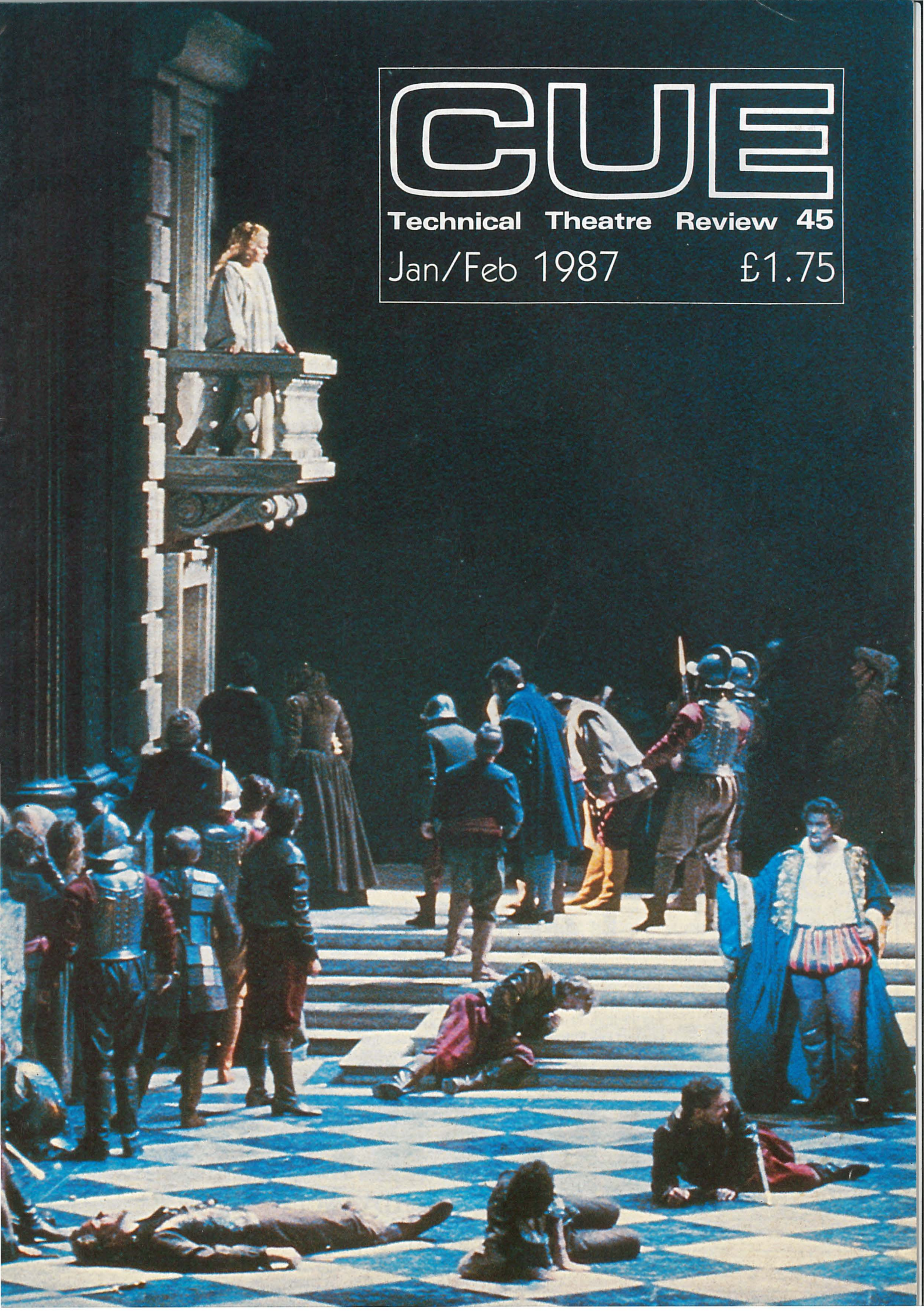


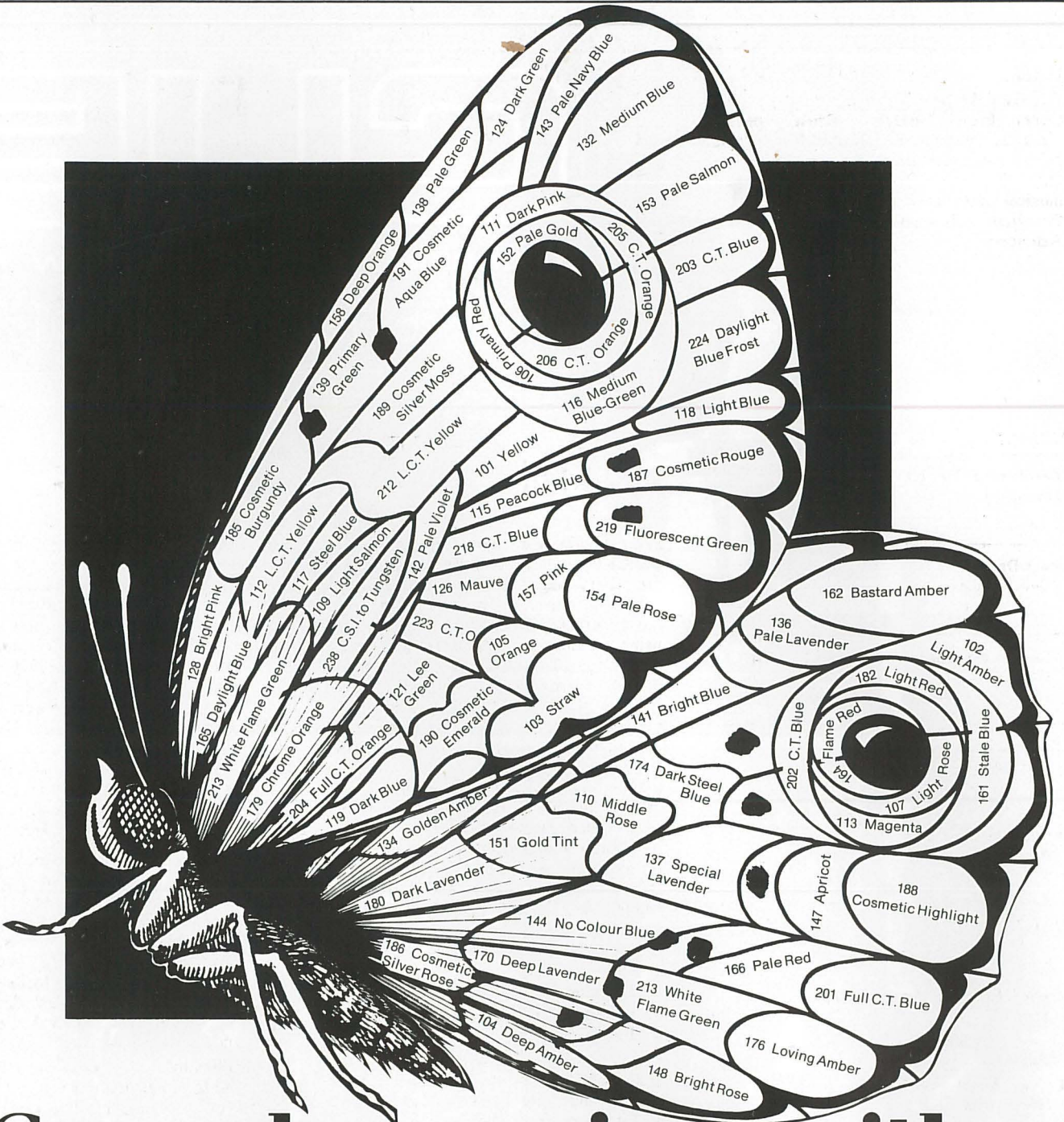
CUE

Technical Theatre Review 45

Jan/Feb 1987

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Cover.

Act II of the new Verdi *Otello* at the Royal Opera House. Timothy O'Brien's spacious Venetian settings worked equally well for public crowd and intimate scenes. Requiring only one central interval the dramatic and musical momentum was thrillingly sustained throughout this great opera (Photo: Catherine Ashmore).

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ONE STOP SHOPPING?

Preoccupation with agonising over subsidy shortfalls tends to disguise the enormous growth in staged entertainment that has taken place in recent years. Performances have increased in number and diversity using, almost without exception, more technology. The flattening of the subsidy growth curve does not appear to have reduced the size of lighting rigs. The budgets for rock tours and trade shows are sufficiently generous to ensure that the success of an effect is rarely prejudiced for the sake of candle-end economies. The growth of alternative theatres and arts centres has ensured that stage space is more often defined by lighting than by a proscenium—for many performance situations, technology has replaced architecture and offers considerably more flexibility. Drama in schools has developed from an end-of-term incidental to an integral part of the curriculum requiring classrooms dedicated and equipped as studios.

So there is a healthy market for the hardware of stage technology.

Demand has stimulated manufacture, with an ever widening product range available to the customer. Recent years have seen a swing away from the traditional direct selling by manufacturers towards distribution through dealer networks which ensure that appropriate stocks, spares, and specialist service expertise are positioned for quick access by users. Dealers, however, are expected to demonstrate brand loyalty and their contracts seldom allow them to offer competitive products.

This is not particularly convenient for customers who increasingly expect to combine the most suitable bits from several manufacturer's ranges. Some manufacturers, particularly in lighting, seem determined to try to hang on to the concept of being able to supply a complete package. Could such a marketing strategy be an out-moded concept, perhaps more concerned with boosting corporate ego than serving the best interests of customers and therefore shareholders?

Consumer power has become a growing influence in the theatre technology industry: witness the acceleration of arrivals and departures, of growths and declines, and of mergers and takeovers. The time seems ripe for another step in the development of our industry. Should we now perhaps move from direct selling and dealerships into more conventional retailing, with a full range on offer from specialist shops—supermarkets, minimarkets and mail order, according to geographical demand? Or, in the brewery language that lies so close to the hearts of all we entertainers, shall we see a swing from tied house to free house?

Ian Albery believes in the concept of the one-stop store and his Donmar operation, in the heart of Covent Garden, has been reborn as the shop that will sell you anything made by anybody in theatre technology. With advertising slogans like 'we can match or better any quote', he looks determined to become the technical theatre's equivalent of the John (never knowingly undersold) Lewis Partnership.

Donmar has always carried a wide range of non-lighting products and for many years they have displayed scenic ironmongery for self-selection by those of us who know the sort of thing we want but are not sure what it is called. Like all supermarket shopping, such an approach widens the buyer's horizons and boosts the seller's turnover.

Is this type of retailing the future? Cue suggests that the growing diversity of manufactured product makes it inevitable. Will manufacturers gradually find that a more effective use of their sales and marketing budgets is to concentrate on detailed technical literature and advertising, with field sales forces used mainly to liaise with retailers, meeting customers directly only at trade fairs and conferences?

The Donmar one-stop-shop may be the prototype for a change in our theatre technology buying habits.

TWO ROMAN THEATRES

Francis Reid visits Fiesole and Verona

Fiesole is a twenty minute bus ride from Florence, climbing all the way. As a consequence of this elevation, a magnificent valley view unfolds from the site of the Teatro Romano. The prospect of Tuscan hills that we see today from a seat in the auditorium's ancient tiers, would have been masked from a Roman audience by the long lost scaenae frons whose stones have doubtless been recycled several times within the town's architecture. However the landscape would have been an integral part of anyone's coming and going to the theatre, or to the adjacent baths and temple.

The theatre dates from the 1st century BC but underwent many restorations and modernisations until the 3rd century AD. It was completely covered for many centuries until digs commencing in 1792 revealed an auditorium in a rather good state of conservation. Once again we can experience a positive feeling of the reality of sitting in the audience cavea, after entering by vomitoria and descending the radiating staircases which divide the upper seating into four segments. The lower order of seating, separated from the upper by a narrow passage way, provides four continuous steps of seats, next to the orchestra, for those of importance in the community. These rows have some feeling of being an audience intrusion into the orchestra. This was a feature of the development of the classical theatre but the result here is to make the orchestra relatively small and, while the entry tunnels to it would accommodate a chariot, there is little room to do much more than drive off the other side. So this theatre presumably was rather more devoted to straight drama than to what purer perceptions than mine consider to be the Roman theatre's decline into spectacle.

The wall that forms a fascia to the front of the stage has a rounded niche in the centre and rectangular niches to each side. The stage floor has gone but, tantalisingly, there is a curtain trench immediately behind this fascia wall between stage and orchestra. For summer performances a temporary timber stage covers this but allows one the excitement of making an entrance through the vaulted side doorways to strut and feel an easy command of the coke swilling backpackers who find the cavea seating tiers a welcome resting place on their tourist trail.

While the Teatro Romano of Fiesole is on the edge of a small town and rural in outlook, that of Verona is in the centre of a major city. Perhaps not quite so close to the epicentre as Verona's more famous Arena, but nevertheless a theatre where one is aware of urban surroundings, even if the adjoining river and trees give it something of that pastoral flavour which nearly always seems to inhabit ruins. Even when, as here, a summer visit will normally show the auditorium adapted to reflect some of the expectations of today's audience, and a

temporary stage built for a production style that is not concerned with archaeology.

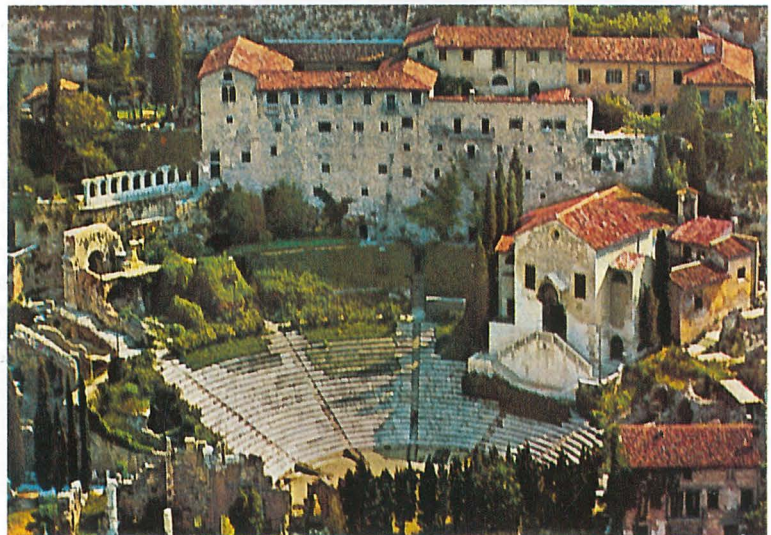
The feature of Verona's Teatro Romano that immediately strikes the eye is the intrusion of the 14th century church of SS Simon e Libera, which encroaches considerably on one section of the cavea. Its presence makes the auditorium look like an operatic stage set. The seating tiers have, rather exceptionally for a Roman theatre, a centre gangway: was the more normal absence of a centre aisle the result of a conscious debate, I wonder, or was it innate commonsense that stopped them inserting anything so divisive?

At the back of the stage there are some remains of the scaenae frons and these help to contain the space to something approaching its original feel. They are masked in summer by scenery, but whatever form such temporary staging takes, it is insignificant in

terms of the overall ambience which I find, curiously, neither Roman nor modern. Rather, it is mediaeval—so that one feels that one is sitting there, in a Roman fragment, awaiting the renaissance. Perhaps it is the intrusive proximity of the church and the quality of the Veronese skyline. Or could it be one's awareness that, whereas most Roman theatres were not excavated until after the renaissance, this one was known to Palladio. For its reality must have been a strong factor in enabling him to effect the transformation of Vitruvius that is Palladio's triumphant Teatro Olimpico in Vicenza. My own first visit to the Verona theatre was the day after my first visit to Vicenza. A couple of years later I visited them on the same day but in reverse order: I have experienced no better key to an understanding of the kernel of the renaissance.



Teatro Romano, Fiesole



Teatro Romano, Verona

STAGE DESIGN

DAVID FINGLETON

An *Otello* worthy of a great Opera House □ A crowded and muddled *Carmen* at the Coliseum □ A fire engine saves the day at the Barbican □ A modest *Lear* that worked well □ An unfortunate transfer at the National but immense credibility at the Lyttelton.

The Royal Opera's new production of Verdi's *Otello* has certainly been long-awaited. Its predecessor, designed with monumental nobility by Georges Wakhevitch, was first seen at Covent Garden over thirty years ago and did service there until 1982. The new staging had been planned for last January and had to be postponed as a result of Placido Domingo's withdrawal following the Mexican earthquake. The result of the postponement was that the original producer, Sir Peter Hall, had not the time available to rehearse his planned production this year, so he too withdrew. The new producer, Elijah Moshinsky, decided he could not work within Hall's designer, Sally Jacobs', already constructed sets, so these were jettisoned at a cost of over £100,000 to the beleaguered Royal Opera House. All these set-backs and changes of plan are doubtless entirely explicable in the light of the facts, but they scarcely argue for firm and successful management in these precarious days for the arts in general and opera in particular.

Nevertheless when Moshinsky's production of *Otello*, with sets designed by Timothy O'Brien and costumes by Peter J. Hall, did finally take the stage at Covent Garden last month, it is heartening to be able to report that the lengthy wait had been worth while. This a highly intelligent, straightforwardly uneccentric production, skilfully designed, beautiful to look at, and promising successful revival for many years to come. In fact Moshinsky explained to me that the original designs not only failed to assist him with period or location, but would also have required three intervals—like the 1955 production—for scene changes. Instead we have a uni-setting which needs only one central interval and the resulting gain in terms of dramatic and musical tension and momentum is enormous. What Timothy O'Brien has given us is a spacious and noble late-Italian Renaissance setting, framed by Corinthian columns, with a diamond chequered marble floor, a well-sited balcony and staircase upstage right, and a rear cyclorama, left open for the outdoor acts, enclosed by massive paintings, in the style of Veronese, Tintoretto, and Cimabue, for interior scenes. The setting is clearly Venetian in style and 16th century in period, as are Peter J. Hall's acutely diversified, subtly coloured costumes. Robert Bryan's precise, immensely skilful lighting is a great asset



The Royal Opera's new production of Verdi's *Otello* by an all-British production and design team. Producer: Elijah Moshinsky. Set designs: Timothy O'Brien. Costume designs: Peter J Hall. Lighting design: Robert Bryan. Photographs: Zoe Dominic and Catherine Ashmore.



Maria Bjornson's wrecked car set for the new ENO *Carmen*. Producer: David Pountney. Lighting: Paul Pyant. Choreography: Terry John Bates. Conductor: Mark Elder. Photo: Zoe Dominic.

throughout. The result, if not offering an eye-opening fresh look at *Otello* as in Peter Stein's remarkable staging for Welsh National Opera last year, provides us all the same with a blessedly practical, entirely absorbing production. The set leaves abundant space for public crowd scenes, with the capacity for plenty of movement, and yet works equally convincingly for intimate scenes—the last act is wonderfully claustrophobic. There is a strong and cohesive atmosphere throughout and the single interval means that considerable tension is generated. It is also a production that will wear well, a setting that will not seem mannered and tedious upon frequent revival. In all, this is a highly successful staging of a great operatic masterpiece, worthy of a great opera house, and one upon which the money has been well spent.

At the Coliseum English National Opera have been of late taking rather a different approach to the mainstream operatic repertory. After their New York Mafia *Rigoletto*, shanty-town *Madam Butterfly*, grand hotel *Mikado*, and pit-head *Cav and Pag*, there is now a motor scrap-heap *Carmen*. This may be very stimulating for opera producers, and diverting to the jaded eyes of compulsive opera buffs, but is perhaps less helpful to those seeing the opera in question for the very first time, as must often be the case at the Coliseum. That said, it is also fair to note that when I returned to this *Carmen* for a later performance a full house of ordinary opera-goers was held in rapt attention by it. This *Carmen*, produced by David Pountney and designed by Maria Bjornson, has been updated to the early 1960's and appears to take place in a slum in Havana, or somewhere else in dictatorial Central America. The set comprises an assortment of large, wrecked American cars, interspersed with large piles of multicoloured rags, systematically picked by the chorus throughout the first act. This setting was backed by a huge movie hoarding depicting a stylised *Carmen* having her cigarette lit by reaching male hands. Quite diverting in itself perhaps, but overcrowded and underorganised, with too many children, too many unconvincing tarts, and simply too much extraneous business, so that the thread of the real action tended to get lost. Neither Pountney nor Bjornson appeared fully to have thought things through, so that, for example, at the close of the first act the army truck supposed to carry *Carmen* to prison simply did not have an exit route across the crowded stage. Lillas Pastia's mobile night-club, within the same basic setting, worked better, and in the final act the cars' graveyard, becoming *Carmen's* too, made powerful theatre, but the third act, with the face removed from the movie hoarding and the cars ranged, headlights on, facing us across the back of the stage, was an unintelligible muddle. Costumes were good, especially those for *Carmen* herself, and trouble had clearly been taken over detail, and over Paul Pyant's all white, highly effective lighting. But taken as a whole this seemed a modish, rather than profound *Carmen*, but at least one that did not seem to have cost too much



Bob Crowley's effective Georgian house set for RSC's *A Penny for a Song* at the Barbican also included a nineteenth century fire engine. Accurate period costumes by Alexander Reid. Production by Howard Davies. Photo: John Hayes.



David Hare's production of *King Lear* at the National's Olivier theatre. Setting by Hayden Griffin. Costumes by Christine Stromberg. Lighting: Rory Dempster. Photo: Nobby Clark.



The National Theatre production of *Coming in to Land*, a new play by Stephen Poliakoff at the Lyttelton. Director: Peter Hall. Designer: Alison Chitty. Lighting: Stephen Wentworth. Photo: Frank Herrmann.

to stage. I suspect it will not be that long before another production of this opera takes the Coliseum stage.

At the Barbican the Royal Shakespeare Company's latest production, in one of their less happy recent seasons, was a revival of John Whiting's *A Penny for a Song*, written thirty five years ago. If pleasantly whimsical it could hardly be described as a profound or important play, but, despite that, received a totally committed, attractive production by Howard Davies, skilfully designed by Bob Crowley, with pleasingly accurate mid-19th century costumes by Alexander Reid. Crowley had very effectively enclosed the set so as to reduce the vast area of the Barbican stage, and presented an agreeably unpretentious Georgian house, stage left, looking across its front garden to a terrace with a curved brick wall, stage right. I was less happy with the tree, centre stage, in which the manservant is perched as lookout throughout the play: quite why it had to grow horizontally across the false proscenium I did not fully understand. By way of compensation there was an immaculate early 19th century fire engine, in fine working order, with whose detail nobody could quarrel.

At the National's Olivier Theatre things were on a larger scale dramatically with a production of *King Lear*. The director was David Hare who demonstrated a keen feeling for character and politics as well

as for the undertones of this great play. Costumes were by Christine Stromberg of East Berlin's Deutsche Staatsoper, with setting by Hayden Griffin, who made excellent use of the Olivier's huge, wedge-shaped stage and sensibly kept scenery to a minimum. Basically Griffin relied on three vast sails, one central, one on either side, which furled and unfurled to open and close the action. Beyond these were little more than furniture and props, including some curious flown effigies of butcher's carcasses and a weird naked mother-earth figure, whose purpose I could not entirely discern. Ms Stromberg's costumes were of the timeless, i.e. everything from pre-mediaeval to mid-20th century militaristic, variety so beloved by East European opera companies, but did no harm in that they defined character and did not obtrude. Rory Dempster's white lighting was well conceived and executed. This came across as a rather down-beat Lear that lacked the epic quality and left no powerful images, but it made excellent use of the stage and worked well.

Also at the Olivier, but transferred from the much smaller Cottesloe where I had not seen it, was Arthur Miller's *The American Clock*. Peter Wood's production with setting by Timothy O'Brien and costumes and properties by Stephen Lewis may well have worked well in the Cottesloe, but in the Olivier seemed over extended, so as to feel portentous but not important, and on its

opening night to move painfully slowly. Too much detail and too little organisation was my impression.

Immeasurably more successful was the production of Stephen Poliakoff's new play *Coming In To Land* at the National's Lyttelton Theatre. This has a starry cast, headed by Maggie Smith making her South Bank debut, and is directed by Sir Peter Hall, designed by Alison Chitty and with lighting by Stephen Wentworth. The play deals with the efforts of a Polish woman to obtain immigration into this country and Ms Chitty's unit-set has thus to serve for such varied venues as a trendy solicitor's office, a West End hi-fi store, and an office in the dreaded Lunar House, Croydon, the Home Office's immigration headquarters. She achieved this most impressively with fluent and instant scene changes and each setting, especially those at Lunar House, obtaining immense credibility. The battery of TV sets that surrounded the proscenium may have been an idea borrowed from *Chess*, but television is fundamental to the play and the scheme worked well visually, if not always aurally. Costumes too were exemplary with great attention to detail and skill of characterisation. Ms Chitty's assured work in this production made me look forward eagerly to *Antony and Cleopatra* which she is designing, again for Peter Hall, at the National soon.

Theatre Consultants

BOB ANDERSON

In the world of building, architecture and the construction industry there exists a complex network of jobbing specialists who offer professional advice and design services to ensure that the prospective owner can get the latest and most up-to-date information needed to produce the required building with safety, efficiency and economy. For each new building project a team has to be appointed, led by the architect, to prepare designs, specifications and cost forecasts and to oversee the construction. A typical building project will have a structural consultant responsible for the foundations and strength of the design; a mechanical services consultant dealing with heating, ventilation, drains and plumbing; an electrical consultant in charge of all power, lighting and, often, communications systems; and a quantity surveyor co-ordinating cost estimates and expenditure. These services are usually provided by big firms, often with offices throughout the world, who deal with many different types of building and employ large staffs to cope with the numerous jobs on the go at any time. Supporting these specialists there are usually smaller consultancies specialising

in, for example; acoustics, catering systems, security or a special building type such as the needs of hospitals, television stations or theatres.

British theatre has a world wide reputation for excellence, both artistic and technical. As a result many countries seek to employ our top directors, actors, designers and performance technicians and also the architects, engineers and consultants who build our theatres and supply our theatre equipment. There are three firms at the top of the list of British Theatre consultants whose names immediately come to mind: Theatre Projects Consultants, John Wyckham Associates, and Carr & Angier. This report is about the firm of **Carr & Angier**.

THEATRE CONSULTANT

The job of the theatre consultant is to help his employer—the client and prospective building owner—to organise a working policy, overall planning and technical details so that the completed building will be as perfect as the available money can obtain in all ways theatrical.

The Partnership of Carr and Angier was established in 1974, based at first in Haywards Heath but moved in 1982 to their present premises close to the centre of the pleasant city of Bath.

Martin Carr set up in practice as a theatre consultant in 1965 after nine years on the technical staff at the Royal Opera House as Stage Manager, Stage Director and Assistant to the Technical Director. During these years he worked on opera and ballet productions at the highest international levels and toured extensively at home and in Russia, North America and Australia. At the end of his time at Covent Garden he acted as client representative and system designer during the 1964 partial reconstruction of the auditorium and the major changes to the stage and technical installation.

Peter Angier obtained a degree in Natural Sciences at Cambridge in 1962 and then worked at the Cambridge Arts theatre and as resident stage manager at the Oxford Playhouse, then as technical director at the Mermaid and then at the National Theatre School of Canada where he planned the new school theatre. He joined Martin Carr in 1969.

The third member of the practice is Keith McLaren who joined the company from Theatre Clwyd, Mold, in 1979, where he had been chief lighting designer. Before that he had worked at Bristol Old Vic, for BBC Television in Bristol and at the Albery theatre in London.

Maureen Hurst runs the office.

The practice has been kept small as a matter of deliberate policy.

SCHOOLS

In the early days work came from clients in Britain. The GLC sought advice for the technical systems for the Cockpit Theatre in 1966 followed by other education authorities, the Ayr and Falkirk Colleges of Education in 1969 and Dundee College in 1975. Also in 1975 the New University of Ulster commissioned the concept development, brief and technical planning for a 420 seat public theatre and in 1979 Oundle School required a feasibility study and design and technical planning advice. In 1985 the University College of Wales in Swansea required concept development and preparation of the brief for a 350 seat adaptable theatre-cum-conference-cum-concerting hall and advice on management, planning and technical design.

Probably the most interesting of these educationally orientated projects came in 1981. This was the commission from the Royal Hong Kong Jockey Club and the Hong Kong Government to devise and produce the design brief for the accommodation for the newly founded Academy of Performing Arts. Facilities for teaching drama, dance, music and technical arts to 700 full time students had to be provided, plus a main opera house, drama theatre, studio theatre, orchestra studio, recital hall and TV studio suitable for use both by the students and by visiting professional companies. The design brief was used for an Architectural Competition for which Carr & Angier acted as technical assessors and subsequently, theatre Consultants with wide ranging responsibilities for general and technical details. This project was completed in 1985.

PROFESSIONAL THEATRE

Work for professional theatre and opera has included the Clwyd County arts Complex, Mold in 1976. This has a 570 seat theatre, a 250 seat studio theatre, a 130 seat cinema, a CCTV studio and supporting facilities. In 1974 Carr & Angier were consultants for the ill fated Edinburgh Opera House, abandoned before construction started, though two further projects for the Edinburgh Council, the Royal Lyceum in 1978 and the Kings Theatre in 1982-5 were successfully completed. The next big commission was for Plymouth City Council who required a multi function centre for major national touring companies, a resident repertory company and for concerts and conferences. With architect Peter Moro and other specialists a variable capacity theatre was devised with a moving ceiling and variable acoustics. In 1984 Swansea City Council decided to develop the Grand Theatre, Swansea, to form an Arts Centre. Carr & Angier undertook the original study for the total provision for the Arts in Swansea and developed it into its present three-stage plan involving rebuilding the



The stage and auditorium of the Theatre Royal, Plymouth, during preparations for the opening performance in May 1982.

Photo: Martin Charles/Architectural Press

stage tower in phase 1 around the original structure while still in daily use, improvements to the dressing rooms and finishing off the stage alterations as phase 2, and finally renovation and restructuring of the auditorium to improve sightlines and acoustics and stage lighting.

Most recently, Carr & Angier have completed work on studies for technical facilities for an Arts Centre in Seoul, Korea; planning for major renovations to the 680 seat Everyman Theatre in Cheltenham; and have been appointed technical co-ordinators for the Leeds Playhouse after advising the winning team in the Architectural competition for this work.

CONCERT HALLS AND CONFERENCE CENTRES

Carr & Angier are also in demand for consultation in the field of Conference Centre and Concert Hall design. They were involved in planning and technical installation design for The Maltings at Snape in 1970 (Twice! The fire which destroyed the building immediately after the first opening gave them the rare opportunity to repeat and add further improvements to an already much praised design.); technical planning, design and installation at the Harrogate Conference Complex in 1982; design concept development, planning and design and supervision of the technical installation for the Cardiff Concert Hall, also in 1982; a development study for a concert hall for Peterborough begun in 1984; and preparation of briefing information for convention use, large scale performances and specialist technical installation design for the Hong Kong International Exhibition and Conference Centre.

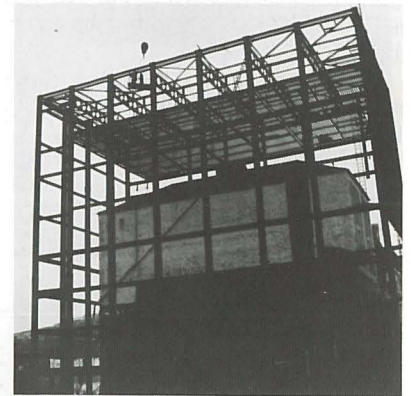
RESPONSIBILITIES

Perhaps the easiest part of the work of a theatre consultant for the outsider to understand is the responsibility for technical installation. Flying, lighting, stage management and sound, have to be properly provided for and are clearly the province of the theatre consultant. Dressing rooms, scene docks, prop stores, and workshops have to be equipped and someone has to make sure

that the architect, mechanical engineer, electrical engineer and other members of the project design team are properly briefed. This leads to the questions—who decides on the number of dressing rooms, whether an on-site workshop is, in fact, necessary and other fundamental decisions of this type? Normally, these will be some of the more important duties of the theatre consultant.

Imagine you are an influential member of a big city council. You want to improve the city's amenities and reputation in the field of arts and theatre. There is local money available and more from central government and the EEC. How much will it cost to do something worthwhile, and who will pin down on paper all the details that have to be approved before the scheme can begin? The answers, of course, come from a committee, but among the experts advising the committee there has to be an expert on theatre. You employ a theatre consultant.

Naturally, in the world of politics, big ideas often begin without any thought of detailed solutions. The big idea may only be to outdo a neighbouring city, or perhaps



The Grand Theatre, Swansea, in January 1983, showing the new Fly Tower being constructed around the existing stage house whilst performances were still continuing without interruption. Photo: Carr & Angier

there is real demand for more and better theatre, ballet, opera or music. Somehow the committee has to organise its priorities, check over the detailed consequences and estimate costs. If touring ballet is important, which companies might be available and what facilities will they require? If the idea is to provide a new home for the already prestigious local symphony orchestra how many performances can they find audiences for and what should be done to make the building attractive to other uses to boost the overall revenue? These and many, many other serious questions have to be answered and most of the answers will require the expert knowledge of the theatre consultant.

This article is not about the art of theatre consultancy but it is important to realise how deeply the consultant may have to go in investigating the basic needs of the client. Martin Carr usually deals with this aspect of the partnership's work and he stresses the importance he attaches to the theatre consultant's contribution to getting agreement on policy before detailed planning is attempted. However, once policy has been settled the partnership expect to be closely

involved with other members of the design team in all stages of planning and technical detailing. This is not to say they attempt work outside their own speciality but, by attending meetings, preparing briefs and suggesting use of proven solutions, they try to ensure that the primary theatrical purpose of the project is given priority and that the enthusiasm of newcomers to the theatre world does not result in attempts to re-invent the shaft and wheel.

TECHNICAL DESIGN

Technical detail is the responsibility of Peter Angier. The practice has accumulated drawings and specifications for all sorts of theatrical devices and these are used to explain what is required to the services consultancies and to prepare specifications for equipment to be purchased directly. These are rarely detailed designs, more a statement of required performance and workable dimensions and relationships that, if incorporated into the flytower structural engineer's design, for example, will put fly gallery, loading, gallery, pin rail and counterweight locks in positions where they will work correctly.

As a practice, Carr & Angier are cautious about technical innovation. Their views seem to be that there are already tried and proven solutions to nearly all technical problems and that these should be used wherever possible. Their theatres usually have standard counterweight flying; lanterns, dimmers and control from one of

the established manufacturers; sensible communications and cue lights for stage management and a basic sound installation; though, in this field and this field only, they find that fashions and equipment designs change so frequently, their choice of technical hardware necessarily made six to twelve months before opening day rarely pleases the operating staff who bring their own preferences and priorities. Their solution, when possible, is to provide generous wiring and ducting and a basic system while reserving money in the budget to be spent at the last moment when the views of the theatre staff can be determined. Nevertheless, despite this basic policy of caution, Carr & Angier are quite prepared to provide special solutions for special problems and have proven designs for power flying and rolling stage wagons, for example, incorporated in recent and current projects.

FUTURE

Without probing too deeply, it seems that the partnership is prospering at a time when all agree the boom in theatre construction has long passed. Building on their reputation for personal service, early involvement and attention to detail, Carr & Angier have widened their scope to advise on all forms of auditoria or place of public assembly including conference centres, cinemas, concert halls, exhibition galleries, arts centres, leisure centres, class rooms and lecture theatres and sound and television studios. The current job list includes

more work on the Hong Kong Convention and Exhibition Centre, a performance space in the Queensway Plaza also in Hong Kong, the Leeds Playhouse, the design brief for the Cardiff Centre for the Performing Arts, renovations at the Cardiff New Theatre and for the Royal Academy of Music, and a theatre for The Magic Kingdom in the Trocadero in London.

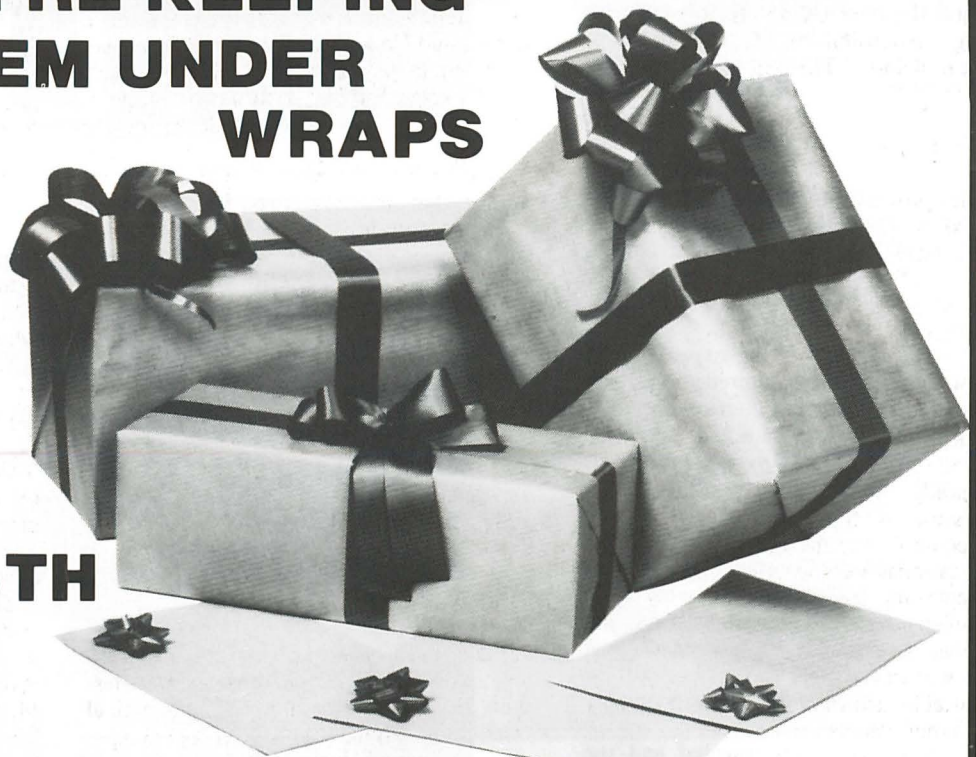
Both Martin and Peter are long standing and active members of both the ABTT and the Society of Theatre Consultants and Peter is currently chairman of the latter organisation. Martin also finds time to serve on the Theatres Advisory Committee Council and has been its vice-chairman and SACLAT delegate. He is a visiting lecturer at Bath University School of Architecture and is a Member of the Boards of Management for the Theatre Royal, Plymouth and St. David's Hall, Cardiff.

There are many world beating top class professionals working British theatre, both on-stage in the public eye and behind the scenes. Theatre consultancy is further behind the scenes than most of the activities of the profession but, even though unrecognised by the majority of theatre-goers, the quality of any performance rests eventually on the quality of the building and its technical equipment. The world needs good theatre consultants and those in the know agree, the Carr & Angier partnership are among the best.

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THE BOURLA THEATRE, ANTWERP

A Candidate for Total Restoration

JOHN EARL AND DAVID WILMORE

Antwerp has lost its spectacular Hippodrome and most of the half dozen theatres it could boast before the First World War, but one of the survivors is what *Curtains!!!* would have called a three star 'sleeping beauty'. It is not quite fast asleep, since it has some occasional use for rehearsals, but the theatric tourist would do well to make advance arrangements for access. The time will be well spent. If Michelin notice such things, the Bourla would 'vaut le voyage' rather than 'merite un detour'. It is a stunner.

Formerly the French Theatre then the Royal Theatre, it is invariably and affectionately called simply 'the Bourla', after P. B. Bourla (1783-1866), city architect, who designed it in 1834. Like most theatre architects he had collaborators. The decorations and stage machinery are attributed to Parisians, Philastre and Cambon, who also worked on the Gent Royal Opera House.

Grand nineteenth century theatres on island sites are a common enough sight in continental towns and many of them seem to have been turned out of the same rather pompous mould, but the Bourla is specially engaging from the moment it is first seen.

The fact that it is tightly locked into the streetscape appeals to the British taste for 'discovered' views, but the main facade is also a fine design in its own right. The semi-circular plan with a Corinthian order raised above the entrance storey and skyline figure sculpture over the entablature is not startlingly original, but it is splendidly theatrical. Where Rennes' superficially similar facade (for example) was a scaled-down, simplified and provincialized copy of the Theatre of Marcellus, the Bourla is a confident French Palladian composition, monumental and metropolitan.

Behind this facade is the expected succession of grand spaces, altered and elaborated, like the rest of the interior, in 1863. They all look rather sad and neglected now, but any sense of disappointment is immediately erased at the sight of the auditorium.

Precisely how much remains of the theatre illustrated by Constant (1860)-, what is by Bourla or Philastre and what is to be put down to the 1863 recasting, are questions to be resolved by detailed physical investigation and documentary research, but what has come down to us is undeniably magnificent.

The stalls have been resealed and the lowest box tier heartlessly hacked away in some later 'improvement' campaign, but the four intact and architecturally varied upper horseshoe tiers rise to a majestic arcade

supporting a shallow-domed ceiling. The great chandelier rose, the gilt figures guarding the boxes and the dizzy paradis, approached by a wooden staircase through the roof trusses, combine to tremendously exciting effect. If the auditorium were to be expertly restored and re-draped, it would have a warmth of embrace to enchant audiences and performers alike.

Although the theatre closed its doors several years ago the local authority have ensured that the building is water tight. Prior to its closure fire engines were

stationed outside the theatre during every performance because of the fire risk! Certainly its internal timber construction poses problems of fire prevention and public egress, but these are not insurmountable problems. Timber is in the essence the very life blood of the building never more apparent than in the backstage regions where incredibly the stage machinery remains totally intact. Visiting 'behind the scenes' at the Bourla is like stepping straight into one of those familiar engravings from 'L'Envers Du Theatre'. Below the stage is a



Theatre Facade (David Wilmore Collection)



The Auditorium from the Stage (David Wilmore)

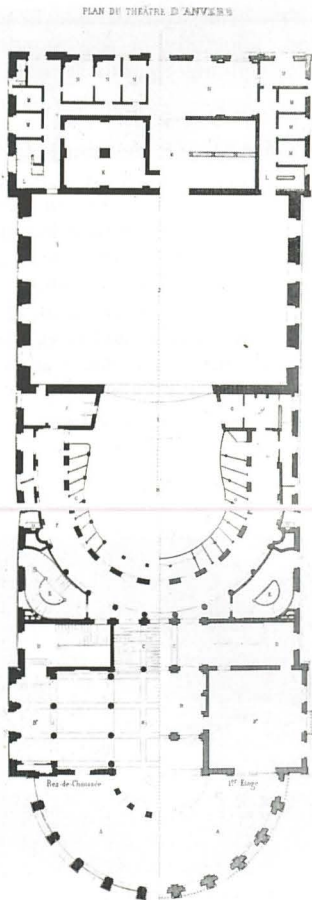
profusion of wing chariots, cassettes, tambours and treuils, demonstrating that the machinery owes much to the French methods of scene-changing.

It is not however the intention of this article to examine in depth the intricacies of the machinery, but rather to bring attention to the totality of the Bourla—as a single homogenous unit. It would be all too easy to redecorate the auditorium, restoring it to more than its former glory, and demolish the stage. Perhaps ten years ago such a proposal would have been taken for granted—incorporating a flat stage and destroying the sightlines along with the architects intended audience relationship. Perhaps even today it is all too easy to forget that the focal point of attention in any theatre is essentially a planar surface upon and within which the actors perform; if that surface is spatially incorrect, be it size, rake, proportion or sightline the building will not work.

The machinery as a whole is in an excellent state of repair and would require comparatively little work to restore it to full working order. Certainly such a proposal is easy to justify on historical grounds but it must also be justifiable within the constraints placed upon a theatre operating in the 1980's.

It would however seem quite feasible to install all the modern technology and fire

From: *Clement Contant, (Parallèle Des Théâtres)*



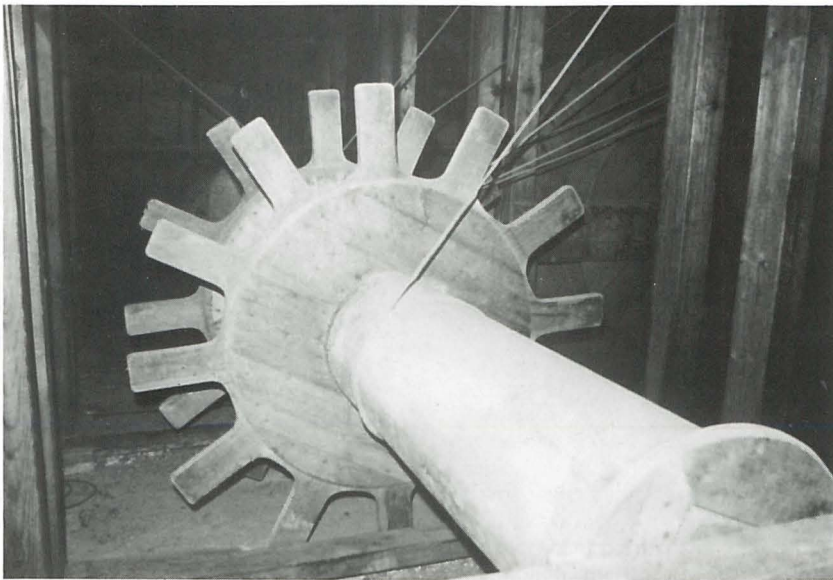
Flying Gallery



Wing Chariots running on Mezzanine Floor
(John Earl)



The Bourla Auditorium (John Earl)



Tambour in Cellar (John Earl)



Fast Rise Trap (John Earl)

precaution equipment in a sympathetic manner, causing little or no conflict within the Fly Tower. The recently restored Tyne Theatre and Opera House, Newcastle-upon-Tyne, which was ravaged by fire on Christmas Day 1985, has shown that careful modernisation can allow counterweights to co-exist alongside hemp sets and drum and shaft, all operated from a brand new timber grid and flying galleries. Not only can such work be carried out practically, efficiently and, more importantly, economically, the end result produces a building which has undergone a total historical restoration. Nineteenth century stage machinery is not a series of portable cog-wheels but a structural and integral part of the theatre—remove it and 50% of the historical fabric is destroyed.

In Great Britain during the last seventy years timber stage machinery had dwindled into scenic insignificance, yet within the last eight years the mood has changed. The Tyne Theatre and Opera House restored its machinery in 1979-81 and the Playhouse Theatre, London is about to undertake a similar project.

The current worldwide awareness of conservation issues and the re-examination of fundamental principles in many professional disciplines, not least of all in architecture must surely assist the restoration of the Bourla as a triumph for architect, actor, audience and machinist.

When we visited the theatre last August we had the good fortune to meet Madame Jeanne Brabants, a distinguished figure in the dance world. She might have been expected to cast a coldly critical eye over the silent theatre before devoting some time to exposing the crude inadequacy of the stage for modern performances. What she actually said was that the Bourla should be preserved and restored, faithfully—and completely. We need add nothing to that.

PRODUCT NEWS

BOB ANDERSON

CCT and KLIEGL link

Tuesday, the 2nd December 1986 was a date to go down in the footnotes of history. After fighting for years to get their Silhouette range of lanterns accepted in North America, CCT have signed a deal with one of the USA's top lighting manufacturers, Kliegl Bros. of New York, who will now be able to assemble and manufacture the CCT luminaires to market with their own range of lighting equipment in the USA and Central and South America. This must be seen as a tribute to the quality of design of the CCT product and also to their low cost manufacturing techniques.

As was recorded in the 21st birthday tribute to CCT in CUE-43 (Sept/Oct 1986), sales in Canada have been managed for many years by CCT Inc. and the specially developed low-voltage lamp versions of the CCT luminaires have proved popular with Canadian technicians familiar with British lighting techniques. Presumably this will not change.

In recent years Kliegl Bros. have made great efforts to sell their products in both the northern and southern parts of the American continent and have also been bidding aggressively for contracts in Asia. This effort should now bring considerable benefit to CCT and, hopefully, a new standard of quality for lighting equipment in all these areas.

STRAND find new market

Old timers will remember that in the glorious B & B days* of the Strand Electric the company was entrusted to provide a lighting control for St. Paul's Cathedral. Now, Strand Lighting have received another ecclesiastical appointment and have installed an M24 and dimmers in the Cathedral in Manchester. As the photograph shows, the tiny M24 panel has been provided with a

*Bentham and Bear



The Strand M24 Memory lighting system in Manchester Cathedral. The transportable desk also houses the sound system controls.



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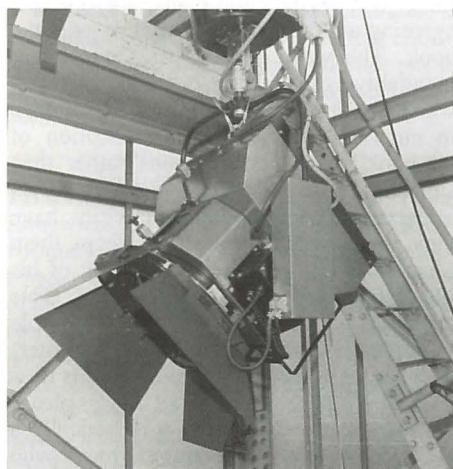
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solidly crafted 'transportable' pulpit to disguise its 20th century form (and, could it be, as back-up for the eighth commandment?). Memorised balances have been devised to suit the various services and the many other uses of the building including dance and drama events. Even the automatic fades play a part, being used to great effect during processions. Have the ALD noticed this new opportunity for employment?

More High-Tech from LEE COLORTRAN

Continuing evidence of a policy of confident investment in new technology comes from Lee Colortran Ltd. The first announcement is for a fully motorised television studio luminaire based on their industry standard Dual Source luminaire. Their second announcement is for an intelligent dimmer system.

Motorised remote control for theatre and studio lighting has long been a dream thwarted by excessive cost. The technology



Motorised Dual Source Luminaire from Lee Colortran

has been available for many years and there was a spate of prototype demonstrations centred on Pinewood and the Ianiro factory in Rome in the early '70s. The problem is complicated by the accuracy necessary to position the beam precisely where it is wanted and by the number of adjustments required. Lee Colortran have taken the bit between their teeth and motorised one of the most complex of all lighting devices—the television dual source luminaire. This is really two lanterns in one. At one end a 5kW fresnel spotlight requires adjustment for focus and for four barn-doors and barn-door rotation. Six movements so far. At the other end a 5kW soft-light requires no adjustment but the luminaire as a whole requires a remotely operated switch to determine whether spotlight or soft-light is operative and powerful pan and tilt drives. Finally, to extend the range of brightness within the limits of colour temperature still important for both film and television, the lamps can be switched to half power, again remotely. A total of ten adjustments. Lee Colortran have used DC motors and a digital multiplex system to transmit the adjustment com-



Lee Colortran Intelligent Dimming System

mands and some status monitoring from and to the central control desk.

It will be interesting to see who buys these devices. Rumour has it that some 80 are already being installed in a television studio in Dublin and, of course, the BBC, the pioneers and exponents of the dual-source method of lighting, are bound to be interested. It will also be interesting to see how the system is controlled, surely not from the control room unless memorised readjustment proves to be useful, but perhaps there are hand-held infra red linked devices like the modern television set 'magic wand' for use in the studio itself. Whatever the method, it will have to be good to beat the speed and simplicity of the standard television pole. I hope to report again about this subject after a bit more research.

The other new product from Lee Colortran is an intelligent dimming system. This unlikely concept was fashionable in the USA a few years ago and, of course, means less than you might expect. The idea results from the inevitable decision to put a micro-chip into the dimmer control card which immediately gives the circuit designer the chance to throw in all sorts of other circuits in the hope that they will be of use to someone. First, the best reason for the micro-chip, dimmer triggering can be made much more stable and reliable and entirely free from the need for external adjustment. No more need to crawl around the dimmer room with a small screwdriver and test meter or oscilloscope. Also, since the dimmer adjusts itself, it can cope with a very wide range of input voltage; Lee Colortran claim that output is held within 2.5 volts of the required value for an input range from 190 volts to 280 volts. The choice of dimmer law is also simplified since the chip can store several look-up tables selectable by software. All this was possible with analogue feedback circuits but now digital techniques make the design simpler and cheaper. Dimmer signals from the control desk now come as multiplexed digital information so the need to change to analogue and then back to digital to fire the thyristor is eliminated. The bonuses, if you want to use them, are that the dimmer can send back information to the control desk about faults such as dimmer circuit-breaker

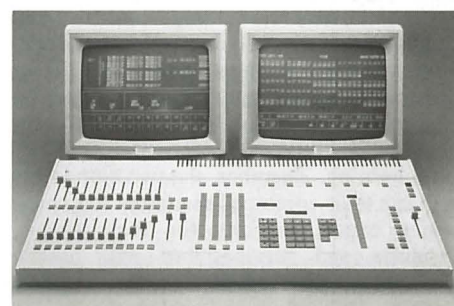
trip or firing circuit failure. Channel output voltage can be sent back digitally for mimic-diagrams and channel and bus bar load current can be measured and reported for display on digital ammeters or to trip overload alarms.

Lee Colortran package up to 108 5kW dimmers in one rack and offer 2.5kW and 10kW dimmers as options. The full range of facilities will probably be affordable only to television customers for the present and, like all products of this type, all the clever new offerings will mean nothing unless the dimmer itself proves to be exceptionally safe and reliable.

Tim Burnham ARRIVES

Followers of the TBA saga will be pleased to hear the latest chapter and the happy ending.

CUE readers will remember 'Magic Lantern', the purple-and-pace range of small spotlights with built-in dimmers



Imagination control system from the Arri Lighting Control Division.

and low voltage lamps introduced in 1985, and also the Imagination series of dimmer control panels. Unfortunately, financial problems prevented marketing by the original company, but after a brief period Tim Burnham, the driving force behind these products, found encouragement and financial backing at Arri (GB) Ltd. Together they set up Imagination Technology Ltd. to continue development and marketing of the control system. Now, after six months of "outstanding success", Arri (GB) have decided to integrate Imagination Technology fully into the parent company as the ARRI Lighting Control Division. They promise that some very exciting new products will be introduced at the ABTT Trade Show. (5th-7th March at Riverside Studios.)

ARRI, for those who don't know, is the trade name of the powerful Arnold & Richter company of Munich who sell top quality 35mm and 16mm cine equipment worldwide and also high quality film and television lighting. The UK company based at Heston, Middlesex is run by Derrick Ross and Paul Wild who once had top jobs at Rank Strand and who, naturally, can be expected to show great interest in the possibility of expanding their range of products to include dimmers and lighting control so that they can offer television and, perhaps one day, theatres complete lighting packages as they once did very successfully from Brentford.

The 'Magic Lantern' itself, or at least a part of the range, is being manufactured under licence by James Thomas Engineering Ltd.

ELECTROSONIC link with Finland

Another, though very different company that has decided to seek greater corporate security and profit by linking-up with a bigger European rival is Electrosonic. The company they have chosen is OY Helvar of Finland who have taken a substantial minority shareholding in the English firm. Some theatre and television technicians will know about the Helvar memory lighting control and dimmers advertised briefly over here some three or four years ago but the chief product of this company is fluorescent lighting ballasts. They were one of the first companies to market an all-electronic ballast. Over 80% of their output is exported. Electrosonic, of course, are well known in the entertainment industry in most parts of the world for a very successful range of theatre lighting controls and dimmers, audio-visual products, sound equipment and systems engineering. They have won a high reputation for dimming fluorescent lighting and offer clever control systems for all types of decorative architectural lighting. Together, the two companies will use their combined resources to exploit wider export markets for their special products and services but will remain separate and independent to service their existing distributors and customers.

SOUNDCRAFT Sponsor Century Theatre

The Century Theatre tour of *Blood Brothers*, a musical by Willy Russell, was made possible by the generous sponsorship of Soundcraft Electronics Ltd. Robert Longthorn, production manager for *Blood Brothers*, reports as follows -



Peter Morris (sound operator) and Liza Spenz (who plays Mrs. Johnston in the Century Theatre autumn tour of *Blood Brothers*) at the Soundcraft mixer during a break in rehearsals.

"The show is playing at middle scale venues, so a very powerful sound system was not required. However, as the lyrics are crucial to the telling of the *Blood Brothers* story, the highest quality of equipment was specified by the show's technical team."

"Soundcraft Electronics have risen to the occasion by supplying a 24/4/2 Series 200SR Mixer and SA1000, SA600 and SA150 amplifiers. The new series 200SR has proved ideal for the show with its sophisticated and comprehensive facilities coupled with very compact size. The power amplifiers also combine the ruggedness required for road use with very compact dimensions and the clean sound and power required for the variety of venues on the tour, from the 300-seat Venn Street Arts Centre in Huddersfield to the three tier, 530-seat Theatre Royal, Wakefield."

CROYDON COLLEGE show skills

Second year B/TEC HND theatre students at Croydon College presented a production of 'Ring Round the Moon' at the end of 1986 to demonstrate the skills learned on the course.

In an excellent collaboration with the actor members of the Croydon Histrionic Society and the Croydon Decorative and Fine Arts Society second year students designed and executed set, costumes and lighting and provided stage management for the production.

Presented in the College Hall, a flat floor but reasonably well equipped theatre-cum-assembly room, the students achieved a solid, well finished set and a high standard of lighting, costumes and presentation that must have given them much enjoyment and satisfaction to create. Well served by the high standard of their actors, the entertainment was an excellent start for their careers in professional theatre.

DESIGN for DANCE Exhibition

For those who's interest in theatre includes the designs and graphics by masters of scenography and costume devised for all types of dance; from international ballet, spectaculars at the London Palladium and the Windmill and for film and television; there is an exhibition devised by Charles Spencer at Joshua Taylor's, Bridge Street, Cambridge. All works are for sale at prices ranging from £50 to £500. The exhibition is open between February 5th and 28th.

REIDing SHELF

Charles Osborne has never been one to soften his word or his pen out of compassion for those in whom he perceives inadequacies. So his 'memoirs of an uncivil servant' are more straightforward, factual and witty than your average showbiz autobiography. There is also a personal honesty: his own shortcomings are presented as self-acknowledgement rather than as a public airing of unresolved problems.

The title **GIVING IT AWAY** refers to Charles Osborne's twenty years with the Arts Council when he was their agent, often less than willing, for dispensing the nation's literature subsidy. Throughout this period he held a view, which seems absolutely logical to me if not to most of his panel and their clients, that the money would be more effective if used to subsidise publishers rather than writers and poets. Anyone disagreeing with this should certainly read the book. The ways of the Arts Council are inevitably a subject of fascination to all of us who labour by word, action, sound or image to entertain and elevate: this section of the book yields confirmations rather than surprises.

Osborne's Arts Council activities have their own special chapter: he keeps them separate from the mainstream story of his life before and during these years. This approach works well because he was able to pursue a parallel career as a writer, commentator and critic throughout his time with the Council. This did not always please the mandarins. But surely it is basically a good idea to have a Literature Director who writes, especially as this can be done before breakfast. Let us hope that there is an ACGB development plan for drama officers to be given sabbaticals to act, direct, design, stage manage, push or fly.

Charles Osborne's interests encompass all the arts and he had quite an extensive acting career. His book therefore records a lot of the flavour of the general development of culture in post-war Britain, as well as giving us some indication of what it was like to grow up in Brisbane.

The concluding section is called 'name dropping'—an alphabetical listing of brief encounters with a hundred or so of the notable and notorious in the parish of the arts. Because these anecdotes are mostly of much wit but little consequence, they often tell us more about the name than would an extended essay.

A FAMILY & ITS FORTUNES is in a gentler more traditional mould although Rachel Kempson is able to refer to areas of marriage difficulties which have only very recently become mentionable in autobiography. Rachel Kempson is also Lady Redgrave and therefore much of her story is

concerned with a dynasty which provides what is surely the most unique and still branching acting tree ever to flourish in Britain. I suspect that she does not think of the Redgraves as of such key importance in theatre history, nor realise that her book will be analysed, phrase by phrase, by researchers working for their doctorates in the centuries ahead. Actors tend to be today people and so it is no surprise to read after a visit to Vicenza of (presumably) Palladio as 'a wonderful old theatre, with old-fashioned scenery, but we did not see a production'.

Rachel Kempson is a leading actress in her own right, irrespective of her Redgrave connections, and a particularly interesting feature of her book is the change in rehearsal conditions over her working life. Stratford 1933 had a six week rehearsal period for six plays, two days at a time to each play in rotation. The opening week of six first nights was preceded by a week of dress rehearsals until four or five each morning. But read page 209 to discover who said the following about whom: 'They had a little company, they went away for three months, and they never opened'.

The book starts slowly and accelerates. I personally would have preferred less childhood and more theatre. But I did not put it down once during those dead days between boxing day and hogmanay.

THE ROYAL COURT THEATRE is in a somewhat different mould from earlier volumes of *Theatre Production Studies* which sought to reconstruct an impression of the production style of a particular theatre company or an era in theatre history. Anyone seeking an overview of how plays were staged *At the Royal Court* should still turn to Richard Findlater's 1981 compilation, under that title, of essays by key figures who wrote, acted, directed and designed during the first twenty five years of the English Stage Company.

Philip Roberts' new book approaches the Royal Court through its boardroom rather than its stage. In adopting this viewpoint it mirrors a fundamental, and to many of us a disturbing, trend that was beginning at that time (1965-72) and has been accelerating ever since—the growth of the act of administration from being merely an enabling device towards becoming a full self-sustaining ritual that often seems irrelevant to tonight's performance. But at least the artistic administration at the Court was motivated to serve only the writer/actor/audience triangle. Or so I thought until this book seeded just ever such a tiny little doubt.

Never have we been offered such an insight into the decision making processes of subsidised theatre. Philip Roberts has had access to the committee minutes of what might be called the Gaskill years (although Lindsay Anderson and Anthony Page joined him in triumvirate for the second half of this period) and his book is a fascinating read—as was, and still is, Richard Findlater's. What we continue to need, however, is a book that attempts to analyse the Royal

Court's developments in staging style which, with those of Joan Littlewood's Stratford E.15, were the seminal influences on the couple of decades of British theatre which are now drawing to a close. But perhaps the degree of objectivity required for such a book can only be achieved by an author as yet unborn.

There are no illustrations in **THE LAST EMPIRES** and that is exactly how it should be in an anthology which seeks to evoke the world of the Music Hall through the verbal imagery of those who were there. The book owes more to Benny Green than might be surmised from his billing as editor. If he were playing my Empire, I would be happy to bill him as

BENNY GREEN

Well Read and Reads Well

By which I mean that his 'Music Hall Companion' reads well because he is so well read that he is able not just to select the right excerpts but to juxtapose and link them so that they become mutually supportive in recreating a past ambience in a way that no single commentator can.

The music hall inspired many writers to attempt to capture its special flavour and, while none of them in my view used words with the success that Sickert used paint, there are many jewels in the prose of such acknowledged literary giants as Shaw, Beerbohm, Arnold Bennett, Neville Cardus, T. S. Eliot, J. B. Priestly, Thackeray, Dickens and many many more including specialists like M. Wilson Disher, William Haslam Mills, Dan Farson, James Agate and John Osborne. Indeed it would probably be easier to list those who have *not* contributed! And full credit must go to Benny Green himself for the clarity and perception of his own contributions which interleave the fruits of his literary research.

I read "The Last Empires" as a continuous narrative and I shall now cherish it for future dipping. Although it does not quite make me wish that I had lived in the bad old days, I am nevertheless glad that I am old enough to have seen the second house at Collins and to have played the Royal County in Bedford.

When discussing the Rosco **SUPERGEL GUIDE** in last Cue, I promised that I would report on my experience of referring to the Guide while choosing panto filter colours. None of the cast or production team muttered 'yuk'—well not in my hearing anyway! I got the palette that I wanted and expected, so I shall continue to consult the Guide. I will still trust my eye but the suggestions in the Guide will provide a comforting confirmation of what my eye thinks it sees. And a useful warning of secondary tendencies in particular filters—a large part of a lighting designer's work is devoted to anticipating and controlling side effects.

I confess to being something of a Rosco fan, but my admiration has been sadly shaken by their new advertising approach. Come on Rosco, with products as good as

yours there is no need to resort to knocking your competitors. Think positive! . . . as in the Supergel Guide!

Did Ibsen know that 'The Wild Duck' was a Mallard with Cointreau and Cream Sauce? Was Chekhov's orchard the source of Drunken Cherry Ice Cream with Hot Sauce? Give a cook a job in a theatre museum and it is inevitable that 'Pineapple Poll' will inspire a soufflé. 'Goodbye Mr Chips' means hello Potatoes au Gratin. 'Red Peppers' will inevitably get stuffed, and so does 'Albert Herring'—but in caper sauce. I am not at all sure that carrot and yoghurt would make a 'Bonne Soupe'. And, whereas 'Little Lamps Eat Ivy', I personally would prefer to eat my Lamb Chops en Croute.

The theatreloving cook with one spoon in the kitchen and the other in the Theatre Museum is Catherine Hail with whom I would gladly spend my 'Salad Days'. She shares her love of food and stages with all of us in **THE THEATREGOER'S COOKBOOK**. Her method is simple. Let the titles of shows suggest the dishes, illustrate the recipes with archive pictures of these shows and give the cook some interesting anecdotal to read while waiting for the brown sugar to bubble. The result is fun and I read it straight through like an ordinary book. But now I'm off to the kitchen because Almond Ice Cream with Raspberry Sauce sounds just the 'Bitter Sweet' for 'The Chocolate Soldier' while I 'Share my Lettuce' with 'The Amorous Prawn'. But 'Don't Start Without Me' at 'The Cocktail Party'!

GIVING IT AWAY. The Memoirs of an Uncivil Servant. Charles Osborne. Secker & Warburg. £15 (UK).

A FAMILY & ITS FORTUNES. Rachel Kempson, Lady Redgrave. Duckworth. £12.95 (UK).

THE ROYAL COURT THEATRE 1965-1972. Philip Roberts. Routledge & Kegan Paul (Theatre Production Studies). £18.95 (UK).

THE LAST EMPIRES. A Music Hall Companion. Edited by Benny Green. Pavilion Michael Joseph. £15.95 (UK).

SUPERGEL GUIDE. Suggestions on How to Use Supergel Colour Filters. Also available as a poster. Roscolab Ltd. Free.

THE THEATREGOER'S COOKBOOK. Catherine Hail. Threshold Books. £5.95 (paperback) (UK).

Come into the Garden – Siemens!

BOB ANDERSON

Top people will already know that the Royal Opera House has recently installed a new lighting control system. Advertised in the Times and other upper-crust newspapers placed by Siemens, the massive German electrical manufacturing organisation, announced the successful introduction of the new board during November. In fact, the changeover had been made in early September so the board had had over three months use when I went to see it at the beginning of January.

SITRALUX B40

The new board is a Siemens Sitralux B40 controlling 240 dimmers at present, but with expansion capacity for at least double this number when the Royal Opera House is rebuilt in 1990. Some 16 other major theatres in Europe use the same system so nobody can accuse the Covent Garden staff of taking an unorthodox decision. Technical Director, Tom McArthur, explained their reasons for choosing Sitralux. First and foremost, an overriding need for reliability; second the need to retain all the excellent features provided by their earlier control, the Strand Lightboard, and third; to add new ideas and tailor made improvements that would help their special method of working. Only two or three rival designs were serious contenders, including 'Galaxy' from Strand and 'Viking' from AVAB. Siemens won because they were able to offer the best combination of track record, inherent suitability and willingness and ability to incorporate the special details that the ROH lighting staff wanted. That decision was taken in December 1985.

SIEMENS THEATRE LIGHTING

So far, the Siemens range of theatre lighting systems has had little or no publicity in

Britain. Siemens are, however, internationally known as one of the world's leading manufacturers of electrical machinery and domestic products. Their theatre division, based in Erlangen in West Germany, has specialised in the needs of the German opera houses, television studios and state theatres; a market with high technical standards and generous sources of finance. As a result the rest of the world has usually concluded that Siemens lighting is too specialised and too costly. The B40 is the top of the Siemens theatre range and admittedly expensive.

CONTROL DESK

The picture opposite shows the control desk, laid out to suit the preferences of the ROH and two-man operation. The leading operator uses the left hand panel to run the show or rehearsal, while the assistant at the right-hand position keeps check on coming cues and changes introduced during rehearsals, using the identical panel on the right. Between the two panels are a set of control wheels for setting and controlling timed fades and to split manual control over separate groups when required. Keypads for digital access, cue control and setting memories are very similar to UK and American practice though ROH operators found that the apparent familiarity could sometimes disguise subtle differences that had to be learned during the familiarisation training. The language problem had also to be solved and controls relabelled and handbooks translated into English. ROH staff themselves contributed to this by suggesting their own preferences for button labels and abbreviations.

MIMIC

One obvious difference incorporated at the ROH and in most other B40 installations that is not easily available from other controls is the push-button geographic mimic. This is located alongside the operator and provides a rapid way of selecting lamps during rehearsal and to check circuits after refocussing. Both the mimic and the control panels are built up of squares of about 20mm side that can take push buttons or indicators or be left blank to exactly suit the layout and control facilities required. This means that custom changes both before and after delivery cause very little difficulty.

VDU DISPLAY

All the larger lighting control systems now rely on TV VDU screens to feed information back to the operator and lighting designer. The B40 at Covent Garden uses

two screens in the control cabin, with most of the display area normally showing dimmers in use and levels. Like Lightboard, the screen only shows the circuits actually required for the performance so with each show in the repertoire rarely needing more than 150 dimmers, all can be on one screen together. This leaves room at the bottom of the screen for five lines showing the immediate past cue, the current cue and the next cue, giving cue number and type, time to completion and brief text messages. ROH staff find this quite sufficient for the well rehearsed performances that are their normal work. Much more information is available on demand. For example, unlike other controls, the B40 allows every dimmer to have its own fade time when necessary and this is displayed when needed in place of level information against dimmer number. There is also a method of introducing proportional cut or boost to any circuit that will modify already plotted levels throughout the performance without need to laboriously reset each lighting state. This also uses the VDU and is in addition to the temporary modify and substitute options provided on Lightboard. Colour VDUs are used, with 'earthy' restful reds and greens for routine information. Only alarms and special messages use bright colours.

COMPUTER

The B40 uses a Siemens R30 business/process control mini-computer instead of the microprocessors now normal for theatre lighting. Despite a price penalty Siemens finds this extra computing power well worth while to give individual channel fade times and other facilities not otherwise economically possible. Reliability should also be higher and maintenance can be provided by the engineering teams that are based in most cities to look after Siemens industrial and business customers. Despite this, the Royal Opera House has chosen to purchase a complete second computer which runs in parallel with the basic system and is able to take control immediately and without visible interruption if there is a fault. Past failures and maintenance problems with previous systems had a strong effect on the ROH management priorities. Linked to the computer are the usual pair of disc drives, again duplicated, and used to store plots for repertoire but also able to keep records of each and every plot change made during rehearsal. Obviously, only one version of each cue will be used for the final plot but there are many occasions when it is useful to see the balance used yesterday or even to retrieve cues accidentally deleted. A printer can list cues and levels in a variety of formats for analysis and archive.



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The Siemens B40 control desk at the Royal Opera House.

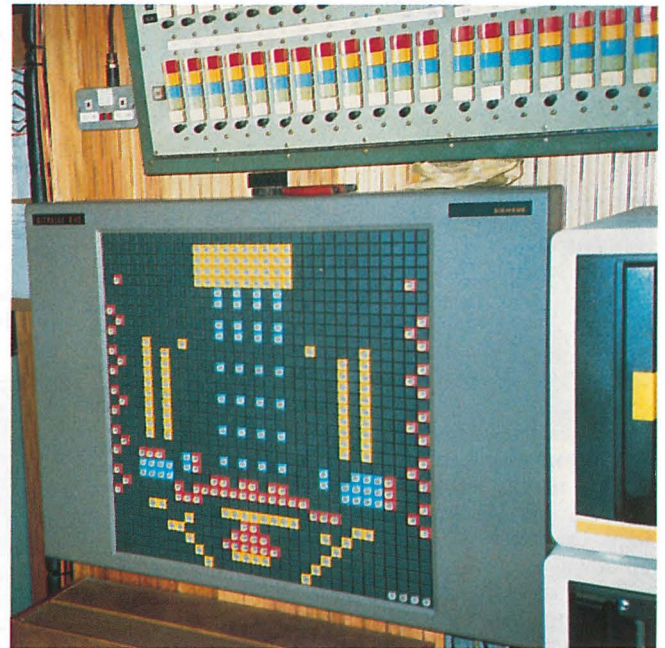
PERIPHERALS

Like all other similar big systems, additional control desks, hand held controls and links to other items of computer controlled stage machinery are offered as extras. The ROH has decided to work without most of these peripherals for the present. Unlike many other big houses, Covent Garden still finds it efficient to work in the traditional way with Lighting Designer and chief operator at the production desk in the stalls calling all changes to the console over intercom. Thus they do not need the portable extension available for the B40, although duplicate VDUs are provided on the production desk which show channels in use and the cue procession exactly as seen in the cabin. Nor have the ROH spent money on a hand rigger control because the big crews available can always achieve efficient results using intercom alone. Already included in the standard B40 are controls and memory storage for colour change and lantern pan, tilt and focus but provision for the remote control lanterns and data link wiring will come later. An interesting option offered with the B40 is the ability to create trial lighting plots on a suitable word processor in an office away from the board itself. This could be done as part of the Lighting Designer's homework and save both time and risk of error if circumstances were favourable, but again, to save money and to minimise disturbance to traditional working routines, the ROH has deferred purchase of this to the future. The only extra that seems to be under consideration for early purchase is a second mimic panel to be installed backstage to speed up checking after refocussing. At present this is done

using a fader panel known as the Z-Wing, a relic from the Strand C-AE control installed in 1964.

INSTALLATION

Anyone who has seen the tiny lighting control room created in an old ventilation shaft at the rear of the grand tier will doubt that the new board could be fitted into this confined space. In fact, as the pictures show, it fits very well with ample room for the two operators. The conversion was done by the ROH staff during a one week shut down last August. The old board was removed (and donated to the National Theatre as spares) and the dimmer wiring connected to new sockets to plug to the Siemens computer. As is normal practice, the B40 had been completed many weeks before and put on test in Erlangen and used for ROH staff training courses. As soon as the control room had been redecorated the new system was plugged in and worked immediately and has worked without fault ever since. Not a remarkable achievement in the world of industrial computers nowadays, provided the software has already been properly proved, but immensely reassuring to those who had taken the decision to purchase this product. The only compromises dictated by the confined space were that the mimic panel is not as conveniently placed as could be desired (it is on the right hand wall and behind the assistant operator) and the computer are squeezed onto a sub floor above with access up a vertical ladder: no problem except a minor one for the infrequent routine maintenance service. The overall result looks both efficient and comfortable and is a tribute to the design



The Push Button Mimic

team concerned.

On the occasion of the opening ceremony on November 20th a surprise bonus was added. After the speeches by dignitaries from all sides, Herr Manfred Bruns, the Managing Director of Siemens' Installation Group, handed over the keys for the B40 and then a certificate symbolising the donation of one of the Sitalux T40 mobile control systems for use by the Royal Opera and Ballet when on tour. The panel itself will be handed over early this year.

VERDICTS

There was no doubt, from the moment of my first request to Tom McArthur for permission to see the system, the ROH are delighted with the new board and with the service received from Siemens. Chief electrician Bill Old and the operating team Paul Watson and John Charlton who showed me the system said they found it very easy to use, once they had understood the special German operating philosophy, and, with some 25 shows lit or relit without problem since the changeover, they reckon they have now given the system a thorough trial. Bob Bryan, designing the lighting for the new production of Otello, also confirmed his pleasure and satisfaction though anticipating that there were many more tricks and short cuts to be learned before full use was being made of the system's possibilities. However, on my refusal to believe that anything can ever be quite perfect, there was an admission that VDU displays did not always update quite as fast as might be desired and that an easily avoidable software lock-up had been discovered and the cure organised. Other than that, absolutely everything at the Garden really seems to be Wunderbar!

CONTROL BOARD ALPHABET

An A B C for 1987 by Francis Reid.



A is for **access**, and it is interesting that the word which comes alphabetically first should be so fundamental to the operation of any lighting control system. Whether by pulling a large lever or pushing a miniature one or (in the fashion of current jargon) merely stroking a key, there is a need for immediate access to any particular light or group of lights for on/off and up/down.

Autocue accessed by a light pen pointed at the appropriate data on a video screen. But that was way back in the seventies: its today equivalent is perhaps the mouse (qv) which opens up the same scope for the painter's arm as the stopkey (qv) offered to the musician's fingers. However, in these microprocessed times, the most popular access remains the key pad. But tonight's operators were schooled when the pocket calculator re-educated fingers overnight—tomorrow's operators had a Sinclair Spectrum in their prams and write their essays on an Amstrad. Might they seek a return to the playability of a lever plus switch-button per lamp/group? Rockboard (qv) do, relegating the microprocessor to a facilitating role in effect sequences.

Rockboards are, however infinitely more sophisticated than the **A M C** (Advanced Manual Control) which seems to be the climax for non-manual presetting on the straighter stage.

A is also for **A E G**, a German firm who were around from when theatrical electricity was first dimmed until they chose to withdraw at the very moment when, overnight, thyristors made every previous device obsolete. But the 1950s AEG dimmer using paired thyratrons (qv) and the AEG preset desk were one of the principal antecedents of the multi-presetting that was to revolutionise lighting control from the mid-sixties onwards.



Today's most popular method of channel **Access** is by a numerical keypad, often associated with a wheel for increasing and decreasing the selected channel(s).

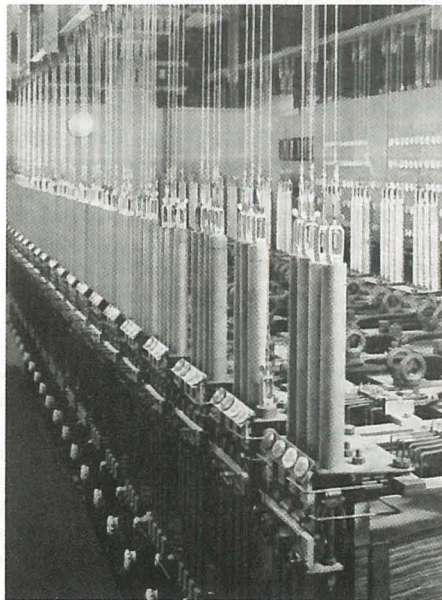
A D B of Belgium and **A V A B** of Sweden are leading board manufacturers who had the wit to choose names beginning with **A**, thus ensuring for themselves a high rating in any listing.



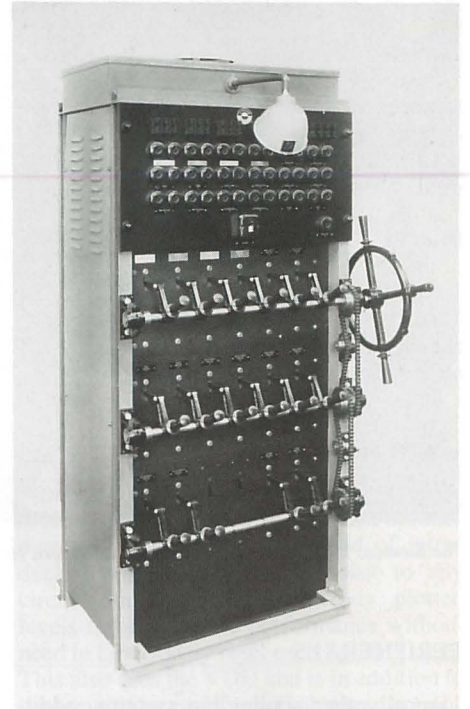
B is for **Board**, still the most popular word for a lighting control desk (as in "What is your board?", "Where is the Board?" "Who is on the Board?" etc) despite the sophistication that has overtaken the simplicity of the original switchboards and dimmerboards. Richard Pilbrow and Strand cleverly hijacked 'Lightboard' (qv) as a system name.

B is also very much for **Bentham** who for many years was synonymous with boards. For perhaps four decades he was the major English (as opposed to American) speaking influence: all our boards were either devised by him personally or by others reacting against his teachings. Always articulate in voice and pen, retirement has induced only partial mellowness and Fred is now active in the cause of theatre archaeology. And of course no lexicon can avoid digging in *his* past.

There can be no mention of Bentham without a reference to '**B**' **Bear** who was his Sancho Panza during the golden years of Strand. They affected to despise modern doctrines of marketing, yet their approach to sales and marketing was as successful as



Bordini Transformer dimmers, controlled by tracker wires.



A Bracket Handle Board.

it was unorthodox. They enjoyed a rosy apotheosis during the final years of Twenty Nine King Street (qv) when Rank endowed a saloon bar so that they could tilt at many windmills, particularly their benefactors.

Bordini transformers were the standard central European dimmer from the mid-thirties until the late fifties. Each circuit had its own secondary winding which slid in and out of the transformer, moved by a tracker wire from a central control frame with banks of levers. Circuits could accept any load from about 40 watts to 6 kilowatt. Such autotransformers never caught on in Britain except at Glyndebourne where a Bordini ruled from 1933 to 1963.

The Glyndebourne Bordini's mains supply was derived via three massive oil-filled **breakers** which acted as both main switch and protection. Despite many experiments, circuit breakers have never really supplanted fuses in the protection of dimmer outputs—a setting sensitive enough to protect a thyristor is just too easily triggered by the ravages of plugs, sockets, cables, lamp filaments and flymen.

Resistances (qv) were the preferred British dimmer, including those mounted in the **Bracket Handle** boards which were the poor cousins of the Grandmasters (qv). The dimmer handles, which were directly connected to the dimmers mounted behind the front panel of the board, could be screwed down to shafts for mechanical mastering; but there was no sophisticated gearing to allow colour banks to move in

opposite directions for crossfading.



is for the **control** that a board gives over the intensity of each individual light source. In future this remote control from the board is likely to be increasingly extended to include the positioning, focussing and colouring of the lighting instruments.

Circuit and ways (qv) are words often used colloquially for the individual dimmer controlled paths between electricity supply and light, but **channel** is the formal designation.

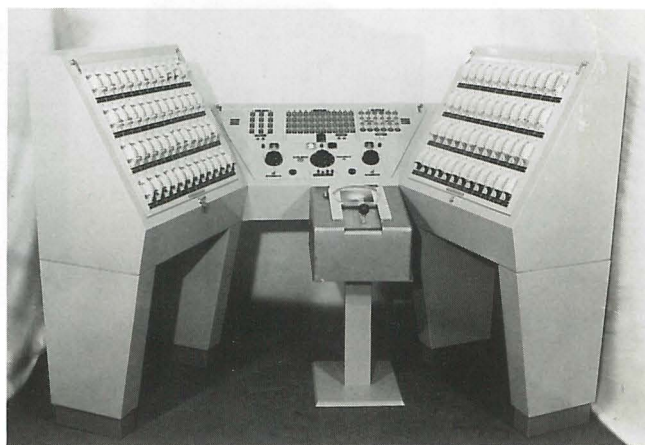
Channel Track is a facility, pioneered by Colortran, whereby a specified individual channel's level in every cue can be displayed simultaneously and adjusted.

This is the type of facility that can easily be programmed into a **computer** board. The earliest memory (qv) boards used hard-wired logic but the early availability of small computers quickly followed by micro-processors enabled the functions of the various operational keys in the desk to be determined by a software programme. The result is that a modern lighting control desk can be programmed to do anything. Whereas older boards could only perform the possible, new technology requires the user to determine the desirable. Like all decisions involving a blank sheet, this has not been, and still is not, easy.

Fred Bentham was the first to bring control of a large lighting installation under the fingers of a single operator. He adopted the **console** of a **Compton** organ, using the stopkeys (qv) to select the channels for movement and the keyboard to move the dimmers by motor on their remote dimmer bank. Speed was determined by the operator's foot on a pedal in the style of a car accelerator. Movement continued for as long as the operator's fingers pressed the keys, and so considerable dexterity was required to "drop off" individual dimmers at levels either than full or out. Selection of groups of channels to move was simplified by deploying the Compton organs piston (qv) memory. The Light Console was at its best for musicals involving bold fades, cuts and flashes rather than finely balanced levels. It had an operational flexibility, particularly for instant lighting, which was not repeated until the development much much later of Rockboards (qv).

The level difficulty was solved in the 1950s by fitting polarised relays (qv) to the clutches through which the single motor drove the individual dimmers. The keyboard of the organ console was replaced by presetting levers but the stopkeys for channel selection remained. These boards

Clemancon Jeu d'Orgue with two presets, cross-faders, and (separate unit on pedestal) chromo-selector which mixes primaries to produce colour selected by pointer).



were at first called **Console Preset** but became established as system **C D**. The most developed versions had two presets but they were only used to drive the dimmers since inertia (qv) took over between moves. Thus the preset could be immediately reset rather than, as in pure electronic systems, be required to hold the levels between moves. This coupled with the need only to preset levels on channels that were to move, together with the possibility of either manual or piston-memory selection of these channels, made the system very versatile and CD became the standard for over a decade for major British stages and studios.

Its main operational problems were lack of proportional fading (qv) and slowness in 'going back' during rehearsal.



C.D. preset console.

The prospect of an all-electric dimmer with no moving parts was always an attractive proposition and the earliest was the simple **choke**. All chokes however had a slow response and the simplest ones

required such heavy control currents as to make presetting difficult—or at least the crossfading between presets that was the unrealised dream of most operators as recently as thirty years ago.

Crossfading was demonstrated by J. T. Wood (qv) with his thyatron (qv) system at the beginning of the fifties, and his desk was adopted by **Clemancon**, the French equivalent of Strand. Clemancon was run by Georges Leblanc (qv) who, although quite different from Bentham, was cast in the same necessary mould of enthusiastic committed dictator.

A Leblanc speciality for Clemancon was a device to produce a specified **colour** by automatic mixing of primaries. Delicolor (qv) did this on grandmaster type manual boards, but normally colour control was limited to grouping colour circuits on colour coded banks on the manual systems, or under coloured submaster keys on the Light Console.

An "instant crossfade" is a contradiction and so it is called a **cut**.

Compact was a word that inevitably lent itself as a product name and was used for a compact packaging of the basic units of MMS (qv). In the early eighties, shrinking electronics encouraged manufacturers to make their desks so compact that operation became difficult except for those with the slenderest of fingers. Such systems were dubbed **cash registers** by Bentham.

For dim we often say **Check** and we used to call relays **contactors**, especially the big ones used for a switched black-out of the entire board's channels.

And **C** is also of course for **Cue**—which for a board operator is a change involving intensity alterations, and also the signal that initiates such a change.

to be continued



5 mins



8 mins



11 mins



14 mins

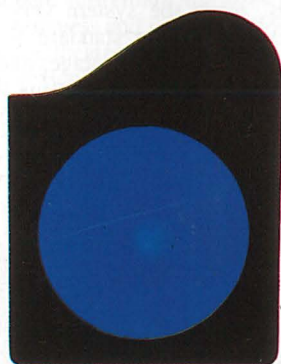


17 mins



20 mins

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