

Nigel Levings at the interface of art and technology.

I have a theory that historically the role of lighting designer came into being when the complexity of the technology of our theatres became too complicated to be carried out by the previously successful process of directors and set designers shouting loudly at an electrician. Now at the beginning of the 21st century I think burgeoning technological developments have deeply affected our creative role in the theatre and I would like to look briefly at where we stand now that we are, on most occasions, equal partners in the creative team.

A creative life spent at the interface of art and technology breeds a very particular kind of artist and requires a very special set of skills. Before I look at the implications of working at this interface I want to outline the sort of skills required of the theatre lighting designer at the beginning of the 21st century. What are these skills? Can you teach them? Or are we born to light? I would like to try a little profiling, an attempt to describe the perfectly 'fit' lighting designer by listing the skills and knowledge I think they should possess.

The skills a lighting designer should possess:

- A burning desire to communicate with our fellow human beings the essence of our common humanity - which is the fundamental role of the theatre in our culture.
- The ability to work calmly and quickly under extreme time pressure.
- A capacity to concentrate even when surrounded by distractions.
- A courteous and professional demeanour.
- An imagination capable of making both spontaneous and planned creative decisions.
- A work ethic that allows for the adherence to demanding deadlines for the supply of technical information regarding a design.
- An eye capable of taking in at an instant all details of a large and flowing composition of bodies, scenery and light.
- A quick and intuitive ability to respond to rapidly changing conditions.
- The creative skill and dexterity to improvise on an underlying design theme.
- A deep understanding of literature and an ability to quickly comprehend both the surface meaning of a text and its underlying subtext.
- The ability to read or at least follow a music score.
- An understanding of the structure of music.
- A soul capable of responding to the emotional flow of a musical work.
- A grasp of the historical context of theatrical texts and associated performance styles.
- A mind able to recall initial emotional responses while continuing to develop the deeper responses brought on by intense study.
- An empathy for the demands faced by performers and a willingness to adapt.
- The ability to communicate abstract ideas in a coherent manner.
- Collaborative work methods combined with the ability to take a strong leadership role.
- An ability to deliver clear instructions to technical staff in a manner that opens channels for their creative contribution.
- An understanding of theatre technology and an ability to speak the language of that technology. Knowledge of the physics of light, how it is produced and how it behaves.
- An understanding of the biology of vision, of how the eye works.
- A psychological understanding of the process of perception.
- A technician's understanding of electricity and electronics.
- Computer programming skills in CAD, spreadsheets, specialist control system programming, word processing, visualisation software, image manipulation software.
- A work method that has a coherent process for preparing and delivering designs.

Some of the attributes in this list can be learned at educational institutions but it is my belief that the most critical aspects are innate in the personality of the designer and revealed or developed where we work – *at the interface of art and technology.*

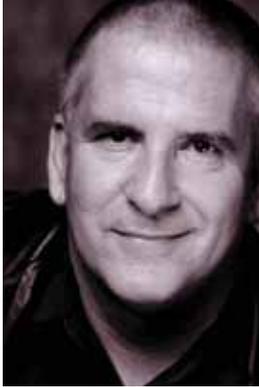
Let's look at some of the curious features of our profession, and in particular, what happens when collaborative artists work with tools that are at the cutting edge of theatre technology. As you will see from the list of skills, I am particularly interested in the fact that it takes an unusual combination of skills and interests to be a lighting designer. We have one foot in the world of the sciences and the urban myths of our society tell us that people interested in technical things don't read books, listen to classical music or enjoy art of any sort. Yet we are also artists and we are deeply immersed in all the various forms of human artistic creativity. I think this straddling of two worlds, left brain and right brain, art and technology develops or perhaps attracts those with some very interesting sets of skills.

As lighting designers we spend our creative lives at the interface between art and technology. The tools with which we create our art come from the forefront of technological development in the areas of optics, computer control, light generation, remote control, electronics, the internet and other developing areas of scientific research. We are usually the most technologically literate members of a creative team whose areas of expertise are in the literature of the theatre, of human psychology and the visual art forms. As such we often find ourselves assisting

and interpreting for our colleagues in these technological areas. We are often the 'in house' repository of technical expertise for our fellow members of the creative team. This is a role that is well beyond the mere attendance to the illumination of the performance.

Our work in the theatre is created at the very heart of the communications network that drives the process of making any new work in the theatre. We have the ability to be in constant contact with all the technical departments and with stage management at the same time as we are developing our own contribution to the work. As such we are the only part of the creative team with an intimate understanding of how the organism that is live theatre is operating. So while we are busy building and developing our contribution to the final product we are also on the look out for faltering signs in the health of this organism. Alert to potential failures in the machine.

We are also the only member of the creative team whose principal creative work is done in the white hot pressure cooker that is the production period on stage. There are a finite number of work hours in which we must ensure that the planning that has gone into the design preparation can be carried out. A finite amount of time in which to produce a fluid flow of light to enhance that 3 hours traffic of the stage. This time pressure encourages us to be on the lookout for any technological developments that we may bend to our use. The quality of our design depends on the degree and quality of detailing we can achieve in a finite period. If the architect Mies van der Rohe



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was right when he said, "God is in the details," then it is through our application of technology that we can alleviate time pressures to apply that density of detailing that is inherent in the best of our art.

Creating a lighting design in the theatre can sometimes be a process of reverse engineering. Human beings are phototropic animals. Subconsciously or consciously we are always responding to light. In the rehearsal studio when a director is first creating a work, they do so in a space where all areas of the studio have equal value as to their light intensity. In this situation there is no phototropic effect determining where an actor may move. We may thus find ourselves in the theatre trying to apply some phototropic justification for a move that was directed with no such justification. Our ability to utilise such technology as visualisation software can assist our colleagues to find these lighting related issues in the studio ahead of time. Actors and directors who are aware of planned elements of the lighting design can better prepare for the huge leap from

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the comfort of the studio to the harsh glare of the stage. Technology comes to the aid of art by providing lighting designers with new tools.

Unless you are a particularly gifted novelist it can be difficult to convey the intention of a lighting design before the event. Set designers and costume designers can model or draw their intentions, directors can story board their planning. Lighting designers have for a long time been stuck with not much more than reputation to instil trust in the rest of the team that when the time comes they can produce the “goods”. Intentions can be discussed but it is very difficult to convey the three or actually four dimensional nature of a light plot flowing through the course of the production. Difficult also for us to fully envisage it. There is a glimmer of light on the horizon now that 3D modelling software is so rapidly developing. I have now lit four productions using ESP Vision software to create the plot in a virtual model and I have also used rendering software like 3DS Max to develop lighting ideas to show a client on an architectural project. I can see great scope for us to use this technology to generate real images of our intentions to both help us develop our designs and to open up discussions with our colleagues. Technology has now delivered a planning tool equivalent to the set designers model box.

3D modelling and visualisation software have also brought the huge advantage of being able to go into the theatre with the basic number crunching accomplished. Using software like ESP Vision the skeleton of the light plot can now exist in the desk from the moment the production enters the theatre. Instantly we have grabbed more production time for detailing the design since the basic cue structure has been created ‘offline’.

Our work requires that we have an interest in the latest developments in lighting technology. New tools are constantly being developed and flowing into our work methods. If, as is often said, we paint with light, then we have the most rapidly changing brush and paint technology that any artist has ever faced since they first spat a mouthful of wet clay at a hand pressed to a rock wall. Every week another glossy magazine lands on my desk full of ads for some new light or control system. It is tempting to think that the application of some new technology may be the key to some particular design problem that we are wrestling with. In these cases we should always remind ourselves that it is what is coming out of the front of the light that concerns us and that the black box that produces the light is just another paint brush. That the fundamental issue is the relationship between the angle of illumination and the viewing angle of our audience. That where it comes from is much more important than what it comes from.

We should also be aware that the painting analogy falls down in the sense that we are not placing marks on a blank canvas. We are instead

teasing illumination out of the darkness. We are creating an architecture of light in the dark and that until our task is complete the actors are unable to integrate their phototropic responses to this world into their performances. Our shiny new moving light paint brushes should allow us to get to that point quicker but as we all know, so called ‘intelligent lights’ are far from it. They are actually very stupid, every single thing they do must be explained in excruciating detail. These new toys have multiplied our number crunching tasks by a factor of 20 in some cases. A very big step backwards in our time-constrained creative process.

It is probably an occupational hazard but I imagine we are all in love with shiny new toys whether it is an iPad or the latest moving light. It is a seductive process and unfortunately very easy for us to fall prey to the siren song of new technology. It can be tempting to win the praise of our colleagues and audience by showing our dexterity in the application of some new piece of ‘eye candy’. The visceral thrill of producing some of that “look at me, aren’t I fantastic?” lighting that we see so much of in rock music concerts. It is this sort of egotistic lighting that places the primacy of visual pleasure over meaning that I would like to suggest we should eliminate from our work. To be on guard against the temptation of the cheap trick.

This is not a new thing. When I first started as a young stage hand there was an old and hardened production electrician who used to say that, “you can always show a mug a bit of colour”. In the Australian slang of that time a ‘mug’ is



'Moonlight and Magnolias' by Ron Hutchinson at the Playhouse, Victorian Arts Centre for Melbourne Theatre Company, 2009. A play about the events surrounding the change of director and total rewrite of *Gone With the Wind* after it had started shooting. Directed by the Australian film director Bruce Beresford, lighting by Nigel Levings. Photo: Jeff Busby

someone who is easily fooled. In this sense the old lighting master was referring to how easy it was to delude some audience member of the time with some display of saturated colour. This temptation to delude arises when we forget that we are part of a team. When we forget that our primary responsibility is visibility and that the

depth of our art must be judged by how well we have 'illuminated' the performance, not by how much attention we have drawn to ourselves. Of course this is not to argue that we should abandon beauty and drama but only to say that this must be at the service of the overall performance. That beautiful and thrilling lighting only truly achieves

the status of art when it is tightly bound to the text and subtext. In conclusion I would make this plea, that we pass on to the next generation of lighting designers a firm belief that visibility is our primary role and that we should always seek to make technology serve meaning. 🍀