the utmost freedom of layout. These theatres may not be " adaptable " architecturally, but their electrical layout must be.

It was Jack Madre and Jack Burleigh in the Hire Department who provided the equipment which made " adaptable lighting " and changes of lighting style possible. Burleigh, a quiet man by nature was singularly adaptable himself and, no matter what befell, he could be relied on to take things in his stride without the "hulla-baloo " that some others in the firm seemed to find essential. Burleigh accepted the advance of age in the same rational way; handing over, at his own suggestion, his job—the one he had done so well—to Arthur Gamble (1923), four years before he finally had to retire from Strand on becoming seventy.

* *An excellent recent example is the reconstructed Oxford Playhouse (1964) where there are five such bridges in the roof void.*

Gamble died in September 1956 at the comparatively early age of forty-eight and was succeeded by Ernie Crisp (1929) virtually all of whose career since joining the firm has been in the hire department.

Lest Jack Burleigh made things too easy it was arranged for a time that transport was in other hands. Burleigh would say " I'll get my side ready but can you get a van? " To do this latter one had to interview Alf Nesbitt. " Admiral " Nesbitt, RN, had been Beatty's coxswain at Jutland or some other watery battleground and would appear to have been just the man to deploy the scanty Strand fleet to best advantage. He was however a rigid disciplinarian with a strict eye to the correct drill which ill accorded with the impetuous and changeable desires of some of our customers. The poor unfortunate who was acting as go-between had to abase himself and listen to a stern lecture on the impossibility of finding a van or bike or boy or driver at such short notice as if it were a personal favour he was asking. Indeed if it had in fact been a matter of a personal favour Alf would have been the first to oblige and anyway he always in the end did what was wanted.

Philip Magnus, who joined the firm in the Sales stores in 1929 after an interview with Stanley Earnshaw which he recalls (for no particular reason) took place on Alexandra Rose day, well remembers the sense of urgency of those days. Tours, comprising literally everything—lanterns, dimmer boards, leads, two sets of lamps (high and low voltage) and several replacement sets of the not very durable gelatine colours, would be sent out on an average once a week. Monday, " change-over day " was another regular occasion for furious activity on both sides of the street. Theatre people expected everything at the double. It was commonplace for an electrician to ring up on the stage door 'phone for a set of cut gelatines and stay at the door until they came. Delivery was often made by a boy on a box-trike.* A handy vehicle which later became the form of locomotion for the Walls " Stop me and buy one " ice-cream man. Magnus reckons that the war made people accustomed to a different tempo, they just had to wait for things. In spite of the hectic rush we hear so much of in the 1960s people work much shorter hours and to a more gentle tempo whatever they may think. The Sales staff used to come on at 8 a.m. and dare not leave at their official time of 6 o'clock if, as was usual, Phillip Sheridan's light was burning over the road. Love of and enthusiasm for the work would be partly responsible, but of course in the early 'thirties there was also a very real sense, with nearly three million unemployed, that one was lucky to have a job whatever the hours.

Counter to Sales

Magnus has been manager of the Sales Department for many years with Bob Britton (1934) as the assistant manager. At the time we are talking about the Sales Department occupied the ground

* *Jack Madre's first job.*

floor of No. 28 Floral Street, under what was at first the Works and afterwards, as we shall find out later, the showroom. The customer entering saw an ill-lit room (the light had to be on all day) with a high barrier across it which turned out to be the counter. There appeared to be no one about but closer inspection showed the manager at work at a desk in the corner and lurking behind the counter at a lower level one or two others. The strange feeling of the counter derived from the fact that it was built somewhat on the lines of an old pigeon hole bureau. Staff sat down and worked at normal table level, customers had a high level shelf on which, if they were lucky to be tall enough, they could just rest their elbows.

Sometimes there would be no one at all except a furiously protesting electric kettle on the access flap at one end. Then just as the customer was wondering what to do to attract attention the door to the darksome catacombs at the rear, which housed the stores, would suddenly open to admit a man who seized the kettle and proceeded to make tea; the cups being laid out already milked and sugared well out of customers reach at desk level.

Ultra Violet

The Cat and the Fiddle production already referred to was noteworthy as featuring the first big display of an effect some of us consider now to have been done to death, namely ultra-violet light and fluorescence. The dope for treating the costumes was imported from the United States at great cost and had to be re-applied at frequent intervals during the run. However, Strand were to find that Frank Weston knew the recipe, a heritage from his Boggis days, and the stuff was made over here from then on, long before others took it up. Light sources for ultra-violet were difficult and Cooper-Hewitt mercury-vapour quartz lamps had to be used. Besides the well-known complication that they took two or three minutes to give full light and would not re-strike when warm, the lamps had to be mechanically tilted by trick line in order to strike. There were, of course, similar trick line problems for optical effects as clockwork was almost universally used and effects had to be wound up and then started remotely. It was always possible to foretell from the stalls any act or scene using optical effects due to the frantic winding noises which preceeded curtain rise.

Projection at Westminster

The opening of the Westminster Theatre converted from a cinema under the auspices of Anmer Hall in 1931 requires more than a mention. This was at the time, and still is, the only professional stage with a permanent plaster cyclorama in London. The stage is very shallow and one has sometimes heard the cyclorama cursed as an obstruction but it figured very largely indeed in two plays by James Bridie *Tobias and the Angel* and *Jonah and the Whale*. The settings were designed by Molly McArthur to make good use of it and in particular the first of these plays is memorable for the use of

projection to produce the effect of growing wings behind Henry Ainley. The Linnebach principle of " shadow " projection on the cyclorama was used and Miss McArthur had to paint the wings in distorted form directly on the big glass " slide ". A contemporary account of another production later says:

" A woodland scene projected by light was most effective in the second act of *The Unquiet Spirit* . . . The slide was specially painted by the scene designer and gave a realistic impression of the atmosphere of a late November afternoon."

Henry Ainley in " Tobias and the Angel " with projected effect on Cyclorama, Westminster Theatre 1931.

Considering the need to localise the light because of the cyclorama the permanent installation was decidedly minimal in the provision of spots. The *Kine* of October 15th, 1931, writes as follows:

" The acting area when the cyclorama is being used, is illuminated by four of the Strand Electric 1,000-watt spot lanterns, concealed in the roof of the auditorium, whilst side lighting is obtained by means of two 1,000-watt spots concealed on the right and left-hand sides of the auditorium, and within 15 ft. of the stage."

" The footlight is of special construction designed to give a very wide angle of light dispersion, in addition to which it is so arranged that by simple movement it will disappear under the stage, leaving no trace of a footlight having been installed."

" The proscenium batten is installed for interior scenes, and this consists of a ' Sunray ' magazine batten with two 1,000-watt spots mounted in the centre. The usual stage plugs—flys, dips, etc.—have, of course, been installed."

" The switchboard is of Strand Electric's latest design . . . with new pattern Sunset dimmers."

Stratford-upon-Avon

It is worthwhile describing in some detail the installation of the new Stratford-on-Avon Memorial Theatre which opened in 1932 as being typical de-luxe Strand Electric of the time. Being repertory it had to be comprehensive. When the old Memorial Theatre was burned down Bridges Adams received at least two telegrams. One from Bernard Shaw which simply said " Congratulations " and one from Applebee who read of the fire in the morning paper while in the train. As soon as he arrived at Waterloo station he telegraphed offering immediate assistance.

Fire at Stratford-on-Avon, reproduction of a contemporary postcard.

The consulting engineer for the new theatre was Harold Ridge who by then had taken as a partner F. S. Aldred. Applebee was deeply involved in the new building from the first and attended the opening in a shining topper. This was a topper with a history. It was acquired in 1924 by Jack Madre from the Duke of York's Theatre wardrobe. As a gag Jack sold it for sixpence to Applebee " to use when visiting architects? " To his surprise a week later it appeared on the head of its purchaser splendidly refurbished (by Cass and Bax the hatters for 1*s.* complete with a fine shiny box).

The theatre had the same moveable plaster cyclorama as now (1963), but this was added rather late to the scheme and had to carry its own specially designed colour lighting and a constellation of twinkling stars. George Lovell built a full-sized section of the cyclorama in Robinson King's works at Stratford East to help him try out his special reflector designs and the cyclorama turned out remarkably successful. On stage the main lighting was from three four-colour compartment battens sectionalised left, centre and

right, making thirty-six circuits in all. A crude and not really effective method of localising the light surely. In addition there was a five-way spot bar in No. 1 position, six perch spots (three either side) and some dip plugs.

Out front eight 1,000-watt lens spots were set in the Circle front and four colour lighting was placed behind twelve apertures in the sounding board type ceiling over the fore-stage. This latter was a pretty useless position but the lighting was not finally removed until 1960. At this same date the new Royalty, London, opened with an up-to-date (i.e. Patt. 123) version of just the same fault.

Stelmar

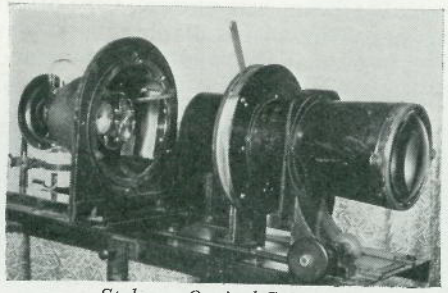
Really interesting were the ceiling slot positions. Here the only spots in Britain, which had really advanced optical systems, were installed. There were four of these—Stelmar 1,000-watt spots. The Stelmar optical system with its three reflectors, two in front and one behind the tubular lamp, was, when patented in 1929 by Steele and Martin, way ahead of its time. The beam was narrow, very bright for its wattage and could be shaped by an iris diaphragm. It was an expensive instrument (listing in 1936 at £50) and rather long and cumbersome but Strand saw its possibilities and used it here and

Strand Floodlighting of Trafalgar Square for C.I.E. Congress 1931.

at Covent Garden in 1934 and had several in the Hire Department. Two were used by Strand with arcs (one on top of Admiralty arch) to spot Nelson on his column for the International Illumination

Congress held in London in 1931; a year which gave London its first big taste of floodlighting of public buildings. Strand were responsible for the National Gallery and St. Martin's-in-the-Fields as well as Nelson.

The switchboard at Stratford-on-Avon was a 56-way Grand Master. There were three tiers either side of the Master wheel. The pride of place was given to the colour shafts which formed the top tiers while the operator had to grovel on the floor for the spots on the independent shaft. The shafts and gears were plated and the whole thing was very nicely made and finished by Miller's shop, then in Floral Street. A. E. Regester, who is now Works Manager of Gunnersbury, worked on this job as a fitter, having joined Strand in 1930 although, in fact, he had been with Mansell and Ogan in the early 1920s. The board was replaced in 1951 by a Preset Electronic of 144 ways. Other large switchboards Regester worked on around that time were those for the *Cat and the Fiddle* at the Palace and *The Miracle* at the Lyceum and *Cavalcade* at Drury Lane.



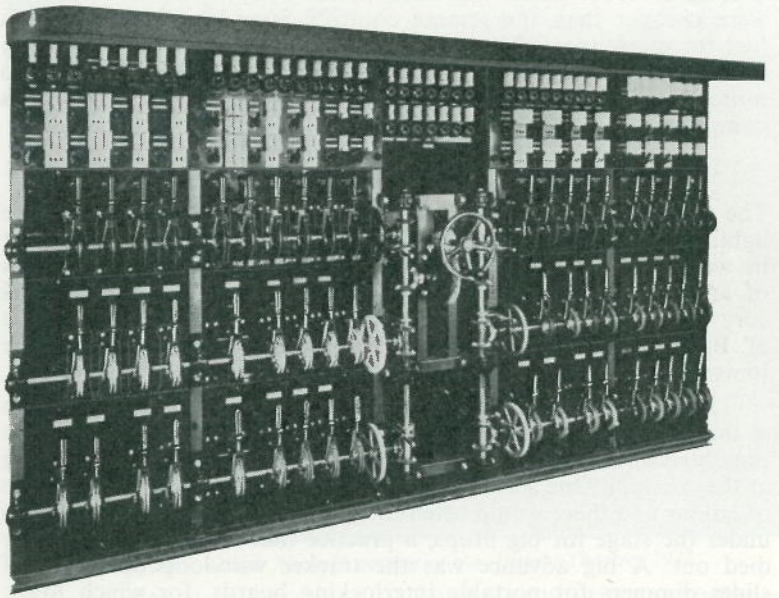
Stelmar Optical System.

Mansell and Ogan made the clutch-driven automatic dimmer for the Stratford-on-Avon auditorium in the small emergency works in Endell Street to which they were forced to move in haste from Floral Street after the fire on December 18th, 1931.

Control by Grand Master

Stratford-on-Avon was only the second full Grand Master with cross-gearing to allow the shafts to be set to go in opposite directions Strand Electric had made for a theatre. The first in 1931, also to Ridges specification, was for the Alexandra Hall, Halifax. The dimmers used in that case were the Mansell and Ogan Cecil plate type. Dimmers had only 80 stud contacts as standard in those days, 100 contacts were extra. Ridge was very particular about the dimmer curve (i.e. where half light, etc. came as one moved the dimmer handle) and, with Jim Jordan, devised a special winding which gave the correct effect but made 100 contacts or big wattage lamps essential to cushion the flicker. Indeed Phillip Sheridan insisted on specially made 120 contact dimmers for the Head Office Demonstration Theatre though their use was not publicly proclaimed. The 120 contact frame design came in useful 25 years later when in 1950 a special dimmer had to be designed for the cold-cathode fluorescent lighting in the Royal Festival Hall.

The dimmer handles for these Grand Masters were self-release to allow continuous turning of the master wheel. That is, at each end of the travel a pivoted arm met a striker and lifted the handle slightly and therefore the clutch shoe out of contact with the wheel that drove it. Immediately the shaft was reversed the dimmers gripped again, a feature not possessed by the opposition Mickelwright self-release which tripped for good. The Strand release obviously could only slip slightly as it relied on its drive to make it slip. Nevertheless it made a considerable difference as anyone will know who has tried to turn the wheel before the releases were adjusted. The key man for self-release adjustment was Syd Medlicott (joined 1923 and now a foreman at Kennington works). When the board was a large one, with infinite patience and skill he would have to take days for the task, as if tuning an organ.



56-way Grand Master Switchboard, Memorial Theatre, Stratford-on-Avon, 1932.

As the use of spots increased Strand were soon in trouble over dimmer scales for plotting. The scale was an afterthought clipped on to the dimmer link and read where this passed through the panel slot. It was dark down there and the scale figures were quite small. Later models had quadrant scales, pointers and 15-watt pigmy lamps to light each scale. An expensive arrangement and one cannot help thinking that Major with their straight-fronted American slotted panel or Mickelwright with the curved cover to the shaft and wheels with a scale on the edge were on a better thing; certainly as far as cost.

Another trouble was that the lovely turned wood ebonised dimmer handle Strand used did not give any indication as to whether or not the quarter-turn had been applied to lock it on. Bentham when presented with a 30-way Grand Master for the demonstration theatre insisted on indication. Curiously Ridge and the electrician at Stratford-on-Avon had not. A compromise was effected by placing two plated round head screws at the neck of the handle, which could be both seen and felt. Later a great cast gunmetal handle with a tommy-bar indication was adopted. It was, however, a crude affair and never had the nice feel of the wood. Early Grand Master gears were large toothed and shafts had to be moved to and fro a lot to engage. Later, at Mansell's suggestion, constant gear mesh with fine spline clutches effected some improvement. The last of the Grand Master controls was that supplied to the Gaiety, Dublin, in 1955. Latter day installations went in only because they were cheaper than the remote controls Strand could provide. In fact for many years this type of control had been an anachronism and after the Dublin job it was decided that there would be no more Grand Masters even if it meant losing a job to a less scrupulous competitor.

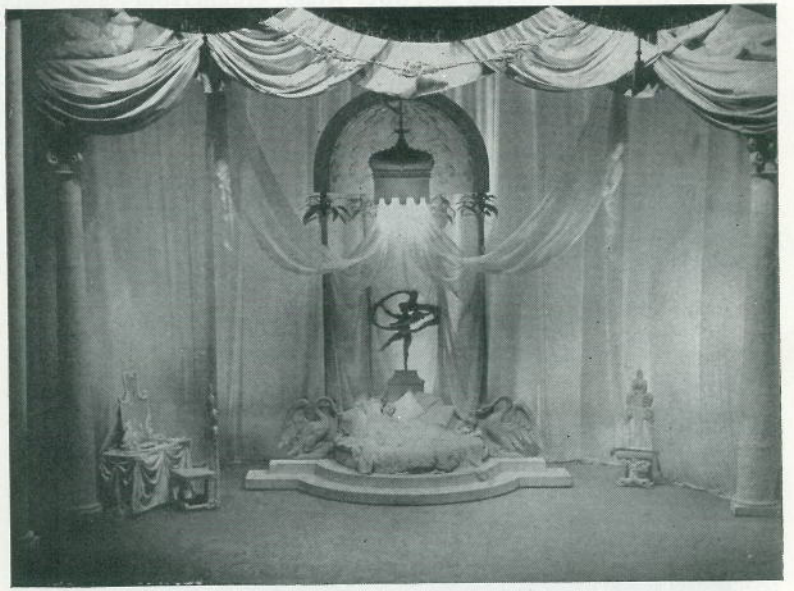
The Miracle

The younger reader of this history will be inclined to dismiss the lighting at Stratford-on-Avon as crude and rather laughable, but he would be quite mistaken. Komisarjevsky, who did a production of *Macbeth* there about this time, to quote but one example, was very particular indeed about his lighting which he made great use of. Basil Dean's article in TABS a year ago shows how important he himself regarded lighting throughout his long career.

A production like *The Miracle* when it was revived by Cochran at the Lyceum in 1932 was very elaborate indeed and, in recollection presented a far bigger fitup task than the recent production of *Blitz* at the Adelphi. One secret was of course that there was no shortage of labour and there would often be rows of portable dimmer boards under the stage for big fitups, a practice that has never completely died out. A big advance was the tracker wire-loop operation of slider dimmers for portable interlocking boards, for which Mark Stables was responsible. Special boards of sixty or more dimmers on Grand Master lines were sometimes built quickly at very short notice for special productions and remained in the theatre as the permanent board. That for *The Cat and the Fiddle* remained at the Palace until remote control replaced it in 1956. Drury Lane likewise gained a board for *Cavalcade* and the Hippodrome for *Bow Bells*.

For *The Miracle*, the Lyceum auditorium was converted to suggest a cathedral and the gilt boxes and ceiling built-over with plasterwork to Oskar Strnad's designs. There was an open stage with a very large apron with actors making their entrances from the depths of where the orchestra pit would be. A technique now regarded as essential for any " vital " production of our time. There were also processions of choirs and ecclesiastics down the gangways. But always there were those on hand to say " but you should have seen the original Reinhardt *Miracle* when Cochran presented it at Olympia in 1911." Even more remarkable was the conversion of the Lyceum back to its old self again after the *Miracle*.

Another very successful auditorium conversion of the time, by Ernst Stern, was Erik Charell's *White Horse Inn* at the Coliseum. If one takes these and other examples and adds the post-war ice shows which reached their height in 1955 or thereabouts, it looks as if straight theatre began to be interested in open stage just as the theatre of spectacle had worn out the idea.



" Helen ", Oliver Messel's setting at the Adelphi Theatre, 1932.

It is difficult for those who worked and lived in the 'twenties and the 'thirties to share the affectionate contempt of the " vital " theatre enthusiasts for that period. The *Boy Friend* was great fun, but musical comedy of between the wars kept employed a series of dazzling personalities.*

For the lighting of those days there would be following arcs out front (open type) and sometimes behind the proscenium twelve

* *Geo. Robey, the Astaires, Jack Buchanan, Bobby Howes, Vera Pearce, Binnie Hale, Arthur Riscoe, Sidney Howard, Leslie Henson, Jessie Matthews, Jack Hulbert and Cicely Courtneidge, Nelson Keys, Dorothy Dickson, Evelyn Laye, Edith Day, Frances Day, Elsie Randolph and many many others.*

or so 1,000-watt spots. There could not have been much light, yet memory paints Hassard Short's *Stop Press* of 1935 at the Adelphi as full of glitter and colour and of novel lighting effects. Yet Hassard Short had no Pageants, no Mirror Spots and had never even heard of a Fresnel in a theatre. 1,000-watt lens spots (focus lanterns) a few 2,000-watt spots of dubious pedigree, some with spotting attachments, and the battens plus an occasional stage arc, these constituted the armoury of the time. Were Messel's sets for Cochran's production of *Helen* under-lit, and was *Evergreen* really a marvellous show in *every* respect? Memory answers " No " to the first and " Yes " to the second.

Life in a Showroom

In 1932 the Works moved to Power Road, Gunnersbury and space was opened up for a demonstration theatre which Strand had to have if only for the reason that a certain Gillespie Williams at Holophane had an elaborate one and was hypnotising his clients with displays of colour light on girls draped in muslin against a plaster cyclorama.

Showroom on 1st floor, 29 Floral Street, 1932.

The young Bentham then with Basil Davis at the G.E.C. was first introduced to Arthur Earnshaw by Percy Newton, ex-Strand Contracts and, at the time Davis's other assistant. Stanley (who had just come out of hospital) was also there and the venue was the 1932 CEA exhibition in the Grosvenor House Ice Rink. Shortly after Bentham was taken on (at £3 per week after argument) to look after the Hire Showroom and the new Demonstration

Theatre. On reporting to Arthur Earnshaw he was immediately told that he had better take a holiday and was sent away for a week with pay. He took up his duties in August 1932 and sat at a desk in the old showroom (No. 19A Floral Street, on the first floor, now Coutts bank printing works). He says he felt dreadful. No one told him anything and the place was indescribably untidy, dusty and dirty after the marble halls of Magnet House, Kingsway. Before long there was a loud noise and a flushed over-excited chap rushed in and rummaged around in the other desk and dashed out declaring his wife * had just had her first baby. This was Jack Madre who not unnaturally returned no more that day! Young Bentham would probably not have met anyone else perhaps for days but for a quirk of geography—the only staff lavatory led off the showroom. Head Office was for years very short of such things. Once the old showroom was given up the staff actually had to cross the road for this purpose, of which more anon.

Anyway for the present, from time to time an odd person would steal across the showroom and occasionally one or another would come across to the desk and exchange a few words usually about the weather or the cricket. Sooner or later a customer was going to turn up and the fact that he did not want to use the lavatory would provide the only way of recognising him as such. Several days passed before this happened and when it did some brackets and shades were wanted for a Sunday show. These were put on the floor and a note written on a piece of scrap paper. This was taken down to Jack Burleigh whose office in the hire stores right down in the basement of No. 24 was known from the novice's experience as an amateur before joining Strand.

This intermittent and haphazard procedure lasted until one day Jack Burleigh said, " Why don't you use a req. book then you would have a carbon copy of the details in case I make a mistake " (which, by the way, he never did). " What is a req. book? " was the reply. Soon a shining new req. book was obtained, probably from Judd, only to run up against another hurdle a few weeks later when a strange, rather neat figure for Strand, stormed in, " who passed this for credit? " Contact had been established with Henry Myers, the Company Secretary.

Not long after there was a rather trying period for the novice in which half the fittings were moved to the new showroom and half remained in the old. Requests for shades which each customer knew intimately, but which were hidden from sight, in innumerable unlabelled boxes were another trial. Eventually the move was over and the new showroom was occupied. The demonstration theatre was not completed for some weeks after.

The expression " new showroom " may mislead. What we really had was the space at first floor level left by Buckle's sheet

* " *Win* " *Berry with Strand from June 1926 until her marriage.*

metal shop, the L-shaped end of which, furthest from the street, became the theatre. Over the showroom was the Stransign store, a repository where the angle iron was kept for sign frameworks. What there was of the floor above formed the ceiling below and the noise and dust this iron made as it was hauled up on a rope and dumped overhead can be imagined. There was one cast iron anthracite stove (a normal domestic sitting room size in dark green vitreous enamel probably acquired originally as a stage prop) to heat the vast draughty spaces. The fire was lit daily by Mrs. Ventem, the housekeeper, and filled the place with smoke and little else. On one occasion H. K. Ayliffe, the producer, came and the smoke and fog made it a matter of choice by touch rather than sight. It was not until 1937 that Strand went in for a boiler and radiator system. The G.P.O. 'phone was at one end of the showroom, near the entrance, whereas the house 'phone was located right at the other end by the theatre door. This complicated matters because outside calls invariably involved using the house 'phone to contact Burleigh, and of course Myers or Judd for credit! Next door Frank Weston had a large workshop which had been vacated by the departed engineering shop. The premises ran round the four sides of a roofed courtyard occupied by Windovers, the coachbuilders.

The rear part of Frank's spacious empire had been the original Gate Theatre * once upon a time and people like Peter Godfrey used to become quite sentimental about it when visiting Strand. This area of the workshop included the W.C.'s which had to serve the male staff from No. 24 over the road and any customers, particularly from the theatre audience. There were four W.C.'s and Frank Weston was instructed to give two of these V.I.P. treatment. In character with Strand practice of the time, he used up what he had to hand and one was painted out in battleship grey and the other in a light brown. This " brown house " as the latter was known, was to take on more and more significance with the rise of Hitler.

Beyond this important area lay the optical stores and workshop, the holy of holies. At this time a very young Eddie Biddle (1930) was Frank's assistant. His predecessor, of course, had been Jack Madre—one had to be either very tough or very tactful to succeed in this difficult role. Then came the theatre cyclorama with stage and auditorium extending up the fourth side of the courtyard .The theatre was by location impossible to ventilate for on one side one had the fumes from Windovers and on the other the fried onions of the Long Acre cafes which backed on to it. It was nevertheless a very happy place for Fred Bentham and from the time it got going he

** Before moving to Villiers Street. It is a fact that this famous theatre began on Strand Electric premises in 1925 cramped into space in No. 28 presumably freed by the leasing of No. 24 Floral Street on Christmas Day the previous year at £300 per annum. According to Norman Marshall in* The Other Theatre *29 full length and 12 one act plays were staged in two years " on the top floor of a ramshackle warehouse in a Covent Garden alley called Floral Street."*

was correctly described by one visitor as a square peg in a square hole (which would be no compliment to an angry young man of today!).

A Joint Enterprise

The theatre was a joint enterprise of Strand Electric and Hall & Dixon, the curtain and decoration people. The combination aimed to reduce the cost to both firms, but it had its drawbacks. George Hall, was so to speak a draper (he was also a rather rare thing in the theatre then—a teetotaler) and his aim was to cram in as many different samples of his drapes as possible.

Thus the house tabs were made up of strips of gold material of various qualities. This was actually quite effective but the other drapes were all made of pairs meeting in the usual way but the P. half differed in design and/or material from the O.P. half. But worst of all, were the borders and legs with which the low, wingless **stage had to be liberally** endowed. In No. 1 they were red, in No. 2 green, and in No. 3 black.

First Demonstration Theatre, 1933. The boards either side of the proscenium proclaimed its dual personality.

In desperation one set of drapes with a strange design of green silk tents and mauve ribbons appliqued to it was taken down and reversed to use the lining as a surface for lighting. Hasty rehanging

had to go on when Hall or George Byles 'phoned from Garrick Street to say he was on his way with a customer.

As the photograph shows the theatre decoration was a similar mix up with no two walls alike. The furniture was all odd samples, modern oak, tubular metal and canvas (just in), Lloyd loom wicker (genuine) and ditto but cheap copy, plus a couple of tip-ups of sorts. Of the decoration the less said the better. This was the age of tortured plaster and paint work. Triangles, sunbursts and marblecote stippled in orange, deep cream and green.

The only thing among the lot to gladden the heart was a festoon muslin curtain which took the light from the back and front marvellously. To this was added a cheap casement cloth pair of blacks and a similar pair of plain greys. Last of all Strand's own contribution —the Grand Master board arrived and we were ready to open on March 18th, 1933.*

Everybody was there. A specially erected temporary Stransign (without permission) outside ensured that they all could find the place and a wonderful buffet in the showroom ensured that they would stay. Arthur Earnshaw called on C. B. Cochran† to declare the theatre open and George Hall then followed with a short talk on drapes with samples! This was followed by Applebee on Coloured Light including Samoiloff and UV.

Further Flames of Passion

Next came an optical effects display beginning with a storm and wave masked to make a picture on the screen. This was to be followed by the water bath and dye effect. Break that up and cut into flames with the first use of the Marconi equipment and a fine fire engine record at full volume. Such was the plan.

The projection room was formed by a partition with three apertures, but it was short of the ceiling by at least 2 ft. There were three Patt. 33 arc projectors which meant that the storm and flame discs had to be changed over. To do this Frank Weston and Jack Madre were stationed in the projection room. All went well until condensation spoilt the water bath effect and Frank decided to cut it short.

Jack Madre had not had time to get the flame effect straight in the runners when Frank turned and put his weight on it thereby effectively jamming it and pulling the lantern out of its dead. Frank boiled over and the audience became increasingly aware that behind the vibrating partition battle was on. An occasional F became audible and it wasn't F for Frank or Flame either. Eventually the arc was struck and flames appeared on the floor at the corner of the

* *Scarcely six weeks after Adolf Hitler took office as Chancellor of Germany and two weeks after the Reichstag fire.*

† *C. B. Cochran also inaugurated the Light Console show two years later.*

pros. which were then jerked by Jack into register on the gold tabs and McKenzie was able to fade up the fire engine record.

McKenzie (1931) though privately at the time learning to play the violin, was not an obvious choice for the gramophone, but as Applebee's draughtsman he was detailed for the job and acquitted himself well. Christopher Stone, who was in the audience could not himself have done it better. It was not McKenzie's fault that a condenser went down just as the King was played and all we got was a shrill treble. However, the National Anthem is even today notoriously unlucky in the theatre and the audience probably thought it was an added touch of realism.

The programme finished with early colour music solos for Black Casement (" Requiem "), Festoon Muslin (" Colour ") and Cyclorama (" Dawn "). The whole of the scene changes, later called the stage work, was handled by Lou Burroughs (1930). His then small circumference and stature made him ideally suited to a demonstration stage without any wing space whatever. He stayed at this job for some three or four years until he was quite rightly removed to hire department, where he is now assistant manager. The poor boy who had the job of following Burroughs was a certain Paul Weston (1937), now chief Development Engineer, Technical Department.

What has made Lou Burroughs so useful has been his unflappable calm. Son of a theatre electrician nothing that happens on or off the stage seems to surprise him and no sudden demand takes him unawares. Others may sometimes be driven to muttering or even cursing aloud to relieve their feelings, the nearest Lou ever gets to this is a mild remark that so and so needs another twenty Patt. 23 spots urgently and this will make a total of 292—a record so far, for a chamber set!

Taking Stock

The showroom soon began to need extra help and Len Jordan (joined October 1922) was transferred to remain ever since. An arrival in the showroom in April 1936 was B. E. Bear, hereinafter, of course, referred to as B. Another who sojourned there for a time was J. Crow, joined 1931, and the present Chairman's secretary since 1936. L. Stokes Roberts was another. All these got on well later, though whether because of their service in the showroom or because they all escaped before long we need not investigate.

The quarters over the other side of the road at No. 24 were very cramped. At the time the new showroom was opened there was Miss James on the ground floor at the reception with Arthur Earnshaw's office alongside and the general office behind this. In this square room sat the benign (not always) Uncle Ashman with Applebee at a large desk immediately behind. The room also housed McKenzie, his drawings and board, Fisher who was L.G.A.'s assistant and typist, Jack Bennett, Freddie Macrea's press books and

publicity things (he continued this job for Strand after he left for Drury Lane) and last and not least, Mrs. Ventem's kettle, tea cups, etc., which were kept in a metal cabinet and involved her kneeling on the floor to brew up. Jim Murray also lived here when in and his papers were stored under a moveable Goliath lampholder.

"Oh, Thou, who did'st with Pitfall and with Gin Beset the Road I was to wander in."

Jack Ashman came to Strand in November 1928 from Digby's where he was a well-known personality. His new appointment was as inside representative, a kind of resident technical Ombudsman who would always be there to answer intelligently all the telephone queries which were bound to arise as a result of our peculiar trade. Others would be rushing hither and thither and doing everything while Uncle Ashman, who had done everything, would hold the fort within. However, at a certain hour each morning Uncle would draw his Half-Hunter from his waistcoat pocket with great deliberation, consult it and make his way round the corner. He did not have to go far for three houses, "The Lamb and Flag", "The Bird in Hand"* and "The Red Lion"* ambushed each exit route from No. 24 Floral Street. When the 'phone required his recall this was merely a matter of a few steps in the direction of the annexe currently favoured by Strand's customers and representatives alike. Uncle Ashman was a much loved character and died in December 1952 while still in harness as a direct result of the great smog of that year.

On the first floor of No. 24 at the far end was Phillip Sheridan's office and a very small one the other end for Henry Myers. E. J. Judd (1927), now the chief cashier, was then behind the little window and others at this level were Jack Sheridan and Schofield. The girls were represented by Miss Beard (1920), Ruth Sheridan (1924) and, when the latter left to be married in 1930, Nora Sheridan. Miss Haines (1926) at the telephone also provided a replacement, her

* *These two no longer survive.*

sister Vera, when she left to get married. Above on the second floor was Contracts Department with Major Holmes and George Edney within and Frank Church as a typist out in the passage.

The two representatives, Jim Murray and Jack Bennett were soon transferred to become lodgers in the showroom, in the corner under the crystal chandeliers. Many is the time Bennett has stood up with a resounding tinkle and a "blast these * * * * chandeliers" as he swatted their lustres with his gloves as if they were flies. The lowness of the floor above of course brought the larger chandeliers well within head height.

In the regions below No. 24 and in the hinterland at the back there dwelt the hire department and their stores. Movement of almost everything in hire department involved stairs.

The annual stocktaking in the showroom was as can be imagined a difficult task. The value of the stock there must have see-sawed violently from year to year depending on whether Arthur Earnshaw or Phillip Sheridan did the final Saturday afternoon check and valuation that year. Certainly the time taken over the job varied fantastically. Earnshaw regarded the task as one to be got over and he realised that the value of the lot under the hammer was problematical. To P.S., however, the fittings represented a priceless collection to be lingered over, savoured to the full, and enjoyed. Every fitting had a story and nothing could ever be thrown away. Very typical of this attitude was a couple of octaves or so of tuned electric bells in the top shelf of the showcase labelled "not to be hired or sold," or the beautiful Venetian glass chandelier which must not go out either, because it was too lovely and too delicate. Hanging as a frail plant among the other crystal chandeliers which worked for their living it lost first a glass sconce, then a leaf, then a lustre or an arm until eventually only the centre stem remained as a reminder that it had ever existed.

"... and a very small one the other end for Henry Myers."

A Model Factory

Strand have, from even the earliest days, relied to some extent on their own manufacture and now had for the first time a purpose-built works at Gunnersbury. Here the Mansell and Ogan and Strand Electric works finally came under the same roof and Moss Mansell became the works manager. A model factory ready to serve the entertainment world with lanterns, control boards and dimmers.

A model factory indeed but not quite. From the first it was really too small and very soon a new bay was built and the sheet metal was thereby very properly separated from the engineering shops. There were two engineering shops to testify to the failure to amalgamate the personnel of the two firms. Sheet metal under Bill

No parking problem at Gunnersbury in 1932.

Buckle was an obvious shop of its own. Buckle who is still with us has a strong personality and has ruled with a rod of iron both his own shop and all staff whose fate it was to send him works orders.

Before long the workers in the new sheet metal shop came down to earth literally. The aggregate used for the concrete floor was such a poor mix that it got worn out under the feet of those at the benches and they found themselves standing on the earth beneath. While this defect was soon remedied it is nevertheless a fact that the factory was constructed to such a tight specification that extension upwards on the existing foundations has always been right out of the question.

Dusty Miller, the foreman of the other half of Strand Electric works was a fine engineer and a traditionalist and the early days of Strand engineering owe a great deal to him. He did not, however, take kindly to innovation. The Strand Grand Master direct operated boards of the 'thirties were like their predecessors, large and solid, beautifully made and unlikely ever to wear out. But as John Christie

was wont to point out at frequent intervals (to Bentham of all people) on his visits about his new opera house " Strand Boards are years behind the times ". Christie went on to prove this by installing in Glyndebourne a 48-way Bordoni multi-slider transformer dimmer imported from Germany.*

Development for the future was represented by the Dimmer shop, the Mansell and Ogan survivors under Jim Jordan as foreman.† It is significant that for the first really large dimmer board (120 ways for Covent Garden Opera in 1934) only the Mansell and Ogan shop had a suitable system available, i.e. the magnetic clutch bank.

Dimmer shop, Gunnersbury 1932, Jim Jordan the foreman just visible on left.

Beecham at Covent Garden

The Covent Garden control ‡ was a remarkable affair in which each dimmer was represented on the control panel by a two-way-and-off switch with a Rolls Royce petrol gauge as indicator. The switches connected an up or a down clutch to a driving shaft. There were two shafts, one for the colour circuits and one for the independents. Both shafts were turned by hand from wheels under the control desk. For some reason, far from clear, no motors were used. The resistance dimmers were in a room under the stage and the control on the prompt side perch to which the mechanical shafts extended. The 12-volt control lines were in bell wire separately run on site by

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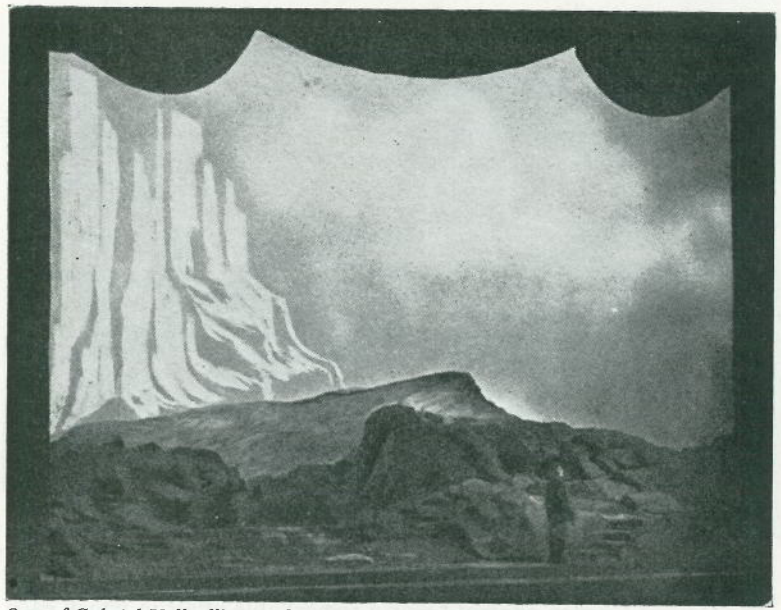
* *Replaced only this year (1964) by a Strand 120 way System CRD 4 preset.*

† *Mansell and Ogan itself was finally liquidated in December, 1940, but separate workshops went on until Miller retired in 1955.*

‡ *The Covent Garden board is to be replaced this Autumn (1964) by a 240 way Strand System C/AE4.*

young Davies (November 1930) and now one of Strand's works managers.

The opera season was a short one of a few weeks only in those days. Sir Thomas Beecham was the king pin and the first opera was *Fidelio*. The whole installation had been completed in record time under Applebee and Pepworth. Bill Buckle made his own memorable contribution—a frightful sunburst extravaganza in sheet metal on top of the new cue board—like everything else there—the largest Strand had made. Installation completed, certain characters came out of winter quarters and took over the electrical installation for



One of Gabriel Volkoff's sets for the cycle of " The Ring " at Covent Garden 1934. Valhalla and cloud effects were from Strand Patt. 33 arc projectors.

Beecham, Jack Croxford and Syd Cheney with Bill Storer on the new control. The de Basil ballet followed and then Covent Garden shut down except for its usual winter months as a dance hall until the next year. It was not until after the second World War that Covent Garden achieved its all year round opening.

It is curious that the Covent Garden remote control proved to be a flash in the pan. Why did Strand Electric revert to Grand Masters for their subsequent work for so many years?

Perhaps the fault for this divides equally between Applebee and Bentham. Applebee and indeed his customers, most theatre people, preferred the well tried and were above all happiest when they could see a nice strong metal link between operating handle and dimmer. Bentham, on the other hand, was then twenty-two and

all set to turn Strand Electric technically upside down. His own control, the Light Console, took over where Covent Garden left off and could, unlike the latter, do fast cues very readily indeed, as the Palladium was to prove in 1941. With his mania for colour music nothing less than an instrument to play the light would satisfy. The result in 1936 was the first demonstration of the Light Console, although perhaps "recital on" better describes it. Its revolutionary character attracted lots of publicity and got it talked about but made the theatre traditionalists distrust it. The technique required of the operator would be so completely different and in any case it was many times as expensive as a Grand Master.

Thus improved control facilities exercised no appeal and it would only be when the number of dimmers exceeded the number which a Grand Master could cope with (mechanically not artistically) that remote control would become accepted. A Grand Master could do eighty dimmers or so at a push. Portables could also be pressed into service and labour was plentiful in those days, so why worry.

In the United States only in the exceptional cinema presentation house (Radio City Music Hall, 1933) and the occasional special theatre like the Metropolitan Opera, New York, did remote control get a foothold. In Germany the large installation was common, but always tracker wire operated from their versatile and compact regulators.

Another Miracle

Lots of things went on at this time and one has only to compare the catalogue of 1936 with its predecessor to realise this. The most eye catching and publicity catching of these developments was of course the Light Console.

This was essential to Bentham's colour music and had been floating in his head for years, but he did not think he could get it made and toyed with the idea of making it himself to operate the miniature dimmers of his model theatre at home. After being lucky * enough to get just the right job in Strand, there began to appear to be a chance that Strand could be persuaded to make a full size Light Console for their demonstration theatre. To sell the idea of the organ console was difficult, but it intrigued Sheridan and Earnshaw. Mansell was the most cautious but there was something of a lever to use on him in the fact that the console invention was based on dimmers with his patent magnetic clutch. Mansell had resented the fact that Strand made no attempt to use his clutch and were only forced into it when at Covent Garden the job was too big for anything else. All the imaginative early uses of the Mansell clutch were as we have seen, the result of the initiative of Basil Davis.

** It was " lucky " because if F. G. Macrae had not gone as electrician at Drury Lane when young Mather died, Macrae would have taken the new demonstration theatre under his wing and no vacancy would have been apparent that day at Grosvenor House.*

Mansell did not like the organ end, however, and it was not until he had been taken to Comptons where J. I. Taylor—that firm's technical director—overflowed with enthusiasm when confronted with the idea for the first time, that Mossy began to warm up.

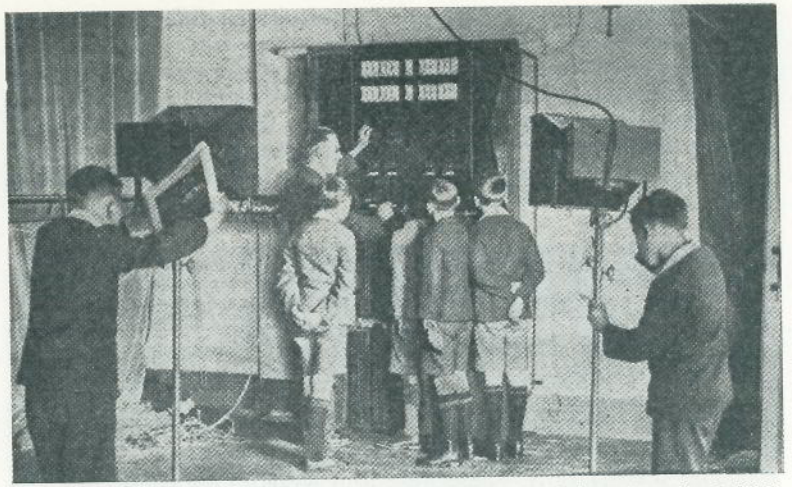
Estimates were prepared and a thirty-six-way remote dimmer bank and a console of thirty-six stops (duplexed on two manuals) and twenty-four pistons came to roughly £1,000. There were to be no half measures; no six experimental ways, it was all or nothing. Mansell decided it was *nothing* and said so in a letter to Bentham dated June 16th, 1933, which is still preserved, as follows:

> " I am sending herewith schedule of material duly priced, and shall be glad to have your views. It seems that with the cost of the console the total would be very little less than £1,000, and I think it hardly likely the directors will go to this expense. Certainly I would not be prepared to recommend it. **You must bear in mind that if we sold equipment of this sort at a profit** of 20% on cost, we should have to sell 5 before we recovered our experimental charges. Maybe you can make some suggestion for an experiment on a less pretentious scale, or you may be able to point out instances in our costing which could be reduced."

It may be a tribute to the infectious enthusiasm of the inventor himself that the project went on but it is surely even more a tribute to Earnshaw and Sheridan that they had the forethought to win over the reluctant third man. It was their money and Strand Electric had never spent anything like this sum on experiment. The go-ahead given, the Light Console had to be made. Comptons were producing cinema organs—pipework and all—at the rate of one a week and the Strand works were equally busy. As a first step our inventor was introduced at the organ works in Chase Road, N.W.10, to " Jim Pollard who looks after the electrical side ". One of the great encounters of history, or at any rate of this history. Mr. Pollard, who celebrated his fiftieth anniversary with Comptons last year, is a friend known and respected by all who have been engaged on any of the Light Consoles and their successors through the years. The seeds sown with Compton's at this time did not flower for either firm for many years but post-war eighty-four consoles and thousands and thousands of memory relay ways have been supplied.

The technique of cables preformed and tied out on jigs was virtually unknown outside organ building in the 'thirties. Strand's contact with Comptons led to them essaying this technique for the first time in the early months of the war when a team consisting of Fred Bentham, Paul Weston, Jim Hayden and Percy Pillar wired the 108-way console bank for Lisbon in this manner.

Nowadays almost everything, large wiring or small, at the various Strand works uses preformed cables—even the cheapest switchboard of the lot, the Junior 8. Indeed, were it not for this mass production wiring technique it could not hit its price of £45. Exceptions to this treatment of wiring are only now creeping in where printed circuits become appropriate.



Daily Mirror " action " picture of Strand " Junior " stage lighting in a school, 1933.

The Age of the Super Cinema

Battens and footlights made their last great stand in the super cinema where the extensive use of drapes gave them some justification.* When a brand new completely different catalogue of 123 pages was issued in 1936 it had a black cloth cover and the name of the firm blocked in red, blue and green. This latter was significant for this was the heyday of colour mixing, the staple diet of the super cinema. Truth to tell the running in three colour mixing was set by Gillespie Williams, then with Holophane and a deadly (but friendly) opponent of Strand and of Applebee in particular. Williams invented special colour mixing controls and hypnotised cinema managers and owners, particularly the independents, into lavish colour lighting installations out in the auditorium to accompany the cinema organist then at the height of his glory.

The Capitol, Didsbury, was the supreme example. Here was a cinema in a suburb of Manchester whose owner had the Holophane lot. Pages and pages of luscious publicity in the *Ideal Kinema* and *Cinema Construction* lauded Williams on high, while Applebee had to stand by and take it. Then the blessed place got burnt down and the whole rigmarole started up again with the repeat order on an even grander scale. However, in 1956, Didsbury fell to Strand, largely because the old Holophane colour selector board was manifestly inappropriate to the needs of black and white television. Perhaps if they had had a Grand Master all those years ago the new Strand control for T.V. might not have got through.

Applebee seldom won in the super cinema auditorium, famous exceptions being the Regal, Kingston, and the Winter Gardens,

* *So one would like to think, but see page 115.*

Llandudno, but on the stage it was quite a different matter—Holophane never got a look in where the really big ones were concerned. The large Gaumonts were always Strand Electric, but competition in the Astorias and Paramounts came from Major. In the others it was a battle. H. & G. cinemas, for example, Trocadero, Elephant and Castle and the Troxy * were both Major, on the other hand, the State, Kilburn, and Regal, Edmonton, were Strand Electric.

Regal Edmonton

The stage of the Regal, Edmonton, is worth describing in some detail as it was, in fact, large enough to be used for the out of town try out of *Blitz* recently, before this spectacle was staged at the Adelphi Theatre, London. The proscenium opening is 56 ft. wide by 32 ft. and the stage 45 ft. deep. There was the usual orchestra and organ lift in front of this with a four-colour disappearing footlight and a revolve of 39 ft. in diameter with four lifts in the centre rising 5 ft. and sinking 12 ft. There were four 4-colour 150-watt compartment battens and a double 500-watt compartment batten in three groups each of three colours (double wattage blue) to light the plaster cyclorama. This was flat with curved ends and there was a pit which contained a double row groundrow. Side lighting, mainly for the folds of drapes came from six sets of triple 1,000 medium angle floods as mobile (rather too low) towers. The weakness of the scheme was in the spotting available. There were twelve 1,000-watt focus lamp colour changers, wired in threes, on the low front of the single circle and a few portable spots and that was all except, of course, the following arcs. There were, in addition, five early type acting area floods to each of the four battens as two circuits each. The control was a 72-way Grand Master in the actors left corner. The auditorium seated 3,000 and was rather undistinguished architecturally except for a triple proscenium cove with three-colour lighting. The whole lot went into action on the opening night, March 8th, 1934, to present the 1812 overture with Moscow silhouetted against the Strand flames on the cyclorama and the proscenium lit up in Tricolour.

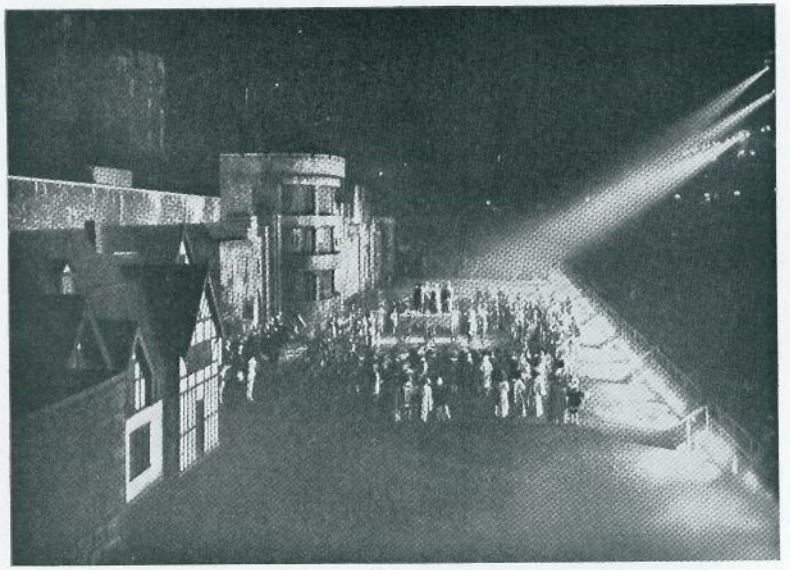
Pageants and Pageants

Bentham found his job in charge of the showroom and demonstration theatre left plenty of spare time for experiment and the Patt. 56 acting area, the Patt. 73 Mirror spot and the Patt. 50 Pageant lantern were among the results.

Jack Bennett who was looking after a Pageant which opened on May 23rd, 1935, in the moat of the Tower of London had needed a narrow beam lantern of great power and started fiddling with parabolic reflectors in the only lab the Strand Electric possessed—the

* *Curiously the complete wiring installation was, however, by Strand.*

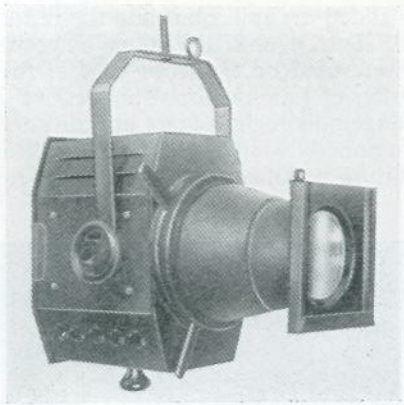
demonstration theatre. Bentham added the spill rings and the result was known as the " double B " lantern until the name Pageant stuck. Ninety of these lanterns were used on the front edge of the temporary grandstand for the Tower of London show. Sixteen were used shortly after to floodlight England's highest spire at Salisbury Cathedral. Applied to the theatre nobody wanted it as they disliked the streaky light and only by fitting a diffuser glass could a few experiments be launched.



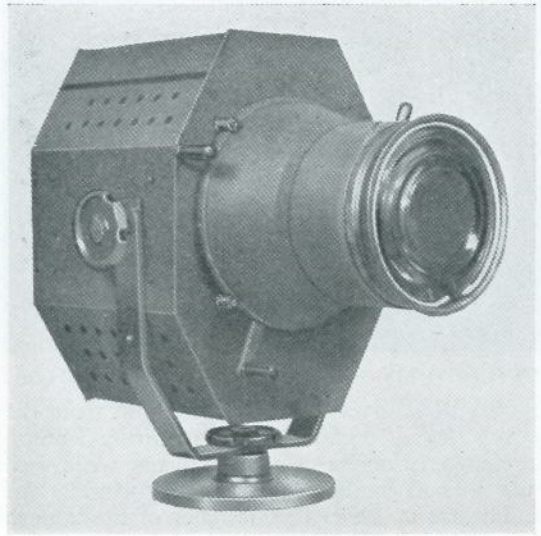
The Tower of London Pageant and Tattoo, 1935.

The first Pageant in a theatre was used as moonlight from the fly–rail at His Majesty's for a dreadful show featuring Ramon Navarro in a constant change of uniforms which ran one week with difficulty. The next use was as sunlight through the window for *Candida* at the Globe Theatre in 1937. The designer of the lantern was accompanied by another B (B. E. Bear) and together they admired the effect by courtesy of a couple of briefs for the pit. Those were the days before democracy had extended the stalls and their higher prices to the depths beneath the dress circle. Pageants did not go with a bang and a few years were to pass before Robert Nesbitt's lighting for spectacular musicals in the war was to turn them into a best-seller.

Not that theatre people did not try novel lighting units sometimes. George Black fell for low voltage spots (with built-in transformers) in a big way at the Palladium in 1935. Downstage battens were replaced by massed batteries of them with booms to correspond up the sides. These units were not made or supplied by Strand but



Phillip Sheridan insisted that we should have a model too. Hence the Patt. 81 in the 1936 catalogue; but they never caught on. The 1936 catalogue had included a low voltage Pageant (12 volts 100 watts) and a low voltage lens spot. The last named had a fairly successful life on special duty, lighting the China and Ceramic display in the British Pavilion at Paris in 1937 for Stephen Thomas and in the G.P.O. Pavilion at Glasgow in 1938.



The original hand-made Patt. 74 (250 watt) and Patt. 73 (1,000 watt) Mirror Spots of 1935.

Mirrors and Profiles

The Patt. 73 Mirror spot was quicker off the mark than the Pageant and soon became accepted as the lantern for the front of house and became quite popular on the stage too. Perhaps we should say it was " used " quite a lot on the stage. Popular it could never be while it involved so much lamp adjustment. Prefocus holders, although known of and freely available in America, could not be used as British lamps with the appropriate caps did not become standardised in their dimensions here till well after the war.

The first Mirror spot was in fact made at Head Office to Fred Bentham's verbal description (no drawings) by Harry Coe the sheet metal worker. Harry used to come and go but his brother Reg (1925) has been a familiar figure at most of our factories and is now at the Kennington works.

The first try out of Mirror spots (Patt. 73) was with six on the Upper Circle front of the Savoy Theatre in 1936 for *Young Madame Conti*, a play with a trial scene featuring Constance Cummings. It is a fact that the Mirror spot was a Strand creation, created at roughly the same time as Kliegl in New York invented the ellipsoidal spot. When Phillip Sheridan returned from the U.S.A. at that time bringing a Kliegl ellipsoidal he was amazed to find Strand had an equivalent spotlight. The simple mirror and standard projector lamp of the Strand Electric lantern was the natural result of limitations over here. Not for us the spun rhodium surface reflector with the exotic cap-up burning lamp. The Americans were presented by the G.E. with a whole range of these exciting new lamps in the early 'thirties whereas here in the U.K. we had to wait until 1963 for our first, the 1,000-watt T4. In fact it was not until 1952 (the year of the breakup of ELMA, the lamp ring) that we could get our lamp manufacturers to give us even a 500-watt in a small bulb (Class T) and launch a Baby Mirror spot, the Patt. 23. Prior to that time the 500- and 1,000-watt lamps had the same large round bulb. The 1936 catalogue had a Baby Mirror spot Patt. 74 price £6 6*s.*, but because this had to be restricted to 250 watts, only the one illustrated (Harry Coe again) was ever made. It was not until 1951 that Baby Mirror spots were really launched here with two sandcast prototypes of the Patt. 23 installed in the roof of the Royal Festival Hall.

Filtering Colour

Then, as now, one of the jobs of the showroom was to demonstrate colour filters. Gelatine was still supreme in the early 'thirties because the only plastic was the very dangerous cellulose acetate in a very limited range of colours which dropped flaming bits when set alight. It is curious that in England, at any rate at that time, there were no really pale colours. All the more strange when one considers that every lantern had so little power. The palest colours were No. 3 Straw and it was not until Murray Anderson brought over " Surprise Pink ", as No. 36 was called in 1930, that there was any pink paler than No. 7. Harold Ridge used to preach the use of pink instead of the ambers No. 3 and No. 4 very commonly used. The only pink which was not too pink for straight plays was No. 8, but this was awfully deep all the same. One way out was to use 3 and 36 together. It was a sign of the times that when Fred Bentham tackled the colour range, as he soon did, it was a green that he first introduced! This was No. 39 and was necessary because the No. 24 used till then was too blue as the correct primary for the *three-colour* system. It made the yellow mixtures too pink. Any new colours always involved John Green whose firm continued to supply dyed gelatine right up to 1962 when it was finally deleted from the Strand catalogue. " Cinemoid ", which is cellulose acetate but with a flame quenching chemical additive, finally took over. It is the use of gelatine instead of glass, as was mainly the practice in Germany (for stability), that has led producers here and in U.S.A. to make far more personal

use of colour. This in turn led to the large range of colours which has been the attraction of " Cinemoid " the world over. The first pale tints were introduced as a batch in TABS, Vol. 1, No. 3, January 1938, as follows:

" The new range of colours is difficult to explain by name, and all those interested should make a point of writing to us for a sample colour chart of the additional colours. This colour chart will convey to some extent the nature of these gelatines, but undoubtedly it would be better to order a set for a spotlight and to actually try them in use. Everyone is by now aware of the deceptive nature of, for instance No. 36 Surprise Pink, when viewed in the colour chart, a deception which is also practised by all of the new colours as well. They are as follows:—

No. 50	Pale Yellow	No. 53	Pale Salmon	No. 56	Pale Chocolate
No. 51	Gold Tint	No. 54	Pale Rose	No. 60	Grey
No. 52	Pale Gold	No. 55	Chocolate Tint		

Another feature of the 'twenties and the early 'thirties was that the colour samples were all framed-up as cards. This was very good for at least one model theatre enthusiast who with the aid of the scissors found himself with a free set of colours complete with frames. The framed cards followed Digby's practice, but he had a different set of numbers for his colours, for example, No. 6 Dark Pink, 10 Steel, 12 Dark Blue and 19 Straw. When Ridge wrote his first book on stage lighting the one published by Heffer in 1928 he used Digby numbers, but in 1935 for *Stage Lighting Principles and Practice* published by Pitman he used Strand numbers.

The demonstration theatre was, of course, used to try out special effects as well as to show off Strand (and Hall and Dixon sometimes) to customers. Effects were rigged specially for customers but more important this facility was of direct benefit to members of Strand Electric themselves who could test a theory or effect before setting out to do battle on site. The theatre became a kind of laboratory and, for example, each week sometime on Thursday afternoon as part of Mansell's regular visit to Head Office, Arthur Earnshaw, Phillip Sheridan and Moss Mansell would go over to see what their angry young man had produced in the way of a new lantern or a mod. or whatever. These early unofficial technical meetings were forerunners of the specialised R. & D.* Meetings of various sorts held at intervals on and off ever since.

Competition

It is customary, particularly for some of our friends in America to envy us what they consider the lack of competition, but is this so?

As we saw earlier, Strand began at a time when Digby was strongly entrenched. Later he was replaced by other competitors. The G.E.C., for example, under Lester Groom as agents for the German Schwabe company had immense resources of lighting equipment ahead of the entire world at their command. A few theatres followed the lead of Basil Dean at the St. Martin's in the use of the Schwabe equipment and at least two cinemas, the Plaza,

* *Research and Development Department, now Technical Department.*

Regent Street (1924) and the Commodore, Hammersmith (as late as 1931), were also equipped with Schwabe Hasait cycloramas and lighting. An agreement was signed in June 1931 the terms of which laid down that the G.E.C. would supply Strand stage lighting in future, while Strand Electric for their part would use G.E.C. lamps and components as far as possible. This agreement was probably responsible for the rumours current for many years that we were a subsidiary of G.E.C. Incidentally, the cloud machine from the Plaza later found itself under Strand auspices in Glyndebourne for its opening in 1934.

Only a tiny trickle of German equipment has ever made its way to this country over the years that followed. The principal items nowadays being the highly specialised scenic projectors from time to time imported from Reiche and Vogel the successors to Schwabe. The reason why German equipment never caught on here is that it is of the wrong scale. The German stage is based on the opera house form. Very large indeed with very high grids and plenty of room for vast cycloramas, lighting bridges and towers. The scale of expenditure is vast also and production in this country in rented theatres has always been subject to great financial limitations. In any case the practice of hiring equipment was obviously at variance with the import of German apparatus.

Phillip Sheridan leaves for New York 1935. Left to right Stanley Scott, Mrs. Sheridan, Jack Sheridan, Phillip Sheridan, L. G. Applebee, Stanley Earnshaw.

Reandean and later in the 'thirties, Venreco, were competitors in the West End theatre. Both the Cambridge and the Saville were Venreco jobs. Direct operated dimmer boards were easily made and the firm of Mickelwright at Alperton manufactured for several of Strand's competitors. Strand Electric even supplied Major with the

dimmers (Cecil plate type) with which, when mounted in their boards, they sometimes beat Strand. Outside the West End there were other competitors of which the most notable is W. J. Furse.

Strand Electric have never taken over or bought out any competitors. The success of the firm owes an immense amount to the corporate effort of its members. Strand men like the varied work on the fringe of the entertainment world and tend to identify themselves with the firm and stay. Another factor is that we in Strand have tended to train our own customers to accept what we feel they need rather than what they think they want. This is not as dictatorial as it may sound as inevitably there is a distinction between the planners who put the equipment in and those who follow to use it for actual production. Literally the only place the young lighting enthusiast about to leave, or just left, school can train is by attending Strand lectures, and reading TABS and other Strand publications. Nothing shows this technique in action better than the recent killing off of Pageants, Acting Area floods, etc., to be replaced by Fresnels. Fresnels were first seriously launched in Britain by Furse just after the second world war, but they could never popularise them. Yet Strand were able to do this swing over in a matter of months with but a tear or two in the professional West End for the passing of the Pageants which originally they would not look at.

Young Directors

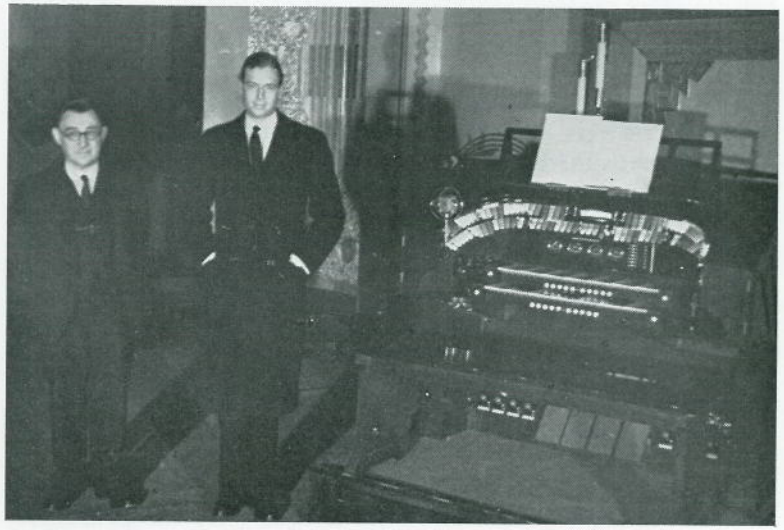
In May 1935 Jack Sheridan and Stanley Earnshaw were both made directors of Strand Electric and not unnaturally Jack had a desk in P. S.'s office and Stanley in Arthur's. Jack Sheridan had joined the firm on March 2nd, 1931 (the same day as R. A. McKenzie), and was placed under Schofield where he was given the Savoy Theatre job (Strand did both wiring and stage lighting) to cost. This astonished Jack because the Savoy had been completed two years earlier! Schofield, the manager of the Sign department since its re-organisation in 1950 was in those days in charge of costing and buying. Mountains of paper were piled on his desk and every other shelf or ledge in his office on the first floor of No. 24 Floral Street. Add to this heaps of the catalogues—many stored at floor level—his job as buyer required and it is not surprising that he was often months behind. It must be stated here and now that no one could accuse Schofield of not working hard. Every night until at least nine o'clock was the regular practice.

Jack Sheridan was known to Arthur Earnshaw as " Cigarette Jack " and when on one occasion Arthur entered the office to find him alone except for a wastepaper basket also smoking which immediately burst into flames, Jack was to find like another Jack before him, that, unlike his own father, Arthur was master of the economical verbal rebuke. This economy extended to an imperious but very effective two short buzzes on the house 'phone whereas P. S. used to keep his finger on the button.

Jack later served under Applebee who made a practice of taking his new assistant about with him and Jack Sheridan relates that it was very strange how on summer trips to Stratford-on-Avon, Birmingham and no matter where, they used to find themselves near Henley-on-Thames about 4 o'clock when it was hardly worthwhile to go back to the office.

A Royal Visitor

In 1936 there occurred Strand Electric's one and only visit from Royalty. Contact in the shape of lighting something Royalty was to look at when attending a theatre, pageant, exhibition or whatever, is one thing, but a visit is quite another. In fact, members of the Royal family were not unused to finding themselves lit by Strand. An annual ordeal for H.R.H. the Prince of Wales, for example, when he recited each year Lawrence Binyon's lines in the Festival of Remembrance at the Royal Albert Hall. Years later Strand were to penetrate the royal home and light the princesses acting in their Christmas pantomime. Another kind of tenuous contact was provided quite recently when under the guidance of Joe Davis of H. M. Tennent (incidentally, an old Strand boy himself from 1925 to 1933—Joe that is) Princess Margaret on a backstage visit at the Queen's Theatre pressed a button—we are not sure which one!—on the C.D. Console there.



A Royal Visitor to Floral Street, 1936.

To return to 1936, this was something quite different—a Royal visit to Strand's own premises in Floral Street. H.R.H. the Duke of Kent—Prince George—the King's brother, was to visit us. In those

days Head Office was entirely a Floral Street community. The street has not changed over the years and TABS readers will not be surprised that we were more than a little nervous about this end of the Royal journey. H.R.H. was unlikely to walk and indeed reputedly drove himself in a large Bentley. Covent Garden traffic was much as now except that it was complicated by a fair proportion of horse-drawn vans.

However, on the day we need not have worried; mysteriously there was no traffic at all in Floral Street and the approaches. Equally mysteriously, Floral Street had not only been swept and tidied overnight almost beyond recognition, but it had been sanded. Here was a Royal way and even the outsides of the buildings looked as if they had been dusted.

H.R.H. arrived as foretold, driving himself with only his equerry for company. He was introduced to Phillip Sheridan as managing director and taken through the hire fittings showroom which certainly had not been dusted and placed in a chair in the old demonstration theatre. What for? What did Strand do with him? The answer is simple, he had to take his dose of colour music. The Duke of Kent was no exception, everyone had to take their dose of colour music. Only Mistinguette ever had the courage to back out. She lasted half-way through the Bach Toccata and Fugue in D Minor and then got up from her seat. It did not matter in those days who you were and what you came for, sure enough you had to take your colour music like a good visitor. Fred Bentham can only be sure of one item he played to H.R.H.—" Twelfth Street Rag "—hot rhythm as it was called. No doubt there were flames, waves, clouds and U.V. as well.

Afterwards the Duke of Kent stood alongside the console with P. S. and had his photograph taken: typically for Strand—not by a professional photographer. It was not known if he would consent and in consequence to hire a professional might mean a few shillings expended for nothing. As photographer Stanley Scott the manager of Stransigns had to stand by—in case. Acting the photographer provided a period of real agony for Scott. After H.R.H. had gone he could not remember if he had in his agitation pulled out the dark slide of his camera! The photo and the fact that Scott survived the event for many years to tell the tale proves that he did.

Bernard Shaw on Clouds

Well-known names of the time figure prominently in the Strand Electric Visitors' Book of those days. There were theatre people like Matheson Lang, Owen Nares, Julian Wylie, Kurt Joos, Paul Shelving, Frank Cellier, Robert Atkins and Tyrone Guthrie, and not surprisingly names like Roy Fox and Joe Loss but lighting for entertainment tends to spill over the bounds of theatre and in consequence one finds Sir Edwin Lutyens, Robert Cromie, and among

these every now and then an unexpected one like Birkenshaw or Campbell who were pickets of an unknown world to come. Birkenshaw was the engineer for the B.B.C. Alexandra Palace television station then just being built to give the first regular public high definition television service in the world. These visitors conducted by Jim Murray, inspected Strand lighting equipment and did not think much of it for their purpose. Quite rightly since the Baird system needed 400 ft. candles and Strand had not a single 2 kW lantern to their name. Murray (1925–1962) was our first outside representative dealing with non-theatre work. His Irish charm enabled him to discuss any form of lighting or control with a customer without being hindered by technical considerations and also enabled him to overcome the natural antipathy of those at the works to this method of approach. Applebee, however, was the more successful at this T.V. meeting since he managed to sell two 30-way Grand Master dimmer boards.

Probably the most famous visitor Strand have ever had was Bernard Shaw. He, too, had a large dose of colour music including the whole of the first movements of Schubert's " Unfinished " Symphony and of Tchaikovsky's " Pathetique," respectively. Bernard Shaw took his dose at a special meeting (April 24th, 1936) of the Art Workers' Guild of which he was a member. Fred Bentham vividly remembers the murmuring, " Shaw—it's Shaw ", which accompanied the entry of the famous beard round the door. He had walked up from Adelphi Terrace and was then 80. A place was made for him in the front row and " Light as an Art " began. Shaw stayed to the end and joined in the discussion to say that such lighting would be a distraction in his plays! He admired the cloud effect but said that it reminded him more than anything of a stage army—the same chap came round again and again.

F. P. B., now joined by B. in enthusiasm for Colour Music, and together known to the more " business like " (?) members of the staff as the Long Haired B—s, was not satisfied with administering the art to unsuspecting customers but found an outlet in the form of the Light Console Society. This had nearly a hundred members representative of all the fringe arts who " enjoyed " it for its own sake and attended seven separate recitals over a period of two years. For all the esoteric nature of this bastard art the development of a suitable control to cope with it laid the foundations on which a profitable business in remote control was years later to be built.

City Lights

These were the early days of Strand Electric as a public company. In actual fact it is the holding company " Strand Electric Holdings " that is the public company. Many employees will remember the shock of reading in *The Times* of February 13th, 1936, the prospectus of the new £115,000 Holding company. Gone were Arthur Earnshaw (died 1940) and Moss Mansell and in their place was Hugh Cotterill,

late of Major Equipment (therefore looked upon as a competitor!) and some city gentlemen no one had heard of in the theatre. Only P. S. remained—firmly at the helm or so it appeared at the time though, in fact, he was to die before the end of the year. The two sons, Jack Sheridan and Stanley Earnshaw were not directors of the new Holdings company until P. S.'s death but remained directors of the taken-over Strand Electric.

The unique business of Strand Electric survived as there was sufficient momentum for that. It would, of course, take more than the City to stop the Colour Music; after all they didn't even know it had started! So also, certainly, was the case with the strange technical rites practised by Applebee, Madre, Stables, Weston and other denizens of this strange world.

Phillip Sheridan died on December 18th, 1936, and his son took over as managing director at the age of twenty-eight, although the City still remained in the chair.

Before long Jack Sheridan had dug himself well and truly in to the world of figures in the boardroom. Fortunately Stanley, Arthur Earnshaw's son had a strong leaning to figures of another kind and was as we have seen by nature drawn to the theatre. Already at home there, he soon became known to everyone on stage or off. Many things contributed; first, of course, he was easy to remember but with his short stature went a hugely friendly personality. Stanley Earnshaw likes people and therefore people like him. Coupled to this was a willingness to help, to take over problems immediately they arose in a production and provide a solution. A solution, be it whispered, sometimes provided by someone else in the Strand Electric who actually does the work. Never mind, Stanley could be relied on to get things done and that is what matters in the theatre. Delivery in the theatre is determined by the date of the first night and not by the time it takes to make the equipment.

In the course of the next few years the city element was to disappear from the board of Strand Electric Holdings and promotion from the ranks has been the practice since. The first such promotion to the board was of the company's secretary, Henry Myers in November 1942, followed by L. G. Applebee, the manager of the theatre lighting department, in November 1945. Post-war promotions to cover retirement and resignation have been Frederick Bentham of Research and Development, in 1957, and H. O. Jordan, the Works Manager, in 1959. In September 1963 the number of directors was increased to six when Phillip Sheridan (1960), grandson of P. S. joined the board.

Legal Strife

In 1936 Strand Electric became deeply involved with the law. They had begun to manufacture a device christened the Chromolux by

Mansell. This used his clutches controlled from a regulator to provide dimmer mixtures of three colour lighting for cinemas. The inexpert operator could put the pointer to lavender, for example, and up it would come. Looking back, it is hard to realise how difficult the remote positioning of dimmers at intermediate levels was in those days. However, both Jordan at the Works and Bentham at Head Office hit on the solution quite separately. The dimmer arm must keep at least one of a series of switches joining the up and down clutches *always* open. To do this it had of course, to open two when exchanging the area of one switch for the next. If the clutch feed from the controlling selector switch coincided then, at this moment neither clutch would be fed and the dimmer stopped.

In due course Holophane Ltd. objected and took Strand Electric to Law. It has to be admitted that automatic colour mixing was only a sideline for Strand whereas for Gillespie Williams it was the principal plank in his colour mixing campaign and one which he used when he later went to W. J. Furse and later still to America. He still preaches auto-colour mixing for Century out there, when his other work for them allows him the chance. Another enthusiast for auto colour mixing who has become prominent in the post-war years is Georges Leblanc of Clémançon, Paris, whose chromo-selector may be known to the reader.

Gillespie Williams did not invent the three-colour theories of light as Applebee lost no opportunity in pointing out. The latter's lectures of the 'thirties and contributions to the Illuminating Engineering Society's discussions and the like are full of dark references to Young and Helmholtz. Actually the name of Magnus Volk * would have been a better weapon for Applebee to brandish as he had invented years before a joystick handle operating three dimmers for three colour mixing. This dimmer was used by Ridge for his model theatre featuring one of Doria Paston's Cambridge Festival Theatre sets in the Science Museum.†

The lawyers got busy and Strand's solicitors briefed Sir Stafford Cripps who gave a remarkable display of his ability to digest and give an opinion on, what was a specialised bit of circuitry and an even more specialised application. The two criminals ‡ were enjoying consultations in chambers, the expert witnesses, the patent agents, etc., but the two companies standing treat, so to speak, did not enjoy the huge bills in prospect. The then chairman of Holophane and Jack Sheridan came together and settled before court was reached. Strand would not advertise or sell the Chromolux but

* *Of electric tramway (early Volkswagen?) on Brighton front fame.*

† *This model theatre is now in the children's gallery and the Volk joystick was replaced by Strand auto control in* 1956. *Strand, alas, did not supply any of the lighting to the Festival theatre itself.*

‡ *In actual fact classed as " innocent infringers " in the eyes of the law.*

they would make this colour equipment for Holophane. A sensible arrangement because Williams was always much better at selling colour mixing than Strand. After all, he really believed in it and had probably created the demand in the first place.

In the next encounter with the law, Strand as plaintiffs won the case with a judgment which set a precedent as follows:

> " On the question of damages it was held by the Court of Appeal that if a person wrongfully detained and used goods which the owner as part of his business hired out to users, that person must pay a reasonable hire for the goods even though the owner has suffered no loss; the defendants by their conduct must be deemed to have used the equipment, and, therefore, the plaintiffs are entitled to the full hiring charge from the date that the defendants took possession of the equipment to the date of judgment. Romer, L.J., said in the course of his judgment that the three salient facts on which the assessment of damages depended were (i) that the equipment was profit-earning property, (ii) that the plaintiffs normally hired it out in the course of their business, and (iii) that the defendants during their wrongful detention of it applied the property to the furtherance of their own ends." *Law Journal*, April 4th, 1952.

None of this judgment we hasten to add appears in the copious, small and faint print ominously headed " Conditions " (the only word readable) on the back of Strand Electric notepaper.

Branching Out

In 1937, when Percy Corry suggested to Jack Sheridan, recently become managing director, that he should be allowed to run an agency, or open a branch in Manchester he encountered some dogged resistance. Corry puts this down partly to the persistant delusion from which many Londoners suffer, that anywhere north of Oxford there is a curious kind of hinterland, covered with dark satanic mills constantly belching clouds of smoke, and occupied by sub-normal humans who wear caps. There was also the undoubted fact that Corry was a newcomer to the business anyway as only a year earlier he had joined Humphrey Watts as manager of Fitups of Manchester, now Watts & Corry Ltd.*, a small organisation which made scenery and hired it (rather unprofitably) to amateur societies. As a producer of plays performed by some of those societies, his relationship with Humphrey Watts had been that of customer, except for an occasion when both of them did a cross-talk act together in an amateur revue. With something like twenty years' experience of the amateur theatre as actor, producer, stage manager, writer, lecturer, etc., Corry admits that he had the usual delusion that he knew it all and therefore lacked the inhibitions that future experience might have induced and saw only the possibilities.

On the chance of being able to persuade Strand Electric to give the green light he engaged Cyril Whitter, who had been for many years the chief electrician at the Prince's Theatre, Manchester,

* *Which was to become part of the Strand Electric Group years later in Feb. 1964.*

and was latterly its manager. At that time he had left the theatre and called on Corry trying to sell something electrical. Instead, he in his turn was sold the idea of a Strand Electric branch and Whitter took the job on spec. Fortunately optimistic persistence paid off, and the Branch opened in September 1937. The technical assistant was Chris Mallison, an artist/engineer whose ingenuity caused him to develop an infuriating habit of confounding customers with schemes which contained three or four alternatives, about which they had difficulty in making up their minds. Regrettably, Mallinson forsook Corry in 1939 when the war started and is now a consulting engineer on his own. Cyril Whitter was an indefatigable salesman who would not only sell or hire equipment, but frequently undertook to rig it and to light a show.

Miss Robinson, already a member of Fitups found herself landed with varied and exacting duties in the Strand office, compelled to cope with problems and technical jargon that could not have been anticipated, and to acquire a contempt for the flight of time.

Gradually Applebee in London with some misgivings, relinquished many of his provincial customers to Manchester's care. For the better assurance of some of the more reluctant of them, including that outspoken northerner K. L. Foster of the Blackpool Tower Company, Applebee accompanied Corry on early visits and helped considerably to establish the Branch as the acknowledged intermediary.

Wetting-up a Branch

It was in 1938, two years after Phillip (known to Dublin as Pip) Sheridan's death that what Lorcan Bourke describes as " Pip's pet notion of wetting-up a Branch " came to fruition in Dublin. The event was coyly proclaimed in the April '39 issue of TABS by an unobtrusive announcement.

> " . . . Shortly before Christmas we opened new Showrooms at 38 Talbot Street, Dublin, under the management of Mr. Lorcan Bourke, who was formerly Manager of the Queen's Theatre, Dublin. . . . Apart from the ordinary offices and showrooms, there is a miniature Demonstration Theatre, where various lanterns and lighting effects are demonstrated. This theatre was officially opened on February 14th, 1939, by the Deputy Lord Mayor of Dublin, in the presence of a very representative gathering of prominent theatrical and cinema folk, architects, consulting engineers and electrical contractors. . . ."

Lorcan Bourke was a personal friend of " Pip " Sheridan and was himself to become Deputy Lord Mayor of Dublin during the mayoralty of Bob Briscoe in 1957/58.

The Dublin set-up did not appear to have much chance of survival a year later when the war placed restrictions on supplies of every kind. Thanks, however, to the energy of the local staff and such support as London could provide Strand Electric, Dublin, got going and grew.

In 1945 the Dublin Branch changed its address to meet the expansion which had taken place in the interim and after a twelve-year sojourn at 62 Dawson Street, the premises at 30 Upper Abbey Street were acquired. It was from the studio located here that Irish T.V. went on the air for the first time, after a stormy preparation-passage. Happy recollections of the six months occupation of the " Strand Palace " (as the Studio became affectionately known) by Telefis Eireann are retained by Strand Electric, Dublin, personnel. This help was officially acknowledged by Radio Eireann in its annual report of 1962.

Telefis Eireann at the Abbey Studio " Strand Palace " Dublin 1962.

Some idea of the growth of business in Ireland can be gleaned by the impressive array of Strand Equipment in the new Montrose Television Centre. Not only lighting but also Grid, Cyclorama, Track and Suspension Equipment were installed by Strand-Dublin staff. The branch is inclined to boast that almost every parish hall throughout the length and breadth of Ireland, as well as all proper theatres, have been equipped with Strand gear, at one time or another.

Although Lorcan Bourke handed over the reins of management to his younger brother Kevin in 1953 he still participates actively (among other multitudinous activities) in Strand Electric affairs in Ireland. Dublin without his personality is difficult to conceive.

King Street

In 1938 we made a move. The impending expiry of the lease at No. 28 Floral Street had for some time previously compelled Jack Sheridan to look around for new premises. Some rather derelict ones had indeed been purchased at Shorts Gardens in 1936 and plans were laid to demolish them which would have provided Strand Electric with shining new purpose built premises complete with a lift! The Charing Cross bridge proposals, now of ancient memory intervened: incidentally, contemporary with them was the idea of the Cromwell Road extension and the Hammersmith flyover. Everyone now has forgotten the first, but it was unwise to proceed since the front portion of the proposed new building would have disappeared. Eventually No. 25 Floral Street, stretching right through to 29 King Street was acquired and this gave Strand a better, but not too grand, entrance and address. The buildings resemble a railway train going round a corner—being in the main long and narrow, really a single corridor to each floor with offices off one side. Here we have been happily ensconced ever since with our own freehold. Like all places of character, it is possible to love them. In contradistinction to the modern office block, every single one of the offices differs in almost every particular from every other.

Visitors to our London home do not realise the large operation that the building of the Demonstration Theatre represented. A floor had to be removed to get a suitable height but more seriously, a series of short cast-iron columns (like the red ones in the lower showroom) standing on top of each other and supporting short cast-iron beams had to be removed without bringing the rest of the place tumbling down. Long after we had taken possession of the offices and showroom the work in the theatre went on. The beams were picked up either side by R. S. J.'s and carried by stanchions right down the walls either side of the breasts which corresponded to old cast-iron works. This structure inspired the form of the plasterwork. By dramatic use of horizontal lines, particularly by taking the house tabs right across to the side walls, the place was made to look wider than it really was.

Architectural Lighting

The theatre which was opened in 1939 by Leslie Henson had a full set of lighting effects in the auditorium as well as the normal stage display. Patterns in various colours were projected up the walls both by spots and floods behind break-up glasses. A cove over the proscenium was lit independently in three colours top and bottom and there was another *above* the ceiling and beam level overhead. Pencil beams could be made to emphasize the verticality of the place or, on the other hand, light could come round the walls at footlight level, i.e. below eye level. Other sources, such as the overhead ceiling cove were so high as to be felt rather than seen. We could in the auditorium, with its thirty dimmers, bring into play

varying colour, pattern and location to considerable psychological effect. The auditorium could, of course, be used to play colour music on! Of this theatre the *Architect and Building News* of March 1939 said:

" At the demonstration the auditorium effects were as effective as those produced on the stage from the same instrument (Light Console). One advantage of this system appears to be that while actual wall decoration can be dispensed with in favour of plain surfaces, a variety of decorative schemes can be imposed on the walls and ceilings, while structural features of the theatre can be stressed to give interesting patterns and treatments.
" A visit to the theatre is recommended, as it is the only means of appreciating the scope of the lighting effects procurable with this instrument."

Leslie Henson at the opening of the second demonstration theatre in 1939. Behind him Jack Sheridan, Hugh Cotterill, Frederick Bentham, Stanley Earnshaw.

This theatre was completely destroyed by a bomb which fell down the ventilation shaft on the night of May 10th, 1941. Jack Sheridan and Stanley Earnshaw decided not to tell Fred Bentham of the loss of his love and thus spoil his brother's embarkation leave for which he had been granted a few days off. As the latter was, in fact, to vanish for some years into a Japanese prison camp this turned out to be a thoughtful step.

Out of the demonstration theatre tragedy there came the real beginning of remote control for London for the Light Console and its dimmer bank were salvaged from under the ruins and installed in the London Palladium as described later.

Lisbon

The Palladium was not the first Light Console installation in a theatre for in the Autumn of 1939 a letter came from Lisbon which began a most curious episode in the life of Strand Electric.

The letter was in answer to a tender for the re-equipment of the S'Carlos Opera House, Lisbon. It simply said, " but what about the Piano? " This was a reference to the photograph of the Light Console which was featured on one of the pages of the catalogue. It had not crossed Applebee's mind that anything grander than the grandest of Grand Masters would be required. Someone in Lisbon was determined to have a Light Console and Applebee, Bentham and an interpreter set out to cross wartime Europe via Paris and the Sud-Express.

The interpreter member of the Strand party needs a special mention for he was none other than " Old Martin ". Old Martin was a French-Canadian approaching 70 who exactly measured up to the Englishman's idea of a Frenchman of the strictly non-debonair type. Nowadays Old Martin would be instantly recognised as an habitué of one of the shady bistros in *Maigret*. But the only shady part of Martin was the obscurity of the story of his connection with Strand. He remained with Strand in the test room at the Works during the war, a prey to the constant problem of how to find a substitute for the wine he sorely missed. Martin was expert in English and German and, of course, French, and had the merit of being an electrical engineer of those early days when electricity really was electricity and nearly everything for it had to be made by hand. Martin also knew theatre, his brother being Vernon the electrician at the Alhambra, Paris, and a friend of Phillip Sheridan's.

Well lit-up in Singapore. Life-size export tiger in glass by Strand, 1930.

Phillip Sheridan also had a similar group of friends in New York centering round George Shaff of the Schubert Theatre. Here, so to speak, were the overseas extensions of the strong friendships which already bound Strand Electric to her customers at home in the 'thirties. The network of overseas friendships was later to be extended beyond belief in the 1950s by J. T. Wood as export manager of whom more anon.

Strand's exports, till Lisbon, had been comparatively slight. In the early days Stransigns had made a glass tiger for Singapore, how they came to be singled out for this task is rather a puzzle. Then there was an early installation for the Eu Tong Sen theatre*, a few smoky photos of which used regularly to rise to the top of the photographic drawer when one looked among the scanty stock for a typical

* *Sited somewhere East of Suez we are not sure where!*

stage installation! Other export installations were the Alhambra, Paris (1931), and the Rex, Turin (1934): battens, floats, grand master and all. Photos of complete stage installations have always been strangely scarce seeing Strand did, in fact, do so many such jobs. It is possible to count on one hand the few flogged to death in the interests of publicity.

1. Covent Garden Opera House showing cyclorama lighting lowered down with heavily touched-up stage floor below. (Photo used 1934–41.)
2. Lisbon Opera, splendid view of entire installation which took all day to pose by lowering equipment in and out to fake the perspective. (Photo used 1941–50.)
3. Drury Lane stage lighting installation for *Carousel.* A photo taken almost by accident by a photographer commissioned by Frank Church to take intimate details of his Contracts department wiring installation—things like the battery room, intake switchgear and other Church cherished stuff. (Photo used 1950–60.)
4. The vast Joe Davis installation for *Bye Bye Birdie*, Her Majesty's Theatre. (Photo used 1960–?.)

S'Carlos Opera House, Lisbon.

To return to Lisbon, the Strand trade mission was successful, largely owing to Martin's ability to translate Applebee's risqué stories. Applebee had a vast stock of these and Martin would listen intently—smile or laugh as he got the point and afterwards plunge into deep thought. Then his face would light up as he hit

on the right way to get over the correct effect in the foreign language. It was largely Martin's artistry as interpreter which still makes the name of Applebee something to conjure with in Lisbon circles. He could be, like all interpreters, tantalising in the extreme. Torrents of Portuguese going on for several minutes would be rendered as " The Minister says No ".

What the Minister (of Obras Publicas e Edifos Monumentos) said " No " to was the removal of the historic tiers of boxes actually on each side of the stage between the line of the float and the house tabs, the presence of which scandalised Applebee who had firm views on stage illusion for opera, which for him really meant Wagner.

Oito Seculos

The order was executed and the equipment built: however, the enemy bombers appeared determined to see that the packing cases in the London dock should never leave England. After two months on the cruel sea the equipment arrived and was paraded through the streets in large packing cases proclaiming proudly but ineffectively because it was in English, " Britain Delivers the Goods ". To install this Pepworth and Bentham, occupying two of the six valuable if uncomfortable priority seats on the bi-weekly flying boat—the *Claire*—arrived at the special request of the Portuguese Ambassador. Three weeks later, faced with a line of troops armed to the teeth awaiting the arrival of the President and Doctor Salazar and with no pass of any kind, Fred Bentham pushed through their ranks declaring " Je suis tres importante ". Even if they had understood French of this order the army might conceivably have been expected to require further substantiation of this claim. As it was the imperious Englishman crossed the road without a shot fired but not without a qualm on his part.

What was Bentham that night and at that time of war which had made him so important? In what way was he representing his King and Country then engaged in mortal combat, virtually alone against the enemies of liberty? The answer is that he was the switchboard operator at Lisbon Opera House, and that night was to be the inaugural first night. Strand Electric had all equipment working for a date determined exactly eight centuries previously when the event of Portuguese independence, for which this was the anniversary, took place. All that existed in the shape of a lighting plot for the opera was the cryptic note " Sup R Blue 10, Green 4.8, Sup P Blue 10, Green 4, Inf. Red 4, Blue 10, Green 4.6, Tom Pal R 5 in each colour "*. This was the opening cue of the great dawn scene aboard ship which formed Act II of the opera *Don João IV* all the rest was characteristically in Fred Bentham's head. Add to this the

** The R and P is equivalent to P and OP and stand for Rua and Praça (cf. Jardin and Court in French theatre).*

fact that he was the only person in Portugal who had any idea of how to work the console * to put the light on, let alone to use it for a lighting plot and he could truly on that occasion claim to be " tres importante ".

The auditorium of the opera was a lovely thing in itself but that night with all the glamour of a gala occasion, particularly a gala occasion in a small Latin country, it surpassed itself—a scene from a fairy tale. Our inventor dressed in full tails was at the console, then in the bass end of the orchestra pit. He had two interpreters on call, his own and a society one who was virtually a " hot line " to the Minister. This interpreter was to prove vital when in fact the curtain went up on the first act and the house lights failed to descend further than half check. This was maddening enough in this act with vision and dream sequences to cope with but what of the second Act with its dark starry sky to open? Failure of the house dimmer seemed inconceivable as it was hand-operated away in the Prompt corner and was likely to be the most reliable item of all the Strand equipment. Bill Pepworth crept up to the console with the information that half check was by Police orders—an inflexible rule when the President attended the theatre. To be seated here at the console represented a dream of a lifetime come true. The first real show in a full-sized theatre and, because of the war, all too likely to be the last as well, was not to be mucked up because of the risk of a few assassinations in high places. The house lights *must go out or else* proclaimed a sizzling message over a very " hot line " from orchestra pit to society contact. Minutes passed and then gently, just in time for the first vision cue, the auditorium lights descended to darkness. At the conclusion of Act II a message of congratulations on the wonderful dawn which reminded him of those he had seen at Coimbra † came from His Excellency.

Lisbon was of exceptional interest because it illustrated a technique which was important. The technique relied on (*a*) an undertaking to make a specific delivery date in spite of the war, albeit with more than a suppressed doubt or so in Strand itself; (*b*) novel apparatus; the unusualness of the Light Console was an attraction; (*c*) real friendship built up with the customer.

Portugal might celebrate " Oito Seculos, etc." by re-opening its Opera House and even a few weeks later take a few doses of " colour music ", but at home there was a war.

Wartime Factory

" What did you do in the war, daddy? " might be an embarrassing question especially to the members of a firm like Strand Electric,

** There were only two others at that time anywhere in the world and they were hundreds of war miles away.*

† *Doctor Salazar had been for many years a professor at Coimbra University.*

who could be imagined as spending their time pouring their lighting over scantily clad girls in the interests of entertainment. In fact the firm of Strand Electric itself achieved a nice balance between war work and keeping the theatre going.

In 1938 Strand had been forced through lack of space to leave but not to sell (fortunately as we were to return there in 1946) the too small Gunnersbury works and move to a very large factory in Talbot Road, Ealing. This move nearly turned into disaster as hardly were we established there when the effects of the war scare began to be felt in the entertainment business. Ultimately Strand were to need every inch of Talbot Road for their wartime work. Jim Jordan then led a team of supervisory staff in which the names of Buckle, Miller, Davis, Regester, McKenzie, Mills, England, Pepworth and Moss Mansell were prominent. Curiously little was made for the war effort which derived directly from Strand Electric's specialities. The signal lights, screen pillars, special flashers, junction boxes were all Admiralty designs and there were only two items which could be adjudged as peculiarly Strand. The first was a strange

Workers thin on the ground. Part of the Ealing works shortly after the move in 1938.

Admiralty version of a Grand Master dimmer board with khaki coloured panels, brass labels and pilot lamps used to control the landing lights on aircraft carriers among which was the famous *Ark Royal.* The second Strand speciality was the dimmer banks and projectors for the T.A.T., a Fleet Air Arm trainer, detailed later on.

Meantime it may have been noticed that among the Works wartime names given above there appears at the tail end that of Moss Mansell. Mossy, from his retirement, volunteered to Jack Sheridan as pleased to do any war job to help—and what a job he landed. Personnel officer at the works, and therefore in due course canteen manager. The canteen, created by him at Talbot Road, is no success story. Quite unjustifiably it was regarded by the workers as a gold mine to line the pockets of the directors. In reality it lost money hand over fist. It was established in the chapel, a rather ecclesiastical looking extension made of wood and was fitted up, also in wood, by Askew (1932).

The name Askew was something really to conjure with. In the early days he used to double the role of odd job man and Mansell's chauffeur. In the big Talbot Road factory odd jobs became big jobs. Askew built walls, air-raid shelters and laid down test beds for machinery, he was also in constant trouble with the leaky roof. The canteen was Askew fitted, and the wood used had much in common with that used for packing cases and in consequence one had to discipline oneself not to slide sideways on the benches in order to avoid being rivetted thereto with splinters. The home-made tables were so narrow that the plates on the opposite sides had to be staggered in order to interlock into the limited space available. It was necessary to be very careful to avoid eating the rice and prunes off the plate belonging to the man opposite. Strangely the staff who began work at 9 o'clock took their meal before the workers who had been at it since 8 a.m. The two sittings were not so much a case of class distinction as of sheer necessity, there simply was not enough room otherwise. Not that the place was a great success anyway as most of the works soon preferred to shun it. Afterwards, during an afternoon conference in the works manager's office one heard the gentle click of shilling upon shilling coming from the office next door as Mossy counted the takings and felt that he had at last come into his own.

Both at Talbot Road and Power Road the works manager's office has been so placed that the staff W.C.'s are immediately outside the door. Like the punctuation of the automatic flush in the gent's toilet audible all over the rear stalls at a well known London theatre it at least ensures they do not go to sleep.

War work on this scale meant considerable organisation at Head Office and for this Jack Sheridan and his secretary, J. Crow, were responsible calling themselves " Government Contracts " department.

The greatest opportunity for Strand Electric to apply their stage lighting experience directly to war equipment came to them via Manchester and Percy Corry who relates how he sent persuasive letters to Ministries, informing them of our unique abilities which, however, provoked only formal acknowledgement. He found it

necessary to resort to arduous foot slogging between and within those Ministries, searching elusive somebodies who might be dealing with something that was up the required street. It was necessary to combine a hard-faced persistence with a nice line of bluff, and to take advantage of knowing anybody who knew somebody who thought somebody else might introduce him to a bloke who was responsible for something that might be interesting. He acquired *en route* sundry jobs such as camouflage of factories, blacking out hospitals and what not. In due course with fortuitous aid or, perhaps a deliberate intervention of the divinity, there appeared a job which was obviously waiting for us. An R.A.F. senior officer had devised a method of selecting potential pilots during initial training by using a Link Trainer surrounded by a representation of various conditions as seen from an altitude of 5,000 ft. Permits were obtained to enable Corry to view those conditions from a plane.

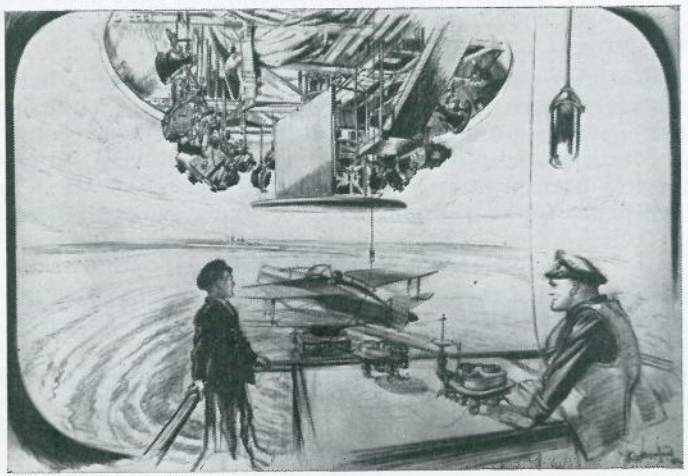
For this trainer Fitups of Manchester produced, in large numbers, circular rooms, consisting of pre-fabricated " flats " (actually curved and not flat, of course), bolted together on site, joints concealed and then painted to represent hilly country, smoky town, clear horizon at sea, misty horizon, and so on. These were erected for the Initial Training Wings " Somewhere in England."

Torpedo Attacks

While engaged on these trainers Corry was approached by the Royal Navy and asked to devise and produce a training installation for instructing pilots in the technique of dropping torpedoes from aircraft. To enable him to see what conditions were to be simulated he was taken up over the Firth of Forth in a Swordfish. The object of the exercise was practice attacks on a target ship cruising about for the purpose. The attack drill begins with a steep dive and a sharp turn: being unprepared for the dive, Corry saw nothing at all of the first attack!

The Torpedo Attack Teacher, hereinafter T.A.T., involved a lot of intricate electrical and mechanical design. Experience of synthetic training thus far had made obvious an important fact. The object of all training is to induce sub-conscious reaction to the approprate stimulus and it was desirable, therefore, that actual conditions should be suggested to enable the trainee to forget that he was operating a gadget and to accept an imagined reality. This called for theatrical lighting and the co-operation of Fred Bentham, then just returned from opening the Lisbon Opera House. The T.A.T., when completed, consisted of a cyclorama, 44 ft. in diameter, 23 ft. high, curved inwards top and bottom, and circular in plan. The lower portion was painted to represent the sea, extending to the horizon supposedly eleven miles away. In the centre was the Link Trainer, altered to suggest a Barracuda aircraft, the latest type then used for torpedo attack. Suspended above the Link Trainer was an epidiascope projector with moving lenses (which would be known

today as a ZOOM), so that the image of a scale-model of an enemy ship could be projected on the sea at the correct size and inclination to conform with the supposed range and bearing. As the aircraft " climbed " the ship image moved down the cyclorama showing a deck view, and responded reversely to the " dive ". Projectors suspended round the cyclorama gave realistic movement of the sea, and others projected various cloud effects to the upper portion of the cyclorama, flood lanterns providing appropriate lighting of the sky. The instructor could select at will, the suggestion of sunny day, sunset, moonlight, misty day, dark night, etc. At " night " the ship appeared as a silhouette against an artificially induced horizon and the pilot could help himself by dropping flares.



Drawing by Harry Rutherford of the first Torpedo Attack Teacher, 1942. View looking out at cyclorama with Link Trainer in centre, projection equipment overhead and plotting table in foreground.

All this created an obvious need for the control techniques incorporated in the Light Console with its motor-driven dimmer bank, a system which had been little used at that time. It was for the T.A.T. that the system first went into general production and some fifty banks were made ultimately. This practical application, according to Corry, probably helped to dispel a prevalent suspicion that the Console was rather extravagantly chi-chi.

The prototype was approved by Sir Henry Tizard and enthusiastically received by the flotilla of senior officers who attended the official inspection: as one junior naval officer put it with characteristic cynicism, " It was the touch of Earl's Court that sold it." Certainly the brass-hats found the Sunset cloud effects much more impressive than the highly complex electrical apparatus required for synchronising and recording the exercises.

There followed adaptations of the T.A.T. to the behaviour of destroyers, M.T.B.'s and submarines. Percy Corry's first trip in a submarine nearly resulted in disaster. By now considered an expert, otherwise as a civilian he would not be there, he followed the Captain to the conning tower as soon as the submarine surfaced to find to his surprise, since it was a glorious day without a cloud in sight, that it had been raining hard. Mercifully, about to comment on the extraordinary change in the weather, he remembered in time where he was!

A large amount of the involved design work was done by the late Morgan McLeod, who later was to join Strand Electric and design much of their equipment. Others on the job were R. A. McKenzie, Paul Weston, Church, Heath, F. Boothby (1940) and Collingwood. Fitups and Strand Electric personnel travelled far and wide. There were installations on numerous Naval and R.A.F. stations at home and abroad and Cyril Whitter was made an honorary Lt. Cmdr. R.N.V.R. to facilitate this business. This honorary rank was not without its hazards. Even Cyril was for once a trifle deficient in self-confidence when he was detailed as officer of the watch during a voyage through the Mozambique Channel. Fortunately, the enemy missed the unique opportunity and our hero in fancy dress was not compelled to expose his scanty knowledge of seamanship.

Most of the trainers produced included theatrical techniques. Some are still in use. There is no doubt that Percy Corry was the driving force behind all these developments and that it was a salutary experience for Strand Electric to find themselves acting as sub-contractor to their own branch manager in his other capacity as Watts & Corry, or rather Fitups of Manchester.

National Theatre

The entertainment side—theatre business—fell heavily on the Hire Department. Virtually no new equipment could be made and therefore none could be sold. A splendid source for floods and battens were the stages of the super cinemas and many were denuded at that time. Happily, too, some theatres turned cinemas became theatres again, for example, the Stoll Picture Theatre in Kingsway. Some theatres were lost in the blitz, notably the Shaftesbury—whose name has been taken by the Princes, a long way further up the Avenue. All in all the blitz accounted for the loss of far fewer theatres and cinemas than the economics of the post-war years. Madre, Burleigh and Tommy Clark (1919) of the hire dept. kept not only the London but a very active theatre elsewhere going.

And what an active theatre we had in the second world war and the immediate post war years. The whole range from " We never closed " to the unique seasons of the Old Vic Theatre Company at the New Theatre—Tyrone Guthrie, Laurence Olivier, Ralph Richardson, John Burrell, Michael Redgrave, Alec Guinness, Bronson Albery and many others joining together. A " National " Theatre which lasted from 1944–1950.

Most amateur companies were out of action for the duration but the professionals were very busy and, of course, there was lots of amateur talent in the forces and factories to look after. All this it should be remembered was not based on the wide open spaces of the Kennington stores (the move there was not until 1947), but on Floral Street, raids and all. The narrow passages, innumerable stairs and separate rooms of this rabbit warren literally put any big job on the street. There was a long tradition of wiring hire spotbars on the pavement and the loading of a big production presented incredible scenes.

Stanley Earnshaw has been a well-known figure at first nights for many years. At any rate at musicals and the glossier straight plays; he does not " go much " for the rest. It is not surprising, therefore, to learn of his services as lighting expert for many of Ivor Novello's musicals, for example, *Perchance to Dream*, but it does come as a shock to find he lit *Macbeth* for Tennents. This production had sets by Michael Ayrton, and John Gielgud played Macbeth. The presence of Stanley Earnshaw in Joe Davis' territory is, of course, explained by the latter's departure to serve in the R.A.F.

Jack Sheridan and Lorcan Bourke on temporary bridge over the ruins of the bombed demonstration theatre 1941.

With Robert Nesbitt, Stanley Earnshaw was on home ground once more and when in September 1941 Nesbitt outlined his plans for a show he was going to do for George Black at the Palladium he jumped in with the suggestion that the original Light Console should be used. The console could hardly be said to be in the pink of condition having been buried under the blitzed ruins of the centre section of Head Office. Refurbishing and conversion of the Console took place on Sundays in " Ham House " next door, a building which had been used, as its smells and salt everywhere proclaimed, to cure hams for many years. The volunteers consisted of Bentham, Paul Weston, Jim Hayden, Percy Pillar and a strange addition, " Old " Martin the interpreter of Lisbon.

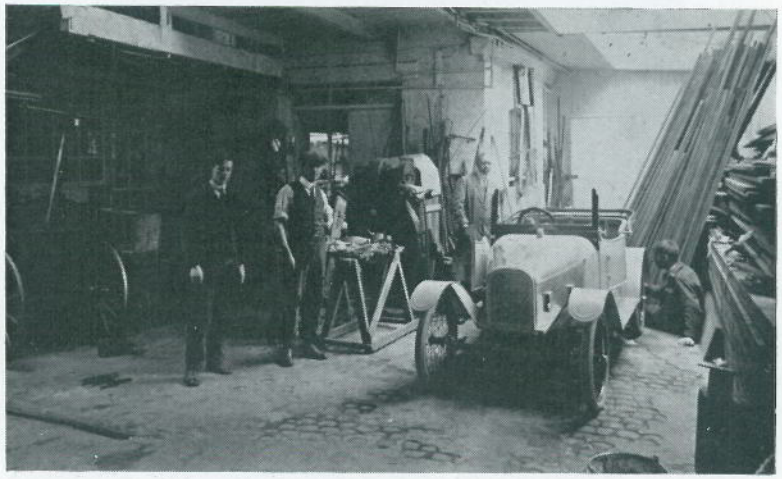
Hilary Gould at the Light Console, London Palladium, 1942.

Gangway, if revived now, would seem an extraordinary show, but it was just what wartime London needed. Above all it had colour and visual excitement. For this Robert Nesbitt's lighting was responsible, scenery was scarce and he relied to a large extent on the drapes he could find. The lighting overhead came from three lines of Patt. 56 acting area floods pointing straight down. There were Pageants at the sides and six 2kW Fresnels in the wings, a legacy of Strand Electric's abortive attempt, too late, just before the war to tackle television lighting at last. There was a most exciting night sequence to play on the Light Console just before the interval and a marvellous effect of Acting Areas in eighteen blue shining down on the girls in long costumes with a vanishing background of black drapes. Simple but real good stuff. The romantic tale of the Palladium Light Console in its corner of the Grand Circle can be better appreciated when it is realised that Mrs. Stanley Earnshaw was Hilary Gould, the operator of the wartime years. As operator of the Light Console she was often considered to have a cushy job by members of the audience who could see her but never heard a note of organ music in the show.

Our Imperial Heritage

In October 1949 Strand Electric came into their Imperial heritage; that is they acquired control of Imperial Lighting Ltd. Although Imperial had by then no connection with stage lighting it is a fact, relevant to this history that Imperial were, so to speak, T. J. Digby, having acquired that company when it was on its last legs about the end of the 1920s. Imperial was formed by Walter and Harry Lambert roundabout 1890, and the former continued to run it until he sold out to Strand. A link back to those times is their nephew, Cyril

Lambert, who until his retirement in February 1961 could be said to be the very personification of that company and even now is retained to appear each Christmas and supervise the great display on the façade of Selfridges. This building epitomises the type of work for which Syd Letley (who joined Imperial in July 1925) and Imperial are famous (notorious?)—miles and miles of seaside Fairyland strip lighting and strange animated devices with which the sea coast at Southend, Blackpool and many other resorts are lavishly be-decked.



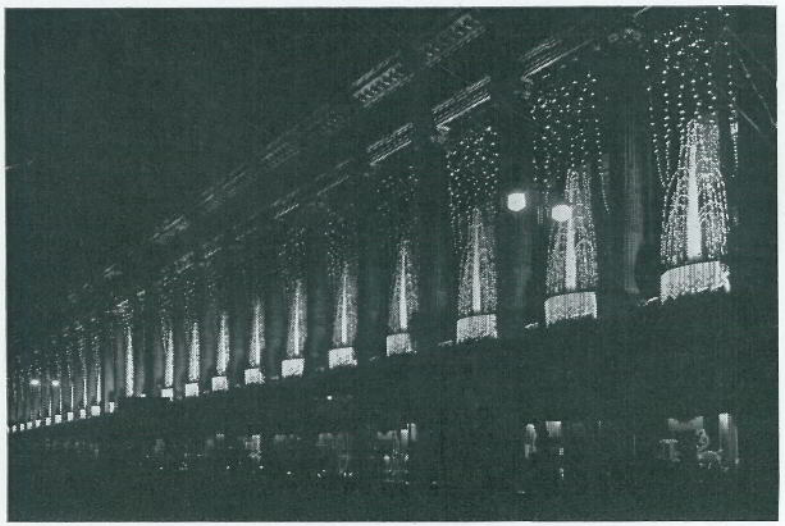
Putting the finishing touches to the Imperial Cycle Car in 1921. Left Cyril and Harry Lambert, sitting right William Kemp.

But Imperial in their time have manufactured even stranger animated devices—early motor cars. We have in our archives leaflets which describe, in glowing terms, the specification of the Imperial car shown above. This was reviewed in the *Motor Cycle* of February 5th, 1914, as follows:

> " A cycle car has recently been placed upon the market by the Imperial Lighting Co., Pocock Street, Blackfriars Road, S.E., an outstanding feature of which is simplicity.
>
> " **The engine is an 8 h.p. air-cooled, twin cy**linder Precision which is set **transversely in a frame of armoured ash. Cooli**ng of the engine is materially assisted by a fan of ample dimensions situate on the offside of the engine. A Solex carburetter supplies gas to the cylinders and is controlled by pedal and the usual lever attached to the steering wheel. Ignition is by Bosch waterproof magneto controlled by a lever mounted on the steering wheel, steering by reel and cable, and lubrication by a large pump operated by hand within easy reach of the driver.
>
> " The transmission is by chain from the engine-shaft to a countershaft, to each end of which is fitted an expanding and contracting pulley 7 in. diameter and with very strong flanges. Thence two 1⅛ in. belts transmit power to the rear wheels. The pulleys on the countershaft are enclosed, and sliding inspection doors are provided at each side of the vehicle to enable the driver to examine the pulleys or remove the belts. The weight of the car is 6½ cwt.

> " On the road we found the car easy to control, and the steering was particularly good. We found that the machine held the road well, showed a useful turn of the speed, and was a good hill-climber. It was comfortable from the driver's and passenger's point of view, being of ample width and well sprung. As the cycle car, built on true motor cycle lines, we gained a very favourable impression of this little vehicle, the most noticeable features of which are strength combined with lightness, simplicity, and low initial cost."

By the time Strand came on the scene these vintage models were but a memory and only survived in the shape of some of the stranger castings and parts with which, what remained of their heavily bombed stores at Pocock Street, was liberally endowed. Who knows but that some festive lighting device gently rusting on the front at Southpool-on-Sea may contain the mortal remains of this era of autocyclic transport.



Selfridges Christmas display 1927 using 30,000 14 volt, 7 watt S.E.S. lamps.

Glasgow Exhibition

As remarked earlier, there was little real export pre-war. The bigger jobs done overseas were only indirectly for export, being for the Department of Overseas trade and the various Government exhibitions or for the G.E.C. who acted as our agents and still do in South Africa. The Paris Exhibition has already been mentioned, but another big job was the Victoria Falls display for the Rhodesian Pavilion at the New York World Fair in 1939. **This had its origin** at the Empire Exhibition (which was to be the **last to which that** term could possibly be applied) at Glasgow the year before. There Strand had been responsible to R. O. Ackerley of the G.E.C. for

the lighting control to the North and South cascades and the Paisley Road fountain. The North Cascade was an enormous affair running right down the hillside with an elaborate colour change programme which lasted twenty minutes without repeat, but which turned out ultimately to be only viewable in its entirety from the top of a tram outside the Paisley Road entrance! The Paisley Road fountain was later rebuilt for Butlin's Filey camp where it still is. Strand were also responsible to Stephen Thomas for the special cyclorama and effects lighting in the Government pavilion and quite on their own for the G.P.O. pavilion and the Victoria Falls display. This last was the strict province of L. Stokes-Roberts, aged twenty, and then of Strand Electric. It was this display of all which, to the chagrin of the two Bs (B. and F.P.B.) who were responsible for the rest, went to America for the New York World Fair in 1939. The Victoria Falls display was some model, by the way, being 160 ft. long × 20 ft. high and involving a flow of 60,000 gallons of water per minute.

Stokes-Roberts leaves for New York 1939. (Left to right) Jack Bennett, Henry Myers, Stokes-Roberts, L. G. Applebee, Jim Murray and Jack Madre.

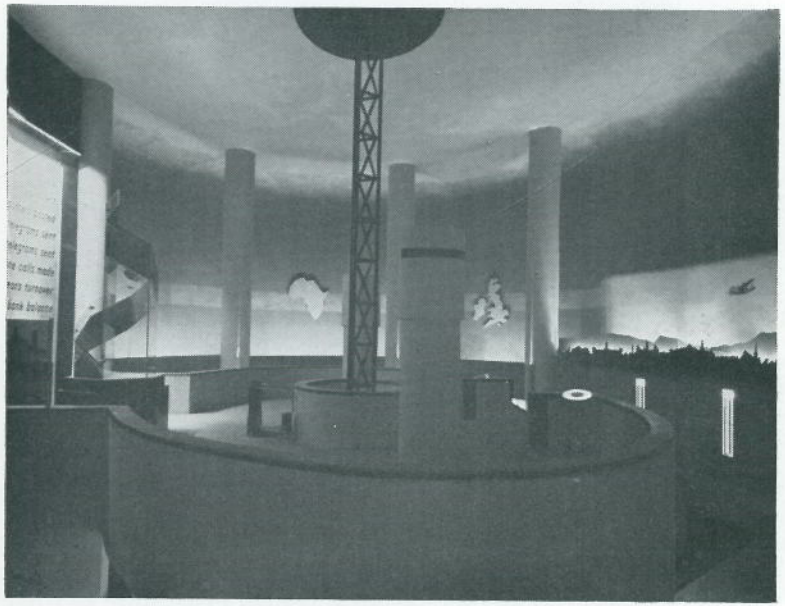
There was more to the G.P.O. pavilion than at first sight might appear. At Wembley in 1924 exhibits were full size and real. Butter was shown by the acre, fashioned into full size scenes such as the Prince of Wales and his horse on his ranch. Railway locomotives and machinery had to be there in person — a Gresley Pacific, a Castle, and so forth. At Paris all schools of exhibition thought were represented. Ancient (German Pavilion), Modern (Swiss Pavilion), the big exhibit and the diagram.

At Glasgow in 1938 it was all models and diagrams and what the Americans now call symbology. The ultimate essence of the technique was distilled in Cavalcanti's G.P.O. pavilion and there Strand, in the shape of B. and F.P.B. nearly met their Waterloo. Incidentally, one has to picture a much slighter, but otherwise much as now, B.

Cloudy Ultra-violet

The whole pavilion was conceived as an animated diagram illustrating the Empire Air Mail service round the world which then still had the power to excite and amaze. The entire ceiling in the picture

had to be covered with moving clouds and a projected aeroplane made to travel right round the walls, crossing the oceans and traversing enormous cut-outs of the Dominions and the British Isles. As the photo shows, the job was complicated by the fact that the 'plane had not to appear on the columns which were spaced to an eliptical plan. Nor could the projector be spaced centrally as this position was occupied by a lattice mast which went right up through the roof. The solution was to use two synchronised projectors with U.V. light sources. Thus only where a fluorescent track was painted would the 'plane appear. If this principle were accepted the clouds overhead might just as well be fluorescent also.

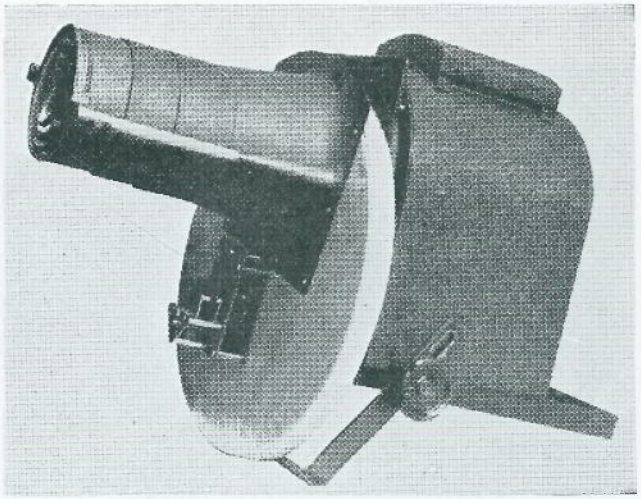


The G.P.O. Pavilion at the Glasgow Exhibition 1938.

The first hurdle that had to be overcome was the projection system because the only sources available for U.V. were 125-watt black lamps! For the clouds, Stelmar reflectors were used because these would collect from the front of the lamp. For the 'plane a narrow angle condenser system with a stencil in the gate was employed. Only twelve of the sixteen projectors would have moving cloud discs (photographed on glass for the first time) and the rest were to have static cloud photographs on glass slides 7 in. × 7 in. in size.

To get a fluorescent blue ceiling of this area presented quite a problem. Whiter than white detergents had never been heard of, or even dreamt of, in 1938. Strand fluorescent " invisible blue "

dope was real dope, a semi-lethal concoction inherited by Frank Weston from Percy Boggis. It consisted of anthracene held in suspension in a mixture of rubber solution and benzine. Spraying this on the 3,500 sq. ft. of dome at Glasgow was out of the question. The two B.'s decided on wall paper and thereafter for many days roll upon roll of white lining paper was sprayed under Frank Weston's supervision in the Stransign spray booth. The Commonwealth cut-outs were treated in red fluorescent of course.



One of the 16 special ultra violet projectors used in the G.P.O. Pavilion, Glasgow.

Blow No. 1 fell when the B.'s discovered just before they travelled up to Glasgow that the emulsion on the discs and slides let too little light through for the highlights. Experiment showed that metal polish rubbed on these areas cleared them down to what looked like clear glass and the two B.'s spent the whole weekend doing just this.

Blow No. 2 fell when setting up at Glasgow ready for opening. The metal polish had turned the emulsion brown for some reason and they were opaque to U.V.! Nothing for it but with aid of water and a piece of stick to remove the emulsion in such a way that what was left gave an artistic impression of cloud. Simultaneously, the Paisley Road fountain was playing up because the damp in the pump room got into Compton relays which used the prewar silver wire and wood contact blocks. These swelled and permanently energised the up and down clutches on the dimmer rack which then promptly sheared the driving sprockets. Add to this the fact that none of the Patt. 59 floods would fit their frame in the H.M. Government cyclorama and that

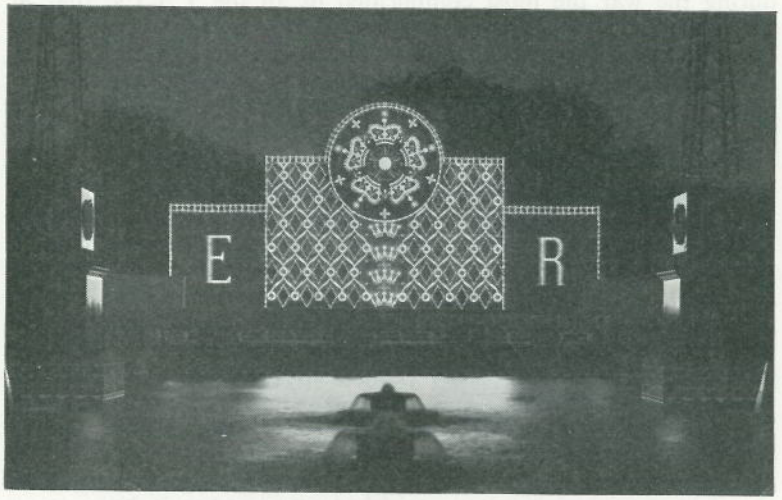
urgently 'phoned for replacements also failed to fit. After Glasgow it is not surprising that F.P.B. has firmly never involved himself directly in exhibitions again! It is quite otherwise with B., the atmosphere is congenial and there is plenty of the right spirit about. Altogether Strand had a very large stake in Glasgow and George Heath (1937) of Contracts who had worked on the jobs was left behind as maintenance engineer for the duration of the exhibition. George Heath later was to supervise many large jobs including during the war the most complicated of all the T.A.T.s. that at Lee-on-Solent. Although in his younger days rather a thorn in the side of the management as an over-zealous shop steward he has been assistant manager to Contracts Department for many years now.

South Bank

The first big post-war exhibition, " Britain Can Make It ", was held at the Victoria and Albert Museum in 1947, and this brought Strand Electric and B. back to their old hunting grounds and in particular, established contact with James Gardner. The Festival of Britain followed in 1951 and Strand Electric were not unnaturally well represented on the South Bank, including the hire department with their Sunspot arcs to light the outdoor dancing on the Fairway. Most important was the only permanent building to remain, the Royal Festival Hall. Beginning as a platform lighting installation for concerts only it developed as the hall took shape until it became the most complete open stage lighting installation in Britain. It is one supposes, in line with the natural run of things that this hall invariably requires for its stage productions what it has not—a proscenium. In consequence a temporary affair of curtains is to be found there on such occasions.

At Battersea the fountain, the Grotto and the Riverside theatre were the important centres of Strand activity. The grotto provided a return for U.V. to the exhibition field but the stuff had been tamed by then. The grotto and the Riverside theatre were both designed by Guy Shepherd who be it known is an ex-Strand man of the pre-war years. Two years later James Gardner provided the vista at Battersea with just what it needed, an animated display—the Lumascope. The fountains should have been able to carry off this role, but for some reason never really hit the high spots. However, Gardner's Lumascope certainly did, here was all the excitement of the Piccadilly or Broadway lamp sign but without the repetitive advertising. The manufacture of the Lumascope was Strand via Imperial, so to speak. Syd Letley filled Jim Jordan with horror at the contraptions of hardboard and Fairyland strip supervised by Cyril Lambert in the regions below the Vauxhall satellite of the Gunnersbury Works. These contraptions have had to stand up to wind and weather ever since, as the Lumascope has formed a permanent part of the gardens after their return to the L.C.C.

To control the Lumascope, B. managed to get F.P.B. to overcome his antipathy to exhibitions and to have another go at a sequence control to give a display on the lines attempted but frustrated in the North Cascade at Glasgow. The result was a compact flasher and contactor unit which automatically repeated night after night the combinational possibilities that Gardner's design so splendidly provided.



James Gardner's Lumascope, Battersea Pleasure Gardens, 1953.

James Gardner was also responsible for the brightest overseas exhibition effort Britain has ever made. The British Pavilion at Brussels, constructed on a shoestring budget, opened up many opportunities for Strand. Incidentally, it was at Brussels that Strand Electric found itself selling snow, in the shape of optical effects to Switzerland. Among the Strand items in the British Pavilion at Brussels was the optical effects display for the large diorama of Dounreay. This included the very special effect of clouds passing over the moon devised by Eddie Biddle (Frank Weston's successor).

The Annigoni portrait of H.M. the Queen in the Hall of Tradition was lit by two 500-watt Patt. 23 spots carefully profiled to hit just the canvas albeit from an incredibly awkward position close to and below it. The effectiveness of this lighting posed an unnecessary problem to the architect of the *Daily Mail* Ideal Home Exhibition where this part of the pavilion was to be rebuilt the following spring. Positioned at Olympia literally with its back to the wall how was he going to " backlight " the canvas as had been done at Brussels!

Ideal Homes in Olympia

The *Daily Mail* Ideal Home Exhibition has a special claim to be recorded in this Strand History because we have been concerned with feature lighting at every exhibition since 1930. One such feature which but for " Munich " would have been stillborn formed the very first Light Console order before Lisbon or the Palladium.

The exhibition organiser concerned was George H. Grimaldi (a descendant of Joe Grimaldi) and he decided as a special attraction for 1939 to stage—guess what?—a colour music display. When he came to Strand he certainly came to the right place for this! His architect, Ian Jeffcott, designed a 70 ft. high tower and it was lit in three colour with seventy-two individually controlled dimmers, making a total load of 230 kW. Two Compton Consoles side by side at the edge of the Earls Court lake were to provide the music and light. The organist was Quentin Maclean and Frederick Bentham was at the Light Console, or so it was planned, but F.P.B. as we know never had any luck at exhibitions and was carted off to hospital with pneumonia, leaving B. to hold the fort. Now B., spiritually at home there having seen the planning and construction through right to the opening, was a Mozart enthusiast and therefore intellectually quite the wrong person to accompany with enthusiasm the light music Maclean knew the British public wanted. In contrast the then very young Paul Weston, though no hep cat (such things were quite unknown then), took to the task with avidity and enthusiasm.

A Strand advertisement inspired by the Brussels International Exposition, 1958.

Ankara

William Lorraine and Bear just back from the wars began surprisingly in Hugh Cotterill's (also just back) S.O. dept. Both of these will be associated by readers more with the post-war Hire Department, but this in fact came later. Bill was, of course, Basil Dean's electrician pre-war and was also with him in ENSA. Under Strand he was to find himself in Ankara, Caracas, Cuba and Canada.

Ankara (1949) was B.'s job and the first really big export of post-war. The National Opera had been established in the Turkish

capital by Carl Ebert during the war and their newly built Opera House was to have a large Strand lighting installation with Light Console control and full mechanical stage equipment by Hall Stage Equipment. George Collingwood (1919) of Contracts dept. looked after the wiring installation and Paul Weston the console. The problem of interpretation was present in an acute form. In the case of some languages one has a slight clue, a smattering of French left over from school or a vague hint of the Latin one learnt there or even a slight, usually misleading resemblance to an English word here and there in German. But Turkish provides not a single clue. B. had to leave it to the agents young technical manager—M. Albert. He was lucky, after all Albert was technical. We find B. sipping his coffee, virtually mute, all morning, while Albert conducts a wordy discussion with the Opera House people on the problem of stage dip plug connection. Should these be paralleled up and down stage giving left and right control from the dimmers *or* should they be paralleled across stage giving up and down stage control? At last a decision is reached and B. and Albert slip away and over a cooling drink B. puts the question, " Well, Albert what is their decision? " to which he received the reply, " They say yes! "

After Ankara B. was transferred to Hire Department at Jack Madre's request to look after the amateur advice section. A result was the two booklets *Some Advice* and *Further Advice*. Bill Lorraine had to visit Ankara a few years later when the job needed an overhaul. Lorraine left us in 1959 to become a production manager. Bear has been manager of our I.E. dept. since February 1959.

Caracas

In 1954 an urgent request from Venezuela for a complete equipment " just like the Royal Festival Hall " hit Strand at the right time. The works at Power Road, Gunnersbury, were unusually slack and contact with Caracas, then launched on its fabulous oil based spending spree, was just what was needed. The Aula Magna, except that it was to be used sometimes for concerts, did not resemble the Royal Festival Hall in any way. It had a fan-shaped plan and was larger into the bargain being really an American style convention hall attached to the University of Caracas. A " just like " installation would have been disastrous but the pretext was kept up even in the face of thirty-six Patt. 93 special long-range colour-change spots at the rear of the balcony instead of sixteen normal colour-change spots in the circle front as at the Festival Hall and " variants " of a similar nature. It did, however, have a Light Console so also did the Teatro del Este which followed the next year. Paul Weston well remembers how one of the too large and solid stage sets for the opening was struck by breaking it up on the stage and then simply pushing the lot out through the back door. The last of the original Light Consoles complete with keyboards was the Theatre Polski

(1955) in Warsaw. Incidentally, this last was the only one of the fifteen made of which the layout was devised by the customer. For this purpose he had to rely on an explanation given *con amore* by B. in French one evening at the Empress Hall of all places!

Electronic

On March 1st, 1946, at the instigation of Percy Corry a new personality, this time of mature years, was to join Strand Electric. Post-war there are many new Strand faces and personalities of necessity in this history nameless, a younger generation who knew not the pre-war years and perhaps care little what light antics their

Ogling or instruction, a lesson by Percy Corry on the Electronic preset Control, 1951.

elders practised then. James Templeton Wood, however, was in the 'thirties with Western Electric and but for the outbreak of war would have joined Strand at Corry's suggestion to act as Scottish representative. Wood had to do with electronics while in the Royal Navy and in consequence it is not surprising that he was stimulated by reports from Applebee then touring the United States.

One of Applebee's lectures was delivered at Yale at the time that George Izenour gave his first public demonstration with direct thyratron dimmers. Wood went in for a three-phase three-valve system to obviate, as he thought, balancing instead of the Izenour two-valve back-to-back. The chapel inappropriately sited next to Corry's headquarters in Oldham Road, Manchester, was commandeered for experiment, but Wood was soon transferred to London. Here at last was a variable load remotely controlled dimmer which could be preset and which did not look as if it would be too expensive. The electronic board was connected with export—our present subject—from the first. Indeed the first complete Strand Electric preset was destined to be exported to the National Theatre, Rekjavik, Iceland (1950).

At this time William Bundy, now stage director to the Covent Garden Opera House, was with Strand Electric for a period having come to them from the Old Vic via Iceland. Wood and Bundy had the job of putting this 144-way first-off into operation. Very well they must have done it for this job has never suffered from some of the teething troubles of the others. Perhaps it is the Icelandic climate, or temperament (or both) that suits it. Wood and his electronic complete went to Paris for the I.T.I. Conference in June 1950, and export really began to flow. Abe Feder, the American lighting expert saw the board in Paris and reported to Kliegl in New York who negotiated to manufacture under licence and Wood went off to New York. Already Wood was, because of his invention, making journeys for Strand and establishing contacts of export importance. He became a member of S.O. department under Hugh Cotterill. S.O. by the way stood for Sales Other and was in contrast to S.T.L. (Sales Theatre Lighting) and S.S.T. (Sales Stores). Note the way some genius had provided abbreviations for three different departments all of which began with " S ".

S.O. was supposed to attend to all lighting other than theatre, presumably cinemas, ballrooms and exhibitions, but included all export as well. It also, because watertight compartments have never been a strong point of Strand, included the catalogue and TABS.

Type Casting

TABS was a creation of Hugh Cotterill's which began in 1937 with a nine page issue printed on Strand Electric's own offset press (early model). This with its smudgy reproduction of Percy Corry and Strand Electric's then brand new Manchester Branch, is now a collectors' piece, like all the pre-war issues (eight in all). Cotterill in fact, when at Major, ran a house magazine quarto-size for them called *The Major Monthly* and copies of this have recently come to light in the attic of 29 King Street. No one could have realised how important TABS would become. However, when Cotterill, after being de-mobbed from the R.A.F., re-started it there was much planning and theatre news in the air so it never lapsed into just a

vehicle for selling the firm who sponsored it like the usual run of house magazines. Outside contributors, including many distinguished names, appear frequently, and of course there was the resident team, the thinly disguised P.C. and F.P.B. and sometimes L.G.A. or B.E.B. The use of initials for Strand Electric contributors allowed Cotterill to fill up space with several separate items written by himself and initialled not only as H.M.C. but intriguingly under various aliases. Altogether Cotterill was responsible as editor for forty issues and saw the circulation rise to 10,000. Percy Corry was a particularly fertile contributor of the early post-war years writing under the names of " Busker " and his initials P.C. His " Must " series beginning with " Stage Managers Must Manage " ran into fourteen separate titles all of which furnished plenty of inspiration for Oxlade. The present editor can still rely on Corry to respond nobly to *any* demand with a trouble-free contribution that can be set straight off the MS.

A series on " colour " began with " three colour mixing " not because this was a logical place to start but because something had to be done to keep the Gillespie Williams (then at Furse) publicity at bay. Unfortunately the carefully reasoned articles by F.P.B. against the use of colour mixing, because it was a wasteful method of getting the limited colouring most productions needed, were misinterpreted and provoked an avalanche of highly coloured stage activity. TABS has been afraid to touch colour ever since.

When the present editor of TABS took over in September 1957 he decided staff contributions should be published over their author's full names. This has to some extent deprived him of Cotterill's neat device, though articles can still appear in the same issue as by " The Editor " and by " ? ", but he must remain anon until he, in his turn, retires. The regard for TABS is world-wide and this shows when examining the remarkable theatre bibliography issued by the University of Pittsburgh, Pennsylvania, where TABS is regularly quoted. TABS, with this special Strand Jubilee issue, becomes a quarterly and it is hoped to keep it so from now on. Before leaving TABS one must acknowledge the work of Oxlade of Twynam and Oxlade, our advertising agents. Oxlade is responsible not only for the cover design but also for most of the funny sketches which from time to time embellish our pages. We intend to stick to the original cover design come fashion, come change.* It is one symbol to cling to amid the headlong rush of technical change of which Strand must be in the van. The debt of both Cotterill and the present editor to Twynam, " T " himself, they would both like to acknowledge. He it is that fights to bring order and layout to each issue and put it to bed on time.

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* *We have allowed a significant change for the front cover of this our Jubilee issue only and wonder how many readers noticed it.*—ED.

Strand *v.* Strand

Strand was by 1950 running two de luxe controls in competition with each other, namely the Electronic Preset and the Light Console. The latter so in advance of its time when introduced in 1936 had, by now, been overtaken and was in need of a re-think to allow its undoubted powers of rapid all-over control for the large installation to be extended to precise presetting. Getting dimmers to the variety of levels required by the post-war multi-spot technique needed real dexterity and ingenuity on the part of a Light Console operator. The electronic preset impeded this Light Console re-appraisal because being an all-electric dimmer system it could not be used with console memory selection and mastering. For the latter, the inertia of an electro mechanical clutch bank was essential. This problem of the all-electric dimmers has only last year been solved with our SCR 120 channel installation known as System C/AE for Cologne T.V.

Therefore, in the 1950s, Strand continued to use electronics for some installations and Light Consoles for others, particularly the large ones. Thus Stratford-on-Avon and the Old Vic went electronic and Drury Lane and the Coliseum had Light Consoles installed. The matter was brought to a head in 1954 when Hamburg Opera wanted a Strand Electronic of 240 ways. They had used the control at the King's, Edinburgh, for the Festival and had been impressed by it. It must have been on its best behaviour for them. In subsequent years it has been by no means so popular with visitors who are in any case irked by the size of the stage at the King's for grand opera.

The Strand directors came to the decision that they could not supply an electronic installation of this magnitude. There were too many doubts about valve behaviour and above all the heat generated in the dimmer room and to be disposed of was enormous. The last word in control was far worse than the old resistance dimmer in this respect. As a result the Germans, namely the A.E.G. developed their own thyratron for Hamburg, but they, too, have not pursued it very far. Strand Electric, having turned its back on thyratrons set to work on a substitute. This was a preset control using a polarised relay servo in conjunction with an improved closer centre version of the Mansell magnetic clutch.* The first one replaced the electronic control at the New Theatre, London. Electro-mechanical banks could now be reasonably compact and, thanks to special transformers built on standard Sunset resistance frames, variable load dimmers could be included among the resistances. The time was to come when many jobs would be all transformers, the extra expense being worth while to provide the variable load facility. Of course transformer dimmers were no novelty, Glyndebourne had forty-eight such ways in 1934 but those German dimmers all relied on tracker wire, i.e. they were mechanical remote controls.

* *Used first on the Light Console banks at HMT and Adelphi in 1954.*

The Light Console and the Electronic were an odd pair, the control desk of the former so different as to scare most theatre electricians. The latter looked normal yet used the very advanced technique of chopping the A.C. waveform with the thyratron valve as an ultra high speed automatic relay. The desk of the electronic expressed a certain timidity. In order to pacify the Grand Master traditionalists, the panel was laid out as short rows of a dozen dimmers each with their own colour master. Dimmers could be connected to the master or not by tablet switches and the masters in turn connected to the Grand Master and then to the cross-fader and the other preset which was an exact duplicate panel.

Strand never made the mistake of interleaving the presets for theatre as was often done in the United States (though not by George Izenour). The picking out of alternate levers for a quick cue or clear-down of the board is too difficult a task for an operator. With the servo operated preset electro-mechanical dimmer bank the way was open to combine the good points of the Light Console with those of the Preset system, but it was television which provided the impetus so the story belongs to a later page.

" Wood the Electronic " came to an end, " Wood the Export " did not, and in a unique way he has made, particularly the continent of Europe, all his own. As Export Manager he is, of course, responsible directly or indirectly for the world, but Europe is his happy hunting ground. How he has come to know everyone there, their friends, relations and children, is not rightly understood nor have we any photographic evidence of the Wood method.

Boa Vista

Strand is very happy in its principal agents. By a curious coincidence Strand's oldest foreign agent is that of Britain's oldest ally—Portugal. Arriaga de Tavares handled the Lisbon Opera throughout and since those days, much work has come from his romantic sounding Rua Boa Vista to the equally romantic sounding Floral Street. Both the Boa Vista and the Flora being far from self evident in either place when visited.

Moving North, Bachman was the only theatre electrician in Iceland and came in contact with Strand equipment through ENSA during the war. He proposed and secured the order for the National Theatre, Rekjavik.

The agent who opened up Scandinavia and Finland to Strand was Beck, a paint salesman who had a good contact with the theatre through selling dry colour to scene painters. Larsen, our Norwegian agent, spent a lot of time with Wiik and the Norwegian Travelling theatre* discovering in the process that many of their lighting require-

* *Tabs, Vol. 17, No. 3.*

ments were covered by Strand equipment. He is famous for his own Norwegian version of the Junior board using components imported from us. Contact with Eichenberger was made by Bill Lorraine when touring Switzerland with the International Ballet in 1950. Hammarlund in Sweden supplies and manufactures stage machinery and was Hall Stage Equipment's agent long before he became ours as well.

Exports at the White Horse Inn. Bentham and Wood off-duty in Austria.

Space does not allow us to mention or tell the story of the majority of our agents but the strangest tale, that of our German agent, must be told. Gerd Ohlmer of Diedr. Buschmann first heard of Strand from a scene designer friend who wanted him to obtain " Cinemoid ". Herr Ohlmer wrote asking to be appointed agent. As Buschmann is an old established 1812 firm in Braunschweig wholesaling supplies including distilled water for chemists shops a more improbable agent could not be imagined. However, Cotterill decided, after pressure, that anyone mad enough to think he could sell colour filters to Germany of all places should have a try. Orders for " Cinemoid ", a few sheets here and a few sheets there began to come in as Ohlmer toured Germany. Soon the demand became formidable and at the theatre exhibition held in the Hamburg Opera on July 2nd and 3rd, 1956, much equipment, including a lighting control console, was shown.

Cologne and Hamburg

Export became very worthwhile, but the climax came with the installation for Cologne. This was really something as it included all the lighting equipment, a patch panel for 146 circuits and a console-preset with 74 dimmers, 2 presets and 14 memories. This order was obtained on the main ground that only Strand could supply

a suitable control and deliver it in the time available. The reader of this history will easily realise what a landmark this was—exporting lighting and lighting control to Germany was indeed coals to Newcastle. Nor was this a mere flash in the pan. There followed two large installations in Hamburg and a further larger one for Cologne was completed last year. This last being the first control to use the silicon controlled rectifiers as dimmers in Germany. The secret of this success is that these are installations for television and such export is backed by the record of supplying every studio at home, both B.B.C. and I.T.V., with its lighting control. The story of how the design of this specialised equipment and this remarkable record came about must now follow.

Alexandra Palace

Strand Electric and Television is a strange success story which began with the rejection of Strand lanterns as useless in 1935 and the installation of two Grand Master dimmer boards, which were, in fact, useless because of the camera insensitivity of 1936. The main lighting then was by the rather crude 2 kW film units.

When B.B.C. television started up again in 1946 they soon expanded into the old film studios at Lime Grove. This naturally tended to confirm the use of film lighting techniques since no money was available for refit and there were all the archaic electrical arrangements common to film studios and D.C. studios at that. Half-hearted attempts were made to breach the defences, but in 1953 opportunity presented itself. The only purpose built T.V. studios at that time were those set up in Earls Court for the week of the Radio Show. " Grump " Mayhew, in charge of B.B.C. T.V. Outside Broadcast lighting was persuaded to try out modern lighting control with dimmers and a remote panel up in the production suite. For such a short period the only system suitable was the saturable reactor and we used the one out of our demonstration theatre. The B.B.C. therefore had to invite Stage Electrics who had a similar system to equip the second studio.

The Saturday before the Monday opening B. rang F.P.B. from the Radio Show to say all was not well. On the latter's arrival he could confirm that all was certainly not well! Looking from the producer's first floor observation window no light ever came to more than half intensity and this was achieved both at full on and the *off* end of each dimmer lever. In other words the lights did a half-hearted dip as the levers were moved down but gradually came up again as they neared the bottom. Diagnosis was complicated by the fact that the opposition were next door and one had to test nonchalantly and give the impression all was well. The board hummed with electricity even when the phase fuses were all removed, the job simply would not go dead. After a couple of hours of this and a visit to the " Lord Ranelagh " down the road for reflection

the defect proved quite simple. On one of the two 18-way dimmer racks the contractor (not Strand!) had got the phase and neutral mains reversed. Thus one was doing a kind of phase change on the desk potentiometers and no wonder the board remained live. But what caused the half light in the studio? Also quite simple when you know. The observation window had special glass which transmitted half light!

The saturable reactor dimmer might just pass in a fit-up like this but for a full installation something better (certainly without the inevitable reactor volts drop) was needed and Strand had to find out what this was.

Lighting Control at B.B.C. Television.

The next step was a call on H. O. Sampson* at Lime Grove who after some general chat summoned a certain Derek Lightbody to initiate the two B.s into the mysteries of Studio D. This, the largest except for A which was used to store scenery, was given over to light entertainment which involved a series of rather tatty incomplete little sets round and about the studio. Every visit always seemed to coincide with the same sort of show; only the star varied, at first he was Michael Howard, later on Eric Barker.

In the awesome hush of the studio, which comes from the heavy acoustic deadening, they had all the embarrassment of being intruders among people who had a job to do and knew exactly how

** Sampson was already known to Stanley Earnshaw and Jack Madre through an enquiry which led in 1936 to a demonstration to the B.B.C. of Strand's sewing machine motor cars, rain boxes and other elementary sound effects of all things.*

to do it. It was like standing slap in the way of a theatre stage manager's corner in a busy but unknown show.

Nor was it helped by the fact that each time the studio manager called " Quiet please, I must have absolute quiet," Lightbody continued to talk without taking any notice. This made them as guests feel rather heels and they tried to reply ventriloquist fashion out of the side of the mouth. The agony might have been worth it if lighting control was discussed, but it was not.

It seemed to be taken absolutely for granted that Strand would know what to do when the time came and would do right by B.B.C. television in the matter of control boards. What was discussed *ad nauseam* was methods of suspending and rigging lanterns, equipment which Strand did not make or intend to make or even to market. This ritual has been repeated ever since at T.V. conferences all over the world. There is, of course, a logic to it because the electrical layout springs from the rigging method practised and in any case the rigging is part of the very structure of the studio and must be provided for first of all.

The attitude that Strand knows best over control was a high compliment but was it true at the time? What did the B.s know about anything except stage lighting where, what looks good is good, and there is no capricious electronic eye to distort. Nor did the B.B.C. help when a few weeks later they imported straight from the B.T.H. a trained illuminating engineer to coordinate the lighting plans. His name was Ackerman and he knew at that time even less than the B.s about television studio practice. He was, after all, several studio D study hours behind. Up to this time Strand was trying to learn but from now on there was someone trying to learn from Strand—about T.V. of all things!

Fortunately in R. de B. McCullough, then the chief lighting supervisor, there was an essential link between stage and television. McCullough, while not having had the felicity of working at one time for Strand, had the next best qualification, he had worked for the opposition! He had been before joining the B.B.C., just before the war, one of Gillespie Williams assistants at Holophane. There followed a happy period of furious activity arising from the Government decision to set up commercial television. Thus the B.B.C.'s plans for experimental studios at Riverside and the Shepherd's Bush Empire became but part of a wider movement.

At this time Strand Electric still did not know what control to put forward for television. A Light Console of 188 ways had been quoted for budget purposes; but dimmer control, although the B.B.C. did not seem to realise it, would not be precise enough. On the other hand, Wood's electronic with its audible noise at the lamp filaments and its chopped waveform was known to be awkward where so much other sensitive electronic equipment would be in the immediate neighbourhood.

System A or System B

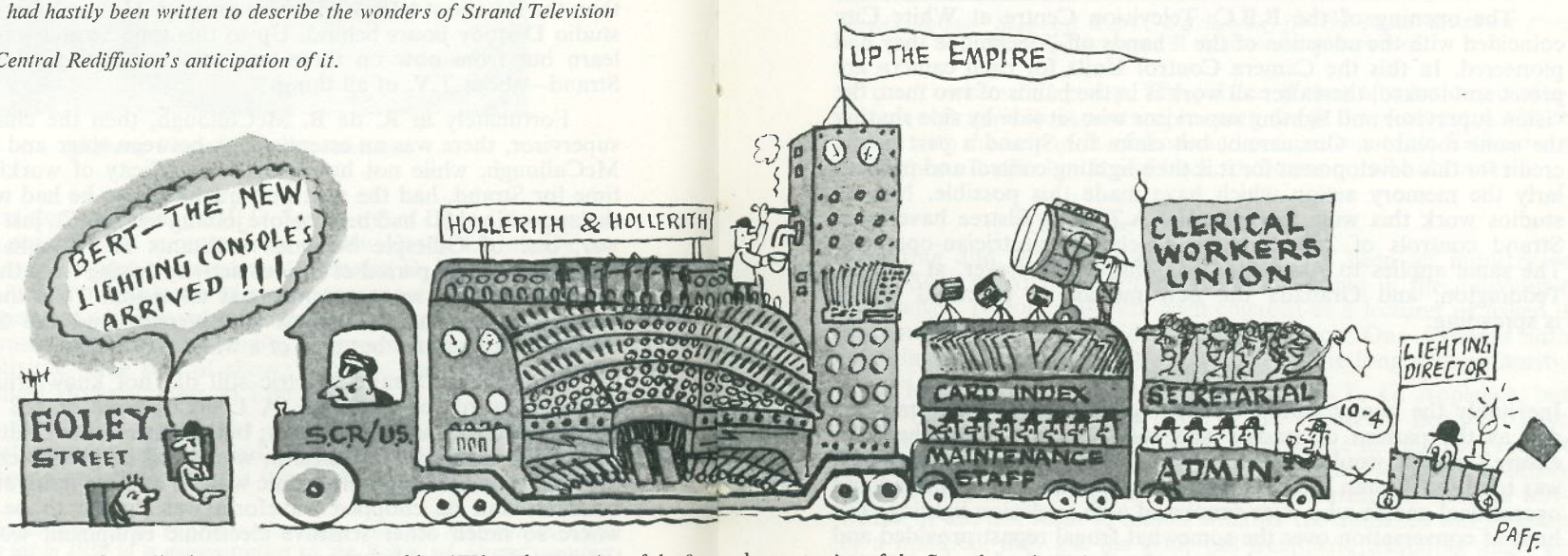
Things came to a head when one afternoon in January 1955 a conference was held at Central Rediffusion to consider Strand's first two studios at Wembley for Associated Rediffusion, both of which had to be ready that September. Alternative systems A and B had been worked out. Or at least A had been worked out in detail and properly estimated. Each studio was to be provided with an elaborate selector switch patch allowing all of a 100 or so circuits to be switched on directly or fed via twenty-four transformer dimmers. Rather remarkably, seeing that the control desks were but the other side of the dimmer room wall, remote control was used giving two dimmer presets.

The difference between System A and System B was that the latter incorporated Compton luminous pushes for circuit selection and the Compton memory relay provided ten instantly adjustable groups instead of the two which could be formed on the two-way and off switches of System A. It was claimed by Strand * that the memory action would allow synchronisation of lighting cues with camera shots if necessary.

The two B.s cowed by the then unfamiliar horror of Musak † which invaded even the lift at Carlton House as early as 1955 were ushered in to confer and to explain with dry lips their proposals. There was a feeling in the air that under the circumstances some

* *A red book had hastily been written to describe the wonders of Strand Television control.*

† *Or rather Central Rediffusion's anticipation of it.*



Customer leg-pull. This cartoon was presented by ATV on the occasion of the first demonstration of the Strand punch-card control system K.T.V. April 1959.

simple switches and slider dimmers would do. However, Messrs. Gabriel and Vast of Rediffusion did not need much persuasion and plumped for System B memory and all. This was an historic decision because it set television lighting on a quite different route from that pursued in the United States. The use of the memory combination action which was, incidentally, part of the Light Console from its earliest days, gave instant lighting changes which could be used in any order. The groups so formed could have circuits common to more than one group and more important as there were no grouping switches to be accommodated, desks could be kept very small. It followed, therefore, that television lighting control in the U.K. has permitted very flexible placing of the desk in the production suite right from the start. Not always taken advantage of however.

Riverside

The B.B.C. Riverside studios 1 and 2 followed as pilot experiments for the T.V. Centre. Two quite different control methods both by Strand were used and two different methods of patching. There was a school of thought in the B.B.C. which was influenced by the fact that thyratron dimmers were in common use in the United States for television (the Century-Izenour and the Kliegl-Wood). Strand therefore made the last of their Wood electronics with special low voltage Xenon valves.

The control in the larger studio, No. 1, 4,800 sq. ft., was an electro-mechanical system known as C with two dimmer presets

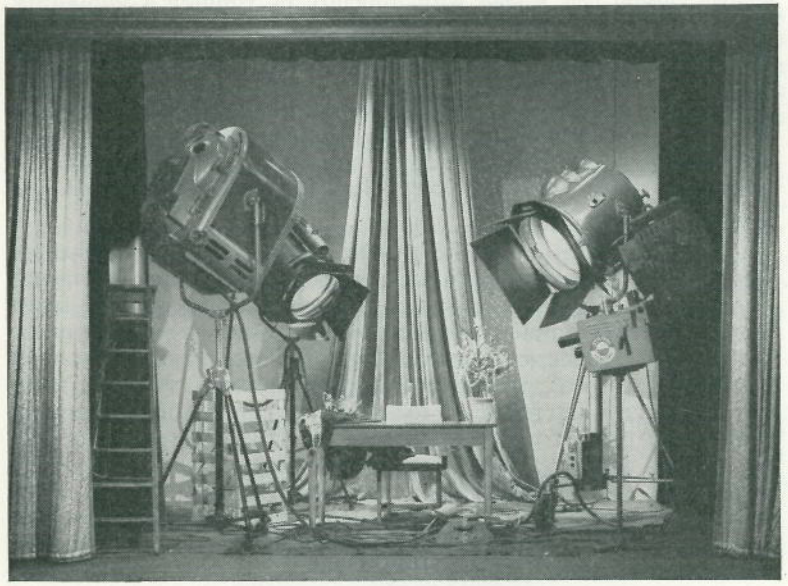
and twenty memory combinations. It is impossible to overstate the value of the work with the B.B.C. but Riverside was not the first system C to be supplied as it was preceded by a small installation of seventy-two dimmers for Associated-Rediffusion's T.V. House. This brought to light a unique facility which could be incorporated into Riverside I. This is known as " Lit Move " and has been used on all the Strand electro-mechanical servo-systems since. " Lit Move " is quite a simple idea in which the feed for the up and down clutches is independent of the servo and is taken from the feed to the contactor coil which switches a particular light on. The result of this is that whatever the settings of the preset potentiometers the dimmers only move in those parts of the studio in which the lights are switched on at the moment. Thus if there are twenty groups of lighting each to twenty sets in the studio two presets will be available to each of them as required. There is also a foot control known as REMainder DIM which can remove all circuits not selected. To change a few dimmers to marks following a big cue it is only necessary to select and set the levels of those required and the rest are automatically cleared. System C used Compton luminous pushes for selection and in the search for a less expensive alternative, return was made to the stopkeys used on the Light Consoles. The necessary combination was arrived at and curiously the first of these although inspired by television, was put into the Palace Theatre (1955). Subsequently this system known as CD has become commonplace in both fields. This growth of one control system out of another still goes on irrespective of the dimmer chosen.

The opening of the B.B.C. Television Centre at White City coincided with the adoption of the " hands off " technique they had pioneered. In this the Camera Control Units for each camera are preset and locked, thereafter all work is in the hands of two men, the vision supervisor and lighting supervisor who sit side by side sharing the same monitors. One cannot but claim for Strand a part of the credit for this development for it is their lighting control and particularly the memory action which have made this possible. Not all studios work this way, for example, A.T.V. at Elstree have large Strand controls of 240 dimmers which are electrician-operated. The same applies to Associated Rediffusion. However, at A.B.C., Teddington, and Granada the new method is practiced and it is spreading.

At Home

Inevitably the happy period of exciting discussion would end one day as the pattern of studios and staffs became established. To ensure that this would not happen an Old Boys' Day, so to speak, was tried in Autumn 1957. To this were invited all the planning and operational people who were concerned with television lighting. The hum of conversation over the somewhat frugal repast provided and the fact that the discussion back in the theatre had to be stopped

rather than started pronounced the idea a success. Since then we meet together twice a year and only the capacity of our demonstration theatre sets the limit. This Spring will be the fourteenth meeting



Strand leg-pull. Supposed B.B.C. OB lighting for the Royal Broadcast from Sandringham staged in the demonstration theatre.

of the " unnamed " group. The pattern is that of a serious contribution with a frivolous postscript sometimes as the photograph above shows with the help of our friends and competitors Mole Richardson Ltd., then a buffet lunch and back to discussion all afternoon.

The Voice of Strand Electric

Lecturing and writing on stage lighting has been an industry in itself. Such activity has sprung from something in the individuals themselves. No one has ever been engaged as a lecturer or asked if he could lecture as a side accomplishment. One happens into lecturing and finds oneself giving tongue before long with authority.

The best known of all the lecturers was L. G. Applebee, but since his retirement Percy Corry and Frederick Bentham have probably managed to overhaul him, at any rate in man hours if not in decibels. Applebee had immense energy and would rush hither and thither on top of his normal work, lecturing on demand anywhere. It did not seem to matter whether the audience was a dozen or a hundred, they got the same full treatment, including make-up as Chirgwin, the white-eyed Kaffir, to demonstrate Samoiloff's

use of complementary colours. Everywhere Applebee went he took with him his portable slide lantern ($3\frac{1}{4} \times 3\frac{1}{4}$ then, of course) and the lighting for Samoiloff effects. It is a fact that on one of his Saturday outings the hall was found to have gas only and the necessary electric supply was rigged with difficulty by running a temporary lead from a nearby house. A particularly important paper was given by Applebee in 1935 under the title of *A Cavalcade of Stage Lighting* to the Illuminating Engineering Society. This followed the papers given to the same society by J. B. Fagan in 1919, H. Lester Groom in 1926 and by Harold Ridge in 1930. Applebee covered history and development to date which brought him up to Covent Garden, just completed, and included the new Light Console about to make its début.

It is an indication of the growth of the subject that when in 1960 Bentham gave the latest I.E.S. paper* even though history up to Applebee's Cavalcade was taken as read, he could only find space for the lanterns; dimmers and control had to form a separate paper to the I.E.E.† Frederick Bentham has, of course, been the resident lecturer, so to speak, in the demonstration theatre ever since there was one, but it is interesting to recall that the present theatre actually opened in April 1954 with a lecture from Philip Rose to a private group. This had been booked many months previously with plenty of time for the rebuilding and wiring to be completed. It is not surprising that building work was behind and there was no floor covering, but the real truth was that Strand Electric in their own theatre were nowhere near ready. With the audience already outside it seemed at one time that the only way the house lights could be switched on was by touching the returns on the nearest radiator.

The simple show, it was mainly slides with the inevitable Samoiloff interlude from Applebee, was achieved with the aid of Lorraine, Weston and Bentham, all manning the balcony to connect up and vamp as necessary. It is no bad thing for the technical department who are responsible for running the theatre to have to work on shows in which the ingredients are their own designs. Percy Corry is another valiant and prolific lecturer though not unnaturally his centre of activity is rather to the north.

There is no doubt, however, that the lecturers would have been completely overwhelmed in recent years were it not for the recorded lectures. We notice this idea has spread, but at the time we began in September 1957 no one had heard of it. The first step of recording a commentary, was taken to reduce interruption of the days' work by demonstrations to special parties. Using a tape the theatre attendant was able to put on a complete hour long show without uttering a word, she merely had to be in the right place and press the right switches at the appropriate time.

* *Trans. I.E.S., Vol. 26, No. 2, 1961.*

† *Proceedings I.E.E., Vol. 105, A, No. 20, April 1958.*

Improvements in colour photography, especially when in the hands of Paul Weston, led to the idea of staging the various demonstration effects and making colour slides. Once this was done the lecture could go anywhere complete with its commentary. Furthermore, as it consists of sixty or so separate slides revisions and where necessary repairs could be easily made. The first lecture *Lighting the Scene* literally hit the jackpot and all copies have been in constant demand. Another feature of the process is that it makes possible the discussion type of lecture in which two or three experts take part and comment from their special angle.

The Strand Electric slide collection in London consists of some 300 $3\frac{1}{4}$ in. $\times$ $3\frac{1}{4}$ in. slides and over 900 2 in. $\times$ 2 in. colour transparencies not counting copies. The former are now largely history as we have standardised the smaller size for lectures for some years now. This we can claim is a valuable source of illustration to draw upon, covering stage lighting and its application in the widest sense over the last fifty years.

Another Voice

Another voice attracts the worst houses of any in the demonstration theatre. Once a year in spite of much announcement this voice draws maybe four, perhaps six or even a superb house of twelve. The voice

Chairman: Jack Sheridan.

is that of the chairman, Jack Sheridan, and the occasion is the Holdings Company annual general meeting to which the shareholders do not come—the better the contents of the speech the worse the attendance. No opportunity for histrionics here. To see Jack

Sheridan in action one must attend the social (Seecol *) club dance or the summer outing. Or there is the New Year staff dinner held each year at Simpsons in the Strand.

Clutching a mike and facing a rumbustious audience, some of whom are a little the worse for wear, we see Jack Sheridan really in his element. This is a most difficult audience requiring expert handling but nothing seems to daunt our chairman who runs the whole proceedings. One such occasion involved no less than a dozen speeches. All went well until X.'s turn, halfway down the list. Usually X. was a brilliant raconteur but this particular Friday night he was not only off form but lost in spirit. Repetitions, false starts, misfires abounded but curtailment from the chair could have provoked an alcoholic aggression—it was one of those nights. A restive audience suffered for over twenty minutes before the speaker sat down in the chair which had formed his essential prop. Any theatre producer could have sensed that this audience did not want another speech after that but with five speeches scheduled to follow, some doubtless carefully prepared with joy and pride, what was to be done? Without hesitation Jack Sheridan rose with " I now call on Philip Magnus to prolong the agony ", the tension was broken, the audience relaxed in laughter, the situation was saved.

Can this be the same man who lives in the boardroom carefully collating and analysing the figures and doing his own filing. Arriving on time each morning he is too early to be seen by the staff and as he stays in for a sandwich lunch at his desk he is, except for those at managerial level, but a name during the working day. In a curious way Jack Sheridan is better known personally to the staffs in Canada and Melbourne for he makes regular trips out there.

Melbourne and Toronto

Jack Sheridan had for some time cherished a desire to extend Strand Electric activities to the Commonwealth and when Alec Brown left the London Coliseum to take up a post with Williamsons in Australia he came to King Street to say good-bye. Alec as Papa Brown's son had a long connection with Strand and Jack told him to bear in mind that if his new job did not turn out as well as he could wish then perhaps he would like to stay in Australia and found a branch. In February 1952 the new branch set up shop in Melbourne and has made steady, if not sensational, progress since. In 1958 the branch became a separate company with Jack Sheridan, Denis Irving and Alan Sullivan as directors but still part of the Holdings group.

Canada came later and the opportunity was taken of William Lorraine's visits to America on other Strand business including the Caracas installations described earlier, to explore the possibilities

** The last stand for the initials which formed Strand's early trade mark. Years ago everything was liberally smothered with SEECOL a name rather suggestive of a patent ointment for acne or bunions.*

of a branch. The first step was an agency run by Leslie Yeo and then a full branch in 1959 at Toronto. Someone else soon had their eye on the premises at 755 Yonge Street also for a branch but of a different kind—a branch to Toronto's new underground railway. The result was a move to our new home at Davenport Street which is must be admitted is vastly more convenient. At Yonge Street visitors had to pass through the middle of the management's inner sanctum to get to the demonstration theatre and storekeepers had to use the same traffic artery to reach the showroom part. Strand Electric Limited, the Canadian Company, has as directors Jack Sheridan and Philip Rose. The place is under the management of Philip Rose, a name which has already cropped up in this history. His Strand career began, like many of the best people, in the Head Office showroom and theatre, in 1941. After the usual " break for war " he returned and was on Applebee's staff. His next job was to open the Darlington sub-branch and he moved to Toronto in October 1959.

A " light " load for B. O.A.C.

The Toronto branch has already scored some notable successes, for example, the complete equipment of Channel 9 television studios in Toronto and studios in Winnipeg and Hamilton. The Faculty of Music, Cedarbrae School and the University of Waterloo have been featured in TABS. The big clutch-operated remote-control dimmer banks for Channel 9 actually flew across the Atlantic to get on the job in time in the hold of a BOAC Boeing 707; a prediction no one would have dared to make back in 1929 when the clutch was invented. Another link with those far-off days was the fitter who flew across to assemble the job in Canada, Arnold Turner, who joined Mansell and Ogan in 1927 as a boy.

The problem that faces our Toronto organisation in respect of large entertainment centres like the O'Keefe Center or Montreal Place des Arts is a peculiar one. Invariably specifications are drawn up in accordance with the United States practice and probably by a

consultant from that country into the bargain. In consequence ten-preset installations of roughly 100 large dimmers patched to say 600 or so circuits are specified. It is true to say that the secret of export is that one should study the customer's methods and practice in order to go all out to fulfil them. When, however, the practice is an infection from the country next door surely one has a civilising duty. No large stage can function in terms such as these and it is not merely British practice that proves the Americans wrong, there is the whole of Europe particularly Germany—the home of large theatres—to back up the fact that what is needed under these circumstances is more dimmers and less patching. The American system was born of the college theatre where there is plenty of labour and all the time in the world. A professional theatre cannot use the so-called " flexible " method in which not a single light can be lit for a production without intensive exploration and pre-planning to find out how that light is going to be used right through the show so that it can be patched correctly.

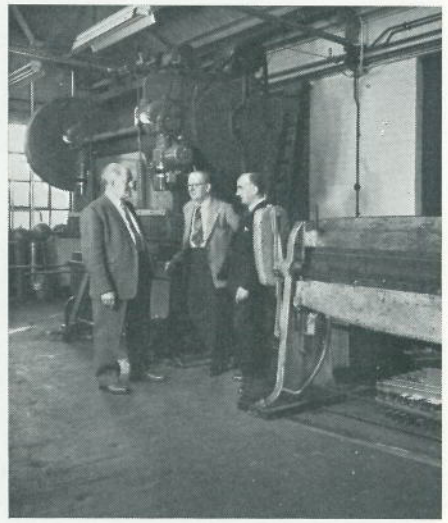
Oval Gasholders

An entirely post-war growth is the Kennington Lane colony. By now we seem to have been there for ever. The south side of Kennington Lane, No. 271, was purchased in 1948 with one of those expansive gestures with which, like the founding of the Canada branch, Jack Sheridan occasionally startles the staff. At that time the site consisted mainly of a large area of semi-derelict taxi garage complete with petrol pumps in the forecourt. Perhaps as it was in the height of petrol rationing these were the real draw. Anyway, the following year 149/151 Vauxhall Street, the blitzed hinterland between 271 and the gas-works, was also acquired. After enquiries directed at a famous industrial removals firm it was discovered they would require too long a period to transfer the hire department from Floral Street to Kennington. In consequence it was decided to do it ourselves. After all Strand had been opening theatres and productions to impossibly short dates so why not give ourselves a dose of the treatment. The job took place on the Easter Bank Holiday and twenty-eight of the Hire Department staff led by Jack Madre took part with all the Strand's own vans pressed into service. After the successful conclusion of the move a photograph of the triumphant team was taken in the petrol pump forecourt.

Vauxhall Street at first was used to house the just acquired Imperial Lighting and to establish the nucleus of a mass production lantern workshop under William Gibson who had been in Bill Buckle's sheetmetal shop at Gunnersbury since he joined in 1934.

The first essay into real mass production of lanterns was the die-cast pattern 23 profile spotlight. The adoption of this production technique had to assume that at least 5,000 would be made whereas the previous technique assumed batches of fifty or a hundred. Pre-war it was not uncommon to make just a dozen of a particular

lantern. To take advantage of these production techniques the number of individual species must be drastically reduced on the one hand and the widest market for each sought on the other hand. Variants to the basic unit make an individual species versatile and capable of wider application. For example, there are eleven standard variants to the Patt. 23. Mass production means better finish, more for the money and because labour forms but a small part, a check to rising costs. The initial work-off of tool costs on early batches also helps in the last aspect. On the other hand, launching a particular lantern is a serious business as any mistakes are repeated many times and are difficult to eradicate in the early months. Both the Patt. 23 and recently the Patt. 263 ran into trouble over the special lamps devised for them. Indeed the Patt. 23 had to be restricted to 250 watts initially for some months.



A. E. Regester, Bill Buckle, and Jim Jordan. 90-ton Press Brake at rear, original 6 ft. Bender in foreground, Gunnersbury 1963.

The rebuilding of the ruined sections of Vauxhall, together with certain extensions have relieved Gunnersbury of all mass production lanterns. The last item to go was footlights and battens of which we can never make enough; miles and miles of them since the originals of Samoiloff days have been wired by Joe Dewar (1921) in spite of all the efforts of our lecturers and representatives to convince people that this is not a proper way to light a stage! For all that Bill Gibson lives in an atmosphere of varying light and shade, depending whether he has a clear view of sky from his factory or it is eclipsed by a large metal gasholder, it is impossible to tell from his manner over the 'phone whether the gasholder is " up " that day or " down ". There was, however, a trying period when he was having trouble with the gas pressure on his huge automatic lantern drying oven, due to the fact that he is at the end of a long main from a different gasworks. All that gas next door and not a single therm for Bill.

The principle of mass production runs means that there must be somewhere to stock the stuff and Floral Street had for some time been too cramped to provide adequate sales stores for Philip Magnus. At the same time Gunnersbury, in spite of the fact that they no longer made the bulk of the lanterns, simply could not find

room for all the dimmer controls and their associated wiring. Just as Strand in the early 'twenties soon spread over both sides of Floral Street, so now the same situation arose with the purchase of the premises in Dolland Street, the backdoors of which face Kennington Lane. To this factory came Davies and Jim Hayden from Gunnersbury to manufacture the mass production items of dimmer control. Resistance dimmers which had some years hived off and formed a not too logical appendage under Medlicott to the Vauxhall Street factory, were brought here together with items like saturable reactor dimmer racks, transistor amplifiers and latterly SCR equipment.

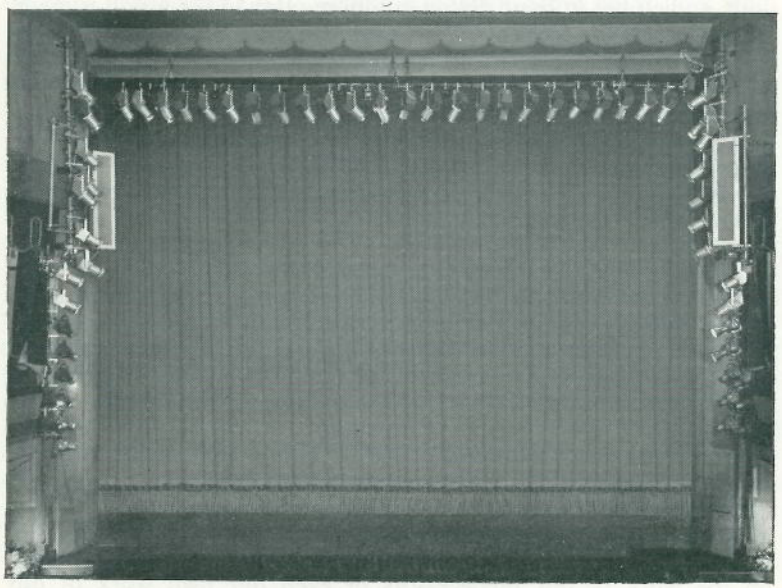
There also occurred the opportunity to forge a missing link. While Strand, or at any rate the Mansell and Ogan part of it, had always made dimmers of the resistance type from the earliest times, the transformer and saturable reactor dimmers, necessary in recent years were, however, purchased from an outside firm. Due to the take-over of the manufacturing firm in question by a very large organisation, it seemed likely that the rationalisation that usually follows such an event would sooner or later shut down this source of supply to Strand. This is one of the less publicised results of large takeovers. When certain personalities vanish so, too, do the contacts which kept alive certain illogical, but mutually remunerative business. There was nothing for it but that Strand must make their own saturable reactor and transformer dimmers. We now have a transformer factory making all our special components of this nature including the miniaturised types the SCR equipment requires and one wonders how we managed for forty-eight years without this department.

They were no stupider

In drawing conclusions from our brief history one has to avoid the extremes of amused tolerance for the fumblings of the beginners on the one hand and envy for the sturdy pioneers on the other. Those who will follow will differ from the personalities in this book only in the amount of knowledge they have to build on. Incidentally some appear to approach our subject with such naïve enthusiasm as to run the danger of believing that there is no knowledge on which to build at all.

As to the nostalgia for the fun of the early days, there is just as much room for initiative now as then and each should be able to pursue his enthusiasms wherever they may lead. It may, perhaps, no longer be possible to be an all-rounder generally informed in all the branches that go together to make up the art and technics of stage lighting. Today as the technical frontiers move further and further out so the engineer must specialise. Within his specialisation, however, he has all the excitement that comes from the work itself and from keeping ahead of his opposite numbers in other firms and in other countries.

For the artist, however, it does seem that other than in respect of fashion, which is recurrent anyway, there has been little or no change. Is there likely to be any great change in the future? It is common to hear young lighting enthusiasts of today talk of lighting being in its infancy but so others said in the forties, and yet others in the thirties, and in the twenties and even before that. The truth is that once the limelight and the arc-lamp were established most things became possible in stage lighting to the artist who had ideas and was prepared to take the trouble to carry them out.



Proscenium of Spotlights, London, 1962.

"Footlights . . . are really the rudest and coarsest of devices . . . There may be hopes that the electric light may work a change, and I would suggest to its patron . . . whether he could not apply his mind to the solution of this problem, and find some way of directing this light on the stage, say from the panels of the private boxes . . ." *Percy Fitzgerald, The Theatre, Oct. 1st, 1878.*

Certainly in each of the fifty years or so since the beginning of Strand Electric he could have nearly all the instruments he needed and probably all he wanted. His dimmers and switchboards may have been crude and make us smile today but they worked for him if he had anything to express. If he had nothing to say then he was no worse off with what he had then than he would be today with all the latest equipment to hand.

Stage lighting is an art and one sees in this history the same old tricks and effects turning up again and again. Optical projection in

the theatre, for example, is as old as the magic lantern, and Loïe Fuller and her lighting men seem to have covered in the early 1900's almost everything in the way of moving and scenic effects that this technique had to offer. When it is realised that they also used spot-lighting of silks and muslins from above, from the sides of and from *under* the stage and to this they added ultra-violet effects, one wonders if there is anything new left to do at all. Even " Colour Music " can claim a pioneer as far back as Father Castel in 1734!

Is there anything new? Well, of course there is—the equipment itself, sometimes in basic design but more often in the way it is made and in its greater efficiency from the engineer's standpoint. Even if we wanted them we could no longer afford the cost of hand-made lanterns. Again some spotlights are two or three times (sometimes ten times) as bright as their predecessors of the twenties and thirties. In lighting control one man can, with our modern instruments, do the work of many. Just as well, in view of the shortage of labour. We can, if considered desirable, abolish all operators, except at rehearsal, without much technical difficulty.

More important than all, the lighting control has become sufficiently compact for the lighting designer to play it directly and get his changes of effect without intermediaries; a matter that is of great consequence in television production. Compactness is also of great value in placing the control, especially in existing theatres, so that the operator can have a view of the stage he is lighting.

Today's dimmer controls use circuitry and manufacturing techniques beyond the imaginings of even thirty years ago. The equipment itself is even transported across the Atlantic by air. Yet what we make today will seem just as crude technically and provoke in the future the same patronising smile as we tend to bestow on the work of our predecessors or even our own work of our younger days. If on the other hand our predecessors were to turn up today can we take it for granted that they would admire our solutions to problems they knew well enough?

What would Mr. Fitzgerald who in 1878 wrote the caption to our photograph of a 1962 " proscenium of spotlights " have to say about it? He would have detested its crudity as much as he did the crudity of the footlights he railed against. One thing is certain; neither Arthur Earnshaw nor Phillip Sheridan, however ambitious they were for their firm, would have wished to see their spotlights hanging in such bare-faced prominence. Every spotlight had to be concealed and all stray light masked—nothing must destroy the theatrical illusion. In this they would have been at one with Mr. Fitzgerald and at odds with those, by no means all of us, who not only do not care whether they see the lanterns but positively prefer to do so.

Epilogue

So there we all are. Strand Electric 1964, a township in Kennington Lane, clustering around an elegant five floor essay in modern architecture which we hasten to add is nothing whatever to do with us. It is, in fact, the L.C.C. school equipment store but it does lend a certain tone to counter the lack of architectural distinction in our own buildings to say nothing of the presence of the gasworks. We still have a stake in Floral Street, even though it has come to be regarded as the back door to our King Street premises—our Head Office. We are in Gunnersbury again. Up north we are still in Oldham Road and in Dublin we are in Upper Abbey Street. We have our, unusually for us, impressive building in Davenport Road, Toronto, and in Melbourne you will find us in Graham Street. We exist in the front parlour of a house in Bristol and a house in Darlington and, of course, there are Signs in Langley Court. John E. Martin in Glasgow never forgets that he represents us as well as " Stage Furnishings "; and there are our agents round the world consisting of men who solely deal in Strand Electric, of men who partly deal in Strand Electric and in exactly three cases consisting of our active competitors! A girdle round the earth, hardly; but a long way from those two rooms in Long Acre none the less. This edifice is still, as then, built on Theatre, some of it now " Armchair " of course; on Lighting for Entertainment.

Thus far, with rough and all-unable pen,
Our bending author hath pursued the story,
In little room confining mighty men,
Mangling by starts the full course of their glory.

Henry V.

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Applicable only to this special issue of Tabs. To keep it concise all references to individuals have been omitted.

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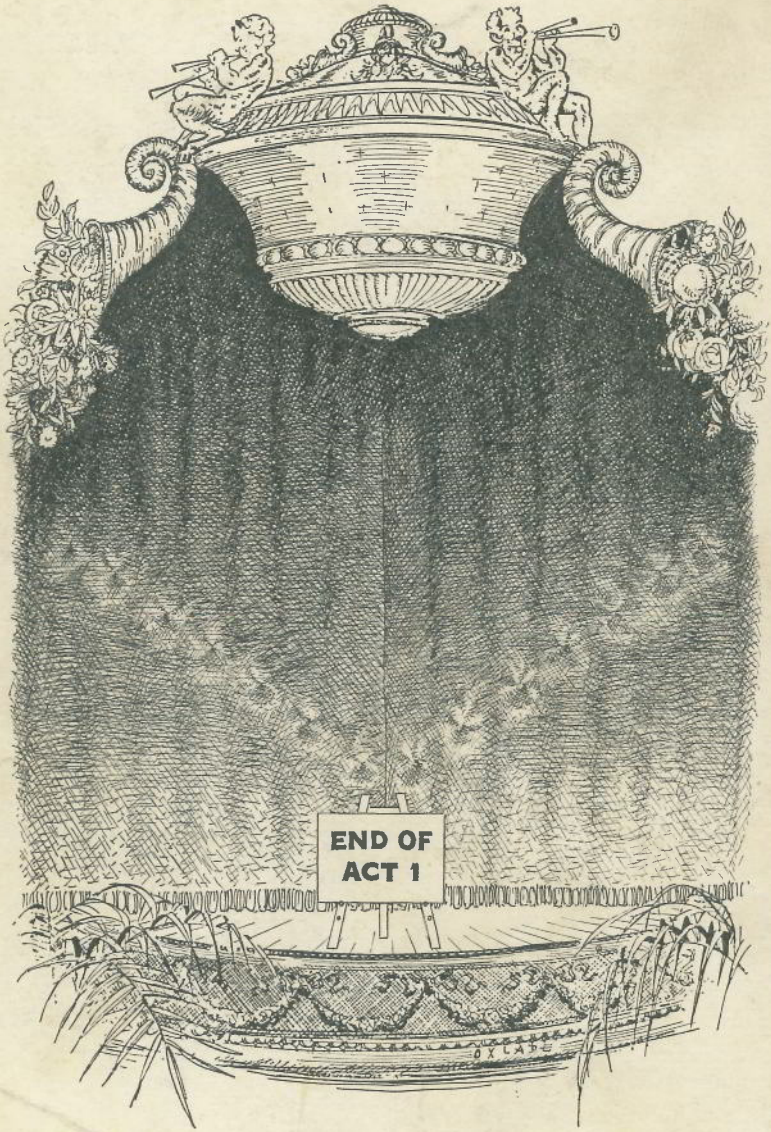
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