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A 'choréographie' of light and space: Adolphe Appia and the first scenographic turn[1]

Abstract

While the significance and influence of Appia's writings and his storyboard scenarios of Wagnerian operas is uncontested, their origin has almost universally been explained as instigated by a combination of his musical inspiration alongside the technological development of electric stage lighting.

While light was clearly at the heart of this new scenography, it was not as a result of the new electrical, incandescent lamps of Edison and Swan that had begun to populate the theatres of Europe and North America from the early 1880s as most commentators would suggest, but rather due to an older, pre-existing lighting technology with which Appia was acquainted.

In 1886, at the age of 24 Appia embarked on a four-year period when he was primarily resident in Dresden. It was a formative time in his education that although was instrumental in the development of a new scenic art, has received surprisingly little critical attention. Appia's writings and drawings for the staging of Wagnerian drama first conceived in this German city, were to revolutionise thinking about stage space, scenery and perhaps most importantly, the use of light as an expressive material in the theatre.

This article therefore seeks to explain how a specific combination of circumstances converged, in a particular place and time, to provoke a paradigm shift in theatre practice – what we should consider to be the first scenographic turn of the modern theatre. It argues for a reappraisal of Appia as not simply an idealist or theatre theorist, but as a practitioner whose scenographic understanding was rooted in the craft of theatre production. It also suggests that we need to revisit perceived histories of theatre practice which have been established and subsequently re-enforced on the basis of linguistic translations which may lack a scenographic sensibility.

Key words: Light; Space; Scenography; Lighting Technology; Staging Histories;

Re-visioning Appia

The recognition of the role of scenography as a key aspect of twentieth-century theatre practice has been widely acknowledged to have stemmed from the pioneering writings and drawings of Adolphe Appia (e.g. Simonson

1932; Styan 1981; Baugh 2005, 2013; McKinney and Butterworth 2009). Often cited alongside the work of Edward Gordon Craig, Appia is regarded as one of the most influential thinkers and contributors to the modernist theatre aesthetic and therefore a founder of contemporary notions of scenography; responsible for sweeping away 'both the theoretical and the technical foundations of post-Renaissance theatre' (Beacham, 1994,19). Appia's primary contribution to what he refers to as the 'mise en scène' was for a long time frequently overlooked in the English-speaking world, and especially in relation to his British contemporary Craig.

The extent of Appia's influence through his theoretical writings and drawings, coupled with his practical experimentations as they became more widely known, can be traced through German expressionistic theatre, to the work of Reinhardt, Fortuny, Copeau and, significantly for English language theatre, to the evolution of a 'new stagecraft' (MacGowan and Jones, 1922) that was so influential to the changing aesthetic of the mid twentieth century stage in the USA. Appia's distinctive contribution to this first scenographic turn was in recognising the power and potential of light as both a unifying and expressive force that could be modulated like music. In establishing the fundamental principles of stage lighting, Appia drew attention to the materiality of light, its effect upon stage space and the actor's body within it. Appia therefore evolved a new dramaturgy, with light at its centre, that can also be seen to have influenced such widespread practices as the light plays of the Bauhaus, the work of Czech scenographer Josef Svoboda and the contemporary work of Robert Wilson for example. Beyond the theatre, the use of light as a material, plastic form can also be traced and experienced through the work of artists such as James Turrell and Olafur Eliasson. Through light, Adolphe Appia at once liberated the stage space and offered a plethora of new creative possibilities.

This research emerges from a series of studies undertaken over a five year period in preparing *Light: Readings in Theatre Practice* (Palmer 2013b). It was necessary for that volume to reappraise the significance of Adolphe Appia's contribution to the evolution of lighting design practice for performance and to revisit key published sources on his work in relation to the technologies available in European theatre of the time. Specifically I wanted to establish how this particular individual was able to envisage the detailed Wagnerian lighting scenarios and associated writings that precipitated a paradigmatic shift in theatre practice; especially when accounts in the English language almost unanimously emphasise his chronic shyness, health issues and his lack of understanding of practical stagecraft. What then underpinned his conception of moving light for example that dominates accounts in lighting

textbooks? How might 'active light' actually be achieved with the technologies available at the end of the nineteenth century?

Whilst Baugh (2005, 2013) has been the clearest recent advocate of the significance of Appia's work, in comparing earlier translations and interpretations (e.g. Volbach, Beacham) it became clear that it was necessary to re-examine the original writings in French. Although Appia's language and phraseology has been regarded as notoriously problematic to translate (Beacham 1994, xiv), my analysis has revealed some fundamental misconceptions about Appia's concepts for stage lighting and the way in which his ideas have been interpreted, and repeated by scholars in the English language. These inaccuracies can partially be attributed to a lack of knowledge of the technical practicalities of staging performance, but they cannot remain unchallenged.

Marie Bablet-Hahn's four volume edited collection *Œuvres Complètes* (1983-91) presents the definitive evidence of Appia's work and legacy and has proved invaluable in reinforcing my belief that Appia's advocacy for a new role for stage lighting cannot have been conceived without an understanding of its technical realisation. Whilst I do not focus on Appia's biographical details, this research suggests that it is necessary to not only re-evaluate Appia's central contribution to modern notions of scenography but also that we need to re-establish the importance of the technological and aesthetic impact of light to his revolution in modern theatre practice.

Scenography and Choreography

Whilst the direct contribution of light to performance practice has been frequently overlooked (Bergman 1977,11), the impact of Appia's ideas has, over time, been widely acknowledged even though his writings, and his proposal to place light as a central force of drama, were at first misunderstood by many of his contemporaries. MacGowan, who played a key role in advocating Appia's ideas in North America, observed that

> "Appia's leap ahead to light as the core of the drama was incomprehensible to his day, and it is not yet appreciated in ours, in spite of all the growing experiments in pure, arbitrary and abstract light" (1921,81-2).

Appia's advocacy of 'active light' allowed for the first time the conception of a modern theatre space as "fundamentally a place of darkness that is energised and brought to life by the performance of light" (Baugh 2013, 133). However, it was not until the mid twentieth century that the importance of Appia's ideas gained more universal acclaim; Heinz Kindermann for example observed in 1968 that Appia's "effect upon the Western theatre of the twentieth century is not yet at an end" (780). Partly this latent recognition of the importance of

Comment [apa41]: MacGowan makes this claim, though cites no sources or examples. Presumably he was thinking of Appia's rejection by Bayreuth and other opera houses. But some contemporaries understood. And of course MacGowan and Jones did. In the US, in fact, it was Craig who was rejected as impractical, while Appia was valorized.

Comment [SP2]: That is in itself very interesting – here's the source - "Appia's leap ahead to light as the core of the drama was incomprehensible to his day, and it is not yet appreciated in ours, in spite of all the growing experiments in pure, arbitrary and abstract light" p.81
I am happy to re-frame this to reflect more the valorisation of Appia in North America rather than bracketing all within the English-language term that I have used – Let me know - perhaps use Arnold's observation useful as a footnote if I could cite it?

Appia's ideas (at least in the English-speaking world) might be explained by the fact that Appia (unlike Craig) was not writing in English and that translations of his work have relied primarily upon volumes by Hewitt, (1962; 1981), Volbach (1968, 1989) and Beacham (1987, 1993, 1994); all published well after his death.

Appia's ideas were outlined in his very first writings on the theatre: 'Notes de mise en scène pour l'Anneau du Nibelung' (1891-92) which envisioned a new scenographic approach to the staging of Wagner's epic operatic cycle. Although this study was not published in full until 1954, it represents the first manifestations of Appia's conception of scenography - what he terms 'l'art de la mise en scène' ([1891-2], 1983,109), and as such it underpins his future work and thinking which were incorporated in his first publication, 'La Mise en scène du drama wagnérien' (1895) three years later. Crucially Appia links the need for a coordination of scenic elements to a notion of 'choréographie' (a term that had not been common in French for a century and was redolent of Noverre's *Ballet d'actions*)[2] and it is this synthesis of scenic arts, envisaged as a holistic composition of meaning-making that we can consider to be the emergence of a modernist notion of scenography.

> "This art [of scenography] is still in its infancy, not […] because of the means available but because the manner in which they are used. […] The realization of the drama on the stage, already laborious due to the numerous media required at present, is completely thwarted by the impossibility of bringing these diverse aspects together with even relative precision. […] The intentions concerning the *mise-en-scène* (choréographie (in the full sense of the word), setting, lighting) are inferior to those which motivate the composition of literary drama. […] [J]ust as the musical notations determine in minute detail the singing, and conventional signs regulate the requirements of the music, so a method needs to be found to determine the choreography. The other representational elements are inanimate, are completely manageable; and although they are at present still left in the hands of the ignorant or foolish, they will in the future become an integral part of the score.
>
> So scenography[3] will work with the very composition of the drama, united if not always in one person, at least in the most intimate unity of intent." ([1891-2], 1983,109-10, my translation)

This radical manifesto provides the first evidence of a vision for the stage that required a new approach to design for performance akin to choreography and in direct opposition to archaic performance practices which had remained largely unchanged since the renaissance. Appia critiques the ‘inferior’ and inadequate contribution of scenographic elements and in rejecting the use of representational painted scenic backdrops, began to articulate a new aspiration for the role of light in the composition of the scene. Inspired principally through the music of Wagner, this first scenographic turn presented a radical proposal for determining stage space that would usher in what Baugh terms was ‘A Century of Light’ (2013, 93-143).

Lighting and the nineteenth-century stage

In order to explore the origins of Appia’s vision for a ‘choréographie’ of the stage, and why these ideas were so radical, it is necessary to briefly explain the established staging conditions of the late nineteenth century European theatre and in particular the role and function of the available lighting technologies.

The late nineteenth century stage was lit predominantly by gas. The larger theatres employed a row of footlights at the front of the stage, battens were suspended in rows above the stage and these were supplemented by additional ‘lengths’ in the wings to assist in the illumination of the stage area and the scenery located upstage of the proscenium. The lighting was predominantly employed in achieving sufficient light levels to be able to see the performers and to illuminate the painted settings. As lighting equipment had improved in brightness, performers were able to utilise more of the stage space, upstage of the footlights, but this also emphasised an aesthetic problem; the proximity of the actor’s body to the painted scenery created human shadows on the canvas and was therefore in direct conflict with the two-dimensional pictorial visual illusion.

Two new sources of light, limelight and the electric carbon arc, began to be employed on the stage from the mid-nineteenth century. These related, but significantly different technologies, were used to create intense beams of light that were significantly more powerful than the prevailing methods of lighting the stage. Therefore they were able to be employed on top of the general illumination but a consequence of the new sources of light was the creation of even more incongruous and harsh shadows which were projected onto the painted scenic backdrops. As I will argue, it is the impact of these technologies, rather than the advent of electric lighting, which underpin Appia’s notion of ‘active light’ that is so central to the scenographic revolution of the twentieth-century stage.

Although the two technologies are significantly different, their ability to create a bright light source is fundamental to the creation of dramatic shadow. Limelight was first demonstrated in 1822 by Sir Goldsworthy Gurney, who created a flame from a mixture of oxygen and hydrogen that heated a ball of lime until it became incandescent. The resultant intense beam of green-tinted light was over thirty times brighter than the pre-existing lighting technology of the Argand oil lamp. The technology was adapted separately by both Drummond and Gye[4] in 1826 and limelight became widely adopted by operators of magic lanterns in a modified form known as the 'Oxy-Calcium' lamp. From 1837 onwards[5] limelight with its blinding white light, tinged with green luminescence was the brightest light source that had been introduced to the stage since daylight had been excluded. The new technology became an important creative tool but was often seen by theatre managements as prohibitively expensive. It was also both difficult and dangerous to operate, although by the 1880's its use in the theatre was widespread and specialist operators had evolved to facilitate its use. (See Fitzgerald in Palmer, 2013b, 182)

The electric carbon arc-light was a separate technology which has often been confused with limelight probably because of the generic use of 'limelight' as a term for a bright source of theatrical light. The electric carbon arc was the first lighting instrument to harness the new power source of electricity and in contrast to limelight created a flickering bluish-white beam by causing the electric current to arc between two carbon rods.

Invented by the French physicist Léon Foucault in 1841, who had adapted Sir Humphrey Davy's battery powered charcoal arc-light of 1802, the self-regulating arc-lamp technology was further refined for the stage by the photographic and optical specialist Jules Duboscq for productions at the Paris Opéra from 1849. The Duboscq lamp was the first commercially manufactured electric light and it was subsequently adopted by Hugo Bähr for use in Dresden and in other German state theatres.

The intense light of the carbon arc was used on stage in an identical way to the limelight, on top of existing stage illumination and to create special effects. The development of portable units allowed for greater flexibility of use, but like the limelight it was also difficult to operate. The carbon arc required a constant tending of the carbon rods[6] and for lighting technicians to work continually amidst nitric acid fumes as well as the inherent dangers of sulphuric acid leaking from the batteries and imperfectly insulated electrical equipment.

The carbon arc was probably first introduced to the stage in English theatre in 1848 at London's Princess's Theatre, where it was used as a floodlight in a pantomime *Bluff King Hall; or, Harlequin and the Enchanted Arrow* that a contemporary critic described as:

> "illuminated by the 'new electric light' so-called, and which makes gigantic shadows and gives a sickly glare to surrounding objects, which is quite peculiar." (*The Times* 27/12/1848:5)

The new sources of the limelight and carbon arc worked on top of existing lighting states but critically, in relation to Appia's later scenarios, they were also bright enough to be used alone for special effect. When used in this way and when projecting through a glass lens to create a defined, focusable beam, the light was able not only to highlight the performer within the stage setting but importantly, to create dramatic shadows. When used alone it could present a single beam of light which not only drew attention to itself but also emphasised the darkness in the rest of the stage space. It is this specific technological development and its artistic potential as understood by Appia which has a significance that has been largely ignored in genealogies of the modern theatre.

Baugh argues that 'The inter-relationship, and indeed interdependence, between dramaturgy and technology is significant' (2005, 4) and that '[o]ur thinking, our philosophies and modes of expression and understanding of humanity have been frequently governed by current technology and the capabilities of machinery.' (8) It is perhaps surprising therefore that practitioners who experimented and developed these new sources of light have largely been ignored in histories of the theatre and have tended also to have been excluded from scenographic discourse.

Jules Duboscq's technology and techniques and their appropriation and development by Hugo Bähr, are both central to the emergence of a new scenographic approach that employed light as a key constituent on stage. Bähr, known as 'the father of German lighting' (Koller, 1984,101) exhibited a combination of technical prowess and commercial sensibility which resulted in his widespread employment as a specialist lighting consultant in the largest theatres of central Europe during the second half of the nineteenth century. The significance of the impact and legacy of Bähr's technical craft on the emerging scenographic theories of Appia, and therefore on the development of Western theatre throughout the twentieth century, seems clear even though this has been largely neglected. Bähr is credited in the programmes of the Meininger Hoftheatertruppe and after 1874 was responsible for instigating many of the lighting innovations for which that company became renowned throughout Europe (Osborne, 1988, 35). Bähr was also hired to work with Carl Brandt for Wagner's productions at the Bayreuth Festspielhaus (Carnegy, 2006, 85-88) and also created electric carbon arc lighting effects for other key productions that Appia witnessed.

It is interesting to note therefore that Richard Beacham, the leading scholar on Appia in the English language, omits Hugo Bähr's name entirely from his 1987 and 1993 volumes, whilst there is only a single footnote in Volbach/Beacham (1989, 95). There is a brief account of Appia's work at Dresden (1987, 9-10, 14) but without mentioning the importance of Bähr and a short paragraph in Beacham's last volume on Appia (1994,12) with an accompanying note in the chronology (299)[7]. Bähr is also absent from both Penzel (1978) and Rees (1978) the two most authoritative books on theatre lighting of this period and, perhaps more surprisingly, also absent from Bergman's definitive history of stage lighting (1977). This may be because Duboscq is viewed as a more important figure in the development of theatre lighting techniques, but also possibly because Appia himself never explicitly acknowledges Bähr in person or names the equipment which he witnessed in use. Although Bähr is credited in technical monographs on stage lighting in Germany by Carl-Friedrich Baumann (1980, 1988), it is only in Bablet-Hahn's volumes that the significance of Bähr's influence on Appia appears to be recognised[8]. Appia's apparent reluctance to acknowledge an electrical engineer also perhaps reflects the historical divide between those who are seen as artists and those who are regarded as artisans. However, it is important to note that Appia does suggest that for projected light to work properly, as an active force on the stage, the equipment needs to be the best available and that the special effects "for each production should be executed by an artist of the first order" ([1891-2] 1983,113-4 my translation). This statement implicitly acknowledges the need for a specialist lighting designer, like Bähr to achieve Appia's vision for the creative potential of light on the stage.

By 1886, when Appia arrived in Dresden, Hugo Bähr had already established himself as the leading specialist in projected lighting in Europe:

> "In 1876 […][he] constructed a unique optical projection system that involved the use of painted scenes on rotating disks that when set before powerful arc lamps projected moving images onto the cyclorama. Bähr's device, which quickly found itself into the scenic inventories of international theatres, proved a first for the use of moving, albeit painted images in a stage environment."
>
> (Salter, 2010,143)

The exposure to the specific technologies and practices associated with the limelight and the electric carbon arc that Adolphe Appia observed, initially as an audience member, but also crucially, as we will see, at first hand working alongside Bähr in Dresden, was fundamental to his emerging aesthetic and new philosophy for the stage.

Active Light

As an elemental scenographic material, light raises key issues about not only what is seen on stage, but how we look. Light affects how we feel and directs our attention. It determines what is perceived by an audience - emphasising shape and volume, yet it is also able to create "ambiguities of depth and scale" (Tufnell & Crickmay, 1990,170).

Appia's notion of 'active light' as evident in his writings of 1891-2 envisaged light as not simply an illuminating agent but as an expressive force that should be modulated like music and 'choreographed'. 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 and it is therefore necessary here to discuss these ideas, which have frequently been misinterpreted in English language translations and in commentaries on Appia's work.

The passive or diffused light (*éclairage passif*, *lumière diffuse* or *Helligkeit* in German translations of his writing) refers to the general light of the stage area usually from gas footlights and border lights, which were common to existing stage practices at the end of the nineteenth century and, as mentioned above, were principally concerned with the widespread illumination of the stage space. In direct contrast, active light (*lumière actif* or *Gestaltendes Licht* and sometimes referred to in English translation as 'living light' or 'formative light') refers to intense, focused or 'shaping' light that critically allows distinct shadows to be created.

'Active light' therefore not only created specific visual effects for the stage – such as a shaft of moonlight, but could also provide a subtle, versatile source with expressive potential. Through the creation of shadow, 'active light' was therefore central to Appia's scenographic vision. It could transform the stage environment, reveal three-dimensional form and, in varying its intensity, colour and beam quality, for the first time light, when choreographed, could become a co-player in the drama – a poetic and active agent which was able to animate the stage space and bring the drama to life.

> "Light, just like the actor, must become active; […] it can create shadows, make them living, and spread the harmony of their vibrations in space just as music does." (Appia, [1919], 1954,3)

It is this articulation of the function of shadow and its manipulation through light that represents a paradigmatic shift in theatre practice. In previous eras, shadows on the stage were a necessary by-product of light that needed to be accommodated. Appia recognised both the essential need for shadow but also the fundamental difficulties that these shadows caused when illuminating performers against two-dimensional painted backdrops. In seeking to remove

the pictorial scene, Appia aimed to liberate the entire stage to become one that no longer offered a static image to be illuminated but rather a fluid space choreographed through light and shadow.

Appia was to re-iterate in many subsequent writings[9] that only light and music can express the inner poetic nature of the drama and in his detailed staging synopses, (1895, 1897) the musicality of light was repeatedly expressed in both word and image. These documents can be regarded as the first lighting scores and represent the origins of modern scenographic practice.

Appia recognised that the creative function and expressive possibility of light was realised through the control of its volume (the size and shape of the beam), the intensity and colour of the light and critically, the direction of the light. The location of light sources around the stage was consequently of fundamental importance in creating these possibilities. The musicality of light could therefore be achieved through a consideration of the way in which these properties of light might be choreographed to create a fluidity and plasticity of stage space. The tones and rhythm of music could be both emphasised and complemented by the levels and direction of light and Appia was to argue that for the dramatic presentation of Wagner's operas, shadows and light should have the same importance as the music itself.

Active Light and Mobile Light

Appia's notion of 'active light' has frequently been interpreted as 'mobile' or 'moving light', and the term has been widely misunderstood and misused in both academic and stage lighting textbooks[10]. It is important to note that Appia didn't know the precise theatrical terminology in French for the lighting techniques and equipment which he had witnessed first hand in Dresden, Leipzig and Vienna[11]. Appia recognised the importance of the portable limelights and carbon arc lights in creating defined areas of light and shadow and he uses the term *rampe mobile* to denote these lanterns which were portable and used from the wings. These units were hand-held and importantly not fixed in position in contrast to the permanent lighting of the footlights, border lights above the stage and groundrows at stage level. These installations were non-moveable fixtures because they were restricted by their gas power source to which they were permanently connected in series. They tended to create a 'passive', flat and even light in direct contrast to the *rampe mobile* which offered *independent focusable sources* able to create the directional, shaping, 'active' light and consequent distinct shadows. Typical examples of moveable lighting equipment of the nineteenth century stage would have also included gas standards or bunchlights, but Appia was primarily referring to the newer, much brighter and focusable 'spot-light' lanterns with lenses that offered a quality of light that differed significantly

Comment [apa43]: Might it be useful to have a footnote with one or two examples?

Comment [SP4]: Have added in some more recent examples of conflation in the e.g. "moving directional keylight" in footnote

from the more general gas powered lights. An example of this practice can be seen in Figure 1 which shows permanent gas battens and wing lights and a portable, focusable Duboscq arc light that is employed to create a special effect.

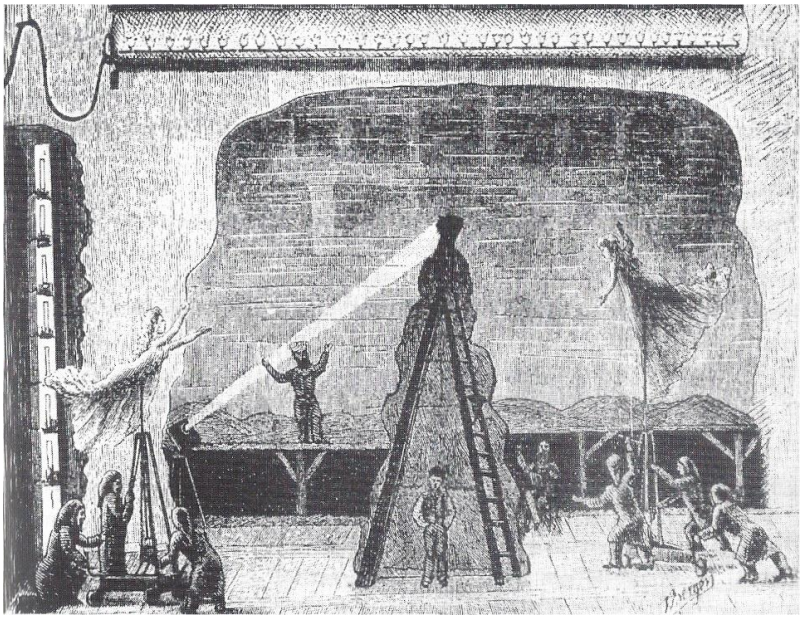

Figure 1

View of the gas lighting installation from the rear of the stage for Wagner's 1876 production of *The Ring* at Bayreuth. A moveable arc-light source illuminates the gold on the Bed of the Rhine, amongst the swimming Rhinemaidens. [12]

Crucially for Appia, it is these portable, hand-operated electric carbon arcs derived from Duboscq and copied and developed in Germany by Hugo Bähr that were of critical importance to the evolution of his scenographic vision.

Appia's 'active light' – the central tenet of his scenographic theory - was therefore to be created and manipulated by non-permanent light sources which could be arranged around the edges of the stage space to offer a new fluidity and flexibility through the creation of directional light and shadows. These units were employed for specific effects and then, as in contemporary lighting practice, returned to the lighting store after the production. It is in this sense that they are seen as mobile lights since they are not permanently fixed to their gas or electrical supply. Appia was not therefore advocating light sources that moved during the actual performance to create 'active light', as has previously been interpreted – or indeed 'moving lights' as we currently

understand the term in contemporary stage lighting practice,[13] but was envisaging unique, bespoke lighting states with new possibilities in terms of lighting angles, intensity, qualities of beam and use of colour that this technology now provided.

It is perhaps worth noting however that because the independent mobile sources used to create 'active light' that Appia witnessed were primarily electric carbon arc sources, each of these would have required its own human operator. In this sense therefore, these portable, specialist lights could be thought of as moving lights, since they were manipulated in a similar way to the follow spot. So although the term 'rampe mobile' refers simply to the portability of directional lights, today's automated light sources that allow the beam to move across the stage space during the performance could actually be regarded as a logical extension of Appia's vision and lighting theory.

What is clear is that Appia's call for mobile spotlights was not anticipating "a number of technical developments which, at the time, had yet to occur" (Beacham, 1989, 9) but was rather a response to the new possibilities of light which he had observed first hand in contemporary productions in Dresden, Leipzig, Vienna and elsewhere in Europe during the1880s.

The observations of Bähr's work, implicit in the writings, are also evident in Appia's third type of light. Projected light ('*La projection*') also depended upon limelight or the electric carbon arc as its source. These technologies had been widely adopted in magic lanterns and, in the second half of the nineteenth century, were increasingly employed to project static slides and dissolving views both from the front and especially as rear scenic projections. Appia had been impressed by Bähr's projected imagery which he had witnessed as an audience member on numerous occasions:

> "Projection, which has reached such marvellous perfection, although it is frequently used in isolated cases for special effects (fire, clouds, water, etc.) is without doubt one of the most powerful scenic devices; as a union between lighting and setting it dematerializes everything it touches. It is helpful as it offers the potential for all kind of effects."
>
> (1891-2 1983,113 my translation)

Lighting Theory and Practice

Appia's annotated librettos with accompanying sketches for Wagnerian operas represent the key evidence and basis for our understanding of his scenographic vision. These scenarios explored for the first time a formal interrelationship between music, light and stage space and can be considered as the first 'light scores'. They responded to Wagner's theory of the gesamtkunstwerk[14] (1849) but they cannot solely be explained by Appia's fascination with Wagner's music and ideals. There is a more complex set of

circumstances that inspired Appia's thinking and advocacy of a new scenographic approach to contemporary theatre.

Appia's education included musical training which gave him the ability to appreciate the subtleties of the Wagnerian score and its innovation of the leitmotif, which undoubtedly provided the grounding for his scenographic response. Furthermore, a widespread experience over a number of years of witnessing theatrical performances across Germany, in Paris and Vienna, encompassed work by the Meiningen Players and Antoine's Théâtre Libre and provided a detailed understanding of contemporary practice. In 1882 aged 20, Appia, experienced his first performance of Wagner's work: *Parsifal* at Bayreuth was designed by Paul von Joukowsky with gas lighting and electric arc 'mobile projectors' that had been installed by Hugo Bähr. Appia was appalled by the staging of this performance and indeed the four further Wagnerian operas that he witnessed at Bayreuth which he felt failed to match the qualities of the music or to meet Wagner's stated aim of a 'gesamtkunstwerk'. He later observed that "if everything in the auditorium at Bayreuth expresses his [Wagner's] genius, on the other side of the footlights everything contradicts it" ([1925] cited Bablet, 1982, 68).

Whilst Appia was disillusioned by the scenography evident on the Bayreuth stage he was inspired by the potential of light which he witnessed in other productions also lit by Bähr. In particular Gounod's *Faust* at Leipzig in 1883[15] was an experience which Appia recalled forty years later as seminal to the emergence of his scenographic thinking (Appia [1921] 1991, 38-43). Appia came to realise that light offered a new aesthetic solution to the staging issues he witnessed as an audience member and that light, if it was considered alongside music could become a central, creative force and the key unifying element on the stage.

Whilst these aspects of Appia's background have been generally understood, insufficient attention has been paid to his practical understanding of how light was realised on stage. Theatre histories have tended to emphasise that, in contrast to his contemporary Edward Gordon Craig, Appia was a theatrical outsider and, despite our knowledge of his work at Hellerau between 1910-14, he is generally considered to be a theatre theorist rather than a practitioner. Written accounts focus on two key aspects: that Appia was inspired by the music of Wagner and that his scenographic theories relate specifically to the advent of electricity in theatres and the new creative potential that this technological advance offered after 1881.

However, this view is problematic and over-simplistic. We have already noted that electric stage lighting with filaments in vacuum glass bulbs is not the same as the electric carbon arc technology that was discussed in some detail above. One is the technology of the welding torch, the other that which powers the angle-poise lamp. The conflation of the two technologies is

unhelpful – especially since the widespread adoption of electric lighting in theatres did not occur overnight; there was a gradual phasing in of electrical stage lighting systems that were used simultaneously and in conjunction with gas installations at most theatres even well into the twentieth century. Bablet-Hahn suggests that electricity was installed in most theatres on the continent after 1885 (1983, 385) but as Stoker (1911) reminds us, this did not result in an immediate transformation in lighting techniques. The transition between technologies was a much slower process: “It was not till about 1891 that electric-light was, even in a crude condition, forward enough to be used for general lighting purposes in British theatres” (Stoker 1911, in Palmer 2013b, 193)

In any case, the substitution of electric footlights for gas ones did not alone transform the way that scenes were lit. Electric footlights and borders still created flat ‘fill light’ and caused shadows to be thrown onto scenery. These shadows were now more prominent as the electric lights were more powerful than the gas battens that they replaced. The issues that Appia had already identified as problematic were in fact about to become exacerbated with the advent of full electric lighting for the stage. Like many commentators and practitioners before him, from Sabbattini to Diderot and contemporaries such as Strindberg, ([1888], 1980), Appia sought to find ways to liberate the stage from the tyranny of the footlights, but his primary concern was with the direction and qualities of light over time, rather than a focus on its brightness.

Where did Appia’s demand for an expressive role for stage lighting and a concern with light and shadow emerge from and how did he gain an understanding of the types and potential of stage lighting technologies that are evident in his lighting scores?

In tracing the roots for Appia’s Wagnerian scenarios, Beacham (1987,9) emphasises the importance and influence of Appia’s sojourn in Paris and claims that this exposure to the symbolist artists, poets and the Wagnerian circles there prior to his retreat to writing in 1892 were central to his new artistic vision. Whilst witnessing a multitude of Parisian theatre productions was important in Appia’s theatrical education, (and acknowledged in his autobiographical account), he is actually dismissive of the quality of work that he experienced in Paris: “I saw many productions and the memory I have preserved of them is of a regrettable monotony” ([1921], 1991, 37 my translation). In fact there seems to be little evidence that he was in Paris at all during 1890 and 1891 as Beacham suggests. Bablet-Hahn locates Appia in the French capital from the Spring of 1884 until his move to Dresden in the autumn of 1886 (1983, 35)[16]. I believe that it is this relocation which is more critical in the development of Appia’s scenarios and without which he would not have gained a deep understanding of theatrical practice that was an essential component of his emerging vision.

Beacham emphasises that Appia's writings

> "reflect the intensity of his passion and sometimes alas, the struggle which he had in trying to capture logically and coherently – to wrestle into language – perception and concepts which *first came to him only visually and emotionally*" (1994, 19) (my italics).

Other commentators have also understood Appia primarily as a theorist and underplayed the importance of his technical training. Bremner, for example makes a significant but not uncommon, error in seeking to explain Appia's response to notions of the 'gesamtkunswerk',:

> "For Appia, his ideas about Total Theatre are grounded *in his ignorance of how theatre was produced*. He was widely read, but because he had little direct experience with the theatre, he only had his imagination to tell him what theatre should look like."
>
> (2008: 36) (my emphasis)

In fact we know that Appia was a theatre practitioner but despite the importance of the achievements at Hellerau, in collaboration with Jacques Dalcroze and Alexander von Salzmann (1910-14), it is a much earlier association with the city of Dresden that needs to be examined.

Appia and Dresden

On arrival in Dresden in the autumn of 1886 Appia, aged 24, began a four year period during which he enrolled in the Conservatoire to further his musical education and also embarked on a series of activities beyond his formal education that were to prove pivotal in the development of his scenographic aesthetic. In 1887 Appia bought a copy of Wagner's *Bühnendichtungen*[17] which he studied avidly and simultaneously he became involved in assisting with the staging of many theatrical performances at the Dresden Hopftheater. These included the realisation of several of the Meiningen Players' performances: Europe's leading theatrical ensemble, renowned for their spectacular staging and innovative lighting. They performed regularly at Dresden and as we have seen, employed Hugo Bähr, based in the city, to create a range of special lighting effects for them. These included a famous, dramatic bolt of lightning in their staging of Schiller's *Wallensteins Lager* in 1887. Appia worked on this production and therefore witnessed the innovative stage lighting techniques created by Bähr, not from the auditorium, but importantly at first hand from behind the proscenium.[18]

In April 1889 Appia arranged a formal technical apprenticeship with Hugo Bähr at the Dresden Royal Court Theatre[19] which lasted until April 1890.

During this time he learnt how lighting was created practically and became acquainted with the range of specialist carbon arc lighting devices that Bähr was using. Also during this period he was to experience at first hand the design and implementation of lighting for a new production of Wagner's *Ring* for which Bähr employed a host of lighting effects from his company's commercial catalogue.

Although ultimately Appia considered this staging to be disappointing artistically, a key consequence seems to be that it further energised his thinking in terms of finding a scenographic solution for these problems. In Appia's subsequent scenario for *Die Walküre* his description of lighting moments such as the appearance of lightning, the effect of Wotan's illuminated spear and the 'Magic Fire' (see Palmer, 2013b, 82-86) seem to directly duplicate effects available from Bähr's own commercial lighting and pyrotechnic effects. It is hard not to conclude that, if not involved directly in their realisation, in all probability Appia had already witnessed these at first hand from the wings of the Dresden Hoftheater.

This year of insight into contemporary lighting practice at Dresden was followed by an unpaid internship in Vienna's Opera Houses where he also studied lighting techniques and contemporary staging practices. This placement, negotiated for him by his close friend Stewart Houston Chamberlain who had recently relocated there from Dresden, marks a culmination of Appia's technical training; a period which is largely neglected from assessments of Appia's work in the English language but absolutely critical to his evolving artistic sensitivity and the evolution of a new theory of how light might be employed creatively as a unifying element on the stage.

Furthermore, it is also important to note that at the same time as his internship with Bähr, Appia also began drawing lessons with the artist Ernst Kietz in Dresden. It seems likely that Appia was already thinking of how his lighting ideas might be expressed in relation to Wagner's scores and libretti and sought to develop his ability to communicate these concepts visually. The results are clearly evident in his expressive scenic sketches that illustrate the Wagnerian scenarios and also in his remarkable later architectural drawings of rhythmic spaces. This intense period of education in Dresden therefore between autumn 1886 and his departure for Vienna at the end of April 1890 represents a culmination of studies in music, art, theatrical staging and lighting which together provided an ideal grounding as well as the inspiration for Appia's radical scenographic vision.

Six months after arriving in Vienna, Appia attempted suicide and was subsequently admitted to hospital in Zurich. At the end of February 1891 he was sent to recuperate in the countryside by undertaking physical work in the fields of Gennersbrunn. It is here, whilst undertaking agricultural labour that

Appia recovered his health and began drawing up his first notes and sketches for the Wagnerian mise-en-scène.

Conclusion

It is interesting to consider why this period of Appia's life has been largely ignored in accounts of his work. Partly this might be explained by Appia's own omission of this difficult but formative period in his 'Expériences de théâtre et recherches personnelles' ([1921] 1991). An apparent refusal to acknowledge the influence of Bähr and the absence of any writing that refers to his involvement in the craft of theatre production is perhaps strange from our perspective but can be explained by a perceived need to focus on the artistic aspects of production in his writing. Hugo Bähr was, after all, considered as a gifted 'electrical engineer' and as a craftsman and entrepreneur rather than the modern conception of a lighting designer. Appia's focus in his writings is almost exclusively on the art of light but it is interesting to speculate whether he did not wish to detract from this purpose through drawing attention to the techniques that he had observed, or to divulge commercially sensitive technological practices.

What seems certain is that Appia's studies in Dresden offered him a direct experience of theatrical production at a time when he was also immersed in the study of Wagner's scores. His future thinking about light on the stage derives directly from his experience of working with Bähr in 1889–90 as a technical intern. His philosophical vision of 'active light' therefore draws heavily upon his embodied, practical and technical knowledge of the craft of lighting with gas and electric carbon arc sources. Appia's observation from the wings of the Dresden Hopftheater of the staging of the work of the Meiningen Players as well as Wagner's operas, provided an understanding of focusable lighting, projectors and special effects that were at the forefront of contemporary lighting technology and offered dramatic, creative potential. Their use also revealed to him literally and metaphorically, in sharp focus, the fundamental problematics of contemporary lighting and scenic practices.

It is this synthesis of theory and practice, originating in Dresden and exemplified in the Wagnerian scenarios beginning in 1891-2, that represents the crucial origins of the very first scenographic turn. The importance of the role of shadow, that was such a revelation in Appia's writings has nothing to do with the advent of electric lighting installations, but was rather in response to the distinct shadows created as a result of the brilliance of the electric carbon arcs of Duboscq and Bähr. Appia's vision for the staging of Wagner's works was conceived I suggest, not in Paris or in reverie in rural retreat in Switzerland, but rather on the gas and carbon arc lit stages of Dresden and

Vienna in a short but critical period of his life that was to have a profound impact on Western theatrical practice in the twentieth century and beyond.

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[2] see Bablet-Hahn footnote 4 1983, 409

[3] Appia uses the term ‘La conception scénique’ here

[4] Captain Thomas Drummond saw Gurney’s demonstrations in London and adapted the technology for geographical surveying. In 1826 he built and used a working version with a lens and reflector - the Drummond Light. Frederick Gye junior developed a version of the limelight for theatrical use around the same time and this appears to have been the type hired by William Macready for scenic effect during the 1837-38 season at Covent Garden. The use of this limelight to create a moonlight effect for the pantomime *Harlequin and Peeping Tom of Coventry* is often erroneously cited as the first use of limelight technology in performance.

[5] Limelight was used in the theatre as a special effect, probably first on 30 November 1837 at Drury Lane in the premiere of Balfe’s opera *Joan of Arc* Publicity material announced that the production had ‘new and extensive scenery’ ‘and to heighten some of the effects, a new and extraordinary Light will be introduced, called PHOSHELIOULAMPROTERON.’ see Rees (1978, 45)

[6] A major technical modification by Pavel Yablochkov in 1876 led to the development of the more easily controllable and self-regulating 'Jablochkoff candle' which was adopted in specialist theatrical equipment after 1878.
[7] Possibly as a response to earlier criticism see footnote 16
[8] e.g. see footnote 45 in volume I, 414 and volume IV, 33-34.
[9] e.g. see Appia, 1895, 1908, 1919
[10] There are very many examples of ambiguity and confusion in conflating the idea of 'active light' with that of a moving keylight; For example Beacham writes of a "diverse and mobile radiance" 1987,27; Roose-Evans, of "a complete theory of stage lighting based on the possibilities of moving lights" 1989, 48; Pilbrow a 'three-dimensional, directional, moving light" 1997,3; Morgan describes a "moving directional keylight" 2005,106
[11] Appia stated that "My misfortune is that I think in German and write in French" (cited in Volbach 1968, 126)
[12] Engraving of Bähr's lighting published in Adolphe Jullien (1886, 219) *Richard Wagner: Sa vie et ses oeuvres*

[13] The term is used for computer-controlled, 'automated' fixtures, sometimes also referred to as 'intelligent lights' that can be operated remotely from the lighting console.
[14] Wagner borrowed this term from the German philosopher K.F.E. Trahndorff who first used it in 1827 and only uses this term in full on two occasions in his writings. It is helpful in expressing Wagner's concept and vision for a total artwork of the future.

[15] Mise en scène by Otto Devrient and with lighting by Bähr. The importance of this production and its impact on Appia was acknowledged in his essay "Expériences de théâtre et recherches personnelles" ([1921] 1991, 35-56) although Bablet-Hahn suggests that he actually witnessed this performance in 1881 (1986, 488)

[16] There is an interesting correspondence between the two scholars following Bablet-Hahn's review of Beacham's 1987 volume. See Marie-L. Bablet (1989) and the response: Beacham (1990).
[17] Literally 'stage poetry' a collective term for all of his works for the stage. The libretti would have also included lengthy stage directions.
[18] In the previous summer of 1886 Appia had also assisted at Bayreuth on *Tristan et Isolde*, designed by Cosima Wagner. This may have been his first practical experience backstage.
[19] The Second Court Theatre (Hoftheater) had been rebuilt after a fire in 1871 It housed both theatre and opera companies and was later known as the Semper Opera. It was again rebuilt after destruction as a result of allied bombing in February 1945.