

# CUE

Technical Theatre Review



July-August 1980 £1.25



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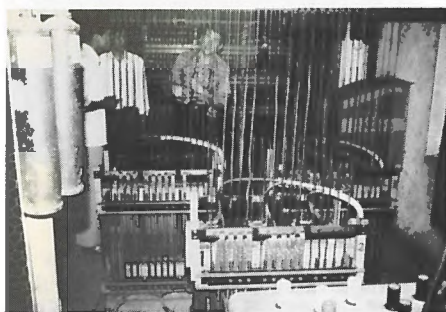
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July–August 1980



Our cover picture is the Peking Summer Palace Theatre. A sort of multi-storey theatre in which performances take place at three levels with traps for fairies and demons to descend and ascend as appropriate. The small picture above is a typical Chinese lighting control arrangement using wire wound resistance dimmers controlled by tracker wires. Freddie Grimwood took the photographs and on page 4 describes the slide projection techniques which are frequently used in place of a painted backcloth by Chinese stage designers.

Projection a la Chinoise by Freddie Grimwood	4
York Puts on its Mysteries by Anthony Pugh	8
No Hephaestus in the '80's? by Reg Bartram	9
Autolycus	11
Letters to the Editor	11
Books	12
Politics or Theatre? by Dorothy Tenham	13
The German Mechanised Repertoire Stage by Francis Reid	14
Product News	19
Doing our own Thing by John A. Williams and Francis Reid	23
Rear Projection by Michael Hall	26
Wembley opts for 12-channel lighting control	30
Between Cues by Walter Plinge	31

### Digital Organs

**BOARDS** are in the news again. Not Boards of Management but boards of lighting. The things that manufacturers call *lighting controls* but the rest of us refer to as *switchboards* – although, since the days of gas, dimmers rather than switches have been the fundamental elements. When we say that boards are in the news, we do not mean that they have taken on any new startling international, national or even regional significance in the eyes of the media. No, we have merely noted that board correspondence has appeared simultaneously in Stage, Sightline and ABTT News. Like much that happens in correspondence columns, there is general agreement obscured by differences in terminology – in this case, particularly between *Lighting Design* and *Lighting Operation*.

There are two broad schools of switchboard punditry – *organ loft* and *mission control*. The Organ Scholars are concerned with playability whereas the Mission Controllers recognise that the language of light is numerical – circuit numbers, colour numbers, cue numbers and lantern numbers (put a 17 in a 23, plug it in 93, patch it to 14 and bring it up to 5 on Q.7).

On one point however both schools seem to be reasonably united – doubts about the headlong dash into miniaturisation in which most manufacturers are joining with jubilant cries of 'me too!'. The Emeritus Professor of Organ Lighting has called these miniaturised boards *Cash Registers* (referring to their operability rather than their profitability). Certainly the close proximity of the keys calls for a considerable delicacy of fingerwork that is at odds with the poor playability of the keyboard layouts. And some of the channel adjusters represent a distinctly disastrous backward step from a device that has long been acclaimed man's most potent industrial tool – the wheel.

But perhaps these boards are designed for shows that never go wrong – shows where actors never get out of position, scenery never gets set off its marks, or lamps never get walloped out of position. Shows where you never need to cheat levels. There are a few shows like that. They have standing sets and standing lights. If there are cues, then they are probably the only type of cues that have no operator timing profile – snap switch cues. For such a show it might be thought that asking an operator to man a board would be to insult his skill. It has been suggested that operation of such shows should be remotod to the prompt corner. A bored operator is not a good board operator.

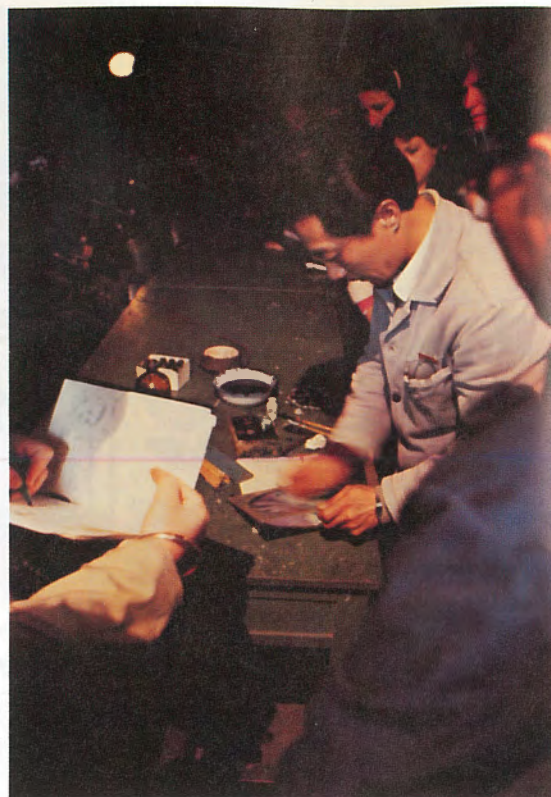
But for any production that has lighting progressions a sensitive operator is required – and in our observation the sensitive operator looks for rapid numerical access to channels, groups and memories; coupled with comfortable manual playability to allow finely timed movement on cue.

For lighting design most boards are equal, but for operation some boards are considerably less equal than others.

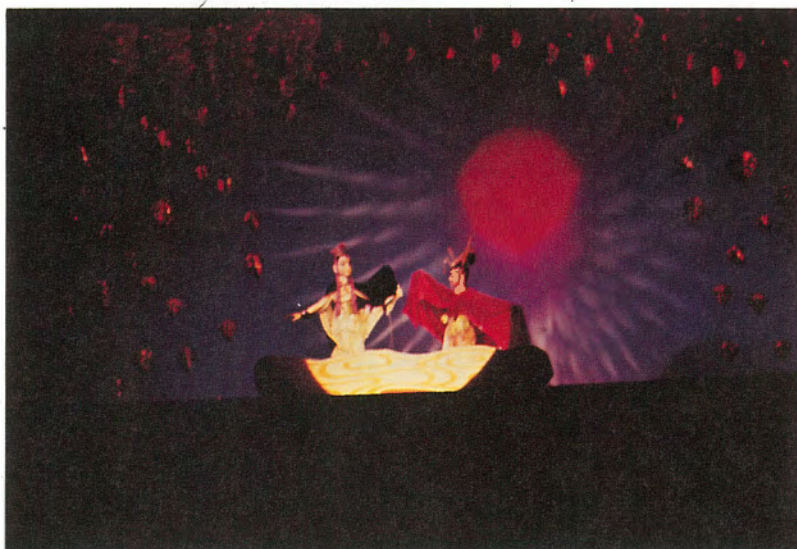


# PROJECTION A LA CHINOISE

FREDDIE GRIMWOOD



*The 19cm slide is a cheap and simple alternative to the painted backdrop. (Above) Hand painting slides at the Shanghai Institute of Drama.*



*Backdrop at the Shanghai Puppet Theatre.*

Those who saw performances given by the Shanghai Peking Opera Company on their recent tour of Europe and North America, will surely recall the quality of the many 'painted' backcloths. Just as I was trying to work out how they had managed to hang so many drops on seemingly the same set of lines, someone backstage obliged by running a flat a little too near the 'cloth' — the subsequent shock waves revealed four very discreetly joined, but none the less, projected images.

That was Montreal in September 1979. In April of this year I was fortunate enough to join the SBTD/ABTT trip to the People's Republic of China, and of course I was going to find out as much as possible about Chinese projections.

The first clues came at a meeting we had with designers and technicians in Hangchow, in the form of an exhibition of local designs; this included a whole table of hand painted slides. Here were the rivers, the mountains, the lakes and the sunsets prescribed for traditional Chinese opera, laid out in comparative miniature; not quite 35mm, but regular colour frames with a 19cm diameter opening, an ample working area for the Chinese with their tradition of exquisite hand-painted miniatures.

In Shanghai, at the Institute of Drama, Prof. Sun Haoran laid on a demonstration of how to paint an instant, pre-distorted range of mountains, but first a word about the equipment and where it is placed. Nearly all the projectors we saw were in front of the canvas screen/cyclorama, and were masked either in a floor trough or behind a scenic ground row. Very often a cut cloth or gauze would be flown in downstage to alter the frame through which one saw the projected scene. Needless to say most stages in China are proportionately





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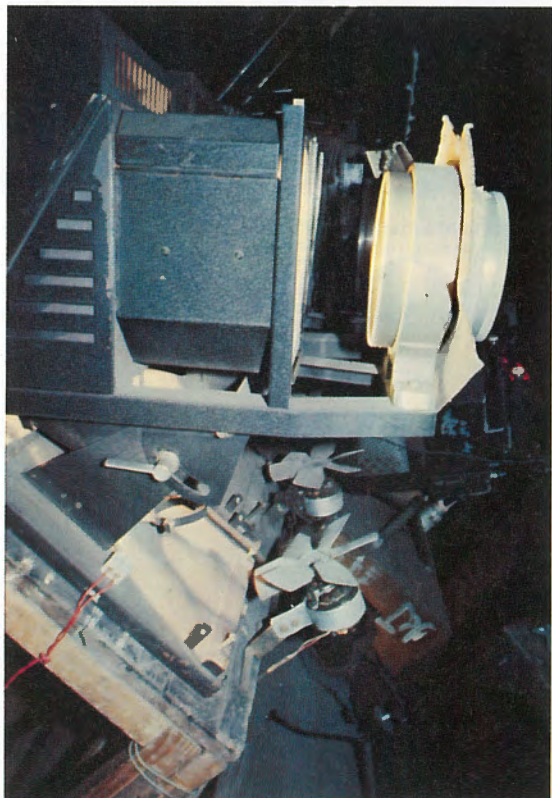
Anything else is second best.



deeper than ours, and a 10-foot no-actors-land immediately downstage of the cyc was not untypical. Overhead, there was usually some kind of flood bar to provide straight cyc lighting, augmented by a few strips amid the panoply of projection gear on the floor. Invariably, the control for cyc and projections was separate from the main board with a good, if oblique, view of the backcloth; no doubt with the advent of remote control, the desk will be moved out front. In addition to the board operator(s), there was a gang of floor LX busy with replugs, refocus, slide and colour changes.

The workhorse projector in China is a rather agricultural looking 2Kw model, available in department stores and lighting shops for around £100, including lens. The light source is a tungsten filament with or without halogen, in some instances fan-cooled. After heat absorbing glass and two condenser lenses comes the slide holder, looking just like a colour frame slot. Then there is a completely open gap of 3 or 4 inches before the objective lens, just enough to allow a felt tip pen or fine brush to get at the slide. This, of course, is the key to the whole slidemaking technique.

So, back to Shanghai, where our man is poised, felt tip in hand to trace the outline of a mountain range directly onto the clear plastic; this is already in its frame with the projector positioned and focused as it would be for the show. Once the corrected outline is sketched, he takes the slide out of the projector and brushes on the colours required, drawing from a good range of aniline-based photo-tinting dyes. After several checks in and out of the projector



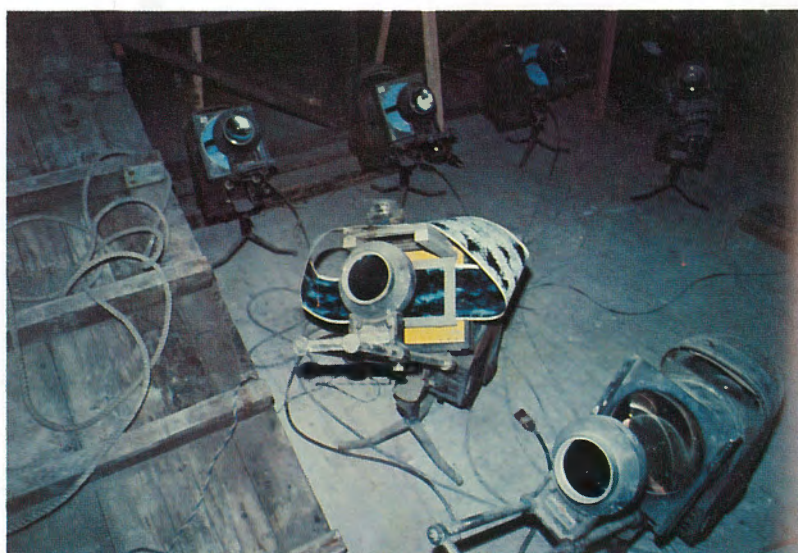
2 KW Projector with slide cooling fans. A large gap between slide and objective lens enables corrected outlines to be drawn in with the projector in position and focused for the show.



The Sound is all important to Chinese Opera goers, the settings being relatively simple designs or projected back cloths.

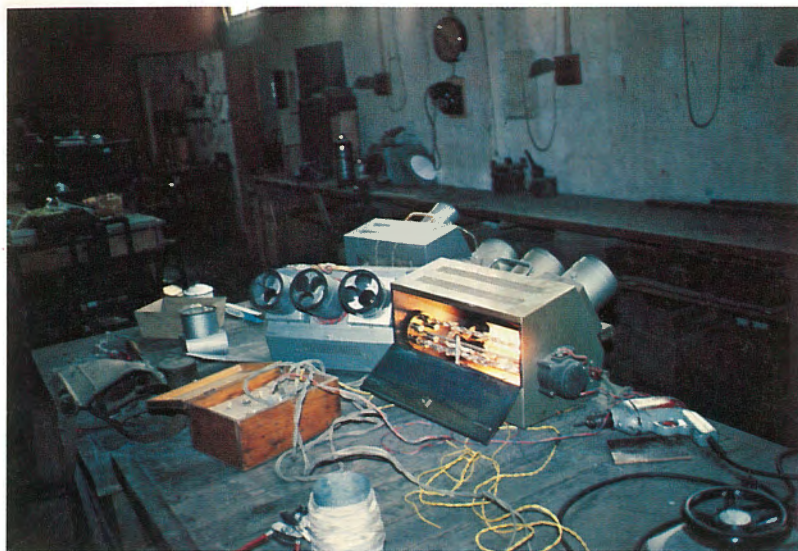


Painted and projected scenery is used in the many puppet theatres.



Projection equipment at the Shanghai Film Studios including continuous film loop effects projector.





The large amount of effects and projection equipment is well maintained.



Workshop and stores suggesting a good back up for that multi-lantern complexity.

A battery of projectors sited in a trough in front of the cyc. is a regular feature of Chinese opera stages.



This projected face at the Shanghai puppet theatre employed 2 projectors for the outline and 1 each for the eyes which moved.

for the correct distortion there remains but a quick coat of dope-smelling fixer, and we have at least a quarter of a backcloth completed in about three minutes.

Obviously our man is a star performer, but he certainly convinces us of the advantages of this cheap and simple alternative to the painted backdrop. The heat resistance of the clear plastic material seems to be good but, in the case of saturated colour in a projector pointing steeply upwards, little fans are used to cool the slide. It is interesting to note that all the design students at the Shanghai Institute are taught this method of slidemaking, as well as traditional scene painting.

The 19cm slide is not the only form of transparency that can be used with the ubiquitous projector; there seemed to be a full range of effects discs, most of them home-made and hand-painted, some even hand-powered.

Not all painted projection represented mountains and streams, indeed the *pièce de résistance* was the huge face at Feng Lei Ju Chang, the Shanghai Puppet Theatre (a good-sized 1,000-seat house). I was not in a position to count how many projectors were actually deployed, but it was probably four for the general pattern of the backcloth, two for the outline of the face, and one each for the eyes — all from the front. Apart from the face having to fade in and out on cue the eyelids had to close, which they did, magically, at the push of two bottom shutters.

So, once again, I was enthralled and completely taken in by that classic combination of enthusiastic operators, enough simple equipment, and beautifully timed cues; no untoward breezes in the cyc in Shanghai.



# York puts on its Mysteries and solves one

ANTHONY PUGH

To York for its Festival. And we were all very merry. A mediaeval city, where the building principle was compression, seems better able to keep a festival in order than, say, Edinburgh, where, pace the Adam Brothers, everything seems thrown out in all directions. At York the 'fringe' seems cheerfully relevant and community-minded rather than lunatic and publicity-minded, with a view to London later.

York's festival has been mounted every four years since 1951 (anybody fancy putting on a Festival of Britain *now?*) and is, one is surprised to find, the largest arts festival in England, with a budget of over £250,000. Its events take place over roughly 3 weeks in June, and in 28 venues — nearly all of them, by their history or their architecture, adding extra cultural values of their own to whatever entertainment is being offered. York Minster itself, with its miracles of mediaeval glass in its 2,000 sq. ft. East Window, is an obvious example of this. But no less remarkable, both as settings and as inspirations to musicians, singers, actors and the whole motley in general, are locations like the 15th century Guildhall, St. William's College, and the delicious Treasurer's House. From a more modern point of view the water-gardened University does pretty well too, or, for a genteel excursion, sumptuously restored Beningborough Hall.

This being an article, however, with some relation to economics, rather than a puff for the Department of Tourism, it should be said straightaway that, to us, the subplot to the York Festival has to do with the collaboration — or maybe it's a healthy competition — between two teams of sponsors. Characterise them, if you like, as Gentlemen and Players or Pros and Amateurs. In the one team the establishment bodies we tend to take for granted in the funding of arts activities — like the Arts Council in its many disguises, the Local Authority, a multitude of civic-minded 'Friends of the Arts', and national 'goodies' like the National Trust. In the other team the 'baddies' (if you don't like the face of capitalism) like banks, building societies, and multi-parochial business interests.

This year no less than 34 events during the York Festival were sponsored by commercial undertakings. Which either says a lot for Mr Norman St John Stevas' powers of persuasion, or, more likely, says a lot about a change of attitude towards the arts in community terms, which government shouldn't but certainly will claim credit for. Sponsors being a modest if not furtive lot asking only for footnotes in programmes (or, indeed, distant and irrelevant publicity behind goal-posts or sight-screens!) it seems only fair to do a little name-dropping.

Most heavily involved at York,

presumably, was the Midland Bank, taking time out from its takeover bid for the American banking scene, who put their angelic cheque towards the staging of 25 performances of the 14th Century Cycle of Mystery Plays, that marvellous muddle of mediaeval mythologies and the Bible Story, which Patrick Garland and pageant-master David Clarke presented in the spectacular Gothic ruins of St. Mary's Abbey. With a cast of over 250 good people of York (prominent among the very William Blakeian Mr. James Park who played God), and a lone professional, a refugee from 'All Creatures Great and Small', Christopher

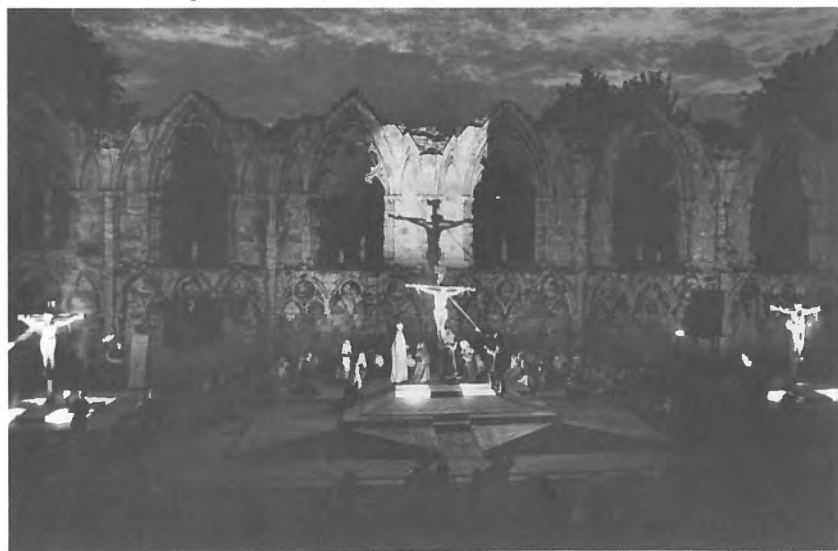
Timothy playing Christ.

In acting as *deus ex machina*, the Midland was simply reverting to a proper Middle Ages type — the plays at that time being financed by the city guilds of which York had over 50.

Sponsorship, of course, acquaints a firm with strange bedfellows. Here, for example, on June 14th, in the vast concourse provided by the cleared-out nave of the Minster, was a 'Mediaeval Spectacular' — 8 hours of splendidly-costumed mummery, minstrelsy, and simulated marketing on a mediaeval pattern — alongside which only the audience of tourists looked to be



**Before** The ruins of St. Mary's Abbey in Museum Gardens in York, which provide a spectacular natural stage (well over 100ft wide) for the Cycle of Mystery Plays performed every four years as part of the York Festival.



**And after** The setting for the scene of the Crucifixion. The action of the plays (starting in the Garden of Eden and ending with Christ's ascent to Heaven) flowed between three low platforms or podia, full use being made of the six Gothic bays which were lit at three levels — Annunciations and heavenly decrees being delivered at the highest level. Light 'n Shade were responsible for overall production.





**Christopher Timothy**, the only professional in a cast of over 250, doubled the parts of Nick the Carpenter (a sort of mediaeval narrator and general busybody) and of Jesus Christ. Here he is seen preparing for the Last Supper.

improperly dressed. But a note reminds us it was all sponsored by the Shepherd Building Group.

There were similar reminders all over. The local firms Rowntrees and Terry's cropping up as patrons, respectively, for an evening with Massed Bands and Trumpeters of the King's Division and for 'An Evening with Queen Victoria' (Prunella Scales at the Theatre Royal). IBM getting behind the Scottish Chamber Orchestra and James Galway. The Yorkshire Area of the National Coal Board stumping up, appropriately, for the Grimethorpe Colliery Band concert. The Post House Hotel supporting Richard Stilgoe's one-man-show. Etcetera. Etcetera.

One has no idea whether a festival like this of York breaks even, makes a profit, or produces in the citizenry, *vis à vis* its rates and taxes, an attitude akin to that of Wat Tyler or Jack Cade. What is important, we think, is that, between the Pro team and the Am team (and remember in *every* committee, in every boardroom, one individual has to make the decision not just to support but to disburse), we are at last beginning to get a joint undertaking that the show must go on, and a joint understanding that audiences, in community terms, may or may not know much about art but they certainly know what they like. At York, as we said, we were all very merry.

## No Hephaestus for the 'Eighties?

REG BARTRAM

As far as one can see into the near future, it appears that we will not experience a certain aspect of theatre which began in the late fifties and rose to its height in the early seventies; rather saccharine presentations of popular entertainment with a religious message.

Parallel with this a very minor cult seemed to stand some chance of gaining adherents amongst the technicians. Perhaps it started with science fiction and the early works of Van Daniken — it is undeniable that technicians of all categories were amongst the most avid readers of this material, culminating in the Scientology movement. It seems to have all gone away, maybe the fact that the memory bank control, here and now, has replaced it as effectively as real space travel has replaced science fiction. Hephaestus, the lame Smith-god of the Olympians was particularly favoured by the craftsmen in ancient Greece; the middle-age guilds had their patron saints — the A.B.T.T. knows them not.

This short review unearths some notes of a few personal experiences which occurred during the period.

A theatre lighting technician, prepared to accept any commission which pays, can find himself involved in some way or another with those who believe that the bitter medicinal pill of religion must be sugar-coated with a liberal layer of entertainment. Historically this has some justification in the wonderfully theatrical atmosphere of the insides of the Byzantine churches in Russia (now lovingly preserved as museums) or at St. Peters in Rome, but surely these

atmospheres were created to awe-inspire rather than to entertain. Even the mystery plays performed on the steps (outside) mediaeval churches were generally for the benefit of illiterates, probably because the inside service was conducted in a foreign language and this has no parallel in the lavishly produced stage spectacular 'Jesus Christ, Superstar', aimed at and succeeding in lining an entrepreneur's pocket.

One evangelist who certainly knows his showbiz is Billy Graham, and some years ago at various outdoor venues this filmstar-like personality, backed by a thoroughly professional team and glittering under massed spotlights, did perform well. When the time came for his plea for individuals to come forward and declare their faith, a few hesitants soon became a mob surging forward to kneel in front of him. Meanwhile, under the grandstand and in a room set aside for that purpose, officials kept arriving with full calico bags which they emptied onto long trestle tables. This was the nights 'take' and was enormous; enough to make any entrepreneur's eyes glisten. The experience proved that Religion, or this aspect of it, is a matter of emotion rather than logic. The lines laid by Graham have since been attempted by certain ministers of religion, but somehow they lack the star quality.

For my taste, I preferred the mass given by the Pope at the equally unlikely site on a racecourse, marred only by a gusty 'southeaster'. Again modern technology aided; it was the largest amount of lighting equipment we'd ever assembled outdoors but somehow it was in better taste — that indefinable

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At the same time entertainment was increasingly demanding a goodly inclusion of sex, of a fairly blatant type, and it may have been felt that religion, combined with entertainment but without sex, might be losing ground. One might play about with Love, in the early Christian sense, as a substitute but its not the same. An early engagement which I undertook concerned a certain lady whom I will call Madame Flo, though it seems unlikely that she's still doing her bit, some 20 years later.

sisterly Love. What is worth considering is the naivete of Ministers in allowing this rat-baggery to take place in their churches.

The object in recalling a few of many reminiscences on the same theme is not merely to be gossipy but to help stress a point, that it is hard to judge objectively other than from one's environmental standpoint; in this case a behind-the-scenes technician's cynical outlook on the more bizarre aspects of religion. Another example which pushes the sex and religion theme a little further may not be related to the above but it presents a viewpoint that a person can attain a higher plane of religious consciousness through physical sex.

donkey), another bystander is depicted with his hand over his eyes and face averted. It wasn't worth questioning, one rarely gets an answer that one can understand in India. Inside the temple was relatively bare of ornamentation with a raised stone dais in the centre. 'On here,' the guide explains, 'mass group sex takes place whilst the worshippers sit around and watch.' It was at this point that my cursed training took over. Of course; theatre-in-the-round and from then on there was no stopping me. The performers would have to be professionals, amateurs attempting this in public would just be a bungling, horrible mass. Only trained people could make it dignified and give it ritual. Perhaps it did start in a small way as a small sect in the moral freedom of a renaissance, became immediately popular (not that sex was ever unpopular), the 'take' became larger allowing for bigger things and so on. Might explain why so many temples existed in the one place, akin to the blossoming of strip joints, trading on the success of the first.

It is obvious from looking at religious works of art throughout history that craftsmen and artists see no further than the clothing fashions, armour and weapons of the day in which to adorn their portrayals of biblical characters. It is reasonable to assume that they credited these same characters with some of their own beliefs and prejudices. Mediaeval craft guilds generally had a patron saint to look after their own interests. Technicians (craftsmen) of those developments (sciences etc.) which originated during and since the Victorian period do not seem to be so inclined. They seemed to be frankly materialistic or at best sit on an unhappy compromise; one group known to me called itself 'Technicians for Christ', but they were very small in numbers and not well organised. There were indications however that there was a stirring towards what must have been a strong emotion to create some form of deity after their own image. The invention of the diode, a chemical junction which conducts electricity one way only, revolutionised the world of electronics and made the computer possible. It was not long before it was established that an animal's (and human's) nervous system relied on something very akin to diodes for passing messages from the brain to other parts in a selective manner — that is, pass or don't pass, yes or no. Add to this the transistor and thyristor, both extensions of the diode but with the added function that the diode's operation can be controlled from an external source, plus a magnetic tape spool to record these functions (memory) and we had the basis for a computer; still a costly high-speed moronic adding machine. However ally this to the discovery of the D.N.A. double helix and the work done on genes and we began to talk about all sorts of possibilities, including 'cloning'. Cloning is definitely making man after his own image! Meanwhile a version of the Lord's Prayer had appeared, credited to an American theologian which might not be entirely tongue in cheek. It began: 'The Lord is my genetics counsellor, I shall not want for risks, He maketh me to lay down in genealogies,' and ends: 'And I shall dwell in the house of science, computerised by all medical information, for ever!'

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# Autolycus

## Now we are six

This, you may not have noticed, is the sixth issue of CUE. While we wait for someone to rig a small lantern on our expanding birthday-cake a few tributes and toasts seem in order. First, to our readers. We know they have to be serious readers, rather than snatchers and skippers, because what CUE intends to be is a continuing commonplace book of theatrical experience which can build up to a more permanent record of back-stage problems and solutions than is available through hand-outs, party gossip, or the back pages of programmes – and we're beginning to cost less than some of these 'souvenirs' do.

The second thank you is to our contributors. Especially those who, because they are busy building theatres, equipping them, running them or designing productions for them, have had little enough time to act, as well, as our far-flung correspondents. In a later issue we hope, in fact, to have a report by our man in Hongkong, Far Flung, on the state of show-business in that beleaguered but booming Crown Colony. Meanwhile, dear contributors, back at base Autolycus, peering forwards, and Walter Plinge, glaring backwards, will continue to pester you to let it all hang out, and the managing-editor, with his paste-pot, will put it all together again.

The year behind, we think, has been, for theatrical enterprise, one of timid conservatism in London and the West End, and one of radical experiment and change everywhere else in the country. In the capital the news has been all of the closing of theatres or the closing of shows, and the closing of managerial ranks. Outside it, through the opening of new theatres, the expansion of 'festivals', progress in the marketing of shows and seats and the better exploitation of sponsorship (both institutional and commercial), a welcome gusto and *joie de jouer* keeps breaking through.

To salute this tendency, we don't think we can allow the year to pass without applauding the jolly jape perpetrated on Trevor Nunn and the RSC, who, because of their preoccupation with 'Nicholas Nickleby', have lately been flyposted as the RDC – the Royal Dickens Company – and whose important personages have been, as part of the hoax, importuned to mount a whole new gamut of Dickensian epics (rather than their traditional presentations of Shakespeare) in the round, in the musical, and later, possibly, in the nude. CUE will go further. And offer a bottle of champagne (regular readers only: renew your subscription now!) for the best suggestion of a title for a stage show that combines, in one cultural swoop, the best of Shakespeare and the best of Dickens. We already have, as a black tragi-comedy, 'The Winter's Tale of Two Cites', and, as an old-time music-hall romp, 'All's Well that Ends Weller'. Can anyone do better?

## Male chauvinist rats?

Who says male dancers are sissy? Some schoolboys, it seems, still regard dance as a dangerously effeminate occupation despite its increasing popularity on television.

A new dance company of six men calling itself 'Mantis' has just been formed with the express purpose of promoting dance as an art form in schools and art centres in the hope of burying the myth that dancing is for girls and fairies only.

Anyone who has ever worked with or in a professional dance company knows that strength, agility and staying power are vital qualifications for the job. And any teenage boy who thinks differently should try lifting his teenage sister above his head for a few seconds for proof of his own fitness. Its a sweat for a professional and a near-impossibility for an amateur.

The all-male mucho-macho Mantis company reckons it can go a long way in overcoming the timidity of boys who are reluctant to take part in dance.

At its head is Micha Bergese, formerly leading soloist and now associate choreographer with London Contemporary Dance Theatre. He is joined by Timothy Lamford who last year directed the 'Scaramouche' company in Performances for 7-12 year-olds. The others include Stuart Arnold, Jonathan Lunn, Gurmit Hukan and Paul Claydon.

Although Mantis has yet to perform, it already has bookings for its October to December season in London, Leeds, Brighton, Eastbourne and Slough.

Within its repertoire is a Surreal piece called 'Underground' based on the Orpheus myth and set to music by Stravinsky and choreographed by Bergese. 'Half-life', choreographed by Lamford and set to a collection of songs from the First World War is a sardonic comment on anti-pacifist feeling and institutionalised violence in sport.

We hope and pray Mantis succeeds in its worthy mission.

## Light 'n Shade in York

We talked to Les Broughton, one of the three partners of Light 'n Shade – the others are Eric Harbour and Denis Hoffman – who was responsible, with Saul Radomsky the designer, for the lighting and staging of the York Cycle of Mystery Plays. If you missed them you'll have to wait another four years or wait for the BBC's filmed version in their television series on the history of world theatre 'All the World's a Stage'.

The York venture was an unusual one for Light 'n Shade, since, operating out of London ('Bethnal Green – support the East End,' Les says) they are more often concerned with trade shows, conferences, conventions and the three-ringed-circus dramatisations of products for invited (or threatened) audiences of salesmen and dealers. In this much more stable alternative theatre, where it is literally true that 'this one will run for ever', they have acted for some pretty big initials indeed – from ITC to ICI to IBM, and most recently for

GM in the launch of the new Vauxhalls.

Apart from being Yorkshire born and bred, which must have been useful in arguments with local suppliers, Les Broughton's involvement with York and all the numerous committees who run its Festival dates back to early 1979, which is the sort of time it's good to be around at for events that take place in the summer of the following year. Quietly minding his own technology at a fashion show at the lovingly-restored Guildhall (badly bombed during the war), he was asked if he'd like to quote for the much more amorphous problem of transforming the ruins of St. Mary's Abbey into what must be, surely, the widest stage in the world (at well over 100 feet), and preparing to light, night and day in the open air, for a cast of over 250 (not including sheep, goats and an assortment of horses and donkeys). In fact what he had to handle were 34 individual playlets strung together, with a dénouement of a full and faithful reconstruction of the Crucifixion.

Looking back now, and with a lot of events in the London Festival in similarly prestigious settings also to the credit of Light 'n Shade, Les Broughton still seems a little puzzled at how it was all done.

## Letters to the Editor

From Mr. David Kerr

Dear Sir,

I read with great interest the product review on 'Tempus' in your May/June issue, penned by Adrian Dightam. May I say that the article was very 'readable'.

However, I must draw your attention to the fact that the comparison between the Electrosonic 'Linkit' desk and the Tempus 12X was incorrect. In that, assuming the Tempus brochure is correct, the model 12X is a 12 way 2 preset extension desk, with no masters. This desk must therefore work with a standard desk as an 'add-on'. Therefore assuming my understanding is correct, this is quite a different approach from the Linkit desks.

The fundamental principle of the Linkit desk, as the name implies, is that all the desks have the same facilities and can be linked together in any quantity up to a maximum of 240 channels.

This has a distinct advantage that in a situation where two 12 way Linkits are used, they can both be used as independent 12 way 2 preset (dipless crossfade) desks with mastering or linked together and mastering selected on either desk. It also has the advantage that several desks can be linked together and grand mastering or group mastering can be selected by the operator as required.

Another point raised in the article was the statement that the dipless crossfade circuitry was patented. In view of the fact that the 'Linkit' desk is also equipped with dipless crossfade circuitry and has been in production since February 1979, I would be most interested to have more details on this patent.

Yours faithfully,

DAVID H. KERR,  
Divisional Manager,  
International Lighting & Systems  
Division,  
Electrosonic Ltd.,  
815 Woolwich Road,  
London SE7 8LT



# REIDing SHELF

Every non-actor, whether he/she be designer, administrator, stage manager, props, stage, flies, electrics, sound or whatever should surely try to gain some understanding of the actor's craft and its problems. (As should surely every actor try to understand those who, in the definition of the ABTT, 'assist the actor in a technical capacity'.) In an earlier less specialised age it was easy to get some understanding of acting by going on and doing it in some minor capacity like butler, juryman or corpse. Nowadays we have to probe actors by talking to them, watching them and reading about them.

Peter Barkworth's *ABOUT ACTING* is primarily for actors but it has a lot to offer the rest of us, and I don't just mean that useful page 96 which is about 'switching things on and off'. I mean fundamentals like:

'Listening' said Edith Evans, 'is paying attention. It is *not* reacting. I can't bear it when I'm talking to another actor on the stage and he *reacts* to everything I say. Listening is blank-faced usually... if it's gracious listening a smile is allowable. But listen! Don't react!'

The magic of the book is that it is free from waffle. Each page has a subtitle and makes one particular point. Often in remarkably few words. It looks set to become an influential work: within days of publication, the tabloids were photographing actresses who had suddenly discovered a new passion for shoes. The captions were paraphrases of the page 5 Wendy Hiller quote 'Yes, I'd like to take this part because I know what her feet will be like'.

But a warning: after reading *ABOUT ACTING* you will never again be able to watch Peter Barkworth work without analysing his technique!

You would expect London Transport's *THEATRE GUIDE* to tell you how to get there and it does. There are clear colour maps of a world that consists only of tubes, buses and theatres together with a few helpful landmarks. And there are 30 additional sketchmaps to convey you safely between suburban stages and the nearest railhead. Each theatre has a page and at the bottom of each page there is a map reference, a string of bus route numbers, and a note of the nearest tube station.

But the *GUIDE* has been compiled by the British Centre of the International Theatre Institute and so 'how to get there' is only part of the story. There are 122 full page entries - 122 theatres - with vital information on booking (telephones, times, credit cards, concessions, etc.) and facilities (catering, bars, cloakrooms, wheelchairs, parking, etc.). There is a note about parking and a potted history of productions and architecture (I didn't know that when the

Apollo was built the floor of the orchestra pit was hollowed and covered with a sounding board on which was placed a tiered rostrum - this helped achieve the right tone for each of the different instruments which occupied a different level of the rostrum).

All the theatres are listed alphabetically, irrespective of whether they be the conventional *west-end* houses or what has become known as *fringe* or *alternative* theatre (both awful words - any suggestions for a better equivalent to *off-Broadway*? Perhaps *off-Sweet*?). There are also lists of College and Drama School theatres and a contact list summarising the objectives and addresses of the principal theatre organisations with a London base.

Notes on Booking Methods, Publicity, Reviews, Periodicals will help the stranger in town (you learn, for example, that *Time Out* carries one line comments of a frankly subjective nature and that you soon learn how far your prejudices match *Time Out*'s).

To a theatregoing visitor the book is indispensable and frankly it is difficult to see how the average theatregoing resident could fail to find it essential.

I must admit to a touch of relief when I discovered that my own theatre had been omitted from both the 'Small Scale Touring Venues' and the 'Arts Centres' sections of the 1980 *BRITISH ALTERNATIVE THEATRE DIRECTORY*. The classic wail of touring theatres - lack of product - is a myth (yes there is a product shortage, but only in the low price, high quality, all-star sector). Touring theatres are under constant attack from companies seeking dates and a listing in this directory must open one up for a fresh assault by mail and telephone.

However as at least ten of the listed companies are contracted with me for the current year and a further dozen are under active discussion, my theatre's non-entry led me to perhaps a closer scrutiny of the directory than I might otherwise have made. I am happy to report that all seems well although there is some confusion (and consequent overlap) between 'Small Scale Touring Venues' and 'Arts Centres' - perhaps a future consolidation of these categories is indicated.

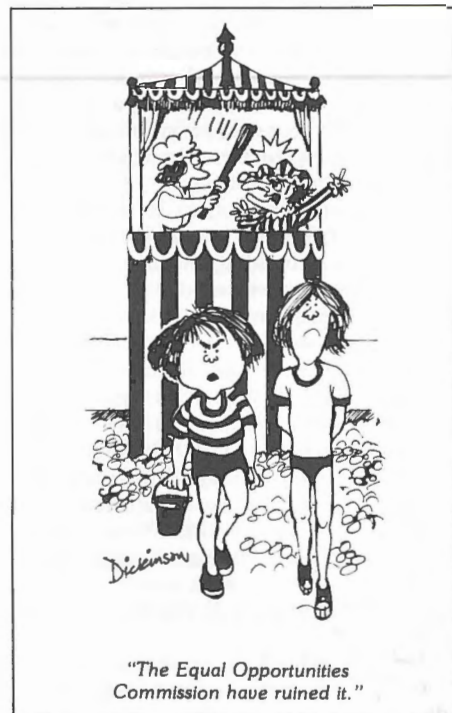
From my own point of view as a Production Buyer, the company listings are invaluable. The Directories of Playwrights and Directors provide information that is not, as far as I know, available elsewhere. The *DIRECTORY*'s 344 pages emphasise just how much our theatre is alive, expanding, and developing to meet the changing requirements of a changing world.

Street Theatre may have changed a little since *Punch* was christened in 1841 but there is a feeling of timelessness in *PUNCH AT THE THEATRE*, an anthology resulting from a dig among the back numbers by the review's current drama critic, Sheridan Morley.

An A. P. Herbert piece from 1928 lists 45 of the Theatre's traditional excuses for

empty seats. Add one (television) and subtract one (the censor) and the list is as up-to-date as tomorrow. Certain targets keep recurring - like audience behaviour, including hats and chocolates but especially lateness.

*Punch* has always been a regular theatregoer and we can read reviews of first performances of classics like 'Journey's End', 'Private Lives', and 'Look Back in Anger' - reviews illustrated by gentle caricatures which often tell us more about the characterisations than does a photograph.



*Punch* cartoonists tend to concentrate on human behaviour and any backstage or architectural detail is treated in a very conventional way. For the theatre archaeologist this book is useful background source material - but on people rather than things.

The jokes, even when responding to newer theatre directions in a spirit of cosy cynicism, rarely fail to indicate some appreciation of the merits of the target that is being satirised. Elaine Stritch, in a *Punch* interview, says it all - 'always remember what Noel once said, that if humour does not have some basis of reality then it is not worth doing'.

**ABOUT ACTING.** Peter Barkworth. Published by Secker and Warburg, £6.95 (hardback), £2.95 (paperback).

**THEATRE LONDON.** An authoritative guide book to London's Theatres compiled by the British Centre of the International Theatre Institute. Published by London Transport. £2.95.

**BRITISH ALTERNATIVE THEATRE DIRECTORY 1980.** Edited by Catherine Itzin. Published by John Offord Ltd. £4.50.

**PUNCH AT THE THEATRE.** Edited by Sheridan Morley. Published by Robson Books. £6.50.



# Politics or Theatre?

DOROTHY TENHAM

I count myself among the fortunate who have enjoyed a career in theatre during a rather quiet revolution which has slowly turned the work of the backstage staff from a semi-amateur labour of goodwill into a decent career requiring certain standards of efficiency for its survival. I have spent the past twenty-three years of my career trying to ensure that it was as possible and practicable for Stage Management to learn the fundamental necessities of their craft as, say, a chef, a bank clerk or an actor. I was lucky enough to have the support of some of the best and sincerely honest workers in the business. Without their support and advice stage management training would have taken many more years to get off the ground. Unfortunately I now find myself asking 'have all these respected members of the theatrical profession been wrong? Have we all been wasting our time?'

Let me, please, ask your patience and indulgence while I give the immediate background to my latest fight for recognition of the necessity for good stage management and for me that means even better training courses.

A few years ago, the Department of Education and Science decided that it was time to see for themselves what the standard of training in Drama Schools was actually like. A very fair decision as much public money is spent on students' grants and other hidden and obvious subsidies in this field. Drama Schools were inspected and reports were written. Those schools that achieved the standards laid down by the DES became the ones recommended first to potential students wishing to undertake grant-aided training.

Whether this awoke in the councils of the senior and longest established Schools a sense of their own vulnerability I am not in a position to know. I do know that shortly after the DES had done its work, the Conference of Drama Schools became an apparent force in theatre training. Those readers who are curious enough to enquire who belongs to the CDS can easily look up the names of the schools in the current edition of Contacts.

The next obvious addition to the growing complications of turning out well-trained theatre people was something called the National Council for Drama Training (NCDT for short). This body appeared in 1976 as a direct result of a Gulbenkian enquiry into the standards of drama training in this country. The NCDT is composed of members of Equity, CDS, CORT, TMA and employers' organisations in theatre, television and radio. The DES, local authorities, the Arts Council, the Council for National Academic Awards, the Drama and Theatre Education Council, the Association of Drama School Students and the ABTT all have been invited as observers at the meetings of the NCDT. The training

of drama students is no longer a simple matter!

I've never had much time for large, unwieldy committees. To my mind, the larger the committee the more likely you are to make your horse a senator. I acknowledge here and now that I consider that stage management have been better served by the ABTT and the Stage Management Association than they will ever be by vast, impersonal organisations who have far too many axes to grind and whose members are of such diversified interests.

If you have followed the facts so far, you'll be glad to know that we are fast approaching the cause of my frustrated anger.

Three or four years ago the NCDT decided to evaluate the standard of training in Drama Schools and arrive at their own short list of Schools running courses which, in its opinion, deserve accreditation. Criteria for consideration were drawn up, inspectorates organised and visits have taken place. First results may soon be published.

In my opinion they have made a very big fundamental mistake. They are accrediting Drama Schools – but only *Acting* Courses are being inspected. After all these years, the wise elders of our profession still discount stage managers as being worthy of acknowledgement. They still prefer to forget that we exist. How easy it would have been to visit a School running full theatre training and accredit acting, stage management and any other theatre trade courses at the same time. The aims of the accreditation procedure are to maintain the high standard of training, facilitate student grants for training, forge links with the theatrical profession and ease entry into the profession.

I remind the NCDT that SMs require a high standard of training if actors are to be safely and well served in their performances; SMs need to eat – even when they're students; we may even enjoy linking ourselves to the theatrical profession; we wouldn't mind at all if entry was made a little easier for good ASMs.

As it stands at the moment, yet another team of inspectors and evaluators have to be sent round the Schools to accredit Stage Management Courses – even on expenses only that is bound to cost more money than if they'd remembered us in the first place. And I thought money was scarce for the Arts at the moment!

Maybe we who have done or do run SM Courses have been too single minded and a-political in our approach to our students' good standing in the theatrical profession. Maybe we should have stuck our oar in the waters of theatre politics sooner and created ripples which could not have been ignored. I'd hate to think that yet another generation of management and Drama

School Principals is growing up under the false assumption that Drama = Actors Only and that Stage Managers are just those ill-educated people who inarticulately kick the scenery into place. I'll believe the accreditation lists for the NCDT when I see that they include Stage Management Courses and Acting Courses and not before. Until then the job will only be half done and, by Stage Management standards, not good enough. When a School contains both Courses under the one heading of Drama School, *both* Courses should be assessed if the accreditation lists are to be of any true value.

For eighteen months now, the ABTT Training Sub-Committee have prepared and presented to the NCDT, criteria for accrediting Stage Management Courses.

Having now published the results of their first batch of assessments, the NCDT are at last beginning to work towards setting up the machinery to assess Stage Management courses. The first accreditation results as published in 'The Stage' prove my point about the misunderstanding that was bound to arise because of the separation of Course assessments. The front page article in our own trade weekly speaks of the assessment of 'Drama Schools' not just the Acting Courses in these schools. The confusion further afield – in regional grants board rooms and in overseas Cultural Attache offices for example – must be even greater. Yet these are the first official bodies to whom potential Stage Managers apply for grant aid to help them pursue their training. If we can't get our terminology right here, how can we possibly expect worthy gentlemen in Venezuela, Nigeria, Ghana, South Africa, etc. to appreciate the single-minded, blinkered attitude of our own assessing committees.

I cannot calmly listen to and agree with my peers who tell me that after all I will only have to wait until 1981 before I see Stage Management Course assessment results. That's twelve months later than it should or need have been and, in just the one School that I was connected with, 15 potential ASM's later.

I cannot be grateful that it's happening at last. I can appeal to like-minded people to continue the fight to make sure that in the future, organisations like the NCDT start thinking of theatre as a whole unit of people – not as sections to be parcelled up separately for their own convenience. Even gift-wrapped, the SM parcel still has a large notice on its outer paper saying 'Not to be opened before 1981'.

It seems that it is not just miracles that take a wee while longer – the machinations of the NCDT seem to take forever.

Yes, I'm still angry and insulted!



# The German Mechanised Repertoire Stage

FRANCIS REID

I was quietly browsing around in the foyer shop at the Met when my eyes met the print reproduced overleaf. I got all excited and determined to have it on my wall despite my dwindling dollar supply and the inconvenience of adding a waist-high cardboard tube to the bundles of books and records which have to be part of anyone's reasons for visiting New York. Once home, I appealed to CUE to acquire permission to reproduce, and thus celebrate our magazine's first anniversary with a big colourful centre spread.

My excitement was aroused because I find this isometric drawing to be by far the best single visual explanation that I have ever seen of the German opera stage.

Yes, I know that the Metropolitan Opera House is part of the Lincoln Centre; and that the Lincoln Centre is in New York City which is in New York State and that's a long way from Germany. However New York City is only geographically in America – it is a cosmopolitan city with an international mind of its own which gives it an excuse, if any excuse is needed, for having a German opera house. But no excuse is needed since the opera stage (German style) turns up all over the world, albeit sometimes in a diluted version. However it is in Germany that such a stage is standard and the layout used at the Met can be encountered in most of the thirty State stages and two hundred Municipal stages of West Germany. Indeed by the standards of the Stadttheaters of some quite small German towns, the facilities at the Met are somewhat basic.

It is very easy to react against this type of mechanised stage – to recoil from its complexities and seek refuge in *two planks and a passion*. But the form has been developed to fulfil the requirements of a theatrical tradition which is primarily (1) *repertoire* and (2) *musical*. Much of this musical repertoire is operatic with consequent problems of scale. A mechanical stage is often the only practical way to heave the necessary scenery onto the acting area on schedule – remembering that repertoire implies not just a daily changeover, but a twice daily changeover to allow day rehearsals of C between evening performances of A and B within a 30-hour cycle.

The mechanised stage simplifies working in four principal ways:

- \* The movement of sets within a performance.
- \* The movement of sets between the performances and rehearsals of the repertoire.
- \* The use of stage movement (e.g. revolves, elevators) as a production device.
- \* The use of elevators to achieve stage levels cheaply and quickly.

There are many variations but the standard layout of these stages is the cruciform used at the Met. The main stage comprises a number of uniformly sized elevators extending the width of the proscenium opening and running parallel to it. To the rear, to the left, and to the right are a further three wagon stages of similar area to the main stage. Any of these supplementary stages, carrying previously built scenes, can be driven onto the main acting area. By dropping the main stage elevators, the wagon stages can be dropped to lie flush with the main stage level.

Soundproof shutters enable the off-stage parking areas to be isolated from the acting area so that the wagon stages can be reset while the performance continues.

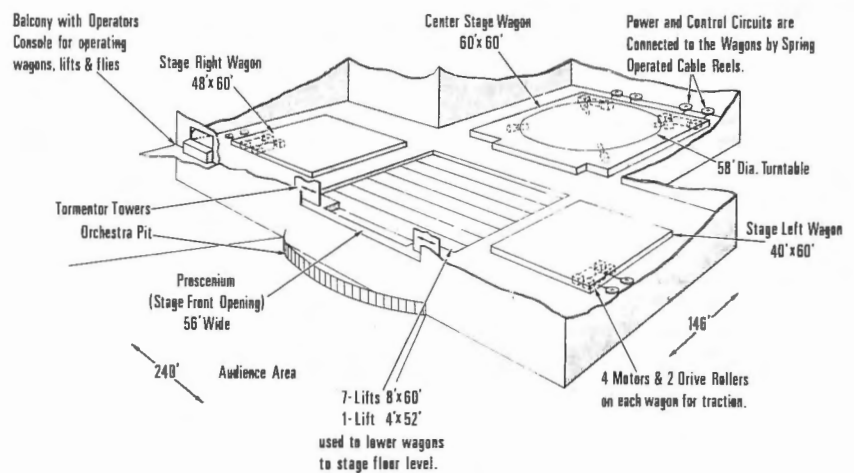
There are many variations of the basic system. Sometimes these are a result of site restrictions. In Vienna for example there is no space for side stages but wagons can be shunted to the rear stage and to understage for scenic assembly. In Munich the site is restricted on stage left and so a clockwise or anticlockwise rotation of wagons was

in the proscenium zone to make variable provision for orchestras.

An adjustable proscenium opening is standard. The horizontal lighting bridges (often two or even three decked) and the vertical lighting towers provide a moveable false proscenium, motorised to form any required height and width of opening. The grids are so high that borders are only required as part of the decor – not as masking, since flown scenery can be taken far enough out of sight to provide a clean sightline from the front row of the stalls to the top of the cyclorama.

There is usually a turntable built into the rear wagon stage. This is intended as a production revolve in the sense that it is most likely to be used during a performance to display various aspects of a setting – the movement of the revolve probably being choreographed with the movement of the actors. Such a turntable normally has a diameter no wider than the proscenium opening.

As an alternative to the standard rolling wagon stage, a few German theatres have



The Metropolitan Opera House stage is in the traditional German form with main stage elevators, and wagon stages to left, right and rear. See also perspective sketch on page 16.

devised to overcome the lack of space for a left side-stage.

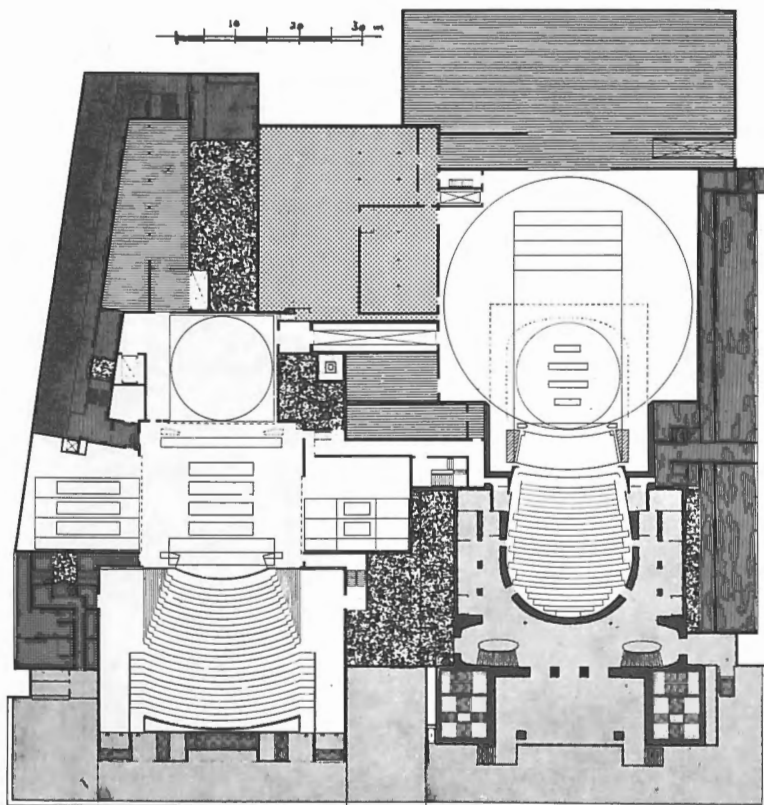
Other variations include degrees of sophistication in the design of the elevators. These are frequently of the 'double-decker' variety, enabling scenes to be built within the elevator as well as on top. Some elevators can be adjusted to give different degrees of rake – sometimes cross-stage ramps, and sometimes rakes which ascend or descend from a selected line parallel to the front of the stage.

Stages used for drama as well as opera usually have additional elevator flexibility

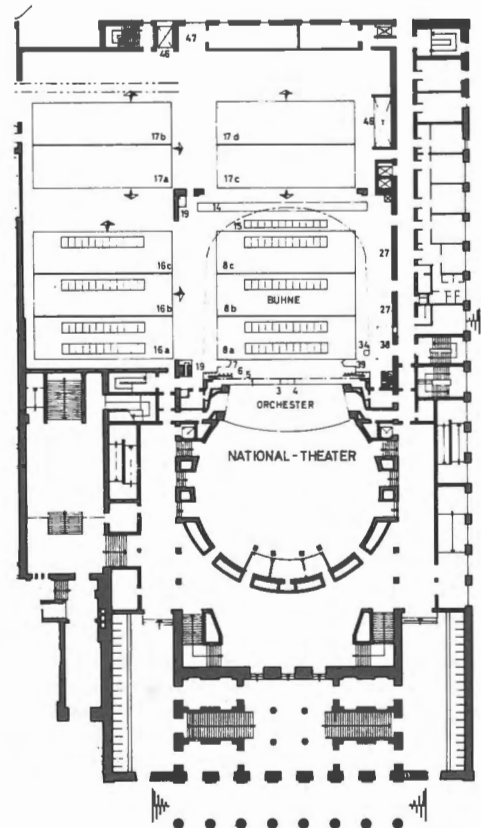
adopted a huge revolve with a diameter greater than the proscenium opening. The radius is then equivalent to a normal maximum setting depth and so the turntable can accommodate four complete sets. Like the wagon stage, these sets can be for one show or for several shows in the current performance and rehearsal repertoire. Such a jumbo revolve may have a smaller 'production' revolve incorporated and also a series of elevators.

In the Frankfurt City Theatre complex, the two types of stage (wagon and revolve) can be seen in adjacent theatres. (Inciden-





Frankfurt Playhouse (left) has orthodox wagon stages with a revolve incorporated in the rear wagon. The Opera House (right) in the same complex has a huge revolve incorporating a smaller revolve and elevators.



The National Theatre (Munich's principal Opera House) has a different arrangement of wagon stages due to site restrictions.

tally this complex also has a studio theatre with a simple – well, relatively simple – stage).

The big mechanised opera house stage is often criticised on the grounds that the magic is not usually apparent to the audience – well not consciously apparent anyway. But the importance lies in the way that it can be a cost-effective aid to running a heavy repertoire: both in saving money, and in saving that time which money cannot buy. To be truly cost-effective, there has to be a certain amount of design discipline and most theatres of this type have a *Bauprobe* or 'build rehearsal' where (to quote briefly from my own little *Staging Handbook*) . . . 'Once a design is close to being finalised, it is set up roughly on stage using substitute flats, rostra, cloths, furniture, etc. Two things come out of this. Firstly, the director, designer and choreographer are able to move about the dimensioned mock-up set to find out if the spacing is as they require. Secondly, minor adjustments in dimensions to enable the use of items like stock rostra or elevators may be suggested and demonstrated. Such changes may not affect the design concept but may save a lot of money in both initial production costs and daily running costs. Moreover, it is usually easier for the technical staff to "sell" this sort of idea to most designers by practical demonstration rather than by paper discussion'.

Research has shown that certain optional features produce running economies that justify their capital outlay. For example,

the provision of equalisers to lower the wagons to stage level in their off-stage parking docks has been shown to make a significant reduction in the labour required to get heavy scenery on and off the wagons.

It has to be emphasised that this sort of repertoire mechanisation is for the big stage – the very big stage. The only purpose built operatic type stage in Britain is the National Theatre's *Lyttleton* which has a rear stage and one side stage. There is no OP side stage and it was interesting, on going around this large-for-us stage with a group of Viennese technicians, to hear the question 'why have you built it all so small'. The RSC at Stratford was originally equipped with primitive wagon stages but these proved to be incompatible with developing Shakespearean production and scenography styles. Bromley's *Churchill Theatre* has a small scale combination of elevators and wagons. I personally am extremely doubtful of their cost-effectiveness in a small-scale operation centred on three-weekly drama runs. However time may well prove me wrong. Meanwhile anyone contemplating heavy mechanisation in a small theatre should visit Sydney Opera House. Thereby hangs a cautionary tale which is beyond the scope of this discussion.

My own fascination with the wagon stage dates from some twenty years ago when I watched 'The Marriage of Figaro' from a perch on the OP proscenium lighting tower at the Hamburg Opera. Act I was built inside the main stage elevators. During the applause after Act I, the elevators sank to

reveal Act II on top. Simultaneously the proscenium opening size adjusted for the bigger set and the bridge electricians adjusted their focuses. As soon as the applause finished, the orchestra began the introduction to Act II and after a few bars the house tabs opened on a completed change. During the interval Act II was struck by the crew, the rear wagon rolled forward bearing Act III and the elevators dropped enough to bring the wagon flush with the forestage. In the next change Act III slid back and was replaced with Act IV on both side stages which travelled to meet on the centre line, enabling the garden trees to be set sufficiently into the wings to include the worst side sightlines. Again this was virtually accomplished within the time occupied by the applause (in the operatic tradition, the principals went out in front of the tabs for calls). After the performance, the back shutter rose to reveal that during the last act the crew had reset the rear wagon for the next morning's rehearsals.

A couple of days later in Gelsenkirchen, a mixed programme theatre with a much smaller budget than Hamburg, I found an opera on the OP wagon and an operetta on the rear wagon. The PS dock had no sliding stage but was bigger than the main stage area: it contained the built trucks for two plays. Thus the current week's repertoire was available with minimum crew and minimum interference with stage rehearsals.

I think that these two examples explain what this type of stage is all about!



## BACKSTAGE AT THE MET

**Main Stage** 100' wide by 83' deep. Contains 7 elevators which operate hydraulically:

Elevators 1-3, double-decked, sink one foot and rise to 28' exposing scenery on the lower deck.

Elevator 4, sinks 10' and rises 10'.

Elevators 5-7, double-decked; sink 10' and rise 14'.

Elevators raise or drop scenery before or during a scene. Left, right, and rear wagons move onto mainstage, sink to stage level or rise above it (shown here with Act I of La Gioconda).

**Right Slip Stage** (60' x 48'). Steel and wood platform one foot high. Moves onto mainstage powered by electric motors driving rubber wheels and guided in spring-loaded hardwood tracks set into mainstage floor. Motorised unit is 60' wide and 16' deep and can be expanded to 24' or 48' deep by locking on nonpowered units upstage. Once on the mainstage, it can be levelled out to stage height by lowering it on the elevators, or it can be used at its normal one foot height (shown here with Act III of La Gioconda).

**Left Slip Stage** (60' x 40'). Similar platform. Motorised unit is 60' wide and 24' deep and can be expanded to 32' or 40' deep (shown here with La Traviata, Act III).

**Rear Slip Stage** (60' x 60'). Steel and wood platform one foot high containing a 58' turntable. Moves onto mainstage powered by electric motors driving rubber wheels and guided in spring-loaded hardwood tracks set into mainstage floor. Turntable can turn as stage is moved up and downstage (shown here with Act II of La Gioconda).

**Sound Doors.** Aluminium and asbestos doors which can fully close off side stages and rear stages acoustically. These doors divide the entire stage into four separate areas.

**Tormentors.** Two proscenium towers carrying lighting equipment and permitting variation in the width of the stage opening.

**Lighting Bridges.** Steel catwalks suspended on cables and positioned electrically by winches on the grid. Carry a variety of lighting instruments and can support operators before and during the performances. There are four bridges: the first bridge is 46' wide and 17' high, double-decked, and carries the black teaser which adjusts the vertical dimension of the proscenium opening to scenic requirements:

**Fly system.** Consists of 103 battens of rectangular steel tubing up to 68' in length for hanging cloths and built scenery. The battens are suspended on steel cables from the grid and positioned by electric winches on the machine floor next to the lower grid. The battens and spotlines are all controlled electrically and can be moved at preset speeds to preset positions. The system is controlled from the electric-control floors.

**Border Lights.** Strip lights extend the full width of the stage playing area and remotely focused by electric motors. There are six border lights - four mounted under the electric bridges and two suspended independently on steel trusses which may also carry special lighting instruments.

**Fly Galleries.** Five fly galleries beginning at 30' above the stage floor and reaching to just below the first grid. Used for lighting and clearing scenery.

**Cycloramas** (109' x 270'). Vertical rolls of treated fabric 109' high which unroll under the first grid to surround the full stage (blue cyc from the right and white cyc from the left).

**Electric Control Floors.** For the remote operation of cycloramas, fly systems, elevators, wagons, and revolve.

**Stage Manager's Desk.** Closed-circuit monitors allow the SM to see the full-stage picture and Conductor. Audio monitor and cueing for entire theatre, including voice communications with crew in all positions.

**Main Scenery Lift** (25' x 27'). Allows built scenery to travel intact from stage to storage area three stories below.

**Scenery Lift.** Smaller lift serving shop and stage areas, moving small pieces of scenery, props and electrical equipment.

**Drop Cut.** Hydraulic elevator (main stage rear) transporting full-length

rolled cloths up to 68' in length under main stage for storage and easy access.

**Loading Dock.** Accommodates four trucks at one time. Can be completely closed off from stage and street with overhead doors.

**Principal Artistes' Dressing Rooms.** Each contains piano, sofa, bathroom, shower, audio, and tuning tone 'A'.

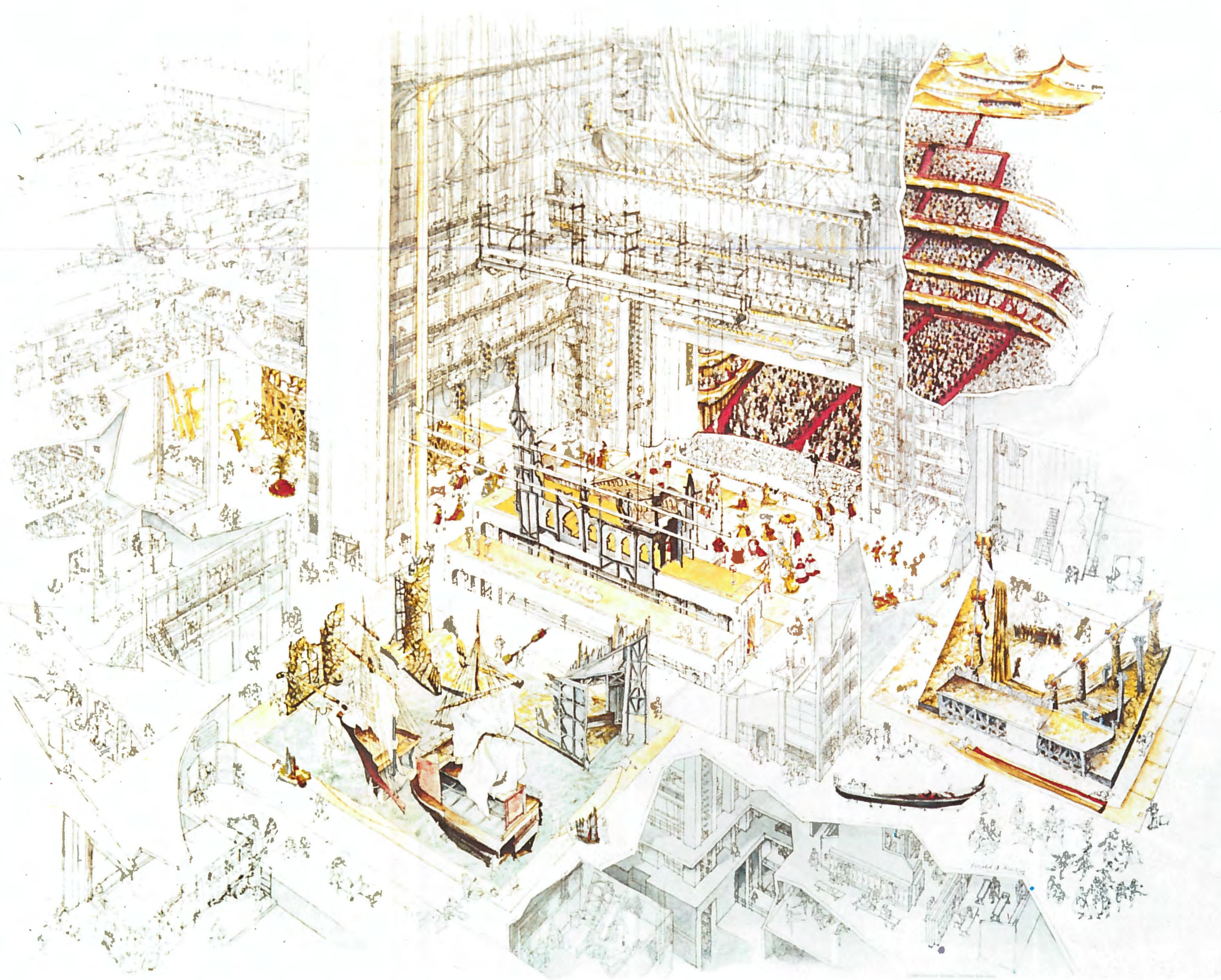
**Orchestra Pit.** Holds up to 110 musicians and can be adjusted (hydraulically) in playing height or brought to stage level to extend the stage apron. The Conductor's podium can be adjusted in height (electrically).

**Auditorium.** Rests on concrete pilings which are padded at their footings to insulate the structure from noise and vibration. Seats 3,800 people in four tiers and stalls level.

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**Chandeliers.** Central chandelier is 17' in diameter and surrounded by eight small chandeliers raised electrically to the ceiling to clear sight lines at the beginning of each performance.

**Ceiling Lighting Positions.** Contain instruments for lighting the stage, auditorium and curtain. Also follow spots.





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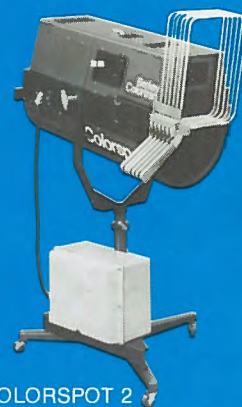
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# PRODUCT NEWS

## Crisis? What Crisis?

The title above is the name of one of 'Supertramp's' finest albums. It was running through my head quite a lot as I walked around the Shaftsbury Theatre in May, looking at all the 'goodies' on display at the 1980 ABTT Trade Show.

Me! I'm an optimist — but that's being hard pushed right now. I'm afraid the theatre, be it plays, opera, ballet or music, our business is going to go through a very hard time in the next few years. To put it another way they are not listening to us in Whitehall any more; and the punters aren't putting 'bums on seats'. Finally, after years of flapping about on the outskirts, the 'cock's come home to roost'. Now all of us — performers, designers, directors, technicians are going to be looking at our beloved theatre managers — be they commercial or arts council backed, wondering whether in this period of *REAL* crisis, have they the ingenuity, the business sense, the energy to pull the theatre right back where it should be — a 'product' so good, unique and so popular that we can get the people to put their hard-earned money into our coffers.

I firmly believe that it is possible; but it is going to require a very different view by us all as to what constitutes 'theatre' and how we go about financing and selling it in the future.

There were a few firms present at the show who said to me that they did not see the theatre as any great part of their business any more. One or two thought it was dead already! These firms now made the bulk of their money on the many other sides of the live/technical entertainment spectrum. It's interesting how fast the work for *Trade Shows* has grown, a business which alone supports quite a few firms, technicians and designers. But I still think the roots of all live entertainment lie with the 'granddaddy' of them all — the theatre. A strong theatre produces strong performers, designers, directors, technicians, who produce through their successes money to pay for the development of fine equipment. That is not the case at the moment. In fact it is worse now than it has been for as long as I can remember. In May I was still Chief Lighting Technician for London Contemporary Dance Theatre — and I spent three days walking around the ABTT show with not a 'sou' to spend, and I was not the only one. Furthermore due to the current financial situation in the subsidised arts the budget allocation for *new* lighting equipment for the rest of this year is dismally small.

All rather sad when you look around at the amount and variety of high quality equipment now being offered by our manufacturers and suppliers.

**Packman Research** have got a winner it seems with their 3-D scenic panels. The panels are light but strong vacuum formed PVC which are easily fixed and easily painted. You can get a wide selection of surface coverings — windows, ceilings, panels, doors, walls, balusters and an extensive selection of friezes and other surface decorative shapes. This design of 3-D scenic panel was originally produced in conjunction with the BBC.

Every time I passed **N & I Costello's** stand I nearly fell over. Mr. Costello's fine range of slashed shimmer curtains; full colour range, glitter mirrored and textured PVC cladding. Plus his comprehensive range of diffraction foil made me glad that Moorfields eye hospital was just across the road. Your eyes can suffer culture shock with that amount of glitter in that small a space. I think he did well though. I never saw his stand empty of inquiring people.

**Roscolab.** I like this firm more and more each time I come across them. Their stand was easy to find as it was permanently shrouded in smoke from their new smoke gun. This small generator uses a new water based fluid called 'Fog Juice' which sounds like England's answer to Jamaica's Planters' Punch. It's great though — very efficient and the smoke does not smell and leaves no oily residue.

**Roscolab** had also on show some of their large range of scenic materials, including their newly redeveloped shrink mirror which has better definition, and their range of front and back projection screens. A very, very valuable firm to the English theatre industry.

**Peter Evans Studios** had an impressive stand. As well as supplying all sorts of columns, pilasters, urns, cornices, friezes, brickwork, etc., they must be one of the few firms that still make all those props like large cods, sides of lamb, turkeys and geese to name just a few of the fish, meat and poultry items that you can get in painted rubber latex. They are also armourers.

There was quite a lot for the sound man this year. **Electrosonics** had the complete sound and communications system which is now installed in the Grand Opera House, Belfast. The prompt desk is very good indeed.

**Libra Electronics** had their award winning mixing console on display again. This has sold well since last being shown. **Libra** have become a part of the Hammond organisation now so there were a few other things on their stand too, including an excellent BIC dual speed cassette desk.

**Peter Barham** had a stand and a welcome addition it was too. Pete is very clever, an electronics genius. He was chief at the Crucible Sheffield for several years but has now left and is involved full-time with his own firm. He designs and builds amongst

other things customised communications and audio equipment, he also works alongside the up and coming sound firm **Hardware House Ltd.**, who have begun to get a very good name for sound installations in theatres (the show *Chicago* amongst others). Peter also had on display his new **Universal Light Chaser** with a memory system. No point in describing what this does, do better to describe what it doesn't. It doesn't make tea or book airline tickets!

Personally speaking the best sound I have heard in theatres has almost always come from **Altec** systems. These were displayed in the *Theatre Projects* area and their range in England is getting larger and larger. I think their 'Voice of the Theatre' speakers still knock spots off most of the competition.

**Strand Sound** have moved the Modular **MMS** lighting control idea over to their sound range. You can now build up the different component parts of a sound system easily by starting off with the basic modules and adding parts to make a more sophisticated and powerful system as the funds become available.

Lighting wise there was plenty to see. **Green Ginger** were I think the first firm I can remember that actually started manufacturing and selling dimmers to theatres and theatre companies that were not made by **Strand Electric** or **Thorn**. They have gained a very good reputation for their control equipment. I know them mainly for their portable equipment so it was good to see a selection of their dimmers for permanent installation. Their **Wallpack System** is a four-channel wall mounting dimmer pack which can be used on its own or stacked for multi-channel use. Ideal for small theatres or clubs. The **Wallrack System** is a fully modular dimmer system for larger installations and features 4-way plug-in dimmer modules plus a range of fusing and patch panel operations. Very good looking equipment.

Ah! You're **Adrian Dightam** are you? said the large bearded gentleman from *Theatre Projects* as he grasped me around the neck. After denying profusely that I was the **Adrian Dightam** who wrote in *CUE* that the **Kliegl Performer** I was 'nothing too special' he let me go just long enough to nail me down next to **Patrice Sutton**, a very pleasant New Yorker from **Kliegl's**, who calmly explained in great detail the new 'all singing, all dancin' **Kliegl Performer II**.

It is a good desk, very good in fact and after getting used to it, very straightforward to operate. (But it still looks like an office terminal.) As I have discovered since writing about **Memoria 80** at **Warwick**, there are now quite a few of these small systems controlling up to 150 channels. At the **ABTT** show alone I saw this **Kliegl Performer II**, the very handsome **Berkey Colortrack**, the new cream coloured **Duet II** from **Rank Strand**, the **Thornlite 120** and my **American** trade magazine tells me that we can now expect in the near future the introduction of the new **Strand Century Mini-Palette**. It really is getting very difficult to discern between these very sophisticated small controls. They are all fantastic and really there is not a great deal



of difference between them. Some chase one way, others another. But most have VDU's, Link facilities and have the option of adding on printers, remotes and the rest. So I'm not going to go into detail here, other than to say that it's really up to the individual and his preferences as to choice now. I don't think you can go badly wrong with any of them. One control I'd like to mention in passing though is Statelight's. I wrote about this in some detail in my article on Memoria 80. Since then they have sold a complete system to Lee Electric Film Lighting Ltd. This is quite a 'coup' for a small company like Statelight. All power to them!

Also Light Palette, King of Control Boards, was strolling through its paces in the circle-bar - Ahh swoon!!

Rank Strand had a few new things to show us: the new 814 Prism Convex unit. This has the flexibility of a circular beam spread as with a fresnel spot but the beam edge of a soft focus profile spot. This is the sort of unit that they still use a lot of on the continent, it'll be interesting to see if it



takes off over here! They also had the 818 2kW profile follow spot. It seems to be very long but handles well for a light weight follow spot. It has a variable lens system, an iris and a pair of stripping shutters.

It may have been there but if it was I missed the new 2Kw fresnel spot. I saw this at a demonstration in Glasgow earlier this year and thought it rather good. Very punchy and spots right down to a very bright beam and it doesn't go black in the centre when one floods it.

Also on RS's stand was the fantastic *Niethamme* follow spot that also makes a

very good projector spot. Very nice controls and a good weight and balance combine to make this one of the best follow spots I've seen for a while. Yours for around £2,000.

*Light Scan makes Lights work*, so goes the blurb on this clever piece of equipment by **Light Works Ltd.** The system we saw is a remotely controllable light curtain utilising up to 20 Par 46 cans fitted within a unique servo-mechanism which controls the fan and tilt. The microprocessor based control box enables one to control the units in infinitely variable moving patterns as well as moving them to specific pre-set positions. With a bit of smoke the effects, which are numerous, can be stunning. Great effect for Rock and Roll and Trade shows.

I keep hearing better and better things about **White Light Ltd.**, and it was a pleasure to meet their director, John Simpson, at the show. White Light must have some of the cheapest rental rates in London, the rental service is fast and the equipment good. They also offer a lantern



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refurbishment scheme which we mentioned in this column before and which has got several theatres thinking twice about buying *all* new equipment. They also design and sell and will shortly hire a new stage or seating system which is light weight and flexible to form most structural shapes. The hexagonal steel is built to form triangles upon which decking pieces, risers and seats are easily fixed. There is a choice of colours for the steel, carpet and seats.

White Light's stand was, in fact, completely made up of this new staging system. It is very good, simple, safe and easy to erect. Riverside Studios are having a new seating system made from this design. Go see it!!

**Tim Burnham** had a large and impressive stand. Everything Tim deals with was on show – from the Berkey Channel Track and Colortrack right down to his new low stand and spigot. As well as the complete range of Berkey luminaires and accessories there was also the Clear-com. Intercom system and the Teatronics Discotrol Effects/Disco board.

TBA Associates are a fine organisation who have risen over the past few years to become one of the most energetic suppliers in the country. Alongside their manufacturers, Berkey, Teatronics and Clearcom, they are set to become quite a force in the theatre market over the next couple of years.

**Theatre Projects** handled Altec and Kliegl on their stand, but also had one of the largest rock and roll trade show control boards that I've ever seen. It, of course, does nearly everything: Normal three presets, all the chasers and flashing you could want plus a twenty-way matrix, voltage and amperage per phase indicators with limiting switches so that you don't go over your supplies maximum, plus of course, the now standard cigarette lighter. It looks stunning!

Kliegl also had on show their new 15/15° profile spot with dual lamp adjustment controls on the back and shutters that go everywhere. Not bad! Theatre Projects give good service on what must be the widest range of makes available from one supplier.

The firm that won the ABTT best product award this year was **CCT Theatre Lighting Ltd.** for their new remote controlled Automatic Colour Changers.

We all have personal favourites – I like Altec sound equipment for theatre and I still like, after several years use, CCT Lighting Equipment best. Take the Silhouette for instance. Sure! some lanterns are brighter, perhaps some have better optics, perhaps the slide for the zoom lens moves more easily on another make of lamp – but for me the overall strength, optics, lampholder, brightness, shutters, balance, locking off device and the rest makes the Silhouette still the Number One profile on the market. And for touring they still make the only units that I know that can tour for years with little or no maintenance. But with this new and very attractive automatic colour change system it seems that clear thinking still prevails at CCT.

Briefly the award winning system is the colour changer itself which is a modified



and improved version of the semaphore, four colour and white unit, that CCT has manufactured for a while now; though it now has a microprocessor inside and multiflex dial. The new controller is a very attractive lightweight panel with colour coded buttons with LED's in each button's corner. It works like the old system each colour changer has a number and five colour button selectors plus an overall Standby/Go facility. However, it is now much easier to select a group of colours and/or changers than it was on the older system. Being a multiflexed system it is of course, no longer necessary to run out long lengths of control cable to each colour changer. One cable to the first changer and loop to the others from there, is all that is needed. On activating a colour change each colour changer only takes notice of the signal that is addressed to it ignoring the rest. There is also a hand held riggers control for easy setting up of the individual units during a fit-up. CCT have also introduced a new colour wheel and controller. The wheel which has a choice of 5 individual colours or continuous rotation, has a unique electronic colour selection and location sensing system which means there is no electric-mechanical contact between wheel and drive. This also makes manual rotation of the wheel perfectly safe.

Well done, CCT. Well done the development team *John Schwiller* and *Andy Gibson*. A well deserved prize.

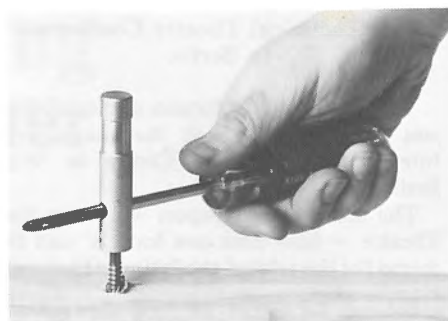
Well that's it. It was a good show and of course a rare opportunity to see people and equipment all under one roof.

The ABTT said that the demand for space had been very high. I shall look forward to another 'full house' at the next show.

**ADRIAN DIGHTAM**

#### New screw-in mounting device

A thoroughly practical idea has come from Lowel-Light Manufacturing Inc. of New York. It is a mounting device for attaching lightweight lights to wooden surfaces of all kinds including trees when clamps are not practicable. The Stud (shown above) is  $\frac{3}{8}$ " diameter with a safety undercut one end and a  $\frac{3}{4}$ " screw the other. The cross drilled hole gives plenty of leverage for screwing



into the toughest oak. It was used at the Winter Olympics at Lake Placid and I can think of a dozen other uses from Mystery Plays to agriculture. We have only seen pictures so far but if you want to find out more Lowel are at 421 West 54th Street, NY 10019.

#### A Dual Direct Injection Box

E.M.O. Systems Ltd. have announced a dual channel version of their Direct Injection Box providing two fully independent channels in one package.

E.M.O. list the features of the new box as follows:

Suitable for mixer input impedance 200 ohms upwards. Outputs fully floating. High quality double-stack transformers. Earth lift switches, minimise hum problems. Transformer isolation to 1500V. A strong diecast metal box providing a robust housing.

It sounds a useful development.



#### Dominic launch their own communication systems

Dominic Light & Sound Ltd. have just announced the first of their communication system developments. It is a digital intercom with audio compression, gating and bandwidth control. It has been designed with mobile or short-term installations in mind although it can equally be used for permanent installations of up to nine stations.

The system includes audio and visual cueing, a group call facility and an adjustable audio feed to headsets.

Much attention has been paid to the audio side and intelligibility. Noise gating, compression and bandwidth control within the pre-amplifier are incorporated in each belt pack.

The master station has facilities to call any one of the nine possible groups and additional headsets can be assigned to any group. Dominics are also developing a system for large permanent installations providing selective call for over 90 stations and simultaneous communication on multiple circuits.



## 42nd Technical Theatre Conference in Berlin

This combined conference and exhibition was held July 7-11 at the magnificent International Congress Centre in West Berlin.

The theme of the papers was 'who does Theatre – how does one learn it' and the theme for the related exhibition, 'Theatre is Handicrafts'.

The conference is organised by the Deutsche Theater-technische Gesellschaft (German Technical Theatre Society) under the leadership of Helmut Grosser, but has strong international overtones through the OSITT executive committee and the International Liaison Committee of the USITT in the U.S.A.

This conference, held every two years, has always been well attended by delegates from not only Germany and the West, but by the Eastern Bloc and has been a valued forum and exchange. Unfortunately this year an unintended slight of protocol was given to the DDR, which resulted in the almost total non-attendance of any delegates from the Eastern Bloc countries.

The papers were conducted in German and only a small part involved in lighting.

The 44 companies that exhibited displayed product ranges from stage make-up to several companies selling stagelift and motorised hoist systems.

Most of the companies were from West Germany.

Several European companies showed

lighting and control systems, principally Siemens for control systems and ADB for lighting.

The only new feature of lighting from European companies was the large format scene projectors from Niethammer.

English companies who showed were Rank Strand, CCT, Thorn and Roscolab.

CCT showed a complete range of theatre luminaires and small control equipment – including the new colour change system (shown at the ABTT exhibition during the summer). Also included were the now familiar Minulette, fresnel and the newer profile spots.

Rank Strand in conjunction with Rank Strand Germany showed the total range of their theatre lighting and Quartzcolor range of equipment, the relatively new 818 follow-spot and 814 plano-convex luminaires. The Galaxy memory system from Strand, not yet shown in the U.K. was launched here; it is a micro-processor based system which is compact and claimed to be simple in installation because of the electronics housings remote from the control board. The system is based on a 48 channel module which can be added to as needed.

Thorn were exhibiting in conjunction with Richt & Vogel, the Thornlite 120 memory system together with other more established small control systems.

Roscolab from London were showing a complete range of colour media including a new diffusion product, Hamburg Frost designed to slightly soften a hard spot with the minimum of light loss.

## Appointments

Rank Audio Visual have announced the amalgamation of their Theatre and Film and Television Lighting businesses.

Rank Studio Equipment, who market and distribute Ianiro Studio Lighting and Rank Strand Electric, who manufacture Theatre Lighting will, in future, trade as 'Rank Strand' throughout the world.



Mr. Richard Harris, formerly of Rank Strand, has been appointed Marketing Manager of the new trading operation, while Mr. Paul Wild of Rank Studio Equipment has been appointed Sales Manager. Both Mr. Harris and Mr. Wild will report to Mr. D. C. Ross, General Manager Sales and Marketing.

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# Doing our own thing but doing it together

by JOHN A. WILLIAMS  
AND FRANCIS REID

**FRANCIS:** *Conceived by Tyrone Guthrie out of the Church of Scotland Assembly Hall* is a plausible starting point for the pedigree of the thrust stage revival of the second half of the twentieth century. A movement which embraces theatres like Chichester, Stratford (Ontario), Sheffield Crucible, and the Olivier – and has stimulated so much thinking on the subject of actor/audience relationships.

In the early days of the Edinburgh Festival I was an Edinburgh schoolboy set aflame by the original Guthrie production of *The Thrie Estaites*. Throughout the fifties and early sixties I was regular audience, trying every seating position and working towards a conviction that, in one major architectural respect, thrust theatres are no different from proscenium theatres: they only really work if you hang people on the walls.

Then, in the mid-sixties, I did some lighting: a couple of Shakespeare's, a Greek and a contemporary epic German. The lighting grid was still the basic Guthrie rectangle with a growing infiltration of cross-bars. An actor standing on the edge of the stage was easy to light when looking out, impossible when looking in. The control was a posse of tracker-wire resistance portables, and with enough operators most things were possible (one year, a primitive one-scene-preset choke board was supplied by the Festival authorities in an effort to save labour costs – and much less was possible).

In the seventies, I was audience again: watching while Prospect experimented with stage shape and expanded the original temporary scaffolding lighting bars into a permanent grid as all-embracing and as symmetrical as the architecture would allow.

Then last summer while rehearsing *Grease* at the Hippodrome, I was summoned across Bristol to the Theatre Royal to discuss involvement in the Bristol Old Vic's visit to Edinburgh. The repertoire was Shakespeare's *Troilus and Cressida* and Farquhar's *The Recruiting Officer* to be rehearsed simultaneously and played alternately, with the Farquhar piece being given some proscenium performances at Buxton en route.

In that spirit of civilisation which pervades the Bristol Old Vic it was decided that, with two teams of Director and Designer (and a third team at work on the opening autumn production for the home stage) humane scheduling required the lighting design load to be shared as well. After discussions with the rest of our individual creative teams, John and I met for a civilised day of co-operation at the drawing board with appropriate adjourn-

ments for such refreshing beverages as were appropriate to the time of day.

**JOHN:** The two plays and their two directors had two different set designs. But the two lighting designers had to share one lighting rig which had to be sufficiently compatible with both shows to avoid any significant amount of re-focussing during changeovers between shows. And so the rig not only had to be very versatile, it had to work first time as production schedules were tight to say the least.

Although both plays used more or less the same acting areas, the upstage sections of each were about as compatible as Equity and Management. *Troilus* had a drawbridge type staircase to an upper level sandwiched between two towers. For *Recruiting Officer*, designer Bob Crowley had waggishly inclined a sky-cloth over the acting area at an angle of about 25 degrees, effectively masking the *Troilus* staircase and towers. The principal acting area for both plays was a raked stage measuring 6.5m by 7.5m with audience on three sides.

Working first on basics we decided to split the acting area into nine sections: three up and three across. Each section would be lit in a warm and cool wash from all four sides in 1kW fresnel. However a quick calculation revealed that this method would run us out of equipment budget before we were three-quarters of the way round.

**FRANCIS:** There are two basic ways of lighting an acting area (particularly an acting area on a thrust or in-the-round staging): four lamps at ninety degrees or three lamps at one twenty degrees. I find that the four lamps technique is easier and smoother than the three lamp method.

**JOHN:** Discussion over a gallon of coffee established that in both plays the central areas were more important. So we opted for a 90 degree separation in the middle three ('up') areas and 120 degrees on the outer six. In the diagram areas AY, BY and CY are the areas lit by four lamps at 90 degrees whereas the other areas (AX, AZ, BX, BZ, CX and CZ) are each lit by three lamps at 120 degrees.



## GREEN GINGER

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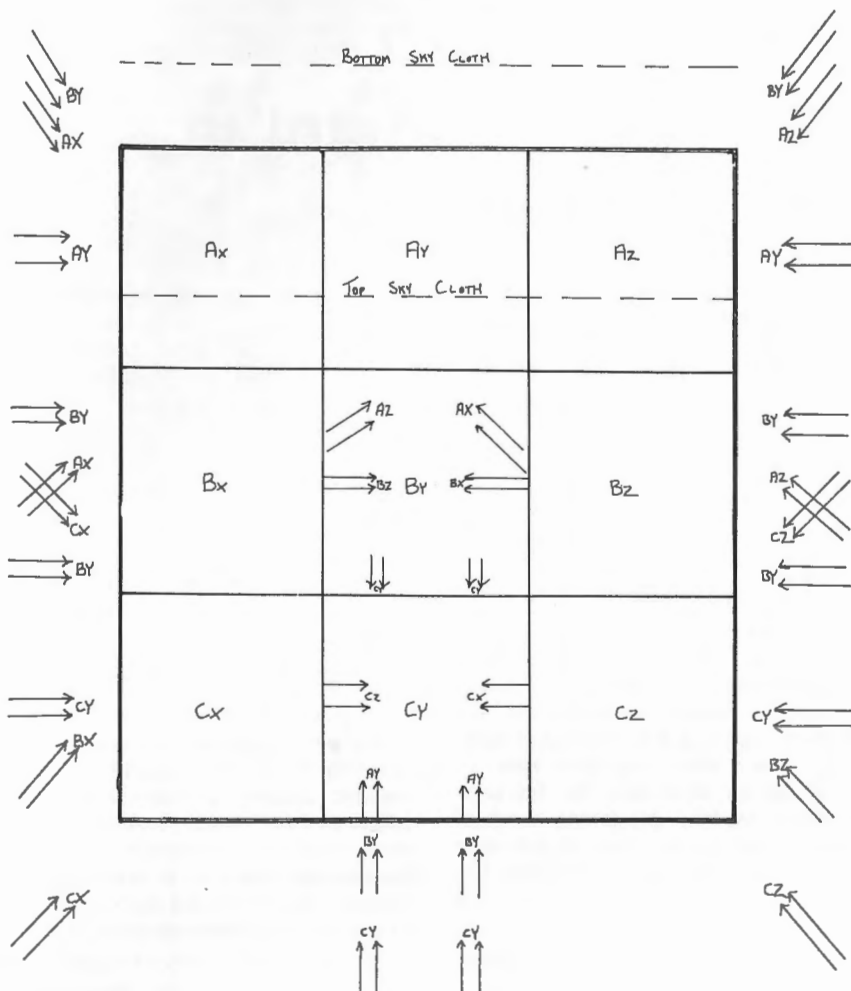
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**FRANCIS:** And to allow us full flexible control of the plasticity of the light, each angle had its own dimmer. This basic lighting of the basic nine areas required 30 dimmers, and with double up to give double-colour coverage this became 60 dimmer channels.

**JOHN:** To contain the central corridor without too much floor spill several of the circuits (principally BY, and to some extent AY and CY) carried pairs of lamps with an appropriate spacing between them on the bars.

**FRANCIS:** The central areas of the *Recruiting Officer* were scenically determined by a raised section and we focused to this. As a result the central areas were a little wider than the peripheral ones. This, however, worked happily for *Troilus* which had a more uniform floor design to which designer John McMurray had given a texture which was a lighting designer's dream.

**JOHN:** Having mutually decided that a cool cover of 61 would suit us both, the warm cover choice was more tricky. There was myself thinking straws and Francis



*The Recruiting Officer*  
Directed by Adrian Noble  
Designed by Bob Crowley  
Lighting by John A. Williams

flirting with pinks. However, after bribing Francis with a Pint or two of Best at lunchtime, a warm cover of 804 was agreed upon.

**FRANCIS:** I got my pink toning from some downlighter wash. Other *Troilus* specials included lighting for the upper level, backlighting down the staircase, some gobos for textural lighting on the towers, and a clutch of PAR 64 Cans to downlight in yellow (a saturated yellow - 101) for a particularly dramatic assembly in homage to King Priam.

**JOHN:** The *Recruiting Officer's* sky cloth was lit with ten 1kW linear T/H floods. Five projectors provided clouds, stars, rainbow and forked lightning. Because of the angle of the skycloth, the projectors had to be dropped 1.5m from the main lighting grid to lessen distortion; and situated at the far end of the rig to avoid shadows from other lanterns. It was quite a throw for a few old Pattern 252s and only a quick search for 5½" lenses saved the day. We were able to utilise each others specials quite effectively: for example, Francis's sixteen pattern 23s for gobos on his *Troilus* towers were very useful for breaking up the *Recruiting Officer's* sky cloth when used at low level.

**FRANCIS:** The control was the Bristol Old Vic's 120-way MMS (borrowed from the Theatre Royal, who in turn borrowed the New Vic's L.P.). The MMS was plumbed into 20 Mini 2 packs. For rehearsal it was in the auditorium (bliss!), moving to the control room for performances.

**JOHN:** The only close shave in the whole operation was when the Festival's Building Surveyor decided that there was too much weight on the grid, particularly in terms of the weight distribution not being uniform. This was overcome by extra supports from the roof trusses (future Assembly Hall users please note).

**JOHN & FRANCIS:** A versatile rig? Well the only change between shows was to pull the colours on eight parblazers.



*Troilus and Cressida.*  
Directed by Richard Cottrell Designed by John McMurray Lighting by Francis Reid



# Rear Projection

## Or Something to Look Forward to

MICHAEL J. HALL FCIBS

There is nothing revolutionary or new about rear projection techniques, but recent innovations in materials, technology and, in particular, the creative work of designers have brought about a sharp rise in the interest in this concept.

Rear projection is of extra interest because the disciplines are a unique blend of the work of the lighting designer and scenographer, and sometimes artist and photographer. It also bridges the arts, having specialised and general uses in theatre, television and film.

What is more, the concepts can be tailored to suit a range of budgets, from low cost DIY amateur theatre to high budget television production.

This article sets out to review the 'state of the art' and materials technology in Britain and overseas.

Although many surfaces can be used for rear projection, theatrical gauzes, scrims or even artificial fog – a new range of plastic materials is available with a careful grading of performance characteristic in four differing types.

For a better understanding of the principles it is worth space to examine the physical and optical characteristics of these four types of material.

All are based on a flexible body-coloured vinyl, which is inherently non-flammable to satisfactory standard of all known authorities, and are acceptable for thrust

stages like the Olivier at The National, where of course there is no safety curtain.

All are finely matted on the front, i.e. audience facing surface, to reduce the effect of unwanted front light reflections.

The material is produced in 54" widths and is fabricated into screens by a specially developed high frequency welding process – the fine line weld is visible at close quarters, but effectively disappears on normal viewing. There are four types:

**LIGHT TRANSPARENT:** a light translucent material that has very high gain, that is, a high direct light transmission, minimal absorption loss and bright sharp picture quality. It is commonly used outdoors, where there may be a high level of ambient light to reduce the image contrasts. To maximise picture brightness, the degree of translucency has been cut giving a risk of lens flare on a very light coloured slide for a few degrees around the projection axis. The brightness falls off when viewing beyond a 30° solid angle cone.

**BLACK:** Black is the most breathtaking material in the range and has to be seen to be believed. Black, or at least dark charcoal grey when front lit, comes magically to life with very fine detail resolution when back lit with a sharp image.

Although by definition the gain must be low, indeed the direct light transmission is only 6%, the effectiveness to the perception is greater, probably because, unanimated it does not look like a screen and the contrast of light and dark areas is high. Although analysis of the test results suggests that the viewing angle should be limited to a viewing cone of 30°, in practice, a wider angle does not disappoint.

**GREY:** The same reasoning for this as the Black applies, i.e. the neutral colour may not appear to be a screen to the unsuspecting eye, the gain is higher than the Black, but the contrast a little less.

**TWIN WHITE:** Although the Black and Grey can be used (and often are), the Twin White is designed as a front and/or rear projection screen. This property offers designers an interesting creative tool. Some examples of this follow later in this review.

Another important characteristic of the Twin White is a unique equal brightness back or front through a complete 180° of viewing – an important property for many theatres and exhibitions.

Earlier, I referred to outdoor use. The material is durable and unlikely to suffer weather damage although it may become brittle and stiff at very low temperature. A more important consideration – albeit a mechanical one – is windage. (Anecdotal, one screen did suffer – believe it or not, during 'Gone with the Wind'!).

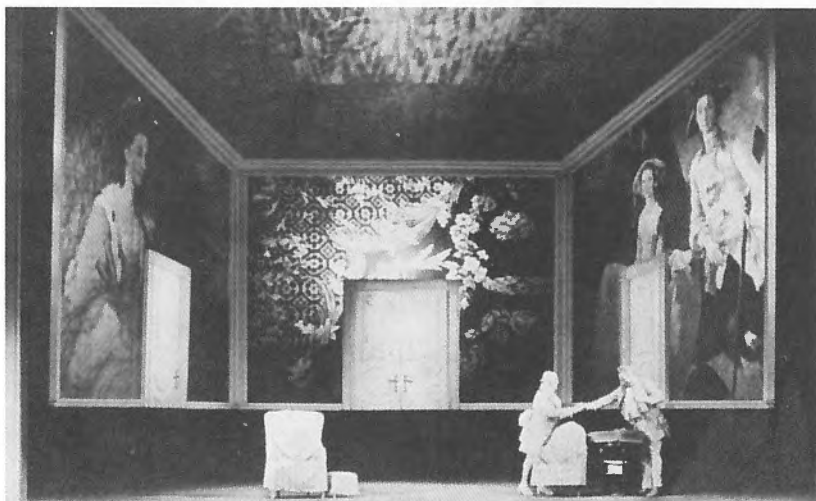
**RIGGING & FIXING:** Rearscreen users seem divided: those who plan ahead, and enable a coherent time to fabricate (two to three weeks), and those who need a screen in three days – from these demands grew a philosophy of rigging.

The materials are extruded and calendered in 65m bolts of 1.4m (55") width. This provides an 'instant' screen facility for small screens or set components, which can be stapled to wood, or wrapped around a frame.

For real emergencies, one can use a good clear tape on the projector side of the screen, to hold the butted edges of the material together.



David Hersey's projection for *Evita*, London, and then New York, Los Angeles and Sydney.

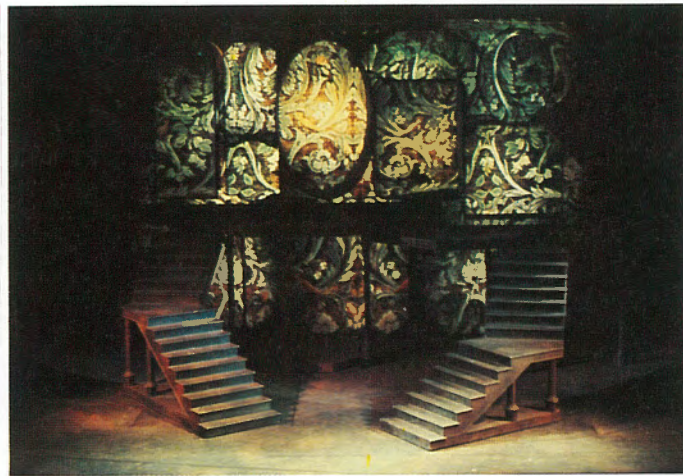


Svoboda's 1972 Prague production of *School for Scandal*.





Robert Ornbo's Multiple projections for *I and Albert*, Piccadilly Theatre.



Normally, the screen in sizes up to 35' square is finished with a 2½" deep hem of heavy duty vinyl, welded around the perimeters. Fixing is by lacing through brass eyelets, sometimes a pipe-pocket at the bottom is preferred.

**APPLICATIONS IN THEATRE:** It is difficult to trace the development of the art historically, although the lantern for projection was developed in the late 17th century we will confine ourselves to the post-war period.

German theatre is credited with some of the technique advances of this period; perhaps partly because of the grand scale of most of the Opera Houses; many of them were rebuilt after the 1939-1945 war with exceptionally deep stages.

The great Josef Svoboda pioneered many ideas; he has developed stage projection techniques where it has succeeded painted scenery. He writes: 'Scenery by means of lighting projections instead of paint is of the future because the individual artist can really create what he wants and then have it projected. He can convey his signature and have it possess quality' (1974).

In 'School for Scandal', Prague 1972, the ceiling and walls, all but the lower 4' were

fabricated from Black Rearscreen and carried rear projected images which became part, or conveyed moods and values of the scene (furniture was moved by turntable action). See illustration.

In Zurich 1972, Svoboda's staging of 'Threepenny Opera', a Grey large screen was hung and moved upstage and downstage creating a curtain projection surface.

The screen was slashed vertically in a series of 10" wide strips; in the backstage position rear projection was used, which faded to front projection as the screen was tracking downstage while stage furniture and people were mystically materialised through the slits surrounded by cross-fading and focusing images.

In these and others, the screen virtually replaces the conventional concept of a set.

The screen for 'Evita', designer Timothy O'Brien and lighting designer David Hersey, dominates the proscenium opening in an otherwise sparse set. See Illustration.

In the Welsh National Opera production of 'Jakobin' the 7m high mainsail of the ship was fabricated from a White rearscreen, the curved edge of the sail was held in tension by a thin nylon line within the edge seam.

Robert Ornbo and Patrick Robertson are

generally recognised as leaders in the field in English Theatre.

Patrick Robertson has used rear and front projection techniques successfully over many years, from 'Elvis' to Glyndebourne. The 'Elvis' set combined stage mirrors (mirrored plastic shrunk on frames) and the white screen. Incidentally neither mirrors nor screens, although durable, cope very well with repeated charges with the sharp ends of guitars.

For Jonathan Miller's recent production 'The Turn of the Screw', Patrick Robertson combined rear and front projection on several planes with a dark space between. The front plane, apparently a series of stepped high windows, was an expanded parallel mesh aluminium alternating with Shrink Mirror Scrim. The mesh gave an image to the audience by reflecting through the mesh off opposing surfaces from a rear projection position. The rear screens were divided to permit actor access. The austere tone of the black and white images and the multi-planar projection surfaces created the 'other worldly' sense.

For the set of 'I & Albert' at the Piccadilly Theatre, London in 1973, Robert Ornbo incorporated 10 screens, on which multiple projections (from behind using 36 modified Carousels) built up the scene. The screens varied in shape, and the precise masking was carried out on the slides in order to build up the total composite series of images.

Circular screens can usually be formed by fronting with a mask, as the recent successful London production of 'Songbook' – but a formal circle can be made; as the black version flown horizontally in the London Planetarium.

Recently some artists and scenographers have been exploring other ways of using the concept.

One designer in the U.S. has used sticky paper cut outs for the rear surface, and then back lighting to create the sharply defined silhouette effect – in this way the screen may be reused, or even scene changes within a single play become possible.

Today there is an almost infinite range of gobos available, which create a similar, but more flexible effect.

Another ingenious approach has been to paint the front surface of the screen. Rosco Supersaturated paint is a suitable medium



Patrick Robertson's designs for Jonathan Miller's *The Turn of the Screw* English National Opera.



for this technique. To improve the key, sometimes a squirt of proprietary washing up liquid is added to the paint. I have been told that by increasing the proportion of this liquid, the paint can be washed off in due course. There is a trade-off, of course – the paint will then never dry so it may not appeal to repertory companies!

Using this technique, the paint on the front surface will be seen in its true colour by normal front light. Then a suitable image can be back-projected to complement or composite the painted one. The illustrations show a simple demonstration version of changing sky and season with a static painted tree (by Judy Juracek).

In a Paul Wonsek New York production based on Dickens's 'Christmas Carol', screen material was painted to simulate the wooden panelling of furniture, with the rear-projected image of Marley's Ghost superimposed at the appropriate times.

Another recent approach is David Mitchell's designs for 'Barnum', now running in New York. Using the Twin White screen material, gilded cages have been painted on the outside of the screen; animation is achieved by a combination of silhouette projection of hand puppets by Linnebach projector using sheets of Roscolene cut out and hand painted.

Another two dimensional representation is created in Gil Hemsley's Boston production of 'Montezuma'. A Linnebach projector creates the image of another set of actions and people behind the screen. An intriguing audience gasp is created when the overlarge people of the shadow production hurl rocks at the cast on stage and huge polystyrene 'boulders' are hurled into the action from the flies.

**PROJECTION TECHNOLOGY AND DYES:** We are clearly in the middle of a great sweep forward in control technology, from modern polarisation animation techniques to cross-fade projection.

It would be interesting and relevant therefore to summarise first the fascinating historical path through the last 200 years of projection. A Jesuit priest, Athanasius Kircher is credited with the construction of the first practical lantern, with candles as the source. Oil, the Argand gas burner were succeeded by limelight; using town gas and a separate oxygen supply.

Lantern shows in Victorian times became an enormous industry. Engineering ingenuity quickly produced many engaging effects – notably twin projectors. In illustration – note the 1895 oil sourced lanterns with a manually operated fan which has deeply serrated edges to give a dissolve effect.

Lanternists, or operators were issued with a Code of Practice by one lantern manufacturer; like 'In foggy weather, work nearer the screen'.

'The operator will not be insulted if he is asked to have tea.'

'The name of a lantern adds not any to its power.'

**SLIDES:** A monk, Theophilus, in 1100 wrote a definite thesis on preparing colour for glass painting and firing. In the late eighteenth century basic colours could be

transferred to ceramic (the willow pattern for instance) and by 1823 glass could be printed and fired at low temperature and subsequently hand-painted.

By the 1890's the production of a wide range of slides was prolific; usually in the form of 12 slides in a set, often with printed notes to form a lecture.

The subjects varied from nursery and patriotic stories to reproduction of popular art 'Raphael and Murillo's Sweet Madonnas come hand in hand with Michelangelo's and Velasquez's virile figures – "scenes of humour and pathos". Movement could be simulated by overlays on springs that would be manipulated by the operator, overlaid in mahogany frames on the original.

Efficient screens were made of a bleached pure wax cloth which was impregnated in a bath of pure wax and then clarified to the required degree of translucency by ironing.

3" square emerged as a standard slide from a welter of sizes, like  $2\frac{3}{8}" \times 8"$  long, where story progress could be achieved with the slides moved through the projector.

Today's version of this is a recent use in New York of a film loop  $3\frac{1}{2}"$  wide, 36" long with a continuous photographically fixed image derived from hand paintings.

**PRESENT DAY PROJECTION TECHNOLOGY:** The Carousel remains the workhorse of the art, whether singly or up to 50 with cross-fade facility. By means of high-speed punched tape programming equipment, the designer can specify a sensitive, fast continuous perceptual array – more a communication vehicle than an art form.

The modifications of the Carousel separate into two: several manufacturers in Europe produce models which use up to 1200W xenon lamps and improved slide change and cooling arrangements. The second approach is to uprate the light source power, generally in low voltage compact tungsten halogen lamps.

When a large number of projectors are needed (50 is not uncommon) the cost of these specials can be prohibitive, so the basic Carousel remains very well-used and popular, particularly now with a rapid lamp change facility.

The spectacular advances occur in multi-image programming facility, propelled by the micro-computer technology.

Projectors with tungsten light sources are essential for the multi-projector array as the xenon types won't interface with programmers; xenon is a discharge lamp and can't be faded for dissolves (except by mechanical iris systems).

David Hersey, for the 'Evita's'; which, following London, are running in New York, Los Angeles and Sydney, designed new projectors, based on the Carousel slide-change designs, but with new lenses, housings, 1200w xenon source, to meet the exacting requirements of large screen format, brightness and the ability to stay in focus through a dynamic focus change of the screen tracking between back and front stage.

The area of effects projection, through the prompting of the disco and club market, has also developed quickly, from

low cost projectors from Optikinetics, to sophisticated multi-level effects systems from RDS in Japan. This system permits endless film loop, and moving disc effects, plus kaleido and flicker overlays on the primary effects.

For the grand scale, Richt & Vogl and Pani offer up to 10Kw tungsten halogen projectors, to take from 18cm to 24cm square glass slides. Zoom and wide angle lens developments permit a more flexible back-space than previously – but inevitably there are dress-rehearsal fait-accomplis nightmares where one traverses the full repertory of insufficient projection path and too small picture; with the consequent dramas of increasing picture formats, mirror elongated path, image splitter, etc.

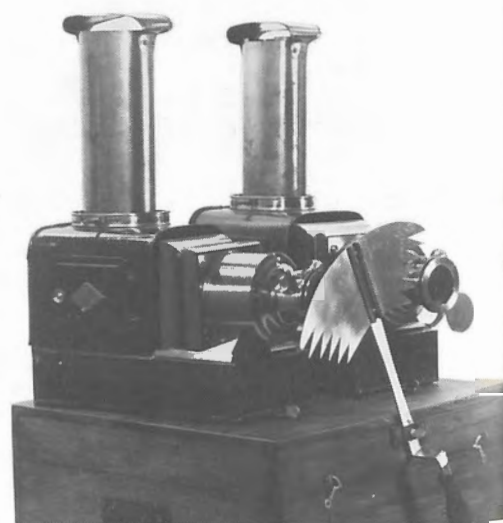
The 4Kw HMI and tungsten halogen lamps give brighter images and sometimes cause problems with dye technology, but a new range of 13 colours in transparent colours has been developed for high temperature-withstand projection situations (see the National Theatre production of 'Amadeus').

The skill of painting or specifying how an image is committed to a slide, remains an arcane art revealed to few – to set the projector obliquely, the audience oriented projection must be distorted in perspective.

Leonardo da Vinci is credited with much of perspective theory. Today electronic calculators can reduce the tedium of the calculations for foreshortening necessary to project a 'normal' image.

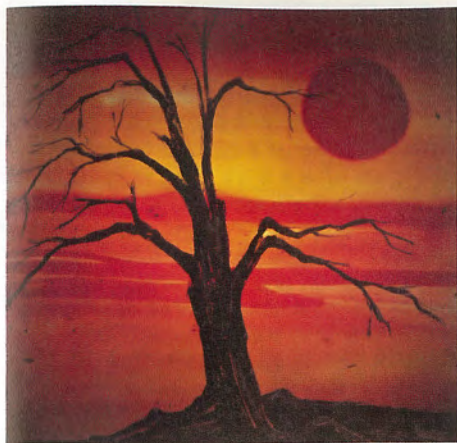
Renaissance designers had an advantage over present day scenographers designing for thrust stages with perhaps a 180° spread viewing angle – the court spectacles were created to be viewed primarily from a single camera position (sorry, the Patron's Box – the centre Duke's seat!).

Apart from re-correction of perspective, the eye and perception and electronic/film camera/photographic lens and emulsion still read that the apparent size of an object diminishes in direct proportion to its



Early high-technology lantern.





Screen painting and slide dye projection combination (Judy Juracek).

distance from the viewer.

What we see today of the geometrical skill in projecting perspective is ephemeral, but the disciplines involved were explored and set down on canvas by a number of artists. A good example is Holbein's distorted perspective portrait of Edward VI in the National Portrait Gallery.

grapher John Alcott. The main set, the interior of 1930 style hotel, was lit by an artificial sky of a rearscreen of Light Transparent, 30m by 7m, lit by some 960 sealed beam 1Kw lamps, to give an evenly diffused multi-directional soft light source, only small flexible sources were necessary to supplement this for filming.

background. A standard Twin White screen was used, back lit by fluorescent tubes, sleeved with a suitable blue gel.

**TELEVISION:** A common and obvious use has been the back-projection inset to a small newscast set, although this has been partly replaced by chromakey techniques.

The White material has gained acceptance as a cyclorama, serving as an efficient surface for front projection which can also be used for rear projection – or as a low brightness source, with all the flexibility of colour change.

The Black material has a high enough light transmission to be used as rearscreen or as a conventional chromakey source, a useful combination for a flexible set component.

In review, the present 'state of the art' augurs well for the future without resort to creative clichés – the technology developments in lighting and control, programming and projection, dyes and paints, projection surfaces all continue to advance.



Blue matte screen for flying Dorothy in The Wizard of Oz (1977)

The last word on that whole subject is in a book in the V & A library called 'Anamorphoses' in French.

**APPLICATION TO FILM:** An unusual application was used for Stanley Kubrick's 'The Shining' as yet unreleased, cinemato-

A different use was found in the new version of 'The Wizard of Oz' (a box-office disaster, but technically a joy). As part of Dorothy flying, she (Diana Ross) was filmed on a support against a blue matt screen for subsequent reprocessing to the required

*Chromakey, sometimes called colour separation overlay, is a television technique which replaces a controlled part of the picture with another image. It is a complex electronic process but basically a screen is used to project a suitable coloured light, commonly blue or yellow, then a new image is keyed in by a remote source which can be tape or film.*

*The author is managing director of Roscolab Ltd.*



Early kinetic slide.



## Wembley opts for 12 channel lighting control

When we jokingly speculated that the National theatre would win the CUE raffle for a portable lighting control we were pretty confident that the odds were so stacked against the big boys (something over 100 to 1) that a small theatre or amateur group were bound to get the prize. We seem to have tempted Providence too far. The National did not win in the event but the Wembley Conference Centre did. For those who don't already know, the Wembley Conference Centre includes the Stadium, the Old Empire Pool (now the Wembley Arena) and numerous other places of assembly not forgetting 30 odd squash courts for good measure.

We rang Cheryl-Anne Wilson at Wembley certain they would opt for the alternative prize of CCT lights. Extra lights are always useful and an Electrosonic Linkit lighting control with 12 channels is not the first board that springs to mind for lighting Cinderella on Ice for an audience of 7,000.

Don't misunderstand me, the Linkit is one of the very best boards of its kind but it was not designed with the Empire Pool in

mind. Well much to our surprise Wembley opted for the Linkit board.

The Presentation was an enjoyable and (despite the picture) an unstuffy event. Tony Easterbrook, President of the ABTT, made the presentation on behalf of CUE with a fund of amusing anecdotes and a good and short speech in which he said some nice things about CUE and the Linkit board.

Ron Bray, the head of Wembley's technical department who accepted the prize with Cheryl-Anne Wilson, explained why they were so pleased to get a Linkit. In

addition to the main auditoria, Wembley has a whole range of lecture theatres, banqueting and meeting rooms used for everything from product launches to boxing dinners 'such a versatile and portable system will be of particular value when in the space of one week I can be called upon to create the right mood for a fashion show, a trade launch, a dance and a boxing dinner'. Congratulations Wembley Conference Centre and better luck next time to our other readers, we plan to have another raffle shortly - what about a Thornlite 500 for Brightwell-cum-Sotwell village hall!



*The CUE presentation to raffle winners Wembley Conference Centre. From the left: Robert Simpson and David Kerr of Electrosonic Ltd., Don Hindle of CCT Theatre Lighting Ltd., Ron Bray and Cheryl-Anne Wilson from the Wembley Conference Centre, Anthony Easterbrook, President of the ABTT who made the presentation and Jeremy Twynam from CUE.*

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# Between Cues

The thoughts of  
Walter Plinge

## Another Person Plingular

An Evening with Walter Plinge read the handsomely handwritten double crown poster outside a minor provincial playhouse of my acquaintance. No, I was not offering public readings from this diary. The particular Plinge making this one-night-stand was Hugh Hastings – himself a man of many Plinges, literary, thespian and musical. What is a Plinge? Who is Plinge? CUE correspondence indicates that not all our readers are familiar with Walter Plinge and his contribution to the heritage of our performing arts. Walter Plinge is (or rather, was) the traditional programme billing given to an actor doubling two roles. The pseudonym was used for two reasons: firstly, to protect his ego when the second role was a minor one such as butler or corpse and, secondly, to disguise the small size of the acting company. The Plinge programme credit has also been used to cover incomplete casting at the time of going to press. In my first rep job (all seats 2/-, no extra charge for advance booking, new radiant heating system installed) the co-producers had their own personalised version of Plinge. The actor-manager

doubled his secondary roles as *Willie Loyter* while the actor-director, although confining his activities to the star role (in addition to directing) had a third regular programme credit of 'Scenery Designed by *Mark Tyme*'. I usually appeared twice on the programme under my own name: as stage manager and as small-part actor. These were the days when stage management included carpentry, lighting and prop-making: the audience did not expect to read a page of technical credits, so there was no point in paying for type-setting to distribute my jack-of-all-trades activities among a team of plingular aliases. The only *Waltrauta Plinge* of my acquaintance, incidentally, was a Glyndebourne singer. I must record that Mr *Walter Hugh Hastings Plinge* offered a diverting evening of theatrical snippets, including a gallery of minor characters upon whose brief appearance the plot has frequently hinged.

## Performing Dangerously

*'... I am all against rehearsal, a most tedious and unnecessary affair. After a very long experience I have discovered that the*

*only way to a really living and vital performance is not to rehearse it... so that everyone will be struggling hard at the music and that makes a great tension...'* says Sir Thomas Beecham in *Beecham in Rehearsal*, a recording made from an eavesdropping rehearsal tape. Beecham, of course, did rehearse and his personality ensured that the rehearsals were never tedious although his working methods were geared towards achieving performance tension. Tension there most certainly was in a recent *Acis & Galatea* performance (Yes, I know that in CUE 3 I made my 'new decade's resolution' to shut up about Handel and old-shallow-tiered-tiered-horseshoe theatres: but this was Handel opera in my own horseshoe). The single orchestral rehearsal (with soloists but without chorus) ensured that the performance lived dangerously. The visuals did nothing to gain converts to the viability of staging Handel operas. This requires lots of paint, lots of gobo texture, and lots of parabolic backlight – these were all in short supply. But musically the evening had fine moments and with the orchestral tang of a sextet of paired oboes, paired violins and continuo, we were close to hearing something like Georgian sound under Georgian architectural conditions. To get any closer would have involved the variations in timbre provided by Georgian oboists who were normally Plinges doubling the recorder family.

## The Professor

Some years ago while doubling as *Tabulus* I tried to encapsulate the qualities of my teachers above all Carl Ebert who treated his technicians like he treated his actors – never superimposing always drawing out: grabbing one's elbow on a musical modulation with a wide-eyed *Can you hear the light?* Ebert opened up the humanity and sensuality of Mozart for a wide-eyed and wide-eared Edinburgh youth perched in the gods of the King's Theatre during the early Edinburgh Festivals. A full decade later I met *The Professor* (as we all knew him and addressed him) and worked for him at Glyndebourne where I was bowled over by his charm. He taught me to be analytical in approach but instinctive in decision. He increased my self-confidence but he developed my humility. He reinforced my sensual response to the arts. In Ebert's productions the sexual drive that motivated the characters was simple, romantic and warmly physical; whereas so much contemporary staging seems to be based on some complex cynical coldly intellectual sexual aggression. Ebert dealt in the simple deep sincerely-felt passions. He worked through the music and some of this sensuality can still be heard in the recordings of his stage productions. Ebert died this summer at 93.

## Dancin'

It seems that *Dancin'* will not be seen in London – as a result of a union/management wrangle which I deplore both as an equity member and as a theatre manager.

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# Dancin'



As an innovative landmark and an inspirational signpost, *Dancin'* has a music theatre significance ranking with *Poppea*, *Figaro*, *Oklahoma*, and *West Side*. I regard the American Musical as the most vital of the contemporary performance arts and here we have another successful exploratory advance through the communication barrier of inadequate words into the limitless language of movement and music. The dancing is supported by scenography that is simple but totally integrated. Jules Fisher's lighting uses all the old effects but shows mastery in using the right one at the right time. The scenic backgrounds build from total simplicity at the beginning – a text book application of the art of not giving away too much too soon. Students of lighting have an excellent opportunity to relate cause and effect – electric pipes are preset on low deads, then flown out at the top of the show.

## Dancing Lights

Dancer Maina Gielgud is quoted in the 'Guardian' as saying: '*Lighting dancers is of course a difficult thing because they move around all the time. But for some reason dancers never seem to be around during lighting sessions and this often means you end up not being able to see their faces. If you light from the side of the stage all the expression is lost. I much prefer the stage to be lit from the front. If it is properly done a dancer's eyes can be made*

*to sparkle like jewels.*' Now from time to time I have turned my hand to a bit of lighting design and I have to tell you that I disagree with Ms Gielgud. Surely a dancer's primary means of expression is body rather than face. A body to be sculpted from the side rather than flattened from the front. Furthermore I have observed that London Contemporary Dance Theatre's dancers invariably (a) take up their positions during lighting sessions (b) are lit from the side and (c) have sparkling eyes.

## Grease the Original

Throughout the seventies I avoided *Grease* on Broadway. I saw bus-and-truck performances in Ottawa (from the front, with detachment) and in Penn State University (from behind, with fascination). But on Broadway visits there always seemed to be higher priorities for theatregoing. However the explosion of *Grease the Movie* in my teenage household, followed by an involvement in the subsequent west-end exploitation revival, kindled an interest in seeing the original. A Sunday matinee provided the clue to the British flop of this Broadway hit. The enthusiasm in the audience came not from the young but from their parents. The appeal of *Grease* (as opposed to the appeal of *Travolta et al*) is the nostalgic trip restricted to those who can relate to the ethic of an American High School in the fifties. The audience reacted to every line and laughter broke in staccato bursts like it

was a TV sitcom. I had a lovely afternoon wallowing in *deja vu*. Familiar lines, familiar songs, familiar moves, familiar sets. Different actors in familiar costumes gave them a feeling of cartoon characters that was just right for the show's style. It would, however, be less than honest for me to fail to admit that I preferred my own more saturated gel palette.

## Who Needs a Boat Race

Attend both *Oxbridge Universities* in the same week and get 50p off each. Spot tomorrow's stars today twittered the publicity. So Plinge went star spotting to both the Oxford Revue and the Cambridge Footlights and offers you Oxford's Helen Atkinson Wood as his tip for the top. Oxford was bare-stage, T-shirts and piano. Cambridge had scenery, costumes and a band. Both universities seemed to be auditioning for television. Oxford were firmly targeted on BBC 2s gentle satire slot while Cambridge hedged bets by including numbers that were bland enough for a bank holiday. Oxford got laughs, Cambridge got titters. Not a vintage year – an all round shortage of arrows and targets.

## Profitable Flops

The refurbished Covent Garden Market is nice. Soon it will be very nice. When some of the shine rubs off. Right now, like most new stage costumes, it needs a little breaking down to make it look worn and comfortable. But there are some fun shops, including one that specialises in deleted recordings of old shows. If, like me, you have been associated with some of the Musical Turkeys that regularly sink on the London stage, then this is a shop to boost your ego. Flip through the browser boxes and discover that the scarcity of old flop recordings has inflated their prices way above the cost of old hits.

## Ephemera Ration

Extraordinary the way in which it is the trivia that make history come alive. Wandering around a recent exhibition in the Lincoln Centre Library, Diaghilev seemed interesting but distant. Then, amidst a selection of letters, I spotted his 1916 Ration Book. Suddenly he became real.

## Costs Compared

I know a little regional theatre which fed its annual audience of 54,000 on a diet of 255 performances of 66 different productions at a cost of £121,000 (£72,000 for productions plus £49,000 for overheads). According to the Daily Mail *Sweeney Todd*'s production budget of £500,000 included such items as £117,000 for scenery and £50,000 for costumes. Air fares and hotels for the production team were a mere £48,000. Comparisons may be odious but they are certainly interesting.