

digital edition

# Lighting & Sound international

January 2008

entertainment, presentation, communication

[www.lsonline.co.uk](http://www.lsonline.co.uk)



## War Horse

at the Olivier Theatre, London

**DIFC, Dubai**

Large-scale celebrations

**Technical Focus:**

GLP's Impression LED fixture in-depth

**On Tour: Mika**

Live at the Doncaster Dome

**LDI 07 in Review**

L&SI reports from Florida



L&SI has gone digital! Register online FREE at [www.lsonline.co.uk/digital](http://www.lsonline.co.uk/digital)



# War Horse

Based on the novel by Children's Laureate Michael Morpurgo, the Royal National Theatre's production of *War Horse* at the Olivier is a fascinating piece of devised theatre, which has evolved over two years under the directorship of Marianne Elliot and Tom Morris.

words by Julie Harper

photography by Simon Annand

The story, told from the viewpoint of a farm horse, Joey, revolves around the relationship between a young boy and his horse, and events as they move separately from life on a Devon farm to be reunited on the Flanders battlefields of World War I.

With Rae Smith's set design skilfully lit by Paule Constable, video wizardry provided by Leo Warner and Mark Grimmer, sound design by Christopher Shutt and some mesmerising puppetry from Handspring Puppet Company, there are a great many talents to co-ordinate within a single production.

## Puppetry

The general look and content of the production was first established during a series of workshops, with one of the primary challenges being how to portray a horse in a dramatically malleable, yet realistic, fashion. Morris had met Adrian Kohler of South Africa-based Handspring Puppet Company twelve years ago when he was Director at Battersea Arts Centre and, more recently, had been influenced by their production, *Tall Horse*, which featured a 5m tall giraffe operated by two men on stilts. Recognising the dramatic potential of these puppets, Morris approached Kohler.

"Tom was keen to feature our puppets, and we knew we wanted to work together," says Kohler. "It was just a matter of finding the right project. When Tom first told me about *War Horse* and how it was told through the neutral eyes of a horse, my first thought was, 'How do we do this?'"

"At first we workshopped the idea of not using puppets at all, experimenting with an 'unadorned horse' and using people to simulate the front and back legs. This worked for blocking purposes but did not allow the introduction of a rider."





The fact that the puppet horses in *War Horse* have to carry an actor on their backs raised real structural issues far beyond those presented by *Tall Horse*. "We had to raise the spine above the heads of the actors within the puppet which meant the centre of gravity for the rider was a lot higher than anticipated. It also meant the final model ended up bigger than a life-size horse. This proved to be perfect, however, as we realised that the huge, bare Olivier stage was ideal to be filled with horses. They actually needed that big space and it worked really well."

The first prototype was shipped to England for testing. "It was structurally sound - we used our neighbour's daughter to test the load bearing. She was terrified but at least we knew it worked!" Kohler adds, "but it looked like a grasshopper from the front!"

The design was refined and the cane construction developed to finally give the horse a good, realistic leg structure. In the final incarnation, the skeleton is constructed of aluminium to bear the weight of a rider, the substance is bamboo cane bent around plywood shapes, whilst the skin, which is attached inside the frame, is stretch georgette which acts like gauze.

"One moment the horse can appear solid and opaque, the next you can see right through it and it becomes a mere wisp of a horse, thanks to Paule Constable's fantastic lighting," says Kohler.

The leather ears are controlled with bicycle brake cables, which serve a dual purpose. Rods or string controls can only be used in a straight line but bicycle cables can curve around obstacles within the construction. The controls can also be flipped over the neck to work from either side so the operator can remain on the upstage side of the horse at all times.

The mane and tail are formed from a kind of foam, painted to look like leather, which was light enough to flick with the mechanism in the tail (also controlled by brake cable) but still give the impression of the heaviness of a horse's tail.

Each horse is operated by three puppeteers, two inside the main body wearing rucksack-style frames, who carry the weight (over 50kg each when carrying a rider) and control the legs, tail and breathing, and one on the outside who controls the head, neck and ears. "In the world of puppets, big figures do not come round a lot! There are some amazing people operating the horses," says Kohler.

Indeed, the movement of these puppets is eerily lifelike, the juxtaposition of latticework construction and puppeteers appearing incongruous against the dazzling realism of movement.

Ten horses were made for the production in total, one of which, the mother of the foal, had to be cut when the storyline was tightened. "It was a shame the mare had to go," says Kohler, "she had beautiful hip movements! Nonetheless, it was amazing to watch the directors working during the final weeks of production. They made some fairly ruthless cuts to the story line to bring a three-and-a-half-hour show down to two-and-a-half-hours, which streamlined the storytelling beautifully. It was like watching sculptors work."

#### Video

Central to Rae Smith's set design is a large, irregular projection screen, resembling a torn strip of paper, that forms the focus of a design which is otherwise minimalist and transient.

The screen serves a number of purposes, having projected upon it drawings which provide, in turn, literal and psychological landscapes. It is used as a medium to establish location, show the

passing of time and to mimic motion. Snippets of images move the audience from a Devon farmscape to No Man's Land, via a sinking horizon which imitates the movement of a ship across water.

There is a pronounced contrast in screen content between the first and second halves. Using the medium of watercolour, which was so popular in Edwardian times, sepia pastels are used to convey much of the subject matter for the pastoral Devon scenes. The second half, by contrast, draws upon the more aggressive and abstract Vorticism used by the war artists, augmented by stark shadow puppetry.

This 'shift in palette' as Paule Constable terms it, was the result of close collaboration between Smith, Constable and video artists, Leo Warner and Mark Grimmer of Fifty Nine Productions Ltd.

"Rae's design was formative in the inclusion of the projection screen in the place of the traditional 'set'," says Warner. "Once it was in place she gave us huge freedom, as designers, to create the on-screen world. Mark and I developed the visual language over a period of several weeks during rehearsals, ensuring the journey from rural idyll to the horror of war was carefully developed alongside the stage action."

In addition to the archival research and bespoke filming required, Warner and Grimmer incorporated drawings, executed by Smith herself, which then underwent considerable manipulation.

"We turned Rae's beautiful monochrome drawings into multi-layered images which were graded and treated to create a cohesive whole with the lighting and stage picture," says Warner.

Some of this involved the creation of movement - for example, tracking and panning 'camera-style' around images such as the sketch of a galloping horse and rider - and creating special effects like water, blood, smoke and explosions. Textures were also created on the screen, moving from sepia and faded-out paper, through various stages of stained and battered surfaces to the photography in the penultimate scene.

The system for *War Horse* consists of six Panasonic PTD 5600 projectors, mounted around the dress circle, projecting output from two Catalyst M146 with tracking backups, all driven from a Hog II PC and previewing on a MacBook Pro.

"The 5600 projectors were chosen because they are the quietest for light output available," says resident AV technician, Paul Kenah. "The Ethernet connection allows us to call up a webpage to control all the variables, like focus, and receive full feedback diagnostics, like temperature readout, so we have full remote monitoring and control of each individual unit. We also have full tracking back-up provided by two Macs, using the Catalyst to set sync IDs on each layer to ensure they are frame synchronous."

The system was brought into the National by Fifty Nine Productions for the Cottesloe's production of Virginia Woolf's *The Waves* in 2006. Kenah, who has responsibility for AV across all three theatres and the RNT's touring productions, has subsequently developed and expanded the resource which has been used on several productions since.

"We have an excellent relationship with Catalyst software developer Richard Bleasdale who, luckily for us, is based in London," he explains. "He made software modifications for each show as we needed it, such as the multiple live-camera input for *The Waves*. We now have a system which gives as much flexibility as possible to video designers like Leo and Mark."

"Using Catalyst allows us to make modifications during a live tech without disturbing the whole sequence. We can respond quickly to changes during rehearsal in a way which was just not possible in the early days of video," explains Warner.

"This is preview number seven," adds Grimmer, "and we are still trying new things out!"

### Lighting

Two major challenges immediately seem to present themselves on the lighting front - the size of the Olivier theatre and the large obstruction caused by the screen.

"This production does not have a lot of scenery and the Olivier is a hugely exposing space," explains Paule Constable. "Filling that space successfully in order to tell a story is a huge undertaking."

"The concept behind the lighting for *War Horse* was a continuation of a conversation Rae and I began when working on *St Joan* [also at the Olivier]. We are constantly addressing the issue of how to make the cavernous Olivier more inclusive and reduce the distance between the audience and the open stage.



E24 Touring Dimmer



EKO1 Dimmer



maXim Lighting Console



For more information contact  
White Light Limited on  
**020 8254 4840**  
Sales@WhiteLight.Ltd.uk

[www.WhiteLight.Ltd.uk](http://www.WhiteLight.Ltd.uk)



"The Olivier has extremely high angles with the result that the standard backlight positions are very steep. Backlight becomes more like toplight, pushing actors down into the floor and making them seem remote from the audience. We decided to experiment by bringing in more light, dropping the hanging positions to give a shallower angle, to draw the audience closer and make it feel like a shared space. By bringing the lighting angles lower you can push people to the front of the stage, making them more three dimensional and, in effect, offering them to the audience."

The shallower angles were also necessary to negotiate the screen, stretching as it does across almost the full width of the stage.

"You cannot light around the screen - besides, it is too much a focus of the design. Rather you have to make something of it and celebrate the fact that it is there," says Constable.

"There is never a time when the screen is not used - it makes no sense without projection on its surface. The huge amount of extra light on screen makes the stage look dark by comparison so I have had to use much higher levels of light to balance it. I think I have used more fill light for this production than I have ever used before."

Constable needed to find a means of defining the contrast between the idyllic scenes of pre-war Devon in the first half and the grinding realism of war in the second to complement what was happening on screen.

"For the pre-war scenes I used a lot of back lighting around the screen, with strong beams of light, giving it the appearance of a cloud edged by sunlight and integrating it into the pastoral scene. Light sources were high up, giving the impression of more space and air and I took a more conventional approach with lots of warm, diffuse front light to make the horses appear more opaque."

In the second act, the mood changes completely. "With the war in progress, the screen has more to say and must be allowed to say it.



To give it prevalence I dropped the eyeline down by lowering the lighting angles to stage level, under the screen, and, in so doing, closed the audience in to the action. I used discharge sources to create a colder palette and a lot of low level backlight to make the horses appear more translucent and vulnerable."

The result appears to increase the intensity of the setting giving the audience the impression they are watching events unfold close up. The pastoral scenes of the previous act seem dreamlike by comparison and a reflection of how war was to destroy that familiar way of life completely.

"I could have added colours and gobos ad infinitum, but you need to strip your palette down to something which will carry the structure of the story. You must define the architecture of each scene with light," adds Constable.

#### Sound

Sound designer Christopher Shutt became involved in the *War Horse* project after working with Tom Morris on *Coram Boy*. "Being a devised piece it has been a long time in its genesis," he remarks. "This may sound like an indulgence but the problems of translating a book which is not immediately obvious as stageable is a massive job."

Having worked regularly with Complicité for 20 years, Shutt is familiar with working on devised pieces. "It requires a lot of faith in the combined skills of the creative team involved. It is unusual to have two directors but, with their specialisms in physical theatre and in text-orientated interpretation, it was a very productive combination."

"Our aim was to make these amazing creatures [the horses] come alive vocally as well as visually. You are already introducing a strong vein of artifice by representing horses as puppets with actors operating them. Following this approach, I did not use 'real' sound but created naturalistic effects to convey an interpretation of something akin to the real thing.



"There is only one existing recording of horses trapped on barbed wire in pain, which I chose not to use. Instead the actors developed a 'horse language' which they vocalised live and was so much better than using a sound track. All three puppeteers are making the noises of the horse - the breathing, snorting, whinnying and screaming - and are individually radio mic'ed. After that, I treat the three people as one individual."

With very few recordings of WWI battles, it was Shutt's responsibility to recreate the impression of trench warfare. "With no source material, I had to be slightly anachronistic, using a combination of sounds which I then manipulated to make them sound less modern. World War One survivors are somewhat thin on the ground these days - so I am relying on the non-appearance of many WWI veterans to put me right!"

The appearance of a tank on stage is used as a symbol to illustrate the encroaching use of technology in warfare and the increasing industrialisation of society at this time. This culminates in the clash between the tank and the horse which Shutt wanted to make "very frightening", contrasting the power and aggression of the tank with the living entity of the horse and the tranquility of the pastoral scenes which have gone before. "The sound of the tank tracks comes from specially constructed speakers which the puppeteers wear on their bodies at the front and back of the tank itself. This gives maximum effect when close to the audience, in addition to sending the engine noise all around the auditorium."

The fixed rig for the proscenium and vocal system was supplemented at this point with 'heavy artillery' on stage in the form of a pair of d&b F2s and B2s upstage, and Turbosound boxes, with a pair of Meyer 650s at the side of the stage. "This gave a lot of bottom end weight

on stage which is necessary on that enormous open stage. The volume is set very high which makes it loud onstage for the actors but brings the audience right in the middle of the action."

Musically speaking, an accordion player/vocalist sets the tone throughout with John Tams's composed narratives. The remainder is provided by five brass players and a backing track recorded by composer Adrian Sutton. Another veteran of *Coram Boy*, Sutton crafted the soundtrack by laying out seats in orchestra format and playing every part himself on the violin. He recorded himself playing these parts onto 16 tracks which, when played back, create the effect of a full sweep of orchestra.

"It was fantastic to work with Adrian," says Shutt. "Rather than just using sampled strings, his attention to detail lent an authentic feel to the music. I then brought the image down onto the stage, creating an enormous drive through the stage picture, allowing me to draw the audience in."

"The great thing about devised theatre is the length of time involved. It allows the creative team to mull things over and come up with some inventive solutions. On the other hand, devised theatre is never finished. Press night is just a flag along the journey. We are still devising up until the last night and I generally have to be physically dragged away! With Tom as associate director of the National, we are getting more opportunity to work on these kinds of productions. It's great that this place exists to allow this kind of thing to happen."

*War Horse* runs in rep at the Olivier Theatre until February 2008 and the immense success so far suggests it may follow in the footsteps of *Coram Boy* and *His Dark Materials* in being reprised at a later date.

**Be Calm...**

Standard & Custom Gobos

Gobo Animation - Infinity™

X24 X-Effects Projector

**Enhance the emotion of any production or event with Rosco's range of filters, gobos and projection accessories!**

...with

**rosco**  
www.rosco.com

T: +44 (0)20 8659 2300  
F: +44 (0)20 8659 3153  
E: sales@rosco-europe.com

Also in: New York, Hollywood, Toronto, Madrid, São Paulo and Sydney

**ProPower™ CE**  
*RMD Series*

**Rack Mount Power Distribution System**

Racks are custom-configured to your specifications, in heavy-duty flight cases, from a complete range of aluminium panels. See available panel options at: [www.tmb.com/products/propower/ce/rmd](http://www.tmb.com/products/propower/ce/rmd)

**Meticulous craftsmanship. Finest components. Years of trouble-free service. Your whole show in one rack!**

**CE**

Production Supplies & Services Worldwide  
**tmb**  
www.tmb.com

LOS ANGELES LONDON NEW YORK BEIJING TORONTO