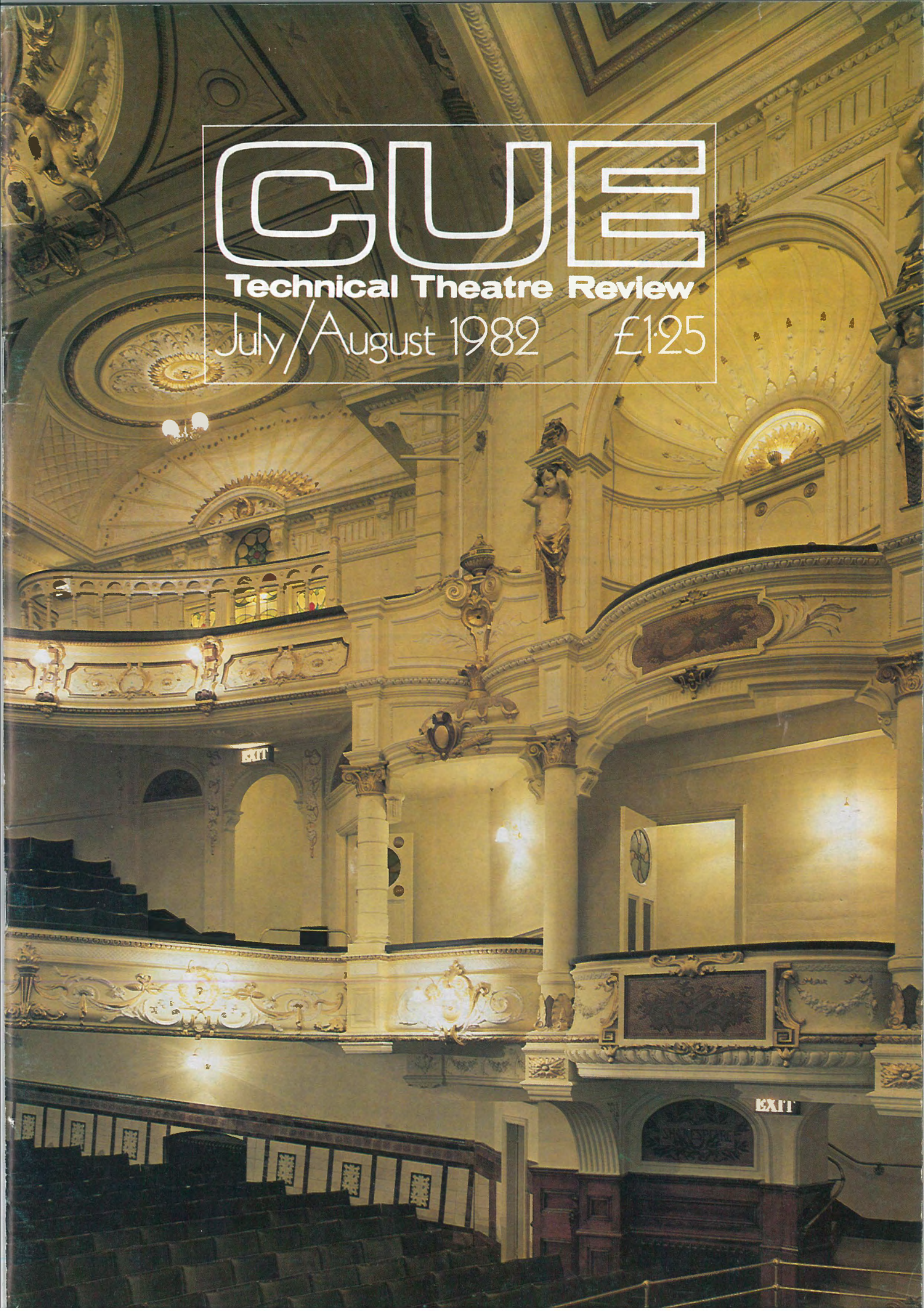


# CUE

Technical Theatre Review

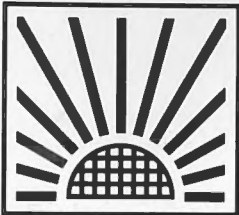
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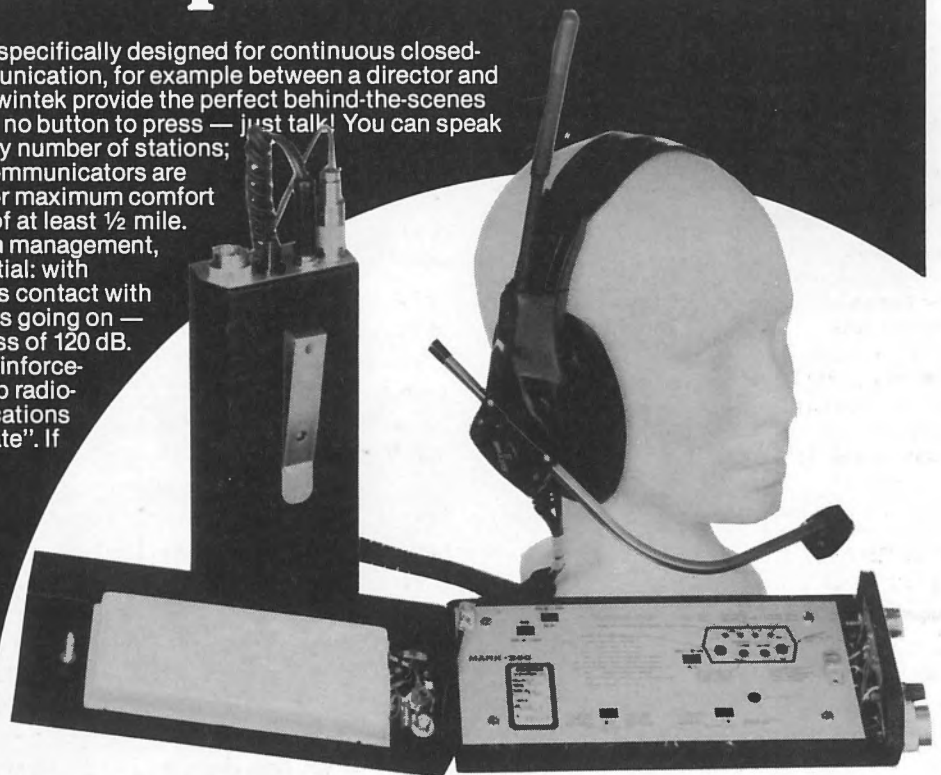
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# CUE

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18.

On page 4 Derek Sugden reviews the large volume of research into Theatre Acoustics. Beginning with Vitruvius on the nature of sound he leads us right through to our present day experiments with variable acoustics in the form of assisted resonance. Our cover picture (Buxton Opera House) is a classical horseshoe theatre with 1000 seats, the ideal geometry for drama, lyric theatre and opera. Powerful direct sound, excellent side reflections and diffusion from heavy plasterwork around the proscenium and especially from the deep, tiled dado seen at stalls level.

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## Research Scrutinised

*Consideration should be given urgently to abandoning the proposed Theatre Museum at Covent Garden. It should proceed, if at all, on the basis that a sufficient charge be made for admission to render it self-financing. Consideration should also be given to the possibility of devolving the Museum from the V & A Museum and making it entirely independent of the government.*

This proposal is Recommendation Number 27 for the future of the Victoria and Albert Museum in a document which forms part of an exercise in cost effectiveness which is known colloquially as the *Rayner Scrutiny*.

This act of scrutiny has concluded that a theatre museum is *a luxury, albeit a delightful one*.

### WHY?

Because it seems to the scrutineers that (and here we restructure a civil service sentence in the interests of clarity) *the scope for possible and justified research is less than in other fields*.

### REALLY?

Are they not aware that the theatre – its art and its industry – is particularly starved of information resources? That, like every other discipline, theatre must understand its past in order to project its future development?

It may well be that quality of life was not included in the terms of remit for the Rayner Scrutiny. But was any attempt made to quantify the economic contribution of theatre as an exporter of hardware and software, or an importer of tourists? If so, did these contributions not compare favourably with the research activities of some of the more obscurely specialist corridors of the V & A. Corridors that one must traverse when seeking the inaccessible theatre treasures entrusted to a seemingly ungrateful nation by dedicated private collectors?

Now it may well be that the Theatre Museum should be independent of the V & A. Indeed there are voices who whisper that the failure to arise in Covent Garden might be due to some lack of faith at the desks of South Kensington power. And there are some readers of CUE who have been heard to question the V & A's commitment to the less pictorially pretty aspects of theatre technology.

So perhaps it is time to consider an independent theatre museum with a bunch of concerned theatre activists as the driving force. Independent of Government perhaps, but not independent of government finance. An unsubsidised theatre museum would be just about as viable as an unsubsidised theatre seat.

# Theatre Acoustics

DEREK SUGDEN

When we talk about places of entertainment where people gather together including the 'theatre' we use the word 'auditorium' – a place where one can be heard! It is ironic that despite this precise definition which firmly places the ability of the actor to be heard, at the top of the hierarchy of needs, we have no single text book devoted to 'Theatre Acoustics' to guide the designer. There is a manual called *Sound for Theatres*<sup>1</sup> by Graham Walne published in 1981 which apart from two short chapters 'An introduction to sound theory' and 'Acoustics' – both very good – concerns itself with electronic sound-reinforcement systems.

And so it is that almost all the technical literature today is concerned with lighting and sound reinforcement. As a result the entertainment scene is becoming dominated by those visual and aural philistines who seem determined to assault our brains and minds through our eyes and ears, so that we no longer wish to see and hear natural sights and sounds.

It is this concern which doubtless prompted the editor to invite these few notes on theatre acoustics.

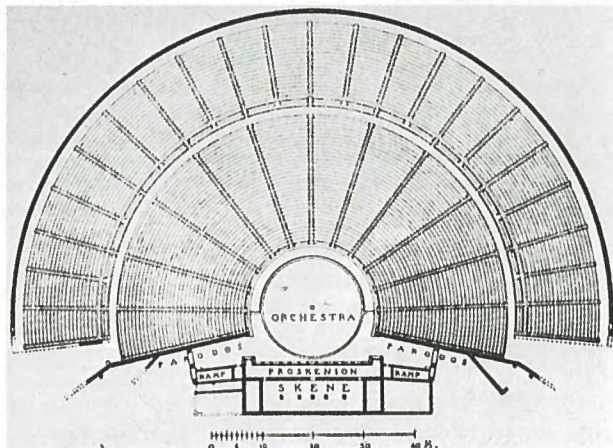
A theatre as opposed to a concert hall must be concerned with the clarity of speech – 'intelligibility' as the acousticians quite erroneously call it because we are talking about something which is first apprehended by the senses and not the intellect. The Greek and Roman amphitheatres are a good starting point for a brief review because it was these 'auditoria' that Vitruvius referred to in the first known written work concerning architectural acoustics in Book V of *The Ten Books on Architecture*<sup>2</sup>; in Chapter III (6–8) his description of the 'voice' has not been surpassed.

"Voice is a flowing breath of air, perceptible to the hearing by contact. It moves in an endless number of circular rounds, like the innumerable increasing circular waves which appear when a stone is thrown into smooth water, and which keep on spreading indefinitely from the centre unless interrupted by narrow limits, or by some obstruction which prevents such waves from reaching their end in due formation. When they are interrupted by obstructions the first waves, flowing back, break up the formation of those which follow.

In the same manner the voice executes its movements in concentric circles; but while in the case of water the circles move horizontally on a plane surface, the voice not only proceeds horizontally but also ascends vertically by regular stages. Therefore as in the case of the waves formed in the water, so it is in the case of the voice: the first wave when there is no obstruction to interrupt it does not break up the second or the following waves, but they all reach the ears of the lowest and highest spectators without an echo.

Hence the ancient architects, following in the footsteps of nature perfected the ascending rows of seats in theatres from their investigations of the ascending voice, and by means of the canonical theory of the mathematicians and that of the musicians endeavoured to make every voice uttered on the stage come with greater cleanness and sweetness to the ears of the audience. For just as musical instruments are brought to perfection of cleanness in the sound of their strings by means of bronze plates or horn echeia, so the ancients devised methods of increasing the power of the voice in theatres through the application of harmonics."

Together with this 'classical' description of the nature of sound there are other chapters in Vitruvius Book V Chapter V which describe the use of 'sounding vessels in the



Plan of theatre at Epidaurus (restored). Built c. 300 BC : 6000 people. Enlarged c. 200 BC : 14000 people.

Theatre' and in Section (7) there is a reference to the use of wood – 'a great deal of boarding which *must* be resonant' – my italics.

It is these observations together with his analogies to musical instruments which laid the foundation for the many myths of room acoustics which still have a strong hold on the minds and hearts of many architects and musicians.

Following Vitruvius, scientific interest in acoustics revived only with the renaissance. In 1650, Athanasius Kircher, better known as the inventor of the magic lantern, discussed the problem of the sound mirror and the associated problem of the whispering gallery. The speed of sound was measured by Martin Mersenne in the early seventeenth century with only a 27% error. Gallileo mentions the laws of vibrations in his 'Discourse' and Otto von Guericke demonstrated in 1672 that sound, unlike light cannot travel in a vacuum. After the relation between pitch and frequency had been established, and here again the first work was by Gallileo and Mersenne, many people, beginning with F. Savant (1791–1841), were concerned with establishing the frequency of audibility. Georg Ohm, the author of the famous law of electric currents put forward a law of audition according to which all musical tones arise from simple harmonic vibrations of definite frequency and the particular quality of musical sounds is due to combinations of simpler tones of commensurable frequencies. He held, moreover that the ear is able to analyse any complex note into the set of simple tones in terms of which it may be expanded mathematically by means of Fourier's theorem. This discovery or proposition stimulated a host of researches in physiological acoustics. The greatest of these was the work of Hermann Helmholtz (1821–1894) whose treatise *Sensations of Tone*<sup>3</sup> (die Lehre von den Tonempfindungen als Physiologische Grundlage für die Theorie der Musik) published in 1862 ranks as one of the greatest masterpieces of acoustics. Here he gave the first elaborate theory of the



Hermann Helmholtz

mechanism of the ear, the so-called resonance theory and was able to justify theoretically the law of Ohm. In the course of his investigations, he invented the resonator, now so well known by his name, and employed in modern acoustics for many applications. It is an interesting view of this great genius to recall that in 1859 he met the King of Bavaria and writing to his wife about it Helmholtz said: "The King hoped that I would make some acoustic discoveries that would benefit the architecture of public halls — but I could hold out small prospect of that." Helmholtz developed the theory of summation and difference tones and in general laid the ground work for all subsequent research in the field of auditoria. One of the greatest physicists of the nineteenth century, he touched no field that he did not enrich with his experimental and theoretical genius.

It was the work of Helmholtz, published in 1862, which stimulated Lord Rayleigh's first work in acoustics which was a paper concerned with the pitch of resonators and finally led to the classic two volume work *The Theory of Sound* published in 1877. It was a treatise of such importance that one hundred years after its publication it still retains a pre-eminent position in the literature of its field when most scientific treatises of much less age now possess, for the most part, historical interest only. From the eighteenth century onwards in addition to the work of the scientists, composers, musicians and architects became interested in the subject. The violinist Tartini and the composer Rameau were both interested in harmonics and the reason for the frequency interval between them. Since the reception of sound by the ear in enclosed spaces like rooms and auditoriums is a common experience, it was natural that some attention should be paid to them in the design of these spaces. The first discussion of improving hearing in rooms was limited to purely geometrical considerations such as the installation of sounding boards and reflectors. In 1858, a Boston physician, J. B. Upham, wrote several papers indicating a much clearer grasp of the more important matter involved, namely the reverberation or multiple reflection of the sound from all the surfaces of the room. He also showed how the reverberation time could be re-

duced by the installation of fabric curtains and upholstered furnishings. In 1856, Joseph Henry, the celebrated American physicist, who became the first secretary of the Smithsonian Institution, made a study of auditorium acoustics. This study showed a thorough understanding of all the factors involved, but his suggestions were all of a qualitative character. In spite of this work, the subject was generally neglected by architects. There were and still are gross misunderstandings of the nature of the problem and attempts were often made to correct acute acoustical defects by such inadequate if not absurd devices as stringing wires across the offending space.

In 1895 Wallace Clement Sabine, an assistant professor at Harvard University was instructed by President Eliot to propose changes for remedying the acoustical difficulties in the lecture room of the Fogg Art Museum, a building which had just been completed in Cambridge, Massachusetts. It is now known as Hunt Hall. His colleagues looked upon his new assignment as a grim joke and his senior professor warned him that he was "undertaking a problem that fairly bristles with difficulties, the extreme complexity of which seems to indicate that a complete solution is hopeless". About two years were spent in experimenting on this room and after a further three years of research, Sabine gave acoustics the classical reverberation equation.

### Room Acoustics

The history of the application of mathematics to the analysis of a sound field in an enclosed room is less than 100 years old. It is only 82 years since the building of the present Boston Symphony Hall, the first auditorium to have the benefit of acoustic guidance and analysis by Wallace Clement Sabine himself and still rated amongst the two or three greatest concert halls in the world.

Since Sabine's work at the turn of the century the learned papers and books have come thick and fast, but where room acoustics are concerned most acousticians have become either famous or notorious because of their work in the concert hall rather than the theatre. The first paper I



*Lord Rayleigh in his laboratory at Terling; painted by Sir Philip Burne-Jones, 1888.*



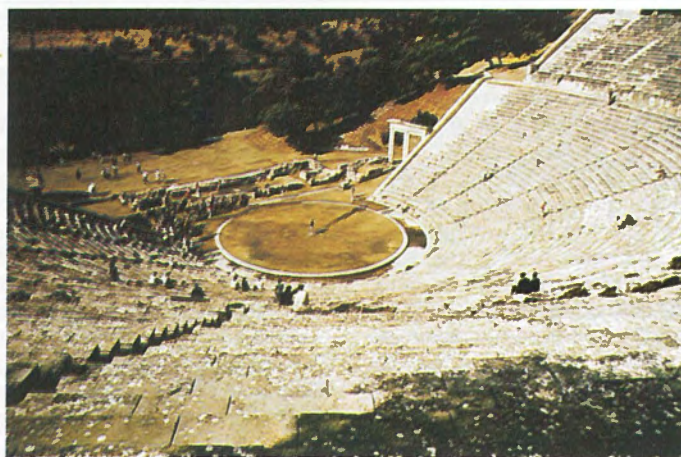
*Wallace Clement Sabine.*



*Boston Symphony Hall.*



know of concerning itself exclusively with 'Theatre Acoustics' is again by Sabine, Chapter 7 in his *Collected Papers on Acoustics*.<sup>5</sup> The paper is introduced by a quotation from Vitruvius and quite rightly gives more precise modern definitions of the normal translations from the Latin. Later in the paper his explanation of the limited range of the spoken voice compared with music explains why acousticians have not had as much concern for the theatre as for the concert hall. He even draws comparison when considering the spoken voice with the 'highly developed science of telephony' where at that time it was apparently sufficient for much of the work to adapt the theory and design to the single frequency of 800 Hz, approximately A in the second octave above middle C. He did add, however, that for some problems investigation must be carried out over a considerable range of pitch and it was "Therefore necessary to determine the reverberation even for the speaking voice, not for a single pitch but for a considerable range and the quality of a theatre with respect to reverberation will be represented by a curve in which the reverberation is plotted against pitch". Apart from the restricted frequency range of the human voice the lack of attention paid to the acoustic design and analysis of theatre is because the development of the theatre has a much longer history than the Concert Hall which had its beginnings much later with the concert rooms of seventeenth-century London – York Buildings concert room was built in 1680, and the Vendu in 1690. It was not until 1780 that the first great concert hall of Europe – the Altes Gwandhaus at Leipzig was built. The long tradition of theatre building, provided the rules were followed, ensured a successful natural acoustic. The open amphitheatres of the classical world have for long fascinated the architect and acoustician and are brilliantly analysed and described in Lothar Cremer's paper *Different Distributions of the Audience*<sup>6</sup> which also deals with the European Baroque Theatre and Opera House and the seating pattern of the "shoe-box" concert hall of the nineteenth century. Following this important paper in 1974 the Institute of Acoustics held a one-day symposium on Theatre Acoustics in February



*Epidaurus today.*

1978.<sup>7</sup> Papers were given by many acousticians on both general principles and particular auditoria. Richard Cowell opened the meeting with a general paper.<sup>7.1</sup> In his conclusion he quite rightly called for low background noise levels particularly from mechanical plant and may I add lighting, for methods of dealing with thrust and open stages where performers turn away from the listener, and for further study of the role of electro-acoustics in theatre design, for the setting of acoustic parameters for, multi-purpose halls and most important, the development of ways of providing effective advice to architects and design teams by the use of models and feedback from existing theatres. Apart from papers on the acoustic design of specific auditoria<sup>7.2</sup> and I would particularly mention Dr. Fahy's paper on Eden Court,<sup>7.3</sup> one of our most interesting post-war theatres, there were four papers by various academics, concerned with speech 'intelligibility' and research into theatre design and research into theatre acoustics.<sup>7.4</sup> A paper by the late Geoff Berry on the Alfred Beck Centre described the performance of an 'assisted resonance' system in a multi-purpose auditorium.

One of the latest books which does include a chapter on theatres and published in 1980 is the late Vilhelm Lassen Jordan's *Acoustical Design of Concert Halls and Theatres*.<sup>8</sup> Chapter 5 describes Jordan's design and analytical work on the New York State Theatre, the Metropolitan

Opera House of New York, the Ruhen Dario Theatre of Nicaragua and the National Theatre of Guatemala. He begins this Chapter by stating that it has often been proclaimed that the classical horseshoe theatre shape has specific acoustical virtues, although there are quite a few examples of classical theatre auditoria which have been criticised for built-in acoustical defects. Often he says the clear distinction between theatre for the spoken word (drama theatre) and theatre for singing and music (lyric theatre) has not always been taken seriously enough. He also warns about the question of size. A horseshoe theatre seating 1,500 is quite different to a theatre with 2,800 seats, the time delay of the first ceiling reflections alone can increase from 50–70 milliseconds to 100–120 milliseconds, which will affect articulation considerably. This chapter also considers the use of models as a design check and the measurement of EDT (early decay time) and "Steepness", concepts which are clearly defined in the body of the book and with definitions and formulae in an appendix. This book by Jordan, one of the most recent text books in acoustic design of auditoria by a practising acoustician is eminently readable by architects and those concerned with the technical aspects of theatre design. The examples are taken from Jordan's own professional experience and introduce the reader to the latest development in auditoria design and analysis which are particularly concerned



*Festspielhaus, Bayreuth – 1876 – auditorium and stage; Putting a roof on an amphitheatre is the most dangerous acoustic practice. Cremer describes the insistence by King Ludwig II that the rear wall be covered with boxes above the amphitheatre for the high society, and above these for their attendants as acoustic luck.*



The European Baroque Theatre restored Munich Opera House.

with the nature of the information we receive in the first 100 milliseconds. Unlike reverberation time which is still the only acoustic property of a room we can calculate and predict, all these new concepts can only be measured in models or in the auditorium and can only be considered as a series of design checks. The use of models in design is only some 10 years old and probably in its infancy waiting for that big jump which should or might come from the current advances in computer-controlled techniques in 'energising' and measuring the model. As yet one feels they are not the powerful guide to "what the designer wants to do" like calculations are to the structural engineer.

In addition to this there is a certain "arbitrariness" about the language which acousticians use to describe concepts which

are only meaningful to other acousticians. The words used are then defined in mathematical terms which gives them a certain bogus respectability but they are invariably meaningless to musicians and actors. Recent papers given by Cremer<sup>9</sup> and Muller<sup>10</sup> are hopefully helping to define these concepts and to clarify the acousticians approach to the design of auditoria but they are probably distancing themselves from even the informed men of music and the theatre.

### Define the major use for an auditorium

Since Sabine developed his equation for the calculation of reverberation time published in *The American Architect* in 1900<sup>11</sup> there have been enormous developments, and complexities abound in the study of room acoustics. The myths are still with us and in some places probably reinforced by the professional acousticians. Acoustics is still considered a pseudo-science or 'Black Art' in many circles and it is still a happy hunting ground for charlatans, but probably no more so than many more highly organised professions. Despite the current complexities, it is still important to define the major use for an auditorium and to be very discriminating in our choice and calculation of reverberation time for particular uses *pace* Sabine and Jordan.

The domination of virtually every aspect of our society by the 'commisars', however, has turned every new theatre into a 'multi-purpose auditorium' which has to deal with everything from wrestling and mayoral banquets to string quartets and heavy rock! These new auditoria designed by accountants rather than architects tend to be on the large size especially those in North America, the birthplace of the "multi-purpose auditorium." They rely on sound reinforcement systems for practically all forms of entertainment, although in opera and drama they are careful to use the euphemism 'enhancement' to ease their

protestant and non-conforming conscience. The use of electronic hardware by the pop and rock world have given the whole sound reinforcement industry regular shots in the arm such that even an after dinner speech in a small room requires the use of some appallingly designed sound reinforcement system, obligatory to ensure that the speech is loud enough but mercifully unintelligible. Back in the 1960s Professor Peter Parkin who had been designing sound reinforcement systems and column speakers in some of our cathedrals in such a way as to ensure that the "Word of God" could be heard – and not just made louder, turned his attention to the problem of raising the reverberation time in the Royal Festival Hall. His invention of assisted resonance<sup>12</sup> was finally installed and commissioned under his personal supervision in 1964 and has been accepted by audience and musicians alike as an improvement and also acceptable at an artistic and aesthetic level. This was a considerable breakthrough with professional musicians, conductors and music lovers and perhaps it was done so subtly that most were unaware of the gradual improvement.

Although the professional actor will quite rightly insist first on the right sort of auditorium – which means the right size of auditorium, where he can speak with no further aid other than a geometry and construction which ensures excellent and natural acoustics – the large auditorium is probably here to stay. If it is, can we now look forward to subtly designed systems which enhance the voice and increase articulation and at the same time have sufficient potential to create a good acoustic for the lyric theatre and concert hall. We may on the other hand eschew all electronic devices and pursue an acoustic somewhat more reverberant than the usual drama theatre but with the geometry and materials so carefully chosen that the spoken voice is heard as Vitruvius describes it in the amphitheatres of the classical world.

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FRANCIS REID explains why he is

# A stage Hamburger

I suppose that I should really have a reason for writing an article about the Hamburg State Opera. Anniversaries are good reasons, but this is 1982 and it was in 1978 that Hamburg celebrated its first 300 years of opera. However, if I do not have a good reason for these Hamburg operatic musings, I certainly do feel that I have something of an *excuse*, however flimsy.

My elders seem worried about how to train technicians: they appoint committees who hold conferences which set up consultations where they resolve to have surveys from which they can draw conclusions about the problem. The youngsters do not seem so worried but they are curious. "How does one become a lighting designer?", they enquire. Even, "How did you become a lighting designer?". They do not take seriously my reply (my truthful reply) "Because I wanted to work at Glyndebourne and that was the only job that Glyndebourne could or would offer me." So they try "But where did you study?". "Oh, I just looked and listened", I sometimes start – and the other day I heard myself suddenly continue with "I suppose it all started with Hamburg . . ."

And that, with my cells stimulated by the tercentary publications acquired during a splendid Hamburg *Così* last autumn – that, patient reader, is my excuse for now writing about the *Hamburgische Staatsoper*.

I first experienced the Hamburg Opera in 1952 (gosh, that is exactly 30 years ago and almost 10% of their life span, so these reminiscences are, after all, just about justified on anniversary grounds, however

tenuous!). The occasion was their first visit to the Edinburgh Festival and I was engaged to walk on. Despite my student poverty, I would have been happy to do so for the experience alone. But I was paid and thus able to luxuriate on banquets of beer, fish and chips consumed in that acoustic point of command of Edinburgh's King's Theatre: the paint frame.

As a respectable citizen of Nuremberg – not a singer at all, far less a Mastersinger – my appearance was required only in the outer acts. But I received my first ever 'notice'. It was in *Opera* magazine and written by a critic called "H" whose career has subsequently overtaken mine: he now has his own opera house in London. But, way back in 1952, writing of my performance he said "the spectators in the last scene of all were anything but the conventional and, by this time of night, bored crowd of so many performances." So, as I dined on the paint frame bridge during Act II, I had ample time to savour the twilight mysteries of flown canvas. I was truly a lord of the flies: henceforth there could be no point in attempting to pursue any career other than that of stageperson.

In addition to my Wagnerian presence, I attended upon the Kavalier who presented Strauss's *Rose*, heightened the drama of Mathis der Mahler with my menacing stance, and pointed a moment of musical tension by surging into the crowd towards the end of *Fidelio*. It was felt that *Der Freischütz* was dramatically strong enough to dispense with my face in the wolf's glen and, of course, Mozart is much too tightly written to require – or even to permit –

the addition of such supernumerary talents as mine. So I was free to attend Magic Flute rehearsals which I now believe marked the start of my identification with the lesser mortals in that piece, and even some sympathy with its baddies. Tamino and Pamina are wet and Sarastro is a pompous bore. Put me among the birds and the wine, with an occasional vacation in the company of the Queen of the Night and her three ladies of doubtful intent, and I will happily leave the trials and the fortitude to those who get pleasure from that sort of thing.

It was a good season for rehearsals. Passing the stage door of the Usher Hall, I perceived a distressed piano attempting a get-in. I lent a helping shoulder and stayed inside to learn Mahler's Fourth from Bruno Walter. Having gained confidence about the geography, regular entrance became a simple matter of ostentatiously carrying a couple of miniature scores and offering a hearty if guttural *Morgen!* to the hallkeeper from behind my sunglasses.

The five previous Edinburgh Festivals had given me a standards framework into which the rest of the year could be slotted – and the rest of my theatrical year was fairly intensive with a minimum of three performances (stage or concert) attended weekly, rising to saturation when Carl Rosa hit town. With a degree of careful accountability, which I have never been able to match since, this could be achieved on a total weekly budget of five shillings although some fine decisions were required as to whether the expenditure of an extra sixpence was warranted rather than risk waiting for ordinary gods at a shilling.

But at the 1952 Festival I could watch standards being set in rehearsal by the leading music theatre director of that date: Günther Rennert. Indeed he directed by him – and made to do it again, for he did not rate my crossing of his stage as being a sufficiently pious interpretation of a mediaeval churchgoer. But this was in rehearsal: at the performance the prop man was so deeply in character as he handed out the prayer books with a solemn bow that I gave the most sincere performance of my short acting career.

And I learned a lot about theatre technology. By the method that I still use today: related observation of cause and effect. It has become customary to pour scorn over the suitability of the Edinburgh Kings' stage for opera. It certainly provides poor accommodation for sets designed for huge European opera houses, but in the early years, when Glyndebourne provided all the Festival's opera and the productions were built to the right scale, there was no problem. And there was little problem either for Hamburg because, following wartime bombing, they were working on a restricted stage area not dissimilar to Edinburgh – although I do recall being asked by a group of their choristers why they were not playing in our opera house. My reply that this was our opera house was received with some incredulity.

The small Hamburg stage was imposing a scenographic style of statement by selective elements: a style that is perhaps more general now than it was in the 1950s. I was shortly to become very familiar with the



Hamburg Staatsoper today



Hamburg style, but meanwhile in Edinburgh I was in a state of hyper-excitement with the wonder of it all. The professionalism. The magic of scenery that was everything from the front, yet nothing from the back. The solid Fidelio dungeon that was but a half-round scrim for rapid tumbling to reveal the preset finale. Oh, and the lighting! I was hooked. Hooked for life.

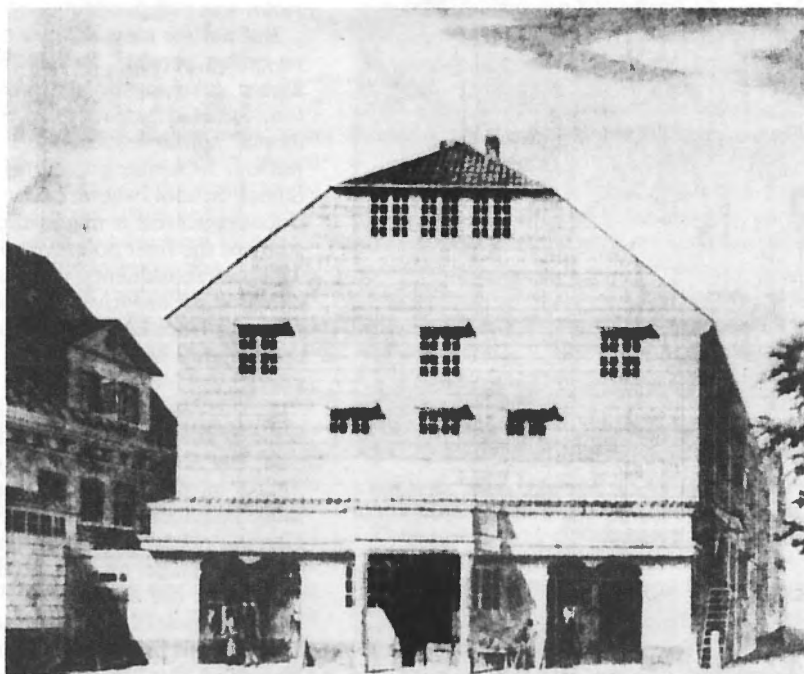
But before I could start pushing scenery and pulling dimmers, there was the little matter of my obligations to H.M. Government who required me to make a study of the cleaning of the military boot and the mending of the military wireless. Upon graduating in these skills, I was invited to pursue them on behalf of NATO who, acknowledging my fondness for opera, opted to send me to Germany, a country where that art is taken seriously and made available in a comprehensive network of houses designed and financed for the purpose.

Minden is midway between Bielefeld and Hanover with both having an extensive repertoire and seats cheap enough to allow for at least a couple of weekly visits from my disposable income which had now risen to marginally in excess of two pounds per week. A long weekend brought Düsseldorf and Cologne but the circumstances of my visit to the splendid house in Oldenburg cannot be revealed as these circumstances probably still qualify for a charge under that comprehensive Section 40 of the Army Act: conduct prejudicial to good order and operatic discipline.

And the circumstances under which my first Hamburg nearly took place might well have led to a starring role in a court-martial if I had not lingered over a lunch. The scene was a barn within jeep distance of Hamburg's S-bahn railway. The occasion was one of those war games known as a 'scheme'. We had contrived a barter deal with the farmer which involved redistribution of military wealth to the extent that his tractor was refuelled and we were lunching on chicken, eggs and fresh salad that represented a wholesome alternative to that military dietician's concept of nourishing tins known as 'compo'. I was in the habit of going to war with pillow, pyjamas and bottles, so on that fine autumnal day, the world seemed fairly sunny, even when viewed through military tinted spectacles. Enter a colonel with armband proclaiming his umpire status. Two short blasts on his whistle (the NATO equivalent of operatic trumpets) to preface his announcement proclaimed with all the passion of an I-speak-your-weight machine *Atom bomb. You are wiped out. After 24 hours you may be reconstituted as reinforcements.* He departed and we cheered. Some thoughts turned towards the farmer's daughters: mine were focussed on *Don Giovanni*. Why not? I had just been awarded a day's death. I could be the phantom at the opera – the Hamburg Opera. Alas, the sergeant major now appeared. His preliminaries were in the traditional patter appropriate to his stock character within the highly stylised conventions of period military drama. Then he revealed that our reincarnation as tomorrow people would take place fifty miles south and would we please move. He

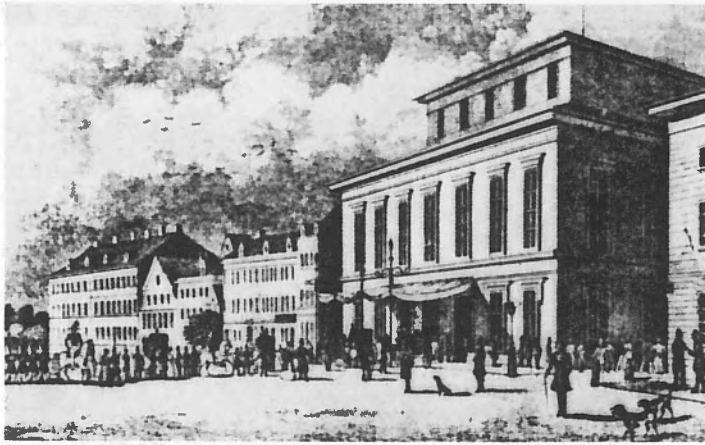


*Hamburg's first opera house in the Goosemarket (1678)*



*Hamburg's second opera house (1767), built on the Goosemarket site and known as Ackermannsche Comodienhaus  
This later became known as The Old Theatre and was converted into an apartment house.*

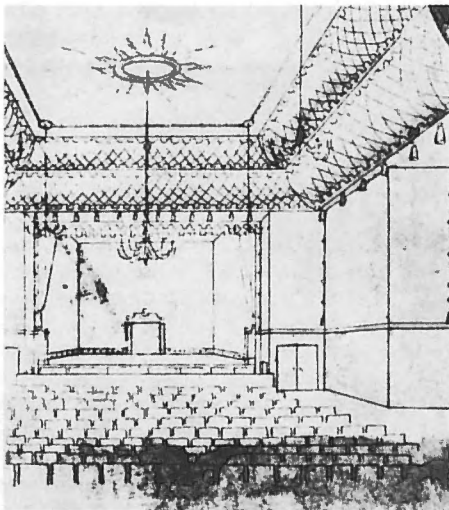




The new City Theatre in the Dammtorstrasse (1827)



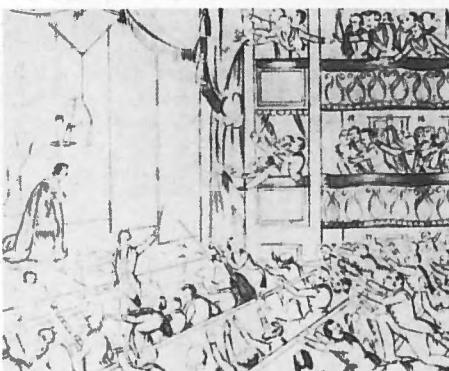
Renovated and modernised (1874). In 1926 the stage was rebuilt under the direction of Professor Linnebach.



The Interimtheater (1946) with stage, orchestra pit, and auditorium for 600 all contained within the old stage house area.



Hamburgers determined to get into their theatre in the nineteenth century. And showing Hanseatic Enthusiasmus once inside



repeated this last word several times: his crescendo was impressive. My *Don Giovanni* was postponed.

But not for long. In view of my generally un-bullied persona, it was resolved by the higher echelons of the Minden Militaire that I should be got out of the way for the annual admin inspection. I was therefore put out to winter grazing at the Hamburg Signal School where boot polishing was discouraged less it might interfere with the study of the finer points of wireless surgery. This establishment was well situated, overlooking the River Elbe and but a few pfennigs from Dammtorstrasse station and the delights of the Hamburgische Staatsoper.

The opera house auditorium (but not the stage) had been destroyed during a 1943 air raid, but a temporary theatre opened with *Figaro* in January 1946. There can be no more convincing illustration of the size a German operatic stage is than this 600-seat theatre – stage, pit and auditorium – built within the old stage house. The audience area was basically on stage elevators 1 to 4, an orchestra pit for 50 players was formed by sinking elevators 5 & 6 to –1m while the stage (15m x 7.5m) consisted of elevator 7 plus the rear stage at +1m. The auditorium ceiling came from *Merry Widow* and the chandeliers from *Rosenkavalier*. In 1949 the auditorium was extended with a temporary structure within the shell of the old auditorium allowing a small gallery plus extra stalls seating to bring the total capacity up to 1230. The stage depth was increased to 10m.

This was the theatre that I visited three or four times weekly in the early months of 1954 – its final season, because preliminary work was under way for a new theatre incorporating the historic shell, and the company were about to camp in another theatre until returning for the 1955 opening of today's Opera House.

The discipline imposed by the *Interimtheater's* small non-mechanised stage with its absence of off-stage space had a sharpening effect on the productions of Gunther Rennert and his designers, particularly Alfred Siercke. I do not think I am alone in finding more satisfaction in Rennert's productions of that economy period than those of later years when he had more space and resources at his disposal. I am

not, repeat not, pleading that economy automatically sharpens theatrical wits. Just that the particular circumstances of this makeshift opera house, including the effect of its timing (inseparable from a period of postwar reconstruction) stimulated Rennert and his team.

My own very first published piece of writing about matters theatrical was on Rennert in the 'Stage' (1956). Defining style as "the unity which a production achieves through a consistency in the conventions on which it is based", I continued "The commonest way for a producer to achieve this unity is through an accumulation of detail. With Rennert the reverse is true, and there is usually a marked economy of detail in his productions. For this to be successful, the actual detail must be just right . . . Although the feeling of style must come basically from the actor, Rennert has not neglected the importance of scenery as a unifying element . . . the physically cramped conditions of the immediately post-war Hamburg stage have driven Siercke to the same economy of detail in his designs as Rennert evidences in his productions."

Well, production and scenic styles based on selection rather than accumulation of detail have become much more standard now than they were 25–30 years ago.

I was later (in the 1960s) to work very closely with Rennert at Glyndebourne and was somewhat disappointed to find that much of his rehearsal technique was based on superimposition of ideas on the actors rather than a drawing out from within. If I were cynical and I suppose I am (just a little!), I would say that this was also an indication of future trends.

Nevertheless, the amount that I learned from Rennert is incalculable whether as Edinburgh walk-on, Hamburg audience, or sharing his production desk in Sussex.

I did not see Hamburg's rebuilt Staatsoper until late 1961 when touring Germany to study lighting control before specifying a new machine for Glyndebourne. Hamburg was an essential stop on any such itinerary because, on their Edinburgh visits in the 1950s, they had become attracted to the proportional fading of J. T. Wood's pre-setting thyatron system installed by Strand in the King's Theatre. At that time, and indeed well into the 1960s, European lighting

control was at the mercy of motors — whether the motorised dimmers of Strand or the motorised faders of Siemens.

Woody's Electronic had some stability problems but its philosophy was ahead of contemporary thinking. Not just its solid state presetting, but its dipless crossfading and its realisation that grouping had to be specific to each preset rather than common to all. (Nearly twenty years after the introduction of Wood's Electronic, the lighting designers and operators were still battling with Strand over this last grouping point — an acceptance only finally won when the newly arrived Rank ruled that the customers might well be right.)

The four-preset systems that AEG built for Hamburg did not repeat J. T. Wood's 3 thyatron valve (1 per phase) circuitry but used a pair of thyatrons back-to-back thus preparing the way for the advent of the thyristor a decade later. A system, incidentally, that although situated backstage had repeat masters in an auditorium box. This discovery cheered me because I had been chewing over the potential of a stalls designer control for a couple of years. Indeed it was the Hamburg lighting board, plus the work of Stuyckens for ADB in Brussels that clarified my own mind on the direction in which lighting control could, should and would go. What I did not realise

was that it would develop so fast that by the late 1970s lighting control would no longer be a problem.

So there was Hamburg influencing me very strongly in 1952, 1954 and 1961.

And since? Well, it was to be a full twenty years before I returned. This time only to be pleased by a lovely Mozart performance on an evening that stimulated my thoughts to produce all these memories which I trust will explain why *Hamburg* is one of the many answers to any questions on where I started.

# Engineered Theatre

REG BARTRAM

Under this same title, an editorial appeared in CUE 16, 1982, pleading for a closer marriage between the two disciplines, art and science, in the theatre and seemed to be summed up in the sentence "Just think how the stage might be liberated by a generation of theatre-conscious mechanical and optical engineers!"

The short space of an editorial allows for little elaboration so I'm prompted to make a few short notes towards a potential discussion which could fill a volume. The belief here is that the engineer does have a very strong influence in the theatre and always has had and frequently a dominating one. Two definitions of theatre are possible, the building itself and what takes place within it, but in both cases I retain my point of view. Today, the words 'architect' and 'engineer' have different meanings but as one goes backwards in time the difference becomes more blurred, when discussing theatre history the truer title might be 'architect-engineer'. To design and build a theatre implies 'theatre consciousness' in the strict sense, but often the same person was also involved in theatre productions. Inigo Jones is the obvious name to spring to mind who, together with his contemporaries on the Continent, influenced the form and function of theatres for centuries, and they were all directly inspired by the theatre of the Italian Renaissance. Here, under Royal patronage and no shortage of funds, the architect-engineer produced engineering marvels equal to anything outside. There have been claims that it was in fact innovative, for example our modern concept of perspective in painting was invented at about the same time and might have owed much to the experimental black-box conditions on the stage, where illusionary three-dimensional scenery was perfected. Optical engineers?

Nor does the matter end there for in turn the Italians built their theatres and staged their productions on their own peculiar interpretation of the only technical treatise on the theatre to survive from Roman times. How much Vitruvius, the Roman architect-

engineer knew his theatre, or how much of it was merely a geometrical exercise is open to debate, but his theories, with a special emphasis on acoustics, were held to be almost sacrosanct until this century when most of them seem to have been disproved by modern scientific investigation.

At the beginning of this century, some of Europe's larger theatre stages might be seen as being over-engineered, or advanced for their time if you wish. One such example was the Dresden Opera House, the forerunner of many and a monument to the mechanical engineer's skill. Completed before 1914, the stage had three hydraulic lifts each 60 ft. x 20 ft. working independently or as a whole. At sight level they could move backwards or forwards and below sight level they could also move horizontally. At the rear of the stage there was a sky-dome 160 ft. high. Below, giant elevators 50 ft. wide transported scenery around. Afterwards an enormous revolving stage was added. To some degree this must have dictated the nature of the stage production. One critic noted that it was more like a giant shipyard or locomotive works with immense labour proceeding on every level to arrange a setting for two poor, insignificant actors who were struggling on stage.

The trend continues, we've added a few more specialists such as electronic engineers but now, as in the past, the engineer seems to be fairly dominant only in those places above a certain size and where provided with adequate funds. Here one should include the television studio which provides the means whereby more people see and hear the works of the playwright, composer and choreographer than in all the great theatres put together.

Engineers, with their tidy minds, tend to document things and we have ample proof of their contribution to theatre, past and present. What should be considered is the importance of other forms of theatre which pursue a parallel course throughout history and for which we have almost no technical documentation. We are almost as ignorant

of the production details at the Globe as we are of those in Classical Athens, complex though they seem to have been. This concept is one in which the playwrights, actors etc. like to surround themselves in an environment which they consider best suited to their needs, it is usually critical of the engineered theatre and aims for an alternative presentation. In this regard it is worth reading the statements written by Tyrone Guthrie, too long to be repeated here but they may be read in *Design Quarterly* 58, 1963. The engineer has made little contribution to this concept, technical matters were handled by associated craftsmen (in modern terms read 'technicians'). Their task was to deliver something into the action on cue, in accordance with the script or at the director's whim and under a wide range of conditions. Strange devices, seen nowhere else, might play a part in this, rehearsed team work was essential and the comfort of anybody was secondary — if the last few seconds hurt, that was just too bad! Nothing was permanent and nothing documented. This could hardly be called engineering. Most engineers could not be expected to view this sympathetically, their training would dictate that people, objects, milli-amps etc. should travel from point A to point B in the most efficient manner and in the greatest comfort to all concerned. If the final design, based on advanced technology, can only achieve its purpose by some minor alteration of the script, or by making the director see reason, then there would be great temptation placed on the engineer to follow this course. Inevitably there would be a clash of wills with a fair chance that the engineer would win out, a practice which probably began in the film studio, became much stronger in the television studio and is now entering the theatre.

I don't think that the writer of the editorial, mentioned above, need have too many qualms about the future of engineers in the theatre, but whether they will play a subordinate role to art is another matter.

# Lofty ideas realised

PETER ANGIER\* describes how the idea of a truly flexible theatre took shape and its skilful realisation in the variable capacity auditorium that is Plymouth's Theatre Royal.

## History

The bombing of Plymouth during the second world war left the city almost devoid of live entertainment facilities. With the prospect of losing the old Palace Music Hall to a road widening scheme, during the late 'sixties and early 'seventies debate raged inside and beyond the City Council over the size, form and policies appropriate for the new theatre necessary for the City to develop its position as the regional centre for the West Country, and to enhance its potential as a major tourist attraction in its own right. In 1973 the opportunity was taken to include the requirement to build a theatre as part of the Brief for a competition to develop the important site lying immediately adjacent to the Civic Centre, and fronting onto the new Royal Parade. Uncertainty as to the type of theatre was evident in the wording of the Brief, which offered the option of providing either a 750-seat repertory theatre, or a theatre of 1,500 seats for large-scale and popular entertainment – these two options reflecting the differing attitudes of the two major political parties in the City.

## Research

Having been engaged as Theatre Consultants to one of the competing teams of Developers, our initial research indicated clearly the real need of the City for not one theatre, but two – and in addition, for a genuine Concert Hall as well – if it was to provide for the aspirations of its citizens, and the inhabitants of the region. The opportunity was, therefore, taken to develop an idea that had often been discussed in our office – that of providing for both large- and small-scale theatrical activity inside a single auditorium and stage, without loss of technical facilities, atmosphere, and suitable environment. The thesis was developed into a report describing the potential of such a building to meet the needs of Plymouth in the most economical way, which was included as part of the Developer's overall proposal to the Council. Happily the Developer's own contribution in both planning and financial terms was of a very high quality, out of which came the commission to proceed, and to include not only a variable capacity theatre, but also one or more cinemas, a dance hall and other commercial elements.

## The Concept

The theatre was to have a good stage, able to accommodate quite large-scale productions, and an auditorium suitable at one end of the scale for such productions in terms of seating capacity, box office revenue, and acoustics, whilst at the opposite end offering the intimacy and atmosphere necessary for the much smaller scale operations of the local repertory company – The Plymouth Theatre Company. Included in the building were to be the offices and production wardrobe facilities of the resident group, though without workshops. (These already existed elsewhere in the City, and were suitable for development there at minimal cost).

In the initial proposal, seating capacity variable between 600 and 950 seats was offered, the variation of 350 being considered the maximum possible in practical terms, whilst 600 was felt to be the most that a repertory company could sustain in these circumstances. With the unfortunate demise of the Developer's company in the financial crash of 1974–75, the City Council took the opportunity to finance positive research into the variable capacity aspect, whilst at the same time stipulating that the top limit should be the maximum possible so that the range of entertainment could be extended to include good quality opera, ballet and large-scale musicals. After extensive investigation into the possibilities with the Architects, Peter Moro & Partners, and considerable pressure from the Council, it was finally recommended that a theatre with a variable capacity ranging from a minimum of 750 seats up to a maximum of slightly over 1,200 seats could be achieved, with a stage large by British standards, and suitable for the national companies with very few of the normal touring compromises.

## Policy

From the outset it was recognised that the capacity range of 750–1,200 seats was likely to cause problems at both ends of the scale. At the smaller end, 750 seats is still large for the average repertory operation, especially in a City without any tradition of real support. Therefore, included in the proposal was a recommendation to upgrade the Rehearsal Room into a genuine Studio Theatre, complementary in scale and character to the formal Main Theatre. At the top end it was appreciated that 1,200 seats could not be viable for the major touring companies which the Council wished to attract, and thus that subsidy would be re-

quired when such companies were in the theatre. Nevertheless it was accepted by the Council that the proposals offered the best opportunity for Plymouth to enjoy all forms of theatrical entertainment at relatively modest cost. It was proved that the expense of achieving genuine adaptability in the seating capacity would be much less than that of providing a second auditorium for the smaller events. It was agreed that there would be no necessity to operate two major auditoria simultaneously, and that the dual theatre with the small studio offered the greatest potential for maximum use with the minimum of recurrent costs. With the acceptance of the system of electronically-assisted resonance to enhance the musical character of the main auditorium it became possible to consider the theatre in its large form as approaching a genuine concert hall – and most certainly offering more satisfactory conditions for performer and audience than could ever be obtained in the existing Guildhall.

## Criteria

The technical conditions applied to the backstage areas were that the new building should meet the recommendations of the Arts Council for its proposed network of major Regional Touring Theatres. Inevitably, this leads to a proscenium opening in the order of 12m (40ft) width – too wide for normal repertory operations in the small capacity format. Similarly, the proscenium height applicable to the 12m width would be a handicap for a narrower opening. The requirement to provide an orchestra pit for not less than 75 musicians for opera and ballet offered another potential hazard, the more so since it was stipulated that the maximum audience seating must be achieved with the full orchestra in the pit – in contrast to the more usual situation when the orchestra spills over into the stalls, losing valuable box office revenue just at the time when production expense is at its highest. Considerable flexibility in the proscenium zone was needed, based upon the initial assumption that the orchestra pit must be taken out of the stage area when required, and not out of the auditorium; hence the safety curtain falls on the front orchestra rail, and not immediately downstage of the conventional setting line. Within the auditorium, variable capacity is achieved by shutting off a substantial gallery containing some 550 seats, the separation being effected by the lowering of the visible auditorium ceiling over the stalls until it lines up with the gallery front. In order to achieve the appropriate positions for stage and decorative lighting, heating and ventilation, in both formats, all lighting bridges, decorative fittings and ventilation facilities are built into the ceiling panels and move with them. To obtain maximum flexibility and potential for adjustment in height, the ceiling is divided into three separate sections, each of which is electrically driven by its own motors, the front section extending to the line of the safety curtain, and providing what is, in effect, the visible 'header' to the stage opening. To ensure that neither architecture nor acoustics are compromised

\* The author is a partner in Carr and Angier the Theatre Consultants to Plymouth City Council and Peter Moro Partnership.

by inappropriate use of the adjustment available in the independent drives, the profile of the ceiling in both formats is pre-set, and is normally achieved by the operation of a single push button. Also built into the moving panels are the microphones for the Assisted Resonance System, which offers the opportunity to increase the effective Reverberation Time of the auditorium in two significant steps.

From the outset it was decided that the mere raising and lowering of the ceiling would not in itself achieve the total required effect, since the proportions of the auditorium, correct in one format, could seem entirely inappropriate for the other. Although the overall shell of the auditorium is symmetrical about the centre line, as is the gallery, the lower parts of the house – the Stalls and Dress Circle levels – have been planned deliberately as asymmetrical so that the eye cannot relate to any particular shape or pattern, such as would be obvious in any conventional layout. This really does seem to work, and whichever position the ceiling is in, appearances suggest that the auditorium was designed specifically for that particular circumstance, and none other. Even the control rooms, placed at the back of the stalls in a really excellent position for both communication and contact, are asymmetrically arranged to complement the seating layout.

## SOME TECHNICAL FEATURES

There is a technical summary at the end of this article. It would take too much space to describe the whole building in detail, and so I thought I would confine myself to writing about one or two aspects of the main stage and auditorium of particular interest.

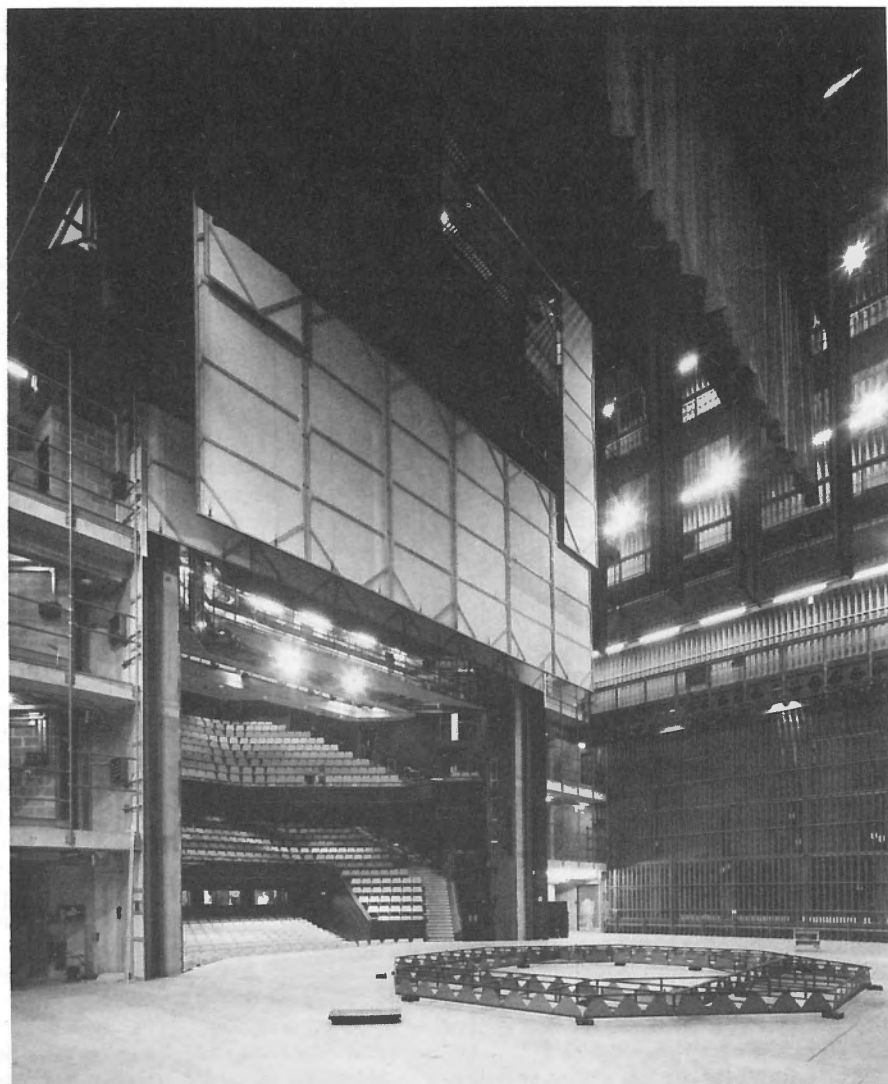
### The mobile ceiling

The most talked about feature is the moving ceiling. The conventional reaction from theatre people is: Why bother – surely in a well-designed, tiered auditorium one is hardly aware of the gallery, empty or full?

There is some sense in this view, but there are two answers, firstly that from the stage one is all too well aware of an empty gallery, and secondly, go to Plymouth and feel the difference!

The difficulty in lowering so large an area of ceiling, apart from the direct engineering problems of suspending and moving it safely, lies in moving all the lighting bridges, house lights, ventilation and assisted resonance with it. Even making the access walkways within the void comply with current Health & Safety fantasies becomes a major undertaking. The lighting bridges in particular, since the lights are set at an angle rather than vertically, do not lend themselves to up and down movement. The result is that a supplementary third bridge is needed for occasional use, to cover the whole range of angles, but it does not earn its keep full time. All the ceiling pieces are connected through folding cable trays and flexible ductwork, and present an astonishing view from above.

The cranked safety curtain falling on the extreme downstage edge is the next most



*There are three stage lighting perches each side of the proscenium, three levels of fly and lighting gallery around the tower and three lighting bridges within the moving ceiling. (Photograph by courtesy Architectural Press Ltd.)*



*The auditorium with ceiling lowered to exclude the gallery. (Photographs by Martin Charles)*

noticeable feature, its shape reflected in the external modelling of the fly tower above. I have a personal liking for safety curtains, and am glad that the vogue of the late 'sixties to decay them has passed. People seem to forget how useful they are. They give a fourth stacking wall to the stage, isolate a rehearsing orchestra from a fit-up, cover a noisy interval change, and can be dropped as a last resort when the tabs jam! Anyhow, although the Plymouth curtain will not do all these things, it is at least there, and it will allow you to fly or set anything you like on the apron. The cranked shape does make suspending it more difficult, and it is hoped that the front row will not find it too unnerving when it falls. There are three high steps leading up to the stage intended to keep people away, and incidentally providing actors with a good access route from the auditorium when needed.

### Problems in the orchestra pit

The proscenium zone is a tricky area in any theatre, and the compromises necessary when an orchestra pit is in use usually highlight the difficulties. Plymouth is no exception. Conventionally, a lift in front of the safety curtain gives the options of extended stage, auditorium seating, orchestra pit or any level in between. The drawbacks are loss of good seats just when they are needed most (opera & ballet), different fire regulations for the forestage area, and inability to change the level of the stage where the safety curtain falls.

It is also impossible to extend the orchestra pit upstage, since the rear wall of the pit is a fire barrier.

The advantages are the ability to change the line of contact between stage and auditorium in both position and height, and the option of adding seats in extra rows at the front.

When the safety curtain encloses this flexible area, as in Plymouth, the advantages and inevitable drawbacks are different. It is possible to fly and set conventional scenery in the 'forestage' area, the whole stage level can be varied from the very front, and the orchestra pit can be extended as far under the stage as the musicians will tolerate. Against this, obviously there can be no extra audience

seating, and without resort to a complicated divided safety curtain the line of the stage front is rigidly defined in both shape and height. The main difficulties, however, arise slightly further upstage. These have been overcome with reasonable success in Plymouth, so I feel able to write about them.

The problems revolve around the orchestra pit. The pit size must be appropriate for the auditorium scale. This virtually fixes a minimum front to back dimension for the open pit area. It would be logical to define the back edge of the open pit about where it would be if a conventional straight safety curtain was installed i.e. just forward of the proscenium curtain line. This has been done in Germany, and it works if the main use of the house is in opera form. Unfortunately, the forward projection of an adequate pit produces a disproportionately large thrust to the stage when used for drama, and this cannot be varied since it is enclosed by the safety curtain.

When the pit cannot project into the auditorium as far as it should, it has to be extended back into the stage area, behind the natural proscenium line. This has two effects. Firstly, just when the largest stage is needed (opera), the depth is reduced by the pit taking a bite out of the front. Secondly, when a pit is used, all the proscenium facilities of tabs, perches, masking, spotbar etc. have to be duplicated or moved upstage.

### A good compromise

The solution to these difficulties in Plymouth involved making the stage as deep as possible, although we have risked being accused of empire building by people who have only seen it in drama form, and the installation of two proscenium towers, immediately upstage of the first curtain line.

The towers extend the line of the auditorium side walls into the stage area, and this has two uses. With the lifts down to make a full pit, the structural side walls are linked visually to the line of the number two curtain upstage. With the lifts up, the towers provide 'forestage' entrances and Juliet balconies, and give the effect of an

extended apron. They also give perch lighting positions upstage of the structural perches, and can be moved on and offstage to vary the opening size.

However, this has meant that a second set of house tabs and proscenium masking has had to be installed upstage of the towers, to complete what is effectively a removable second proscenium. These are familiar enough in Germany, but not here, where the inflexible nature of such installations is much disliked, not least by me. I was determined therefore that it should be easy to remove the towers (they are 11m high), and to get them well out of the way. When not required, they are pushed offstage, and hoisted vertically to store in the extreme downstage corners of the fly tower, which is about the only 'dead' space available.

With the towers out and the lifts up, the only way Plymouth differs from other good touring stages in the provinces is in the line of the stage front. It was a slight worry that a straight line could never be achieved for the stage front if it was wanted, but in practice so far, the fairly modest thrust seems like a good compromise.

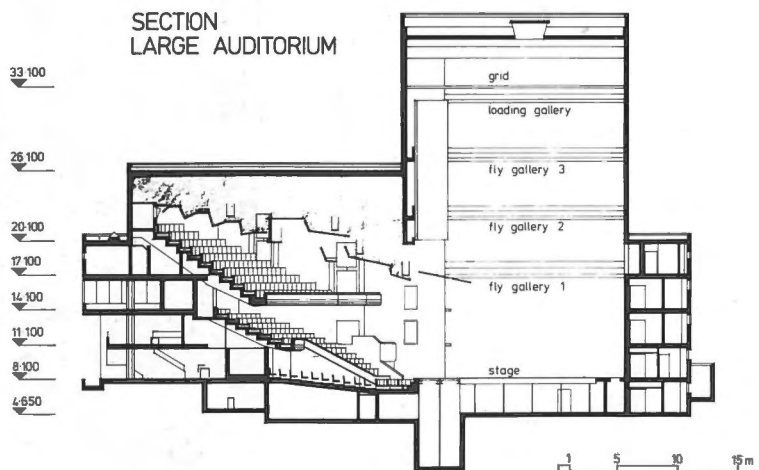
### Near ideal flying system

The last thing I shall mention is the flying system. This was designed to combine modern improvements with traditional practice without taking up any additional stage space. The idea was to add to what has been done in the past without replacing it. This suits the theatre (as opposed to, say, television) which has always struck me as deeply conservative, especially in its technical departments, mostly for very good reasons.

It is therefore possible to fly things in Plymouth in three ways. Hemsps, of course, as sets or spot lines, rigged as needed. Then counterweights, 78 sets single purchase are installed, at 200 mm centres front to back without a gap. In addition to this, there is space for 70 motorized sets, also at 200 mm centres, between counterweight sets. This would give an ultimate flying capability of one set of lines for every 100 mm of stage depth, alternately counterweight and motor. Unfortunately, money was limited, and motor sets were confined to the front



A dominant position in Plymouth life



Theatre Royal, Plymouth  
Architects: Peter Moro & Partners

stage area, but the space is there, and the power supply, so the installation can be extended at any time in the future.

The need for closely-spaced lines is often queried, particularly by lighting men, who argue that if you cannot hang lights on adjacent bars, why bother? There are two main reasons. The first is freedom of choice – to be able to drop a bar as near as possible to any chosen position on the stage. The second is that many things eg. legs and borders, which do not move during a show and can therefore be flown with care beforehand, can be hung as close as possible. The closer they can be hung, the more stage depth is free for other hangings. If this facility is combined with alternate motor and hand control, one for lifting capacity without loading, the other for variable speed and response (still best left in the hands of a good flyman), then one is approaching the ideal stage. Plymouth is not quite there, because they did not have the money, but I hope they will be one day.

Allied to the cross-stage flying, Plymouth also has five bars each side running up and downstage. Two are hand lines, steel cables clewed to a single hemp, one is counterweight, and the other two are motorized. The two motor sets are independently controlled, but form a pair with an upstage and downstage half. Side bars correctly positioned in relation to cross stage bars with extensions allow a U-shaped hanging to be formed anywhere on the stage for a cyc. or surround. They also make masking acute sight lines easier, and enable side lighting ladders to be hung exactly where they are needed without cluttering up the fly galleries.

All in all, the aim in Plymouth has been to make small evolutionary advances in the way of technical improvement, rather than leaps in the dark. We may have been cautious, but first indications are that this is what users prefer.

### Technical Summary

#### MAIN AUDITORIUM

##### Variable seating capacity

Large form with ceiling at full height, 1271.  
Small form with ceiling lowered to exclude the gallery, 768.

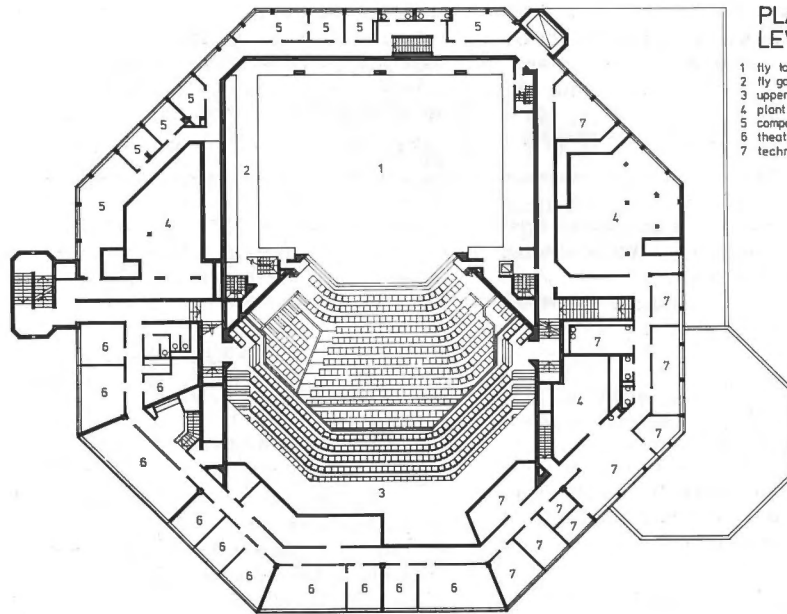
##### Dressing rooms

18 at 4 levels for 100 persons.

##### Orchestra pit

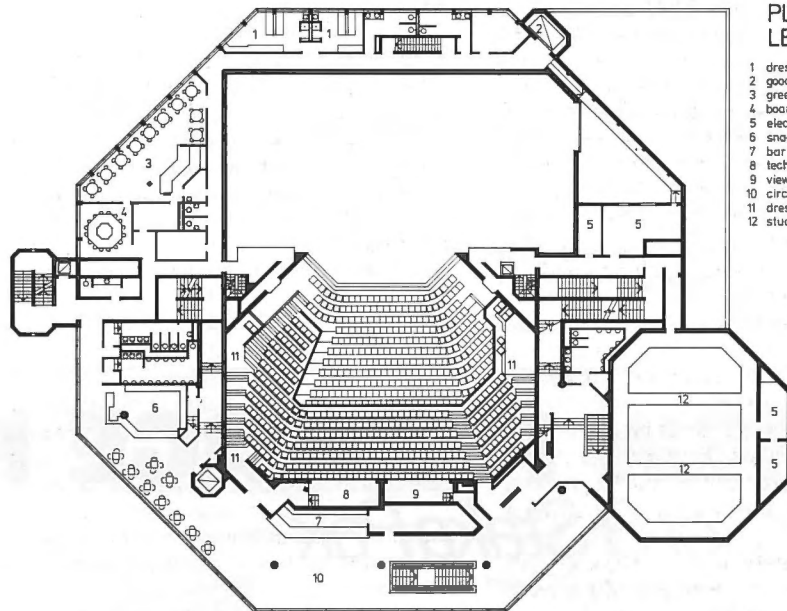
Maximum capacity about 80 players.

PLAN LEVEL 17-100



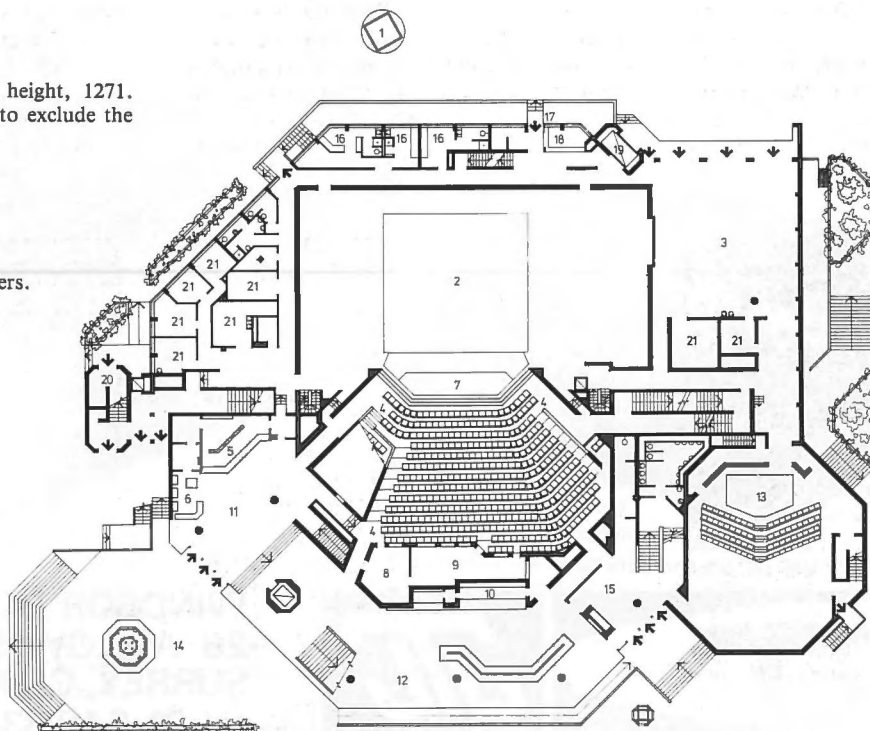
- 1 fly tower
- 2 fly gallery
- 3 upper circle
- 4 plant rooms
- 5 company administration offices
- 6 theatre administration offices
- 7 technical and production spaces

PLAN LEVEL 14-100



- 1 dressing rooms
- 2 goods lift
- 3 green room
- 4 board room
- 5 electrical plant
- 6 snack bar
- 7 bar
- 8 technical area
- 9 viewing area
- 10 circle foyer and exhibition
- 11 dress circle
- 12 studio theatre lighting bridges

PLAN LEVEL 8-100



- 1 clock tower
- 2 stage
- 3 scene dock
- 4 stalls
- 5 box office
- 6 book stall
- 7 forestage
- 8 sound control
- 9 lighting control and projection
- 10 bar
- 11 entrance foyer
- 12 stalls foyer
- 13 studio theatre the drum
- 14 piazza
- 15 drum foyer
- 16 dressing rooms
- 17 stage door
- 18 doorman
- 19 goods lift
- 20 refuse store
- 21 technical spaces

1 5 10 15m

#### *Wardrobe facilities*

Main running wardrobe with workroom, laundry, wig room, fitting space and basket stores.

Secondary wardrobe for chorus rooms with second laundry.

Making wardrobe for resident company use.

#### *Get in facilities*

Covered unloading at stage level via three-position dock doors each 11ft wide x 13ft high. Dock area 16,750 sq ft, half with 18ft headroom, half with 24ft 6in clear height.

Access to stage via sound door 13ft x 24ft 6in high.

#### *Stage*

Proscenium type with permanent thrust. Principal variations provide conventional large proscenium; small proscenium with forestage; large proscenium with either large or small orchestra pit. The stage floor, which is completely removable, is divided into 45 modules which can be taken out separately or in groups. There are three stage lighting perches up the proscenium wall each side and three levels of fly and lighting gallery around the tower. The flying system combines counterweight and motor suspension: 78 sets of single-purchase counterweights with provision for adding motor sets between them.

#### *Stage lighting*

The auditorium contains a control and projection suite at the rear of the stalls, and alternative control point at the stage right end of the circle. This second position allows operators (particularly sound) to be within the auditorium, rather than separated from it.

There are three stage lighting bridges within the moving ceiling and lighting perches on the auditorium side walls.

At the rear of the gallery there is an enclosed

box for follow spots. A Galaxy memory control operates 274 circuits distributed throughout the stage area and auditorium.

Sockets for a riggers control are provided at the major lighting positions.

#### *Sound*

Stage sound and effects are controlled by a 16-channel into 8 group mixer. There are 59 microphone sockets on the stage and in the auditorium. Additional sound sources include cassette, gram. and three Revox B77 tape decks.

#### *Communications*

A comprehensive installation covers audience announcements, performance organisation, staff finding and emergency routines.

#### THE STUDIO THEATRE

Based on the end stage form, but with movable seating for other forms.

Maximum seating capacity 300.

There is a surrounding gallery for public seating or performance use and lighting catwalks above that. Length between galleries 47ft 6in Width between galleries 34ft. Height under catwalks 19ft.

#### *Dressing rooms*

The studio has its own dressing rooms for 17 persons as well as wardrobe and laundry facilities.

#### *Get in facilities*

Goods access is from the main stage scene dock which is at the same level.

#### *Stage lighting*

The lighting catwalks surround the studio and there are two cross bridges. The stage lighting control is a 120 way-Galaxy. The house lighting is also dimmer controlled, and can be switched in

areas to suit the needs of different staging arrangements.

#### *Sound*

The stage sound installation is similar to the main stage to allow interchange of components, but is smaller in scale.

#### DESIGN TEAM

*Architects:* PETER MORO PARTNERSHIP

*Theatre Consultants:* CARR & ANGIER

*Acoustic Consultants:* SOUND RESEARCH LABORATORIES LTD

*Quantity Surveyor:* DAVIS BELFIELD & EVEREST

*Structural, Mechanical and Electrical Consultants:* OVE ARUP & PARTNERS

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# CHOOSING INSTRUMENTS

In the first of this CUE series on basic lighting design, FRANCIS REID discussed *where to put* the lighting instruments. Now he discusses *what to put*.

Crosses with arrows are the first graphics to appear on my lighting design plans. As discussed in last CUE, it is the *angle* of light that is the really critical factor. So *where to put* comes logically before *what to put*.

The point of the arrow may carry a code word relating to a specific moment like 'kiss'. Or there may be some geographical reference such as 'sofa tight'. A dance design is liable to be littered with 'SB' for shin bust and 'H' for horizontal. The direction of the arrow might well remind me of its intention without any geographical annotation, although every possible permutation of U, D, L, R & C can identify area in terms of the basic stage positionings of up, down, left, right, and centre. (I find that I have developed a habit of using Prompt/OP for where the instrument is positioned, and left/right for where the light is going. Actor's left, of course.)

Occasionally there may be grid references like 'AY' or 'BZ'. But, unless working on a clear - probably thrust - stage, I try to avoid the convenience of a symmetric modular area focus: it is often harder work, but better design, to break the total acting area down into the asymmetric units that the production's flow requires.

Sometimes there may be one or two or even three lamps with the same setting, but that is for colour control and is a matter for discussion in next CUE.

So, having decided the where, how does one begin to choose the what?

Well, my choice process is:

- (1) Family (2) Beam Angle (3) Model

## Choosing the Family

By family I mean Flood, Focus, Fresnel, Profile, Variable, or Beam. I assess which in terms of light control required (beam size, shape and quality), scatter acceptable, time allowed for focus, and availability of equipment. Priorities vary with circumstances and, alas, decisions frequently have to be made on grounds other than the purely artistic. One must always approach any problem with the question *what am I trying to achieve?* but almost in the same breath follow with *how much time and money have I got?* Note that time takes precedence over money in that sentence: when staging a production there are many occasions when money cannot buy time.

FLOODS have no adjustment knobs and so the light is too uncontrolled for lighting actors. Good for cyc cloths, especially the linear halogen types (although they devour colour filters). Good for flattening light on painted cloths, although these usually need a few brush strokes from soft spotlights to point their contrasts.

FOCUS spots, much beloved in central Europe but out of fashion in Anglo-American lighting for some twenty years, may make a comeback following availability of pebble/prism plano-convex lenses which are free from the old aberrations of rainbows, filament images and heat cracks. A softish edge without the spill of the fresnel or the time consuming adjustments of the profile.

FRESNELS are fast adjustable work-horses. Up/down, left/right, big/small, lock it off, next one please. Particularly good on shortish throws, up to about twenty feet or so. But at thirty feet the beam becomes distinctly tired. Fine for open rigs but light scatter outside the main beam is an embarrassment when there are borders. Early models were built to a lens specification for television where softness is more important than scatter (which is out of shot). Current models often even worse because of smaller diameter lenses resulting from consumer demand for shrunken body. Crude beam shaping possible (in more flooded beam angles) by barndoor which also controls some spill. Pity that a barndoor takes up so much space, but this usually does not matter on thrust stages where the top door is essential for keeping dazzle out of audience eyes in the front rows.

PROFILES give complete control of beam size, shape and quality. But the process can take a long time - even when none of the many movables are jammed. Scatter from the lens is negligible when properly adjusted, although stray light may squirt from other holes: there just have to be ventilation holes and there is a limit as to how well they can be light baffled. For many people, not just me, the compact and robust pattern 23 has never been totally eclipsed as Lord of the Profiles, and is still favourite in what current jargon calls the subkilowatt range.

VARIABLE beam profiles (sad that the word 'Zoom' has faded away) have largely replaced basic profiles at one kilowatt upwards. More flexible, usually more efficient (losses through the second lens are balanced by more usable light due to shutter used only for shaping and not sizing as well). Faster.

BEAM lights, whether conventional parabolic reflectors or the magnificent paricans. Chosen for guts. And speed: up/down, left/right, twist. (By twist I mean filament orientation to match the angle of my arms when doing an aeroplane imitation.)

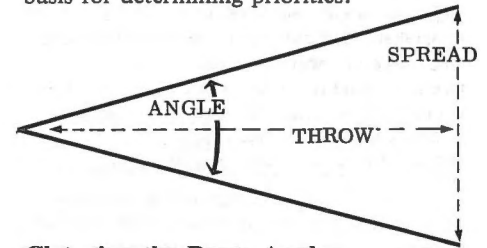
So, how does one choose? Well, my own approach might summarise as:

- ★ Profiles (mostly variable angles) for actors, unless . . .

- ★ need guts, then use beams, probably paricans
- ★ short throws on thrust stages prefer fresnels with heavily barndoor top.
- ★ if short of time, and scatter and throw allow, use fresnels

- ★ Fresnels for scenery, unless . . .
- ★ texture from gobo required
- ★ precision edge required
- ★ omnidirectional softness from floods required on cycs, cloths and borders.

If I am renting a rig, then total choice is made in these terms. However, if using existing equipment, then they form the basis for determining priorities.



## Choosing the Beam Angle

I am old enough to have grown up with the current equipment so I rely a lot on a rule of thumb based on memory. But when occasionally (very occasionally) I am being scientific - and I do recommend the occasional application of science to the art of stage lighting - I determine the required beam angle and write it beside the crosses on the plan. Young 'uns equipped with trigonometry and pocket calculators decide their angles with these devices and no doubt there is a lighting designer somewhere doing it with an Apple or Sinclair home computer. (Would he please write an article for Cue - Ed.) The rest of us draw it out at half inch to the foot and measure the angle with a plastic protractor discarded by our children.

## Choosing the Model

Those proverbial wild horses will not drag a *best buy* list out of me. There's some as likes to dance a minuet and some as likes to play a prelude. Can you tell Stork from Krona?

But one thing is for sure. No manufacturer has yet succeeded in producing a spotlight that cannot be battered into submission. (Although there used to be a little flood which put up a stiff fight. It shall be nameless but it was as prolific on school stages as the daisies on your lawn or the dandelions on mine.) Diffusers and cooking foil are the basic tools: although a friendly neighbourhood blacksmith can be useful on some of the bigger jobs.

Coming next: Choosing Colour.

# REIDing SHELF

**THEATRE IN COLCHESTER** is more than just a history of theatre in Colchester. Change a few names, relocate some matters of detail and this could be the theatre history of many an English town. The guts of our theatre does not stem from the activities of the David Garricks, the Binkie Beaumonts and the Peter Halls with their respective Lanes, Avenues and River Banks; but in the Brothers Nunn (no relation to Trevor), the Bob Digbys, and the David Forders whose respective circuits, reps and regionals have given continuing dramatic pleasure to that vast body of audience who are required, or prefer, to live beyond the fashionable heart of theatre in the capital.

Georgian theatres royal declining into Victorian gaffs. Edwardian hippodromes slipping into Elizabethan bingo. Neo-Georgian odeons torn between twinning and rocking. Town Halls of every persuasion featuring tele-stars live. A fairly universal picture of decline redeemed nationwide by two features.

One of them, the recent resurgence of touring circuits corresponding in scale to population and theatre size, has not yet, strangely, reached Colchester apart from smallest scale in the Arts Centre and nearby university theatre. But in the other, the pre-war battle to establish a weekly rep that could be developed into a regional playhouse during post-war expansion, Colchester has performed with style and distinction. The town's Repertory Theatre was founded by Robert Digby who also played a national role in theatre history by founding CORT – the Council of Repertory Theatres that, in tune with its achievements, became the Council of Regional Theatres (now incorporated in the Theatrical Management Association to a degree that seems almost to amount to a reverse takeover). And the town's regional theatre – *Colchester Mercury* – has the unique distinction of such architectural success that it has been cloned for Salisbury.

Nicholas Butler's book records the struggles – the struggles for funding and the struggles for standards – struggles which are certainly linked but not so closely entwined as the new pure science of arts administration would sometimes have us believe. It takes positive individualists to make theatre happen and Colchester has had its share of these catalysts who, up and down the country, can be traced as the founding fighters in all towns which now have, to use current jargon, a building-based company.

Colchester may not yet have a middle scale mixed programme theatre (although the Grand, sometime Hippodrome, is conveniently pickled in bingo waiting the call to pleasure the townsfolk with tours) but it has a history older than most. There was a

major Roman garrison from AD.50 until sacked in AD.60, so the author is able to claim that it is "reasonably certain that in the first ten years of its history, Colchester gained and lost a theatre", although the existing archaeological remains are of a later theatre which seated 4,000 audience in the 2nd and 3rd centuries.

Every dot on the photographs of the Wilkins Royal has come under my detailed scrutiny. Several times. And I have savoured every word of the book's account of its varying fortunes from 1812 prologue

While valour's host and beauty's radiant train,  
Gild with propitious smile our op'ning fane;  
And bid us with our scenic toil renew,  
Our anxious hopes – to be approved by *You!*

to 1918 fire and transformation into one of the few bus stations with a genuine stair to the gods.

This is a lovely source book in all sorts of ways – such as the set photographs which recapitulate the scenographic styles of the

rep era. Although essentially a source of Colchester information, it is to be recommended also for the way in which it encapsulates so much flavour of the development of regional theatre over the past two decades.

For his **FOCUS ON MACBETH** John Russell Brown has commissioned and edited a dozen essays on what we theatric supernaturalists feel compelled to refer to as "The Scottish Play" for reasons of respect born out of fear. The book contains discourse on these matters supernatural, but the complications of the argument confirm for me the correctness of my 1948 decision to abandon the further study of English literature after my perceptive pass-winning essay on this very topic in the Scottish Higher Leaving Certificate examinations.

By far the best bit in the book is an inter-

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The Director of Studies will be **Mr Roderick Ham**, Architect and Theatre Designer.

The course will be of great interest to all those contemplating building theatres, opera houses, or concert halls whether their responsibility is to draw up a brief, design the building or some technical aspect of it, or to run the building when it is complete.

Participants may therefore include senior staff from Ministries of Culture and other governmental or non-governmental bodies who are concerned with theatre planning and the briefing of architects for theatre projects, and Directors of Arts or Cultural Centres, as well as architects interested in the problems of theatre design, and other senior people involved in aspects of theatre planning.

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view with Peter Hall. Here is clarity indeed: clarity of options, clarity of debate, and clarity of decision. (I have never worked with Peter Hall so I don't know whether that is the reality! But I have been mightily impressed by his approach to Don Giovanni in John Higgins' 1978 *The Making of an Opera* which is currently one of the finest books ever to be remaindered.)

Other contributors discuss past performances and seek historical and political contexts for the play. And, of course, analyse the characters.

Inevitability is an intrinsic component of tragedy. Could there have been a *psychotherapeutic intervention to slow or arrest the progress to disaster?* A mental health specialist, Derek Russell Davis, analyses the Macbeths and clarifies many points on both the play and psychiatry. A happy interaction between art and science, combining to increase our sympathetic understanding of the human condition.

The missing chapter is on Verdi. Operas can reveal obscure facets of the plays from which they are derived and Verdi's commentaries on Falstaff, Othello and Macbeth are indispensable to any total consideration of these works. Peter Hall expresses a desire, even a need, to return to Macbeth from time to time. May we hope that he will choose Verdi. It would be to the mutual advantage of Hall, Shakespeare – and us.

Apart from a concluding ten pages in the form of a 'compare and contrast' essay, Leonard C. Pronko's **EUGÈNE LABICHE AND GEORGES FEYDEAU** is really two separate books, although these two masters of the situation comedy lie logically between the same covers. The author would probably despair at the use of the label 'situation comedy' by anyone who has read his book. But the nuances of style and structure that he discusses with commendable clarity are far too complex to be summarised in a more inspired reviewer's phrase.

My perception – even my sight – has always tended to suffer diffusion when faced by an opera synopsis, even of an opera I know well. The plot mechanics of Labiche and Feydeau make even Trovatore seem like Janet and John Book One, so the chapters summarising the plays, some of

which I have seen but sadly never worked on, leave me dazed. But the meat is in the social context chapters, relating Labiche to the Second Empire and Feydeau to the Belle Epoque. Plus the chapters on staging with then and now critical opinion and production descriptions: healthy, even essential, input to the think tank of any director and designer approaching a production of these playwrights.

In his **GEORG BÜCHNER**, Julian Hilton has a simpler yet more complex task. Büchner wrote only three plays but their roots are in literary philosophy rather than staged drama. Perhaps it is significant that with *Wozzeck* (Berg) and *Danton's Death* (Hindemith) it is probably the opera house that has produced the most communicative stagings of Büchner so far. Julian Hilton argues strongly, if subjectively, for Büchner as a dramatist of our time rather than his own early nineteenth century. So this book may well stimulate directorial minds to stage these plays with a freshly conceived, interpretative clarity. Meanwhile I hope, and I hope quite fervently, that when university drama departments bring their students (as they must) into contact with Büchner, they will do so by exploratory performance exercises rather than by analytical essays. In other words, students should read their Hilton but perform their Büchner.

Text analysis may be valuable, even essential, in preparing a production of Büchner, Labiche and Feydeau, but is it appropriate for Pinter? Bernard F. Dukore's **HAROLD PINTER** is the sort of book that makes me feel relieved that I am a student of theatre rather than a student of dramatic literature. In performance, any audience that attempts to dissect Pinter's dialogue in a conscious

search for inner significance is likely to result in the sort of confusion, despair and even outrage that greeted the famous first production of *The Birthday Party*. Pinter manipulates language with a skill that seems to stem from a conviction – perhaps a cynical conviction – that speech is really rather an inadequate means of communication. Very few of life's conversations display much logic when analysed: it is the ambiguity of Pinter's dialogue that makes it so stunningly realistic.

These are plays to be absorbed in totality, perhaps at a mainly subconscious level. But I suppose that this kind of subjective response is poor meat for essays and exams. So this book will be welcome in the halls of learning, although I personally would rather keep any such volumes of analysis out of a Pinter rehearsal room, relying rather on casting from that body of actors who are able to speak and pause with a natural sincerity that does not depend on analysed motivation.

**THEATRE IN COLCHESTER.** Nicholas Butler. Published by the author at 2 Rose Lane, Wivenhoe, Essex. £7.50 (UK).

**FOCUS ON MACBETH.** Edited by John Russell Brown. Routledge & Kegan Paul. £9.75 (UK).

**EUGÈNE LABICHE AND GEORGES FEYDEAU.** Leonard C. Pronko. Macmillan Press. £10 (Hardback) (UK). £2.95 (Paperback) (UK).

**GEORG BÜCHNER.** Julian Hilton. Macmillan Press. £10 (Hardback) (UK). £2.95 (Paperback) (UK).

**HAROLD PINTER.** Bernard F. Dukore. Macmillan Press £10 (Hardback) (UK). £2.95 (Paperback) (UK).

*Note: the above three volumes are published in MACMILLAN MODERN DRAMATISTS. (See also CUE 17).*

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# Provincial Promises

ALAN JOWETT:

Manchester might no longer have the claim of being the second most populous city, but in theatrical terms it can rival the imagination of the capital itself. In recent years the opening of the Royal Exchange Theatre (in 1976) and the rebirth of the Palace Theatre attracted headlines – even making News At Ten, and how many London theatres do that.

The city has always prided itself on constant and consistent advances, its no good being satisfied that Manchester was the birthplace of rep theatre. No use just to be considered as another provincial outpost and three new developments now under consideration show that Manchester will have an even brighter future.

The University Theatre, opened in 1964 has traditionally been the venue for some of the most adventurous programming in the city and for the last nine years the occupants have been the highly acclaimed Contact Theatre. When the University itself was faced with severe economies, the future for the company looked uncertain. In drastic situations, however, drastic imaginative action is called for and the Artistic Director, Richard Williams, proposed that Contact should, in effect, cease being tenants and become the owner occupiers of the premises from the Autumn season.

The extra costs – about £25,000 – is a small amount because they will be generating extra revenue from becoming the biggest producer of shows in the North West. The main theatre will hold a continuous 36-week professional season of nine major productions.

Shows lined up so far include a premiere of Waugh's *Scoop*, *Hamlet* in tandem with *Rosencrantz and Guildenstern*, *The Elephant Man* which premiered in this com-

pany and a compilation, *The Seven Deadly Sins* by seven major writers including Howard Brenton and Trevor Griffiths.

They will expand their work in schools and youth centres with eight productions per year and establish a new Children's Theatre for the 5–15 age range. This will be the first of its kind outside London. Their season of Playdays, based on exam set texts will also continue.

Contact remain youthful by playing to audiences of over 90 per cent, largely under 25, but not dominated by students and is the only theatre to receive a grant from Urban Aid for its contributions to the inner city.

The previous occupants of the University Theatre were the 69 Theatre Company who blossomed out as the Royal Exchange Company in their new space age auditorium. They have achieved national and international acclaim for the standard of their work and the new season includes another back-stage drama by Ronald Harwood, author of *The Dresser* which will bring Mai Zetterling back to the British stage. Another premiere will be the play, *Hope against Hope* based on the words of Russian poet Osip Mandelstam and his wife Nadezhda. This is created and directed by Caspar Wrede who filmed the memorable *One Day in the Life of Ivan Denisovitch* with Tom Courtenay, one of the Exchange's recurring star visitors.

It was Caspar Wrede who conceived the idea that since the main venue couldn't afford to try out more risky ideas, it would be killing two birds with one stone to have a smaller theatre in which new plays by new young writers, performed by new Equity members straight from school which would tour those areas of Northern England and

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18

Scotland deprived of a full-time theatre. When I spoke to Linda Ridding in June they had raised over half of the £60,000 towards the cost of the building, including the proceeds of a benefit night featuring Diana Rigg, Albert Finney and Frank Muir.

The Mobile Exchange Theatre will be housed for the first eight weeks season in the city's Corn Exchange, just a few minutes from the company's own base. There will be a certain amount of crossover of talent between the two companies, but in the main the new venture will be giving opportunities to newcomers. Then it will work from September to Christmas, 1983, in a variety of sports centres and town and market halls. They are looking to achieve the kind of success that the RSC met on their tours. It will be a canvas-covered, 396-seat mobile that will take the crew eight hours to erect and two hours to dismantle at each venue.

Then 1983 should see the emergence of a new Manchester Arts Centre. This has been the kind of centre that has been dreamed of and discussed for more than a dozen years. Indeed in the late sixties various cellar clubs were looked at and fly posters for benefit nights can still be seen yellowing. This new venture under the banner of the Greater Manchester Visual Arts Trust is in the hands of Dewi Lewis, Project Co-ordinator on a one year basis backed by a grant from North West Arts.

Plans were at an early stage as this article went to press, but Mr. Lewis' enthusiasm is based on his record of establishing an arts centre from scratch at the Derby Hall in Bury, just north of Manchester. In six years the local arts association grew from a shared desk to a thriving auditorium and exhibition centre. If this new venture is half as adventurous in its choice of promotions then Manchester will have an exciting season to come. The home for the centre has not yet been decided, but audiences are to be given a taste of what is to come by a short drama season held, again, in the Corn Exchange building over the Winter season.

So, if the prospect of another season of safe offerings from lethargic West End managements more intent on getting the house filled with non-theatre audiences seems to spell the death-knell for London theatre, if the thought of more of the same holds no thrills, then come and see what the Manchester audiences are enjoying. Even if it shatters all your previous misconceptions it will make you realise that the provinces are setting new standards on a tight shoe-string budget and that second best is no longer good enough.

### Wrong gender

We apologize for the mistake appearing on page 11 of our May/June issue in the article on the National Student Drama Festival Awards. The BP Award for Lighting Board Operation went to Deva Cook of Manchester University - not Dave - and we are indebted for this correction to Sydney Fisher of the Golden Lane Theatre, where she gained some of her experience.

# PRODUCT NEWS

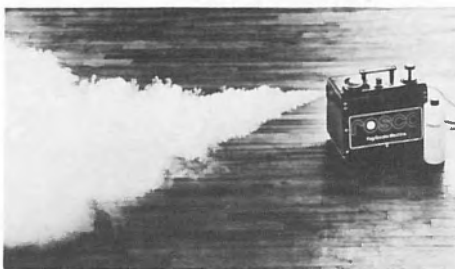
## Non-irritant Fog/Smoke System by Rosco

A new fog and smoke system designed specifically for use in theatres, film and TV studios has been launched by Roscolab Limited.

Claimed to be the safest on the market, the fluid is not petroleum based and overcomes the problems of flammability, irritation and oily residues on theatre and studio floors.

Rosco have been marketing their machine successfully in the States for the past six months.

The fog/smoke machine has only two moving parts and features a recessed and protected nozzle.



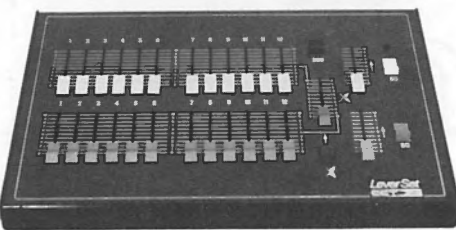
Smoke is activated by a switch on the machine or by a separate switch on the remote control extension box. A valve allows "tuning" of the smoke for a variety of effects.

The system lists at £330 and comes equipped with a starter package containing fog fluid, tool kit, remote control module, 6ft power cord, instruction manual and 90-day warranty. It can be purchased outright or hired from selected stockists, including Theatre Projects, London; Light Works, South Wales; Northern Lights, Scotland, and Mike Swetland, Manchester.

## Compact Packaged Lighting Control - Lever Set and Staka Pak

First fruits of the CCT-DTL joint development programme have arrived with **Lever Set**. This is an extremely compact control in 12, 18, 24 and 30-channel 2 preset versions with preset masters and dipless crossfader. A 12-channel extension desk will allow the user to expand the system at any time.

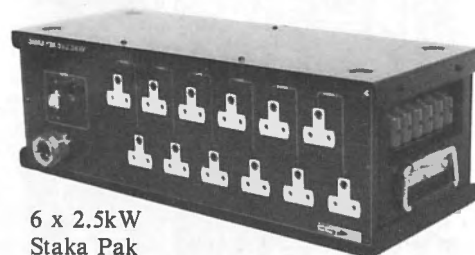
At the other end of the scale there is a 6-channel single preset with master to suit the user with more modest requirements. The desks which are supplied with 10-metre



Lever Set 12-channel desk

control cables, are designed and robustly made for easy and reliable operation. A detachable panel at the rear allows other types of connectors to be fitted to suit different installations.

**Staka Pak**, the packaged dimmers are available in four versions: 6 x 2.5kW and 3 x 5kW single-phase to suit UK applications and 6 x 2.5kW and 3 x 5kW 3-phase to suit European and other markets. High standards are maintained throughout from the toroidal chokes, sealed thyristor paks and control electronics to the physical construction in strong light-weight aluminium. The use of an internal bus-bar system and snap-on connectors ensures compactness, reliability and easy maintenance. The Staka Pak includes as standard, fuse status neons, an easy method of trim adjustment and, as with the Lever Set, control subpanels to allow other connectors to be fitted to suit different applications. Carrying handles are also standard.



6 x 2.5kW  
Staka Pak



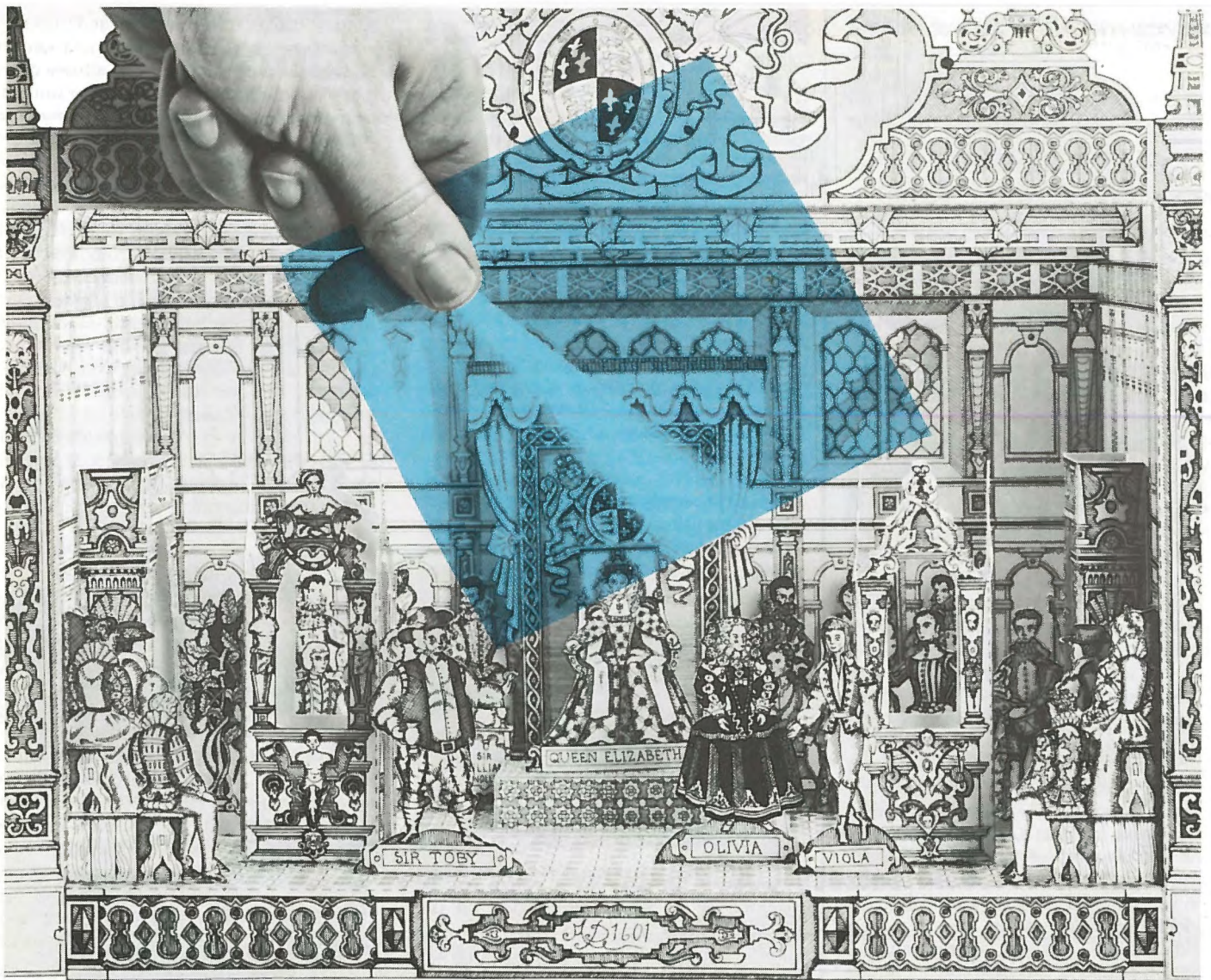
3 x 5kW  
Staka Pak

Optional items with Lever Set include transit covers and variable-length control cables. For the Staka Pak there is an inexpensive plug-in "local" rack controller, a "deconnector" connector, a thermal-magnetic circuit-breaker or earth-leakage detector.

Other control systems on the way include: **Multiset**, a modular Manual 3 preset board. **Multilite**, a modular add-on memory system and **Theaterlite** a full modular memory system for theatre use. Further information from CCT Theatre Lighting, Windsor House, 26 Willow Lane, Mitcham, Surrey CR4 4NA, England.

## Behind-the-scenes voice link

The Swintek Mark 200 VHF talk/listen communicator is a wireless microphone system using three channels. A closed intercom system designed for 2-way communications in high-noise environments, it can be interfaced with the existing wired system in use to provide a behind-the-scenes voice link between the director and his sound, lighting and stage crews, any of whom can break into the system by using his push-to-talk button. More information on Swintek from sole importers, Optical & Textile Ltd., 22/26 Victoria Rd., New Barnet, Herts. EN4 9PF.



# Supergel gives you the exact effect you want on any light in your theatre That's creative freedom

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You won't need 59 colours and 9 diffusers on every show but you do need the Rosco Colour Media Guide, which sets out guidelines and applications of all the Supergel and Roscolene colours. This and the Supergel swatchbook containing samples of all the colours is yours, free for the asking.

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# Paper Theatres

FRANCIS REID reports on stages that the theatric tourist can take home.

The oft used description *Toy Theatres* undervalues the potential of their pleasure and importance. *Model Theatres* is short on accuracy. Even that lovely poetic phrase *Penny Plain, Tuppence Coloured* has acquired overtones ranging from lack of subtlety to downright vulgarity. I am rather fond of the expression *Paper Theatres* which I picked up in Copenhagen at PRIOR'S DUKKE TEATRE museum and shop.

My own pleasure in this aspect is not so much the modelled stage. My theatric sensors are too dependent on an ambient response to auditorium and stage house. It is the details that fascinate. The details of the printed record of proscenium arches, scenery and costumed figures.

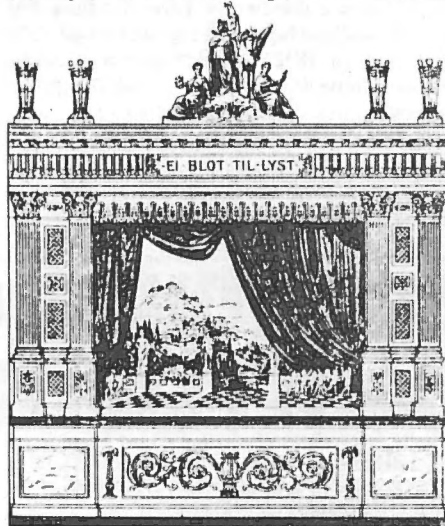
Prior's Dukke Teatre descends from the lithographer Alfred Jacobsen who in 1880 commenced publication of the monthly *Soufløren* (The Prompter) with each issue including sheets of characters and scenes for the most popular plays of the time. Most of Jacobsen's scenes of printed productions were designed for variously sized and detailed paper versions of the proscenium of Copenhagen's Royal Danish Theatre. A théâtre, incidentally, whose proscenium still carries that fundamental truth of theatrical purpose *El Blot Til Lyst* or *Not for Pleasure Only*.

However very few of the early Jacobsen printed plays were performed at the Royal Theatre. Most originated at the *Casino* described as a great and joyous bourgeois theatre intended as a 'Winter Tivoli', endeavouring with considerable success to capture the good humoured fairy tale atmosphere of Copenhagen's Tivoli. Many of the productions were the popular shows from Paris which had been trimmed and

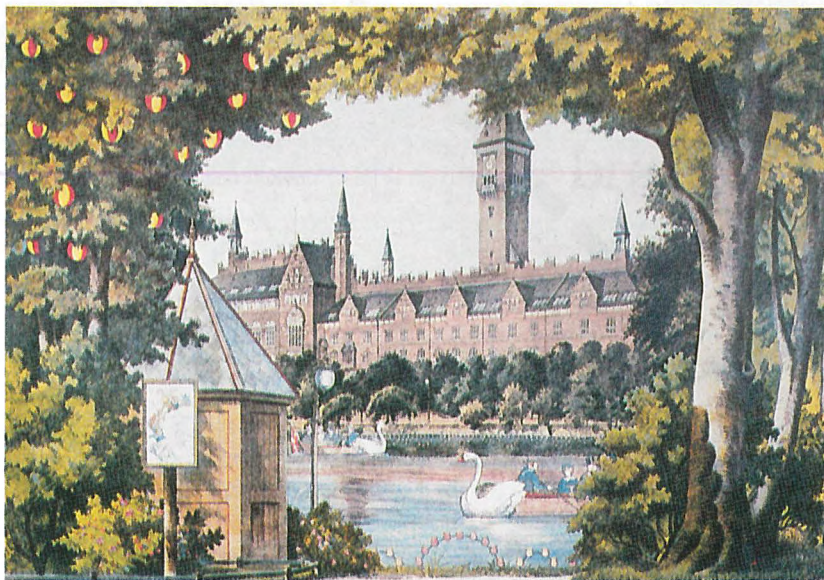
adapted to suit the rather timid Copenhagen morals, patriotic plays based on popular novels and, as would be expected, Hans Christian Andersen.

The character sheets were the most accurate: purchasers expected these to relate clearly to what they had seen in the theatre. On the other hand, a model theatre could follow the real theatre's practice of using stock scenes: wood, garden, palace, cottage, etc.

However, many scenes are precise records of the Casino Theatre's scenography, and all Jacobsen's artistes operated in the spirit of the scene painters of the period. Even if the actual source for a scene might be topographical prints, whether Danish landscapes or illustrations in the *Family Journal*. The translation of the foyer of the Paris Opera into a stock



Alfred Jacobsen's printed proscenium of 1892 based on the Royal Theatre in Copenhagen.



Jacobsen scenery (early 20th century) showing the Tivoli Gardens with Copenhagen Town Hall on the backcloth.

palace produces a rather delightful result.

How far can we take the detail as accurately representing the theatre scenery of the late 19th century? How closely was the Spirit of Aladdin's lamp directly copied from Michaelangelo's Moses? Certainly it is exact on the sheet. But in the theatre? It matters not, because looking at this material is about discovering style.

Anyway its all lovely stuff and its on display in this museum at 52 Købmagergade in Copenhagen (set your compass on the Rundetårn, its near there). There are a whole series of paper theatres from all over the world and the rooms are alive with atmosphere – just like that in Copenhagen's Teatermuseet in the Old Court Theatre, described in CUE 13.

If you love art, folly, or the bright eyes of children, speed to Pollock's

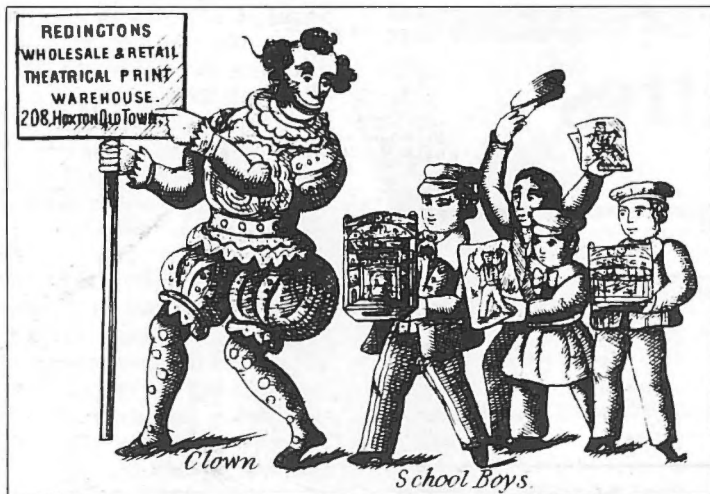
Robert Louis Stevenson

But *Pollock* is the name that most of us would associate with printed theatres. Juvenile Drama had many publishers in the middle of the nineteenth century with John Redington of Hoxton as the most successful. Redington's shop front proclaimed his trade as "Printer, Bookbinder and Stationer". But the lettering at the ends of the fascia board read, at one end, "Dealer in Miscellaneous Fancy Goods" and at the other, "Tobacconist and Theatrical Print Wholesaler". While yet another sign read "The Trade Supplied with Plays and Characters". Benjamin Pollock married Redington's daughter and inherited the shop where he remained in business until his death in 1937 at the age of 81. An occasion marked by a Times obituary of eight column inches. The Hoxton shop suffered flying bomb damage but not before some 1,200 copper and zinc engraved plates and 60 lithographic stone blocks had been removed to safety with over 170,000 printed sheets of scenery and characters, 13,000 theatrical portraits and 15,000 playbooks.

Unfortunately, as the result of a depressing saga involving the misguided enthusiasms of an entrepreneur whose activities included inadequate storage of the historically precious material in his care, the Pollock tradition almost faded out. By 1957 the business was in the hands of a receiver. Salvation was acquisition of the remains by Marguerite Fawdry who nursed Pollock's back to health with a lot of devoted help from people devoted to the cause.

Today a Pollock's shop is one of the joys of the restored Covent Garden Market. This is certainly worth a visit, but the essential paper theatre pilgrimage for the theatric tourist is to Number One Scala Street where a clutch of interlinked houses with a 1760 pedigree have become **POLLOCK'S TOY MUSEUM**.

Several of the rooms are dedicated to non-theatrical toys, although some of the exhibits have a theatrical connection. There is, for example, an "English wax doll dressed in a pierrot costume, handed over the footlights in a bunch of flowers to a young performer in 1897". And there is a collection of pre-video experiments in visual entertainment: devices such as the



Detail from the toy theatre play Harlequin Baron Munchausen published by John Redington. c. 1850

stroboscope, fantoscope, zoetrope, praxinoscope, stereoscope, flick book and that precursor of today's indispensable carousel, the Magic Lantern.

The museum's displays include a very basic A/V module on *The Artistry of Toy Theatre* with a single carousel pumping out projected images too fast for detailed study and too mechanically for the creation of atmospheric actuality. The subject is one that would lend itself to dissolving multiple images and sounds, but this museum is not favoured with the sort of resources required to mount displays of that scale. Indeed it could be argued that the very charm of Pollock's lies in its domestic scale.

The museum consists of a series of small rooms and staircases – the route goes upstairs in one house and downstairs in the adjoining one. Perhaps the most fascinating exhibit for this visitor was an alcove furnished as the workshop of Mr. J. K. Green who claimed to be the original inventor and publisher of juvenile theatrical prints. His business was established in 1808 and even in 1832 was still selling at *Half-penny plain*, *Penny coloured* although inflation would shortly double the retail price index of juvenile drama to a level where it would stabilise long enough to make *Penny plain*, *Tuppence Coloured* an integral part of the English language.

In the workshop reconstruction, Mr. Green is at work on a copper plate and there is a small handpress for printing from copperplates. A girl is colouring prints using mixes of three primaries – carmine, gamboge and a light blue. She has a card template cut to the outline of the characters, and would certainly need its help to speed the process since 80 seconds was the time reckoned for colouring a sheet of ten characters. At this speed, pay worked out at fourpence per hour. Printing from copper plates was very time consuming due to the complex inking process between each print: lithographic printing from stones was quicker and therefore became the more popular method of printing theatres and actors.

There are many model theatres on display and several are delightfully mounted in shallow framed cases by foreshortening the up/downstage distance between proscenium and wings/borders. This makes them hangable on the wall and one day I hope to get around to a bit of do-it-myself. A whole era of lighting is encapsulated in a miniature practical switchboard, about nine inches square, which includes switches for No 1 Batten (R & W), Floats (R & B), Acting Areas (R & B), Cyclorama (R, B & W) and Dips 1 & 2. There are dimmers for floats, AA's and cyc.

In the ground floor shop there are theatres, scenery, characters and plays on sale. The stock displayed includes Danish theatres from Prior's Dukke Teatre in Copenhagen and one detects a growing

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tendency for new and restored theatres to produce models of themselves. In some cases there is a new and welcome development from traditional paper theatre in that the models sometimes now include the auditorium rather than just proscenium and stage.

### Theatric Ephemera in THE DICKENS HOUSE

Redington's and Pollock's sheets of scenes in *Oliver Twist* can be seen in the museum at *The Dickens House* in London's Doughty Street. And in the spirit of mid-nineteenth century scenography, Pollock's "Side Wings to Suit Any Play" are mounted alongside.

Charles Dickens only lived in Doughty Street from 1837 until 1839 but it was a period which included *Oliver Twist* and *Nicholas Nickleby*. The house is furnished with Dickens ephemera and includes an important library.

Dickens exhibited some passion for the theatre and letters revealing this are on display. He was an enthusiastic organiser of amateur theatricals as well as a performer. There is a playbill for the amateur performances that he arranged for the benefit of charity during his visit to Montreal in 1842. (That one of the pieces is described as "from the French" is presumably coincidental rather a gesture towards French Canadians!) "Mr. Charles Dickens" is billed as "Stage Manager" . . . this would not be the kind that calls cues, but rather more the producer; and various documents including the detailed prompt scripts for his



Clarkson Stanfield's act drop for Charles Dickens's production of *The Lighthouse* by Wilkie Collins, presented in the drawing room at Tavistock House in 1855.

dramatic readings from his own works indicate a high degree of theatrical administrative ability.

There are various other playbills including an 1851 performance at Devonshire House in the presence of H.M. The Queen, and a silk one for *No Thoroughfare* which Dickens co-authored with Wilkie Collins.

In the drawing room of Tavistock House, described on the playbills as the smallest theatre in the world, Dickens produced Wilkie Collins' melodrama *The*

*Lighthouse*. The scenery was by the great Clarkson Stanfield and the act drop formed our cover to CUE 2 (Nov-Dec 1979). This act drop was trimmed after the performance so that it could be hung as a painting; but comparison with the 1855 wood engraving of the original in the Illustrated London News suggests that it has lost only about five feet in width and less than a foot in height. This item alone makes it worth including Doughty Street in any theatric tour of London.

### THE STAGE LIGHTING HANDBOOK:

Francis Reid; (2nd Edition, published Adam & Charles Black) £5.95 (UK)

Anyone who is new to stage lighting or older hands who, for one reason or another, have not got the first edition of this book *must* go and buy this one. But what of the rest of us? Our treasured first editions upon our shelves; is there something — other than curiosity — to entice us to purchase the second? The answer has to be: only if you consider the odd photograph here and there of new equipment to be important. Or that it is essential to have some of the new trade names the old sort of equipment is marketed under.

Readers of CUE will remember that they have been let into the secret of second editions and beyond that — even unto the ultimate publisher's trick, a gratuitous change of format.\* The truth is that when it comes to basic principles, authors don't change much — an advocate of the simple way remains simple and the multi-complexity man is complex to the end. Mind you; wearing a disguise, however thin, an author can become a veritable Mr. Hyde — casting aside every restraint, roaring to rape every auditorium which comes his way. For thus I interpret Walter Plinge's 'thoughts' on Forward Bars in the last issue of CUE.

Mr. Plinge wrote: "Looking around (Her Majesty's) I was delighted to note that

\* *Of Making Books* CUE No. 14.

lighting instruments had penetrated the auditorium positions where I had most yearned for them: booms between the boxes and stage, and a bar from the auditorium ceiling." He then goes on to note with interest, not sorrow, the growth of these forward bars in London and New York and to praise "the sound designers who led the way in getting this position available for technical suspensions". With thoughts of Dress Circle front rows and other prime positions filched by sound engineers I can only feel relief that Docile Reid had decided to relinquish his role as administrator at the Theatre Royal Bury St. Edmunds recently. It was obviously only a matter of time before, inflamed by Greene King fumes by day and by night from the brewery immediately opposite, his alter ego would get the upper hand and that Georgian auditorium come to resemble the set for the RSC's *Henry IV* at the Barbican. Or the one for *Nicholas Nickleby* at the Aldwych, which was much the same; though the words were rather different.

Fortunately not a pica of Plinge appears in *The Stage Lighting Handbook* — the lighting principles remain sound and modest, as far as I can see, unaltered. The author very fairly states this in the first line of the prologue with which he rings up the tabs on his second edition. However, up-front one finds some changes among the equipment photographs. Personally, I hate the way that lanterns, like cars, all look alike nowadays — whatever the type or the

manufacturer. No wonder firms are reduced to dreaming up fancy names. No matter, in *The Handbook* one can still come across many old friends, accredited or anon, which belong to an era when good photographs freely available were a first priority in a certain firm. That tradition, at any rate, would seem to survive.

There is one very short new chapter "Matters of Degree" and the book is printed on whiter paper and there is a new cover in red. So to repeat: unless your 'first' is falling apart or you are a collector or a reference library you need not worry about the 'second'. As to the 'third' when it is published, as it surely will be one day, we shall have to wait and see!

FREDERICK BENTHAM



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# Epitaph for a Hi-Tech Theatre

The *Talk of the Town* has closed. Rather suddenly. I was not at the last night. No, my last night at the *Talk* was in December 1958 when I passed through the stage door for the last time and went off to stage manage my first Howard & Wyndham pantomime and to lighting manage my first Glyndebourne season. I never stepped inside again, neither front nor back. I once toyed with an article, for TABS – until the *Talk* decided to file their Qs rather than memorise them in modules. The 21st coming of age seemed like an occasion for a visit on behalf of CUE, but I was tied up with the 160th birthday celebrations of a little theatre in the eastern shires. I postponed the idea until their silver anniversary, but changing fashion and recession have intervened.

The mere passing of this particular format of the London Hippodrome does not really provide sufficient excuse for a few nostalgic notes from its first sound operator. My justification is that when the *Talk* opened it was a high technology theatre. An interesting combination of 'state of the art' and 'probing forward'. I understand that much of the engineering is unchanged and I hope that the archaeologists will go in with their cameras and note books before the Hippodrome is transformed into its next whatever.

The Hippodrome started life as a 1900 arena for circuses and water spectacles plus a proscenium stage enlarged in 1909 for variety and revue. So it is one of the capital's more adaptable midtown performance spaces. But not a candidate for restoration: even the optimistic Curtains!!! gazeteer accepts that *Matcham's gorgeous auditorium has been mutilated beyond recall.*

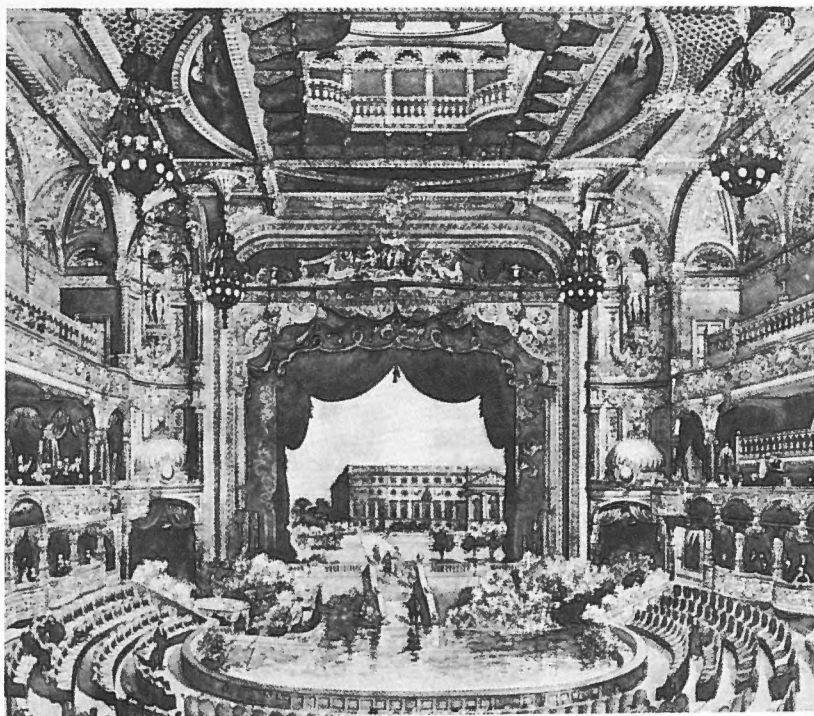
My qualifications as a 1958 sound operator were slim but adequate for the procedures of the time. I knew what to hire from Bishop's for a play, I knew how to connect all the bits together, and I had developed some dexterity in dropping the needle into more or less the right groove on a record whizzing round at 78 rpm on a panatrope. I had recently been a national service radio mechanic in the Royal Signals and therefore could, in extreme emergency, tap the grid pins with my screwdriver until I found a duff valve.

But the sound console at the *Talk of the Town* was a 'special' in which Stagesound had incorporated the latest technology plus a few experimental ideas. I use the term console rather than desk or mixer because the controls (all rotary knobs) were set out in a floor-standing cabinet with some pretensions to consideration as furniture. It did, after all, have to stand alongside the timbered splendours of a Bentham Light

Console. Not, of course, in the auditorium: that was *where you may wine and dine satisfyingly and elegantly, dance to the music of famous orchestras and, in the course of the evening, enjoy the two contrasted stage presentations that form the lavish theatre*

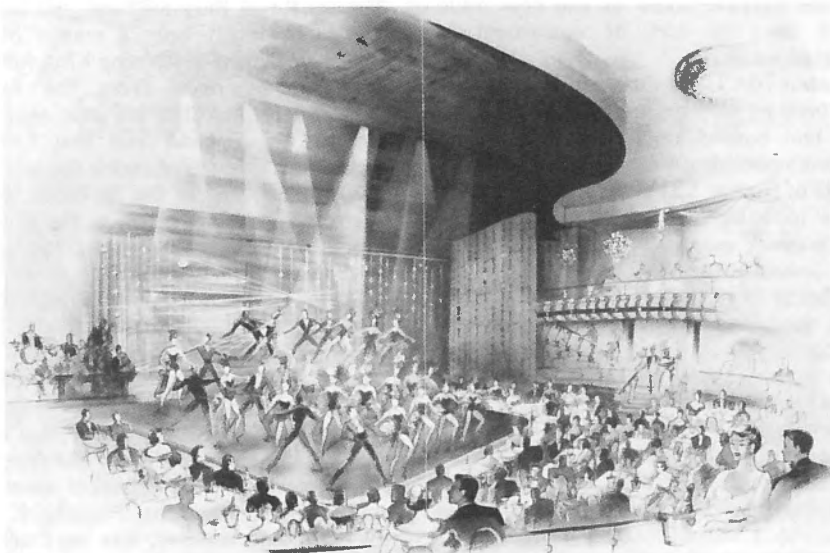
*entertainment.* Technology had its place and that was on a backstage perch: admittedly it was a forward perch so that light and sound operators could see some parts of the stage. But the sound that I mixed came at me through monitors.

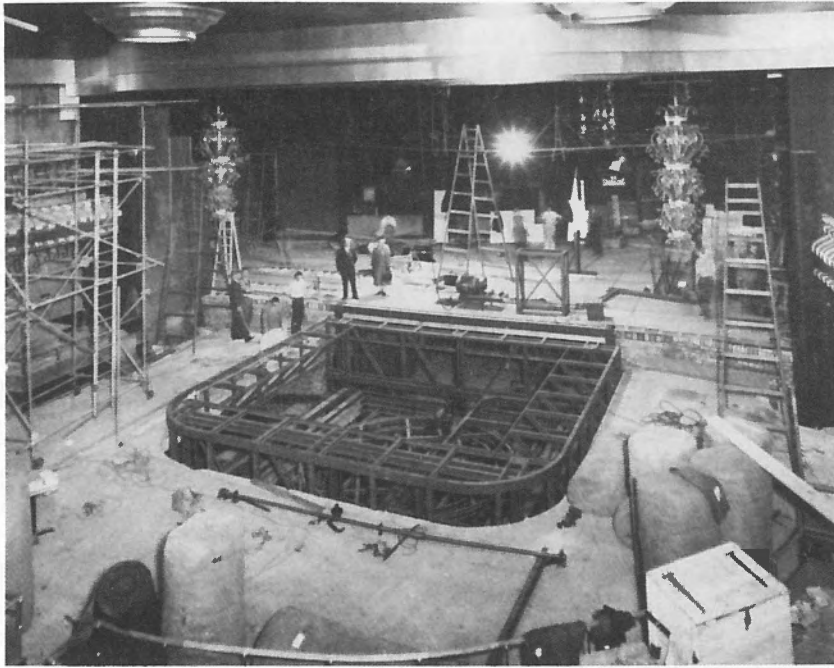
The machine had, I think, some pretensions to stereo but I rather fancy that the routings were preset rather than subject to my operational intervention. And much was made of automatic changeover in the event of power amplifier failure. Also I think that the show was a fairly early example of the use of 'pit singers' in an acoustic-isolation booth. The mix was fairly static,



The London Hippodrome was opened in 1900 and transformed into *The Talk of the Town* in 1958 when the inclusive charge for dining, dancing and stage shows was 42/6 (£2. 2½). By the summer of 1982 this had become £21.75. Plans for refurbishment were abandoned because it was considered unlikely that the public would be prepared to pay £30 and upwards for an evening of this type of entertainment. The *Talk* is now dark: a victim of recession and ever-changing tastes in leisure.

Our drawings show artist's impressions of 1900 (from *The Sketch*) and 1958 (from the opening publicity leaflet)





The dance floor rose to form an apron stage for the shows. Set in to this apron was a further lift including a revolve. This lift could collect an ice-pad or fountains from the understage storage area. (1958 construction photograph by Hall Stage Equipment Ltd.)

muting switches being used to cut microphones whose mechanics were on the move.

My overwhelming memory is of the microphone mechanics which taxed both my fingers and my nerves. Usable radio microphones were not far away: I think it was 1962 that saw me using one regularly for talking to the board during light focussing at Glyndebourne. But the standard technique of the time was *risers* popping up through the stage floor. However these were neither flexible enough for the production, nor practical in a stage with a variable geometry of mechanised traps, sliders and trucks.

So it was decided that the microphones should drop from the grid by means of a contraption devised from reversible motors, metal tubes, bicycle chains and limit switches. The switch-selected limits were the real innovation. (As I was to discover a couple of years later when operating Glasgow Alhambra's five riser mics without limit switches. No sound operator in that theatre: working the risers and stage elevators was a fringe activity while calling the cues.) Throughout the rehearsal period, Stagesound worked a night shift to tune these temperamental devices, and so every day the limits were different.

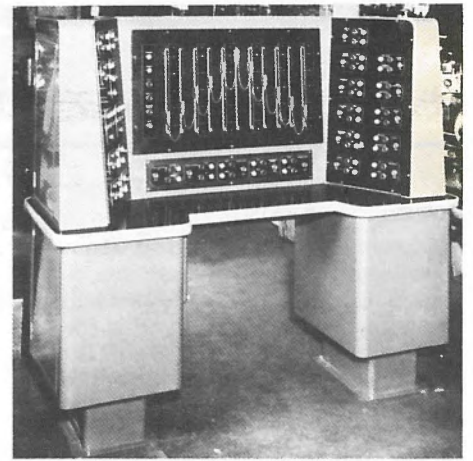
I could not myself see the result of my actions, but benefited from the advice of my sound designer, a Mr. Nesbitt. He was also the lighting designer. And the director. But, being 1958, he was not billed as any of these functions which were all just part of being a *Producer*. Mr. Nesbitt carried out these functions in a rather grand manner from a table where he appeared to live in some style with the aid of a butler. He very rarely climbed on to the stage, preferring to send his choreographer to modify any malfunctions that he detected in his performing artists. The integration of sound, light, flys and machinery were, however, his

particular pleasure and we technological troops were marshalled with little concession to human frailties. Oh yes we muttered, but he had a louder microphone. I never worked with Nesbitt since (what use would he have for a mere lighting designer!) but I would not be surprised to learn that he never followed director's sartorial trends such as ties off/jeans on. And I doubt if many of his acolytes call him Bob.

The light console was not new. It was an earlyish model (with memory groups formed by patient labours in a mini-switch cabinet rather than instantly captured by toe pushing a piston setter) and had been rescued from the demolished Stoll Theatre. The Light Console was hardly the latest technology by 1958 but it was still the best available machine for the fast colour-group lighting style that the show required.

Light and sound have been replaced but the machinery has, they tell me, soldiered on. I remember being particularly impressed with the contour curtain control. A set of vertically sliding dimmer knobs linked by a chain to give a combined mimic and preset which seemed to be ahead of what we were then able to do with sound and light. It is probably the first and last time that I ever had that sort of thought about stage machinery!

The dance floor rises to form a thrust stage with a production elevator inset. Early in production week this elevator got out of alignment while on its bottom dead, and failed to surface for three days despite overnight toils by a Hall's squad who were discovered on our arrival every morning to be using the perimeter around their hole as a table for sausage, egg and bacon. Eventually, after the third such breakfast, it did surface and we embarked upon a grand trial of the fountains. Encouraged by Mr. Nesbitt's cries for more and yet more spectacle, Bill Elyot gave up urging caution (and anyway he did not have a microphone



The 1958 Control panel for lifts, revolve, trucks, tabs, etc. The central section is a combined mimic and preset for the Countour Curtain.

to help him top the roar of the waters) and so he applied full pressure. We had an unexpected early night to allow the electric installations in the roof and basement to dry out. Legend has it that the fountains are still there but have never ever performed since.

But my main recollection of life at the Talk of the Town is the tune *I could have danced all night*. This was always played for band changeovers during the dance sessions. As soon as the on-stage band started the tune, the replacement musicians got on to their truck and the technical crew stood-by. The show band came up through the floor on two trucks that moved to centre, while the Latin-Americans merely trucked from upstage to down centre. It took 32 bars to get from the electrics tearoom to the perch – but only sound had to make the journey. The simple light cues for the band change could be done by hand-moving the declutched dimmers in the understage dimmer room.

To this day, I always expect to do a cue when any band plays *I could have danced all night*. The Talk may be closed but I shall no doubt remain on perpetual stand-by.

FRANCIS REID

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# Between Cues

The thoughts of Walter Plinge

## Fur Coats and Allen

*Underneath the Arches* is great fun – and something greater than mere fun if you catch a night when Chesney Allen walks into the spotlight to play himself in the first half finale of Flanagan and Allen's fur coat hits. This is one of those moments when the simplicity of walking down a darkened stage into a static lime is the only staging option. And perfect. The song of the title is once again breaking out all over the summer seasons and I am pleased to report that a Walter daughter is showing considerable promise in the art of property negotiation. She is renting her fur coat, on a full repairing lease, for a sum in excess of its flea market value. It will dress a Flanagan on the end of a pier.

## Punditorial Graffiti

Plingular discretion restrains me from revealing in which temple of thespis I observed the profound inscription *Theatre Architecture, like sex, politics and sport, is an area with more experts than practitioners.*

## The Duke of Broadway

Compiled musicals start at some considerable advantage. The strength of the numbers is known. And familiarity is a big step towards musical appreciation. Linking storyline? Forget it. *Songbook's* fictional Moony Shapiro had the last word on biographical. And *Bubbling Brown Sugar* gained considerably on shedding its residual plot for Paris. *Sophisticated Ladies* has no book – just three dozen Duke Ellington hits sung in a clever sequence. A knock-out cast, dynamically frocked and nicely lit, sing and dance in front of a specialist band led by Mercer Ellington who conducts his dad's music with the most expressive hip movements since Groucho Marx. Great.

## Postal Pattern

Plingular applause is rather limp for the Royal Mail's British Theatre Stamps. The artist appears to have modelled the performers upon the tentative dramatic efforts of the younger pupils in a lesser academy geared to the stylistic needs of the day before yesterday's theatre. However the quality of footlighting is evoked very well, even when rather inappropriately franked with a spotlight. Yes, fulsome plingular praise is reserved for the issue's first day postmark celebrating that great achievement of British Theatre – the pattern 23, born I believe in 1951 the year of the Festival of Britain, but still indispensable.

## Classical Stage Door

Stage doors tend to be functional. So I was interested to discover that, whereas the Athens audience enter their National Theatre through simple doors in a frontage so restrained that it could be anybody's nineteenth century house of administration, the actors are received by a pair of elegant ladies in classical format.



## I'm with the Adam

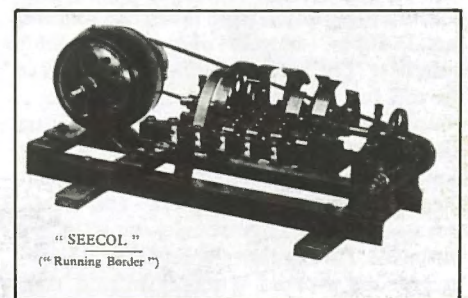
Music is credited with being the food of many things including love. And imagination. A great pleasure of contemporary living is the authenticity revival in baroque instruments and playing style. The concert room in Robert Adam's 1753 Bury St Edmunds Market Cross is a proper theatre until gutted in 1818. Not a shred of theatrical evidence remains and my personal efforts at cerebral reconstruction through silent contemplation have had a success rate of zero. However, gut strings baroque bowed to produce pitches that were blood tinglingly not well-tempered, stimulated the senses to recall pit, boxes and gallery. To clarify the proscenium zone will require a future brush with keyless winds and natural horns. This fine piece of our architectural heritage is with that building society whom the advertisers (and consequently the stand up comics) would have us believe that it is fashionable to be with. But their fluorescent powered sign, inserted into the Adam facade, indicates to me a less than responsible attitude to the art of the builder. Consequently, I am certainly not with them.

## Statements following a litre or Twain

I enjoy sipping a fine wine especially if it is Rhine blessed, and there is no finer sight than Freddie Grimwood decanting an ancient Oxford port. There is no way of producing a stage light as rich as candle flame filtered by vintage port. I like to swig plonk from half-pint tumblers: to sniff or sip an *ordinaire* is but to patronise it. Waiters like wine games but only in a New York chain hamburger house would a waiter offer his market-blended carafes as *Burgundy or Chablis, Sir?* In a Greek taverna, it may be himself who takes the order but it is the wine boy who delivers. And I mean delivers not serves. I prefer my retsina to transmit the tint of double fifty cinemoid.

## The thrill of the chase

*What did lights do in the recession, daddy?* They flickered, flashed and chased. *Why did they flicker, flash and chase, daddy?* Because technology had made it easy. *Did they have to flicker, flash and chase, daddy?* No. *Then, why did they flicker, flash and chase, daddy?* Because most popular music was heavy rhythm played too loud to hear the notes. *Why don't lights flicker, flash and chase all the time in 1999, daddy?* Because musicians and electricians have rediscovered the lost art of contrast. *Could lights flicker, flash and chase before microprocessors and recessions, daddy?* Oh yes, once upon a time there was a wizard called Seecol: you could find him down the Strand and he . . .



## An eye for tradition

What does a theatre archaeologist look for? Well, somewhere near the stage door should be *the soft brick* used as make-up by earlier generations of actors.