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Journal of Theatre Technology and Design

Summer 2021

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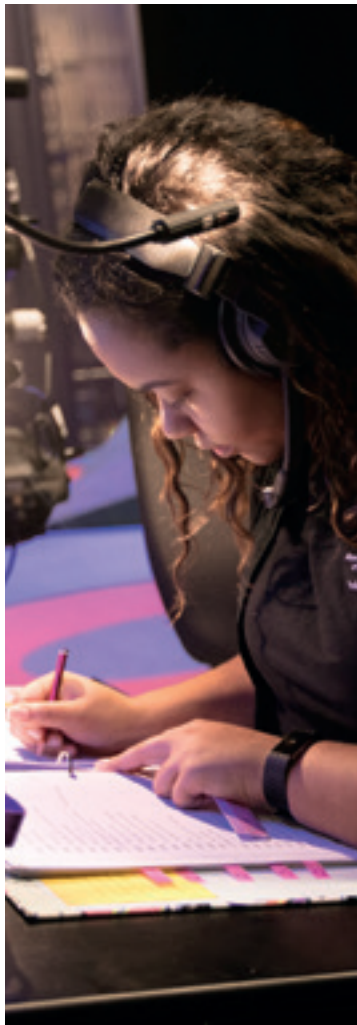


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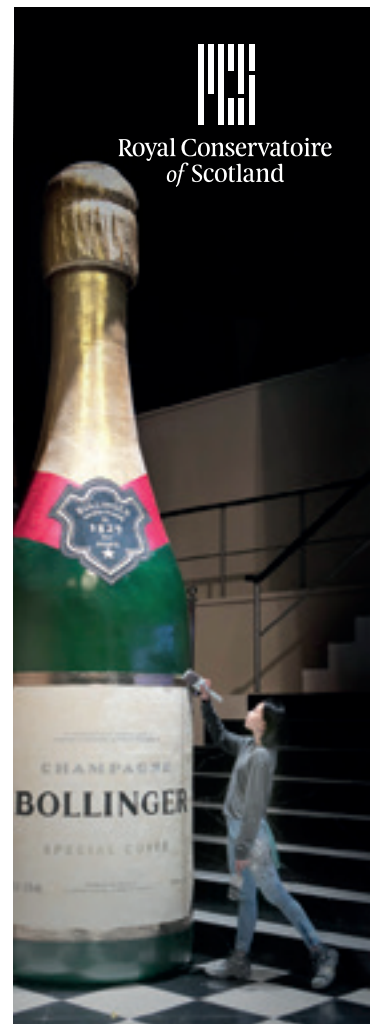
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Editorial

At the time of writing there is definite positivity on the horizon, and every day is bringing another announcement of a re-opening somewhere in the UK. However, there is still considerable uncertainty about timescales and in particular when/if social distancing might end – and whether audiences will feel confident to return to crowded auditoriums when it does. There's definitely a passion to see theatre again out there – the 3837 people ahead of me on the queue to get onto the National Theatre's website on the day that public booking opened, certainly demonstrates that! And, yes, I did get a ticket (just)! And, although there's a sense of an industry gearing up again, it's quite clearly not there yet, and many of our freelance colleagues are still without work.

Whilst the world has been (and still is) grappling with Covid, the climate emergency has not gone away, and this is something that the theatre industry has also been grappling with. We've reported on various initiatives over the years, and in the last edition of *Sightline* we flagged up the new Theatre Green Book – a collaboration between ABTT, Theatres Trust and other organisations. Paddy Dillon, Editor of the Theatre Green Book has now written in more detail about the first volume of the Green Book, focusing on Sustainable Shows, and a "beta" version of which can now be found at www.theatregreenbook.com. As he writes, the point of this version is for theatres to test it and see how it works for them – so please do spread the word and engage with this initiative, which has the potential to be as relevant as the Yellow Book that we all know and love. We will report on the second and third volumes, dealing with Sustainable Buildings and Sustainable Operations when they appear later this year.

Whilst the Green Book is being compiled, examples of best practice are already coming through. Hurstpierpoint College's Performing Arts Centre, which opened in 2019, is an excellent example both of sustainable construction, and operation.

We hope to feature more examples of theatre schemes that have sustainability at their heart in future.

I was delighted to be offered an article by Barbara Day, based on her thesis, which sheds a light on Stephen Joseph's connection with Manchester University, where he joined the new Department of Drama in 1962. It shows the significant influence that he had on the development of theatrical practice at the University, and beyond.

The relationship between training, education and theatre is crucial in a number of different ways, not the least around innovation. And Anette Ollereanshaw has written a fascinating report focusing on innovation both in production and education – this is the first of a series of reports that she'll provide for *Sightline*.

Returning to the role of the ABTT in supporting training and education, Jonathan Brown has gone back to his roots and muses on how a vocational interest in theatre can be encouraged and supported.

We were sad to hear of the death of Douglas Cornelissen, who became a member of ABTT shortly after its formation in 1961. He had a fascinating career (and one that was very much of its time), and I'm very grateful for the research that Richard York and a host of others undertook.

We normally aim to have this edition of *Sightline* out in time for the ABTT Show, and therefore I usually finish this particular editorial by saying how much I'm looking forward to seeing people at the Show. As we all know, it won't be happening this June BUT there will be a combined ABTT/PLASA show in September at Olympia.

And finally, I need to acknowledge a captioning error in the previous edition. In the article Creation Theatre – a Digital Transformation, the caption on page 8 (Anabelle Terry in the Wonderful Wizard of Oz) refers to the image on page 11, and the caption on pg 11 (Chloe Lemonius, in The Wonderful Wizard of Oz) refers to the image on page 8. My fault entirely!

Rebecca Morland, Editor
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ABTT and PLASA have announced a collaboration that will bring the 2021 editions of both the ABTT Theatre Show and the PLASA Show under one roof from 5-7 September at Olympia London. For 2021 only, this partnership between the two established associations aims to reduce pressure on the exhibition calendar as the industry's eco-system recovers from the impacts of the pandemic and will bring the broad sector together for one landmark event.

For this year only, this joint event will debut at Olympia's largest hall, the Grand. The ABTT Theatre Show will run in its own defined space, retaining its own unique identity, and celebrating the ABTT's 60th anniversary. The more spacious hall will also make room for more inspiring stands, more show features, and perhaps most importantly, extra aisle width for visitors to move around freely.

ABTT and PLASA are very excited to be able to work together. By consolidating the trade show calendar in to a single date for both shows they are confident they will deliver the most beneficial and supportive event for the sector.

As part of this collaboration, ABTT, which has been supporting the industry with online seminars over the past twelve months, has also supported PLASA Online 2021 by curating a programme of webinars across all four days. These took place between 10 and 13 May and included sessions on the management of Health and Safety during the return to activity in "Back to Work – Challenges to consider and resolve"; on the Theatre Green Book project spearheaded by the Theatres Trust, the ABTT and Buro Happold and lead by Paddy Dillon with "TGB: Volume 1 Sustainable Productions"; on CREATEBritain, a new network platform for all creatives and on the most recent updates to Technical Standards

for Places of Entertainment. Recordings of all these webinars are available free to view on the ABTT website https://www.abtt.org.uk/events-and-courses/abtt_seminars/

Robin Townley, CEO for the ABTT commented: "We are very much looking forward to joining forces with the PLASA Show this year to create a meeting place for the whole industry to get-together. The ABTT will have its own distinct area and will be creating the same friendly atmosphere that our visitors love about the ABTT Theatre Show. We look forward to seeing exhibitors and visitors, old and new, and to celebrating our huge 60th milestone."

Peter Heath, Managing Director of PLASA commented: "With everything our industry has faced in the past 12 months, we have thought long and hard about how best to serve our exhibitors and visitors in 2021. We couldn't be more pleased with our partnership with the long-serving and respected ABTT, who will bring their usual high standard of technical knowledge to PLASA Show this year, as well as our second PLASA Online this May. We are of course saddened that Leeds must wait another year, but we believe that our strategy for 2021 is absolutely the right thing to do while our industry recovers."

With several months for the industry to re-open and regain its strength, the ABTT Theatre Show and PLASA Show partnership is anticipated to be the 'come-back' event for the live entertainment technical and production sector. Information about the Shows visitor registration is available on the PLASA website www.plasashow.com. Exhibitor information is also available online but we would be very pleased to hear from stand holders from previous ABTT Theatres Show to discuss locating in the ABTT Hub and to introduce them to the PLASA booking team.



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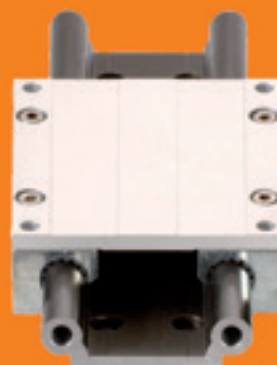
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Green Book
Co-ordinator

Theatre has been talking for ten years or more about how to move towards more sustainable practice. Julie's Bicycle, Creative Carbon Scotland, Ecostage, SiPA and many others have raised awareness, educated, campaigned, and mapped out how theatre might best move beyond a traditional practice that made shows from new materials and – all too often – left them in a skip when the final curtain came down.

What became clear, however, from conversations with many theatre-makers in the early preparation for the next ITEAC conference, was a general frustration that despite evident commitment, despite individual designers who recycled every scrap of foamboard, costume supervisors who sought out recycled thread, and scenic artists experimenting with greener paints, brushes and floor coverings, there was a general frustration at how short a distance the sector had actually travelled.

That was the germ of the Theatre Green Book, an initiative which started during lockdown with sporadic zooms and calls, and has now developed an exhilarating momentum with the input, expertise and commitment of theatre-makers from scenic artists to producers, writers to production managers.

Now is, of course, the right time. It's not just that Julie's Bicycle, Creative Carbon Scotland, the other environmental campaigns and numerous committed individuals have been preparing this ground – and the ideas on which sustainable theatre depends – for a decade. The appalling shut-down which the Covid tragedy has imposed on theatre has also created a moment in which theatre and theatre-makers have time away from the gripping, exhausting process of making work, in which to think about how this sector works, how it wants to work, and the different future it might map out.

A few things became clear in the course of those early conversations.

Sustainability isn't a matter of new engineering. Most of its requirements (using less, recycling more, making sure that what's used comes from sustainable sources) are obvious and familiar enough. So why was everyone waiting as if something needed to be invented before real change could begin? It certainly wasn't for lack of commitment. The reason, it became clear, is that making a show is such a collaborative and interwoven process, it involves so many people doing different specialist things, making different decisions at different times, that it's actually

impossible for any one of them to drive change. The challenge of sustainability is above all one of systems change: of changing habits, structures and behaviours, which – in the case of theatre – are long-established, deeply entrenched, and made all the harder to rethink because of the time and cost pressure shows are made under. A designer may want to work more sustainably – but can't control the director they're working with, or dictate where the set builder buys plywood. A freelance scenic artist may feel passionately about the environment – but unless the producer allows time in the schedule and cost in the budget, will never have the chance to work differently. Theatre's systems make it impossible.

Unless everyone moves forward, no one can move forward. A theatre production is like a three-legged race in which everyone is linked together. Producers need to set programmes and budgets to allow for sustainable working. Directors and designers need to conceive shows in ways that allow for sustainability – and then stay flexible so production managers and makers can collaborate in nudging their visions towards a sustainable outcome. Set makers need to know where to find more sustainable sources of material – and feel confident that producers will pay and allow time for the process. Everyone needs to know not only what they can do differently, but trust everyone else to play their part too. And the process needs to be set up to allow that change to happen.

That was the primary insight that set the Theatre Green Book in motion. But we soon identified some other necessary conditions for the Green Book to take hold.

First, it had to take hold everywhere. Freelancers drop into shows at different theatres, working with different teams. If at each venue or company they find different sustainability guidelines, couched in different terms and based on different principles – and have no certainty about the commitment or understanding of the others they're working with – then sustainability simply won't happen. Everyone needs to share the same terms of reference, the same rules, the same standards. A director starting a show with a new company, and told that it aims to achieve 'Intermediate Standard' must already know what that means, know what it means for the designer, production manager and lighting technicians, have worked with it before, and know that the producer will have set up the production to achieve it.

There was an obvious precedent for that.

The Yellow Book is everyone's bible, known across theatre and universally followed. A Theatre Green Book needed to achieve the same critical mass of acceptance and recognition.

First, therefore, we set about making contact with the many others who've worked on guidance of this sort, from SiPA, through Ecostage to designers' groups like the SBTD and Scene Change. We had no intention of reinventing the wheel, or supplanting others. The priority was to draw together thinking and all end up in the same place, promoting the same solutions. No one was hung up on ownership. The first steps in the Green Book were taken by the Theatres Trust and ABTT, the two organisations which promote the Yellow Book (and to which I am connected, as a trustee of the Theatres Trust, and chair of the ABTT's conference, ITEAC). But the Green Book was always conceived as an open project, and since it started, many others have joined the conversation: UK Theatre / SoLT, the Federation of Scottish Theatres, the ITC, Creu Cymru, Theatre and Dance Northern Ireland, Community Leisure UK, Julie's Bicycle, Creative Carbon Scotland, the Society of British Theatre Designers, Scene Change,

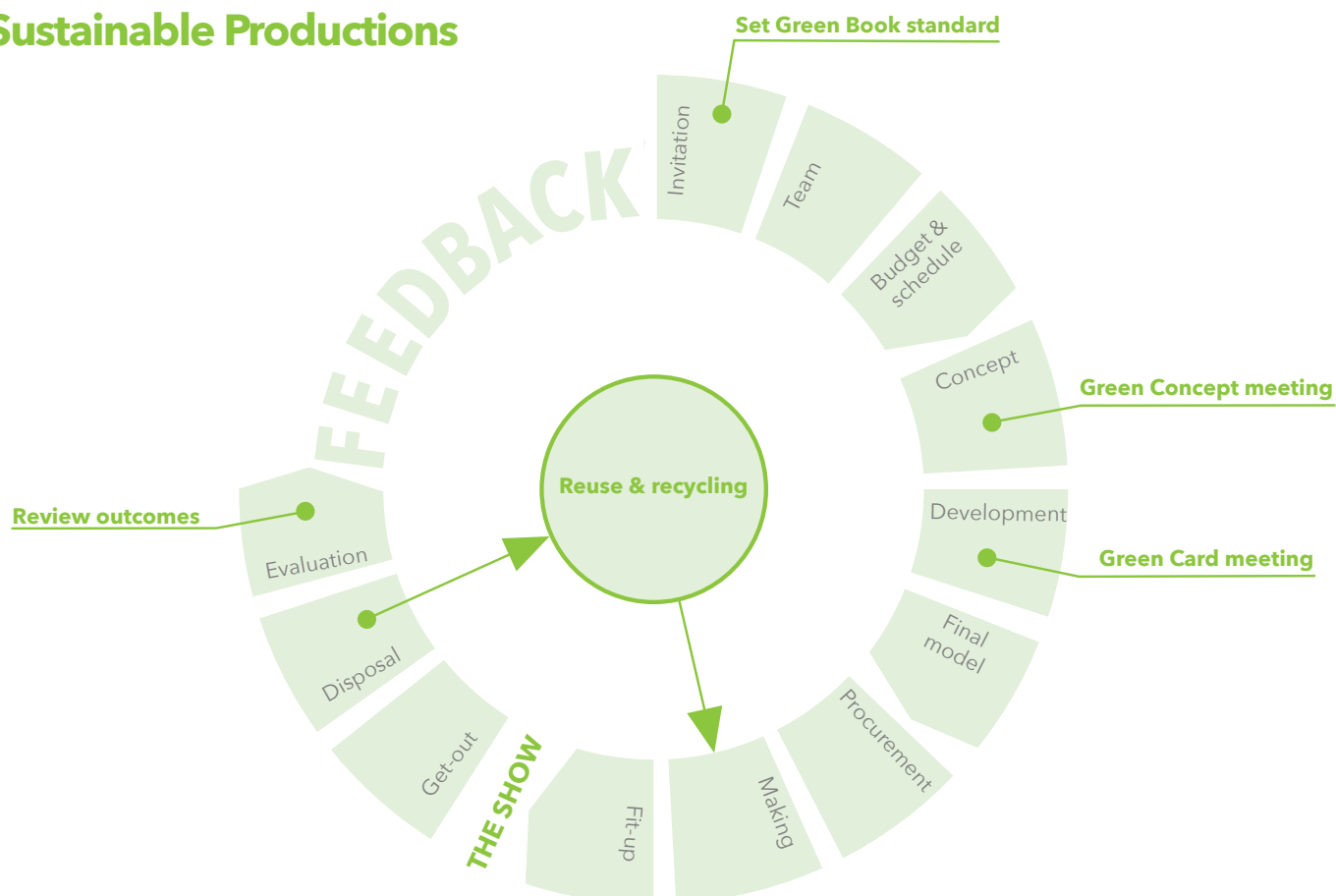
Staging Change, the Association of Lighting Designers, Stage Sight – and many others.

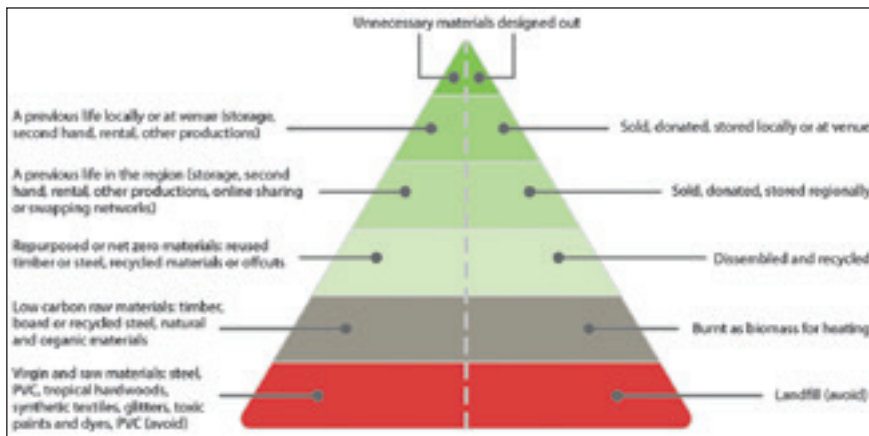
Second, we knew the advice had to work for the sector as a whole. There was no point a small number of committed theatres moving towards sustainability while most continued with practices that hurt the planet. The Green Book needed to be inclusive. It wasn't about defining a distant and idealistic vision for theatre which few would try to attain. It was about advice for what to do now, in shows opening this year, for theatre-makers working anywhere in the UK, at any scale, in any context.

It needed to set out a path, therefore. The guidance would be in tiers, with an ambitious top level which would define how to make shows as close as possible to zero carbon. But there also had to be a first step on the ladder. Some parts of the sector would not be able to change their practice (and business-plan) overnight – and would need to bring audiences with them. But they still needed a first step which could happen now, and begin a path of real, meaningful change.

This project has never been about blame, after all. We all know there's a climate

Sustainable Productions





emergency. We all know it will affect everything we do: living, travelling, working, eating – and making art as well. The Theatre Green Book's task is not to preach or point fingers. It is simply to map out what more sustainable theatre-making looks like. Theatre-makers must decide for themselves how quickly they can move down that path.

And theatre-makers, too, will need to discover what sustainable making means. Everyone in theatre is used to parameters – of budget, time, and space. All shows are made within them. The Green Book's task is to rewrite those parameters in the reality of the climate emergency.

What became clear in numerous conversations is that, far from being a new and wearisome set of restrictions, sustainability is actually a turning-point that carries immense and exciting possibilities. Theatre has always had a dizzying ability to change and reinvent. Sustainability is another of those pivots. 'Using less' might, at first sight, suggest a kind of austerity theatre; it might evoke Peter Brook, or Poor Theatre. But what if those weren't the inevitable outcomes? The Green Book has no place telling theatre artists how to make work. The shows which will emerge from the parameters of the climate crisis have so far only been glimpsed. Ahead of us lies a period of the enthralling invention, creativity and change at which theatre has always excelled.

One other early decision. It was an advantage that I myself am not a theatre-maker – I can stand at a distance from the process. Likewise, it was helpful that neither the Theatres Trust nor ABTT themselves produces shows. In the same way, we soon realised that the guidance itself needed to be written by independent experts. Sustainability needs understanding of the science, the methodologies, the carbon calculation that few in theatre (or anywhere) have yet mastered. Framing guidance needs

experience of how guidance has worked in other bespoke and specialist sectors, based on the best data available and a thorough understanding of the physics. So we raised money within the sector, and commissioned Buro Happold as sustainability engineers to put the guidance together.

That guidance, we knew, had to come from theatre-makers themselves. No one else understands the process, the intricacies, the infinite complex challenges that go into making a show. A survey sent across the sector provided initial data. We then convened a series of focus groups to provide the input on which the guidance has been based. They included producers, directors, writers and designers, technical directors and production managers, costume and props supervisors, set builders, hire companies, lighting designers and technicians. We tried to cover all areas of the UK, theatres and companies, and connect with practitioners working at all scales, on all kinds of shows. We spoke to theatre-makers in the subsidised and commercial sectors, to buildings-based and touring companies, to West End producers and emerging directors working on small-scale shows. We tried to include young as well as established practitioners. The process was never based around buildings; many – probably most – of the participants were freelancers. Other focus groups explored the working relationships between the different disciplines who collaborated on making shows, so as to pick apart how they worked together, and how decisions were made. And alongside those meetings were numerous phone calls, zooms and discussions with theatre-makers of all kinds, all of whom had ideas to contribute, thoughts to share or worries to talk through.

The result has been exhilarating. Throughout November and December, theatre-makers filled zoom screens, working together on how to make shows more sustainable. In perhaps two hundred or more calls, I had only one or two which were anything other than wholly positive, wholly committed, and fully focused on the process of beginning real change. In the background, meanwhile, Julie's Bicycle, SiPA, Creative Carbon Scotland and others were always available with support, ideas and encouragement. It was from their work, after all, that the Theatre Green Book was collectively being built.

The first draft of the Theatre Green Book : Sustainable Shows was ready for feedback at the end of January. Our hope was for guidance to be ready for theatre-makers to use on their re-opening shows. The response



*On Bear Ridge – the
National Theatre of Wales
and Royal Court Theatre.
Photo by Mark Douet*

was a torrent of suggestions and comments. Costume supervisors contributed experience on sustainable fabrics, threads and washing techniques. Lighting designers wrote a page of notes on working sustainably. All of theatre's knowledge and expertise on working sustainably was being brought together in one place.

The second draft is now out there for theatre-makers to use. It can be downloaded from www.theatregreenbook.com. We're referring to the second draft as a 'Beta' version. Until a wide range of theatres tries out the guidance on a wide variety of shows, theatre simply can't know whether a particular change is easy or hard, whether the thresholds we've set for recycling and sustainable disposal are too simple to accomplish, or too challenging. Theatres and companies are signing up to trial the guidance on reopening shows, and that's what we need. It isn't a matter of 'succeeding' or 'failing'. We want to know what works and what doesn't, what unexpected problems will be thrown up, and what will turn into an unexpected easy win. With all of that feedback – and bolstered by some real-world case studies – the final Green Book : Sustainable Shows should be ready by the end of the year.

We won't be resting in the meantime. Making shows more sustainably is, of course, only a part of theatre's challenge. The second volume of guidance, Sustainable Buildings, is already under way. It will help theatre owners and managers improve the performance of theatre

buildings. Sustainable Operations, later in the summer, will provide help on how to guide the front of house, offices, workshops, dressing rooms, rehearsals and travel towards more sustainable practice.

Again, generous funders have stepped forward to help with the nominal costs of the engineering. Everyone else is giving their time and expertise for free, matching the generosity of Buro Happold, who are donating much of their input pro bono. And perhaps that, in the end, is the most moving part of the Green Book process. The Theatre Green Book has been made by theatre-makers for theatre-makers. Among the extensive advice it gives – which ranges from planning programmes for sustainable working, through to making sets easier to disassemble – one message comes through most strongly. No one can make sustainable theatre on their own. It requires collaboration, trust, mutual respect, and a collective creativity which sometimes gets lost in theatre's hierarchies. Working locally will help theatres re-engage with communities. Sustainability can help theatre include diverse new talents whose insight is urgently needed to help theatre change.

The Green Book shows how theatre must work together to face the reality of the climate emergency. There can be no better example of that than the Green Book itself.

Douglas Cornelissen 1931-2021

Remembered by
some of his friends
and colleagues



It might be hard for those who knew Douglas Cornelissen in his prime to imagine him in leotard and tights. A keen theatregoer from his youth and pressed by a school friend into making scenery for an amateur production, he decided that a backstage career offered the promise of interesting work. Technical training was in short supply, but Douglas found a private drama school which prepared students for RADA and auditioned successfully for an acting place since there was no technical course. He was astute enough to see that student productions would need support so, amply demonstrating a limited talent for performance, he negotiated a deal with the Principal to abandon acting in favour of stage management. In 1949, a short season of plays under professional directors at the Embassy Theatre at Swiss Cottage gave him invaluable experience of working in a proper theatre.

On leaving drama school Douglas appears to have talked his way into London's Arts Theatre Club, a theatre he knew well, and the director, Alec Clunes, gave him his first stage management job. He didn't stay long, realising that he needed a wider range of skills and he found freelance employment including managing small-scale touring companies in the north of England and Wales for the Arts Council and an engagement at the Royal Court before it became the crucible of so

called "kitchen sink drama". He worked briefly as a stage showman at the Old Vic when it reopened in 1951 after repairs to bomb damage. This led to a job there as dayman (1952-54) and Douglas formed an ambition to be the Old Vic's Stage Director.

In 1955, Douglas was parachuted by the Arts Council into the Nottingham Playhouse to sort out the stage and production departments, the beginning of a long engagement as Stage Director. While he was there, he was asked to look at a couple of sites for a new Playhouse and to write up the characteristics of such a building. Douglas was delighted when, in 1963, the new Playhouse opened and he showed his notes to Peter Moro, the architect, for interest. Peter replied that he had been given the notes verbatim as his brief for the building. 1959 was a busy year starting in Moscow and Leningrad on tour with the Shakespeare Memorial Theatre as Company and Stage Manager and, later, a stint at Pitlochry Festival Theatre, where he met his wife, the actress Elizabeth Hart. From 1960 Douglas, after working for Western Theatre Ballet as production and tour manager, worked on West End productions such the play *Caligula*, the revue *On the Brighter Side* and musicals including *The Most Happy Fella*, *Maggie May*, *Four Musketeers*, *Funny Girl* and *Joey Joey*. He is fondly remembered by Adrienne Pye

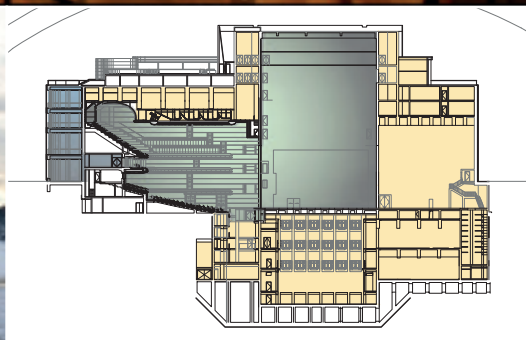
MODERN THEATRES 1950 – 2020

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The Arts Theatre in London where Douglas started his career in 1949. For a man who loved photography he apparently avoided the camera throughout his working life, since no photos of him have been found

and her family from this period for his kindly treatment of those under his management, and he clearly enjoyed a growing reputation as an experienced and dependable manager with impresarios such as HM Tennant and Bernard Delfont.

In 1966 Douglas gave up the freelance life when he accepted Sir Laurence Olivier's invitation to join the National Theatre at the Old Vic. This fulfilled his ambition, although his job was designated General Stage Manager, a usage he deplored. His responsibilities included the management of the NT's transport fleet, used for tours and the constant shift of scenery and props between the Old Vic, with

its very limited wing space, and the NT's stores in Bermondsey. He occasionally used his comprehensive knowledge of HGV regulations to impress those of his colleagues who hadn't been exposed to them.

During the 1960s Douglas, an early joiner of the ABTT, was also active in the Stage Management Association, writing the original 'Notes for Company Managers', a valuable and enduring guide for those attracted to the role and still, somewhat updated by others, in use today. Later, representing the ABTT, he and colleague Jason Barnes were members of the Criteria Working Party for the joint NCDT Accreditation Panel for Drama School Technical Courses. In 1974, Tony Easterbrook, then General Manager of the NT, proposed that Douglas should set up the Building Services team for the new theatres, astutely recognising that the team needed to be managed by someone who knew the needs and priorities of working theatres. He was particularly appreciated by the stage management teams during the difficult period getting the theatres going – Rosemary Beattie recalls that he was always sympathetic and constructive, and notes that he was one of the few people engaged on the project who knew how backstage worked.

1979 brought another change of direction, when Douglas left to join an old friend Peter Streuli (from Pitlochry days) as Production Manager at Central School of Speech and Drama, working, as he put it, "by an extreme quirk of fate" in the Embassy Theatre where he had worked as a student in 1949. He subsequently took over as Head of Technical Training, and he and Joe Aveline, a former NT colleague who joined him on the Central teaching staff, led the change in accreditation of the Stage Management Course from in-house diploma to BTEC. Phil Robins, also ex-NT and in charge of stage management training at Rose Bruford College recalls meeting him often on training issues. Douglas retired from Central in 1987 and it is appropriate that he should have ended his career passing his skills to new generations. One of his pleasures in retirement was hearing from his students, many of whom went on to successful careers in the theatre.

Douglas Cornelissen was a congenial colleague, kind, good humoured and absolutely rigorous in getting to grips with the task in hand. He was, as Richard Pilbrow has remembered, a keen time-keeper – indeed in recounting the story of his stay at Nottingham Playhouse Douglas was proud that none of the technical rehearsals of the 39 productions in his charge



started more than five minutes late - rather better than the usual three hours managed by his predecessor. He had an excellent eye for talent and was generous in supporting people in their careers. He was respectful of his backstage colleagues, the artists and other creatives with whom he worked and his seniors in the management hierarchy. He held strong views on the latter, which were only shared with consenting adults in his retirement.

Douglas was a strong family man – he and Liz had two daughters and a son, and they kept house in the Hertfordshire countryside where conversation, laughter, food and drink were abundant – in an email to Jason Barnes accompanying photographs of his tribe, he noted that the family “firmly believe in the life-preserving qualities of alcohol...”. Photography was a particular interest – including set models of productions he worked on and a meticulous record of the construction of the National Theatre from the outside. On completion he presented the NT archive with a set of prints and was greatly displeased to know much later that they had been destroyed by a flood. He deposited his own set with the Manders and Mitchenson Collection, then in the care of another former NT colleague, Richard Mangan. In 2010 the Collection, no longer able to be independent, was transferred to the University of Bristol’s collection of theatrical ephemera.

His sense of family included a passion for the history of his Belgian forebears. Roger Fox produced a copy of the saga of Douglas’s research into his ancestry, getting as far back as 1642. His branch of the family moved from Brussels to Paris in the 19th Century and his great great grandfather became an engraver and lithographer. The family then moved to London to escape from political unrest and his ancestor’s work was of sufficient quality for him to be engaged to record the British Museum’s collection. As his success didn’t provide a reliable living, he also became an artists’ colourman selling pigments, oils, canvasses and brushes. By 1861 the business was housed in a shop at 22 Great Queen Street, Covent Garden and was managed there by Douglas’s grandfather and father until the latter’s death in 1975. “L. Cornelissen and Son” was admired for its Victorian decoration and fittings, which were replicated by its new owner when he transferred the business to premises in Great Russell Street.

Douglas Cornelissen must be among the last of those stage managers who started their career in the years following World War II and who therefore saw much change –

variations in public taste, the expansion of public funding, the making of new theatres and the destruction of old, new technologies and the specialisms to support them, trends in training for technical roles and the rise of the director as a driving force alongside actors and impresarios. He was a towering figure and will be much missed by those who knew him. His career was marked by his peers in 2013 when he was appointed an Honorary Member of the Association of British Theatre Technicians.

Memories gathered from Joe Aveline, Jason Barnes, Rosemary Beattie, Roger Fox, Sally Green, Richard Mangan, Richard Pilbrow, Adrienne Pye, Phil Robins, Robin Townley, Richard York.

Many thanks to the Cornelissen family for the photo of Douglas on pg 20

The Wharf – Sydney Theatre Company



In February 2021, Sydney Theatre Company officially reopened its premises at The Wharf, welcoming audiences for the first time since 2018 to its newly renovated home on Sydney Harbour. The venue was also the first theatre in the Australian state of New South Wales to play to 100 per cent audience capacity since the pandemic closed theatres in March 2020. The re-opening was marked by the critically acclaimed world premiere of Kate Mulvany's adaptation of Ruth Park's classic Sydney novel, *Playing Beatie Bow*, directed by STC Artistic Director, Kip Williams.

The 100-year-old timber shipping wharf at Walsh Bay – which was first transformed from a wool store to an award-winning theatre-making space in the 1980s – has been upgraded once again to improve facilities and access, modernise the theatre spaces and reflect the growth and change of STC's business operations. The result is an entirely new, world-class facility that houses the entire theatre-making process under one roof and provides vastly improved experiences for artists, workers and audiences, while preserving the magnificent heritage details that give the venue its unique character.

The renovation – known as the Wharf Renewal Project – was guided by significant consultation from a cohort of theatre-makers and designers who work regularly with the

Company. Their knowledge and love of the building and their experience as artists were instrumental forces in shaping a vision for the future of The Wharf. This artistic input, together with the input of STC staff and audiences, was teamed with the expertise of specialist consultants including Hassell (architect), Charcoalblue (theatre consultant), Tropman & Tropman Architects (heritage architect), with construction completed by Richard Crookes Construction. The STC Wharf Renewal Project was made possible with the generous support of the NSW Government and private donors.

To fulfil the vision of the company's founding Artistic Director, Richard Wherrett (1979-1990), the two theatre spaces at The Wharf are now fully flexible – equipped with the freedom of three adjustable seating configurations and the capacity to combine the two stages - which will offer artistic teams even greater creative possibilities. Enhancements in security, safety, operational efficiency, environmental performance and access for workers and visitors with disabilities were a key priority of the project.

Background

Sydney Theatre Company first moved into its premises on the city's iconic but then derelict Walsh Bay "finger wharves" in 1984. The now heritage-listed, ironbark timber wharf warehouse had mainly served as a wool store until the 70s. Led by architect Vivian Fraser, the approximately 8500m² space was converted into a location for all of STC's activities without sacrificing its historical integrity or context. Many other arts organisations have now relocated to the Wharfs, making it a hub for arts activity.

The Scheme

The architect's overall aim was to improve the internal circulation of the building, whilst still ensuring that it continued to house all aspects





of the creative process for the company. A key decision was to remove a 1980s fire tunnel that ran down the centre of the building, instead adding safe exits onto the concrete apron surrounding the building. This enabled the full width of the building to be used, and importantly, meant a back-of house corridor could be added along the western. This meant that full-height sets can be moved from the workshop to the theatres, rather than taking an indirect route. Space was also created by raising the ceiling above the theatres and workshops. This was made possible because the original roof had two peaks – by raising only the section in the valley between them, the alteration is visually hidden externally, in line with heritage protection requirements.

Better theatres and rehearsal spaces

The project delivers modernised Wharf 1 and Wharf 2 Theatre spaces with flexible seating configurations. While the initial driver for the redevelopment was much needed improvements and replacements after 30 years of wear and tear, the Company saw an opportunity to re-invent the theatre spaces to provide a broader range of experiences for artists and audiences. In addition to incorporating flexible seating to enable different configurations of playing space, a unique new space was created by locating to the two theatres side by side and separated by a removable wall. This design idea has been made possible by the inclusion of two Skyfold doors which create the walls that separate the two theatre spaces. The Skyfold doors are an acoustic partition which disappear into the ceiling. Throughout the development and design of the project, a focus was also retained on improving accessibility, safety,



acoustics and operational efficiency all the while preserving and enhancing the heritage characteristics of the site.

The larger of the two theatres – Wharf 1 – can now seat anywhere between 350 and 420 depending on the configuration – an increase on the previous capacity of 320. There are three configurations – End On, Corner and In the Round – although endless opportunities exist to expand on these capabilities in the future with the flexible decking (provided by German company Hoac) and seating system custom-designed for STC by Belgian company Jezet. The Corner configuration replicates the old Wharf 1 design but with improved sightlines and a larger stage area. It is also now home to the first immersive Meyer Sound Spacemap Go system to be installed in the southern hemisphere, which makes it easier for composers and sound designers to create surround sound experiences and offers them a far greater range of sound system control.

The smaller Wharf 2 Theatre (160 capacity) now has retractable seating so the space

*Beatie Bow
in Wharf 1
Photo: Daniel Boud*



can be converted to a rehearsal or multi-purpose room in under an hour. The rehearsal spaces have been vastly improved with better acoustics and larger floorspace, as well as the addition of music/vocal coaching rooms and a recording studio.

Wharf 1 now has six dressing rooms, as well as dedicated toilet, shower and laundry facilities. There is a separate wig room and a private green room. Wharf 2 now has three dressing rooms, dedicated toilet and shower plus laundry and kitchenette.

The Neilson Family Gallery is a new space above The Bar at the End of the Wharf that can be used for School Drama education, workshops, rehearsals, functions and external venue hire.

Enhanced Visitor Experience

STC's Wharf Renewal Project opens up The Wharf to the public in new and improved ways, while staying true to the building's important heritage and much-loved character. The walk along the length of the Wharf from street to theatre is an iconic part of Sydney's architectural and cultural fabric and a rare experience in the repurposed finger wharves in the city. This wonderful walk has been maintained and remains accessible to the public.

Access is significantly improved, with ramp/lift access to 95 per cent of the building, including at the Bar, theatre and Back of House (BOH) entry points. This includes two new accessible public entries via lifts, one midway along The Wharf and one at the Bar which will allow visitors to enter the building from the harbourside promenade. There is also a new goods lift.

In addition, assistive listening systems have been upgraded and extended to include rehearsal rooms.

Other enhancements include more than double the number of toilets and an increased

number of accessible toilets. There are improved foyer spaces and more efficient paths of travel, a new ramp for access to the balcony from The Theatre Bar at the End of the Wharf, and the balcony off The Theatre Bar at the End of the Wharf has been extended and a stairway to access the venue from the harbour promenade has been added.

Behind-the-scenes improvements

Over the past 30 years, as STC has continued to grow its artistic output, the demands on facilities behind the scenes have grown too. The project has created spaces that match the

work done across all areas of the Company.

There are two main structural changes to improve operational efficiency. The ceiling height in the workshop has been raised to allow larger sets to be built, and there is a new

BOH corridor which allows greater operational efficiency moving sets from workshop into rehearsal and theatre spaces.

Health and safety improvements include better ventilation systems, and lighting rigs that can be lowered to the ground.

Environmental improvements include: 900 new 390W Solar KuMax panels installed which has twice the output of the original solar panels and a 100,000 litre storage capacity rainwater harvesting system capturing some 80% of the rainwater that falls on STC's vast roof. The system captures and provides non-potable water to all the artistic companies on Wharf 4/5. In addition, all the administrative offices are fitted with LED, energy saving lights that switch off after not sensing movement. The theatres have also been painted with STC-designed Blitz Total Sealer paint, a cheaper and more environmentally-friendly paint product developed by the Head of Scenic Art Neil Mallard during lockdown when paint supply imports were limited.

Project Team

Architect	Hassell Architects
Heritage Architect	Tropman & Tropman Architects
Theatre Consultants & Acoustics	Charcoalblue
Building Services, Fire Engineering, Sustainable Design	ARUP
Engineer	Taylor Thompson Whitting
Quantity Surveyor	MBM
Renders	Doug & Wolf
Construction	Richard Crookes Construction

The Call of the Wild

"It was possible in this wonderful city for that nameless little boy – for any of its millions – to have a decent chance to scale the walls and achieve what they wished. Wealth, rank or an imposing name counted for nothing. The only credential the city asked was the boldness to dream. For those who did, it unlocked its gates and its treasures, not caring who they were or where they came from." **Moss Hart, Act One**

The young man standing in front of me was fourteen. It wasn't the first time he'd turned up at the door asking about work in the theatre. He had been turned away before but was persistent and kept coming back. Eventually someone took pity on him and brought him in to meet me. Actually, I don't think it was pity. Insight, perhaps. She recognised that putting him in front of me would be like standing a mirror at my desk. I was talking to a carbon copy of myself at the same age. Brimful of naivety, desperate enthusiasm and a bad haircut.

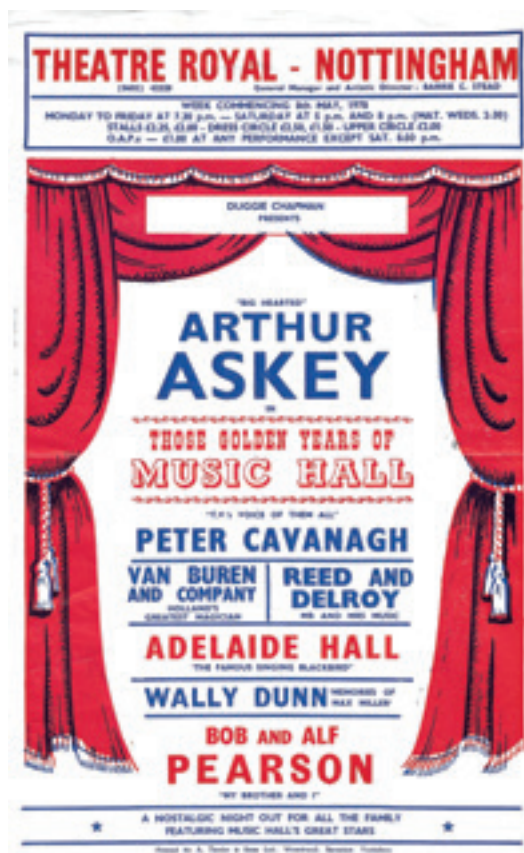
In the world of ticketing that I now inhabit, we recognise that it's extremely rare for someone to wake up in the morning and decide they want to work in a box office. Most people end up there by accident rather than choice, even though we are currently promoting ticketing apprenticeships as a means of encouraging young people into the business. Is it possible that a vocational call for those that wish to work backstage is stronger?

I've written here before about my experience of the ABTT Theatre Electrician's training course that set me off on my own journey forty-two years ago. I too was fourteen when I realised what I wanted to do. There had been a moment – one that many of you may recognise – when I had realised that I might be able to make a living from what others considered to be the facile thing that took up so much of my time and imagination.

My positive memories mostly revolve around something that is connected to music or theatre. My parents were involved in amateur productions, so that was always in the background. My mother and my grandmother often took me to the Theatre Royal in Nottingham. I kept the programmes in a folder under my bed and would pore over them repeatedly. We would stand at the Stage Door, waiting for the cast to come out to sign autographs – Arthur Askey, Dickie Henderson, Brian Rix, the whole cast of *Dad's Army* – they all went in the folder. It certainly wasn't highbrow theatregoing.

My grandmother had been brought up by an aunt who ran digs in Hull in the 1920s

Jonathan Brown



and 30s. Pease Street was a small terrace in the warren behind the Palace Theatre of Varieties, a magnificent Matcham edifice that was built alongside another variety venue, Hengler's Circus. No doubt encouraged by the tales she heard of those that stayed there, my Grandmother adored theatre and performers. She lived with us and it was with her that I would watch a whole range of shows on TV that were less popular elsewhere in the house – from *Top of the Pops* to *Royal Variety Performances*.

My other grandmother was a singer; the daughter of a coalminer who stretched his small income to provide her with music lessons. Her musical abilities subsequently reached down to my father who spent many years as a musical director for local operatic societies and a big band.

My sister and I were taken to dancing lessons from an early age. These took place at the Co-op Arts Theatre, where I also benefited from elocution lessons. By the age of 7, peer pressure had won and tap and ballet disappeared from my Saturday mornings.

I never really involved myself in theatre activities at school and rather grandly scorned anything that went on there. In my 'O' Level year, I took on additional evening classes at Clarendon College which, a few years earlier,

had been a stepping-stone for the actors Richard Beckinsale and Robert Lindsay. A charismatic teacher at the college not only taught me about lighting, carpentry and stage management, she also encouraged, enlightened and enthralled me with her stories of working in the theatre. My interest in lighting grew and I acquired an 'ex libris' (aka not returning your library book) copy of Frederick Bentham's *The Art of Stage Lighting*.

I'm not sure you're really here for my life story, but I wanted to point to the influences that can make a difference. What is it that might ignite a vocational interest in the theatre that isn't about performing? Am I just romanticising, or is there actually an enchanted bean that might be sown in some of us and that leads us towards wanting to help make the magic happen rather than being the magic?

I would love to feel again what it was like to be a young teenager standing on the stage of Nottingham Theatre Royal for my first time. It was 1978, weeks after it had re-opened following a fabulous renovation and a stage hand, who was later to be my best man, had taken pity and allowed me to watch a show from the side. Cranking my neck to look up towards the grid and taking in the vast space, I was in awe. Arthur Askey, characteristically dapper in a striped suit, was standing beside me in the wings, ready to walk towards the brightly lit strip behind the proscenium on which two-thousand eyes were focused. He chatted with me and said something encouraging before bounding out to centre stage as a microphone rose elegantly from the floats to meet him. Glorious.



Just over a year later, two weeks past my sixteenth birthday, I was being driven to London to start the ABTT electrician's training at Paddington College.

I remember the excitable conversations we had as new students about where we had come from and the influences and experiences that had brought us there. I wasn't the only one with Fred Bentham's book – or Francis Reid's or Richard Pilbrow's. What we had in common was that we all wanted to 'do' lighting.

The rigorous electrical training that followed came as a bit of a surprise and lighting played a relatively insignificant part in our training. We studied little, if anything, relating to the theatre in college. Mostly, it was electrical theory and installation work.

This lack of meeting expectations is something that was often recorded in the feedback about those ABTT courses in the 70s and 80s. The flame of excitement that had been ignited was often doused by the reality of the training programme that had been devised. This was principally to support what was actually needed from electricians working in the West End. Most of us had some, albeit low-level, experience of working in lighting and sound, whether amateur or professional, and we knew those books from cover to cover. Bending conduit didn't feature highly in our enthusiasms.

However, what we did outside college balanced the picture. Our weekly placements in theatres, the part time work we got as follow spot operators in the West End or, as I did, travelling back home at weekends and holidays to work weekend turnarounds and panto out of 'Town'. It was only when I started working as a dayman at Wyndhams that it became apparent just how beneficial and appropriate that training had been for the actual work we had to do. Sitting in the box pressing a 'go' button during shows was quite incidental to the maintenance and installation work that took up the majority of our working time.

What I am most grateful for are the people who quietly inspired and encouraged me. Some may have known what they were doing, but for others it just came naturally. There were also those in whose company it just felt really good to be and who, through their stories, humour and insights, confirmed to me that theatre was absolutely the place I needed to be.

This brings me to the crux of what I came here to say and, I hope, makes a little sense of my self-indulgent reminiscences above. When

that young man stood in front of my desk and I recognised myself in him, I realised at that moment the responsibility we must shoulder in supporting the next and future generations. Our ability to do that will be a legacy of how we were shaped by those that nurtured us. I'm not saying that everyone should be able to look back as sentimentally as I do at the people and experiences that influenced me, though I feel privileged to be able to do so. But it is likely that we will each be presented with an occasion when we have to step up, grow up, and do the right thing by someone who is younger.

I'd like to say that I did all the right things for that young person seeking help, but I'm sure I didn't. Overall, however, I sincerely hope that the opportunities I was able to offer him outweighed anything negative. I was in a position to allow him to hang around the theatre a bit, just as I had done at the same age, and to enjoy being alongside others that would also help encourage him. Eventually, when he was a bit older, I was able to offer him work.

The electrical training that the ABTT and Paddington College put together all those years ago was right for the time and a response to the needs of the industry as it looked then. It provided me and many others with training and an initial step through the gateway. I'm not sure many of us stayed with our original choice of career, though many did remain within theatre and TV in some shape or form.

In its remarkable sixty-year history, the ABTT has been outstanding in providing training that brings together a vocational call and the excitement of working in the theatre with the reality of the skills and knowledge that are required. I am so grateful to have benefited and I am thankful to the ABTT and all the individuals who had such a positive influence on me. Some of them may even be reading this piece.

As for that other young man, he too had some training, has gone on over the past twenty-years to have an excellent career and is now the production manager at a notable regional theatre. It seems serendipitous that he also now helps to lead a programme that encourages and mentors those in the early years of a career working backstage.

"Pass the parcel. That's sometimes all you can do. Take it, feel it, and pass it on. Not for me, not for you, but for someone, somewhere, one day. Pass it on... That's the game I want you to learn. Pass it on." **Alan Bennett, The History Boys**



Jonathan Brown has worked as a technician, stage manager, producer and administrator. He is CEO of the Society of Ticket Agents and Retailers.

*Theatre Royal, Nottingham
1978: the auditorium seen
from the stage
John Donat/RIBA
Collections*

New Bury Theatre, Hurstpierpoint College



Hurstpierpoint is a thriving, co-educational day and boarding school for pupils from age 4 to 18 years, situated within a 140-acre campus, on the borders of the South Downs National Park, close to the village of Hurstpierpoint in West Sussex. It has a long tradition of theatre performance, with its Shakespeare Society performing a Shakespeare play every year since 1854.

The new Performing Arts Centre (PAC), delivered on time and on budget in the Autumn of 2018, provides the College with a flexible, 370-seat, courtyard theatre that responds to a number of different formats to suit drama, dance, music theatre and musical performances. It is also a highly sustainable, low carbon building, achieved by the use of a timber structure and cladding together with a natural cooling and ventilation strategy.

Theatre buildings are generally characterised by a distinct 'front' and 'back' (denoting front-of-house and back-of-house) creating a compositional arrangement that is that is

often uneven when approached from different directions. At Hurstpierpoint, the architects were presented with a challenging site located towards the rear of the historic campus. BFF's solution was to re-order the College's masterplan so that the 'front', faces towards the college's main entrance rather than the large parking areas at the rear.

In this case, the new PAC can also be viewed from all directions and so the building's composition is expressed with the central mass of the auditorium rising in the middle, with four columnar roof vents punctuating the roof ridge, and the ancillary spaces wrapped as a secondary layer around the outside.

The transparent outlook of the glazed foyer spaces are designed to present an inviting aspect when seen from the main College Buildings across the intervening open green space. Currently, the practice room wing of the adjacent Music School partly masks this approach but as the College's masterplan is implemented this aspect will be opened up



putting the new PAC in its proper context.

The building has a low environmental impact in its construction and operation. In construction, cross-laminated timber (CLT) has been used as its main structural component, which has a significant carbon reduction over conventional construction materials such as steel and concrete. It also allowed for a much shorter build period (of eight weeks), with the structure being manufactured off-site and then delivered.

The structure itself consists of glulam roof trusses which span more than 10 metres, and support the CLT roof panels and the technical access bridges. This provides clear access for technicians to operate lighting equipment and as such do not have any diagonal members.

The lateral stability of the building is provided by solid CLT wall panels. These act as cantilevers from the substructure and work in bending and shear to transfer the lateral loads to the foundations. The walls are typically 95 mm thick CLT and are generally clad with an insulated rainscreen of untreated western red cedar boards, used in both horizontal and vertical format.

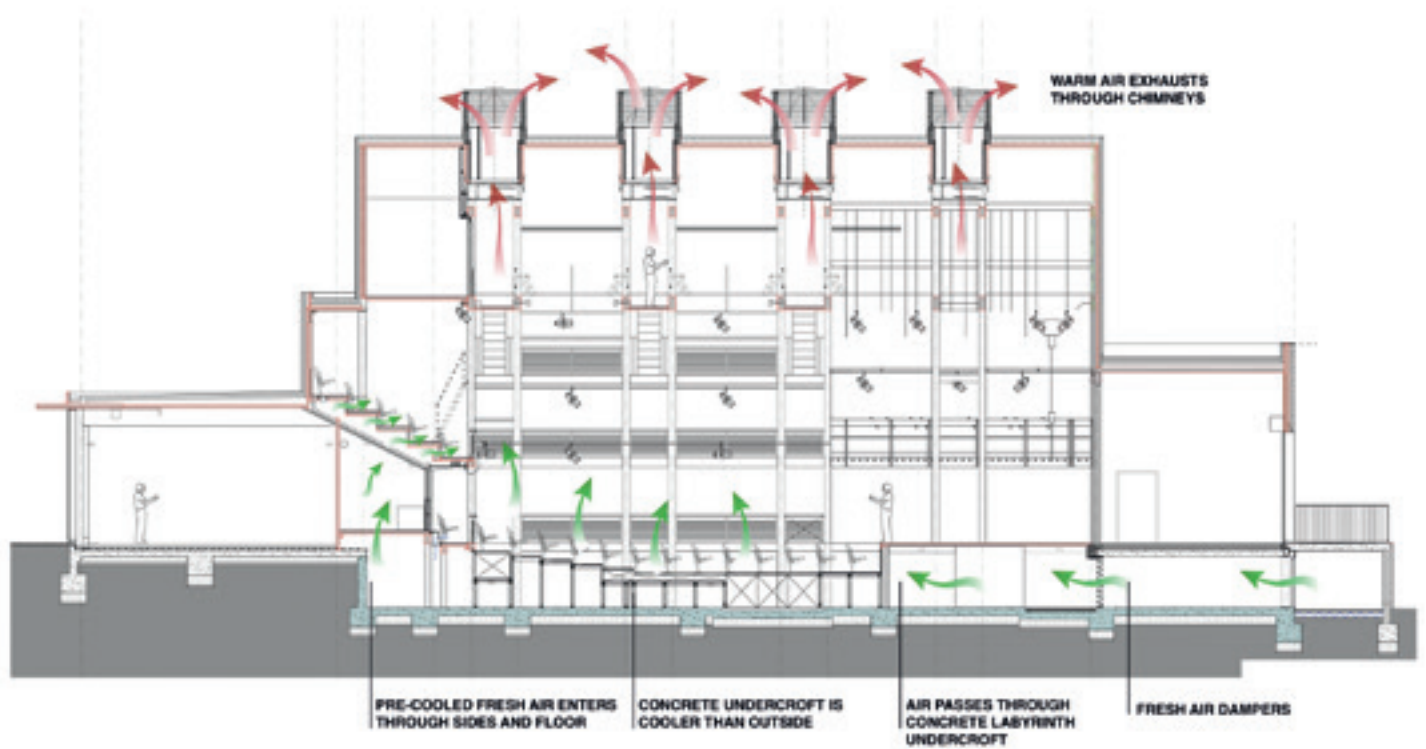
The thermal performance of the building fabric is excellent due to the high levels of

insulation and air tightness. As well as its integral environmental benefits, the timber structure assisted the energy design; the exposed glulam frame and CLT walls could be easily erected on the concrete undercroft which cooled external air naturally before entering the internal spaces.

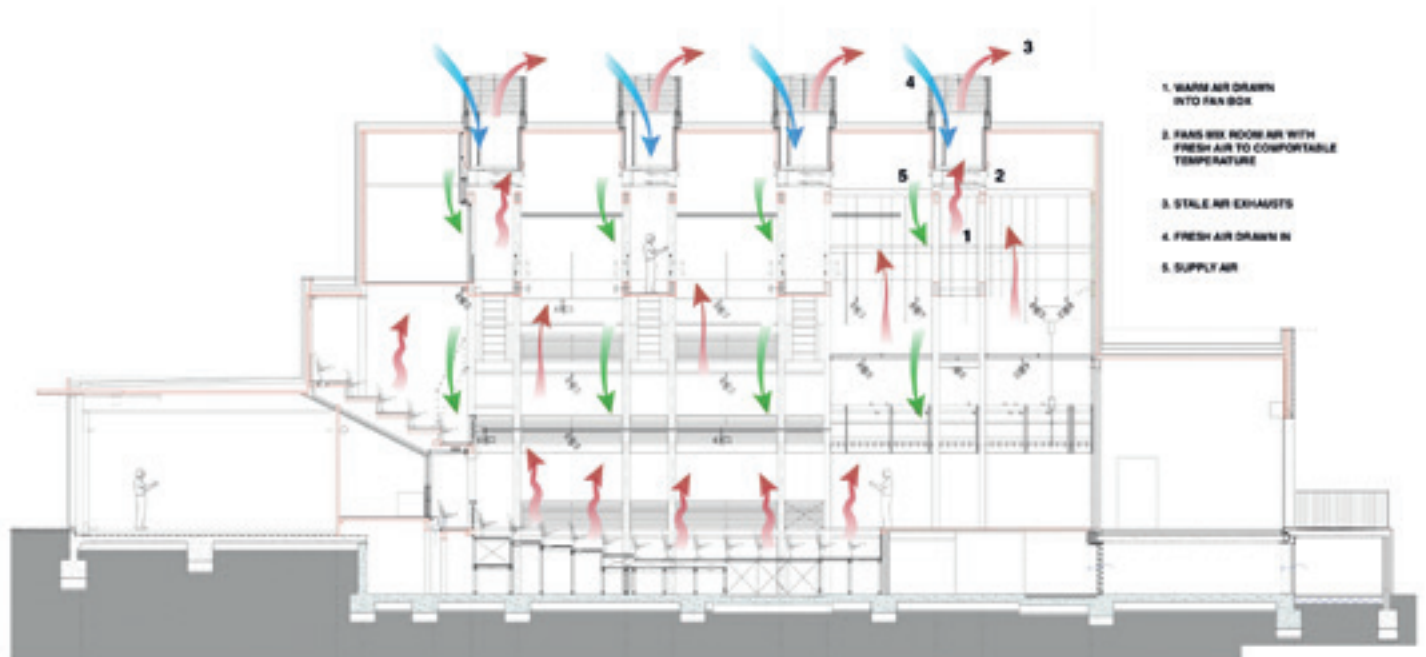
In operation, energy use is minimised by the provision of efficient building services. In addition to low energy lighting, efficient boilers and intelligent controls, the main feature is ventilation by a hybrid natural ventilation system. Instead of conventional mechanical ventilation by fans and air heating and cooling, with its associated intensive energy use, fresh air is delivered and heat extracted using the principle of the natural buoyancy of air at different temperatures and the thermal storage properties of the building.

Four chimney stacks on the roof allow warm stale air to exhaust to outside. In summer, this air is replaced by fresh air which enters at low level, having passed through a concrete labyrinth in the undercroft below the floor. The ventilation operates overnight, purging the auditorium of heat built up during the day and cooling the labyrinth. Due to the high thermal inertia of the labyrinth, fresh cool air can be supplied to the auditorium during

SUMMER OPERATION



WINTER OPERATION





the day without the need for air conditioning. In winter, the stale air is replaced via the chimney, introducing cold air at high level; by the time this heavier cold air has dropped to the level of the seating, it has mixed sufficiently to a comfortable temperature avoiding cold draughts and the need for additional heating.

The building is superb. You must be very proud as Architects to see the results of all your hard work. As you know some Architects don't always get it right. You did.

Peter Boros, Director of Operational Services, Hurstpierpoint.

This is a building of which we are all immensely proud and one that will enable the performing arts at Hurst to scale the next pinnacle of achievement.

Neil Matthews, Director of Music, Hurstpierpoint.



Project Team

Architect	Burrell Foley Fischer
Structural engineer	Price & Myers (CLT and glulam structure). DOA
M and E engineer	P3r
Cost Consultant	Wenham O'Brien
Theatre and acoustic design	Charcoalblue
Structural timber supplier and installer	KLH
Main contractor:	MCS Construction
Joinery	T J Lowery SB Joinery, Stockbridge
Timber supplier	Wenban-Smith Ltd, Worthing

Stephen Joseph and Manchester University

Barbara Day

This year we commemorate the century of Stephen Joseph, theatre director, manager, and designer, teacher, technician and historian, playwright manqué, and co-founder of, among much else, ABTT. He was frequently identified (and sometimes dismissed) as “the theatre-in-the-round-man”; although his students came to realise that “in-the-round” was more than an alternative form of staging; it represented a wholeness of the dramatic space, both metaphorically and in practice. Many of them later regarded him as a visionary; but rather than be treated as a guru, Joseph preferred to be taken for the stage technician he also was. In 2017 his former students at Manchester University founded an association bearing his name (now a committee of the ABTT) and gathered to commemorate the fifty years that had passed since the death of a man who provoked audiences, academia and local authorities alike. Their oral testimonies in the publication *Remembering Stephen Joseph: Theatre Visionary and Pioneer* (edited by Bob Millington, Tony Jackson and Athene Fielding, 2019) give an illuminating picture of this charismatic individual's interaction with the students.

Stephen Joseph joined Manchester

University's new Department of Drama in 1962, the year that the Studio Theatre Company moved into permanent premises in Stoke-on-Trent. The department, led by Hugh Hunt, registered its first students in October 1962, also admitting some who had taken Drama as a subsidiary the previous year; among them, Clare Venables, from 1981 to 1992 director of the Crucible Theatre in Sheffield. The department's home was in what had been the German Lutheran Church; a Victorian neo-Gothic structure once surrounded by narrow streets of terraced houses and now overshadowed by university buildings. Its upper floor would soon be converted to a high-ceilinged studio designed by Joseph; but in 1962 this was not yet operational, and performance space had to be improvised (a situation with which he was familiar). For the department's Theatre Week in December 1962, Joseph converted the conventional space of the university's Arthur Worthington Hall into a booth stage for Hugh Hunt's production of the sixteenth-century comedy *Ralph Roister Doister*.

Joseph's own production of Euripides' *The Bacchae* was presented in-the-round in the university's ceremonial neo-gothic Whitworth Hall. The tall windows and timbered roof

The Bacchae
Courtesy of the University of
Manchester



gave the setting an air of antiquity, although it was then barely sixty years old. Working with young performers – some straight out of school – on this immensely difficult, “visceral” play (as the actor Terry Wilton, cast as Dionysus, recalled in an ABTT webinar in January 2021), Stephen Joseph prompted them to come up with anything they knew about ancient Greece and used their suggestions to devise patterns of stylised movement flowing one into another. Barefoot, the chorus circled the parquet floor, now crouching low and rushing forward, now retreating, accusatory fingers levelled at Pentheus, King of Thebes (Peter Ellis-Jones). Rehearsals began in October 1962, and while the Chorus of Inspired Damsels stamped their feet and shook their ivy-wrapped thyrsi, world leaders Kennedy and Khrushchev confronted each other across the globe. It was the climax of the Cuban Missile Crisis, but, as the students insisted:

...the world's Wise are not wise,
Life is such a little thing;
Lo, their present is departed,
And the dreams to which they cling
Come not. Mad imagining
Theirs, I ween, and empty-hearted!

John O'Callaghan wrote in *The Guardian*: “As a production, ‘The Bacchae’ in-the-round established again that this form of presentation has great possibilities for three-dimensional groupings on stage” but was less impressed by the vocal delivery: “even



Gilbert Murray's haunting verse translation of Euripides seemed hearable only to those three sides of the auditorium which the actor faced and much of what was said by the chorus was gabbled a bit too quickly.” The students however were learning that theatre can speak not only through the word, but also through image, shape and movement, through relationships in space shared by actors and audience.

The Bacchae
Courtesy of the University of Manchester



Joseph's second production with the Manchester students was for the Eleventh International Festival of University Theatre in Parma, Italy, in the spring of 1963. Like all the festival performances (from Italy, Finland, Slovakia and France) it was staged in the Teatro Regio, a traditional nineteenth century Italian opera house with tiers of boxes, a proscenium arch and a deep stage. The play was John Whiting's *The Devils*, based on Aldous Huxley's novel and premièred by the Royal Shakespeare Company the previous year. The action moves swiftly from innocence through ecstasy to tragedy. Terry Wilton, who played Grandier, recalled in the 2021 webinar that the set had been designed in Manchester but built in Parma; consequently, the British measurement of a foot had been interpreted in metres. Joseph took one incredulous look and reblocked the short scenes on an empty stage in intense pools of white light. The sharp cuts from scene to the next forestalled any inherent melodrama, and the student audience and local critics were enthusiastic.

Il Resto del Carlino praised the “stupendous interpretation” by the “famous school”, in particular the intense dramatic quality conferred by Stephen Joseph’s direction.

In the course of that week, the thirty or so Manchester students visited Verona where they explored the vast Roman amphitheatre used for opera performances and the small Teatro Romano di Verona. Their guide was Stephen Joseph, with whom they continued to Vicenza and Sabbioneta to see Palladio’s Teatro Olimpico and Scamozzi’s Teatro all’antica. In this way the students learnt how the renaissance stages with their integrated performance spaces and permanent architectural backgrounds were the result of an effort to rehabilitate the classical Roman theatre. The last stop was the Teatro Farnese in Parma, believed to be the first theatre where the space behind the architectural background was opened up to accommodate movable scenery, and the performance area separated from the audience by a magnificent frame. What had formerly been one space now became two, divided by the frame. The students could see how the picture-frame theatre had developed at a particular time in political and social history, a time coinciding with the period when the first permanent theatres were being

built. It emerged that their Italian adventure had all along been a learning experience. On the one hand, they could understand intellectually how the theatre had evolved into the shape now taken for granted; on the other, they could physically sense the change in relationships in different structures. Joseph believed every form of theatre space should be studied and understood, and if it was to be rejected, it should not be from dogma or prejudice, but based on how well it worked and how practical it was.

A recurring theme at the 2017 Manchester gathering was the underlying logic of Joseph’s approach and its fundamental practicality. What he valued in colleagues and students was a willingness to learn – not just book learning, but practical skills (more than one student admitted to having mistaken Joseph at first sight for the department cleaner or handyman). In 2017 Christopher Baugh (the author of *Theatre, Performance and Technology*, 2013) remembered how Joseph “could wax lyrical and passionate about the correct way to inset hinges into the framework of a collapsible rostrum [...] The artisan skills of carpentry, glue, paints and fabrics were as significant as poetic diction”. Andrew Sanders, whose first theatrical assignment had been the masks for *The Bacchae* but

Edward II
Courtesy of the University of
Manchester



who later became Art Director for (among other films) *Chariots of Fire*, recalled that “If you had no idea how to do something, it was jolly well time for you to find out. [Stephen Joseph] firmly believed in DIY. His way BWDIY, ‘Bloody Well Do It Yourself’”.

Many of the students’ memories relate to Joseph’s production of Christopher Marlowe’s *Edward II* for the department’s Age of Shakespeare Festival in May 1964. Joseph had designed an Elizabethan stage in the Arthur Worthington Hall on which *The Knight of the Burning Pestle* and Hugh Hunt’s production of *Romeo and Juliet* were also performed. Rehearsals for *Edward II* had started at the beginning of the academic year and involved long sessions of improvisation. David Robertson recalled:

- Stephen directed *Edward II* so urgently and swiftly it took the audience’s breath away. The cast of each new scene would enter on the heels of the departing players, whose last line would come on the next without a break in the rhythm. In fact, the stage seemed to expand as the action blended from one scene to another. Just as one time sped to another. The effect was like an express hurtling through a tunnel, thrilling but clear.

Another former student, John Adler, noted that what Joseph wanted to do was:

- to develop an approach to acting where actors could take responsibility for what they did and ... develop a sensibility ... whereby the production could shape up through their interaction with one another and their understanding of the totality of what they were doing. And he brought it down to a very simple principle ... *Action* ... He felt that there was too much emphasis on characterisation and too much emphasis on the dominance of the director... that what really needed to happen was to bring it back to the actor.

According to Adler, Joseph believed that once the actors understood the action, they could develop not only a sense of relationship to other characters in the scene, including their relative physical positions, but also develop a sense of the stage picture so that, whatever position they moved to, they would contribute in an organic way to an elegant and balanced stage picture.

Joseph’s last production at Manchester was in 1965: he had discovered a play by a forgotten Irish playwright, Dion Boucicault’s *The Shaughraun*. By that time he was in the grip of his last illness and rehearsals had to be delegated to one of the diploma students; however, his notes have survived.

Again, it was a fast moving production in which “exercises in physical range control [and] imaginative expression” played a role. Joseph’s production gave Hugh Hunt the idea to direct *The Shaughraun* himself, at the Abbey Theatre in Dublin, thus ushering in a whole revival of the work of Dion Boucicault.

Hugh Hunt had originally envisaged the undergraduate course in Manchester as consisting mainly of theoretical study, and had entrusted Joseph with launching the two-year Diploma course based on practical work for graduate students wanting to move into theatre as a profession. As it turned out, he was directly in touch with almost every student in the department: either as a tutor, or because they were in the productions he directed, or through the Studio Group shows of the students’ own work. It was thanks to Joseph that the Manchester course included so much practical activity. Paul Elsam notes in his biography that an analysis of Joseph’s working relationship with students at the Central School of Speech and Drama where he taught in the 1950s, “reveals that he ‘fast tracked’ a few favourites bringing them in to work alongside professionals”. My observation suggests that this assumption is unjust – Joseph was able to recognise what stage a student had reached; whether he or she was thinking independently and ready to move into the professional world, or whether they needed more time, or a different kind of experience. In all, the students who passed through Stephen Joseph’s hands at Manchester can only have numbered a few dozen, yet those who remember him do so because he stimulated them to see theatre in a radically different way from the conventions of the mid-twentieth century: as a dramatic space shared by actors and audience, in which everyone was involved in the action.

For more on Stephen Joseph’s life and work, see Terry Lane: The Full Round (2006) and Paul Elsam: Stephen Joseph: Theatre Pioneer and Provocateur (© 2014, first published 2013).

Training & Education in the Performing Arts

– The Politics of Innovation in Performance Technologies

Anette
Ollerearnshaw

Since first authoring a series of articles in 2020, where I explored the many challenges faced by the 'Performing Arts in Higher Education' as a result of the pandemic, I am pleased to announce that my proposal for this new feature article series has been warmly welcomed by the ABTT Sightline team.

In this Summer 2021 edition, my attention and enquiry has been drawn towards the topic of innovation in the realm of technical production, educational communities and related industries.

Over these last 15 months we have undergone a previously unimaginable shift in innovation of digital transformation on a global scale. Supercharged by the pandemic, this historic challenge has led to a significant domestic and commercial use of virtual communication platforms.

Not only have we seen new ideas and inventions emerge out of the global lockdown; but also have we witnessed the emergence of multiple and intersectional modes of performances finding their way into the mainstream. From industry giants to newly founded collectives, the development of creative solutions that connect us with our audiences, peers and communities continues.

Putting on shows in beautiful and thoughtfully designed theatre spaces has only been possible using streaming or recording methods. Whilst many productions have been brought to life in people's homes via Zoom, some have been more site specific by using outdoor locations and others in large adapted indoor spaces that can allow for social distancing to be observed. A few companies have had the resources and skills to draw on the advanced XR technologies and forged powerful partnerships with technical innovators.

As in all my articles, I have held interviews with colleagues and peers from across education and industry to stimulate and inform my thinking. For this edition I would like to express my thanks to Charles Haines (GSMD), David Evans (NTW & AAPLTE), Ian Teague (BRIT School), Catherine Kodicek (CiTEA), Anton Woodward (AVW Controls), Brian Warrens (Backstage Centre), Jenny Kenyon (USITT, OISTAT), Natasha Dodsworth (RBC), Nick Gonsman (ETC), Rachel Nicholson (Backstage Academy), Sandra Tyler (White Light) and William Kenyon (PSU, USITT & OISTAT).

Innovation at the ABTT

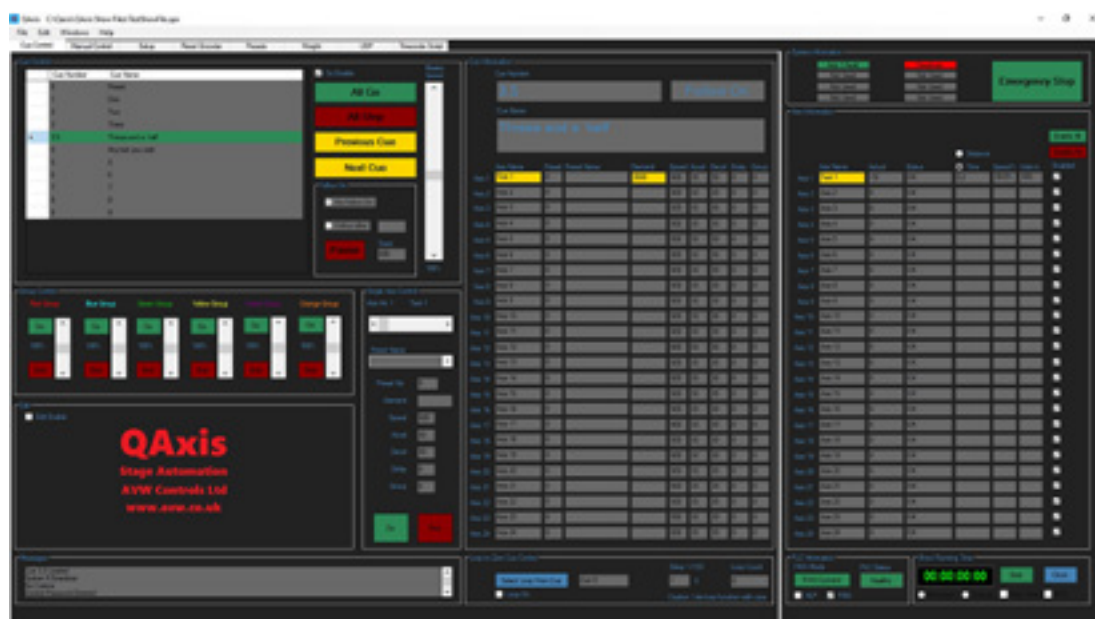
The ABTT community has shown exceptional resilience in its operational transformation and agile support for the industry since March 2020. Amongst the many different webinar series and theatre community initiatives, we are now working on the development of an online Innovations Gallery. This will give space for young technicians to submit ideas for new ways of making theatre work. These are to be competitively reviewed by a panel of industry representatives and successful ideas will be nurtured through the network of accomplished professionals.

Innovation as part of our Professional Practice

For theatre folk, innovation is part of every day and in essence even forms the very fabric of the sector. Driven by bringing to life creative ideas and storytelling from page to stage, the many different disciplines that make up our industry fuse uniquely diverse knowledge fields. Every production demands a new combination of design problems to be solved, and innovation is essential.

So often in technical theatre do we find tools or processes that exist in another industries or departments and we diversify their use by applying them to a different task in a new way. We often refer to our industry as a magpie community, as we specialise in sourcing and bringing together others' inventions and tools and find new applications. Technicians make it their business to deliver solutions to a design brief and often these golden moments of genius are not captured, documented, credited or shared more broadly; they simply are solving an immediate problem.

As part of my work at Wimbledon College of Arts, I have recently set up a virtual learning community called 'Crew Room Chat' as a space to instigate cross-programme conversations and explorations. In industry the backstage crew room is a space where people from often siloed and insular specialisms meet informally and take a moment to discuss each other's technical, creative or engineering problems. Similar to an incubator research environment, innovative ideas flow. The UK's National Security Service MI5 recently uploaded their first post via Instagram, which reflects on the essence of investigating a subject: *The secret to successful spying? Consider all angles. It will give you a better view...* The crew room allows diversity in thought and viewpoint to be exchanged socially through its architecture alone.



QAxis Automation software cue for Joseph and his Amazing Technicolor Dreamcoat, going into the London Palladium later this year
 Image: Anton Woodward from AVW Controls

For departments such as costume, wardrobe, hair and make-up, formal investment of time and budget towards innovation as research, is not something we know outside of universities. In general, these departments are looked at as domestic by 'hard tech' and senior leadership. Whilst stage technology is scoped generously, with commerce investing in R&D looking to sell their new inventions, these 'soft tech' areas are still positioned as sub-ordinate.

In 2019 ENO staff from 'female-led' departments, working with the Technical Director, won their quest for gender pay-equality. This has helped to right and bring to the fore fundamental inequalities of the technical division more publicly, but really it is about much more than that. We continue to ask to be viewed and treated as equals instead of undervalued, and by doing so can end up being noted as an annoyance. It is exhausting talking about why we deserve a seat at the table, in addition to working our magic on and off stage.

There are of course also tiers that exist within our disciplines, where creative teams are viewed as idea leaders and technician as doers. In many cases technical teams are consulted after all design and strategic decisions have been made and are simply asked to supply technical solutions as an afterthought and an expectation.

At the National Theatre the executive team has given agency to the Technical Director as a valued influencer at each stage of the production, right from its inception and as part of the creative agenda.

So often have I been witness to situations

where technical teams, as they work to manage expectations and generate viable and safe solutions during the pre-production and rehearsal processes, being excluded from key design and planning discussions as they are viewed as blockers and disablers. Had they been included from the beginning; our conversations could have provided innovative solutions that enable excellence and inform design in meaningful and practical ways.

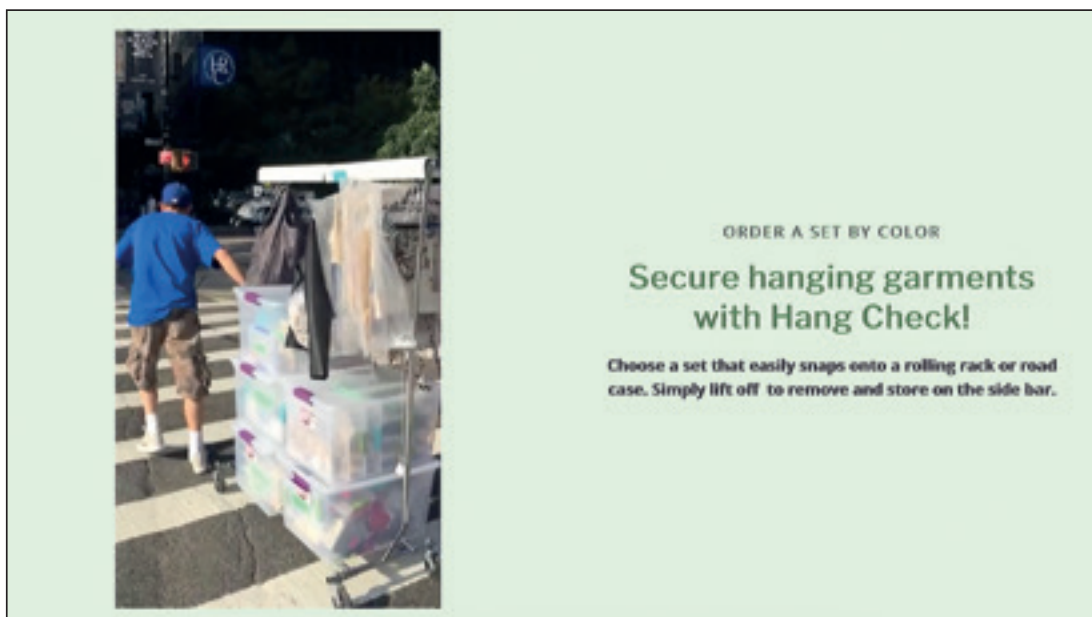
Innovation in Education

In the realm of academia, we have been innovating remote and blended-learning models, which have driven us to become presenters, technical experts, set dressers and producers in order to continue to provide an excellent student experience from our homes.

At the BRIT School pupils from the ages of 14-19 are immersed in an educational environment with creativity and performance arts at its core. Their opportunity to develop an innovative mindset that is subject specific, starts when most others that age are engulfed in the national curriculum. Educators know that to effect real social change and to sow the seeds of aspiration, inspiring pupils' career aims and ambitions at this age is the gold standard. Staff here have seen pupils, whose learning needs don't fit into the national curriculum model, excel on their terms through the mechanisms of production.

Knowing that diversity leads to creativity, Rose Bruford College have developed a module for their first-year students, where all the courses across the college come together on a task in order to learn about each other's disciplines early on in their programme of study.

Hang Check allows fully loaded garment rails to be secured by an innovative clip-on guard attachment on the top bar, ensuring that all the hangers do not jump off when the rail is being moved.



This works to break down barriers, helps to raise awareness, encourages interdisciplinary use of materials and stimulates an innovative mindset.

At Pennsylvania State University, a university the size of a small town, production technology students are a core part of the creative process. Innovation is viewed as a process, rather than an incidental event. With whole careers now part of our new directions, we know that the depth and breadth of knowledge required cannot exist in one individual. The skills sought as essential are inventive collaboration, an inquisitive mindset for knowledge outside of your own specialism and an understanding that the score or text is the source material for design and realisation for all departments.

From Invention to Innovation

Having interviewed representatives from ETC, White Light and AVW Controls, it is clear that the product only becomes meaningful and effective when it is used and adopted by the people that operate it in industry.

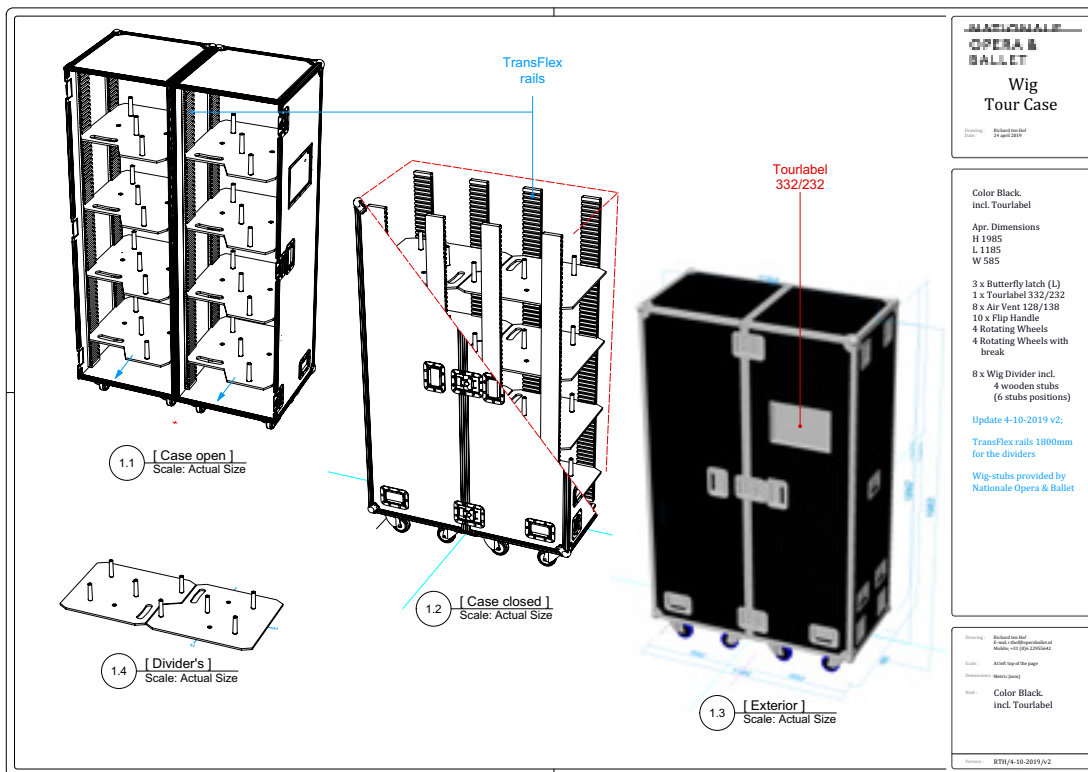
ETC, in Augment3d, have invested in research and developed a new way for crews to operate the lighting control system. With the new software, they brought powerful three-dimensional programming and augmented-reality control to the Eos platform, that capitalises on the extensive saturation of smart phone ownership. The key to embedding this product as an innovation into industry is to upskill technicians in its use and this has been made possible by providing free access to the product offline.

White Light has done what this industry does best and combined different technologies to innovate a solution overcoming a challenging brief. Their award-winning SmartStage immersive XR product range was subsequently developed – the world's first of its kind used for broadcast. SmartStage has since evolved through collaboration with leading global partners and been deployed worldwide for use in education, corporate communications and live performance. A SmartStage is currently located in a central London theatre allowing creatives to trial this new mode of production.

AVW Controls has a long history of inventions, in fact they were amongst a mix of people at the beginning of a whole new discipline in itself by being part of the first teams to formalise theatrical stage mechanics into engineered automation solutions. This was done almost inadvertently, and with that the smallest idea became the solution of the future. Anton Woodward was equipped through engineering skills learned in the Royal Air Force and as yet engineering skills geared towards theatrical automation are not taught as a stand-alone subject in the UK educational sector.

Equality driven Innovation

We have long understood traditional structures and processes as a hindrance to progressive and inclusive developments. Since the pandemic has hit, pressure groups, collectives, foundations and practitioner-led communities have been born and are gathering pace in their discussions. Many are seeking improvements to topics such as ways of working, contractual conditions, lack of opportunities, sustainability



Wigs Flightcase an interdepartmental design collaboration between Anette Ollerearnshaw as HoD WHAM and the Technical Drafter from the Lighting team at the Dutch National Opera & Ballet 2019

Image: Richard ten Hof (DNOB)

and diversity. ABTT have a great resource page on their website providing information and links to all of these, I encourage you to have a read.

In education too, technical teams are often structurally subordinate to academic colleagues. For one, research funding structures and positions are ringfenced to academic teams and breaking these barriers is often impossible for technical staff. In this top-down model, information is passed down after decisions have been made, leaving us without agency, when having a seat at the table would be so much more valuable and meaningful. The social status differences are deeply engrained in these systems and unless we start to action change here, where students learn first-hand what is possible and acceptably practiced, we are continuing to set the tone and expectation for the industry.

Taking a look at hierarchies in technical departments in entertainment and performing arts organisations, they are driven by and large through deeply engrained patriarchal systems. By that I am not only referring to the classic typecast of hiring into senior and strategic roles, I also am reflecting on how social, financial and process power is held more widely.

Call it the #metoo, #blacklivesmatter or #notallmen moment of the technical theatre world, I have been part of numerous webinars

and focus groups over the last 12 months in which those with lived experience of inequalities are seeking change to allow them to be included, enabled and respected. Having stepped away from the coal face for a moment, has made many realise the negative effect these conditions have had on them.

Whilst women in tech have talked about their experiences of sexism and gender discrimination during their working day, the kind of change I am seeking is directed at the most senior level of management and leadership that in my view can drive more fundamental, fairer and long-term cultural change. We have seen some progress in diversity of recruitment, but it would be naive to think that we can stop our work there. A good place to start is to rethink how job roles, descriptions and person specifications are thought up, advertised, recruited and supported.

I am deeply thankful to those in senior and executive organisational positions who have declared themselves as allies; sometimes privately, sometimes openly. Often it is simply knowing you have support from the top that helps to give strength and self-belief to carry on your mission.

Having recently come across a senior technical role job description, where the requirement was to have years of experience in several 'hard tech' disciplines and simply

knowledge and appreciation for costume, hair & make-up, I became acutely aware of the limits that the traditional production and leadership system imposes on a whole section of talent in our sector. A large part of the technical resources team has in one sentence been excluded from the prospects of career progression, never mind the statement on the unimportance of our work in the context of the creative process and the wider organisation.

Even worse, for UK producing houses and commercial productions, WHAM has mostly been subordinated to the Costume & Wardrobe department. Having had a lot of time to reflect, this is now widely viewed as not constructive or sufficiently serving the needs of our profession and the people working within it. Technology, innovation and education for Wigs, Hair & Make-up professionals has developed significantly over the decades and the UK is indeed a progressive force and world-leader in these fields.

The narrative and biases as a result of this have kept our professional community in a sub-group within the theatre sector; especially when it comes to trickling down budgets, information, recognition, representing our department in terms of having an equal voice and being valued for our contribution. I for one can easily imagine a Technical Director with the right strategic, analytical and managerial skills and qualifications coming from the 'soft tech' area.

As a note of caution, having used the terms 'hard' and 'soft tech' throughout this article, I must declare that I find using them as a definition jarring and in fact representative of the gulf between them, but for most people in our sector it quickly conveys what is meant.

For WHAM specialists, the prospect of stepping even one rank beyond our niche into managing the Costume, Wigs & Make-up division overall is unobtainable. Technically and strategically we truly are the bottom of the pile through the confines of the long-established and arguably outdated hierarchies.

The WHAM department at the National Theatre has been able to make their case effectively to have a direct reporting line to the Technical Director and of course this is a great example that can influence wider change, but for real innovation to take place we need to see this as a starting point that must progress further.

Talking from personal experience I was able to succeed in my ambitions of utilising my management and leadership skills at a strategic level beyond my niche. In 2014 I was

recruited as Technical Manager at a university, where I led the operations and output of 14 different technical workshops and disciplines. It allowed me to prove to myself and others that leading complex and diverse teams of technical specialists is achievable despite or maybe because of being from a WHAM background. I do not know of anyone else who has forged this path before me.

Designing innovative courses that help formalise these senior leadership skills aimed at educating Technical Directors from 'soft tech' areas may be the path to enabling opportunities in career progression, although I often find that despite being educated to the hilt, getting invited to interview and then being recruited rarely follows.

Fundamentally I would like to question the usefulness of siloed working within our specialist fields. My strategy would be to shake up organisational structures into agile incubator collectives. I know we have a lot of untapped talent that once brought to the fore will generate significant and previously unimaginable impact across a whole series of impasses. Even if this type of progressive approach was simply given a life as a research project for review, steps like these can ease logjams and allow innovative cultures to generate new opportunities.

Looking ahead

In a future where Tik Tok musicals are talked about as the next cutting-edge marketing tool for bringing new audiences to our venues and a generation of young gamers who are natives in the technologies that make up the engines of the new digital tech solutions we are investing in, it is clear that organisations need to adapt and innovate at pace. It is not just a matter of buying more kit; the most valuable asset in any organisation are its people.

Our industry has tragically lost and oddly gained so much as a result of this crisis and the end is not yet in sight. I am however constantly reminded that the reason we love to work in theatre, is because of the shared experiences and the collective joy our community represents. With empathy and unwavering support for our fellow humans, for now we must all embrace what is ahead of us with our hearts and minds wide open.

Young Associates

Welcome to the thirteenth edition of the Sightline Young Members Page! In this edition, we discuss a variety of topics including Technical Standards for Places of Entertainment, the ABTT Apprenticeship Network Discord server and we report on a talk we gave at the National Student Drama Festival at the start of April. Be sure to keep an eye on the ABTT website and social media (@TheABTT on Facebook, Twitter and Instagram), as well as on your emails for monthly members' newsletters, for details of opportunities and resources. If you are a young associate or early career member and have a story, opinion or experience you wish to share – we want to hear from you! Submit content to sightline@abtt.org.uk (FAO: Matthew Freeman).

Technical Standards for Places of Entertainment Online

Did you know that you can view Technical Standards for Places of Entertainment online? If you go to www.technical-standards-for-places-of-entertainment.co.uk then you can register your email address and receive a link which will give you five free views. If you are not familiar with these standards we would highly recommend taking this opportunity to have a look through them as it is incredibly important guidance used across the industry. If you would like to buy a hard-copy then you can do this through the ABTT website by going to www.abtt.org.uk/shop (remember to login to the website to receive a special members' price). If you purchase a hard-copy then you also get a code to provide you access to the online version. Educational establishments can now buy licences for twenty students at a time to access the standards online, be sure to mention this to your tutors if you currently don't have access.

Technical Theatre Job Titles Document

The ABTT Core Values Working Group has been working on updating a document outlining all the job roles that are available backstage. The document is available at www.abtt.org.uk/committees/training-and-education-committee under the 'our work' heading and is titled 'Working Document: Technical Theatre Job Titles'. Please have a look at this document and if you feel any roles are missing or want to provide other feedback, please email office@abtt.org.uk (FAO: Matthew Freeman).

ABTT Apprenticeship Network Discord Server

ABTT Young Associate Representative Jessica Nicholls recently created a Discord server called 'ABTT Apprenticeship Network'

where future, current and past apprentices can meet like-minded others between the online events that are held. This server is only for those involved in apprenticeships. If you would like to join please email office@abtt.org.uk (FAO: Jessica Nicholls) and an invite can be sent to you. Please also join the LinkedIn group by searching 'ABTT Apprenticeship Network'.

ABTT Automation Committee

The ABTT Automation Committee (ABTTAC) was founded earlier this year to champion automation as a separate and qualified field within the entertainment industry and to encourage a better understanding of automation across our industry. Anyone involved or interested in stage automation (whether they are an ABTT member or not) can join ABTTAC for free, go to www.abttac.org/join and fill out the form with your details.

ABTT Theatre Show and ABTT Awards

In the last edition we spoke about the ABTT Awards. We can now clarify that details about both the 'ABTT Technician of the Year Award' and the 'ABTT Award for Emerging Excellence' will be released slightly later this year as the awards will be presented at the ABTT Theatre Show. This is being held from the 5th – 7th September 2021 at Olympia London as part of a one-off landmark event where the 2021 editions of both the ABTT Theatre Show and PLASA Show will be under one roof. Put this event in your diary and make sure you register for the ABTT Theatre Show when booking opens as it is sure to be a fantastic event. The ABTT Young Associate Representatives will be there during the event and look forward to meeting as many fellow members as possible. If you would like further information about the ABTT Awards now, please email office@abtt.org.uk who can answer any questions you may have. Also be sure to check out the Stephen Joseph Award, which is being launched this year. More details can be found at www.abtt.org.uk/sja-award-2021 and nominations are open until the 31st July 2021.

National Student Drama Festival 2021

Young Associate Representative Matthew Freeman was delighted to virtually attend NSDF 21 to speak about the work of the ABTT and to answer questions from attendees. There was great discussion about the safety guidance the ABTT develops, the recently launched Theatre Green Book and the interesting content contained within this fine publication! If you think that you might like to take part in NSDF in 2022 then take a look at their website www.nsdf.org.uk and be sure to follow them on social media.

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Technical Standards

Association of British Theatre Technicians
55 Farringdon Road, London EC1M 3JB

Tel: 020 7242 9200
Email: office@abtt.org.uk Summer 2021

UPDATES, AMENDMENTS AND CORRECTIONS

The current edition of *Technical Standards for Places of Entertainment* was published in 2015 and has the year 2015 printed on the top righthand corner of the cover. However, there have been six reprints with revisions to this edition published on 29 April 2016; 1 February 2017; 1 April 2017; 1 September 2018; 1 April 2019 and 1 July 2020. Key revisions captured in the sixth reprint dated 1 July 2020 to Section B9

Conservation of Energy and some to Section F1 Electrical Installations have already been published in this column. Below are further revisions to Section F1 and to Section F2 Lighting including Emergency Lighting as well as contingent revisions to sections A3 Definitions and Explanations, A4 References and A5 Tables. There were a number of other revisions in this reprint including more to sections F2 Lighting including Emergency Lighting and M1.12 Electrical installation and permanent electrical equipment.

New copies of *Technical Standards* may be purchased from the ABTT website or Office.

REVISIONS & AMENDMENTS 1 JULY 2020: Sections A3, A4, A5, F1 and F2 (parts thereof)

Section	Part	Reference	Change
A3	Definitions and Explanations	Management Lighting	Insert new term to read "Management Lighting the combination of normal lighting and emergency lighting provided to facilitate easy movement about the premises, it does not usually include purely decorative or performance lighting"
A4	References	BS 5266-6	Change "...Photoluminescent systems" to "...Photoluminescent systems BS 5266-8: Emergency escape lighting systems"
A4	References	BS EN 50272	Delete " BS EN 50272: Safety requirements for secondary batteries and battery installations BS EN 50272-1: General safety information BS EN 50272-2: Stationary batteries BS EN 50272-4: Batteries used in portable appliances"
A4	References	BS EN IEC 62485 series	Insert new reference to read "...lamps. Safety specifications BS EN IEC 62485 series : Safety requirements for secondary batteries and battery installations BS EN IEC 62485-1: General safety information BS EN IEC 62485-2: Stationary batteries BS EN IEC 62485-4: Valve-regulated lead-acid batteries for use in portable appliances BS EN ISO 717: Acoustics..."
A4	References OTHER PUBLICATIONS	Approved Documents to the Building Regulations: Part L2A	Change "Conservation of fuel and power. New buildings other than dwellings" to "Conservation of fuel and power in new buildings other than dwellings"
A4	References OTHER PUBLICATIONS	Approved Documents to the Building Regulations: Part L2B	Change "Conservation of fuel and power. Existing buildings other than dwellings" to "Conservation of fuel and power in existing buildings other than dwellings"
A4	References OTHER PUBLICATIONS	CIBSE SLL Lighting Guides	Insert a new title above "CDM 2015 and the entertainment industry." to read "CIBSE SLL Lighting Guides: SLL Lighting Guide 0: Introduction to Light and Lighting (2017) SLL Lighting Guide 1: The Industrial Environment (2012, updated 2018) SLL Lighting Guide 2: Lighting for healthcare premises (2019) SLL Lighting Guide 4: Sports (2006) (under review) SLL Lighting Guide 5: Lighting for Education (2011) (under review) SLL Lighting Guide 6: The Exterior Environment (2016) SLL Lighting Guide 7: Offices (2015) SLL Lighting Guide 8: Lighting for Museums and Art Galleries (2015) SLL Lighting Guide 9: Lighting for Communal Residential Buildings (2013) (under review) SLL Lighting Guide 10: Daylighting - A Guide for Designers: Lighting for the Built Environment (2014) SLL Lighting Guide 11: Surface Reflectance and Colour (2001) SLL Lighting Guide 12: Emergency Lighting (2015) (under review) SLL Lighting Guide 13: Lighting for Places of Worship (2014, updated 2018) SLL Lighting Guide 14: Control of Electric Lighting (2016) SLL Lighting Guide 15: Transport Buildings (2017) SLL Lighting Guide 16: Lighting for Stairs (2017) SLL Lighting Guide 17: Lighting for Retail Premises (2018) SLL Lighting Guide 18: Lighting for Licensed Premises (2018)"
A4	References OTHER PUBLICATIONS	Guidance on current and forthcoming legislation within the lighting sector	Delete " Guidance on current and forthcoming legislation within the lighting sector: www.theilp.org.uk " and delete " Guidance on current and forthcoming legislation within the lighting sector: Institute of Lighting Professionals"
A4	References OTHER PUBLICATIONS	Memorandum of guidance on the Electricity at Work Regulations 1989	Delete " Memorandum of guidance on the Electricity at Work Regulations 1989: HSR25. HSE"

A4	References OTHER PUBLICATIONS	The Electricity at Work Regulations 1989	Insert new reference "The Electricity at Work Regulations 1989: Guidance on Regulations: HSR25. HSE"
A4	References ADRESSES	ICEL	Insert new reference to read "ICEL Industry Committee for Emergency Lighting A Division of the Lighting Industry Association, Stafford Park 7, Telford, Shropshire TF3 3BQ https://www.thelia.org.uk/page/ICEL "
A5	Tables	Table 15	Delete "Table 15 Colour rendering index, colour temperature and potential for dimming for different white light sources Section F2"
A5	Tables	Table 16	Delete "Table 16 Comparison of the system luminous efficacies of different white Light sources supplied at 230Vac Section F2"
A5	Tables	Table 17	Delete "Table 17 Lamp life for different white sources Section F2"
A5	Tables	Tables	Renumber Tables: Change "Table 18" to "Table 15" Change "Table 19" to "Table 16" Change "Table 20" to "Table 17" Change "Table 21" to "Table 18" Change "Table 22" to "Table 19" Change "Table 23" to "Table 20" Change "Table 24" to "Table 21" Change "Table 24A" to "Table 21A" Change "Table 25" to "Table 22" Change "Table 25A" to "Table 22A" Change "Table 26" to "Table 23" Change "Table 27" to "Table 24" Change "Table 28" to "Table 25" Change "Table 29" to "Table 26" Change "Table 30" to "Table 27" Change "Table 31" to "Table 28" Change "Table 32" to "Table 29" Change "Table 33" to "Table 30" Change "Table 34" to "Table 31" Change "Table 35" to "Table 32" Change "Table 36" to "Table 33" Change "Table 37" to "Table 34" Change "Table 38" to "Table 35" Change "Table 39" to "Table 36" Change "Table 40" to "Table 37" Change "Table 41" to "Table 38"
F1	Recommendations	F1.45	Change "Luminaires used for the lighting of stages, platforms and similar areas should comply with BS 4533- 102.17 or other parts of BS 4533 as appropriate." to "Luminaires used for the lighting of stages, platforms and similar areas should comply with BS EN IEC 60598-2-17. Older luminaires should comply with BS 4533- 102.17 or other parts of BS 4533 as appropriate."
F1	Recommendations	F1.48	Change "Generously sized earthing terminals should be provided, where..." to "Adequate provision for connection of multiple additional protective earthing conductors should be provided where..."
F1	Recommendations	F1.50	Change "Any technical ("clean") earth with also a safety function should be adequately sized." to "To ensure protection against noise on analogue and digital systems, earthing for safety and functional reasons incorporating multiple low impedance earth paths should be provided. Existing buildings may incorporate legacy uni-point (Technical or Clean Earth) which will need careful review during refurbishment. See Commentary section above with regards to bonding equipment to earth as many times as is possible."
F1	Recommendations	F1.51	Change "Each socket or bank of sockets should be marked to indicate its phase. It may be necessary to provide a Warning 440 volts label if access to live parts within the enclosure is possible. Electrical loads should be assigned to different phases as necessary in order to achieve a balanced load across the electrical installation as far as is reasonably practicable." to read "Each socket or bank of sockets should be colour marked or labelled to indicate its phase to assist in balancing the load on phases. Loads should be assigned to different phases as necessary in order to achieve a balanced load across the electrical installation including FoH areas and offices) as far as is reasonably practicable."
F1	Recommendations	F1.51 Note:	Replace "In smaller premises it may be convenient to split a stage lighting load so that one phase serves the front-of-house lighting, one the grid and flies and the third the sockets at stage floor level. However it is quite impracticable to design electrical installations to achieve balanced phases in view of the completely variable nature of stage lighting loads. For this reason it is important that the neutral return cable is the same size as the phase supply cables. The European practice of providing all three phases to internally-wired bars to try to achieve balanced phases is unlikely to achieve its aim except by chance." to read "Historically separating phases between sockets for front-of-house lighting /grid and flies/ stage floor was promoted. This is no longer advised and is not deemed to provide any operational or safety advantage and may add to power quality issues."
F2	Lighting including Emergency Lighting	COMMENTARY	Change "Guidance is given in AD L2 Conservation of fuel and power other than dwellings." to "Guidance is given in AD L2 Conservation of fuel and power in new buildings other than dwellings and L2B Conservation of fuel and power in existing buildings other than dwellings and Non-Domestic Building Services Compliance Guide."
F2	Lighting including Emergency Lighting	COMMENTARY	Change "...lighting or to specialist..." to "...lighting, escape lighting or to specialist..."

MAKING CONTRIBUTIONS TO TECHNICAL STANDARDS

If you wish to contact the Standing Committee about any matter to do with *Technical Standards*, you may email standards@abtt.org.uk. You may wish to suggest an

amendment, clarification, new reference or explanation. The Standing Committee would be interested to consider any recommendation. Please do get in touch.

Previous editions of this *Technical Standards* column may be found on the ABTT website.



Latest Titles

West End in Watercolour by John Higgins – A Portrait of London Theatre
260pp £28.95 ISBN: 9781904031925

Today London is widely regarded as the theatrical epicentre of the English-speaking world, its 'West End' closely rivalled by New York's Broadway, and provides a rich array of theatres, opera houses, concert halls and cinemas which, alongside the delights of restaurants, cafes, pubs, bars, nightclubs and shops, create a glitteringly exciting playground for the would-be theatregoer.

While John Higgins considers the West End and its fashionable rise from earlier beginnings, he also looks closely at the concurrent vigorous entertainment scene around the East End and neighbouring working-class suburbs, and their subsequent metamorphosis into the prolific operation that has today become the trendy Off-West-End London Fringe.

And so as the typical famous grand 'Up West' houses are paraded in their glittering surroundings of glamour and razzamatazz, their fascinating 'Off-West' counterparts have their own exciting tales to tell ... and John says one thing is for sure: they have all been delicious to paint!

The National Theatre: A Place for Plays by ABTT 130pp £11.95 ISBN: 9781904031932

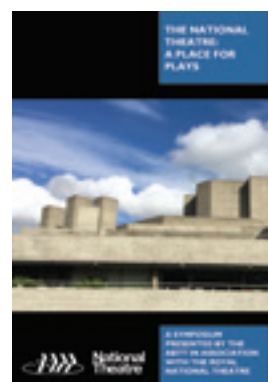
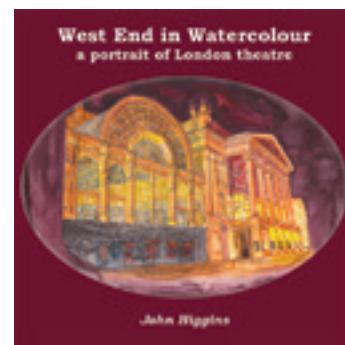
Paule Constable and Richard Pilbrow hosted a one-day Symposium on 30th October 2016 to celebrate the 40th Anniversary of the opening by Her Majesty the Queen of the National Theatre designed by Sir Denys Lasdun. The National Theatre: A Place for Plays, presented by the Association of British Theatre Technicians in association with the National Theatre, was about Theatre and Architecture: a discussion, a confrontation, a misunderstanding or a collaboration?

This book contains a transcription of the discourse, debate and dissent that took place on the day.

On Being a Lighting Designer by Graham Walne 116pp £12.75 ISBN: 9781904031949

Graham Walne's latest book chronicles the processes which a lighting designer goes through to deliver a design. The book covers engagement, relationships, discipline, skill, knowledge and deliverables, and includes anecdotes from the author's own considerable experience as a lighting designer across three continents.

Available now, along with all of ETP's titles at: www.etbooks.co.uk



TECHNICAL STANDARDS FOR PLACES OF ENTERTAINMENT

Revised in July 2020

Available now from www.etbooks.co.uk



Members News

MEMBERSHIP RENEWALS FOR 2021

Thank you to all who have already completed their membership renewal for 2021. For those who still have to do so, please be aware that Subscriptions for this year are now overdue. Membership runs from the 1st January - 31st December. We understand the uncertainties facing our industry, so we have made renewing membership with the ABTT as easy and cost-effective as possible.

You are now able to pay for membership via monthly instalments over 10 months or 4 consecutive months. There is no difference in benefits if you choose the monthly payment option or the annual one-time payment. By renewing your membership, you will be assisting us in achieving our charitable aims and in continuing to support you during this trying time. Your ABTT membership also qualifies for Gift Aid increasing the value by 25%. We thank all who have made a Gift Aid declaration: if eligible, please do consider doing so.

Existing minimum subscriptions remain unchanged for 2021. *Members & Associates: £80; Early Career (26-30): £50; Young (under 25): £25; Retired: £35; Affiliated Organisations: £250 and Large Affiliated Organisations £500.* Overseas renewals should add £7.50 for postage. As always, should you have any questions do contact the office.

The ABTT continues to work in setting and upholding standards in technical excellence, safety and compliance for live performance and in assisting technicians, releasing various COVID-19 Guidance, resources and information for its members.

Through membership your ability to develop and maintain professional networks is enhanced by the programme of ABTT online events, PLUS you have the ability to shape the future of your Industry through participation on the ABTT Committees, and for those with FULL Membership - eligibility in Trustee elections. The ABTT is committed to producing new and innovative online seminars and webinars. During 2021 access to the library of these events will become a membership benefit and there are currently more than 50 hours of online content available for!

ISG MEMBERSHIP RENEWALS

The ABTT is extremely grateful to the Industry Supporters who have supported them throughout 2020. A full list of these benefactors is to be found on our website and on the first three pages of this edition

of Sightline. If for any reason your company is not listed yet please do contact the ABTT office. New members can still join for 2021. It is never too late to join this "go to" list of theatre and live performance expert suppliers, service providers and supporters.

NEW MEMBERS

We continue to receive applications from Associate members seeking admission as full MEMBERS of the ABTT. To be admitted as a full MEMBER of the Association costs nothing and acknowledges that you have gained relevant experience and demonstrate a manifest commitment to the technical subjects of the art of theatre. All you need do is submit a CV and contact details for two referees: please consider applying for admission as a full MEMBER TODAY! The next Council meeting is being held virtually on 23rd June so there is still time to submit an application.

TRAINING: BOOKING NOW

ABTT 2021 Summer School Courses

The ABTT is pleased to confirm that its Summer School courses will be running at Warwick Arts Centre in July this year. We are open for bookings for places on the below courses.

Warwick Arts Centre, Coventry: NOW BOOKING

Visit our website or contact the office for booking forms and details of individual CPD modules as well as the programmes listed below.

The following Silver courses are open to applications from any who have gained the ABTT Bronze Award or can demonstrate equivalent learning.

Monday 19th – Saturday 24th July 2021, Silver Award for Theatre Stage Electricians – 6 Day Course

Monday 19th – Saturday 24th July 2021, Silver Award for Theatre Stage Technicians – 6 Day Course

The Gold Award is designed to support the candidate for a role in which they will have responsibility for the management of the working environment and the practices pursued therein. The Gold Award assumes candidates have achieved equivalent skills and knowledge to those delivered by the ABTT Bronze and Silver Awards. **Sat 17th – Sun 18th July 2021, ABTT Gold Award for Technical Supervisors and Managers – 2 Day Course**

OTHER NEWS

ABTT Online Seminars 2021

The ABTT are running seminars throughout 2021, celebrating the diamond jubilee of its foundation. The Association is marking this milestone with a year of online activities with seminars covering a variety of topics so keep your eyes peeled on the 'ABTT Events' page for upcoming events.

You can also take advantage of the release of our Technical Theatre Recordings, these include interviews with distinguished theatre practitioners capturing their commitment to our industry. These can be found on the 'ABTT Archive' page under 'Resources and Guidance'.

ABTT and PLASA join forces for 2021 Theatre Show

The ABTT and PLASA, (the association for the live entertainment technology industry) are pleased to announce a collaboration that will bring the 2021 editions of both the ABTT Theatre Show and the PLASA Show under one roof from 5-7 September at Olympia London.

For 2021 only, this partnership between the two established associations aims to reduce pressure on the exhibition calendar as the industry's eco-system recovers from the impacts of the pandemic and will bring the broad sector together for one landmark event.

More information can be found on the ABTT Website.

ABTT AWARDS: 2021

To mark the centenary year of Stephen Joseph's birth and the 60th anniversary of the founding of ABTT, the Stephen Joseph Committee of the ABTT are pleased to announce an Award to commemorate the life and work of this maverick theatrical genius.

There are three categories from which one candidate best reflecting Stephen's legacy will be chosen. You can find out more about the categories and how to apply on the ABTT News Page.



Safety Matters

Association of British Theatre Technicians
55 Farringdon Road, London EC1M 3JB

Tel: 020 7242 9200
Email: office@abtt.org.uk Summer 2021

A RETURN -TO-WORK-APPROACH

With theatres and venues preparing to re-open a tailored approach needs to be considered. Many people will have received their Covid vaccination, but some will not. Also, being vaccinated may not mean that you are immune from carrying the virus and many who return to work will have still have to maintain distance and continue wearing a face covering. This could lead to worries for those who are anxious about returning to work, which might develop into mental stress and health issues.

All television companies making current TV programmes test performers and technicians on a regular basis. There is always the possibility that close contact with others can result in the virus transmitting and hereby causing a halt to the production.

Your correspondent, who visits theatre venues, uses an HSE self-testing kit. This kit helps with one's confidence when meeting others and provides the evidence to show one is negative, providing you are!

If your theatre is not self-testing and you are concerned, this is something you can do yourself. The kit contains all you need and can be completed in a few minutes. Once the test result is known you e-mail your negative result to the HSE centre and this will deliver a reassuring letter via your own e-mail within minutes. However, it does not prevent you from becoming infected, but it might help your mental welfare.

The Kit is free from NHS and can be posted directly to your home: www.gov.uk/order-coronavirus-rapid-lateral-flow-tests

While we're thinking of Covid, please amend, augment and adapt the following: Return to work needs a 'Fit for Work' strategy incorporating solutions for these issues:

- Loss of Muscle Tone – exercise
- Loss of Muscle Memory – rehearsal/practise
- Skills Fade – rehearsal/revision
- Loss of competence currency – revision/retraining

THE LIFTING REGULATIONS CHECKLIST FOR LOLER

The Lifting Operations and Lifting Equipment Regulations (LOLER) provide a framework for you to determine the safety of the lifting apparatus in your venue. The regulations are particularly important in theatres due to the need to lift scenery over the stage, but they must also be considered in workshops and foyers.

Examine the use of the equipment: How the equipment is used can tell you a lot about the potential hazards that may be present. According to the LOLER regulations, equipment should be used correctly with a view to safety. LOLER also states that equipment should be 'suitable' for the work undertaken. Equipment used below the flying bar is subjected to wear and tear and therefore needs to be more robust and will require more frequent inspection. In theatre we rig and de-rig frequently.

Determine the suitability of the equipment: any lifting equipment must be suitable in terms of size and capacity

and should be properly positioned. For the equipment to be suitable, it should both 'strong and stable' in relation to the obligations under PUWER (Health and safety executive, 1998).

Look at the installation of the equipment: LOLER also requires an evaluation of the installation of the apparatus. This examination will look at various factors including location, installation timing and the amount of the risk that the equipment creates during operations. As one colleague put it 'In a theatre environment, scenery may be hung from a 'rated' flying bar using drifts and flying irons which individually have a SWL equal to the total load but each may be connected to questionable timber scenery with a few wood-screws.'

Marking lifting equipment: Part of the way that you can determine the suitability of equipment is through the markings displayed. This should include information on the type of objects that can be lifted, (like the details on the hook/shackle needed for example). LOLER also stipulates that precise 'safe working loads' need to be displayed on the lifting equipment, such as chain hoist or flying bars.

Look at the equipment for lifting people: If the equipment is used for lifting people, in addition to LOLER the equipment in question will also have to be compliant with the machinery directive. The regulations require that the lifting equipment is safe and tested before used for the first time. Beyond this, regular safety checks should be carried out to determine if the equipment is still fit for purpose according to LOLER. This should be done on stage on a daily basis – as a building 'person' lift at least every six months.

Evaluate the attaching and detaching load methods: The method by which loads are attached and detached from the equipment are opportunities for potentially poor safety practices to creep in. On stage that attached load such as scenery should be regularly checked (see above). An assessment of the risks should mean that the person inspecting is competent and experienced.

Look at the danger of suspended loads: there are a lot of risks associated with suspended loads, particularly if actors are working underneath them. To fulfil the obligations of LOLER, when conducting assessments, you should assess the risk to any person working in close proximity and determine how the risks can be mitigated. During a fit up, where possible, rope off the area below your work to prevent others walking into danger.

What are the storage conditions for the equipment? Finally, you should test the storage conditions that any lifting equipment is being kept in. This can cause damage and wear over time at an accelerated rate. Keeping storage conditions for lifting apparatus dry, free from moisture and, if possible, off the ground. This will help protect the equipment from electrical faults and improve your implementation of the LOLER measures.

Ensure you are LOLER compliant: it should be examined by a competent person to determine the safety. Additionally, equipment should also be tested after exceptional circumstances. Take a look at the ABTT Silver Stage Award.

References: Health and Safety Executive (1998) Lifting Operations and Lifting Equipment Regulations 1998

WORK AT HEIGHT AGAIN ... NO SUITABLE RISK ASSESSMENT.

We talk a lot about the shortcomings of risk assessing in these pages and here is a sad incident where a girls' school has been fined for breaching work at height regulations after a teacher fell from a stepladder and was left unconscious.

Westminster Magistrates' Court heard that on 9 May 2016 a teacher was conducting rigging and adjustments to spotlights and cabling in the school drama studio when he fell from the ladder. A fellow teacher present in the room turned to find her colleague had fallen and was unconscious having suffered multiple fractures to the skull, wrist and elbow as a result of the impact.

The court was also told that the defendant, Queen Elizabeth's Girls' School of Barnet, North London, had inadequately risk assessed work at height in its Drama Studio and had failed to provide the teachers conducting the work with sufficient training for work at height, despite these matters being requirements in its own health and safety policy. The school also had a health and safety e-learning tool available for teachers and other staff to use, which included a module on work at height, but this was only made mandatory after the incident.

The school pleaded guilty to a breach of Regulation 6(3) of the work at Height Regulations 2005, was fined £2,000 and ordered to pay full prosecution costs.

Speaking after the hearing HSE Inspector John Spence said: "If the school had conducted a suitable and sufficient risk assessment of the light rigging task and ensured that employees undertook the appropriate information, training and instruction available this incident could have been prevented".

The four 'S's' to further consider for school student participation when undertaking a risk assessment and developing control measures in method statements:

- Stature – be aware of the limits of physical size and ensure tools and equipment are dimensioned appropriately;
- Strength – be aware of the limits of strength and make a suitable adaptations to tasks to reduce physical effort where appropriate;
- Stamina – be aware that tasks may not be able to be sustained for the same duration as may be the case with adult workers;
- Supervision – be aware that instruction and training will need frequent reiteration and that close supervision will be required where inexperience and loss of focus increase risk.

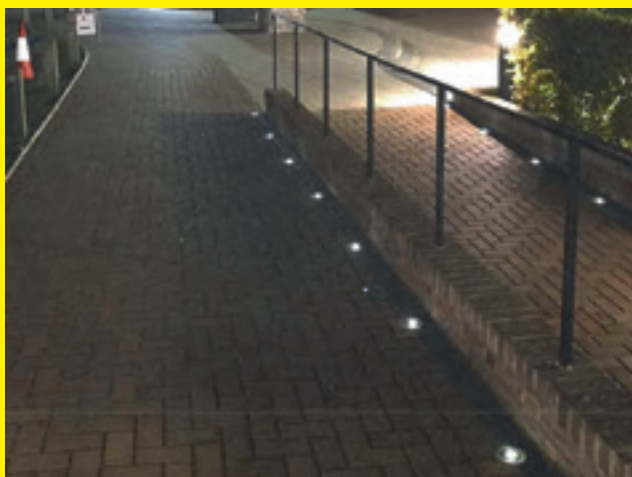
Although the incident in question involved a teacher not a student, school staff responsible for such drama spaces should look at the ABTT Bronze Award. The courses would cover the appropriate regulations and would give confidence to staff to work safely.

LIGHTING OUTDOOR AREAS

An independent secondary school has been ordered to pay almost £63,000 in fines and costs after a member of the public tripped over a poorly lit wall and sustained fatal head injuries.

On 17 February 2017, a family member of a student attended the school to watch an evening performance. While walking towards the hall, the woman tripped over a small retaining wall and fell to the ground and sustained a serious head injury. She died six days later in hospital.

Health and Safety Executive (HSE) investigators found that the school had failed to ensure the area was adequately lit. A pedestrian site safety assessment failed to identify the risk of tripping over the wall, which was 30cm high, and did



not take into consideration the lighting conditions or potential effect of poor lighting on pedestrian safety at night.

The School pleaded guilty to breaching section 3(1) of the Health and Safety at Work Act in that it failed to protect the safety of those not in its employment. It was fined of £52,800 plus costs of £10,040. Speaking after the hearing, HSE inspector Graham Tompkins said the risk should have been identified. 'The school should have taken measures to improve lighting and install a handrail on top of the wall to increase the overall height,' he added.

The school has since implemented these measures, pictured above.

TRAGIC NEWS FROM THE WEST MIDLANDS

Vue Cinemas admitted two charges at Birmingham Crown Court. Both charges were under the Health and Safety at Work Act and were for "failing to ensure that persons not in their employment are not exposed to risk to their health or safety" and for "failing to make a suitable and sufficient risk assessment".

The Vue cinema chain has admitted both charges over the death of a man crushed under a motorised footrest. The man, 24, died after he got his head stuck under a seat while searching for his keys at Birmingham's Star City cinema in March 2018. Vue Entertainment Ltd pleaded guilty to failing to carry out an adequate risk assessment and failing to ensure the safety of visitors to the cinema.

The Health and Safety Executive told an inquest the force that came down on Mr Rafiq was the equivalent to three-quarters of a tonne. The father-of-one, from Aston, suffered "catastrophic" brain injuries. The inquest, which ended in a verdict of accidental death, was told the reclining chair had been missing a bar that would have allowed him to be released by hand.

Cinema staff spent 15 minutes trying to release the man and his wife said she remembered him turning "blue".

New From ETP

THE SOUND OF THEATRE



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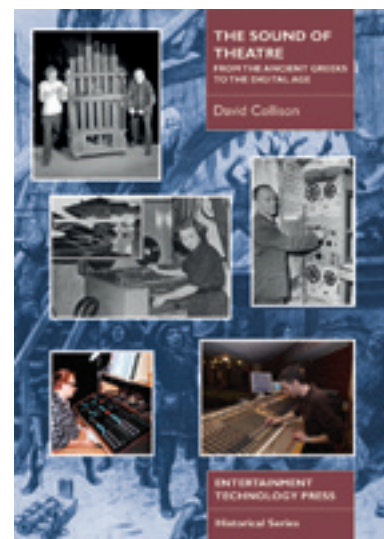
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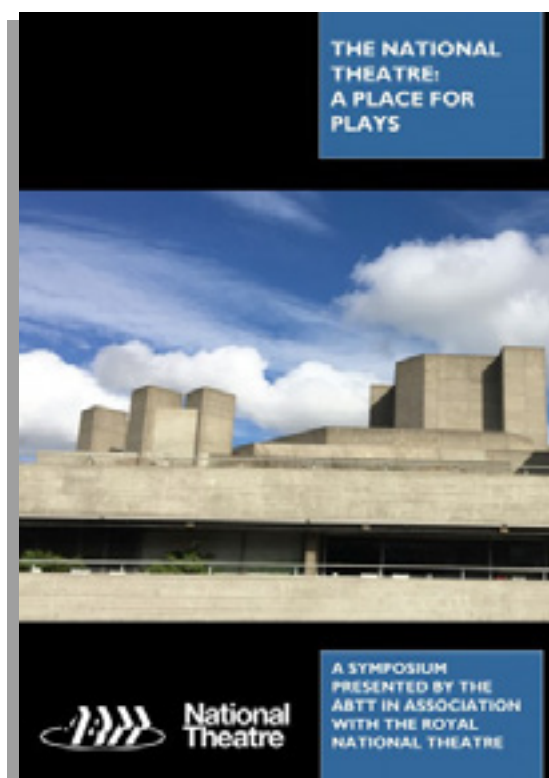
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About the Book:

Paule Constable and Richard Pilbrow hosted a one-day Symposium on 30th October 2016 to celebrate the 40th Anniversary of the opening by Her Majesty the Queen of the National Theatre designed by Sir Denys Lasdun. The National Theatre: A Place for Plays, presented by the Association of British Theatre Technicians in association with the National Theatre, was about Theatre and Architecture: a discussion, a confrontation, a misunderstanding or a collaboration?

This book contains a transcription of the discourse, debate and dissent that took place on the day.





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Large Affiliate



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Arts University Bournemouth	Poole
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Bath Spa University	Bath
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Bedaes Olivier Theatre	Petersfield
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Central Saint Martins UAL	London
Century Theatre	Markfield
Chapter	Cardiff
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Chichester College	Chichester
Chichester Festival Theatre	Chichester
Citizens Theatre	Glasgow
City College Norwich	Norwich
Civic Centre Craigavon	Craigavon, N Ireland
Civic Theatre Chelmsford	Chelmsford
Clwyd Theatr Cymru	N Wales
Concordia Theatre	Hinckley
Connaught Theatre	Worthing
Contact Theatre	Manchester
Cork Opera House	Cork, Ireland
Corn Exchange Newbury	Newbury
Cornwall College - St Austell	St Austell

Coventry City of Culture Trust	Coventry
Cranleigh School	Cranleigh
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Darlington Hippodrome	Darlington
De Montfort Hall	Leicester
Derby Theatre	Derby
East 15 Acting School	Loughton
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Equity	London
Everyman Theatre - Cheltenham	Cheltenham
Fife College	Kircaldy, Scotland
Giggleswick School	Settle
Glyndebourne Productions Limited	Lewes
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Guildhall School of Music & Drama	London
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Island Arts Centre	Lisburn
Kenneth More Theatre	Ilford
Kiln Theatre	Kilburn
Kings College London	London
Kings Lynn Corn Exchange	Kings Lynn
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Lakeside Theatre	Colchester
LAMDA	London
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Lyric Theatre Hammersmith	London
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National Theatre Wales	Cardiff
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New Wolsey Theatre	Ipswich

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Northbrook Metropolitan College	Worthing
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RADA	London
Redbridge Drama Centre	London
Regents College	London
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Sherman Theatre	Cardiff
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