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A Sense of Direction: the directionality of light and the creation of meaning and feeling on stage

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Abstract

The direction light comes from is one of its fundamental properties, alongside brightness and colour. However, the directionality of light on stage – the qualities, effects and affects that arise from its directional property – has received little critical attention. In the UK and the English-speaking world more broadly, the discussion of directional light in professionally focused textbooks is generally based on an historical model from the mid twentieth century, developed by Stanley McCandless. This model prioritises a certain type of visibility of the actor, and has little or nothing to say about how directionality can contribute to the expressive content of the performance. In this article, I provide a brief overview of directionality from the time European theatre moved indoors, and a critique of the McCandless 'method' and lighting systems that derive from it, which are still influential. I go on to propose a new approach to directionality, rooted in the *relational* – the relationships among light, audience, performer, character, space, the wider cultural context, and changing theatre-making practices. My approach is a phenomenological one, drawing on the experiences of practising lighting designers, to create an initial essay of how we might a reconceptualise directionality and how it can create meaning and feeling on stage.

Introduction

In 1855, Charles Kean's production of Shakespeare's play *Henry VIII* used the new technology of electric carbon arc lighting to create a beam of light, dramatically illuminating the suspended angels for the scene of Queen Katherine's dream. Scott Palmer describes how this 'astonishing light effect,' used to create the 'transcendental image' of the angels 'bathed in heavenly light,' had an 'overwhelming impact on the audience' (2023, 31). The power of the effect on a nineteenth century audience was in part due to its novelty – the carbon arc and the limelight were new types of light source, able to produce strong, directional artificial light from a single point for the first time. Strongly directional light nevertheless still has the power to invoke feelings of delight and awe today, whether in the form of a spotlight picking out a solo performer, architectures of light beams at a rock concert, or the 'fingers of God' made by sunlight penetrating broken clouds.

On stage, the almost universal use of spotlights established since the middle of the twentieth century means that all light comes from directional sources, each producing a focused beam of light from a single point. The soft-lights found in film and television lighting that emit light broadly from a large area are rarely used on stage. This dominance of spotlighting means that, even when the stage appears filled with light, and performers seem enveloped in light coming from all directions, the light field is built up from a large number of directional sources. *Directionality* – the qualities, effects and affects that arise from directional light – is therefore central to contemporary stage lighting practice, and yet is has received comparatively little attention. I want here to sketch out how we might think about stage light's directionality, particularly in relation to dramaturgical concerns and the audience's experience of a performance.

A brief history of directional light on stage

Although my focus in this article is on contemporary practice and thinking, it is important we recognise that thinking about and the use of directional light on stage has changed over time. When theatre performances in Europe began to take place indoors, first on temporary and later on permanent stages, lighting was largely determined by practicalities. Getting sufficient light for an audience to see the performers in a large room required a great numbers of candles, torches and/or oil lamps, placed wherever they could be accommodated. Chandeliers over the audience and the front of the stage, footlights and lights in the wings lit both the stage and scenery. Actors at the front of the stage were lit from below by the footlights, giving an unnatural look and flattening facial features – an issue often dealt with by using exaggerated make-up. Further upstage, the brightest places were by the wings, where actors were lit by sources from off-stage.

Sebastiano Serlio, in his 1545 treatise *Architettura*, gives detailed instructions for stage lighting, as well as one of its first taxonomies, comprising three kinds of light: general stage light, decorative light, and mobile light (Bergman 1977, 58). In Serlio's scheme, the main light comes from torches and chandeliers overhead, conflicting with the painted shadows on the scenery, which he says should indicate light coming from one side. Serlio notes the issue, but pragmatically says the light will be brightest if placed over the centre of the stage. Directional light is encoded into the scenic painting, rather than the actual light, and audiences are left to resolve this contradiction for themselves – a contradiction that was a major impetus for Adolphe Appia's reforms of stage lighting 350 years later (Beacham 1994, 24-25).

Serlio's decorative light consists of light sources seen through openings in the scenery such as windows or the fruits on trees, with vessels containing coloured water,

and pieces of glass to tint and diffuse the light. Serlio's third type of light – mobile – was used to represent the firmament: light sources on tracks, moved by ropes, represented the sun, moon and stars. While the actual light on stage did not itself have the directional nature implied by these sources, the audience could read directionality into the representation of light, just as it did with the painted shadows on the scenery. As with other aspects of Renaissance and Baroque theatre, directional light was codified and read in complex ways.

The lighting described by Serlio illuminates the audience and the auditorium almost as much as the stage – light creates a single space, shared by spectators and performers. Leone de' Sommi, in his 1568 publication *Quattro Dialoghi in Materia di Rappresentazioni Sceniche* (Four Dialogues on the Subject of Stage Performances), advocates for the lights in the auditorium to be placed behind the viewers, to reduce glare and improve the view of the stage. In doing so, de' Sommi has light reinforce a directionality in the room: we the spectators are *here*, illuminated from behind, while the performance takes place over *there*, lit (from our point of view) from the front. Serlio's shared ambient light, animated by decorative and mobile effects, begins to shift towards the bipartite model familiar in much of theatre practice today, with a darkened auditorium and lighting coming from many directions but always pointed at the stage – a model taken to its limit, at least conceptually, by Wagner's mystic gulf, designed to encourage a transcendent experience transporting us from *here* to *there* (Burlingame 1875, 283).

The development of limelight and carbon arc sources in the early nineteenth century allowed for the first time a concentrated, intense artificial light source, able to create a directional beam of light with reflectors and lenses. As well as the dramatic impact exemplified by Kean's use of carbon arc, these new light sources enabled an

increase in overall light intensities. In particular, bright light could come from above, which is difficult to achieve with candles and oil lamps, since the candle or oil burner blocks the light from passing directly downwards. However, limelight and carbon arc sources both required constant attendance by an operator, and so could only be placed where a person could reach them. They were also technically complex and expensive to run, and so only found limited use for general lighting. Instead, gas lighting took over from oil and candle, with burners located in the same places around the stage – footlights, in the wings and overhead, located as closely as possible to what was being lit. Gas did bring one important change compared with candle and oil – gas burners could be designed to light somewhat downwards, facilitating a general shift through the nineteenth century towards light coming primarily from above. This shift was completed by the gradual abandonment of the footlights.

At the end of the nineteenth century, with the fashion for darkening the auditorium, light did not generally reach the stage from where the audience sat, and maintained a generalised ambience, although with some directionality in different parts of the stage according to where the nearest – and so brightest – source was located. The large number of sources – gas burners, and from the 1880s onwards electric lamps – were individually relatively dim and emitted light over a wide range of directions, controlled to some extent by reflectors. This multiplicity of light sources combined to create an ambient light that cast soft, indistinct shadows, and was only directional in the broadest terms. The relatively bright lime and carbon arc sources could be used to cut through, to create either diegetic light such as representations of sun or moonlight, or dramatic visual effects. Scenic painting conventions continued to include painted shadows, creating a parallel lighting world for the environment only, quite different to,

and incompatible with, that occupied by actors and other three-dimensional objects on the stage.

It was this incompatibility that was a primary motivation for Adophe Appia's proposed reforms of lighting and staging, which developed into a far-reaching and influential theorisation of scenography, including light. As Scott Palmer observes, 'Appia's vision for the first time placed light and shadow and its movement over time as central to the dramatic experience. His distinction between active and passive light is critical to this vision' (2015, 37). Vital to my purpose here is Appia's proposal to remove the troublesome painted shadows, while retaining the focused, directional light of the carbon arc combined with the ambient, largely shadowless light of the many gas fittings, or their replacements, the electric filament lamp. For Appia, the *passive* or diffused light, and the *active* (shadow-forming) light – to adopt the translations used by Palmer of these contested terms – were both essential for achieving the poetic role of light he sought. Appia's ideas found their fullest realisation at the Festspielhaus, Hellerau, when he collaborated with Jacques-Dalcroze and Alexander von Salzmann between 1910 and 1914. The unique lighting installation comprised walls and ceiling covered with a translucent oiled fabric, backlit by 2700 electric lamps (Kuschnig 2017, 104). This ambient, almost directionless light filled the space occupied by both spectators and audience in a fashion reminiscent of the Renaissance stage. A control system allowed the intensity of the light behind different sections of the panels to be varied dynamically during the performance. Within this glowing box, beams of directional light could pick out specific areas, sculpting both scenic elements and performers with directional, shadow-forming and form-revealing light.

While the influence of Appia's ideas is widely acknowledged, and he is frequently cited as the first and still primary stage lighting theorist, it is not generally

recognised that the passive or diffused light that was a central part of his concept was gradually removed from lighting practice during the first half of the twentieth century. With the development from the 1920s onwards of increasingly powerful tungsten filament lamps, wash lighting – the electric equivalent of the rows of gas burners it replaced – became less and less used, exchanged for directional spotlights, each projecting a beam of light onto a specific part of the stage. Rather than spreading light broadly in the stage space and cutting through the ambience with sharp beams, as Appia had argued for, large numbers of spotlights built up the stage picture, as an artist's brushstrokes make up a painting. It is this method of spotlighting that continues to dominate stage lighting practice today.

Taxonomies and systems of light

If Appia was the first to elaborate a fully-developed theory of the role of light as part of a total dramaturgy, Stanley McCandless was the first to articulate a systematic method of using the new electric spotlights in his 1932 book *A Method of Lighting the Stage*. McCandless develops a detailed argument for his method, which prioritises the visibility of the actor – and in particular actors' faces – while wanting to maintain 'a naturalistic effect' as far as possible (53). Like Appia, McCandless is concerned with the revelation of form, and so dismisses light directly from above as causing deep shadows on the face, and light from the centre of the balcony (a low-angled light from the front) as 'eliminating all form by allowing no highlights and shadows, which are valuable contributions to our conception of the solidity of objects in space.' Footlights are simply 'bad.' Instead, McCandless proposes a schema in which the stage is divided into areas, typically three across and two deep, each lit separately. The preferred angle, coming from 45 degrees to the side and 45 degrees above the horizontal, is a diagonal direction akin to sunlight, which McCandless notes is widely used in Renaissance art

and is a convention in architectural renderings. To ensure the actor's face is still lit when they turn away from this diagonal light, a second source lights the area from the other side, so there are 2 lights, each at 45 degrees away from the central axis, and at a 45-degree vertical angle. To prevent these two lights from different directions flattening the sense of depth too much by filling in each other's shadow, they are tinted different colours, one slightly warm and one cool.

McCandless goes on to elaborate his method with techniques for motivating light – the light within the fictional world of the performance, such as sunlight through a window – and for 'blending and toning' the overall scene. However, it was the central ideas of lighting the stage in a series of areas, each light at 45 degrees horizontally and vertically, that became foundational to stage lighting – at least for drama – through the remainder of the twentieth century, and is still influential today. All instructional lighting textbooks describe the method, whether acknowledging its origins or not, perpetuating a set of assumptions and values that were encoded in McCandless's system. Firstly, the method was based on an understanding that the actor's face was the visual priority – an understanding repeated subsequently by, for example, Richard Pilbrow, who wrote that although lighting is not a 'mechanical process … the designer must … constantly [bear] in mind his duty to the actors' (1970, 30). Rex Bunn is even more explicit, stating 'lighting theatre stages for acting essentially means lighting faces' and 'the faces of actors on stage must be lit so that the audience sees them in sufficient detail to "read" their expressions' (1993, 30). The second assumption inherent in McCandless's method is that actors primarily face towards the audience. His addition of a second light source accommodates those times when the actor faces sideways across the stage, but that is seen as a divergence from the normal situation. Similarly, if the actor is assumed to face the audience directly, then the audience is similarly assumed to

face the actor and the stage from a single direction. Thirdly, writing at a time when spotlighting was new, and with the users of smaller and amateur theatres in mind, McCandless was seeking to minimise the number of lights required. Face lighting was his priority, but he also saw a need for other lights to create a complete scheme for each scene; by 1952, when spotlighting was more accepted and lighting control systems further developed, he was able to write in the foreword to the fourth edition of his book, 'it is necessary to treat the "method" with great latitude – by using some times more specials than standard acting area units.' He also acknowledged that arena stages, musicals, pageants, ballets and circuses all required their own approach, while claiming 'the basic principles of the "method" really hold' (8). However, because in its transmission and interpretation McCandless's method has tended to be reduced to the 45+45 acting area formula, his cautious approach has sometimes been lost: in 1993 Rex Bunn was unequivocal, describing the 45-degree angles as 'the ideal light for acting' (31).[1]

Fourthly, McCandless recognises the need to use multiple sources to represent a single source. One stage light may shine through a window in the scenery to create sunlight in the fictional world of the performance, but more spotlights will be required to create the effect of the sunlight reflecting around the room. One fictional source is represented by several real ones, and – unlike with the multiple sources of candle, oil, gas and early electric installations – each of these sources is a focused beam, casting its own shadow. In Appia's schema, the *passive*, ambient light provided general illumination, while a single *active* light created a single shadow, in the way that is familiar from natural daylight. Multiple or conflicting shadows were available as an artistic choice, but were not inherent in the schema; McCandless's method has multiple shadows by default, and it is for the lighting designer to either make use of this

unnatural effect for artistic purpose, or find ways to minimise the effect through careful technique. As the method that McCandless described and helped to spread became established, the number of light sources increased, developing into a way of lighting that in 1967 Richard Pilbrow argued for in an article titled 'A Multi-Lantern Complexity – Why?'[2] (1967). This shift is now almost total: large light sources that create soft, largely invisible shadows are rarely used in contemporary stage lighting practice. Today, the choice appears to be between actually using a single light source, creating the appearance of a single source from multiple sources, or deciding that multiple shadows are either a creative tool or a practical necessity. This choice is to some extent a matter of style, but we should also note that lighting designers are significantly constrained by institutional structures such as the available lighting equipment, systems and processes found in theatres, and the wider expectations of directors, producers, critics, audiences and funders. The consequences of this approach are hard to overstate. We have made a collective choice (perhaps largely unconsciously) to accept multiple shadows, particularly on the stage floor, in order to gain the benefits of spotlighting: a high degree of control of the distribution of light across the stage space; detailed modelling of performers and objects; the use of complex colour combinations; and being able to keep parts of the space dark, especially off-stage areas and the auditorium. The cost has been that we have removed the quality of natural light – deeply familiar from daylight – from the range of stage lighting possibilities (unlike in the built environment and lighting for camera, where naturalistic light combining soft and hard sources is frequently used). This collective choice is one of the primary reasons why stage light – for better or worse – has a distinctive quality we rarely encounter in other aspects of our lives.

There is one more assumption in the McCandless method I want to draw attention to which is also of great significance, and that is regarding skin tones. Part of McCandless's objective is to ensure the audience's attention is drawn to the faces of the actors, and this is achieved by controlling the light on the actor separately from the light on the scenery, ensuring the actor is more brightly lit and well contrasted against the background – properties that draw the eye (Eghdam et al. 2020). However, McCandless's strategy is dependent not just on light levels but also on skin tones. He briefly acknowledges this, writing, 'the amount [of light] required for good visibility of the white man or woman actor with the usual make-up varies chiefly according to the amount of contrast between the brightness of the face and the background.' The McCandless method is designed to light white actors, and he has no further comment or strategy for lighting people with darker skin tones; later formulations of the method by others rarely include even this brief recognition of the matter. Within a tradition of lighting practice stemming from the 1920s and 30s, particularly that found in the English-speaking world, white faces have been privileged – a way of lighting designed to maximise their visibility has prioritised white actors. This has been an issue of some discussion and debate within the lighting profession in recent years, and – as I discuss below – practices have moved away from the McCandless method; nevertheless, there is an urgent need for new formulations of directional light, better suited to a diversity of skin tones and physiognomies. This is clearly a matter of cultural, social and political import, and is beyond the scope of the present article, although I hope some of the ideas essayed here may be useful contributions to the subject.

Stanley McCandless introduced the idea of a systematic approach to spotlighting, based on a geometric division of space and set directions of light relative to the stage (and so the presumed performer and viewer). Not only was McCandless's

method widely adopted, the underlying approach, based on three-dimensional geometries, has been foundational in the creation of other systems – often extensions, variations or additions to McCandless. These systems are most fully elaborated in US practice. Norman C. Boulanger and Warren C. Lounsbury, in their *Theatre Lighting from A to Z*, have the following heading under the letter F:

> FORMULA. A theory, type, or style of lighting, a method or means of lighting a stage show. A number of different techniques, different types of lights, different locations, and different colors may be used to light productions, and these are grouped into classifications we call formulas. The advantage of teaching formulas is that the student learning such methods rote will be able to light a show reasonably well using these preset methods. (1992, 74)

Boulanger and Lounsbury go on to divide their formulas into those for arena and thrust stages, and those for proscenium stages:

> **Formulas for the arena and thrust stage.** Two systems are common for lighting arena and thrust stages, with markedly different modeling [sic] results.
> If possible, use the 90° method. See 120° lighting and 90° lighting under ARENA STAGE LIGHTING; THRUST STAGE LIGHTING.
> **Formulas for the proscenium stage.** Many formulas use warm tints from one side of the stage and cool tints from the other. In addition, it is advisable to provide overall toning with special COLOR WASHES. See McCandless formula, Wash formula, Double-reverse McCandless, Watson formula, Combination formula, Wash and key, all under PROSCENIUM STAGE LIGHTING.

Each formula is described in detail, with extensive practical advice regarding its implementation. Boulanger and Lounsbury note that 'the formulas are especially applicable for elementary and high schools and community theatre, where it is normal to have limited equipment,' but being targeted at those starting out in lighting design means the formulas become strongly influential of their later practice. Steven Luis Shelley takes the formula approach still further in *A Practical Guide to Stage Lighting*,

in three editions between 1999 and 2013 – a book aimed at (aspiring) professionals. The construction of 'covers' of light from each required direction in each area of the stage is considered exhaustively, with guidance on how to adapt to different building architectures, scenery and available rigging positions for the lights. Techniques for ensuring multiple lights can be focused to give the appearance of a single source, while controlling the distribution of light across the stage space, are discussed. Through these and similar texts, a way of thinking about directionality, with its associated assumptions, becomes naturalised: a certain type of visibility of the (presumed white) actor is prioritised; the stage is to be divided into areas each lit in the same way based on a geometric model; a universalising method – independent of the specifics of a particular production, scene or moment – is put in place first, followed only afterwards by 'specials' to meet specific requirements (with the tacit implication that they are of secondary importance).

To be clear – I am not suggesting that lighting designers are unaware of or uninterested in the expressive potential of directional light. Quite the opposite is true, as I demonstrate below. Indeed the textbooks, from McCandless onwards, are clear that methods and systems of lighting should not be applied rigidly, that light is an expressive medium, and lighting designers must use their creative judgement in its application. How the lighting designer is to do that, on what basis they might make decisions about directional light, what contextual factors are in play, and what effects and affects are possible – on these questions the professional and scholarly literature is largely silent, however.

Relational: towards a new account of directional light on stage

Having given an overview of the history of lighting directionality on stage, and identified some of the assumptions and omissions in current accounts of directionality

(especially those in the professional literature), I want now to sketch out a new approach, one based on the *relational*. Joslin McKinney and Scott Palmer identify three 'principles and defining concepts' of what they term expanded scenography: relationality, affectivity and materiality (2017). Affectivity and materiality are clearly relevant to any consideration of performance lighting, which involves the use of the 'immaterial material' of light to create effects and affects, but it is the idea of the *relational* that I want to use here as a guiding principle: 'the way that scenography facilitates spaces of encounter; that may be in the form of encounters between spectators and performers in ways that are conventionally familiar, but it might also encompass encounters with other spectators, spaces, sites and objects' (8).

My relational approach is also a phenomenological one, rooted in the experience of practising lighting designers and my own design practice. It also depends on a presumption made by all lighting designers – that spectators are sensitive, if only subliminally, to the lighting choices made. Before we can consider what feelings or ideas directional light may communicate, we need to establish to what extent viewers are even aware of it. It seems perhaps obvious that the majority of viewers, unless they have a visual impairment, will be aware – at least subliminally – of the choices made by the lighting designer regarding colour, brightness and the distribution of light in the stage space. It is less obvious that they will be sensitive to the directionality of light, especially when light is coming from several directions at different intensities and in different colours.

In their 2018 paper 'Reliable Top-Left Light Convention Starts With Early Renaissance,' C-C Carbon and A Pastukhov report on their experiment asking viewers without particular fine art experience and expertise to identify the direction of light in over 1000 Western paintings, largely from between 1300 CE and 1950 CE. Several of

their findings are relevant here. Firstly, they provided further evidence to support earlier claims that the great majority of Western paintings of the period being considered depict light entering the scene from above-left – the top-left corner of the painting – showing the directionality of light is culturally embedded through images likely to be familiar, directly or indirectly, to many audience members. Secondly, when the research participants expressed high levels of confidence in their determination of the light direction in the painting, this correlated with the proportion of participants making a similar evaluation. When a particular depiction of light created agreement amongst viewers as to its direction, those viewers were confident in their judgement – in everyday terms, they knew it when they saw it. Thirdly, the agreement and confidence levels amongst participants increased for paintings made later in the time period, with the greatest confidence in the period 1450 to 1900 CE. This finding suggests that despite changing styles and concerns over an extended period, painters developed and maintained techniques to depict light that provide effective cues to ensure its direction is intelligible to the viewer (Figure 1). Carbon and Pastukhov's research is strongly suggestive if not conclusive that – in accordance with lighting designers' intuition – audiences are sensitive to the directional qualities of light, and that there are cultural reference points for the directionality of light, which can be invoked with suitable techniques.

Figure 1: The Milkmaid, Johannes Vermeer, c. 1660. Public domain.

In the remainder of this article, I map out how we might start to think of the directionality of light in relational terms. I draw on both my own past experience as a lighting designer and the experiences of four current lighting designers who I interviewed for this article: Sofia Alexiadou (interviewed 19 May 2023), Lucy Carter (24 May 2023), Rob Halliday (11 May 2023) and Michael Hulls (10 May 2023). Hulls,

who works almost exclusively in dance, is dismissive of lighting formulas, including the widely accepted formula for dance lighting:

> A lot of people seem to have an idea that dance lighting is all to do with booms and side lights. People ask what's the difference between lighting a dance piece and lighting a theatre piece. For me it's not a difference between 'this is dancing', 'this is theatre'. It's a question of – how narrative is the material? … And that's about character. Are they performers or are they being someone else?

Where the McCandless and other systems of lighting aim to use different directions of light to create a single, harmonious effect, Hulls seeks contrast: 'the first thing that I want in the rig for an abstract kind of dance piece, is backlight. And side light from floor level. So I want two of the most different directions possible. That opens up quite a range of possibilities, of different dynamics.' For Hulls, these two directions are not abstract concepts, or a standardised way of lighting figures in space, they bring with them possible narratives. He imagines,

> downstage, quite harsh but very focused white backlight. Upstage, off-the-floor sidelight, in say, a kind of amber-ish warm kind of colour. Have a dancer in each, so they're both lit completely differently. Probably the most extreme different kind of angles that you can have … Something like that really works if the second dancer upstage is ghosting what the dancer downstage is doing so there's a clear relationship. But we're seeing into two different worlds at the same time. That's exciting. Visually, that's exciting.

Through this simplest of gestures, two contrasting directions of light counterpoint matching choreography, and so create a network of relationships. Hulls offers a second example of a lighting direction bringing with it narrative associations, this time through a cultural connection:

> So you have a shaft of light, the classic western art: the light source is somewhere towards the top of the frame on the left hand side … That, in itself, for me creates a

> kind of feeling of intimacy. Of something to do with someone's inner world … something akin to a spiritual feeling … If there was a figure, then it takes me more inside the inner world of that figure. And I think that that is what Vermeer is doing in all of those paintings. It's a quiet, intimate moment … someone at a spinet, a woman reading a letter, the milk maid. It feels calming, intimate. And then if you reverse the direction … it doesn't feel the same. It feels slightly disconcerting. I don't know, that must be to do with the preponderance of imagery that we've been exposed to, where the source is towards the top left. If you turn it around and put it top right, it makes me feel slightly uneasy.

Paule Constable describes a diegetic use of light, to indicate not only the material circumstances of the fictional world, but how they impact the experience of the characters:

> With something like *Cosi Fan Tutte* [Glyndebourne, 2005], which was set in a room in front of a garden, all the lights came from upstage. The idea was to show the girls living in a hot climate, and when they could be outside and when they couldn't be. And all the action takes place in one day, so you have to tell that story. (Baker 2007, 156)

Here, the function of light coming from upstage is not to sculpt the performers or provide rim lighting to make them stand out from the background – though it may also do that – it is a worlding strategy that contributes to the narrative. To similar ends, Josef Svoboda created Mediterranean heat for *Sicilian Vespers* with curtains of descending light, thickening the air in layers (Burian 1971, 66).

For Hulls, such uses are not simply a matter of stage light representing natural light in the fictional world of the play. Rather, directional light has powerful connotations because we have an intuitive understanding of natural light. Light that is 'parallel to the ground, low level … has an association … with either dawn or dusk when you know light is just coming up over the horizon or just disappearing down behind it. That creates some kind of feeling in us because of that association with the

movement of the sun and times of day.' Lucy Carter concurs, giving the example of a low back diagonal direction of light, that 'gives us a subconscious sensation that perhaps it's the end of the day, if you were to give it a narrative, or the end of a moment or the end of an idea, and therefore it suggests potentially a reflective state, in a non-narrative manner.'

Such effects and affects are, however, dependent on the wider context of the performance, and especially how the light on stage relates to both the audience's and the designer's experience of light in their own lives. For Sofia Alexiadou, lighting designers use directional light

> in different ways, especially when they come from different parts of the continent. So for me, top light is something really emotionally aggressive because of the Greek sunlight … It was really shocking for me when I went to Finland to light a show, and for hours and hours and hours, I was followed by this long shadow which you never get in Greece … the whole meaning [of directional light on stage] is really connected to the way I perceive natural light.

Writing about summer twilight in Denmark, Jesper Kongshaug states, 'The fact that light comes from one horizontal angle during those hours also is part of a cultural understanding of light. It's visible in our design tradition that we have many hours of more horizontal lighting than in southern latitudes' (2023, 65).

As well as the geographical and cultural context of the audience, lighting practitioners are themselves situated within an evolving professional milieu. My account above describes how directionality in stage lighting has changed over historical time, partly in response to technological changes, but also changing ideas of light's role within theatre performance. While the McCandless method and systems based on it have been highly influential in the UK, the USA and elsewhere, in the first part of the twenty-first century practices have been changing. Writing more recently than the

textbooks such as those of Boulanger and Lounsbury, Pilbrow and Bunn cited above, Nick Moran makes an important distinction between *front-light*, which comes from the direction of the audience, and *face-light*, which lights an actor's face irrespective of which way they are facing (2019, 59). Moran states that 'two actors in dialogue tend to look across the stage at each other rather than directly out at the audience … As often as not, face-light for drama … comes at least as much from the sides of the stage as the auditorium.' Lighting designer Jennifer Tipton agrees, writing, 'everybody says you should light dancers from the side and actors from the front. But what I have discovered is that the light that feels like a true source is the light lighting the face and faces rarely face the front; people are usually speaking to each other' (2023, 158). Acting is relational, and designers lighting actors respond to that, a matter I return to in more detail below.

Rob Halliday attributes this shift in how actors are lit, from the 45+45 convention of McCandless to the use of sidelight as the primary source of face-light, to changing acting styles, with dialogue being played more to the other actors and less to the audience. He also sees it as a generational matter, claiming that 'every show in the world now by most theatre lighting designers [is] lit like that.' He notes that designers of an older generation don't understand the desire to use low angle, near horizontal, side light, reporting that Pilbrow, 'says it doesn't feel right. It feels unnatural.' The low angle also means that the walls or masking at the side of the stage are brightly lit, and there is a risk that one performer blocks the light of another, causing distracting shadows – issues earlier designers also object to. Fred Bentham, a practitioner from an earlier generation, goes further, describing light coming from head height at the sides as a 'trap' and 'a level from which lighting is never advisable and seldom required' (1980, 267). Nevertheless, Halliday describes the effect of sidelight that crosses the stage

without touching the floor as having a 'magic property,' because it 'lets the people win over everything else … the person can become the brightest object in the space and everything else around them can be completely in the dark, depending on how you focus it. And that's a magic property' (figure 2). For Halliday, the emphasis on lighting the actor and bringing them visually forward from the background – even more strongly than McCandless set out to achieve – is a response to audiences being ever more used to seeing actors on screen in close-up:

> Everyone has got so used to the TV close-up or now the Zoom close-up or the movie close-up, where it's not only a close-up but it's 40 feet wide – and theatre feels a bit odd. If you're sitting in a seat at the back and you're watching these little tiny people down there, I think anything you can do to help connect people to that is interesting.

Figure 2: *The Rivals*, Swan Theatre, Worcester. Low angle sidelight visually 'floats' the actors in space, but also lights the side walls. Design and photography by Dawn Allsopp. Lighting by Nick Hunt.

As well as being a new way to achieve an historically established aim – visually emphasising the actor and especially the face – the fashion for side-light entails a rethinking of the expressive language of light:

> Moving away from the cliched 45-degree cool-warm front light is partly an understanding that actually within our world that we're creating, we can do whatever we want. If you define daylight to be this [horizontal light from the side] and let the audience understand that, it doesn't matter that it doesn't necessarily look like real daylight. It's daylight within the moment of your story that you're telling.

Ideas of how to light performers continue to shift, over extended timescales of years and decades. On the much shorter timescale of the performance itself, the use of directional light may change from cue to cue, as lights from different directions are fading up and down, but it is rare for a light source itself to move, despite the advent of so-called 'moving lights.' One unusual exception was David Hersey's design for *Miss Saigon* in 1989, which used four automated lights travelling on tracks either side and across the top of the proscenium arch. As well as being a pragmatic answer to the limited availability and high cost of automated lights at that time, such a system allows dynamic effects, such as moving shadows, which cannot be achieved in any other way. While the technical complexity and safety issues of moving the light source relative to the performer mean this is rarely done, the performer can and does move within the light – as Carter puts it, 'in that moment, they're quite one-directionally lit, but it's them turning within that light that creates the interest for the audience to watch the body move.' Similarly, Halliday cites the 2021 London production of *Cabaret* as an example of this interaction between light and actor:

> the end number of *Cabaret*, [which] in the hands of certain lighting designers would have become 400 cues, [has] one cue and it's a really steep angle of light, but it feels like 400 cues, because Jessie [Buckley] absolutely understood that if she twisted her hand, it would look different. If she moved her head, it would look different … but the lighting designer wasn't doing anything apart from providing one light in the right place and letting the performer then play with it.

The directional quality of light can not only reveal performers in different ways and suggest narratives, it can also affect the audience's relationship with the performer. Hulls speaks in terms of *availability*: 'lighting someone's face makes them available to us as the audience. If they're just, say, backlit, it's a nice sculptural thing, but they're not available to us. A little bit of front light in there without spoiling the picture … makes someone available.' The conceptual shift from 'visible' to 'available' is critical here, because it is based on a human connection between audience member and performer. It gives the 'selective visibility' function of stage lighting, often described in lighting texts, a *performative* purpose – it shapes and guides our relationship with the performers. Further, 'availability' suggests something more intentionally dynamic – how available should this character be at this specific moment in the performance? Similarly, Alexiadou wants to reveal the inner world of the performer:

> I really like [low angle] light in the face that comes from the front … because I think it's revealing the soul of the person, in an angelic way … So I'm always using [that] because I find it really interesting to show the emotion of the character. When they realise something, it's like a wink. I'm just going, OK, do you know? Although people think that's not the right system, I always use it.'

Perhaps the most striking example of front-light making the performer available is the hard-edged follow-spot, familiar from traditional musicals, variety and pantomime. The crisply-defined circle of light surrounding a performer not only directs our attention and signals their 'star' status via a semiotic code, it is achieved by a beam of light that starts over our heads – a line connecting where *we are* in the audience to where *they are* on stage. The follow spot's beam is a surrogate eye, roving the stage and picking out that which is of greatest significance. By contrast, light which we sense arriving from outside the stage space but not from our location implies an external agency: for Carter, top-light has an effect 'as if [the performers are] under a magnifying glass.' If the

source of light is not apparent at all, Alexiadou argues, ‘it feels as if light is coming from the actors themselves, like they are self-lit in a way … I think it becomes like a hand, the hand of God, like caressing the stage.’ Light – often reflected light – travelling in the opposite direction, emanating from the stage and filling the auditorium, illuminates the audience and adds to the sense of a collective experience: we are together in one room.

As well as mediating the relationship between audience and performers, directional light can influence our understanding of the relationships between performers. Hulls argues that to establish a relationship, ‘we have to be able to see that they can see each other. If they can’t see each other, then that says there isn’t much of a relationship, or the relationship might be what we impose on some separated figures.’ In the context of drama – a term I use here to indicate forms of theatre that create fictional worlds inhabited by characters with their own psychological states – directional light can help reveal or comment on the inner experience of those characters, and their relationship to each other. For us as the audience to understand that characters can see each other it is not necessary for the characters to be literally looking at one another – rather, we can extend Hulls’s idea that lighting the face makes a performer available to us as the audience to include other characters. Based on techniques I developed as part of my own lighting design practice, figures 3 and 4 show two characters lit, in one case, from the ‘inside,’ with light emanating out from the centre of the scene, and in the other, lit from the ‘outside.’ When lit from the inside, a connection between the figures is suggested, and this is sustained even when the figures face away from one another. Similarly, when lit from the outside and the figures face away from each other, their attention seems to be drawn away, out of the scene. Even when facing each other, the sense is one of disconnection. Of course, this effect may be moderated or even

completely overridden by other factors; nevertheless, in my experience directional lighting of performers who are also in relation, as characters, to one another, can provide an additional layer of meaning and affect.

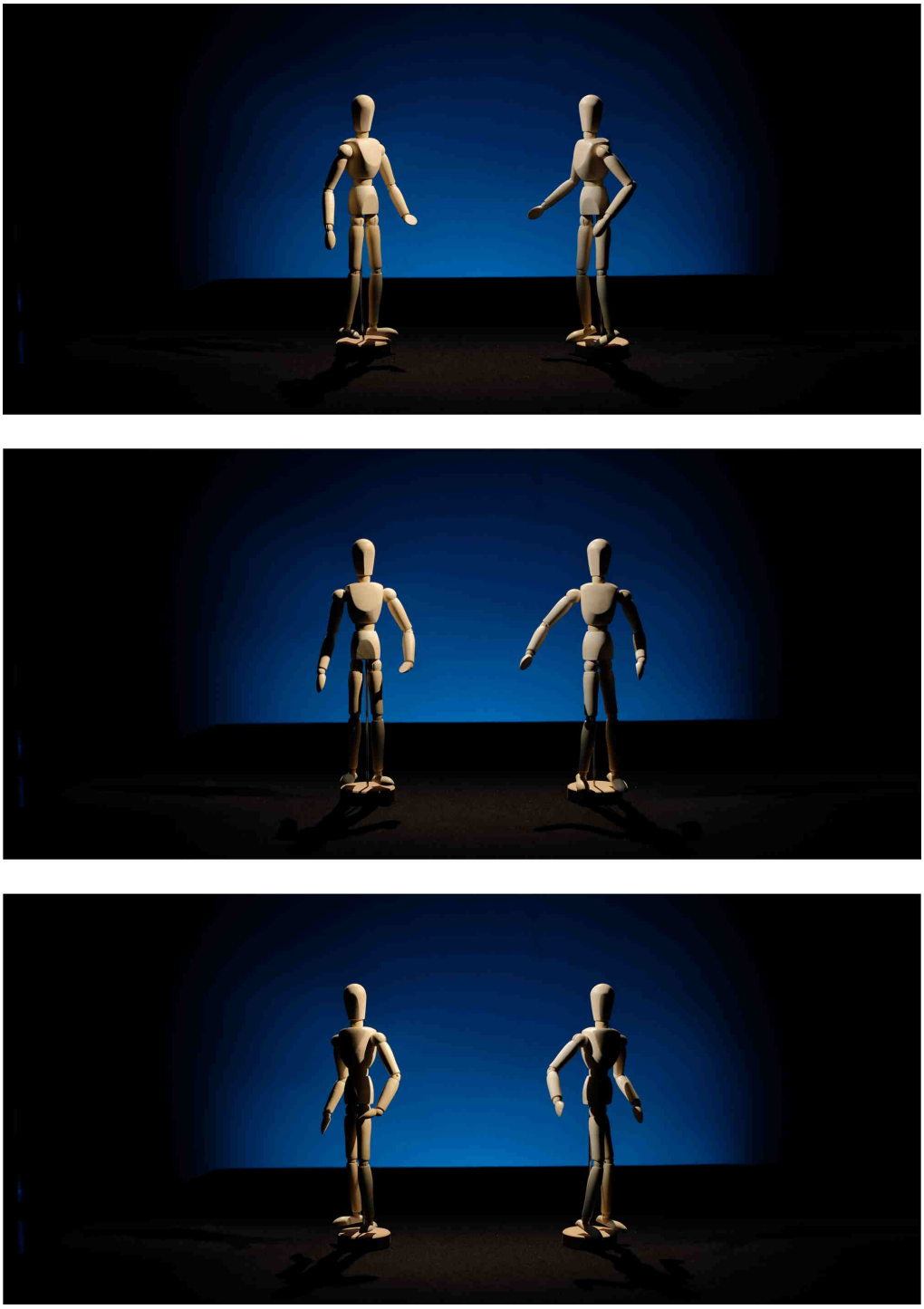

Figure 3: Figures lit from the ‘inside’.

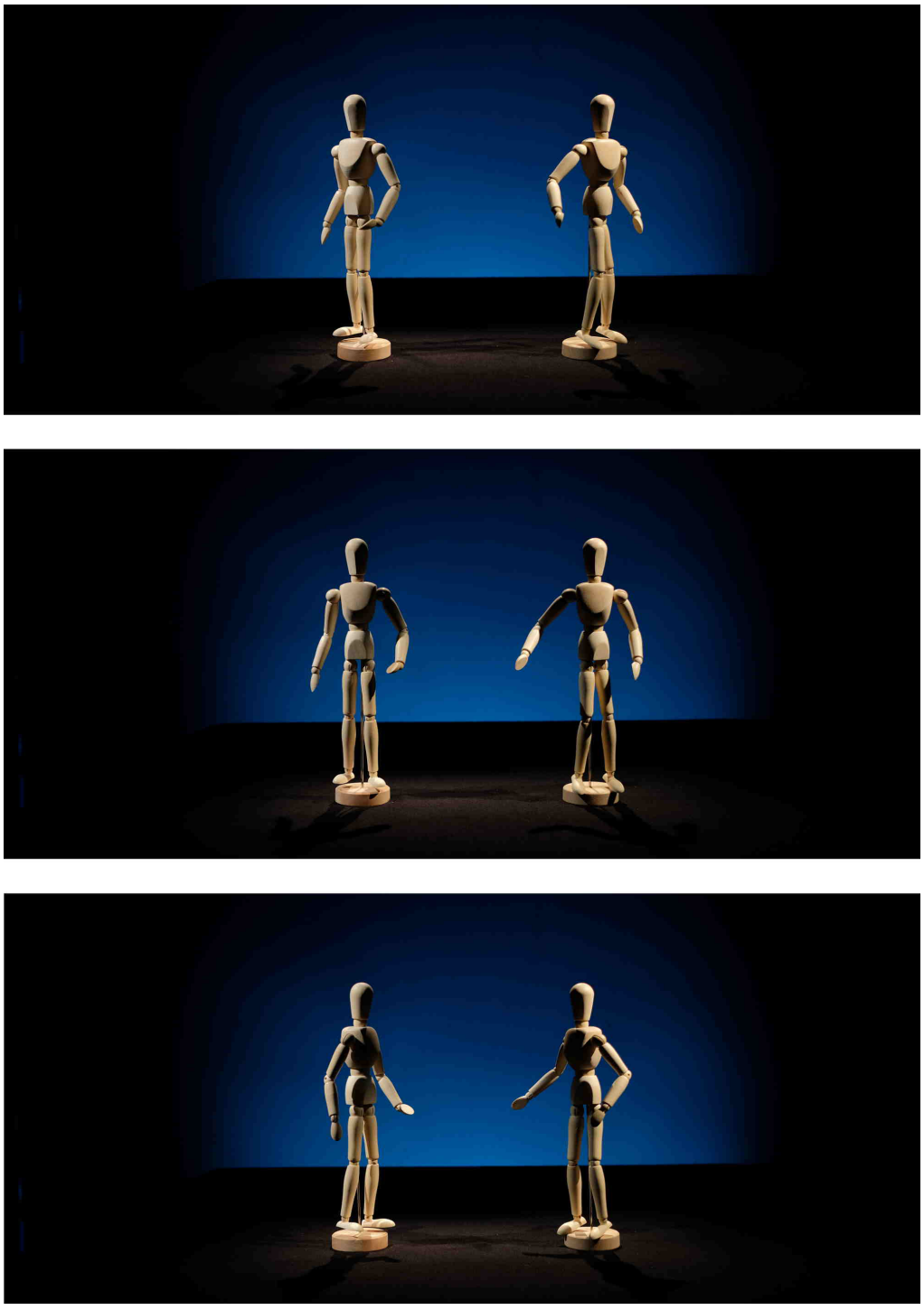

Figure 4: Figures lit from the ‘outside’.

I noted above that brightness – and therefore light sources – are one of the main attractors of our attention. Light, and light sources, are also culturally and experientially associated with human activity. Carbon and Pasukhov’s research, also discussed above,

strongly suggests that humans are adept at knowing where the light in a scene is coming from. Putting these ideas together, I want to propose that audience members are able to judge the direction of light on a performer, and so infer (through an empathetic process) that the attention of the performer's character is tending to be drawn towards the light source. In the absence of specific indicators to the contrary, we feel that the character's attention is being pulled to where the light they are in seems to be coming from. Figure 5 illustrates the point, where the third character, facing down- and off-stage, seems to more or less engaged with the two central characters, according to the direction of the light. In the third part of figure 5, a touch of light on their face makes the third character 'available' to us, to use Hulls's term, while retaining the sense their attention is still drawn back to the central scene. Figure 6 provides a further example: in this scene from *Jane Eyre*, Jane is positioned literally and figuratively as the outsider, observing the brightly-lit, partly curtained-off party she cannot be a part of. Jane is lit from the direction of the party, emphasising it as both a centre of activity and the locus of Jane's attention. If Jane were lit from the front (the audience's and the camera's point of view) or from the off-stage side (the left of the picture), our sense of the psychology and emotion of the scene would be different. As it is, Jane does not see or address us, the audience; rather, we watch her watching the party, which we then see through her eyes. This use of directional light is quite different to that which creates visual composition, diegetic effects, or models the performer as a three-dimensional figure in space (even though those uses may also be present) – it is fundamentally dramaturgical.

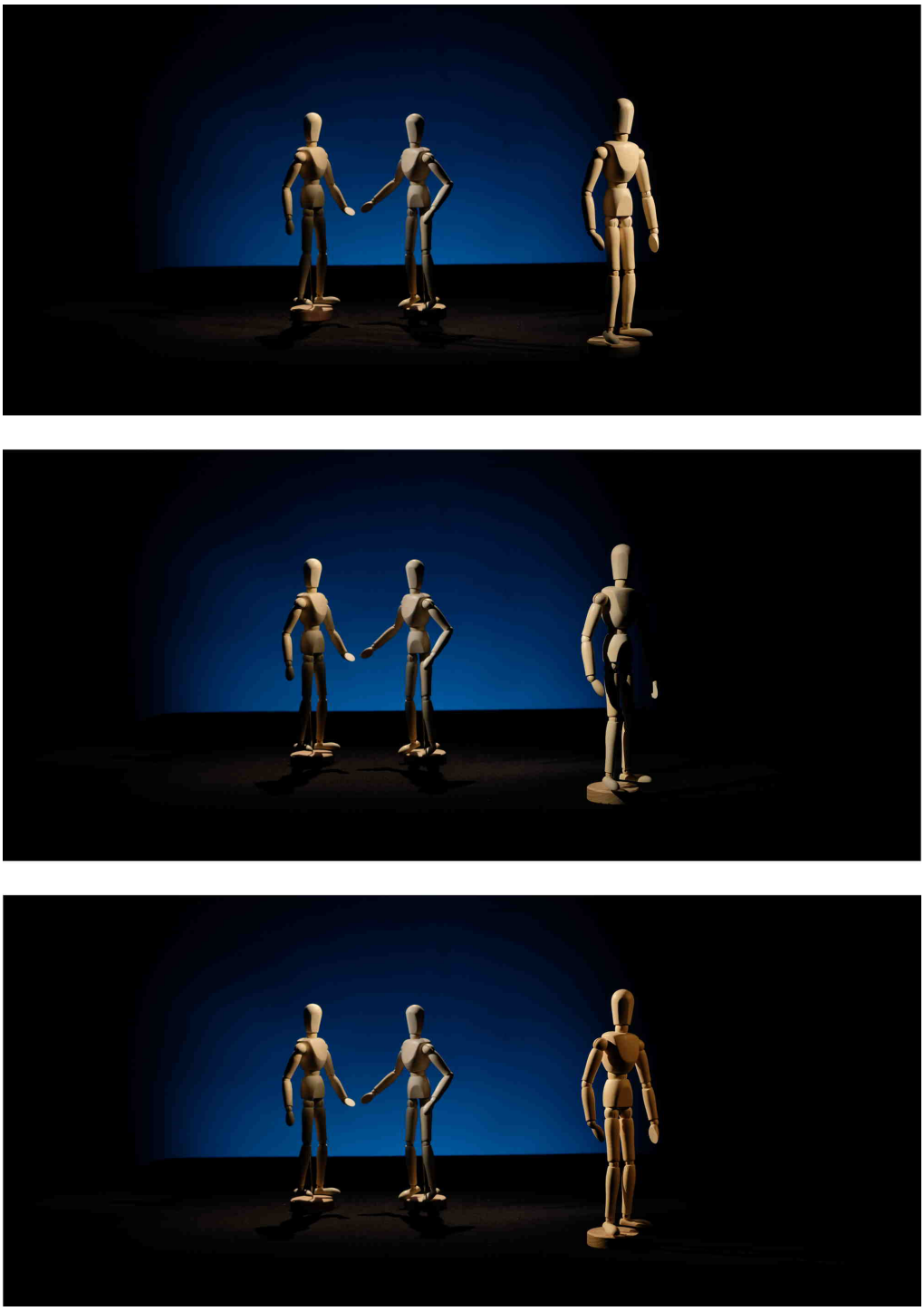

Figure 5: A third figure, lit from onstage and offstage.

Figure 6: A scene from Jane Eyre, Everyman Theatre, Cheltenham. Photography by Robert Workman, design by Nettie Edwards, lighting by Nick Hunt

Conclusion

The directionality of light on stage is a matter that has received only limited attention, primarily in lighting textbooks that take a taxonomic approach grounded in practices and principles developed in the first decades of electric spotlighting during the first half of the twentieth century. These systems and methods typically prioritised lighting for a single actor, facing the audience, and had little to say about meaning or affect – a seeming presumption that these were the preserve of the writer, director and actor.

In this article I have sought to articulate a new approach to thinking about directionality, one built on the *relational*: relationships between performers, characters and audience; the relationship of directional light with wider culture and human experience; the situated, spatial relationships between the viewer, the light source and the lit subject; the relationship of present lighting design practices and concerns to those of the past, in the context of wider shifts in how we make and think about theatre. I have provided here an initial sketch of a new, richer understanding of how the directionality of light shapes our experience of a theatre performance through effects and affects. This sketch relies to a significant extent on the reported experience and ideas of practicing lighting designers, who it is evident have a complex understanding and intuitive sense of the role of directional light in their work. Expanding on this preliminary work, a more comprehensive treatment would entail: consideration of how directional light relates to not only the performer but the performance space as a whole (including the architectural and technical features that accommodate stage lighting equipment), and other scenographic aspects such as scenic design and costume; how light's directionality in theatre and dance relates to that found in other live performance forms such as music concerts, and in photography and cinematography; how directionality works in diverse performance spaces, beyond the historic presumption of end-stage theatres; the

experience of the performers who inhabit the light, and the relationship between directionality and performers' skin tones. While there is much still to do, I have aimed here to set out the terms in which a new approach to directionality can be developed, based on effects and affects arising from the *relational*.

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Ethics

I confirm that my research has received ethics approval from the Research Ethics Committee at Rose Bruford College of Theatre and Performance. Approval number REC2023003.

[1] It is also worth noting here that it is often not possible to achieve the McCandless 45+45 angles, as the lighting positions – especially in the auditorium – are not available. The point is that the 45+45 method has often been seen as an ideal, whether it can be achieved or not.

[2] Later, Pilbrow noted that the term multi-lantern complexity was not his: 'I think Fred [Bentham] coined the phrase "multi-lantern complexity" by which he meant lighting that employed a mosaic of instruments to fill the stage with light. His taste was for a simpler bolder composition' (2001). Bentham, a lighting technologist and practitioner of a previous generation to Pilbrow, was still committed to an element of wash lighting, with a small number of spotlights – closer to Appia's schema than Pilbrow's approach, itself built on McCandless's method.