360 Degrees

Focus on Lighting Design

(Edited by)
TOMI HUMALISTO,
KIMMO KARJUNEN,
RAISA KILPELÄINEN

70
THE PUBLICATION SERIES OF
THE THEATRE ACADEMY

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Contents

Introduction

This volume brings together Finnish perspectives on contemporary lighting design and its development as viewed through a historical lens. A small country may initially seem a limited context for studying lighting design, but because a university of the arts-based education in the field has been offered in Finland since 1986, there has been a constant need for non-technical discussions around the medium of light and its artistic use. The original Finnish version of this book, *Avauskulmia – Kirjoituksia valosuunnittelusta* (2017), was published on the occasion of the 30th anniversary of lighting design education at the Theatre Academy, University of the Arts Helsinki. This English edition now reminds global audiences of the richness and diversity of light in all its uses.

In the open call for texts from Finland, we expressed a desire for a variety of perspectives. We asked contributors to consider the relationship between lighting design and performance in the performing arts today, as well as their personal professional identity as a lighting designer. We were interested in discovering what opportunities and challenges designers faced when it came to expressing light. We asked them to consider the role of light art in relation to lighting design, and how the diversification of artistic working methods and roles are reflected within the field of lighting design. Current problematics in terms of ecological awareness and politics and how they relate to lighting design were also of interest to the editorial board. Lastly, we sought perspectives on technological developments and education in the field.

How did the contributors respond to the call? A survey of this collection reveals three distinct subject areas or perspectives. In the first section, *Multidisciplinary perspectives on lighting design*, lighting designer **Tarja Ervasti**, lighting and video designer and university lecturer **Kimmo Karjunen**, lighting designer and scenographer **Raisa Kilpeläinen**, director **Kaisa Korhonen**, and dancer-choreographer and former professor **Ari Tenhula** write about the history of lighting design from the perspectives of their respective professions.

Ervasti writes about site-specific and environmental theatre and dance art, drawing on lighting designs she created in the 1980s and 1990s. Karjunen reflects back on the period when video design was introduced to the performing arts in Finland. Kilpeläinen, meanwhile, reviews the history and present-day status of lighting design education at the Theatre Academy. Korhonen provides an autobiographical take on the historical phases of lighting design in Finnish theatre, thanking many of her collaborators over the years. Tenhula draws a long development arc from American dance art to lighting design.

Another topic that inspired the contributors, *Dimensions of authorship*, relates to the work of the lighting designer and different definitions of authorship. Also included here are writings that investigate lighting design and its definition(s) in relation to various professional perspectives and visual-spatial forms of expression.

Lighting designer **Meri Ekola** ponders the preliminary design strategies that could be applied to contemporary performance. Lighting designer **Minna Heikkilä** unravels the problem of staging nature in a foreign context, using her design process for a musical as an example. Raisa Kilpeläinen writes about expanded authorship and expanded lighting design, opening up these themes with examples. For her contribution, lighting designer and curator **Mia Kivinen** interviewed artists with a background in lighting design, probing the motivations that led these designers to the field of light art. Lighting designer and scenographer **Samuli Laine** discusses the fluid working roles in artistic collaborations, perceiving for himself an artistic identity that transcends the role of designer. Lighting designer **Anna Rouhu** shares her experiences working in Singapore, in a wholly different cultural atmosphere. Lighting designer and scenographer **Markku Uimonen** considers the trinity of lighting design, scenography, and directing, emphasising the need for all parties to understand each other's methods and tools.

The articles of visual artist **Tülay Schakir** and lighting designer and professor of lighting design **Tomi Humalisto** contribute to the third perspective included here, *On perception, transparency and technology*, as both are inspired by the post-phenomenological thinking of American philosopher Don Ihde and the concept of transparency. In her text, Schakir emphasises light as a tool of sight and expression as well as the relation between light on perception and meaning and the impact of this relationship. Humalisto focuses on deconstructing Ihde's primary definitions of technological relationships, using examples to situate them within the field of lighting design.

This collection of writings does not cover all areas proposed in the call for texts, and that was never the intention. What matters is stimulating and sustaining conversations on lighting design. There is plenty of room for other writers to complement and continue the topics processed here. Hopefully this publication will stir curiosity, inspire new publications, and play a part in highlighting more discussion on contemporary lighting design.

We would like to extend our warm gratitude to Markku Uimonen, during whose tenure as professor this project was originally conceived. A big thank you to the publication committee of the Theatre Academy of the University of the Arts Helsinki and to the degree programme in lighting design for supporting the project. We also thank **Jenni Mikkonen**, the publication specialist at Uniarts Helsinki, **Kristian London** for the English translation, **Atte Tuulenkylä** for the layout of the publication, and all writers and contributors who made this publication possible.

We are proud to launch this book internationally at the Prague Quadrennial of Performance Design and Space 2019 (PQ19) in Prague, on June 7, 2019.

Long live light, lighting design, light art, and university education in the field!

Helsinki, April 10, 2019
Tomi Humalisto, Kimmo Karjunen and Raisa Kilpeläinen

The book's editors celebrating the 30th anniversary of the Theatre Academy's degree programme in lighting design, November 2016, Suvilahti cultural centre, Helsinki. From the left: Tomi Humalisto, Raisa Kilpeläinen, Kimmo Karjunen. Photo: Theatre Academy / Petri Tuohimaa.

PART I

Multidisciplinary perspectives on lighting design

Found spaces, tiny suns

TARJA ERVASTI

In this piece, I examine site-specific and environmental theatre and dance in light of my own experiences during the 1980s and 1990s, outlining the role lighting and lighting choices played in these performance traditions. I'll begin by briefly reviewing the background of site-specific and environmental art.

The word *site* means space, place, location, and/or landscape; a site is a space where something is located or takes place. Site-specificity and an environmental relationship between spectator and performer often intertwine in performances that are considered experimental. Doctor of Theatre Arts Annette Arlander has brought a compelling Finnish perspective to the creation and study of environmental and site-specific performance.

Site-specific art arose out of the new post-minimalist forms of theatre, dance, and visual art of the 1960s. Protest art liberated of institution-determined limitations marched out of galleries and theatres and into the streets, squares, and people's everyday environments. Site-specificity has since been a constantly evolving and shifting approach to art studied by, among others, the Korean-American curator and art historian Miwon Kwon and the British sociologist and political geographer Doreen Massey.

Arlander cites Massey, noting that her work *Space, Place and Gender* (1994) demonstrates that defining the essence of a place need not be the restrictive, nostalgic highlighting of a place's unique history; rather it should involve explorations into a broader domain of cultural influences. Every place is a layered web of intersecting local and global paths. (Arlander 2012, 18.)

Early site-specific art was linked to special found spaces, but by the 1980s its context had expanded. According to the prevailing views, a site was defined by specific contents and characteristics: its geographical, architectonic, social, and cultural conditions. Kwon notes that radical site-specific art lost its edge when mainstream art and arts institutions appropriated the term to describe a variety of relationships, including ordinary ones, between the arts and spaces. This focus sharpened in the 1980s, when the terms *site-generated*, *site-oriented*, *site-referencing*, and *site-conscious* entered the arts lexicon. More recently, there has been a shift in site-specific art from an emphasis on the actual physical space to examining social, economic, and political influences. (Kwon 2004, 2.)

An environmental perspective on performance involves examining the relationships between stage and audience and contact between performer and spectator. The frontal perspective that had been developing since the Renaissance and baroque periods came to a head in the realism of the late nineteenth century, when the performance was isolated from the audience as a framed image that even had an imaginary fourth wall. Early twentieth-century modernist currents broke this rigid arrangement and sought out new, alternative relationships between performance and audience. Reformers developed utopic architectural schemes in which a virtual visual world of light and moving pictures framed the theatre space on all sides. Influences were also sought in Eastern theatre traditions, antiquity, and passion plays, all of which had long involved environmental performance. Meanwhile, theatre lighting evolved rapidly as electric light facilitated a diversity of lighting compositions, dramaturgic lighting, and lighting schemes that supported plasticity and three-dimensionality. The work of these reformers melded into mainstream theatre when modern theatre architecture developed increasingly versatile house–stage relationships.

Pioneers in the study of environmental theatre include the director Richard Schechner, professor of theatre studies at New York University's Tisch School of the Arts, and professor Arnold Aronson from the Columbia University School of the Arts. Schechner studied the theatre performance in terms of interactive relationships, while Aronson has developed a continuum of environmental performance, in which the relationships between stage and house are studied through the spectator's opportunities for perception. At one end of the continuum, we have the traditional condition of the frontal spectator; at the other, a wholly environmental performance, in which the spectator is encompassed by the performance frame. Annette Arlander describes environmental performance as an environment that envelops the spectator and is intended to be experienced in

a multisensory way: the performance is created as space, not image. (Arlander 1998, 33).

The site-specific theatre of today creates a multi-layered referential arena that allows for encounters between the site's past and its present usage; the performance's text, activity, visualisation, and audience relationship; and the fictional world and its linking to reality.

New culture at an old venue

I was present when new art arrived in Helsinki in the 1980s. Experimental forms of art – video art, performance art, land art, installations, body art, new dance, happenings of every description, and cross-disciplinary performances – had developed and become established abroad as far back as the 1960s. Finland had seen activity by some pioneers in these fields, but it wasn't until years later that the forms were adopted in Finnish arts practice. A grants system canonised by Finland's arts bureaucracy that gave preferential treatment to traditional art forms and arts criticism that was stuck in the past stymied the flow of these new currents from the margins into activity deserving of serious consideration. The dam broke in the 1980s, when young arts practitioners striving to make their voices heard rattled this ossified thinking.

Many new conduits opened up at the "Vanha," the old University of Helsinki student union building, under the aegis of the student union cultural centre. New dance was seen at Vanha dance classes; multi-image artworks[1], installations, and experiments in light art were shown at the Vanha gallery; and cross-disciplinary performances and new theatre were produced. Finland's first "book cafe" was established at the new student union building, and an underground press and literature took flight from this nest. The creative atmosphere was electric; doors flew open in numerous directions. The Artists' Association MUU was formed in 1986 as a mouthpiece for new forms of visual art that had been shut out of official arts networks, while Zodiak Presents was founded as a channel for new dance. At the same time, the lighting professionals who considered lighting design as an art form came together in an unofficial association: "The Theatre Slaves" (using a racially loaded term in place of "slaves"), its name an indication of how members viewed their status in the theatre arts. I was involved in many of these endeavours myself: participating in the student theatre Ylioppilasteatteri, working at the student union cultural centre and the book cafe, creating installations

1 Multi-images are collages of projected slides, often with an accompanying soundtrack.

for exhibition, and contributing to the first performance in Finland to combine video and live performance, *PIIPÄÄ* (Silicon Head). I had discovered light at the student theatre and studied lighting design on my own and as an apprentice; my path to the profession travelled through Teatteri Porquettas' European tours and Studio Julius, which was dedicated to dance-theatre.

Dance in different spaces

Not long after the founding of Zodiak, I joined the association as its sole non-dancing member. We didn't have premises of our own, which meant we had to look for performance venues wherever we could. A natural solution was to perform in found spaces, in the environment best suited to the inherent quality of each production. Both financial-practical and artistic considerations motivated this approach. We rented old villas, auditoriums, and former factory halls on the cheap, or were sometimes allowed to perform in them for free. Along the way, without particularly intending to, I grew familiar with the fundamentals of site-specific and environmental art.

A found space provides the performance with its physical framework and often also its set – one of the premises of site-specific art is selecting a site that's a suitable milieu for that particular performance. Set design and lighting may give form to this space or highlight or emphasise its characteristics. In the world of theatre, found space is a conscious choice, a move away from theatre conventions. As a result, theatre lighting conventions should not be brought into site-specific art as is, without being questioned. The lighting methods and instruments used in site-specific pieces may be similar to those used in a theatre, or they can just as easily take the form of lighting originating in the everyday environment, the site's inherent lighting conditions, daylight, or light art.

Zodiak had the opportunity to perform in "real theatres" as well, such as Stoa in eastern Helsinki and the Alexander Theatre. Almost without exception, the number of performances in these cases was limited to two, as for years the City of Helsinki granted production subsidies large enough to cover the rent for only three days: one setup day and two performance days. This arrangement proved to be extremely good training, as the final production had to be based on thorough planning.

Many of the choreographer Sanna Kekäläinen's performances were realised in unusual found spaces. As holds true today, in her early productions Kekäläinen combined postmodern narrative, text, and absurd theatricality. Feminism, nudity,

Der Raum Zwei at Annantalo Arts Centre, 1987. Soile Lahdenperä in the foreground, Sanna Kekäläinen seated. Photo: Tarja Ervasti. © Tarja Ervasti.

ecstasy, the questioning of gender roles, and exploring the potentials and limits of the body are typical themes of her performances.

Der Raum was designed and realised in the banquet hall and lobby of the Lallukka Artists' Home in 1987. The performance began in the lobby, with a movie by the production's scenographer, the painter Ylva Holländer. Afterwards, the guide, the actor Eeva-Kirsti Komulainen, led the audience to comfortable seats in the banquet hall, where Kekäläinen and Soile Lahdenperä performed the choreography. The two dancers' hysterical outbursts were set to a rhythm of German and Finnish nursery rhymes and the texts of Heinrich Böll. The space was designed to be an intimate, cosy functionalist living room where the audience's and performers' spaces overlapped. I used the hall's ambient sconces and floor lamps, which suited the functionalist décor, as one source of light. The primary lighting was provided by a radiant, centrally hung "crown of light" I had constructed out of large incandescent bulbs. The only other lighting was the occasional spot trained on the performers at specific moments where the unexpected slash of light underscored the dramatic content. The performance came to a close in a Dadaistic concert performed by an all-female wind-instrument orchestra on the hall's compact dais. The musicians were dressed in painted cardboard costumes.

A second version of the choreography, *Der Raum Zwei*, was performed in the second-story corridor of Annantalo Arts Centre that same year. The nature of the site was completely different than at Lallukka; the intimate living room atmosphere had been replaced by a white, garden-like space, with wicker chairs providing the seating. The lighting design was also completely different. The space was dominated by numerous doorways, out of which I directed slices of sidelighting into the corridor. In this version of the production, Kekäläinen's toilet-seat solo turned into vibrant, visually rich scene. To watch it, the audience walked down to the far end of the corridor, where a glass wall gave onto a view of a lush, plant-filled, aquarium-like space illuminated in yellow-green tones. By the time the audience returned to their seats, the curtains had been pulled back to reveal the colourful orchestra staging of the final scene.

Because of the utterly dissimilar performance spaces, the two performed versions of *Der Raum* diverged radically from each other, even though the choreography was fundamentally the same. In both instances, highlighting the unique nature of the site was the premise for the lighting. At Lallukka, the lighting emphasised an era of restrained bourgeois charm. At Annantalo, the space turned into a path punctuated by light.

Using daylight in performance

You Who Live Time was a 1993 Kekäläinen choreography for which my colleague Sirje Ruohtula and I created the lighting design. The site of the performance was Villa Kleineh, presumably completed in 1840 and the oldest villa still standing in Helsinki's Kaivopuisto neighbourhood. Originally built in the empire style, the villa underwent a renovation in 1929 that resulted in its current classic aspect. Because of a severe economic depression in Finland, there were plenty of unoccupied buildings in Helsinki at the time, and Kekäläinen was able to rent the villa at a bargain. She designed a choreography in the spirit of Pier Paolo Pasolini that focused on the dynamics of the family residing at the villa. The small audience followed the performers from room to room – the spectators were like voyeurs peering into the intimate inner workings of the family. The production featured one female and two male dancers in addition to Kekäläinen. In the first room, the kitchen, Kekäläinen sang standing on the counter. The next space was a small storage room covered in brown butcher paper, where the sole lighting was a suspended fixture fitted with a red incandescent bulb. The agony of Kekäläinen's angst-ridden woman erupted here in a heart-rending cry.

You Who Live Time 1993. Dancers: Alpo Aaltokoski and Mika Backlund.
Photo: Heli Rekula. © K&C Arkisto.

A wholly contrasting mood prevailed in the villa's library, where multiple duets between members of the family were performed. The audience was seated on a raised platform that had been covered with books, and the pages of books also papered some of the windows, creating a translucent surface. My inspiration for the lighting was Finland's bright natural May light. The site's windows were bare, so daylight was the most critical source of light. I augmented the impression of sunlight by placing plastic mirrors attached to colour wheels out in the garden, which reflected the strong white light from PAR cans in through the windows. Even on cloudy days, it felt as if the sun were glinting in through the branches. At the conclusion of the performance, the audience was served a sweet roll on the villa's terrace before departing into the deepening evening. The garden's trees were hung with oil lamps, which Sirje had stepped out to light during the performance. The combined effect of the found space, the visual design, and the choreography's contents allowed the audience to travel through time to the ambiance of the previous century, where a culture of refinement sifted a soft layer of dust over the family's cut-throat power relationships.

I created another lighting scheme combining daylight and artificial light for Liisa Pentti's solo work *Seahorse Valley,* which was presented in the auditorium at Annantalo Arts Centre in 1989. The piece was performed with the room's large windows open, and the May evening light entering through them gradually dwindled. As evening fell, the outdoor light evolved in tone from the blue hour to the yellow light of sodium lamps. Meanwhile, the space's interior lighting, which had been realised with simple work lights at floor level, grew stronger and shifted from a warm reddish tone to a cold lavender blue. The intensity and tone of the exterior space and the interior space thus crisscrossed over the duration of the performance.

A site's history forms the core of a work

In the House of Heaven was a joint effort presented by the members of Zodiak. In the summer of 1991, the Vaasa Festival invited us to create a work combining installation and dance at the old Vaasa slaughterhouse, which was demolished immediately after the performances, meaning we could freely use the space as we wanted. The performance event was a continuously evolving, partially cycling three-hour happening, during which spectators were able to wander freely through the site, as at an art exhibition.

I created several installation pieces at the site in collaboration with the dancers. Sanna Kekäläinen performed in a duo of rooms called *Black – White*. The

black room was a darkish space where sharp spots highlighted dangling meat hooks as Kekäläinen danced on a moss-covered floor. The floor of the white space was strewn with white sand. I had glued white chicken feathers to the wall with wet paint, and their fluffiness was highlighted by light beams that swept across the wall. In the white space, the dance movements were light and vertical; in the black, heavy and horizontal.

Kirsi Monni and Ville Sormunen had prepared a meditative butoh-style performance for another two-part space. The preparatory space, the entryway, featured the living light of countless candles. In the performance space proper, we built a basin that filled the room; it was bordered by a narrow spectator path made out of railroad ties. The dark water in the basin reflected the exquisitely slowly moving figures of the white-garbed dancers, which were accentuated by the spare light.

A third design, that of the main hall, was performed by choreographer-dancer Soile Lahdenperä and visual artist Pirjo Houtsonen. Pirjo painted on transparent plastic as Soile, decked out in angel wings, danced on red sand; I brought out the sand's glow with a warm, neutral light.

One fascinating piece of choreography was Mia Mironoff's (formerly Klemola's) continuously cycling performance, its visual design centred on fire and ice. Her performance cycle began from an altar-like platform, apparently

In the House of Heaven, 1991. A view of the water basin through the candlelit entryway. Dancer: Ville Sormunen. Photo: Tarja Ervasti. © Tarja Ervasti.

the spot where the animals had actually been killed. Next to this altar, I hung a series of copper cones with flames burning in them. When Mia rose from her altar, she meandered into the neighbouring space, which was in partial daylight. The colour of the daylight had been modified by covering some of the windows with coloured lighting filters. A block of ice half a cubic metre in size hung in the cold light of the huge hall, and Mia melted this with her body before returning to her fiery altar. The ambiance of archaic sacrifice was palpable. We felt that the slaughterhouse's brutal past was cleansed through our activity, and this sensation was most powerful at Mia's altar.

Some elements from the slaughterhouse installation carried over into *October,* a performance piece co-produced by Zodiak and Teatteri Venus at Helsinki's Cable Factory that same autumn. I positioned light art in the expansive hall of the former factory, which had been covered in black sand. The pieces of light art were freestanding, independent objects of art.

A systematic study of space and place

I've been privileged to be a part of many pioneering productions where the core of the work revolved around explorations of the relationship between space, place, and performance. The Belgian playwright Maurice Maeterlinck's symbolist play *The Blind* (1890) was produced by the Theatre Academy's Swedish-lan-

In the House of Heaven, 1991. Mia Mironoff on her way to the altar. The audience moved freely about the space. Photo: Tarja Ervasti. © Tarja Ervasti.

guage acting programme in 1986. Annette Arlander directed the production; at the time, I was working at the Academy's Training Theatre, and I created the lighting design. The play, which features twelve blind people waiting and hoping, was performed in three variations that expressed blindness through different approaches.

The first segment was performed in the gymnasium of the Theatre Academy's Apollo School. The audience sat across from each other on two rows of benches set on the newspaper-covered floor. The performers moved behind the audience, intermittently jingling tiny metal bells in the completely darkened space. Towards the end of the performance, the design's lone lamp momentarily revealed a play of light, a fictional starry sky. I remember how this light reinforced the experience of sightlessness, because its impact prevented the eye from adjusting to the darkness. In this segment, which was nearest to the original interpretation of Maeterlinck's play, both the spectators and the performers were symbolically blind.

In the second variation, the performers were blind but the audience was sighted. A large enclosure had been erected outside the Apollo School, and the audience gathered around this. The actors played blind children with white-bandaged spectacles over their eyes. They were dressed in yellow rain suits, and yellow maple leaves filled the enclosure. The sole sources of light were low-pressure

The Blind, 1986. Children in a leaf-filled enclosure on the grounds of the Apollo School. In the foreground, Anders Slotte and Henrika Andersson. Photo: Raakel Kuukka. © Theatre Academy, University of Arts Helsinki.

sodium lamps, which killed all colours other than yellow. Thanks to the monochrome lighting, the perception of a yellow environment took on black-and-white appearance over the course of the performance. In this instance, the selected light source contributed to limiting the audience's visual perception.

In the third variation, the audience and performers sat on a bus with darkened windows. Both the spectators and the performers were sighted, but the information available to them was limited. During the ride, the audience could only guess as to what part of the city the driver was taking them. The experience of blindness was not restricted to the sense of sight, but more broadly to the limiting of information.

The Blind, 1986. Children in a leaf-filled enclosure on the grounds of the Apollo School. In the foreground, Anders Slotte and Henrika Andersson. Photo: Raakel Kuukka. © Theatre Academy, University of Arts Helsinki.

Space as the basis for a performance

In her dissertation *Esitys tilana* (Performance as Space, 1998) and her prior licentiate thesis, Annette Arlander explores the performance space as a place that creates meanings and, in addition, the relationships between performer and audience. Her performance series *Space as an Element of Performance*, which explored environmental approaches to theatre, was performed in ten different Helsinki spaces in 1993. In the series, ten different versions of the Russian poet Alexander Vvedensky's work *Some Conversations* were realised, with the relationship between audience and stage defining the content and perspective of the performance. Many of the variations were, in addition to being environmental theatre, site-specific, and made use of the site as an element and motif of the performance (Arlander 1998, 54).

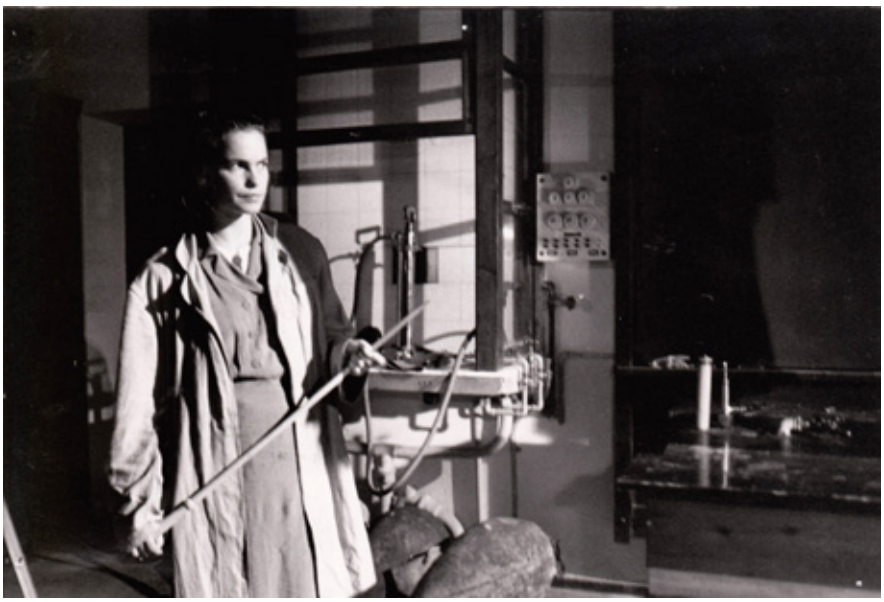
I was the lighting designer for the first and fourth versions of the performance series. *Some Conversations I* was realised at Villa Ensi, a former maternity hospital, while *Some Conversations IV* was performed on Harakka, an island that had once belonged to the Finnish Armed Forces, in an auditorium appended to a physics laboratory.

At Villa Ensi, spectators and performance moved through the building's various spaces, causing variation in the stage–audience relationship. The performance was, as in Aronson's definition, an environmental performance in which the spectator was brought into the performance frame, rather than observing from the outside (Arlander 1998, 284). The seeds of all the subsequent performance sites were contained in the various scenes of this first version of *Some*

Conversations, which made use of the entire building, from the attic to the cellar and the garden. The staging, scenography, and lighting were resolved in different ways in each space. For instance, the second scene, which took place in the common room and foreshadowed the concert hall at Café Adlon, focused on a singer singing in the glitter of a chandelier. The audience sat in armchairs, and the red velvet sofa in the space played an important role. The surgery that housed the fourth scene referenced the fourth variation, later performed in the auditorium at Harakka island. That room was dominated by large hospital lamps, their bright light trained on the operating tables. The ninth scene, which was performed in the banquet hall and anticipated the version that was to take place at the Alexander Theatre, was most reminiscent of traditional theatre. Viewed through a "proscenium arch" formed by red velvet curtains, the performance space was beguilingly lit with spotlights to produce a sense of theatre. The viewing orientation was frontal and the audience was seated in dimness. The final scene was set in a corridor the audience could see from their armchairs. The corridor that served as the performers' space was blanketed in yellow autumn leaves and illuminated with sodium lamps referencing the outdoor lighting. Last of all, the spectators were led into the gloom of the villa's garden, which was enlivened by lanterns hung in the trees. In the Villa Ensi performance, we constructed the illusion of other spaces and times, emphasising the distinctions between the spaces.

The difference between the first and fourth versions of *Some Conversations* was striking. Before the sea froze, the audience travelled to the island of Harakka by small boat, and once the ice was strong enough, on foot. This version was performed in part by wooden puppets on top of a lecture podium, as episcope images illustrating research data were projected onto a screen for the audience seated in the amphitheatre-shaped auditorium. A narrator led the event, and the actors in lab coats manipulating the puppets adopted the status of authorities carrying out a scientific experiment. Gas masks were even donned at one point. The site's history as an army laboratory was palpably present. The puppets were illuminated with little spots fixed to the podium, the lecture auditorium's lighting was used as dim house lighting that also revealed the measuring paraphernalia and lab equipment that had been left behind in the glass cabinets.

The sixth version in the series was realised at the Lasipalatsi complex, in the lobby of the Bio Rex cinema and the attached rooftop patio. Lighting designer Sirje Ruohtula explains that the inspiration for the lighting was a neon sign that alternated between green and red light – an exceptional example of site-generated lighting design. The Bio Rex performance was distinctly in this time and place.



Some Conversations IV, 1993. The narrator Katja Kiuru in the auditorium on Harakka island. Photograph: Mari Keuro © Annette Arlander.

Ruohtula adds that these site-specific works entailed a desire to use a variety of light sources: industrial lights and streetlamps, which, as large objects in and of themselves, contributed to the work's visual design. These light sources had their own industrial, colour-distorting spectrum. (Ruohtula 2016.)

Dry dock as the stage for ancient saga

Staged in a dry dock the Danish army no longer needed, *Gudrun's 4. Sang* (Gudrun's 4th Song) was an OPERANORD production performed in 1996, when Copenhagen was the European Capital of Culture. The production was shaped by OPERANORD's artistic director, the scenographer Louise Beck, who pulled together the artistic team: director Lucy Bailey from the UK, composer Haukur Tómasson from Iceland, author Peter Laugesen from Denmark, and myself as lighting designer. The work was built around the tale of Gudrun as told in the *Poetic Edda*. During the operatic sequences, the text from the *Edda* was sung in old Icelandic; in the dramatic scenes, Danish actors performed in their own language. The performance included a 16-person chamber orchestra, 13 actors and signers, and about a hundred extras.

The leading role was played the rugged dry dock itself, which was shaped like a hundred-metre-long ship; its algae-splotched stone walls lent the produc-

tion an archaic ambiance beneath the open, star-studded sky. Our aim in the scenography and lighting design was to show off the dry dock in as naked and unembellished a state as possible, without any extraneous structures altering its essence. Even so, we needed to fit four hundred audience members and approximately one hundred performers into the space, along with full performance lighting. My most important self-mandated precept and limitation in the lighting design was maintaining an open orientation to the sky, not blocking it with rigs or any suspended technology.

The seating risers were constructed out of scaffolding pipe that left the dry dock's walls as exposed as possible while integrating some of the lighting. The fixed bridge crossing over the dry dock's sluice gate served as a spot for lighting and acting. A wall of flame, fuelled by gas and built out of metal and fiberglass, was erected at the tapering "bow end" of the dock, with actors passing through its fiery doors. Some scenes were performed on a narrow stage built in front of the sluice gates. Wooden supports located along the dry-dock's longitudinal axis were removed, and a low platform 80 metres long was built on top of their mountings; the extras could raise it into a gargantuan table within the space of a few seconds. The corridor-like space of this central platform was illuminated from either end of the dry-dock with high-powered profile spots, and cross lighting from the seating stands served as general lighting.

The first act was environmental in nature. Gudrun's family performed on the narrow stage fronting the sluice gates, while the suitor Sigurd used the open dry dock, where the performers and audience mingled with each other. Extras bearing torches guided the audience's movements, emptying the central platform for Sigurd's march into the dragon-fire and, later, the wedding processions of the two brides. Three hags caterwauled on top of the wall of flame; the seaside wall served as a surface against which to project images. One of the dock's old cranes was used to hoist the betrayed, net-entangled Sigurd to die above Gudrun as she waited in her marriage bed. The audience took on the fictional role of the common people and the wedding guests. At the end of the act, following Sigurd's murder, the extras drove the spectators into the scaffolding-pipe stands to escape.

In the second act, Attila the Hun waged an assault with his men, and Gudrun was forced to wed Attila. The audience sat in the stands built along the two long walls of the dry dock, but even so, they were still included in the performance frame.

Extras with climbing expertise rappelled over the heads of the audience into the dry dock, allowing the audience to experience the attack concretely. In addi-

tion, the singers roamed the edges of the space, behind the audience. The central platform had been raised into a table where the Huns revelled as Gudrun took vengeance on her husband for her brother's murder. In a dreamlike nightmare sequence, Gudrun prepared Attila a meal of their little sons; the act came to an end with Gudrun setting Attila's court on fire. When the smoke cartridges under the platform were set off, the glowing red fire and smoke momentarily swallowed up the actors and extras.

In the third act, Gudrun was now wife of a nomad king, who had allowed horses to trample her daughter. Gudrun's revenge annihilated the king and his men; the only one left alive was Gudrun, bearing her daughter's corpse. The ash-covered landscape was realised with the light of a single powerful HMI lamp, its intensity illuminating the entire dry dock into a land of death. Only Gudrun's face was barely lit with a follow spot. At the end of the performance, the dry dock's sluices were opened and water surged in. The actor playing Gudrun walked into a basin, where the water reached up to her waist. The backlighting that illuminated the jets of water was switched out for Svoboda spots aimed at a slightly different angle, turning the water droplets dancing in the air into a curtain of light that hid the actor from view. The performance ended with this illusion of the drowning Gudrun.

Gudrun's 4. sang, 1996. The former army dry dock at Holmen, Copenhagen.
Photo: Jørgen Borg and Tomas Bertelsen. © OPERANORD.

Gudrun's 4. sang, 1996. In the wedding scene, the audience was led through the space by torch-bearing extras. Photo: Jørgen Borg and Tomas Bertelsen © OPERANORD.

Gudrun's 4. sang, 1996. The Huns feast at the long table as fire breaks out. The audience seating is built from scaffolding. Photo: Jørgen Borg and Tomas Bertelsen. © OPERANORD.

Gudrun's 4. sang, 1996. Water surged in through the dry dock's sluice gates at the end of the performance. Photo: Jørgen Borg and Tomas Bertelsen. © OPERANORD.

A successful process

When I evaluate my decades-long career as a lighting designer, *Gudrun's 4. sang* stands out as a work that, to my mind, succeeded in every respect. Perhaps most critical to this feeling of success was the artistic team's collaborative process, which began a good two years before the performance. The artistic director Louise Beck put together a trusted team that was enthusiastic and working towards a common goal. We created the concept as a group, crossing into each other's professional turf. We met in Copenhagen several times a year, sketching out the general use of space, ways of interpreting the dramatic text and the poems from the *Edda*, and solutions for the scenography and lighting. A year before the rehearsal process began, we came together for a couple of weeks at the dry dock for a workshop during which we searched for the right actors and singers for the performance, refined the designs for the performance space, and honed the dramaturgy.

Thanks to our well-thought-out, realistic solutions we succeeded in carrying out our ambitious plans, which included a wall of gas-powered flame over three metres tall and three metres wide that opened and closed; projections covering the entire seaside wall of the dry dock; and the lighting of the hundred-metre-long dry dock without trusses. I participated in a comparably extended and dedicated collaboration at the Finnish National Opera; it also generated superb designs,

but in that instance the realism of the execution left something to be desired. Executing the set and the lighting design devolved into a nightmare, as getting the robot-based scenography up and running gobbled up all the time set aside for technical rehearsals, and the snow machines made the revolving lights stick on the wrong colours and positions right up to and during the final dress rehearsal.

Gudrun's 4. sang respected the site and took full advantage of the opportunities it offered. The dry dock was a rough-hewn, poetic environment that allowed the violent story to be performed through suggestion, without intrusive effects. Indeed, the breathtakingly beautiful, sorrowful ending of the work connected to the story of the site in a unique way – nature will reclaim man-made structures once humankind has destroyed itself through a cycle of violence.

Alternative light sources aid site-generated performance

In the 1980s and '90s, it became commonplace in theatre lighting to use alterative forms of lighting, such as streetlamps, fluorescent tubes, and industrial lighting fixtures, because of their unusual spectrum and light distribution. The colour temperatures of various sources of light, such as mercury, metal halide, and sodium lamps, were distinctive and industrial in feel. Many light sources had a narrow spectrum and limited colour-rendering properties, and the quality of their light was different from the warm spotlights produced by the theatre's halogens – the light of discharge lamps could be described as thin, invasive, or grating. Lighting fixtures were integrated into sets and modified; fluorescent tubes were covered in coloured gels and connected to dimmer controls. For instance, the deathly ash-grey landscape from *Gudrun's 4. sang* was realised with a four-kilowatt HMI Fresnel spot borrowed from Danish public television. Intended for cinematic use, it had no mechanical dimmer, so two of my assistants used big sheets of cardboard in front of the lamp as "dimmers."

Alternative sources of light were a natural fit for found spaces, but they were also used in theatres in combination with more typical lighting equipment. In small, self-funded productions, various types of street lamps and industrial lighting were used to replace HMI spots, which by the 1990s had grown commonplace in central Europe, but were still out of reach of many lighting designers because of their cost.

Characteristics of site-specific lighting

A found space is a set, a fictional space, and performance venue that are either one or in close interplay with each other. This being the case, the lighting accen-

tuates the space's meanings, whereas in a theatre, spatial meanings are created in an accepted context-appropriate frame through scenography and lighting.

The choices of a design team working in a found space include which of the space's characteristics to emphasise or de-emphasise, and whether to create the illusion of a different space or time or create a performance situation that emphasises being here and now. Defining the role and placement of the spectator is another primary factor to affect lighting choices. Is the audience going to be situated inside or outside the spaces created by the lighting? Will they participate actively in events? Is the desired result a fictional framework in which the audience is contained? In environmental performances, the spectators' and performers' space and light are frequently a shared domain, where all participants seek out a natural place for themselves. Lighting can also be used to direct the audience within a space. The fact is, spectators generally avoid strong light, but being in the same space as performers can reinforce the experience of belonging to the performance frame. In environmental performances, the lighting can create an experiential world in which the spectator participates as an active agent – the performance event is a shared space.

The inherent light of a found space can serve as the starting point for a lighting design that is then reinforced by various means. The site's actual intended use, architecture, natural light, and set design impact the selection of lighting method. Existing lighting fixtures or those that suit the architectural style emphasise the essence of the site, but the light they provide may be insufficient for performance lighting. The light from household lamps and industrial fixtures is often general light that does not articulate and distinguish sufficiently, and so light sources from the theatre can be used to highlight the areas where the performing occurs. In found spaces, lights can be situated visibly, because there are none of the suspended structures of theatre architecture to hide fixtures; however, it's even more important that the designer not strive for illusion.

Lighting can also form a distinct level of spatially independent meaning, one that layers into the performance as an autonomous structure. With a found space, the sense of theatre can be emphasised and the space's meanings de-emphasised. The performance lighting can be a spatially independent composition or in conscious conflict with the space's impulses. One way of underscoring the sense of theatre is to reveal the means of lighting by, for instance, placing the lighting equipment in plain view. Lighting devices that appear neutral or barely cross the threshold of perception in a theatre can take on emphasised meaning when removed from their typical context of use. A performance's lighting

environment can also be a work of light art that creates the conditions for the performance event.

Natural light and its manipulation offer infinite opportunities. The outside world and the performance space can be in interplay with each other, and in some performances this sense of being in the world is emphasised. Using natural light makes the lighting of every performance unique, as conditions rarely remain stable over different days. By subjecting the performance lighting to the influence of natural light, the lighting designer rules out maximizing the effects of artificial light and allows chance lighting effects to emerge.

When working with a found space, the lighting designer's range of tasks diverges quite significantly from those relevant when designing for a performance to be realised in a theatre. Considerations of the choice of lighting style begin by surveying the points of contact where space, performance, and audience will encounter each other and observing the unique character of the space. The routes to be created through the space, simultaneity, and scene placement create a foundation for the design's time-and-space axes. The designer has more options than usual in the selection of production technology and light sources, ranging from the use of natural light to various light sources from everyday life, theatre lighting equipment, and/or light-generating objects integrated into the space. The technical equipment creates its own level of meaning, which is why it's not at all irrelevant what equipment is used and how it is positioned within the space. It may be that sequential cues are not created on a timeline, as in typical theatre performances; instead the cues could take the form of, for instance, parallel, static lighting spaces, or a change in the lighting could be brought about by natural light.

This article focuses on my personal work history during the 1980s and '90s, a time when an exceptionally large number of experiments in the use of space were carried out in Finland. The number of experiments gradually decreased as experiential knowledge accumulated and abundant alternative spaces were used in institutional theatre as well. The interest in found spaces decreased in part when many smaller companies managed to get a toehold in a permanent venue, often a theatre studio created during the renovation of a former industrial space. In the 2010s, interest in spatial alternatives for performances is stirring again, as contemporary theatre seeks out new channels for activity in everyday environments and near audiences – and for generating social impact.

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Tarja Ervasti (1957) is a lighting artist and designer. She has designed lighting for more than a hundred productions in theatre, dance and opera in Finland and other Scandinavian countries. Her light and environmental artworks have been seen across Finland. In the 1980s, Ervasti studied lighting design independently alongside her humanistic studies at the University of Helsinki. She worked as a research assistant at the Theatre Academy's Department of Lighting and Sound Design during the years 1988–1990, after which she went on to study at the Yale School of Drama. In 2002 she graduated with an MA in Theatre and Drama from the Theatre Academy Helsinki. Aside from her artistic work, Ervasti teaches at the Theatre Academy of Uniarts Helsinki and other institutions of arts education. She has written an online publication called *Lighting History*, originally published by the Theatre Academy's virtual university project in 2004. The second, revised edition was published in 2016 by the Theatre Academy.

Creating new worlds out of experimentation

A brief history of video design in Finnish performances

KIMMO KARJUNEN

Projections have been employed in the lighting design of staged performances for quite some time. The newest technology of a given era has often ended up on the stage: for instance, the German director Erwin Piscator's film projections of the late 1920s took advantage of the latest media technology of its day. In Finland, the standard technical equipment of theatres completed after the 1950s included Reiche & Vogel and PANI stage projectors, the type that relied on hand-painted glass slides or large-format slides, while the main stage at the Tampere Workers' Theatre even had a 35-mm film projector. The opportunities for using projections in Finland expanded with technological advances in video projectors during the 1990s, and with the onset of the 2000s, video projections grew commonplace in productions of all scales. This ubiqitousness has inspired a nostalgic yearning, and during recent years PANI projectors have undergone a renaissance. Designers frustrated with murky video image have resurrected the skill of classic slide painting.

In this piece, I review video projections as part of Finland's performance tradition, referring to works I have seen and my own designs. Traveling through time from *West Side Story* to *Bluebeard's Castle*, I will sketch out a brief history of video projections in professional productions from my perspective. The reason for using projection varied greatly among the productions cited and, as a result, the projections' function in the performances has been realised in very different ways.

I had my first experience seeing the use of video onstage at the Helsinki City Theatre production of *West Side Story* in the mid-1990s. The scenographer Kati Lukka used projected image as, among other things, a scenographic element on the safety curtain. At the time, the technology was just maturing to the point where it could manage large-format images on stage. The projectors used in

the production were the newest of the new – as I recall, 200 ANSI lumen LCD projectors. The entire safety curtain was used as a projection surface for six projectors that followed the curtain's contours. Thanks the low light intensity, the projectors' modest resolution and the inadequacies of the analogue source didn't particularly detract from the quality of the projected image: it was dim.

Media artist Kimmo Koskela's video work for choreographer-dancer Arja Raatikainen's 2000 piece *Opal D* can be considered the debut of contemporary projecting in Finland. A floor of water designed and lit by lighting designer Tülay Schakir reflected and multiplied video images projected on the rear wall, which was painted silver; the images consisted of both real-time and previously collated video material.

The result was intoxicating in its novelty. The work featured so many radically new solutions that the audience was awestruck and entranced by the visual design. It was as if the floor was covered in coloured water, and the sight transported viewers from reality. There's no way: there's clearly water on the floor, but the performers aren't getting wet! In reality, the water was inside a plastic floor, and the world of video Kimmo Koskela had adapted to its surface merely added to the astonishing sense of illusion.

My debut work as a video designer was the background for choreographer-dancer Ari Tenhula's work *Ah ja voih* (Argh and oh!) in 1999. The main image was realised with a PANI projector, which projected it from a hand-painted glass slide onto the stage's backdrop. Only a small portion of the image, a section about a metre wide, was realised with the video projector. In this way, we were able to scale the video's luminosity and quality to the large-scale scenography. No sophisticated video-programming equipment was available, so in order to ensure as high a quality as possible, we did some manual programming: we played the video from the original S-VHS video cassette, and at the right moment the stage hand removed the manual shutter – in this case a cardboard flap – from the projector so the video image would complete the PANI image. The video was used to project a semblance of the Earth spinning in space, clouds and all; it had been shot using the Pepper's ghost illusion technique and truly looked as if clouds were floating above the earth. As a side note, video footage like this wasn't available anywhere in the world at the time – not even from the NASA, the US space administration.

When designing for the stage, neither the use of video nor the use of projections has ever been an end for me. After all, the light used in lighting design is often broken through stage structures or gobos, metallic slides designed for

this purpose. Light can be quite representative in and of itself; the moment it hits the stage, light constructs a scenography. As a lighting designer, I've always viewed projected images as nothing more than light that has been defined in more precise detail.

In my mind, this is significant difference from some ways of thinking about the role of projection in performance: is it the introduction of another medium, say, film, into the scenography, or is it actually scenography itself? Simply by virtue of being brought onstage, a movie stops being merely a movie: it transforms into something else. For example, a movie onstage can suggest cinema as a pop-culture phenomenon, or it can bring a documentary layer to the scenography.

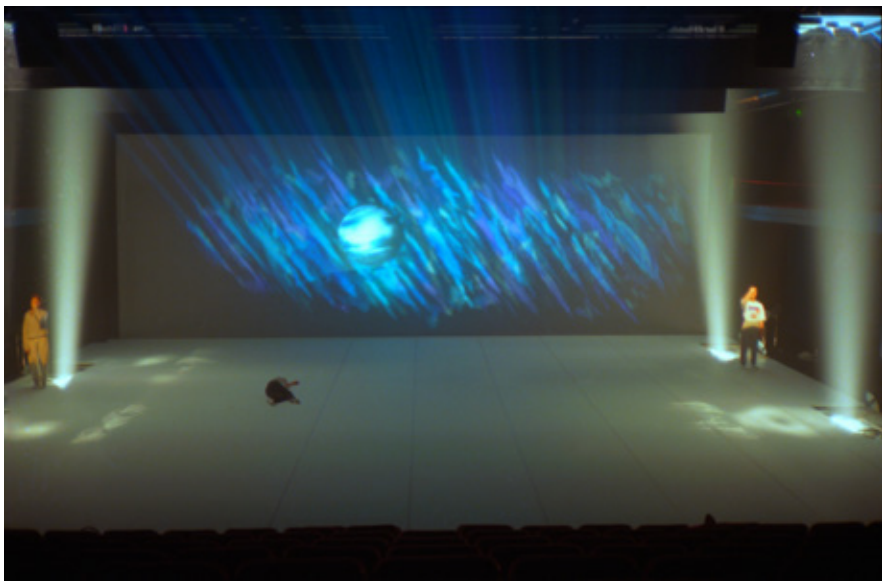
But what sort of layer does real-time video shot onstage bring to a work? Does what exists onstage become more real and more public when it is filmed and that footage is then potentially shown to the audience? The very presence of a camera gives the audience the inkling that anyone, anywhere could perhaps see this. This game was taken furthest, perhaps, in the Estonian company Theatre NO99's production *The Rise and Fall of Estonia* (2012). I saw the performance at the Tampere Theatre Festival, in the auditorium at Tampere Hall.

As the opening music plays, the performers enter and sit downstage, in front of the safety curtain. A camera films them, and the footage is projected in large format on the safety curtain. We can't see the stage. The characters' names and ages are introduced. Following the lead of the edgemost performer, the cast exits through a side door and comes around to the stage, with the camera following. All scenes are set on the stage. The audience watches the entire performance from a screen, as if in a movie theatre, only a few metres from the image generated via live camera. In the end, the safety curtain opens and the complete film set can be seen live on the stage, not via footage.

Live images can also raise ethical issues. In 2016, I saw a performance in São Paulo where the performers wore animal-character porn costumes that revealed their genitals. During the performance, a live connection was established to a pornographic website where people distribute live images of their personal sex acts. The activities of randomly selected people from the website were shared with the audience, and the events onstage were uploaded to the pornographic website to be viewed by others. It was unlikely that those consumers of pornography who were sharing their grunting and moaning online had any idea they would end up on a screen in front of an audience of a couple hundred people.

In my own designs and works, projections are only one lighting and stage-technical medium. For a long time, I frowned upon the use of the word

Alexander Salvesen's hand-painted projection, part of the work *Images of Distant Worlds*, as realised with a PANI BP 4 projector on the facade of the Kattilahalli at the former Suvilahti power plant in Helsinki. The show was part of the weeklong 30th anniversary of the Theatre Academy's lighting and sound design programmes. October 28, 2016. Photo: Theatre Academy / Petri Tuohimaa.



Testing during rehearsals for *Ah ja voih*. Photo: Kimmo Karjunen.

"video": back when videocassettes were still in common use, the term had a cheap ring to my ear. Somehow it was too strongly associated with home videos, DIY, and poor quality. Now that no one really talks about videos and MTV don't even really exist anymore, the word has been liberated of that burden and video refers more liberally to its Latin roots: *video - (I) see*. Generally speaking, video means a technology where electric impulses produce moving images.

Projection technology

Let's focus our gaze on that phase of history when technology and access to it had reached the point it was possible to use video in performances without the need for a specially equipped video studio. At the turn of the millennium, Apple launched its PowerMac G4, which had video-editing capabilities. At the same time, the luminosity of video projectors intended for normal office use increased to the point where they could project images scaled to stage conditions. Contrast and resolution were still limited, which at least in my own work was a restrictive factor. Almost the only feasible, inexpensive, and "quality" image source was a DVD player; in other words, video quality was limited to SD PAL format, restricting the size of the usable image in two ways.

In our artistic team, we experimented with the opportunities afforded by the new technology. For instance, we determined that in order for a human figure projected on stage to be at all usable and suitable for its intended purpose, the

eyes had to be in some way recognizable. Based on our tests, this limited the width of the image to a maximum of four metres.

We battled against insufficient contrast for years: in practice, for that entire period during which we had to settle for projectors based on LCD technology. Black wasn't black; the projector leaked light, which meant the edges of even black images were clearly visible. We concealed this leak with lights and were able to eliminate it in dark scenes by using mechanical shutters in front of the projector's lens.

If we needed multiple outputs, we procured a sufficient number of identical DVD players that we controlled with one remote, praying that all the players would react to the signals in the same way.

DVD players offered superior image quality and decent reliability. And yet, as a consumer product intended for a different purpose, they also set distinct limitations. The biggest of these involved the difficulty of timing: the start was always a little imprecise, the initial delay lasted a few seconds, and even then the length of the delay was inconsistent. In practice we achieved a precision of approximately three frames in the simultaneity of the videos. This uncertain start meant it was best to avoid frequent cuts. For instance, it was impossible to realise dialogue between video and performer where every line of video was launched. We would get by more easily if we could prepare the work as a single continuum and just press Play once at the beginning, which placed responsibility for any interaction on the performers and other technology. Single-track technology was easy or relatively easy to realise in a dance pieces if the rhythm of the performance was timed to recorded music and not the performer's improvised timing. In these instances, the video and the rest of the performance were, in a sense, collated on top of the soundtrack.

The DVD format caused a further twist during rehearsals: coding and burning a DVD took hours on the computers available at the time. If, for instance, a work involved three video-projection surfaces, each featuring a different image, three discs were required. The problem was that generally only one disc update could be prepared between rehearsals. Big changes demanded several days in order to complete the changes and create all the DVDs for the performance, so changes needed to be carefully considered in advance.

The integration of video into scenography and space

Because for me projection has been first and foremost merely light, that's the way I've used it. In my works, the "media consciousness" easily associated with

projection remains wholly in the background. By "media consciousness" in this context, I mean references to movies or television as media or the popular culture created and disseminated through movies or television. Projection offers the possibility to realise something incredible and completely novel for the stage completely independently of this "media consciousness."

In some way, the visual design for the work *Bersærkergang*, which I created in Denmark in 1997, has been read as the most media-conscious of my works. In a review appearing in Denmark's main newspaper, the set was interpreted as a movie theatre. For that work, the background projections were realised with 12 slide projectors.

In my projects involving projection, I have striven to blur any traces characteristic to the medium. The most obvious of these are the framing and the edges of images. Due to its familiar, recognizable proportions, a rectangle easily calls television to mind, while the scales 4:3 and 16:9 look like video, and wider proportions like wide-screen movies. For a designer who wants to move as far as possible from this association, the image is preferably completely edgeless and frameless and melts into the rest of the scenography. These days this poses no problems due to technological advances, but in the past technical inadequacies needed to be concealed through lighting, a softening border of masking tape attached to the projector, and various other mechanical flap-type shutters.

The conflict between video and the real world

For practical and technical reasons, projected video image has long had a dream-like, ethereal quality. The image has been dim or demanded a dim environment. Relatively low resolution has also meant that image sharpness does not achieve the level of detail we see in the real world.

In order for video image to approach the reality being shown elsewhere on a stage, the level of detail must match that of live performers, the lighting must be sufficient, and black must look black. The contrast and precision must match that experienced when looking at the performer.

Technical limitations define the design. If the equipment is only able to produce ethereal, mirage-like images, it's generally best to stick to them.

Meryl gives birth to *The Fairy*

In the solo work *Meryl* (2001), choreographed by Jyrki Karttunen for Sari Lakso to premiere at the Ateneum Theatre, projection was used to create a parallel world alongside the world of Sari's character. "Recordings," or memories, of

Sari's character and a bearded yet distinctly fairy-like gnome were projected on the walls. In the videos, Sari's character shared the same space with this fairy, but at times the projected fairy appeared with the live performer Sari, as if it were a memory or a mental reflection. This fairy later returned to the stage in its own work.

For me, one of the most powerful and vivid memories from the ultimate scene of *Meryl* was the final image, which was based on video. At the end of the performance, Sari's character experiences an enlightenment of sorts, and a dandelion sprouts from her breast: a projection, of course. The dandelion continued to live on, ending up in Jyrki Karttunen's future work *The Fairy* (2002). All the effects were analogue, of course: we created the footage of the sprouting dandelion with a black tube poking through a black velvet curtain, and a silk dandelion being pushed through the tube.

The Kuopio Dance Festival commissioned a work from Jyrki Karttunen for their 2002 season. It was immediately clear to Jyrki that the fairy that had made a guest appearance in *Meryl* would play a prominent role in the work. During the conceptual process, we travelled down various paths and read Jyrki's draft scripts from many perspectives as background material.

Projections were in no sense part of the work from the start. I had done some experimenting with a Gerriets-brand Metallic Bobbinet projection scrim a square metre in size. I particularly liked how the fabric almost completely disappeared from view when there was no light hitting it, and yet its metallic threads picked up even the weakest projected light in a very special way.

At the time we were creating *The Fairy*, I had seen very little video used on stage, and what I had seen always felt random and clumsy. I wanted to do something wondrous, magical, something you could barely believe was real.

We had a ferocious belief in our abilities during this process. Based on nothing more than a computer-modelled scenography, we spent nearly the entire budget on a 16 x 8 m bolt of projection scrim, of course the more expensive fire-retardant version. I only had one bachelor party's worth of experience shooting and editing video under my belt by then. Apple Finland offered us sponsorship in the form of a computer and Final Cut Pro editing software. We selected DVD as the output technology, although at the time I hadn't made a single DVD yet; hard-drive-based, multi-channel output was professional equipment that was simply out of our reach.

Jyrki worked on the choreography. Our experiments had led us to the conclusion that, at the SD PAL video quality we were capable of producing, we could

create a projection four metres wide. At this scale, the eyes of a person projected at natural size were still somehow recognizable. We considered this essential, because it was critical that a figure projected on stage be experienced as in some sense real by the audience.

When shooting *Meryl*, we had decided that movement based on changes in depth didn't work. As a result, Jyrki had to devise a four-person choreography in such a way that it required only about one dance mat's worth of depth and a maximum width of four metres, including any swinging arms or fluttering clothes at the edge of the image – in other words, the room for movement was severely limited. At that time, I wasn't capable of conceiving how to create figures moving across the stage by dancing from one scrim to another, which frustrates me to this day. It would have brought another level to the movement that wasn't even available to the live performer, as the stage was filled with invisible scrims blocking the free space.

We had noticed that the edge of the image is sacred in this sort of illusion-seeking projection. The edge cannot be crossed. In the work we created, it was only crossed by the "naked" Fairy in a curious intermediate state between illusion and memory, the figure of the Fairy in its youth.

We shot and edited a rehearsal video where each image we were going to use was shot and collated on a single surface, so Jyrki could rehearse with the virtual characters. Each figure was marked in the video with a T-shirt of a different colour, so we could follow changes and the dancers' movements. The fairy figures we planned on shooting had also been conceived in different colours.

We could afford a studio space no more than five metres wide, in other words, there was only half a metre of space beyond either edge of the shot. I was a little nervous as to whether the cramped space and the dancers being mindful of the walls would be visible in the quality of the movement in the open space offered by a large stage.

The use of video technology exposed demands on the live performers as well. To prevent the contrast between the virtual performer and the character on stage from growing too distinct, we had to, according to the best of our abilities, decrease those characteristics that make a person a real character on stage. No sound could be heard from the dancers, no footsteps, nothing that would reveal them as being flesh and blood. Luckily, the dance mat selected was a fairy-soft, wall-to-wall version that made soundless movement possible.

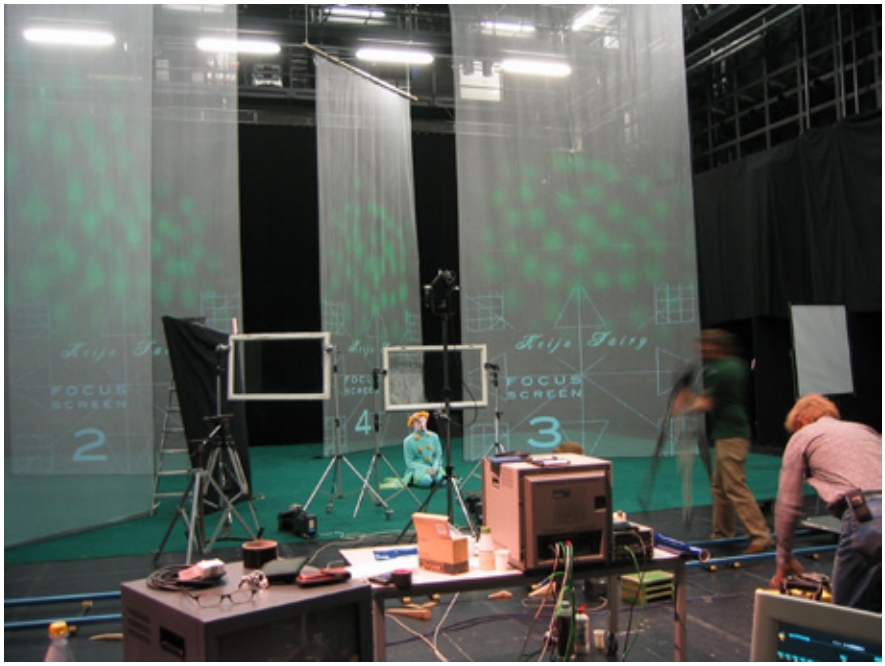
The original *Fairy* premiered in Kuopio in the summer of 2002, and it shook the limits of performance technology. In addition to the live performer, virtual

performers are seen on the stage. The virtual performers were projected onto extremely delicate, nearly transparent scrims scattered throughout the space in an apparently random arrangement; these figures looked like three-dimensional holograms. The work was updated in 2011 by shooting new virtual performers in HD quality. Projection technology that has continued to advance over the decade and better-quality image material have made the performance more magical than ever.

The Fairy is enchanting in terms of both content and realisation. The lone dancer and virtual performers communicate with each other in a fascinating way – the audience member might even catch a glimpse of a real fairy between the scrims out of the corner of their eye.

The longest performance run of *The Fairy* took place in Lyon: the work was performed nine times for full houses of 1,000 viewers. There were a lot of school-children in the audience, and we always had a post-performance Q&A with the audience. One of the children's questions stuck with me: "What was that real performer doing up there on stage?" For this child, the virtually realised characters would have sufficed, and the live person was probably too real compared to the other characters.

From the shoot of the 2011 version of *The Fairy*. Timo Hynninen cooling everyone off, Mikko Paloniemi as the Fairy, Tuija Luukkainen touching up the make-up, and choreographer Jyrki Karttunen giving direction. Photo: Kimmo Karjunen.



Set construction for the television recording of *The Fairy* on the Lume stage at what was then the University of Art and Design Helsinki, 2003. Jyrki Karttunen in the centre, Kimmo Koskela at the right. Photo: Kimmo Karjunen.

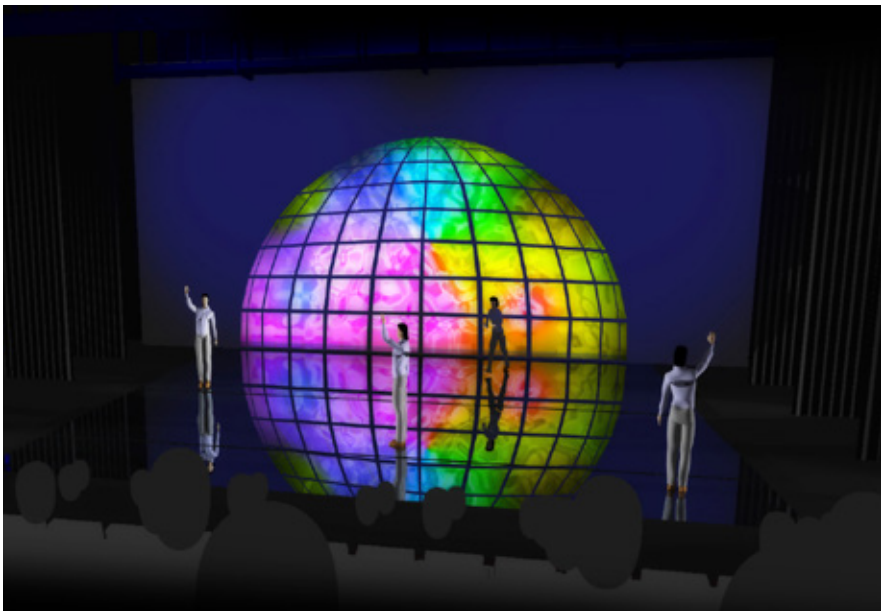
Days of Disco

I started designing this work, which tapped into the heritage of disco music, from the perspective of light. My thinking was that if the work's visual design had to be comparable to some cool nightclub, I'd quickly run up against a wall in terms of resources. I decided the work wouldn't feature a single disco light, not a even a disco ball. The visual design would have to be resolved in some other manner, perhaps through video. But I didn't want the video to be merely an image on a surface; I wanted it to be somehow inside the stage or even in front of it – as long as it wasn't exclusively behind it.

I had already used reflective surfaces in an installation I did for the *Elämän ilo* (The Joy of Living) exhibition at the Riihimäki Museum of Art. In that project, reflective steel plates kaleidoscopically surrounded a broad image surface, multiplying it almost into infinity.

Making use of this idea, I started dreaming of a mirrored floor. In the artistic team, we joked that if couldn't afford the dance floor from *Saturday Night Fever*, we'd have to find a way to afford a mirrored floor. We found a mirrored dance

Conceptual images the use of projection in the *Days of Disco*, 2009. Photos: Kimmo Karjunen.



Days of Disco (2009). Performer: Ville Oinonen. Photo: Kimmo Karjunen.

Days of Disco (2009), headphone scene. Photo: Kimmo Karjunen.

mat that would work. The design came together in a scheme featuring a fabric backdrop, with cut-outs modelled on a disco ball. The fabric was reinforced by gluing black scrim behind the cut-outs; the scrim kept their edges rigid. I created a 3D visualisation of the design with Vector Works software and then figured I would manage.

During the process, the video started to take on another task, aside from simply producing light. The choreographer, Jyrki Karttunen, wanted to introduce a social aspect to the work. Because people have a very personal relationship to disco, we decided to add material in the form of interviews to bring another layer to the work. We collected video interviews primarily from the Full Moon Dance Festival in Pyhäjärvi, where we were running workshops for the dancers as background work for this piece. We accumulated an enormous number of personal experiences of disco. We had to bring one more person on board to transcribe the interviews and create a script from the memories. This also opened up the opportunity when taking the piece abroad: we could arrange workshops and gather memories from audience members .

The interviews brought a completely new layer to the work. The snippets of memories played at the beginning removed the enormous burden of expectation that a performance with the word “disco” in the title seemed to carry. It was immediately plain that the audience was not going to be transported off to some cosmopolitan nightclub, at least not right away; instead we would start off from grade-school gym class and DIY discos in garages.

The video was even assigned a solo: a chequered compilation in which numerous people are listening to headphones at the same time, and as each of them starts to hum in their own way, it became clear that the song they’re listening to is “Staying Alive.” The video is so rich and captivating that we didn’t think it made any sense to even try to stage any live action at the same time. The video also gave the audience the opportunity to experience something collective in relation to each other, disco, and the performance situation.

Bluebeard’s Castle at the National Opera

I received an invitation from the Finnish National Opera to serve as lighting designer on their production of *Bluebeard’s Castle* (2013). It was the wish of the scenographer, Sampo Pyhälä, that we try image-mapping technology on the set. In the technique, an image is projected on a three-dimensional, often already-existing surface in a way that the projected image is corrected to adhere to the shape of the underlying surface, as if a new material were draped over it. This

technology is generally best suited to modifications of the original surface based on virtual light. For us, the intent was to build a three-dimensional set built with a very flat, neutral surface, onto which we would project changing materials that included the desired lighting effect.

Virtual light is realised almost exclusively with 3D-modeling software. Sampo and I thought we could achieve a more interesting and organic result through analogue techniques: by shooting the materials under studio lighting conditions on scale models of the set. We hoped to free ourselves of the plastic, artificial feeling so often produced by mapping. After all, our aim was recognizable, realistic materials and lighting effects, even though the set in and of itself wasn't a realistic castle.

Three enormous blocks served as the set's projection surfaces; the other major element was a tall staircase along which performers "descended" into the castle. The overarching idea of the projections was that as the castle's locked doors opened, the surfaces gradually transform from natural rock into man-made stone walls.

Several scale models from different "millennia" and featuring different surface treatments were built in the opera's workshop. For the shoot, we built a steel frame from which we could rig the two DSLR cameras we needed to capture the video. A single camera's resolution would not have sufficed to cover all three surfaces, because as the image distorts during the mapping and pixels are "lost." We built the suspension frame so that the cameras would remain still while shooting the various scale models and image sequences, a sort of time-lapse video based on animation technology to facilitate post-production and the editing of the images into video format.

Creating everything at scale using analogue technologies proved laborious, but I believe we achieved a quality we wouldn't have been able to produce virtually, especially when it came to the light: it was delicate, expressive, and precisely controlled. We made use of many defects in the light sources, like the prismatic aberration of colours caused by the lenses. The interaction between surface and material generated delicious results, for instance a wall dripping water that turned into blood.

With the projecting equipment and technology available at the National Opera at the time, we achieved a satisfactory result only when we were very careful with the lighting. Contrast-erasing light could not be allowed to leak onto the set surfaces; the instant it did, the credible projection turned into an artificial surface that looked like a projection. We fought against these light leaks

on several fronts. One of the worst culprits were the orchestra's lights. We tested the amount of light leak without musicians, spreading white paper across all the music stands and measuring the amount of light reflected by the paper. The outcome was an illuminance of two Lux across the length of the entire proscenium arch, following the curtain line. This light was very warm in colour, like a dimmed incandescent bulb, approximately 2000 kelvins. The amount of leak slowly decreased the further we moved upstage, but only very slowly, presumably in part because the illuminating surface – the illuminated notes – was so large.

We tested the brightness of the image with specific video projectors positioned at the planned rigging points with surface treatments of three varying levels of darkness. The surface treatment was paint splatter-sprayed in three different grey tones. The goal was a surface that wasn't perfectly flat, in case something other than light from the video projector struck it. We had to use the darkest treatment near the orchestra pit, to prevent the light leak from washing out the projected image. We painted the rearmost element the lightest test colour, and then later decided to correct it to the medium shade; although the lights from the orchestra pit weren't ruining the projection, the lights intended to illuminate the performers were.

Another significant observation in terms of lighting design was that none of the projection surfaces could be left in darkness. Even when the stage was dark, we had to project what would be seen there in the gloom. Similarly, nothing in the image could be allowed to burn through. The brightest projectors would have allowed us to get closer to realism with this virtual light. Now the difference between the dimmest and brightest light was flattened the way it is the movies, where you can see perfectly well in nocturnal shots, and the brightest day doesn't blind. Darkness was represented by high-contrast, cold light; brightness by warmer and to some extent more even light that encompassed larger areas of the predominant lighting. If there hadn't been any leak, the dark could have been darker.

In the future, one way of decreasing the light leak and, on the other hand, making the leak easier to conceal through projection would be to update the note-reading lights with LED technology, preferably in a cooler tone; lamps with temperature controls would actually be the most flexible solution. A cooler tone would presumably facilitate dimmer illumination for the notes; recent research has done a better job of recognizing the human sensitivity to cooler tones in low-light conditions, and with a lower amount of light we could achieve the same visibility while lessening the light leak. Cooler-toned light would furthermore

blend more easily with the extremely cold default tone of the video projectors, 6000 Kelvins.

We also ran up against technical limitations in terms of resolution. Even though XGA (Extended Graphics Array) is a perfectly acceptable resolution for an image projected against, for instance, a large surface at the rear of the stage, it continues to be an exceedingly small resolution when, as we were, projecting at very sharp angles as far downstage as you could go: the image sort of stretches to match the surface, and a surprisingly small number of pixels and low amount of luminosity remain on the skewed surface. In *Bluebeard's Castle*, the largest pixels were on the front face of the left-hand set element: a few square centimetres in size. This was also the most problematic surface in terms of light leak, as due to the angle it received the least amount of projector light and was closest to the light-shedding orchestra pit.

It was thrilling to see how, in the final projections, even though the quality of the stone and the amount of human handiwork changed between scenes, this change in materials on the set was very smooth. Because scenographic changes were achieved primarily through light and the biggest change was the lighting, the change in set materials happened "beneath" the light, as it were. The clearly divergent surface materials melted into each other the same way as the lighting cues do.

The strongest lighting effects proved unusable. For the so-called "Kingdom" scene, we had created a lighting cue taking place in the present day, where the pulsing, flashing reflections from neon lights were projected onto the set pieces. In the end, we decided it was too harsh for the scene and dropped it from the final work.

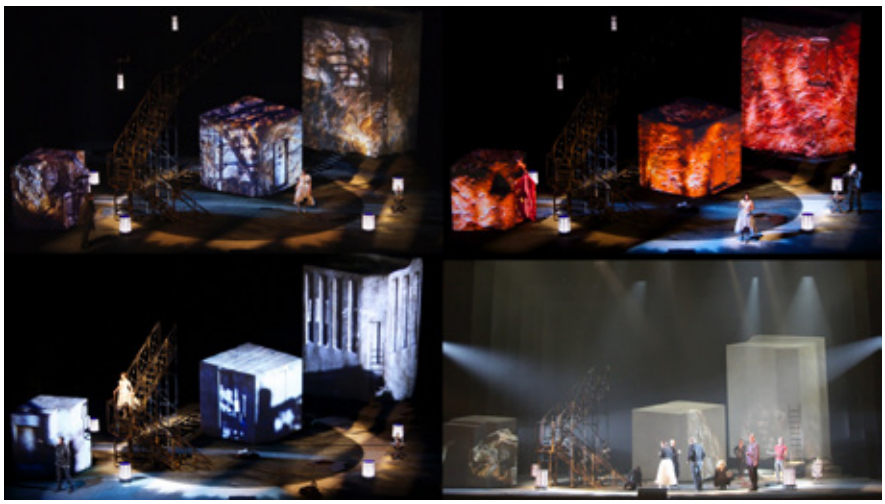
Workshops with the scenographer during which we created the scale model and its lighting simultaneously facilitated a detailed conversation about the quality of the lighting prior to the stage rehearsals. We could reject lighting ideas we found to be poor or dull already during the shoot. For some ideas, we shot different versions that we could then test at full scale on the stage. The role of projection in the performance was to create a believable, shifting illusion involving lighting and material. There was no intention to produce any other – for instance, media-conscious – layers.

Shooting the image material from the direction of the house without distortions and from about the height of the first balcony but further back proved a superb discovery in terms of working method. Combining the images from the two cameras side by side produced a direct approximation of what the scene

would look like. Shadows were also visible in the image. They were generated by, among other things, the scale model of the set's staircase, which had naturally also been illuminated as demanded by the scenography. We were able to print out these conceptual images for the artistic team and pin them up in the rehearsal room.

The actual stage lighting was on the one hand simple and the other extremely difficult. We had to be able to light the performers in such a way that no more than 2-10 lux ever hit the set pieces, even through reflected light. The intent was to realise the lighting of the set elements through the materials projected on them. Any further lighting would have washed out the projected image. On the other hand, the lighting for the performers didn't need to participate the storytelling the way it normally does. The performers did find the patchwork of light challenging: there were a lot of poorly lit areas, and the illuminated areas were very compact. Bluebeard himself never really figured how to find the light. I resolved this problem by allowing him to remain in the gloom, appearing to generate an aura of darkness around him. This felt like a good fit for the character.

Photographing the scale models for Bluebeard's Caste (2013) in the lighting studio at the VÄS, Theatre Academy. The set and cameras have been attached to a metal frame; plastic protects the floor from dripping water and paint. A cardboard mask hanging from the ceiling creates shadows. Photo: Kimmo Karjunen.



Bluebeard's Castle (2013): three different scenographies and, in the bottom right, the projection-free set under work lights. Photo: Kimmo Karjunen.

Bluebeard's Castle test, 2012. The text on the leftmost set element has not been corrected through mapping. This photo demonstrates the amount of distortion in the projection. The size of each coloured square is 20 x 20 pixels. Photo: Kimmo Karjunen.

One demonstration of the power of virtual light was the fact that more than once we were about to start correcting the lighting when the shadow of the staircase fell annoyingly onto a set piece – only to realise that we had built those shadows into the images in the studio to emphasise believability. Sometimes someone also thought one of the set elements was in the wrong spot, when another set element's virtual, designed shadow appeared on it.

My own feeling about the end result is that the projections successfully transformed into physical surfaces. The only thing that revealed they weren't real was the fact that they could change and react. Technology made the strangeness of Bluebeard's castle possible: the castle lived and exerted an influence on those around it.

What next?

My personal hope is that it would be impossible for us to pinpoint any clear trends in the use of video in performance; I would be most comforted by the thought that video would be reinvented as a medium and form of expression over and over again, and unobtrusively harnessed to serve the visual design of the stage.

As a technological opportunity, I see believable projections facilitated by better and sharper images. Projection doesn't need to be restricted to a softish, dream-like suggestion of some other layer; it can challenge realism. It can even create hyperrealism, where things appear to be more than what they actually are.

Image-production technologies other than projections still wait their turn for use on the stage. The large surfaces the stage demands are incredibly expensive to realise at the moment. For instance, high-quality, high-pitch LED walls have been seen only on the stages of superstars like Madonna.

LED image surfaces offer a fast, bright way of producing video image for performances. Entertainment-themed television in particular has eagerly adopted the technology; I don't think there's a single dance or song competition on TV that doesn't feature a LED-based image surface.

In television, LED image surfaces and projections facilitate an incomparable level of illusion. It's extremely difficult to perceive what really exists and what is solely image through a two-dimensional medium. After all, this is what the classic tricks from the movies, like the painted studio backdrops creating an impression of depth, are based on. In addition, when the camera's sensitivity is tuned to the image being used, you can't tell if the light source visible in the image is real or just an image of a light source and lighting.

I'm personally most interested in spatially complex projections. Single, even surfaces are boring; images that are in some way integrated into the scenography are interesting. The image can drape across the surfaces in a space, or can float immaterially in it. The power and combined effect of the image and surface are at their most fruitful in this instance. Even the simple diffusing of the image area on the stage brings the two closer together; this integration of stage and image is critical, making it possible to bring the onstage performer into the same space.

Our lives are increasingly intertwined with various media. Social media is a constant presence; following several simultaneous message streams is everyday life. Perhaps staged narratives have to take these shifts in cultural consumption into consideration as well. A cavalcade of images is normal; long-distance presence is normal.

I personally enjoy scenography that can supersede the limits of reality for the person experiencing a performance. This is not necessarily merely a question of illusion; as a spectator, I'm also fine with deconstructed illusion. The methods and means can be visible, as long as their use offers an experience that surpasses the everyday.

SOURCES

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Kimmo Karjunen (1967) is a lighting, video, sound, and set designer in the field of opera and contemporary dance. He has designed the lighting for more than 40 contemporary dance productions. In 1991 he graduated with a Master of Theatre Arts degree from the Theatre Academy Helsinki.

Since 1995 he has worked as a lecturer in lighting design at Theatre Academy Helsinki, now the Theatre Academy of Uniarts Helsinki. He was awarded the State Prize for Art in 2009.

Thoughts on 30 years of lighting design education at the Theatre Academy

RAISA KILPELÄINEN

In this piece, I discuss the lighting design degree programme offered at the Theatre Academy of the University of Arts Helsinki, relying on interviews and written sources. This article is not a comprehensive history; I focus primarily on the current challenges and strengths of the programme and its future prospects.

The Theatre Academy's Department of Lighting and Sound Design (*valo- ja äänisuunnittelun laitos,* or VÄS) opened its doors in Helsinki on June 1, 1986. The programme's aim was to provide students with the skills necessary to practice visual or sound design for theatre performances and outside the theatre. Instruction has always been provided in two separate degree programmes, one in lighting design and one in sound design; the two programmes' unified department was dissolved in 2011. The aim of the bachelors and masters programmes in lighting design is to support the student's artistic development, instil in her the competence needed to use light as an expressive medium and engage in artistic design in that medium, and familiarise her with the fundamental arts and sciences applied in the field of lighting design. The training programme strives to emphasise the importance of artistic preliminary design in its instruction – although technology plays a major role in lighting design, the core of the programme is the artistic design process. (University of the Arts Helsinki 2017a.) The degree programme continues to be one of the few masters-level programmes in lighting design offered at a European university of the arts.

In the period 1986–1991, VÄS was located on Apollonkatu in Helsinki; in 1991 it moved the city of Tampere, and in autumn 2007, it returned to Helsinki. Lighting and sound design continued and still continue to share the same premises, on Lintulahdenkatu. A new, university-wide facility for the University of the Arts Helsinki is being planned in the vicinity of the Theatre Academy; space has been set aside there for the degree programmes in lighting design and sound design. Yet another move lies ahead.

Since the start of 2015, the lighting designer Tomi Humalisto has served as the Theatre Academy's professor of lighting design, and lighting and video designer Kimmo Karjunen has taught there as a lecturer since 1995.[1] In addition, the degree programme shares a lecturer with the degree programme in sound design: the sound designer Jokke Heikkilä.[2]

Generally, four bachelor-level students and four-to-five masters students are accepted into the degree programme in lighting design every year. The first-year bachelor-level courses are by and large the same for students in lighting design and sound design. The majority of students earn their bachelors degree in three years, apply to the masters programme, and receive their masters degree in two-to-three years. The masters programme is also open to those coming from other educational backgrounds.

Applications for the bachelors degree programme are generally accepted every year, and the entrance exam is a three-stage process consisting of advance assignments and a four-day entrance exam, during which there is one interim elimination round. For the masters programme, students apply with advance assignments and the entrance exam takes place in interview format. Of those students who began studying lighting design in the autumn of 2016 and were still registered at the end of the year, 40 per cent were women and 60 per cent were men. No foreigners were registered as programme students for the 2017 academic year, with the exception of a few exchange students. In the period 2013–2016, the degree programme received 40–50 applications a year.[3]

The content of the programme is divided among general studies; studies related to working life and study skills; knowledge of the arts; design skills and tools; various academy-wide courses and productions; individual and elective courses; and a thesis project. In addition to the art and history of lighting design and the skills and working methods used in the field, the topics studied include the history of the performing arts and music, art history, dramaturgy, scenography, projection, colour and space perception, painting, photography, sound and image editing and processing, digital drawing and modelling, performance

1 The professorship for the degree programme was founded in 1991. Those who have served in the role over the years include Kaisa Korhonen (pro tem, 1992–1993), Siegwulf Turek (1994–1999), and Markku Uimonen (2000–2014) (University of the Arts Helsinki 2017b).

2 The professor of the sound design degree programme is Jari Kauppinen; Tuomas Fränti serves as lecturer. The VÄS staff also includes planner Tiia Kurkela, administrative assistant Raija Koskivaara, rehearsal expert Seija Suontausta, and audiovisual technician Kari Tossavainen.

3 Data from the archives of the lighting design programme.

Professor of lighting design Tomi Humalisto at the commemorative seminar held as part of the 30th anniversary of the VÄS degree programmes, November 2016. Photo: Theatre Academy / Petri Tuohimaa.

Senior lecturer in lighting design Kimmo Karjunen at the history round table held as part of the 30th anniversary of the VÄS degree programmes, November 2016. Photo: Theatre Academy / Petri Tuohimaa.

In November 2016, the VÄS degree programmes celebrated their 30th anniversary at the Suvilahti cultural centre in Helsinki. Photo: Theatre Academy / Petri Tuohimaa.

The incoming cohort of candidate students in lighting design and sound, 2016: Riku-Pekka Kellokoski, Topias Toppinen, Konsta Ojala, Antti Kainulainen, Laura Palanne, Matias Eskelinen, Jussi Rusanen, Ellen Virman, and Jaakko Sirainen. Photo: Theatre Academy / Petri Tuohimaa.

A "weathered" piano from the work *The Sound of Music* (in a box) shown as part of the *Weather Station* exhibition at PQ 2015 was seen and heard as it went up in flames at the VÄS 30th anniversary celebration at Suvilahti, November 2016. Photo: Theatre Academy / Petri Tuohimaa.

Masters student in lighting design Alexander Salvesen adjusts a PANI glass slide projector for a facade projection as part of 30th anniversary of the VÄS degree programmes, November 2016. Photo: Theatre Academy / Petri Tuohimaa.

analysis, knowledge of the profession, philosophy of aesthetics and art, and seminar work. The current degree requirements were introduced at the beginning of autumn term 2015; the degree requirements are in force for five years at a time.

Establishment and early days

Theatre researcher and historian Timo Kallinen (2004, 140–145) has written in detail about the founding of VÄS in his work *Teatterikorkeakoulun synty* (The founding of the Theatre Academy). Kallinen (ibid.) looks into the background behind the creation of the VÄS degree programmes; his work ends with an exploration of the department's 1991 move to Tampere. In addition, he sheds light on the hopes and fears related to the establishment of VÄS.

The first plans to found a degree programme in lighting design and sound design emerged in the late 1970s. In the early 1980s, the Theatre Academy began arranging continuing education in lighting and sound design for the lead technicians at theatres and other venues. Motives for founding the degree programmes included the growing need for designers for theatre, performance, and dance; a construction boom during the 1980–1990s at institutional theatres and civic centres, which led to a need for designers' skills; and the demand for competence in lighting and sound at various music, public, and environmental events. The rise of the design professions and the need for training in them can thus be seen as natural continuum of the content and spatial development in the performing arts. This was one of the questions discussed at the *studia generalia* evening held in autumn 2016 as part of the VÄS 30th anniversary celebration, during which the history of the degree programme was discussed (Taideyliopisto 2017b).[4]

Starting a university degree programme for a new profession was no simple feat, especially as other professional activity and organizing was taking place at the time as well.[5] The field changed slowly, and advances in the role took place unevenly across it.

In terms of content, the early years of VÄS instruction were far from free of criticism. The resources for instruction were initially very limited, and tools were

4 Those who discussed the early years at VÄS included arts educator and former VÄS hourly instructor and lecturer Mirjam Martevo; dramaturge and former vice-rector of the academy Marianne Möller; the lighting designer Sirje Ruohtula; the department's first lecturer Esa Blomberg; and former VÄS sound technology instructor Ari Lepoluoto. The conversation was hosted by one of the degree programme students, the sound designer and journalist Tuukka Pasanen.

5 The Union of Lighting and Sound Designers in Finland (SVÄL) was founded in 1992. Nowadays the organisation as known as Lighting, Sound and Video Designers in Finland (SVÄV), and it is a member organisation of the Trade Union for Theatre and Media Finland (Teme). (SVÄV 2016.)

few. Students participated in building the structure of the degree programme, down to soldering the cables. They also had to buy their tools themselves.

It's no secret that in the early years of the programme the development of the students' skills was at times haphazard, and opportunities for practical design experience were assigned unevenly. Instructor interest in student productions and artistic development has also varied over the years. Nowadays more attention is paid to the planning of studies and pedagogy and the students' artistic development, and there are enough teaching productions, equipment, and instructors offering personal guidance for everyone.

When VÄS moved to Tampere in 1991, there was once again a concrete construction project that students participated in. This time we received significant funding to purchase equipment and electronics as well. For the first couple of years, the programme was divided between two cities, as the Tampere premises were not completed until 1993. For many, the most vivid impression from the Tampere days is of the sense of tight community at VÄS, but also the relationship with the Theatre Academy community in Helsinki, which was particularly challenging for students. It was said that the move to Tampere was the result of the government's regional activation policy as well as a personal crusade for Simo Leinonen, one of the first VÄS lecturers, and it did not sit well with everyone at the Theatre Academy.

But these days, even among the graduates of the early years, professional pride wins out, as does love for the art, for the diversity of the performing arts, and for the varied field of light and lighting design. Art, artistry, and light as an expressive art form have always been at the core of the programme's instruction in some way. And perhaps the substantial idealism and quick curriculum turns of the early years have had a positive effect on the education over the long run. The very fact that a school was founded makes it possible for a wide range of individuals to apply; you don't have to be a technician already oriented to the field to become a designer. Even today, it is possible for an applicant interested in light but without any particular experience or expertise working with it to be accepted into the programme.

According to lighting designer–scenographer Markku Uimonen (Kilpeläinen 2011a), who served as professor of lighting design 2000–2014, the visions of the programme's founders were not modest: "Just the opposite; it feels like we set out to change much bigger things, to train young people directly into the role of designer and artist."

In Uimonen's (Kilpeläinen 2011a) view, everything was different in the Finland of the '80s – at least in terms of lighting design: "Those who had been even in the tiniest way impacted by the founding of VÄS were curious to see what could come out of the programme. There was a lot of positive interest, but also prejudices and negative attitudes, starting from purely theatre-historical reasons."

Uimonen himself was one of the students in that first-ever VÄS cohort. According to him (Kilpeläinen 2011a), the Finnish term *valosuunnittelija* was a direct loan from the English-language term *lighting designer*. "In Britain, LD had been moving away as a profession and a role from that of electrician starting in the 1960s. Finland still had a totally different theatre culture, even in the '80s. There weren't many freelancers. Most of the work chief electricians did involved technology and maintenance; in spirit, they were aligned with the technical unions and support services. The new VÄS programme intentionally did not support this model. On the other hand, a lighting or sound designer isn't automatically an artist, even today, which is a great thing. You have to earn it, you can't just have it passed down to you. Still, I don't know any other field where practitioners have banged their heads against the wall this much."

Senior lecturer in lighting design Kimmo Karjunen is another representative of the first VÄS cohort. According to Karjunen (Oct 18, 2016), the early years were marked by glorification of designer-dom. "We were put on a pedestal from the very outset of our studies. But no one had proved themselves yet: not us, and not the degree programme either. The field was simultaneously rearing up on its hind legs in fright and harbouring unreasonable expectations – which weren't always possible to live up to, of course."

Markku Uimonen (Kilpeläinen 2011a) describes his student days as the time before the digital revolution thus: "Technology played a different role in terms of lighting and sound design. Almost anyone was capable of using a simple analogue light desk or playing back a 'loon on a windless lake' sound effect from a Revox recorder. It was only when there was a clear jump in scale, for instance a musical, that theatres looked for a lighting or sound designer from the outside. Fortunately, musicals aren't alone in this category anymore, and bringing in designers no longer necessarily depends on scale or a steep learning curve in mastering new technologies, but the desire to work with good designers regardless of art form."

According to Uimonen (Kilpeläinen 2011a), when characterising the role in the 1980s, the end goal was clearly more idealistic artistry than what was realistic,

and it was stressed to students that the role didn't even necessarily exist yet; the hope was the first students would create it.

The lighting designer Sirje Ruohtula, like Uimonen and Karjunen a member of the first VÄS cohort, states in an interview cited on a 1991 brochure published by the Theatre Academy: "...the instructors and everyone who participated in starting up the degree programme were idealists, and that idealism was contagious. We were guinea pigs, the first cohort, proud and critical."

Uimonen (Kilpeläinen 2011a) says that he didn't really know what to expect from the programme, because it was completely new. The values and aims of what was then the University of Art and Design Helsinki's scenography studies served as a comparison, however. Uimonen (ibid.) says those values and aims seemed good and relevant even then: "...technology and technical equipment have no inherent value in this work."

As a brand-new VÄS student, Ruohtula wrote in *Teatteri* magazine (Ruohtula 1987): "It's good that our programme is at the Theatre Academy Helsinki and not the University of Art and Design Helsinki (although we would be appreciated in a different way at the latter), so we don't lose touch with the real situation: the performances."

Kimmo Karjunen (October 18, 2016) notes that no one probably knew the full arc of the studies when the programme ramped up: "There weren't many places to turn for a model, because a there were no masters-level programmes in lighting design. At a very early stage it was plain that, as students, we would have to carry our share of the responsibility for the contents of the curriculum. That's a very encouraging situation to be in, in terms of student motivation and influence. I still encourage students to take responsibility for themselves and their objects of interest. The programme's tradition of collecting direct student feedback regarding the instruction also harks back to those days."

Challenges in the field and the programme

What sort of challenges does the lighting design programme face these days? Lighting design professor Tomi Humalisto (October 10, 2016) sees the state of perpetual change typical to the art as a challenge in terms of education; the question of change cannot be ignored in a lighting design programme: "For instance, it seems as if the spatial demands inherent in performance are no longer targeted exclusively at spaces built primarily for the needs of performances." He (ibid.) raises the example of operating in "other spaces": "That requires a different visual-spatial strategy in lighting design, presumably also a different

The 10th anniversary of VÄS was celebrated at the old student building at the University of Helsinki. Professor Siegwulf Turek adjusts a PANI glass-slide projector. Photo: VÄS archives.

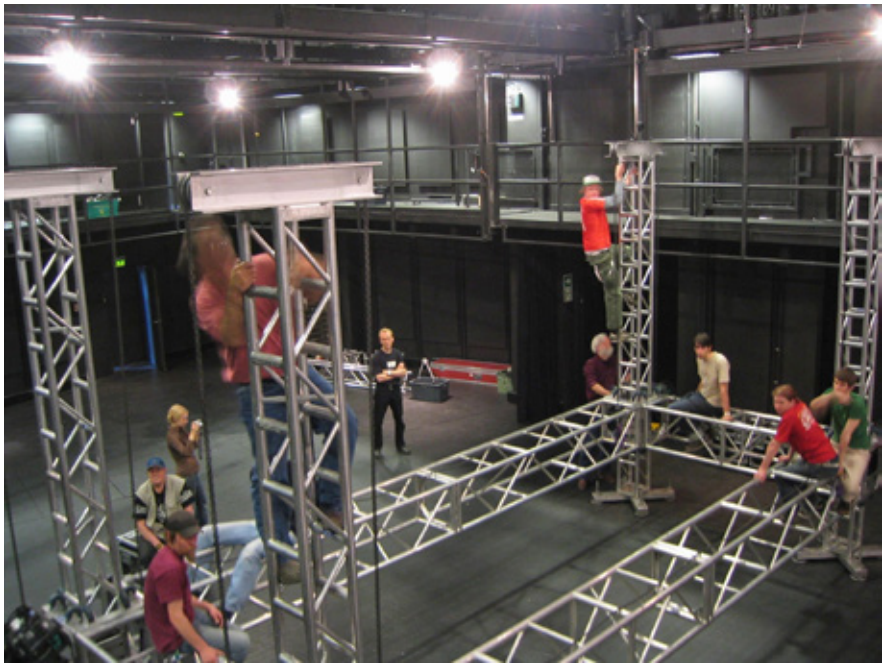
Professor Markku Uimonen in the VÄS degree programme lounge at the opening of the Theatre Academy's new Kokos premises, autumn 2000. Photo: Kimmo Karjunen.

Ari Lepoluoto, Esa Blomberg, Marianne Möller, Mirjam Martevo, and Sirje Ruohtula at the history round table at the 30th anniversary of the VÄS degree programme, November 2016. Photo: Theatre Academy / Petri Tuohimaa.

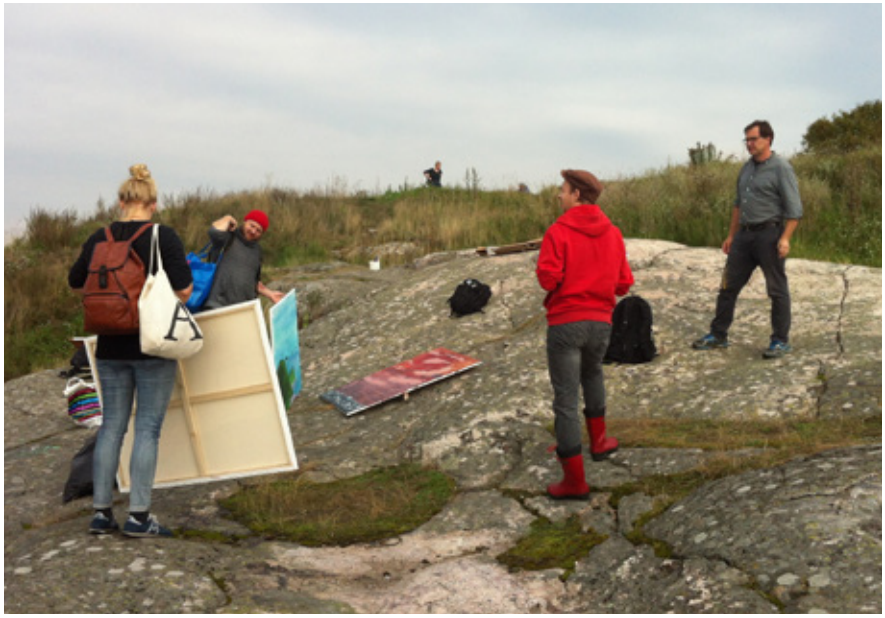
VÄS and the Theatre Academy alumni association jointly organised an alumni club event as part of the 25th anniversary of the VÄS degree programme; here a panel discusses the theme "Ever-Changing Scenography". On the panel: Kalle Ropponen, Kimmo Karjunen, Kaisa Salmi, Johanna Storm, Antti Nykyri, Jari Kauppinen, Ina Niemelä, Laura Gröndahl, and Matti Jykylä. Photo: Lauri Lundahl.

First-year VÄS students in Kimmo Karjunen's Introduction to Light course, 2007.
Photo: Kimmo Karjunen.

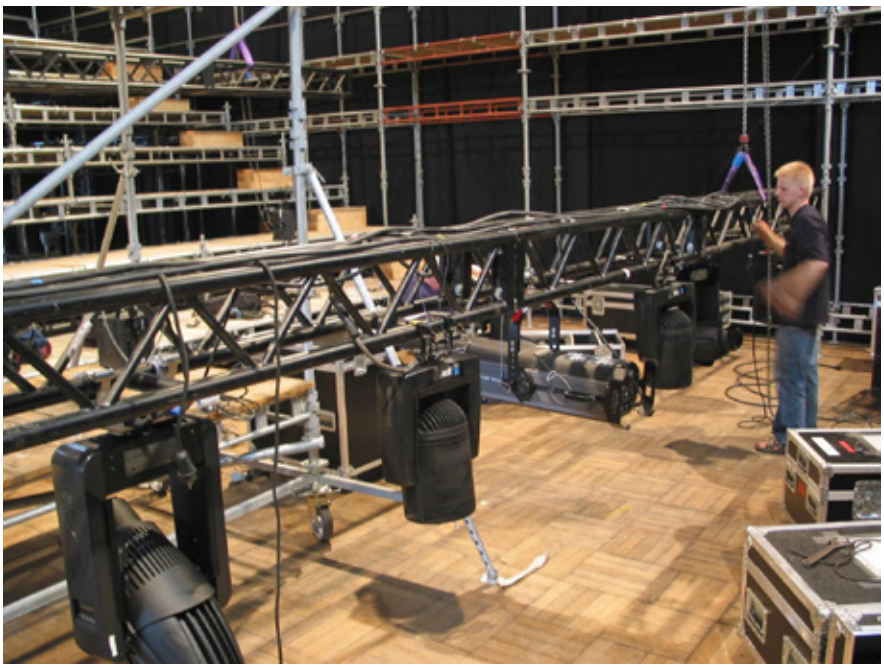
Minna Heikkilä, William Iles, and Irina Nyyssönen (née Kumpulainen) in the course Surface and Light, Tampere, 2003. Photo: Kimmo Karjunen.



Rigging and Flying course students in the big auditorium at the Theatre Academy, 2004.
Photo: Kimmo Karjunen.



Anniina Veijalainen, Ville Mäkelä, and Immanuel Pax with visual artist Eric Aho on a painting field trip to Suomenlinna as part of the course Post-Abstract Expressionist Light, autumn 2014.
Photo: Eero Erkamo.



Sami Rautaneva rigging for Scenofest stage at the Prague Quadrennial (PQ) of Performance Design and Space, summer 2003. VÄS degree programme students have participated in the student section at PQ since 1987. Photo: Kimmo Karjunen.

Finland's student section won the gold medal at PQ, summer 2015. *The Other Side* was a concept executed jointly by Aalto University and the Theatre Academy. In it, an elastic wall divided a space in two. When you touched the wall, the soundscape and lighting in the space changed. A physical and surprising interaction formed between experiencers on opposite sides of the wall. Photo: Kimmo Karjunen.

selection of equipment than would expected in a stage-anchored performance. On the other hand, we have to keep in mind that stages, arenas and concerts still exist and won't be going anywhere in the near future. And despite changes in the state funding system, Finnish theatre will continue to exist as well. From the perspective of education, the challenge is teaching the diversity of skills that different ways of realizing lighting design in different fields may require in the future – and to do so within a framework of credits correlating to one degree programme."

According to Humalisto (October 10, 2016), it is a given that the degree programmes in lighting and sound design have a relationship to technology that is grounded in the present day, as designers are constantly working with manifestations of various technologies. "This gives an advantage to young artists, for whom competence and comprehension of technological interaction accumulates and strengthens over the course of study," Humalisto (ibid.) notes. "VÄS has also traditionally stressed the importance of grasping art, and these days this 'art first' ethos is being refined, particularly in terms of understanding the relationship to technology and manifestations of interaction," he continues.

According to Humalisto, VÄS is a community that takes its strength from the divergent backgrounds and skills of individuals: "The programme facilitates artistic thinking and deepening one's artist identity as well as individual specialisation above and beyond the study of fundamental skills."

For his part, Kimmo Karjunen (October 18, 2016) lists the challenges in education in the field and notes that lighting often demands a theatre's most expensive systems – in terms of both space and technology. Karjunen (ibid.) also notes the challenge of generally having very limited time to realise a lighting design on the stage: "The people who end up being lighting designers are the type who tolerate stress well or downright crave it. If you choke under pressure, you don't stand a chance in this field."

Karjunen (October 18, 2016) underscores the importance of process. "My personal observation is that genuinely original design only emerges through slow processes. If I settle for quick alternatives, the solutions are typical to the field: traditional, effective, sensible, and appropriate, but not actually anything more than handiwork-type problem-solving."

According to Karjunen (October 18, 2016), one of the challenges in the field originates outside the degree programme. "If there is no opportunity in the artistic teams for design work that is also done in advance, the lighting designer is condemned to using the aforementioned fast, traditional, effective, sensible

and appropriate methods, and it's not easy for any sort of new or tremendous design to develop. Those in key roles with regard to cooperation here are the lighting designer's closest colleagues: the director, the choreographer, and the scenographer."

Karjunen (October 18, 2016) also raises the issue of collaboration: as an approach, *devising* demands the lighting designer participate in the group process actively and in the flesh. "Traditional preliminary design work where we communicate primarily through images and sketches won't take you very far in that method. For lighting to have some place in the work being created, it needs to be executed during the rehearsal situation. You have to bring in the technology earlier and earlier. You have to be able to test out alternative technologies if you're going to work this way. And that demands a healthy amount of resources."

According to university lecturer, scenographer, and researcher Laura Gröndahl (2014, 79), scenographers and costume and lighting designers have reinforced their own identity over recent decades by setting a goal of egalitarian team work that gives everyone's views equal consideration: "In this model, supreme power shifts away from the director, but the underlying assumption is still one of a harmoniously functioning artistic group, one whose members freely execute their own visions....As the artistic team grows, you have to negotiate your designs with increasing numbers of people. And so all the practitioners involved are forced to constantly articulate their thinking for their colleagues, who are interpreting and adapting ideas the whole time in new ways. It feels as if this new approach is also shifting the scenographer's conception of where her design work takes place: designs are increasingly existing in these shared conversations or rehearsal situations, not at one's desk."

On the contemporaneity of the education

The field, its instruction, and the tools used in it are perpetually developing. At the 2008 opening to the *Valovuosi* (Light Year) exhibition at the Theatre Museum Finland, Markku Uimonen (2008) stated: "The use of light in art still depends on human variables, like vision, skill, taste, aim, morality, motivation, culture, education, and attitude. But the tools by which that vision is executed have changed as dramatically as they did at the beginning of the previous century, when electric light was introduced, only this time it's over a much briefer period. And, as in IT, the development is following a steep exponential curve."

According to Uimonen (Kilpeläinen 2011a), education has grown more multifaceted and complex every year. "Joint studies with, for instance, directors,

scenographers, and choreographers play an important role. It also seems collaboration, which is more critical to the theatre arts than sustaining the ancient spirit of *Gesamtkunstwerk*, is being realised at the university of the arts in a very nice way."

According to Uimonen (Kilpeläinen 2011a), about half of the lighting design students also act as scenographers. "The majority of thesis projects include elements of scenography and video design as well as lighting design. Correspondingly, a lot of young scenographers view light as a key element in terms of content and spatiality that needs to included in a work's overall design from the start. Academic and artistic freedom influence the contents of the schooling in many ways; there is not one specific, exact designer profile into which we are training gifted young people."

In 2011, at an alumni club event jointly arranged by VÄS and the Theatre Academy alumni association, current and future VÄS community members came together to celebrate the programme's 25-year journey and discuss the theme "Still-Changing Scenography." Panelist Laura Gröndahl (Kilpeläinen 2011b), who at the time was scenography lecturer at Aalto University, characterised scenography as the construction of a staged situation and suggested that slicing it up according to means or method seems crazy: "The professions of scenographer and lighting designer are clearly melding. I think it's critical that students be trained and educated in both at the same time, that the design tools be the same, that the language be the same. Understanding needs to be shared during education and the design process as well."

Aside from taking on challenges involving scenography and overall visual design, the roles of convener and independent performing artist are open and familiar to many lighting design students these days. Membership in an artistic team when working on a contemporary performance does not necessarily mean being responsible only for the element taught in your degree programme.

The changing roles and collaborative working methods that spark so much discussion today are a challenge not only for students and practitioners of lighting design. Tomi Humalisto (2012, 285) writes: "The ability and the motivation to think across and beyond earlier boundaries is essential to creative professions. Accelerated movement in the forms and aims of contemporary performances poses clear challenges for all members of the artistic team."

Liisa Ikonen (April 7, 2017), scenographer and professor of design for the performing arts at the School of Arts, Design and Architecture of the Aalto University Department of Film, Television and Scenography, says the Theatre

Academy degree programme in lighting design emerges as a multifaceted platform offering various opportunities for specialisation: “For years now I have been under the impression that the graduates of the lighting and sound design degree programmes possess strong technical and artistic competence and are able to function in a variety of work and technological environments, with a variety of types of works and artistic teams, and on top of this, in a variety of roles. In other words, they have a strong, well-rounded identity as an artist that makes it possible to shift from one role to another, and at the same time they have mastery of a technology-based expressive medium that practitioners in other fields can’t just step into.” According to Ikonen (ibid.), the VÄS degree programme actively follows both technological developments and breakthroughs in the field, both of which are taken into account in the instruction, and for that and other reasons the field of potential employment for graduates is constantly expanding.

What is the position of the degree programme in lighting design within the Theatre Academy? We have come a long way since the “house lights on” aesthetics of the 1980s and having to defend our right to exist. Over the years, the early collaboration with the academy’s Swedish-language acting programme and the dance programme has broadened to permeate the entire institution.

Among the things Markku Uimonen (Kilpeläinen 2011a) considered important during his tenure as professor was encouraging and realizing a spirit of ensemble as well as questioning and challenging out-dated attitudes and structures. Indeed, Tomi Humalisto (October 10, 2016) points out that the degree programme in lighting design at the University of Arts Helsinki Theatre Academy has been recognised as a unique education in its artistic field, and its students are highly sought-out team members in joint productions and courses. According to Humalisto (ibid.), the students’ competence in terms of artistry and content is acknowledged, and they are not seen as merely technical resources. “Lighting design students are viewed as individuals who know how to think and offer artistic solutions, not as people simply interested in lamps and electricity outlets.”

The Theatre Academy’s dean Maarit Ruikka and choreographer Ari Tenhula, who served as vice-dean 2014–2018 (April 11, 2017), note that the move from Tampere to Helsinki organically integrated VÄS instruction with that of the other Theatre Academy degree programmes, an integration reinforced by the latest degree requirements in the lighting design bachelors and masters programmes, which are in force 2015–2020. The degree programme has also been committed to participating in the organising, developing and updating of annual academy-wide instruction.

As one of the latest manifestations of this cooperation, Ruikka and Tenhula (April 11, 2017) mention the English-language pilot curriculum in digital visual design, DiViDe, which was designed and realised together with the Aalto University major in design for the performing arts to develop the digital learning environment and image design. They (ibid.) also mention "Interaction in Performance Design," a joint development project of the degree programmes in lighting and sound design that explores the impact of the new technological phenomena emerging in our time on artistic content and the contents and learning environment of arts education. Ruikka and Tenhula (ibid.) view new initiatives in lighting and sound art, for instance in conjunction with the Lux Helsinki light festival, as enriching as well.

"The VÄS 30th anniversary party at Suvilahti bore witness to the importance of university-level education in Finland and our being pioneers in the international context. The role of professionals in light and sound has shifted from executor of technical work to that of artist and equal member of the artistic team," Ruikka and Tenhula (April 11, 2017) note. Nearly a hundred lighting and sound designers have earned masters degrees in the theatre arts from VÄS degree programmes to date (University of Arts Helsinki, 2017a). Dramaturge-director Jukka-Pekka Hotinen (2002, 349) writes: "...furthermore, individuals who have received a similar education – for instance, lighting designers – can diverge distinctly from each other in terms of professional identity, profile, and work history, so much so that it's hard to think of them as practitioners of the same craft."

Jokes about the lighting design programme over the years have involved pulling sleds loaded down with rocks, homesteading, and berets and scarves. In his dissertation, Tomi Humalisto (2012, 81–83) writes about "the attitude problem in lighting design when it comes to developing an identity" and "the ethos of the downtrodden." He is referring to, among other things, "Valo- ja äänisuunnittelija (The Lighting and Sound Designer)," a study conducted by Elisa Joro (1998, 119–124), in which she and Juha-Pekka Hotinen examine the artistic status of lighting and sound designers through conversation. Reinforcing artistic identity and the creation of VÄS came hand in hand; another goal in the founding of the degree programme was to increase respect for the field in terms of socioeconomic status. The discussion of these important aims also exposed a flaw: "In a way, the degree programme failed at the level of psychological motivation by laying a sense of inferiority as the base for raising esteem. What we were trying to achieve through this foundation was having lighting and sound designers who earn degrees in the field consider themselves at least as good an artist as any

The Digital Visual Design – Advanced Intermediality in Performance (DiViDe) study module planned and realised in collaboration with the Aalto University major in design for the performing arts focuses on digital visual design in performance by examining the theory, methodology, and practice of the field. DiViDe piloted in 2016 and was arranged again during spring term 2018, this time with an emphasis on virtual reality. During the course Performing Arts and Media, students explored the interaction between performer and the projected image being controlled. Photos: Niklas Nybom.

The academy-wide course The Big Stage, which delves into working with the scale of and practices on a large stage, has been offered in alternating years since 2005. The course is organised on a rotating schedule with the Helsinki City Theatre, Lahti City Theatre, Tampere Workers' Theatre, and Finnish National Opera. In the photo, course participants gather on the main stage at the Finnish National Opera, spring 2017. Photo: Kimmo Karjunen.

A photo from The Big Stage course review, spring 2017. The lighting designer in this team assignment for the main stage of the Finnish National Opera was masters student Essi Santala. Photo: Kimmo Karjunen

The lighting designer for this The Big Stage course review demo in spring 2017 on the main stage at the National Opera was masters student Alexander Salvesen. Photos: Kimmo Karjunen.

Students of lighting design Riikka Karjalainen and Alexander Salvesen participated in the programme of the 2014 Lux Helsinki festival with a mobile work of light art, *Lux Ratikka* (Lux Tram). Photo: Alexander Salvesen.

Realised at Suvilahti as part of the 30th anniversary of the VÄS degree programme, the children's lighting workshop *Marsut ja Mummo* (Grandma and the Guinea Pigs) was led by lighting design masters students Essi Santala (left) and Riikka Karjalainen. Photo: Theatre Academy / Petri Tuohimaa.

The artistic part of masters student Luca Sirviö's thesis project was the lighting design for the Theatre Academy performance *Celeste*, 2017. Photo: Alisa Javits.

The artistic part of masters student Anniina Veijalainen's thesis project was the lighting design for the performance *Rakastaja* (The Lover) at the Theatre Academy, 2013. Photo: Kastehelmi Korpijaakko.

The artistic part of masters student Kristian Palmu's thesis project was the lighting design for the dance piece *Mass Thing* (2016), performed on the Studio stage at Media Centre Lume, Helsinki. Photo: Sanna Käsmä.

The artistic part of masters student Alexander Salvesen's thesis project, the camera obscura-inspired work *Mindscapes Landscapes* (2017), ponders the landscape and humans as part of it. During the summer of 2017, a team convened by Salvesen took the exhibition on tour of the national landscape, from Kilpisjärvi lake in the far north to the island of Suomenlinna, just south of Helsinki. This photo is from the performance in Aavasaksa, in Lapland. The piece will also be seen at PQ19 as a part of the Finnish national Fluid Stages exhibition curated and designed by KOKIMO. Photo: Alexander Salvesen.

other member of a theatre's artistic team. But the rhetoric used – 'you need to be able to stand up for yourself when dealing with directors' – created an oppositional stance in advance. The artistic identity that formed against this backdrop was very strong, but it was based on fighting to defend one's self." (Joro 1998, 123.)

Hotinen and Joro's conversation (Joro 1998, 123) also makes mention of the tacit emotional charges and attitudes within the degree programme: "If the instructors have an open attitude and you don't end up starting from a place of 'I need to chop down these prejudices and make room for myself,' chances are that things are going to be more egalitarian once you enter working life."

Now, over 20 years since the completion of this study, it is interesting to read the notes Joro recorded at the time of her conversation with Hotinen. Many things in the field have changed, but many observations made back then still hold. The importance of interaction, joint courses, and finding collaborators during one's student years remain key elements of the degree programme. The field continues to move slowly, but if trust exists and cross-disciplinary understanding is fostered and takes root, development can be fast. The conversation (Joro 1998, 124) ends with a question that is still timely for both students and professionals: "How can I build an identity as an artist that is strong yet sensitive to its environment?"

Advances have taken place in the professional identity of lighting designers. Humalisto (2012, 82) writes: "Experiences of ending up on weak footing appear to be exaggerated when we look at status lighting design has in the Finnish performing arts."

Internationality and insights

Every year, VÄS students go on exchange programmes around the world. Participating in the student exchange and the international practicum, which was long required as part of one's degree studies, have provided important perspective for students throughout the years. The lighting design programme intermittently hosts exchange students in Finland as well, often from, for example, the Czech Republic or the Hong Kong Academy for Performing Arts, with whom the degree programme has had a collaborative relationship for years.

VÄS has always enjoyed a good reputation internationally. Markku Uimonen (Kilpeläinen 2011a) has characterised the degree programme as the most multifaceted, best resourced, and – for a long time – only masters-level degree programme in the field in Europe.

According to Tomi Humalisto (October 10, 2016), the education in lighting design offered in Finland at the Theatre Academy has a national mission to fulfil, preparing the future authors of performances for the field in Finland, yet lighting design also offers the opportunity to cross boundaries and cultural zones. In his view (ibid.), programme graduates seem to work internationally at least on occasion, but a few have found more permanent places to engage in the field abroad.

"It's to our advantage that people are interested in us. Surprisingly, the artistic focus of our degree programme is still a factor that sets us apart positively from many of the schools abroad that teach lighting design. Besides, there aren't many programmes abroad that offers a masters-level education in the field."

Like Uimonen (Kilpeläinen 2011a), Humalisto (October 10, 2016) also mentions the degree programme's foreign practicum, which is now optional and has traditionally offered students an important opportunity to gain an understanding of cultural differences and similarities; working in another culture develops a student's self-awareness and artistic identity. Humalisto (ibid.) remembers his own exchange experience thus: "For me, my year abroad in Belgium 1999–2000 was an important experience that helped me get some distance from Finnish culture and my usual ways of working in a familiar environment. I saw a huge number of performances I could not have seen in Finland, and working under different conditions opened my eyes to value of many Finnish work environments.

And then conversely, it was healthy to notice some backwards traits in the Finnish cultural field." Karjunen (October 18, 2016) also experienced his studies abroad as meaningful. "I gained my most professional competence and confidence in the power of preliminary design during my internship in Birmingham and as an exchange student in London."

According to Humalisto (October 10, 2016), one of the challenges in operating internationally is reciprocity of hosting and the communication entailed. "The issue of language does not only impact the student who is headed abroad. When a degree programme that is designated a Finnish-language programme tries to fulfil its obligation in terms of reciprocity and bring in a foreign exchange student, arranging English-language instruction is a challenge. Switching languages impacts the work of both lecturers and degree-earners, at least to some degree."

I myself began my studies at VÄS in 2000; they were preceded by studies at the Department of Humanities at the University of Tampere, with a major in theatre and drama studies. There were eight students in our VÄS cohort – four in sound design and four in lighting design – half of whom were women. Seven out of those eight students earned a masters degree in theatre arts, and today

at least 60 per cent of the cohort is working as a designer in the performing arts. About half of the members of my cohort have multiple university degrees.

Along with numerous other VÄS students, I earned my masters degree just before the degree requirements changed, in the spring of 2008. I also studied scenography at the masters level at the University of Art and Design Helsinki, 2005–2009. The combining of these two professions, practicing them in parallel and alternately is routine for me and harks back to my student years at VÄS: to the strong model I adopted that encouraged overall visual design for performances. Many of my colleagues who studied with me have also ended up blending the roles of scenographer and lighting designer or in other multi-profession roles in the arts.

I am grateful to my VÄS education for my strong hands-on skills and its varied course offering, for the fact that I have been able to familiarise myself with light and opportunities for its use in frozen snowfields, at the easel, and on stages of every description, with both analogue and digital tools. As I look back on my student times, I see as times of critical insights not only the design work I did during my international internship, but also the assisting I did in large institutional theatres and my internship in Finland. Perhaps it was ultimately due to them that I dared at a young age to step into paying work in a field that appeared endlessly fascinating.

The instruction offered during my time as a student encouraged me to gain mastery of a broad palette of skills and never limit myself when trying out genres. The early years were marked by the tenacious practice required to master my own instrument and sometimes-audacious experiments in scale of design. You had to know the medium, the language and the code used in the field. The role didn't always feel like a natural fit, but I bulldozed my way into the field through persistence. The contact I had with contemporary dance, installation and light art intended for concrete performances and exhibitions was important as a student, as was being introduced to performance. In addition to overall scenographic challenges, versatility as a practitioner of various styles and genres in the performing arts has remained a factor in finding employment in the field. After studying both lighting design and scenography and trying out different working cultures and positions, I felt it necessary to build a group with reliable, designer-identified colleagues. The Art Collective KOKIMO was founded in 2010 and is still going strong. The work is based on collective creation, collective authorship, site-sensitivity, and multisensoriness. KOKIMO is currently curating and designing the Finnish exhibition, *Fluid Stages*, for PQ19.

At the very beginning, I dreamed of being a dramaturge. I feel dramaturgy is one of my most important instruments; it brings together professions and genres from various performing arts. I have also freed myself to believe that VÄS-based masters studies in theatre arts have provided me with the competence to, if I desire, serve in dramaturgic or scriptwriting roles, as well as more broadly as artist, author, and designer of a performance.

Current students probably take for granted that they are artists, performing artists, and designers of the performance. Perhaps they are getting more and more specialised. One of the reasons is less time to complete the degree and a more limited course offering. On the other hand, the programme is better able to support art-oriented studies in the field these days, and students receive greater amounts of individual pedagogical guidance.

At the moment, in addition to my work as an artist, I have worked for almost a decades as an hourly lecturer in both the lighting design and sound design degree programmes. As part of this work, I have been able to participate in the development of the degree programme and its requirements, the entrance exam process, and completed the training in university-level pedagogy designed for instructors at the University of the Arts Helsinki. It has been fascinating to support my students' growth as a lecturer, to be one link in the chain of higher education in lighting design. Lecturing, supervising, and working with students is incredibly instructive.

The most visible change in the VÄS programme is its location. I think being in Helsinki reinforces the students' sense of community within the Theatre Academy and makes the degree programmes and the fields more visible within the University of Arts Helsinki as a whole. In general, I have to say that the current students in lighting and sound design are confident, aware, thinking individuals who are not only interested in mastering, following and developing their field, but in themes of equality, non-discrimination, and well-being within their community.

What recent graduates have to say

What does a current-day lighting design student who is about to graduate think of the field and the course of study? What does the future look like? I interviewed two masters students in lighting design to find out.

Lighting designer Riikka Karjalainen began her studies at the Theatre Academy in the autumn of 2012 and earned her masters in theatre arts in the spring of 2018. When I ask Karjalainen about the most important thing she's

gotten out of her education, she (October 25, 2016) mentions the discovery of her own artistic identity and the sense of community: "It's important that I can feel confidence in myself as an artist in my own right, not always or only as a member of an artistic team that's been called together. It's also important that I have had time and the opportunity to develop my own angle on lighting design. I know my strengths. I value the programme's respect for polyphony – there are multiple ways and paths. And the community, the entire Theatre Academy, is important of course."

When asked to name the most challenging aspect of the field and her work, Karjalainen says uncertainty. She also finds the pressure to network challenging, while the fragmentary nature of the job demands both tolerance and energy.

Karjalainen also raises a tricky subject: she is disappointed that the programme skirts questions of values, ethics, and society. According to her (January 3, 2017), for instance the gender split in the field and its potential impacts on one's student experience and working life, as well as on the ways of talking and working that form in the environment, received almost no attention.[6] In her view, simply discussing the topic would increase awareness. Also a conversation about the values inherent in a work of art and understanding the current feminist frame of reference are challenges where Karjalainen sees room for development within the degree programme and the VÄS environment in general.

I find Karjalainen's remarks easy to second. Lighting design is a predominantly male field and, at least in some operating cultures, involves gender segregation. This is a topic that deserves looking into.

Lighting designer Eero Erkamo (April 4, 2017) says that because lighting design is a small field, some people might find discussing the gender divide awkward: "...during our schooling, we almost never talked about those kinds of issues in our lighting design courses, even though a glance at the statistics showing the gender split among salaried employees in the field might suggest it would be a good idea." During his personal path of study, Erkamo encountered lectures and discussions of gender sensitivity and feminist reference frames in theatre more broadly, but nothing related specifically to the field of lighting design. Erkamo emphasises the wide range of attitudes in the field: issues of equality, the gender

6 According to the Trade Union for Theatre and Media Finland membership register, about 24 per cent of the members of Lighting, Sound and Video Designers in Finland were women at the beginning of 2017.

split, ways of talking, and professional identity vary greatly across different operating cultures and environments – even within the Theatre Academy.

Eero Erkamo earned his masters degree in spring 2018 after beginning his studies at the Theatre Academy in autumn 2011. According to him (October 25, 2016), prospects for work are good if one is prepared to expand one's field beyond the performing arts and Finland's borders. Erkamo characterises the strengths of the degree programme as its emphasis on visual dramaturgy, when compared to other professions involving light, such as those lighting designers who are trained at architecture programmes at arts universities abroad. "For me personally, it looks like I will be working with theatre, dance, and fixed installations. I don't think many of us will be able to survive long on project grants, especially when the trend in public funding seems to be headed in an unfortunate direction. On the other hand, if for instance, light art starts being commissioned as, say, the required artistic element of major construction projects, that could offer new opportunities for those with VÄS degrees."

According to Erkamo (October 25, 2016), part of the problem is the lack of development of the structure of the field as a whole. "This can be seen in, among other things, the low number of salaried positions, which according to my understanding, is in part because the role of lighting designer was not integrated into institutional theatres on a broad scale before the last recession, when the structure of the theatre field was more or less fixed. Plus, structures in the field in general are very slow to change. I'm talking more about design now – as a freelance light artist, the situation is more comparable to visual arts."

According to Erkamo (October 25, 2016), lighting designers themselves should continue to develop the structure of the field without waiting for anyone's permission or prompting: "This means forming various connections with related areas of art and other creative fields: companies, cooperatives, plus presumably new operating modes we're not even aware of yet."

As the most important thing he got from his education, Erkamo (ibid.) names a liberated, probing mind and grasp of art combined with concrete execution and design skills, with the result being a "poet and pragmatist rolled up into one."

The fragmented employment opportunities and process-driven nature of the work is a reality a student supporting himself through school gets used to. As a challenge for freelancers, Erkamo (October 25, 2016) names in particular scheduling, which at its worst can cause a sense of inadequacy and distressing haste. According to Erkamo, the programme should also consider teaching financial-administrative information useful to freelancers.

The artistic part of Riikka Karjalainen's thesis project for her masters degree in the theatre arts, *Henkiolento* (Spirit Creature, 2016) on stage. Photo: Ville Kabrell.

The artistic part of Eero Erkamo's thesis project for his masters in theatre arts was the lighting design for the play *Momo*, a coproduction by the Theatre Academy and Aalto University performed at Maneesi hall at Suvilahti, Helsinki, autumn 2016. Photo: Eero Erkamo.

The changing field of the performing arts is also seen in the students' reality, and Erkamo (October 25, 2016) characterises it thus: "About five years ago, when I started studying at VÄS, it felt like during joint courses with the other programmes at the academy we were being trained to work in institutional theatres, which is a shrinking field. Then at other times it felt like we were being trained to freelance, where things aren't so great at the moment. The courses that have been most important for me have been the ones where I could be with light aesthetically and instrumentally without any rush. It's also important to be able to grasp both the technical and human systems and know how to design and organise them."

Challenges in the field

A few more words about challenges and difficulties in the field. Although in the arts it's possible to expand your role in many ways, and artists can be creative in approaches to earning a living, some designers have dreams of a permanent job as a lighting designer. Unfortunately, there continue to be very few permanent positions for lighting designers who focus on artistic work in Finnish theatre. Due to cost cutting, the job market will continue to narrow in terms of project-based theatre commissions as well. Many self-employed designers battle exhaustion and burnout due to the perpetually short-term nature of the work, organizing sufficient working conditions and resources, or the lack of respect for work in the arts. There is competition over the scant employment opportunities, and there doesn't seem to be enough full-time work for everyone. Jobs are handed out to a large extent on personal relationships without public application processes, and nepotism also exists. The field and its networks are male.

In some productions, lighting design and the lighting designer are still seen as an extraneous expense. Since the field is not that familiar and people are not interested in familiarizing themselves with light, its design for performance, or vocabulary, talking about light and the designer's work can take the form of stereotypical simplification. The risk here is that the lighting design work itself remains the realisation of commonly executed conventions. At worst, the lighting designer is viewed as a merely technical executor whose dramaturgic-visual-artistic thinking is of no interest to anyone.

There is little public debate in the field in Finland, and designers rarely receive public feedback about their work. Few journalists write analytically about the visual aspect of works, for instance in performance reviews. It is by no means

a given in our country that the lighting design or its creator is mentioned in a theatre review or a critique.

In Finland, the interests of lighting designers are represented by Lighting, Sound and Video Designers in Finland (SVÄV). As a professional and labour organisation, its mission is to monitor and promote the compensation, professional, social, and cultural-political interests as well as professional competence of its members: lighting, sound, and video designers. Previously known as the Union of Lighting and Sound Designers in Finland (SVÄL), the organisation was founded in 1992 and is a member organisation of the Trade Union for Theatre and Media Finland, Finland's largest union in the arts and culture. (SVÄV 2016.) A new association has also been founded in the field of light art: the Finnish Light Art Society, or FLASH.[7] Its mission (FLASH 2017) is to, through its activities, develop education, exhibitions, and other events in the field of light art as well as to communicate about them.

In conclusion

References to the diversity of professional roles in the field and making use of its collective expertise have been visible and readable at the Theatre Academy's lighting design degree programme over the years. In the *VÄS-opus*, published by VÄS in 1989, the department head at the time, the deceased lighting designer Simo Leinonen, wrote: "The degree programme is an opportunity to train well-rounded theatre professionals who, in addition to operating with light and sound during their time as students, become familiar with the entire scale of work in the theatre and who, if they want, might even be able to switch mediums and work as a scenographer, costume designer, dramaturge, or director. The intention is to educate professionals who understand theatre more broadly than through their personal professional role alone."

Markku Uimonen notes in an interview-based article (Heinonen 2007, 187–188): "We can consider what a talented, educated person will do if his skills remain unexploited. From an artistic perspective, you wouldn't think anyone would have anything against making use of a combined scenographer–lighting designer–costume designer to design an entire production; it's no longer a rarity these days for responsibility for the overall visual design of the piece as a whole

7 The Finnish Light Art Society FLASH was founded January 7, 2017 during a meeting held at the Cable Factory, Helsinki, in conjunction with Lux Helsinki.

to be borne by the lighting designer – issues of space are structured in relation to light in a key way."

Uimonen (Heinonen 2007, 187–188) continues: "A new aesthetics and thinking will emerge through designing together and trusting in each others' competence; what we need now is associative explorations and all manner of 'nosing about.' It's the era of the new ensemble ..."

In his dissertation, (2012) Tomi Humalisto explores the question of doing things differently in lighting design within the context of the performing arts. In his conclusion, he (2012, 284) writes: "The perspective of a changing role in the field reveals that *lighting design is not merely visual output, but that expectations and roles within the team have an impact on it*. This being the case, it is natural to assume that factors involved in a specific culture of doing things also have an impact on the artistic end result." According to Humalisto (ibid.), expanded and parallel job descriptions open up more room to move in lighting design, which also has an impact on the visual and spatial-temporal end result of the performance.

Breadth, expanding professional roles, overall visual design, nosing about, doing differently – all of this has been realised, all of it is our present reality. Where will lighting design and higher education in the field turn next? What are the values of the degree programme, and are they shared by the entire VÄS community? What could be developed if we reflected on them?

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Raisa Kilpeläinen (1979) is a Finnish lighting designer, scenographer, and artist. Kilpeläinen has earned MA degrees in scenography (University of Art and Design Helsinki, 2009), lighting design (Theatre Academy Helsinki, 2008), and theatre and drama research (Tampere University, 2019). Alongside her freelance artistic work, she teaches at the Theatre Academy of the University of the Arts Helsinki.

Kilpeläinen is also a writer, editor, and curator. She creates her own cross-disciplinary pieces and participates in various collaborative projects, including the art collective KOKIMO (2010–), of which she is a founding member.

As an artist, Kilpeläinen has a specific focus on dramaturgy, light, space, site-sensitivity, realities, perceptions, and the stage. Her work has been exhibited and performed in Finland and internationally.

Kilpeläinen is a board member of the Finnish OISTAT Centre and the Finnish Light Art Society (FLASH). She chaired the board of Lighting, Sound and Video Designers in Finland (SVÄV), 2015–2019.

Memories and sensations – the union of light and freedom

KAISA KORHONEN

The editors of *360 Degrees* asked me to write about my experiences using lighting in the works I've directed over the course of my 50-plus-year career. I accepted the challenge, because the importance of lighting in theatre performances is fascinatingly multi-layered. My aperture onto lighting the performing arts is a leap through time. I'll return to the background and starting blocks of my own career in theatre and follow my journey, pluck moments from along the way where my observations, experiences, and shock have left an imprint.

By the vagaries of chance, I ended up being involved the day when the newly founded Department of Lighting and Sound Design (Valo- ja äänisuunnittelun laitos, VÄS) of the Theatre Academy of Finland was settling into Tampere. Over the period 1984–1989, I worked as a professor at the University of Tampere Degree programme in Theatre Arts for actors, with my office in the Tampere Workers' Theatre. One day a moving load appeared next door. The Theatre Academy's Department of Lighting and Sound Design was moving in, and they were in a terrible hurry, as the directors of the Theatre Academy were coming from Helsinki to inspect their progress. Suddenly they remembered the directors had also hoped for a presentation of the teaching methods to be used in the new majors – and none of the department's future instructors were present. Panic started to spread. I was called in as emergency assistance. Could I come up with some assignment for the students who had just been accepted and who were helping with the move? I knew how the founding of the new, "suspiciously technical" department had ruffled feathers and roused opposition at the Theatre Academy. My protective instincts were roused and I leapt into action. With the students, we quickly set up an exhibition where they threw together a scale model, floor plan, or incomplete draft on the theme of, as I recall, "A space I want to light." I didn't have time to give a sound assignment, so those students hid or made sure they looked like they were incredibly busy with the move. As

the directors peered at the uneven results, the students maintained their poker faces. Good! This event formed a close bond between me and those working in lighting and sound design.

In the section of this article titled ”Acknowledgements,” I describe collaboration with nine Finnish lighting designers over the years 1965–2013. I always learned something from working with them: made discoveries, was astonished, found inspiration, got help, grew stronger, experienced collegiality. In theatre, lighting is like the period at the end of the sentence.

The Forgotten Horizon

When I started to lean towards and follow theatre in high school, lighting was used in performances exclusively as a medium for communicating time: the passage of time, the time of day, and the time of year were expressed through light. Lighting had a banal, trivial function.

It was a long way from what I later experienced in the works of choreographer Jorma Uotinen, what Pirjo Bergström’s music and Claude Naville’s lighting did with the choreography in *Unohdettu horisontti* (Forgotten Horizon, 1980) or *Unisono* (1982). Those were an awakening. Light was a material; it sculpted bodies and space.

Frustration

In the early 1960s, I studied set design at the University of Art and Design. We received no instruction in the history of scenography; instead, during class time in our major we were shuttled off to the workshops at the National Theatre to watch sets being painted. And this was no master-apprentice model, mind you; we never got a chance to try our hand at the painting ourselves. The backdrops were skilfully done. To us young people, who had watched movies since childhood, they appeared dead, old-fashioned. It was embarrassing, and we couldn’t say so out loud. The set designer was presented to us as a craftsperson. My course mates’ interest in theatre evaporated. We had applied to a school of the arts.

Shock

I travelled to Berlin for the first time with my schoolmate and friend Max Rand. It had only been a year since the building of the Berlin Wall, and the traces of war were everywhere. The best and most prestigious theatres, above all the Berliner Ensemble founded by Bertolt Brecht, were in East Berlin. We saw numerous visually stunning performances by the Ensemble. They featured the

imagination-stimulating magic of the empty stage and refined use of objects. Lighting also had its place in Brecht's thinking. During the performances, texts and drawings were projected onto various curtains and backdrops. These texts were related to the dramaturgy – often they reinforced the core thought of the performance. The projected drawings were watercolour-like backdrop frescoes or delicately tinted, impressionistic freehand paintings. What joy for the eyes! They reminded me of old Japanese art. Brecht was bowing to ancient culture with the newest of technologies. I was surprised and enchanted.

During my student years, I visited Berlin regularly, sometimes even twice a year. By boat to Stockholm, train to Malmö, ferry to Germany, train through West Germany to Berlin, and from there through the security check to East Berlin. Dozens of students from around the world were standing in the ensemble's ticket line, craning their necks to see if they would make it into the sold-out house. The kind usher found a spot for everyone, and a couple of minutes before the performance began escorted each of us to our seats. We were treated with respect, even though we were young! The actors' straightforward relationship to the audience in particular made an impression on me: the restrained, unheightened approach to the text. The actors genuinely encountered the audience, communicated as individuals with and through the spectators. They were bare, exposed, role-less in their roles.

Max was a cultured, educated, multilingual cosmopolitan by the time he was in high school. He had become a Brecht expert and translated Brecht's work *Schriften zum Theater: Über eine nicht-aristotelische Dramatik* (1965) into Finnish. I was privileged to act as a reader of the translation, but the reader is supposed to understand the text! As I gained experience, I gained a better grasp of Brecht's thinking. It sparked a certain awakening in me: like other art, theatre is socially conscious activity:

> The person who wants to battle lies and ignorance in our time and write the truth has at least five challenges to overcome. He must possess the courage to write the truth when it is being trampled everywhere, the wisdom to acknowledge it despite its being hidden everywhere, the skill to hone it into a usable weapon, the ability to select those whose in hands it will prove effective, and the ingenuity needed to disseminate it to those people. (Brecht 1965, 29.)

In one performance by the Berliner Ensemble in the late 1960s, it was as if someone brained me with a log; a classic drama was performed without dimming the auditorium lights. Banalisation of this sort was beyond my imagining. Sacrilege! Impossible in Finland, I thought. But it didn't take me long to recover from the shock and understand this use of lighting as the most deliberate of strategies. Maxim Gorky's three-hour anti-war drama *Mother* (1907) is tragic to the core. According to Brecht's ideology of the theatre, the spectator cannot sink into her feelings; the task of the theatre is to rouse the audience member from her slumber. She needs to use her intelligence and ask: why did this happen?

I hereby proclaim myself a Brechtian. I have previously denied it on many occasions, when others tried to use the definition to suppress or side-line me. I prefer to define myself.

My student theatre days

Applying to the Ylioppilasteatteri student theatre (YT) saved me from being frustrated with and disappointed in theatre. I found soul-mates there, including Kalle Holmberg, who became a forever friend and a role model – a leading director of my generation. At the YT, I found worthwhile things to do: I served as the secretary of the board, acted, and even set designed a couple of performances. We were as poor as a church mouse; there were some old stage lights in our performance space, but only the hardiest of the men in our community dared use them, those who understood something about electricity. So much for artistic lighting. The contents and intensity of the performance and the interaction among the performers were the most important things.

Because I was so fired up, I had the gumption to start writing theatre reviews for the student newspaper *Ylioppilaslehti* as a twenty-year-old novice – after having attended a brief course on reporting on culture and the arts organised by the paper. I wanted to be involved in theatre from every angle possible. I wanted to present clever opinions, criticise, and make a name for myself.

The YT made a name for itself in the 1960s. We began the societal-critical series *Orvokki-kabareet* (Violet Cabarets), which consisted of sketches and songs. Politics were heartily embraced. Yle, The Finnish Broadcasting Company, grew interested in our project and broadcast these cabaret evenings live. Finland's political song movement might have gotten its start – or at least a boost – from this cabaret. The Vietnam War was dragging on and seemed like it would never end. Opposition to the war was a massive global political movement. Once you heard the *Vietnam* songs (Matti Rossi / Kaj Chydenius) performed by Kalle Holmberg

during the cabaret, you never forgot them; they wormed their way into your soul. When the cabaret's stage performances came to an end, the material was turned into a televised version. What a fuss! The conservatives let just about everything rile them up, and the letters to the editor were full of outrage. For instance, it was horrible that, I, a pastor's daughter, sang a song criticizing hypocrisy.

By this time, performances had already emerged from the dimly lit theatres and traditional stages onto the streets and other spaces. I participated in happenings at Lilla Teatern and the YT. Markku Lahtela's 1963 text collage *Kevätsadetta – moraliteetti kuolemasta kasalle näyttelijöitä* (Spring rain – on the morality of death for a bunch of actors) was an inspiring collective experience for me. In the spring of 1964, I walked from floor to floor of the student union building with the gang from YT, carrying lit candles, singing countless repetitions of: "Bless the beginning, bless the end, bless the middle." This was Otto Donner and Markku Lahtela's performance happening *Suunnitelma tapahtumiksi* (A plan for events). Although it was fun, it was more than a game; I experienced something sacred. For me, the living light was associated with respect and longing.

Then in 1970, Kalle Holmberg took Schiller's *The Robbers* (1781) to a bunker, a bomb shelter below the Helsinki City Theatre. At the time, the lighting designer Jukka Kuuranne was working for the City Theatre and lit the raised, cross-shaped stage by fixing countless spots to its edges, aiming them directly at the dark, rugged rock ceiling. I remember seeing the actors' faces only intermittently; the shadows were as alive as any actor's body. Faithful to the title of the work, this lighting solution made the danger visible in an ingenious way.

I directed my first play at the YT in 1965: Brecht's *A Respectable Wedding*. Not long after opening night I was selected as the theatre's artistic director. The same year, my direction of the Brecht work won an award at the international student theatre festival in Nancy, France, and was performed in Paris. I was gobsmacked, but symbolically I had achieved my goal. At the next festival in Nancy, YT won the Grand Prix with Marja-Leena Mikkola's play *Laulu tuhannesta yksiöstä* (A Song about a Thousand Studio Apartments, 1965) as directed by Eija-Elina Bergholm. On an emotional level, my stint at the YT came to an end at the theatre's 40th anniversary performance, *Lapualaisooppera* (The Lapua Opera), in 1966.

A young woman director in the hierarchy

In the Finnish theatre of the 1960s, yellow lighting was what was inevitably offered on any stage on which I was given the opportunity to direct or learn to direct. Decades later, I heard the demand for yellow lighting originated with the

grand divas of old: a soft yellow light made the face of even a seasoned actress glow. For costume designers, the yellow light was a perpetual headache: yellow washes out all colour and what you end up with is a dirty garment, nothing more. Luckily nowadays designers know how to target yellow lighting and use it in moderation.

In those days, it wasn't easy to establish a natural connection with lighting professionals. I directed in a relatively large theatre, and the lighting was set up a couple of days before opening night: at night and all night long. The job title of the head lighting technician was "lighting master." I knew nothing about lighting equipment, nor was there really any desire on the other side to understand the information I provided. It was exhausting building the lights for a work I was directing when the person I was working with refused to communicate with me. I had a similar experience at another theatre. I tried to understand this communication block and think I found some reasons for it. In the first place, a young woman director telling an older man what to do was an intolerable position for many men at the time. We got past this when I realised that the reason for the difficult communication was not in either party, but in the hierarchy of the theatre, which preferred men. My status was supposedly higher than that of the lighting master.

A time of change

The atmosphere of performances had begun to change in Europe in the 1950s, when I was just dreaming of theatre, and this was the case in Finland, too. I diligently followed everything related to theatre and I saw theatre people were traveling around the world. There was a lot of communication with Central European countries in particular; a support system had even been created for interaction. In addition, there was an International Theatre Institute (ITI) centre in all of Europe's capital cities. The mission of the ITI was to build bridges between the theatre communities of different countries and provide assistance to visiting colleagues. The individual traveling simply had to inform the ITI when they were coming and contact the office upon arrival; the ITI staff reserved tickets for the most interesting performances, gave advice on the local culture, and arranged meetings with local theatre practitioners. Concrete international friendships resulted. Scenographers and costume designers met intermittently at the Prague Quadrennial, which was first arranged in 1967. The fresh influence of new contacts was evident in the repertoires and acting styles of Finnish theatres, perhaps even in lighting to some extent.

I also wanted international contacts. At the end of the 1960s, I received from the Finnish Cultural Foundation a travel grant to familiarise myself with European theatre. I didn't want to go to the obvious destinations, like Paris or London, but east, to the edge of Europe, to the countries that were psychologically distant and or even unknown to me. And so I visited Budapest, Prague, Belgrade, Bucharest, and Sofia. I did not get to know Poland on that trip – it felt too close. I understood some of the productions perfectly well through the action and generous performances, even if I didn't speak a word of the local language. In Belgrade, I fell in love with Maxim Gorky's play *Yegor Bulychov* (1931) and brought it back to Finland to direct. The imprint Eastern European theatre left on me was of the actors' alertness and the directors' manifest ambition and ability to take risks. It felt good that Europe wasn't absolutely divided, that on some level we lived in the same world after all. Prague was the lone exception in aesthetics, if an interesting one; the reputations of the black theatre and Josef Svoboda, the leading figure at Laterna Magika, had travelled all the way to Finland from Czechoslovakia. Svoboda was a versatile and unusual artist. He did everything: designed the lighting, did the scenography, directed, led the theatre. I saw a performance of his; the textual premise was one of Chekov's big four, probably *The Cherry Orchard* (1904). I left from Prague empty-handed, because my then-shaky understanding of Chekov, the symbolic scenography, and the powerful lighting effects left me in a state of perplexity. At the State Satirical Theatre in Sofia, Bulgaria, I saw an engrossing performance of the Russian poet Vladimir Mayakovsky's text *Mystery-Bouffe* (1918). It was like a circus. The endless cavalcade of mythic figures, the smoke, the characters descending from the heavens, appearing from under the earth as if by magic, the acrobatics, the colour saturation, the live music... The poster for this performance hung on the wall of my home for years as a memento to joie de vivre.

Towards a turn

A small leap backwards to a change in worldview and view of humanity. In the late 1950s and early 1960s, performances had been seen on the small stage of the Finnish National Theatre and at the Intimiteatteri theatre company that were strange, enigmatic to the point of irritation. What exactly was going on?

This new phenomenon was called the theatre of the absurd. Eugene Ionesco and Samuel Beckett saw the human condition as sick, pitiful. In their texts, the world was surreal and human behaviour appeared as absurd, nonsensical. In the

absurd, the logic of events didn't apply, nor did the law of cause and consequence. Morals had been sent out to pasture.

As a teenager, I had seen Beckett's *Endgame* (premiered in 1957) as directed by Jack Witikka at the National Theatre of Finland. The scenography was laconically simple, graphic, like a quickly sketched drawing that didn't over-explain the performance. It was Art with a capital A, aesthetically interesting. The overall impact was powerful, because the enigmatic nature of the text put the viewer's internal life to intense work. I liked being challenged through artistic methods. It was in the theatre of the absurd that I first saw lighting as a vital element of the scenography. It was an independent visual instrument, one that played its own melody. And as meaningfully integrated into the scenography, the lighting was used as an active, autonomous actor. It could reveal a character's shadow: her threat or protector.

Prior to our generation, the focus at the YT was this new literary avant-garde. We learned a new form and idiom from it, but absurd theatre had become a thin cirrus cloud. Its content no longer sufficed for us.

The KOM Theatre – the "I do myself" phase

After completing our studies, many of our generation – especially the men – were downright shanghaied into work, and because the previous generation was small due to the war, they were given prominent positions as directors or even as theatre directors. I didn't want to be anyone's lackey. Like many others, I wanted to do theatre on my own terms. It was a time of continuous turnover in positions for these men and surprisingly little work for the rest of us. We had to come up with an employer and a job for ourselves.

In 1971, a group of under ten of us founded a non-institutional theatre company, KOM theatre. The staff included a writer, a scenographer, a musician, a couple of directors (who also acted), and four to five actors. We didn't have a dedicated performance space, so we became a touring theatre, our only home base a basement office. Our ideology was to perform new, socially critical Finnish texts, take a stance on acute issues and create a theatre of the people: a theatre of "the common man."

At the beginning we had nothing: no desk, no typewriter, no phone. No car, no floodlights. But we still made do. If you have nothing, you're inventive, and if you have nothing to defend, you're free. Our costumes were sewn from our own old clothes. Assistance was also offered out of a sense of solidarity: one section from a construction union remodelled our office for us at no charge.

I leapt into a true adventure, the most peculiar and satisfying leg of my journey in theatre, a long educational trip experienced from a wanderer's perspective. I grew very familiar with Finland and Finns.

We toured workers' halls and schools and usually had two floodlights. We carried along a small spot, augmented by flashlights and our imagination. The first two floodlights were brought from a trip to the DDR. They weren't even theatre lights; they were photography studio lamps we turned off and on from foot controls. Since there was no lighting technician, the actors took care of this at suitable moments of the performance.

In the end, our impoverishment turned to our benefit. The theatre of the poor we created became an ethical model and an aesthetic genre that continues to garner respect; many small companies keep it alive today.

Equality

In the 1970s, there was a struggle for democracy in Finnish theatre. We democratically called ourselves theatre practitioners regardless of profession and strove to reinforce respect for and self-respect within all groups of professionals. Up until that point, there had only been one union in the field in Finland: the Actors' Union. There were several unions founded this during this period: for directors and dramaturges, for theatre and drama educators, for theatre professionals and for scenographers and costume designers, and so on. On top of all this, we founded the cooperative organisation STY (Suomen Teatterityöntekijöiden Yhteisjärjestö, nowadays Teme, the Trade Union for Theatre and Media Finland). It became our power in issues of cooperation and the law.

In the provinces there was a lot of talk that the Theatre Academy should also take into account the educational needs of those who have served in the field for a long time. Dozens of technical theatre professionals were exhausted: always at work, morning, day and night – at the time, six days a week. The fact that provincial theatres were extremely under-resourced in number of actors compared to the repertoires being performed had also led to exhaustion among the actors. The Theatre Academy started organizing free courses that lasted a few weeks for various professions; nowadays they would be called continuing education. As an employee of the Theatre Academy, I was one of those planning the courses. I clearly remember one workshop for lighting masters and lighting technicians. As a method, we read a good play together out loud and had each participant take a stance on it; the important thing was expressing some feeling or insight engendered by the text. Even a simple answer sufficed, because that

sparked discussion. We were equals in the presence of this jointly experienced text. The process proved to all of us that there is not any single one truth about a work of art. The spectator chooses the perspective, the theme that speaks to him at that specific moment. The practitioners' self-confidence was discovered through a personal relationship to the work. I witnessed situations in which these professionals marvelled, rejoiced, and were filled with self-esteem after their opinion had gained recognition and appreciation. Each individual person experiences a work of art in his own way, depending on his life situation, his personal values, and his immediate frame of mind. After the workshop ended, one young man came up to me and said: "For the first time I felt like a person."

As we moved into the 1980s, more profound insights took place in the ethics and atmosphere of theatre work in Finland. We found the benefits of collaborating in a collective form of art. The age-old hierarchy began to crumble. By this point, there were a lot of women in Finland who had received training as directors. Unreasonable, gender-determined discrepancies in the valuation of men and women directors and their wages were still in use. This was a shame in a nation, among the first in the world, whose women had received the right to vote in the early years of the century. The directors' union started deliberately fighting this injustice, and the 1980s became the breakthrough decade for woman directors. Their status improved, they received encouragement, and they had an appreciable impact on working methods and well-being at theatres. Artistic teams healed. Development also took place in the workplace practices at theatres. The staffs of large theatres were occasionally broken up into smaller groups. Personal relationships and intimate conditions inspired and reinvigorated both the practitioners and the audience. Cooperation among designers in the various fields stopped being characterised by a master–servant model. Equality became the word of the day. Freedom! Collaboration! The whole world seemed to open up to us.

Relinquishing hierarchy meant trusting in the individual, the belief that every individual is wise in her own way. And that's how we approached our audiences, too.

Everything is possible

The 1980s was a celebration of technology, visuality, and lighting. Everything seemed possible, even creating states of mind. Lighting became the new, overwhelmingly critical resource in the new aesthetics and idiom of theatre. Lighting coaxed other visual elements into transformation as well, and in the end forced

them towards renewal. Lighting has played a fundamental role in the revitalisation of contemporary theatre.

Starting the educational programme in Lighting and Sound Design (VÄS) at the Theatre Academy marked an important turning point. The lighting designer was recognised as an artist, as a full-fledged member of the design team, and given independent time for pre-planning instead of having to simply execute others' wishes. For me, the time used for designing absolutely impacts the mastering of content and shared understanding: what it is we want to say with a performance. The form and methods are often found easily when every designer is aiming towards the same end. The purchase of lighting in a performance is refreshed and the idiom of the performance enriched in an interactive process, not just with the other designers, but also with the performers. We have come a long way in the time since the VÄS was founded.

I myself was privileged to be part of the VÄS community as a temporary professor, 1992–1993. The educational programme was full of enthusiastic individuals. We had no problem understanding each other.

The horizon is clear. The era of lighting designers has begun. Scenography and lighting are sister arts, indivisible. As scenographer and lighting designer Reija Hirvikoski put it during a 2016 conversation: "A performance doesn't necessarily need a set, but a performance always take place in some space. It must be lit." This is an inescapable fact that in no way is a value judgment. Thank you, Reija!

Acknowledgements

Måns Hedström. Måns and I met at "Atski", the Institute of Industrial Art, located at the Ateneum Art Museum, in Helsinki. Måns wanted to design the ergonomically perfect chair. In the first play I directed (1965), Brecht's drama *A Respectable Wedding*, the drama revolves around chairs the groom makes that break at the wedding dinner one by one. I took advantage of Måns' chair addiction and talked him into being the set designer for my production. Once he agreed, that was it: he was stuck in theatre for good.

Because Måns' sets were spare, they also often included lighting design. He had a comprehensive approach to his work and intentionally crossed boundaries. At times his solutions were so radical in their minimalism that interfering with them would have ruined the entire project. Måns' handprint had a profound

Eero Melasniemi, Kari Frank, Kalle Holmberg, Elli Castren, and Eija-Elina Bergholm in *A Respectable Wedding* at Ylioppilasteatteri, 1965. Photo: Ylioppilasteatteri / archives of Kaisa Korhonen.

impact in Sweden when he worked there – he became a legend for the younger generation of scenographers. The Swedish scenographer Ulla Kassius acted as Måns' assistant during his Swedish years and told of Måns having created a set design for a production where the lone element was a single string drawn across the stage. It was clear that the artistic team was horrified. After rehearsals began, however, they found a way of using and finding meaning in the string. You shouldn't criticise something until you've tested it.

Måns Hedström was a revolutionary. He refused to use or at least questioned any ordinary approaches in his visual designs – and that went for scenography, lighting, and costumes. What was self-evident, pointless, precious, or overly refined had to go. Måns Hedström's disappearance from our midst in early middle age was a grave loss for Finnish theatre.

I'm grateful to have been exposed to his open-mindedness during the very first steps along my path as a director. I learned to accept paradoxes as victories, as a miracle that can't be commanded.

Joanna Haartti in *Electra* at the Oulu City Theatre, 2008. Photo: Kati Leinonen.

I see in scenographer **Reija Hirvikoski's** thinking the same boundary- and expectation-averse traits as I see in Måns' – and it's no wonder, because Hedström was her teacher. Reija flips ordinariness on its head, exploits it, turns it into a tool. Reija and I did Seppo Parkkinen's adaptation of the Electra myth together in 2008, for the small stage at the Oulu City Theatre. The performance space was truly minimal. Executing King Agamemnon's bloody familicide within these limitations was going to demand ingenuity. It was a challenge, but it inspired us.

We decided to start from the opposite of everything elitist. The first image and scene were quite literally mundane, poor: a shabby kitchen table, four chairs around it, and behind it a sizable washing machine.

The performance starts off with blended-family tension at the breakfast table. Agamemnon – the father – isn't present; his place has been taken by the mother's new husband. The children are not treated equally. Electra is rejected or not seen. The spectator senses or anticipates the fate of the title character already at this stage. Electra starts to develop accusations aimed at her mother, an adolescent rage. The prologue is performed with the house lights on, but when the mur-

ders begin, the washing machine starts up and light begins to occupy the space. The white, normally black walls surrounding the performance space gradually turn into bright white, ultimately blinding surfaces. They raise the lighting to another level and give it another level of meaning. The scenography here is the space-illuminating element. Reija is an explorer – in depth.

Jukka Kuuranne. This thoughtful, diligent young man joined the KOM theatre as a lighting designer in 1976, when KOM already had a reputation, a faithful audience, and visibility in the cultural field. When there was no money to improve the theatre's lighting resources, Jukka spent his own money to buy us a revolutionary Swedish AVAB lighting table, which was the size of an attaché case and lightweight enough to carry. A whole 16 channels could be connected to it. An enormous leap forward! A year later, Jukka sold the device to KOM. Thank you for the independent, timely acquisition, Jukka! You momentarily turned tiny KOM into a technological pioneer in Finnish theatre!

Sinikka Sokka, Marja-Leena Kouki, and Rose-Marie Precht in *Three Sisters* at the KOM theatre, 1979. Photo: Archives of the Theatre Museum / Rauno Träskelin.

Jan-Erik "Pilen" Pihlström worked at Lilla Teatern, or Lillan, for 30 years, albeit in three different stints, but such a long career at the same theatre feels unreal today. He must have loved his work, his theatre, and the people there. Pilen was a calm man. The vision for the lighting seemed to take shape for him as he was familiarizing himself with the text, the scenographic drafts, and the director's exploratory references. Pilen would get right down to business, and the result was solid, internalised. What vulnerability, what empathy! The intimacy of the space was one of the most important characteristics of the Lillan. There

Elina Salo in *The Cherry Orchard* at Lilla Teatern, 1983.
Photo: Archives of the Theatre Museum / Rauno Träskelin.

The Cherry Orchard at Lilla Teatern, 1983. Fred Negendank, Rabbe Smedlund, Elina Salo and Lilli Sukula-Lindblom. Photo: Rauno Träskelin.

were no barriers between performer and spectator. When you sensed this and trusted it, the performance worked. Pilen's undeniable strength was that he knew that space like the back of his hand. He was the backbone of the theatre.

I served as the director of the Lillan for a few years in the early 1980s. Those included some wonderful moments of realisation. We rehearsed Chekhov's *The Cherry Orchard*, with Kari Junnikkala as scenographer. As opening night approached, there was a point in the second act where we were stuck.

The sale of the villa and its orchards had already been decided; departure was inevitable. The original owner, Lyubov Andreievna has gathered at the shore of a nearby river with her family and servants, as if saying farewell to the landscape. We just couldn't get the scene to work. We were coming up on opening night – unless I misremember, it was already the next day. I spent a sleepless night and realised that the riverbank had to be the spot where Lyubov Andreievna's young son had drowned years earlier. I understood that everyone at the river would be concentrating on the river at this moment and the horrific, unspeakable loss. The river had to, thus, also be the focus of the spectator's attention.

I asked Lyubov Andreievna's manservant Yasha – the performer was already standing near the river, in the direction of the audience – to reach into the river and take invisible rocks to skip across the surface of the water. The backdrop of

Junnikkala's scenography was a tall, semi-circular wall made from the screen of a papermaking machine. The stagehands gently shook the screen as the stones fell into the invisible river with a splash. The screen turned into the trembling surface of the water, and the light directed at it was breath-taking. How on earth did Pilen do it? I wanted to preserve the purity of experience and never asked. There was no doubt that the spectator participated in the grief, didn't view the lighting miracle as simply an aesthetic trick. And now that I write about this, it brings tears to my eyes. I rarely grow sentimental when remembering a moment from any of the works I previously directed. Thanks to Pilen, Kari, and the Lillan, I was privileged to experience faith in myself as the realiser of ideas concealed in Chekhov's texts.

Simo Leinonen. I had started directing Tolstoy's *Anna Karenina* (1875–1877) at the Tampere Workers' Theatre in the autumn of 1986. At the outset of the design process, the set designer Erkki Saarainen and I had decided to use the entire floor resource of the main stage as space for both the aristocracy and servants. The only vertical element of the set was a large Corinthian pillar. We knew one morning that our set had been erected and were full of anticipation. I stepped into the house with dramaturge Maaria Koskiluoma and costume designer Sari Salmela. We saw the set for the first time in physical form. We could tell in advance that the success of the performance would be extremely dependent on the lighting. Was the daring choice of an empty stage a mistake? We were about to find out.

The man working away purposefully on the stage saw our discombobulation, introduced himself – Simo Leinonen – and told us he was investigating alternative lighting solutions for the production. Once we got to know Simo, we no longer had to worry about the encounter between lighting and set – or panic about anything. When rehearsals began, Simo always sat in the house: listened, saw, understood, and intermittently went over to the lighting controls to test some idea or other of his. It never disturbed the actors, just the opposite: it inspired them and those of us sitting in the audience. Simo's ideas didn't try to illustrate the story; rather they associated, produced aha! moments. Simo was also socially gifted, acting as intermediary when there was friction between us visitors and the theatre's in-house staff. I respected his way of working and ability to take responsibility.

Simo Leinonen's life was mournfully brief. He was an idealist, a bringer of fresh winds – what all he would have brought to the theatre if he had been allowed to live a longer life! Even so, he had time to contribute to the success

Pirkko Hämäläinen and Mikko Laulainen in *Anna Karenina* at the Tampere Workers' Theatre, 1986. Photo: Archives of the Theatre Museum / Eino Nieminen.

of many important projects. Simo was, among other things, a key figure in the founding of VÄS. Simo Leinonen, with his passions, humour, and tenacities, was a wonderful person. Simo was an inventor, a creator of the new. I thank him for his collaboration and friendship!

Esa "Ese" Kyllönen. At the turn of the 1980s and 1990s, Tampere was a vibrant theatre city, and many young theatre practitioners moved there. Small companies were starting up, such as AHAA-teatteri, which was dedicated to children's theatre. All sorts of ideas, plans, and programmes were in the air. Small companies were the order of the day in the field as a whole; at the outset of the 1990s, even the institutional theatres tried breaking up their artistic staff into smaller teams. I was fascinated by the idea of putting together my own small company, but where? Where would we get a space? Where would the funding come from? After leaving my position as a professor at the University of Tampere, I by chance had the opportunity to found my own group under the aegis of the Tampere Theatre. A few of the actors from the Tampere Workers' Theatre (TTT) and I had dreamt of creating a production of our own on our own time: on weekends, at night, and on our free days. When the TTT caught wind of this, a campaign to discredit us

Harold Pinter's *Moonlight* had its Finnish-language premiere at the Helsinki City Theatre in 1994. Photo: Esa Kyllönen.

was initiated with the help of local newspapers – I was supposedly attempting a coup at the TTT. The TTT made a bad mistake in forbidding its actors from participating in this project under threat of losing their jobs. By what right did the theatre think it could tell its employees what they did in their free time? Outrageous and illegal. The Tampere Theatre took advantage of the publicity and lent me actors for the work I was directing. I did this "Dangerous!" production – Chekhov's *The Seagull* (1896) – with them in 1988. It was performed at the premises of the University of Tampere Degree Programme in Theatre Arts as a example of continuing education. The scandal turned towards our advantage: this group was the foundation of the company Musta Rakkaus, or "Black Love."

I knew my five actors, which was important. The directors of the Tampere Theatre turned over the Frenckell stage in the centre of town and their own lighting designer, Esa Kyllönen, for our use. He came from the well-regarded Kajaani City Theatre, so he had no lack of experience or professional skill. What luxurious conditions we ended up with! Ese has a superb sense of drama and structure and an instinctive ability to sustain the tension on stage through to the climax and denouement. Generally speaking, all I needed to do was to approve his solutions. Well-rounded and talented, Ese also answered for the sound design and sound programming of our productions. Without ever screwing up.

Strindberg's *The Pelican* at the Iceland Drama School, 1993. Photo: Esa Kyllönen.

Directed for the Musta Rakkaus company, *Wild Game Crossing* had its Finnish-language premiere on the Frenckell stage at the Tampere Theatre, 1990. In the photo: Leea Klemola and Tom Lindholm. Photo: Archives of the Theatre Museum / Petri Nuutinen.

Shakespeare's *Othello* (1604) in 1989, Kroetz's *Wild Game Crossing* (1971) in 1990, and Dostoyevsky's *Crime and Punishment* (1866) in 1990 were the Musta Rakkaus productions that were closest to my heart. But the work was worthwhile and rewarding as a whole.

After a three-year stint working with the company, Esa Kyllönen and I did several productions based on classic material, many of which were adapted by Seppo Parkkinen, such as the 1991 performance event *Yö Kaaoksen tytär* (Night, Daughter of Chaos), based on the texts of Euripides and Aeschylus. In 1993, we worked with the graduating class of the Iceland Drama School on Strindberg's *The Pelican* (1907), and the following year we did Dostoyevsky's *The Idiot* (1869) at the National Theatre of Iceland, which the Icelanders liked so much that it drew as many viewers as a popular musical. In 1995, we realised the Icelandic-Finnish production *Huimaus* (Ecstasy), which was based on the myths of antiquity, in Tampere and Reykjavik; each role had two performers, and Icelander and a Finn, both of whom used their native language on the stage. In our joint workshops, we studied, for instance, what role language plays in the performer's communication, and what role the other actor's desire to be understood.

Ese is a theatre practitioner by birth. Boundless as a collaborator. Thank you! Respect!

I first saw **Sirje Ruohtula's** works when Laura Jäntti directed the poetry piece *Gabriela Mistral – nainen joka keksi oman elämänsä* (Gabriela Mistral – The Woman Who Invented Her Own Life, 1995) by Peruvian-Finnish author Maritza Núñez at Teatteri Jurkka. At first I didn't grasp the style of the performance, but when I gave into it, I enjoyed its South American passion, chaos, and melancholy. Kristiina Elstelä was magnificent in the title role; it was as if the poetry had been written just for her. I also saw the poetry of Sirje Ruohtula's lighting. It was wonderful to have a sensitive, strong lighting designer!

I had further proof of Sirje's talent a few years later. Maritza Núñez had written about a topic of extreme sensitivity in South America, one that originated in immediate reality: a monologue for a woman who has been arbitrarily imprisoned for her political views. The woman counts the weeks, the days, and the hours in order to keep herself sane. Maritza's husband, the Chilean-born Finnish musician Alfonso Padilla, composed the music for opera signer Anna-Lisa Jakobson. The result was a so-called mono-opera titled *Pimeyden valossa* (In the Light of Darkness, 1999). I was asked to direct. For me, Sirje Ruohtula

Anna-Lisa Jakobsson and Matti Rasila in *Pimeyden valossa*, 1999. Photo: Maritza Núñez.

was the only lighting designer for this work. She was familiar with the author's way of thinking and through her own contribution had already proven she could make Maritza's work glow.

Pimeyden valossa premiered at the Viitasaari contemporary music festival. Then we went on tour in South America, where the opera's subject matter was dreadfully true and timely. Because of the long, expensive journeys we could not bring physical sets with us; the entire visual design was based on lighting. We visited spaces we knew virtually nothing about in advance and couldn't make firm decisions about anything other than the music. The rest we imagined. We took the production to Caracas, capital of Venezuela, Lima, capital of Peru, and Cuzco, high in the mountains of Peru.

There was no electricity in Cuzco the day of our performance. This was an everyday occurrence for the locals but a catastrophe for us. I tried to stay calm but couldn't help be horrified by the impossible situation this put Sirje in. But she didn't start complaining; she calmly headed off to the city's markets to look for candles. Sirje's tranquillity inspired the rest of us to accompany her. After we found a couple of fistfuls of candles, Sirje built a circle of them on the stage of the performance hall; the performance would take place inside this circle. Gustav

Djupsjöbacka, conductor of the five-person orchestra, noticed that the piano was badly out of tune and asked the porter where to turn for help. The answer was the piano tuner visits the city once a year. Were we helpless, had we lost faith? Serenity is a quality that is contagious. Relying on Sirje's composure, we decided to perform under the conditions we had been given, come what may. By the time the electric lights came on in the middle of the performance, we were all at peace. And it went well. Thank you for your attitude, Sirje!

Kaisa Salmi. I was preparing a production of Seppo Parkkinen's stage adaptation of Väinö Linna's *Under the North Star* trilogy (1959, 1960, 1962) for the Jyväskylä City Theatre in 2002. I was lucky enough to be able to work on this with Kati Lukka, one of Finland's best scenographers. The content of the production is large; Kati's open sets demanded substantial lighting resources, and there was an enormous amount of programming. The theatre's resources were more or less average and wouldn't suffice. I was worried. We wouldn't survive this without spontaneous, creative solutions from a fearless lighting designer. Kati Lukka suggested VÄS graduate Kaisa Salmi, with whom she had worked before.

The *Under the North Star* trilogy at the Jyväskylä City Theatre, 2002. In the photo: Marjaana Kuusniemi and Marko Tiusanen. Photo: Riikka Palonen.

Kaisa Salmi's *Fellman's Field* in Lahti, 2013. Photo: Tiina Rekola.

"Excellent. Interesting and original," she said. And so Kaisa Salmi became the lighting designer for *Under the North Star*.

I had no cause for regret. Kaisa was an original. She always brought something of her own to demanding situations and images. I see her as a painter, as if she had a big brush in her hand, with which she took a sketch forward or added to the impact and emotion of events on the stage. Women were at the core of my *North Star*: community, caregiving, the responsibility and vitality borne by women during the war years. The performance began with a workers' song sung by the villagers from Pentinkulma. Kaisa Salmi introduced these people's sense of belonging as a beautiful whole. Then she lit them one by one with a moving aura created by a follow spot. Now we experienced how the community was made up of individuals. The light paused for a moment on each face. It felt as if the person being revealed were greeting the audience. At the end of the prologue, the village sang a hymn very reminiscent of the mood of the workers' song. This is how our *North Star* began. Everything was shared. There was a divided nation that was nevertheless linked to each other through the history of the land of their birth, their village, mutual caring, and tradition.

Kaisa Salmi is perhaps not so much a lighter of space as much as one of emotions and ineffable ambiance. *North Star* was an unusually long production, but it was performed in an ordinary institutional theatre. Kaisa Salmi proved to be a special case among the lighting design students. She preferred to get out of the theatre, onto the streets, to everyday places frequented by a lot of people. In her artistic work she selected unusual tasks, such as images projected from four directions onto the external facade of Hallgrímur's Church in Reykjavik. She sought out unusual performance sites and started building installations at them. First she decked the stairs of the Parliament Building with flowers, and then offered the public the opportunity to take them home once they had bloomed there for a few days. Then a similar installation at Railway Square in Helsinki. These events aroused a lot of positive attention. Kaisa gets people to be on her side through her light-filled way of thinking. Her installations offered people joy and something fundamental: the chance to marvel. A marvelling person is as alert, curious, and observant as a child. Kaisa Salmi is on the same worthwhile mission as theatre performances: empowering people. She hasn't fully turned her back on theatre and occasionally works on theatre productions as well. In every instance she has been involved in a work I have directed, I have been glad in retrospect.

Nevertheless, environmental works and participatory performances have been Salmi's most beloved processes. They have also gained political significance.

She created and organised a massive performance at Lahti's Fellmaninpuisto park in 2013: *Fellman's Field*. The 8,000 people she invited via newspaper advertisement – with their unexpectedly massive reinforcements – physically and acoustically reconstructed the infamous and sorrowful Fellman's Field from the Finnish civil war, the site where many innocent people were broken or died. I saw strapping men crying as they were allowed to shout into the skies in unison: "Mother! Mother!" Thank you for your uncompromising courage, Kaisa.

Kalle Ropponen. Sergei Pronin, director of the National Theatre of Karelia, formerly the Finnish Theatre of Karelia, appealed to the Finnish cultural field in 2007, when the ideology and programme of his theatre were under threat. In Pronin's view, the performing of Finnish- and Karelian-language works was the only possibility to preserve our shared cultural history across the Finnish-Russian border. The theatre needed Finnish-speaking actors and other theatre practitioners as well as texts. The Union of Theatre Directors and Dramaturges Finland (then the union of Finnish theatre directors) accepted the challenge. We applied to Finnish foundations for funding for, among other things, a long residency for a Finnish actor and preparing a couple of Finnish productions in Petrozavodsk with Finnish professionals.

Actors Cécile Orblin and Petri Manninen in *The Love Story of the Century* at the Finnish National Theatre, 2013. Photo: Stefan Bremer.

Kristiina Halttu playing in *Canth* at the Finnish National Theatre, 2016. Photo: Stefan Bremer.

I was given Hella Vuolijoki's *The Women of Niskavuori* (1938) to direct in Petrozavodsk. We looked for a lighting designer inside the Trade Union for Theatre and Media Finland, and Kalle Ropponen was selected for the text. The differences in working cultures between Finnish and Karelian theatres were great. It was thanks to Kalle's calmness and diplomacy that we avoided many conflicts.

Since then I have collaborated with Kalle in 2012, when we did Dostoyevsky's *Crime and Punishment* (1866) at the abandoned garrison at Hyrylä, in an athletic hall that was reminiscent of a prison.

We did *The Love Story of the Century,* based on the works of Märta Tikkanen, at the Finnish National Theatre in 2013. We continued our collaboration with *Canth – Kertomus uuden ajan ihmisistä* (Canth – The Tale of a Person of a New Era), which explored the ideals, art, and impact of Minna Canth. The subject is identical to that of Tikkanen's *Love Story of the Century*. Both shed light on the status of women artists, inequality, and emancipation, albeit from different centuries. *Canth* was premiered in autumn 2016, also at the National Theatre.

Kalle is an initiative-taking lighting dramaturge who begins from content. He is also a phenomenal performance dramaturge. It's no wonder he says that when he was applying to the Theatre Academy he was caught between two passions: should he apply for the dramaturgy programme or for lighting and sound design? In the end, Kalle's choice was the VÄS – due to its visuality. I haven't met a more intuitive lighting designer. The lighting is created during the rehearsal process and supports not only the actor's work but also the overall rhythm of the performance. The lighting transitions are meticulously timed to the mental shifts taking place on stage, and the director doesn't have to ask for them. Kalle is always up on what's happening in the process. The lighting is alive throughout the entire work. At that stage before opening night when he has to turn over the running of the lights to someone else, Kalle also transfers responsibility for absolute presence and sensitivity. It is almost a mystery to me that he manages to do so. Thank you for your dedication!

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CITED PERFORMANCES DIRECTED BY KAISA KORHONEN

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Huimaus – Órar. Finnish-Icelandic collaboration, Tampere/Reykjavik. Premiere June 1995.

Fyodor Dostoyevsky: *The Idiot*. Iceland Drama School, Reykjavik. Premiere December 26, 1994.

August Strindberg: *The Pelican.* Iceland Drama School, Reykjavik. Premiere May 1, 1993.

Yö Kaaoksen tytär. Valon Teatteri. Premiere at Kajaani Sana ja Sävel, September 4, 1991.

Fyodor Dostoyevsky: *Crime and Punishment.* Musta Rakkaus, the Tampere Theatre, Frenckell stage, Tampere. Premiere September 22, 1990.

Franz Xaver Kroetz: *Wild Game Crossing.* Musta Rakkaus, the Tampere Theatre, Frenckell stage, Tampere. Finnish-language premiere March 23, 1990.

William Shakespeare: *Othello.* Musta Rakkaus, the Tampere Theatre, Frenckell stage, Tampere. Premiere December 15, 1989.

Anton Chekov: *The Seagull.* University of Tampere. Premiere spring 1988.

Maaria Koskiluoma – Leo Tolstoy: *Anna Karenina*. Tampere Workers' Theatre. Premiere December 11, 1986.

Anton Chekov: *The Cherry Orchard.* Lilla Teatern, Helsinki. Premiere November 10, 1983 (Swedish) and August 20, 1984 (Finnish).

Maxim Gorky: *Yegor Bulychov and Others.* The Swedish Theatre, Helsinki. Premiere February 27, 1969.

Orvokki-kabareet. Design and direction: Kaisa Korhonen, Timo Bergholm and Kalle Holmberg. Ylioppilasteatteri and Yle Finnish public radio, Helsinki. Premiere and initial broadcasts 1965–1966.

Bertolt Brecht: *A Respectable Wedding.* Ylioppilasteatteri, Helsinki. Premiered spring 1965.

Kaisa Korhonen (1941). Theatre director, artist professor and honorary doctor at Theatre Academy, Korhonen is a major figure of her generation, civil activist, and developer of teaching methods. She is a founding member of the KOM theatre, where she made her breakthrough as a director with *Three Sisters* (1979). She has fought against institutionalised practices in theatres and has worked in various theatres across Finland. Korhonen creates socially engaging popular theatre (*Volkstheater*). During her long career, she has directed over 100 plays. *Elämänmeno* (Jyväskylä City Theatre), *The Love Story of the Century* and *Canth* (The Finnish National Theatre) are the latest plays directed by her.

Korhonen was professor of theatre at the University of Tampere's Department of Acting 1984–1989, professor of lighting and sound design at the Theatre Academy Helsinki 1992–1993, and professor of directing there, 1995–2000. She has led master classes and workshops in Finland and the other Nordic countries.

European and American dance and developments in lighting design from the early 1900s to the present day

ARI TENHULA

Contemporary dance features many parallel, partially crisscrossing genealogies that have formed in relation to lighting design. In this article, I tap into the history of dance art to explore this connection, discussing the relationship of modern dance, postmodern dance, and the recent history of dance art to lighting design. I reflect on works from dance history with regard to the visuality made possible by lighting design, and I do so on an axis, at one end of which is the stage as a opportunity for visual play and at the other the transformation of the stage into an everyday space. In addition, I touch on advances in lighting technology and the current status of virtual technologies, as image and video projections grow more common and mundane.

Lighting design for modern dance was long governed by the demands of concert practice: by theatre and concert stages and their technical capabilities, by advances in stage lighting, and by the inroads into new content they opened up. The United States saw the canonisation of the lighting approach of Jean Rosenthal: the body etched through sidelighting and a shadowless, backlit stage, with the ability to bound light making it possible to distinguish the dancer from the surface of the floor. This tradition focuses on lighting movement and turns the body into an abstract, three-dimensional kinetic space for movement.

In the 1960s and 1970s, American postmodern dance often took place in ambient or gallery-style lighting and, instead of the illusion of movement, concentrated on the now-momentness of the movement event and revealing the non-representative levels of the action. Echoes of this genealogy can be seen in the works of creators of European conceptual dance.

A strong legacy of visual spectacle has been preserved in the field of dance; its aesthetic roots can be found, for instance, in expressionist film and the theatre

experiments of the Bauhaus. The visual-kinetic works of the modern American choreographer Alwin Nikolais are a good example of this orientation. Many other choreographers have used the combined effect of light and movement to create something new too; projections have also served as aesthetic material for dance. At the turn of the 20th century, Louïe Fuller played with colour changes and dramatic angles in his lighting, and at Ausdruckstanz in the 1920s, the dancers produced expressive shadows themselves. Projectors for image, film and video have also served as visual material for dance works, for instance in Ballet Russes' *Parade* (1917), or Trisha Brown dancing with a projector on her back in *Homemade* (1966). The digitalisation of image has facilitated the use of projections and of live and interactive media in increasingly diverse and nuanced ways, while the art of the post-internet era generates copies and interprets the contents of virtual culture on the stage. We live in a world of realities interlinked in a variety of ways.

One interesting characteristic of the performances of the 2010s has been the revived interest in the viewer's sensory limits. Numerous dance works take the spectator's sense of sight or hearing to the brink, underscoring sensoriness and reopening the stage's potentials towards that interesting ambivalent territory of not knowing what it is being created, when it is impossible to recognise or name anything.

I will not be providing a comprehensive history of dance here; rather I will be selecting works and artists who illustrate the responses of their era with regard to dance and lighting design. I begin from the collaboration between Adolphe Appia and Émile Jaques-Dalcroze at Hellerau during the 1910s. I then travel from Germany to the United States to discuss the aesthetic choices of Jean Rosenthal that impacted the lighting of modern dance, the legacy of which continues to live on across dance stages today. I continue by describing the breakthroughs on the stages of the 1960s, which manifested simultaneously in the autonomy of stage mediums and as a radical countermovement that questions stage traditions; to this end, I review the works of Merce Cunnigham and Elaine Summers, a member of the Judson Dance Theater collective. Through the pieces of the French contemporary choreographer Jérôme Bel and the reformer of the ballet tradition William Forsythe, I illustrate the use of lighting design in dismantling and rebuilding the meaning apparatus of the theatre in various projects.

Throughout this text runs the observation that some aesthetic choices are perennial and survive radical reformation. The question of whether to light the space or the dancer is one of these, as is the desire to make use of the latest technology or to deny its use. These days, multiple aesthetic traditions have an

overlapping and parallel influence; often the environment in which a work is produced and its technical potential suggest and steer the work's relationship to the particular tradition of lighting design.

The works I refer to as examples in my text have been selected on the basis of personal interest, but nevertheless trace turning points in the history of dance – specifically from the perspective of lighting design and dance. A reader who expects some ranking of lighting designs throughout the history of dance will be disappointed. I also bypass the laudable legacy of lighting design in Finland; the international works I present are the sources of developments that many Finnish choreographers have either repeated or reinterpreted in their work with lighting designers – leaving a list of worthy dialogues between dance and lighting in the Finnish context outside the scope of this article.

The total work of art: the collaboration between Adolphe Appia and Émile Jaques-Dalcroze

One of the pioneers of modern lighting design, Adolphe Appia (1862–1928) developed his stage expression in close collaboration with Émile Jaques-Dalcroze (1865–1950). Appia was a vocal critic of the incongruous use of stage elements in the music theatre of his day; particularly the staging of the music of Wagner, which he loved, and the relationship between the three-dimensional performer and the illusory, two-dimensional backdrop. He wanted to find a staging that would, in all of its elements, answer the drama created by the music (Beacham 1985a, 154).[1] After being introduced to Dalcrozian eurhythmics in Switzerland, Appia understood this method would help him create a deep connection between music, movement, and the stage (Appia 1924, 378).[2] For him, eurhythmics made possible the systematic embodiment of musical time and its use in three-dimensional space.

1 Appia stipulated that setting and performance must express a carefully unified and meticulously coordinated effect, which would faithfully convey the intentions and ideas of the original creative artist. He called for three-dimensional elements, a careful evocation of psychological nuance, 'living light,' symbolic colouring, and a dynamic, sculptured space, with all these expressive elements harmoniously correlated to the music and dramatic action. (Beacham 1985a, 154.)

2 "In the course of composing *Musik und die Inscenierung* I felt the necessity for the actor to be trained in rhythmic gymnastics. The method...was revealed to me by Dalcroze in 1906. Without changing my orientation, eurhythmies freed me from too inflexible a tradition, and, in particular, from the decorative romanticism of Wagner. From that day on, I saw clearly the route my development was to take. The discovery of basic principles for the mise en scene could only be a point of departure; eurhythmies determined my future progress." (Appia 1924, 378.)

The collaboration between Appia and Jaques-Dalcroze culminated in the performances of Gluck's opera *Orpheus and Eurydice* (1762) at the Festspielhaus Hellerau in Dresden in 1911/1913 (Beacham 1985b, 251).[3] In this production, lighting sources were concealed behind linen cloths that covered three walls of the stage, creating a diffuse ambient lighting that filled the entire room, as well as movable lights that could be targeted on specific spots. The combined effect of ambient and targeted lighting underscored the three-dimensionality of the movement by lifting the dancers' bodies free from the architectonic staircase staging. The space glowed with light and participated in the dynamics of the event:

> Like the actor, light must become active. Light has an almost miraculous flexibility...it can produce shadows and distribute the harmony of its vibrations in space exactly as music does. In light we possess all the expressive power of space, if this space is placed at the service of the actor. (Appia 1920, 105)

> We shall learn that, merely 'to make visible', is not to light in this sense at all, and that, on the contrary, in order to be creative or plastic, light must be an atmosphere, a luminous atmosphere. (Appia in Aronson 2008, 34)

Ambient light and its diverse forms return to the dance in very different contexts in the dance art of the 2000s and 2010s. Also, the minimalist performances of Judson Dance Theater and the happenings the collective performed in lofts during the 1950s and 1960s created a stage aesthetics where the dramatics of theatrical lighting and the dynamics of its movement were secondary – the aim was to move away from the illusion of theatre.

3 Appia thus undertook at Hellerau to use light to achieve two of his major objectives: first, to emphasise the living and expressive quality of the human body in rhythmic movement in space; and second, to break down the barriers which, traditionally, had governed and restricted the spectators' perception of the work of art in performance (Beacham 1985b, 251).

Adolphe Appia and Jaques-Dalcroze's staging of the Gluck opera *Orpheus and Eurydice* at Hellerau, 1911/1913.

Drawing the body through sidelighting: Jean Rosenthal and lighting design in American modern dance

American modern dance was grounded in a desire for free, individual kinaesthetic expression and the need to find a new expressive form to address contemporary reality through art (Monni 2004, 175–176). The unique, work-specific idioms of practitioners of dance and their choreographies also demanded unique visual expression. Areas of lighting design were developed so lighting could participate in the overall expression of a dance piece in the manner suggested by the piece.

Over the decades, the way the choreographers staged their works began to orient their lighting aesthetics, and the performance practices and architectonics of theatres dictated the conditions for the unique aesthetics of each work. The collaboration between choreographers and lighting designers resulted in styles of dance lighting design; I examine Jean Rosenthal's (1912–1969) designs for the works of Martha Graham. In this exploration, I rely on Finnish lighting designer Mia Kivinen's thesis project for her masters degree, in which she addresses the way Rosenthal thinks about light.

In the early 1900s, "lighting designer" was not an established professional title. Generally the lighting design was the responsibility of the set designer or

the stage technician – the "lights man." In the United States, university training in the field began in 1925, when the School of Drama was established at Yale University; the school offered university-level instruction in lighting design, with Stanley McCandless as the first instructor. One of the School of Drama students was Jean Rosenthal.

Rosenthal, who worked with Martha Graham, is a pioneer of lighting design for dance.[4] Rosenthal met the young Martha Graham at the Neighborhood Playhouse theatre school in New York and, beginning in 1936, created the lighting design for a total of 36 of her works. Rosenthal initially became a technical assistant for Graham's company but later established her position as artistic director; her work brought lighting design into the artistic team. Over the course of her career, she developed lighting technology and created a new lighting aesthetic unique to modern dance.[5] In her thesis project, Mia Kivinen speaks about Rosenthal's lighting aesthetics thus:

> In her own words, Jean Rosenthal achieved the most in the field of dance lighting design, which she liked in particular because it offered the opportunity for abstract, symbolic and visual lighting. Some of Rosenthal's works can be still be seen today, as performed by, for instance, the Martha Graham Dance Company, and to the contemporary eye, Rosenthal's simple style with its strong cross- and backlighting may feel predictable and humdrum. In its day, however, it was new and fresh, and Rosenthal played an enormous role in sidelighting becoming the standard in dance. The illumination of the backdrop, another still-common solution, was often used by Rosenthal. (Kivinen 2005, 43)

According to Mia Kivinen, the most important tools for Rosenthal as a lighting designer were the shape, movement, and direction of light. The factors contributing to the shape of the light were the requisite amount of light, the shape of the beam, and the necessary adjustments to both, as well as the source of light

4 Her artistic career covers hundreds of productions, including 36 works for the Martha Graham Company as well as works for the New York City Ballet and the Metropolitan Opera. She designed countless productions for Broadway, including *West Side Story* (1957), *The Sound of Music* (1959), *Fiddler on the Roof* (1959), and *Cabaret* (1966).

5 Spotlights improved during the 1930s; this was the era when Fresnell spots, profile spots, and PANI projectors, all of which are still in use today, were developed. The early 1940s saw the invention of parabolic aluminised reflectors – PAR cans – which have become standard lighting equipment in dance lighting design as their use grew widespread.

itself. The movement of light, in other words the lighting transitions, was to take its rhythm from music, dance, movement, voice, or textual changes and to emphasise these on the stage. Rhythm was particularly important to Rosenthal, and she paid special attention to lighting transitions, starting from the dimmers she selected. According to Rosenthal, colour should not draw attention, but should boost the impact of the overall scene. Colour could also be used dramatically, but the tone always had to be credible. Rosenthal brought sidelighting into dance as a standard practice.

Other lighting directions secondary in terms of visibility but critical in terms of visual image, like backlighting and particularly angled cross-lighting from above, were also important to Rosenthal. (Kivinen 2005, 42)

Much of Rosenthal and Graham's staging aesthetics continue to exist as givens on the contemporary stage, and lighting designers perpetuate design solutions that were created during the era of modern dance. The use of back- and sidelighting that highlight three-dimensionality, the lighting of the backdrop, and

Martha Graham 2. Photo: Imogen Cunningham, 1931.

Martha Graham: *Night Journey* (1947). Photo: Arnold Eagle.

the content-based connection between lighting elements and the dance continue to serve as fundamental solutions for many choreographic works. The shuttered, precisely targeted lighting used by Rosenthal, "Martha's Finger of God" (West *Dance Magazine* 1996) continues to appear in lighting design today.

Later choreographers and lighting designers came to question the significance of these elements as canonised methods of lighting design. Next I'll investigate shifts in the visuality of dance that appeared in the works of Merce Cunnigham and the artists of the Judson Dance Theater.

Tests and trials: Merce Cunningham and Judson Dance Theater

The 1960s were an era of enormous innovation in American ballet, modern dance, and postmodern dance. Multiple parallel realities existed in dance, from the theatres of uptown New York City to the experimental performances of Greenwich Village. The 1960s were also a time of major transformation in visual culture. In contemporaneous descriptions, the decade is characterised by its passion for

multimedia, which manifested in the psychedelic light shows at rock clubs or multimedia ballets on the stages of large theatres.[6, 7]

Merce Cunningham (1919–2009) founded his dance company in 1953 while teaching dance at the liberal arts institution Black Mountain College. The founding members of the company included the dancers Carolyn Brown, Viola Farber, Paul Taylor, and Remy Charlip and the composers Anthony Tudor and John Cage, who became Cunningham's life partner.

John Cage was interested in Zen Buddhism, which he also studied at Colombia University under D. T. Suzuki. Through Zen practice, he was liberated from bias against sounds and began using both prepared instruments and found sounds in his musical works. After being introduced to the *I Ching*, the classic Chinese "Book of Changes" that Richard Wilhelm had translated into English in 1950, he began testing random composition structures with Merce Cunningham. Breaking the mimetic connection between dance and music later opened up the opportunity to examine other elements of the stage as distinct and idiosyncratic, manifesting on stage as independent sensory levels to be experienced concurrently.

Cunningham created approximately 200 works over his lengthy career. I will be directing my attention to three works from the 1960s: *Winterbranch* (1964), *Variations V* (1965) and *Canfield* (1969), where the relationship between lighting design and technology is, to my mind, pioneering (Vaughan 1997, 121–171; Copeland 2004, 33–34).

Winterbranch received harsh reviews from contemporary critics, in part because La Monte Young's sound piece *2 sounds* was a loud, unrelenting collage of two dissonant sounds,[8] but also because Robert Rauschenberg's scenography and lighting design featured beams of light generated by, for instance, flashlights, that split through the darkness and irritated the spectators. Dressed in black, the dancers performed movements of falling and resurrection on the stage or were dragged across the stage on fabric. Dark in overall impact, with a lighting design inspired by the visual world of the nocturnal city, the work also included a stage monster created by Rauschenberg: a pile of junk found in the theatre decorated by flashing red lights. Contemporary critics considered the piece torture; perhaps

6 See e.g. the Joshua Light Show and Filmore East club.

7 See e.g. Robert Joffrey's first multimedia rock ballet, *Astarté* (1967), at the City Center Theater in New York.

8 One of the sounds was a recording af an ashtray scraping against a mirror; another was wood being dragged across a Chinese gong.

its powerful, distinctive elements genuinely were in such an aggravating or new relationship to each other.

Variations V is a staged work consisting of dance, scenography, costume design; music and lighting design manipulated in real time; and "manipulated" projected film. The most technological of Cunningham's works from the 1960s, *Variations V* was the first time electronic devices that made it possible for dancers to alter sound and lighting moments in real time had been used on stage. The work was commissioned by the Lincoln Cente Lucas Foss for the French-American Festival. *Winterbranch* had just received crushing critiques half a year before, so it was a bold commission.

The artistic team for *Variations V* created a whole where the complex dance struck sources of sound and lighting – but in such a way that the musicians and the lighting technicians could manipulate the levels, duration, and other characteristics of the sound and light.[9] The dance took place amid 12 sound-sensitive poles erected on the stage. When the dancers approached a specific pole, its sound would activate for further refining. The sources of sound included shortwave radio, magnetophones, and oscillators. The space was also equipped with light-sensitive sensors, and severing a beam of light triggered a signal. One of the dancers, Barbara Lloyd, had a towel around her head with a contact microphone in it – she was spun around on her head. There was also a potted plant with microphone on it on stage, and towards the end of the work Merce Cunningham rode around the stage on a bicycle, triggering the lighting signals as he went. (Vaughan 1997, 150.)

The lighting design for *Canfield* was the handiwork of Robert Morris, who designed a tall tower that was grey from the front and lit the space towards the rear of the stage. The dancers' movements cast shadows against the backdrop as they crossed the light source. Various lenses had been placed in front of spots attached to the pillar, breaking up the beams of light. This grey pillar moved back and forth across the front of the stage throughout the work, in the descriptions of contemporaries autonomously so. Throughout his career, Cunningham was interested in the autonomy and temporality of elements on the stage, to the extent that the various elements on the stage are described as having been detached from and wholly indifferent to each other.

9 Choreograhy Merce Cunningham; movie/film Stan VanDerBeek; image manipulation Nam, June Paik; sound John Cage, David Tudor, Gordon Mumma; sensor technology Billy Klüver, Bell Telephone Laboratories.

The performances of Judson Dance Theater in southern Manhattan experimented with the spontaneous, immediate, and collective producing and performing of dance. The group's 16 concerts during the period 1962-1964 were collectively curated performances featuring dancers, choreographers, visual artists, and musicians; in terms of dance, the collective explored everyday movements and improvised, freeform choreographic structures. The performances lifted ideas from sports, the visual arts, performance, and theatre; the sense of community and multiplicity of art forms fed experimentation across artistic genres. The stage and the performance space might be split, and even though the performances and artists diverged greatly, the artistic goals were shared. Sally Banes describes the collective's three aesthetic schools in her book *Democracy's Body: Judson Dance Theater, 1962–1964.*

Banes describes the first school as analytic and minimalistic; among this group of artists she counts Yvonne Rainer, Steve Paxton, Robert Morris, Lucinda Childs, and Trisha Brown. She characterises the works of David Gordon, Fred Herko and Arlene Rothlein as theatrical, humorous, and baroque. The third school is made up of the multimedia works that were the handiwork of Elaine Summers and Judith Dunn (Banes 1993, xviii). One lighting design-multimedia performance I want to mention specifically is Elaine Summers' *Fantastic Gardens* (February 17–19, 1964, Judson Church), which Summers herself describes as follows:

> *Fantastic Gardens* was the first full-evening intermedia concert in New York City combining film, dance, music, and sculpture. The concert was presented in three parts with two intermissions. The first section consisted of a film collage of dances, using change methods inspired by John Cage. In the second section, "All Around the Hall," members of the audience were seated around the edge of the Judson Memorial Church in the form of the pyramid. Film images were splashed over the ceiling, floor, walls, and audience, who were given small hand mirrors with which to pick up additional images. As the projected images, partially aided by mirrors placed near the projector lens, splashed very slowly over the audience, dancers began to dance inside of large sculptural pieces which were placed within and outside the perimeters of the audience. The audience was then invited to participate in the dance by using their mirrors to light the dancers. In the third section, "Other People's Gardens," one of the sculptures, a large metallic "tree" built of junk,

> became the instrument played by composer Malcolm Goldstein. Several films were shown successively. One of these, a film of Sally Stackhouse dancing, was projected onto a split screen before which Stackhouse performed a choreographed "shadow dance." (Breder and Foster 1979, 149)

The first part of the piece, "Ouverture," was later reconstructed as part of the an event organised by Movement Research in honour of the 50th anniversary of Judson Dance Theater's first concert.[10]

Of these three schools, however, the minimalist school had the most powerful impact on later dance. This school excluded represented emotions and theatrical illusions from its artistic work and concentrated on mundane, stripped-down movement. The work of the collective's choreographers focused on the presence and movement of what is happening here and now as well as activities laid out in task-based manuscripts. Much of the photographic documentation indicates that the works were illuminated, but contemporary descriptions rarely make mention of the role lights or lighting design played in the pieces.[11] Yvonne Rainer outlined her own artistic aims in the programme for the 1968 piece *The Mind Is a Muscle*, where the materiality of the body is designated as her central artistic premise. This "enduring reality" of the body generated a radical opportunity to oppose performances that subjugate the body and opened up a new artistic and social potential (Burt 2004, 37–38).

In addition to Merce Cunningham's work *Variations V* and Elaine Summers' work *Fantastic Gardens*, I'd like to note one important venture that developed the link between dance, lighting, and media design: *9 evenings: theatre and engineering,* proposed by Billy Klüver and Robert Rauschenberg and executed through the joint effort of thirty engineers from Bell Telephone Laboratories and ten New York-based artists. In the project, Bell Telephone Laboratories engineers collaborated with the Judson Dance Theater collective and Cunningham's company's artists over a period of nine months. Participating from the fields of dance, the visual arts, and music were John Cage, Lucinda Childs, Öyvind Fahlström, Alex Hay, Deborah Hay, Steve Paxton, Yvonne Rainer, Robert Rauchenberg, David Tudor, and Robert Whitman. The performance venue was the vast 69th Regiment

10 *Ouverture (Split Screen & by Chance Dance & Film)* was first performed in 1962. Consisting of a 15-minute 16 mm film of a dancer dancing, it was designed to be the opening piece for the first concert of Judson Dance Theater. The video was recorded on July 6, 2012 at Judson Church. (Summers 2012)

11 One of the artists from the first Judson concert was the lighting desginer Jennifer Tipton, whose conversation with William Forsythe I cite later.

Armory at the corner of Lexington Avenue and 25th Street in New York, and the results of the collaboration were performed over nine nights during October 1966.

The aim of the project was to introduce the artists to the potentials of technology and give them the opportunity to create engineer-supported works that would have been impossible to create without advanced engineering skills. The electronics required by the works were constructed out of various components on a total technology budget of 30,000 dollars. The key technology used was TEEM, an electronic modulation system consisting of portable electronic devices operated via remote control (Blistène & Chateigné 2007, 212). The works used many other difficult-to-obtain or new technologies, such as infrared receivers. Among Rauschenberg's requests for the engineers were colours that reacted to light and were sensitive to warmth and pressure, living fabrics, sounds that were nowhere, time delay, printing on magnetic stripes, infrared television, forms of delayed transmission, night-vision cameras, and Eidophor projectors.

Rauschenberg's own work *Open Score* began with a tennis match. Transmitters were embedded in the racquets that, when struck by a ball, triggered an electronic signal heard as a loud bang from the hall's speakers. Each bang was designed to trigger the extinguishing of one of the lamps illuminating the court, gradually sinking the match into darkness. During the second scene, the participants executed simple motion- and sound-based tasks on the dark stage as infrared cameras recorded their movements. The infrared image, which was projected onto big screens, was the only source of light in the enormous hall. In the third part of the work, Simone Forti sang a Tuscan folk song from inside a sack Rauschenberg carried around the space. (Klüver, 2007.)

The other evenings featured, among other things, Deborah Hay's choreography for dancers standing on moving platforms and dancers moving across the floor. Yvonne Rainer (Robert Morris in the second performance) directed the performers in her work *Carriage Discreteness* with wireless radio transmitters during the performance.[12, 13] The performers wore headphones through which they received instructions that altered the performance live. Rainer later lamented the hierarchical position she had taken as orchestrator of the work. A corresponding desire to influence the work during its performance has been found

12 Rainer's colourful description of creating the work can be found here: http://bombmagazine.org/article/2833/feelings-are-facts.

13 See a description of the work here: http://wparticipantsww.fondation-langlois.org/html/e/page.php?NumPage=626.

since in the notes of numerous choreographers: William Forsythe, among others, has created many systems for directing his dancers during his works.

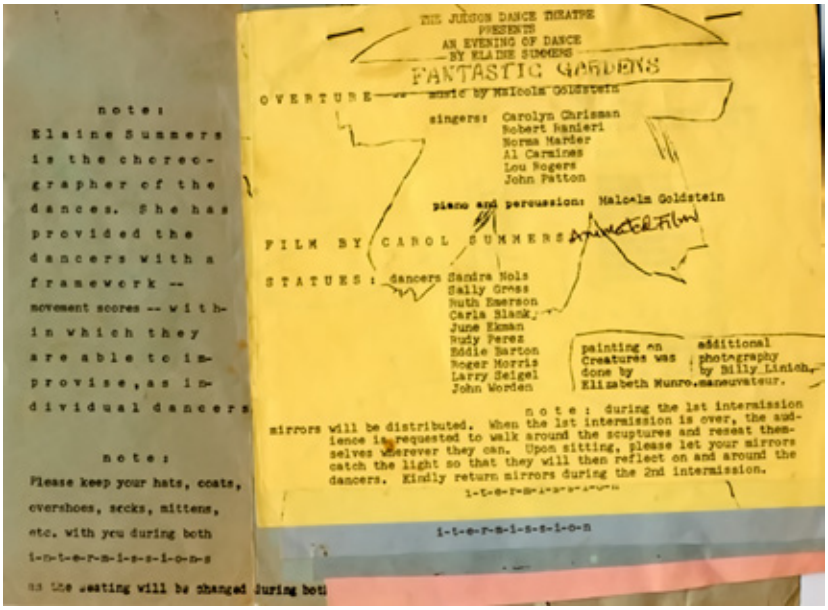
The *9 evenings* collaboration gave rise to the E.A.T. (Experiments in Arts and Technology, Inc.) foundation, which continued to advance cooperation between artists and engineers. According to Billy Klüver, this cooperation actually resulted in the refining of technological inventions; among other things, a new form of phosphorus was developed that was used in research involving infrared lasers. [14]

Merce Cunningham: *Winterbranch* (1964). Photo: James Klosty (1970).

14 See E.A.T. - Archive of published documents http://www.fondation-langlois.org/html/e/page.php?NumPage=306.

Merce Cunnigham: *Canfield*. Photo: James Klosty (1970).

Merce Cunningham: *Variations V* (1965). The photo is from a television recording session that took place in Hamburg (Medienkunstnetz).



note:
Elaine Summers is the chorec-grapher of the dances. She has provided the dancers with a framework -- movement scores -- within which they are able to im-provise, as individual dancers

note:
Please keep your hats, coats, overshoes, socks, mittens, etc. with you during both i-n-t-e-r-m-i-s-s-i-o-n-s as the seating will be changed during both

THE JUDSON DANCE THEATRE
PRESENTS
AN EVENING OF DANCE
BY ELAINE SUMMERS
FANTASTIC GARDENS
OVERTURE — music by Malcolm Goldstein
singers: Carolyn Chrisman
Robert Wanieri
Norma Harder
Al Carmines
Lou Rogers
John Patton
piano and percussion: Malcolm Goldstein
FILM BY CAROL SUMMERS Animated Film
STATUES: dancers Sandra Nols
Sally Gross
Ruth Emerson
Carla Blank
June Ekman
Rudy Perez
Eddie Barton
Roger Morris
Larry Seigel
John Worden
painting on Creatures was done by Elizabeth Munro. additional photography by Billy Linich, maneuvrateur.
note: during the 1st intermission mirrors will be distributed. When the 1st intermission is over, the audience is requested to walk around the sculptures and reseat themselves wherever they can. Upon sitting, please let your mirrors catch the light so that they will then reflect on and around the dancers. Kindly return mirrors during the 2nd intermission.
i-t-e-r-m-i-s-s-i-o-n

Program; note the instructions for the audience. Elaine Summers: *Fantastic Gardens* (1964).

Peter Moore, Photo of Robert Rauschenberg's Open Score, *9 Evenings: Theatre & Engineering*, 1966 © Barbara Moore/ Licensed by VAGA at Artists Rights Society (ARS), NY, Courtesy Paula Cooper Gallery, New York.

Critiques of representation: the lighting philosophy of Jérôme Bel and William Forsythe

The spare aesthetics of the Judsonian stage have left a powerful mark on the history of lighting design and dance. The conceptual dance performances and stage-deconstructing orientation of the French choreographers of the 1990s and 2000s is the discourse on artistic work that has most clearly adopted influences from Judson in its re-examination of staged representation. The lighting design used by these choreographers – including Xavier Le Roy, Jérôme Bel, Eszter Salamon, Emmanuelle Huynh, and Boris Charmatz – tended to dismantle the illusion of the stage and support seeing the event by reducing the visual register and its own possible meanings.

Jérôme Bel's choreography *The Show Must Go On* (2001) deals with the laws of the stage and the role lighting design plays as a constructor of meanings in theatre. In this work, Jérôme Bel builds representations by mirroring the meanings of texts into analogue, corporal, and staged activities. The work begins in the darkness as Leonard Bernstein's song "Tonight" begins to play. The lyrics – "Tonight, tonight / It all began tonight / I saw you and the world went away / Tonight, tonight / There's only you tonight / What you are, what you do, what you say" – underscore the simplicity of the event: we are here, this is happening now. During the next song, "Let the Sunshine In," the light slowly rises on the bare stage. We see the sound and lighting technician putting the next CD into the player, and the following song, The Beatles' "Come Together," brings the performers out on stage. Throughout the work, the lyrics of the songs guide the events on stage, and the performers find analogue actions based on the contents of the songs' lyrics. The activity is minimalistic and calmly concentrates around the core activity of each scene, giving time for layers of meaning to open up. It is only the fourth song, David Bowie's "Let's Dance," that brings dance movement onto the stage, and even then as a social, everyday event.

The lighting design plays an important role in the work, especially during the sequence when the performers are not visible; this is made up of "Yellow Submarine" (there's a yellow rectangular hole on the stage from which yellow light emerges), "La Vie en Rose" (the theatre is filled with pink light), "Imagine" (the whole theatre goes dark), and "The Sound of Silence" (the theatre is dark and the music is off, except during the words "the sound of silence"). The entire meaning machinery of the theatre and the relationship between the audience and the stage becomes the focus of attention.

Through his work, Bel wants to criticise the stability inherent to mimesis. He makes visible the historical particularities of the stage and the choreography,

> which have been: a closed room with a flat and smooth floor; at least one body, properly disciplined; a willingness of this body to subject to commands to move; a coming into visibility under the conditions of the theatrical (perspective, distance, illusion); and the belief in a stable unity between the visibility of the body, its presence, and its subjectivity. Throughout his work, Bel addresses each of these elements by exposing them, exaggerating them, subverting them, destroying them, complicating them. (Lepecki 2012, 46.)

Bel toys with the spectator's enjoyment in the world of equivalences by bringing to her awareness the analogy that exists between the lyrics of the pop songs and the people engaged in activity on the stage, as well as between their activities on the one hand and the lighting design on the other. According to Lepecki, Bel is asking:

> How does choreography's alliance to the imperative to move fuel, reproduce, and entrap subjectivity in the general economy of the representational? (Lepecki 2012, 46).

By destabilising this balance, Bel makes room for unclosed, open-ended, developing potentials in the performance.

Like Jérôme Bel, William Forsythe has deconstructed the laws of the stage and the preconditions for working with it.[15] Forsythe has broken up ballet technique into parts and re-assembled the work of ballet into an idiosyncratic theatrical *Wunderkammer*, where both the danced movement and the visuality of the stage are the targets of reflective aesthetic examination. His works leave hypercharged, astonishing, challenging, and intellectually stimulating traces. In studying the potentials of the stage, he has worked with the most traditional and frictive dance tradition: the forms of traditional ballet at major opera houses.

An interview Senta Driver conducted with William Forsythe and the American lighting designer Jennifer Tipton offers a good picture of the poten-

15 In Finland, e.g. Mikko Hynninen's Kiasma Theatre (2004) treated the machinery of the theatre as a performance of movement, light, and sound.

tials that those working at the tip of the production hierarchy could demand in the 1990s. Forsythe's ballets have most often been realised in theatres and opera houses with top-of-the-line equipment. He frequently designs the lighting for his works himself and dedicates as many as 25 stage rehearsals to lighting. All elements of the work are processed simultaneously, which is why lighting runs take place while the choreography is being created.

Forsythe's lighting design is stamped by diffused light and various tones of white. Most often he uses the temperatures produced by daylight filters as elements of design.[16] In the interview with Driver, he notes that he avoids front lighting and low sidelighting; in his designs the lighting is oriented high from the sides and the back, but he has also brought lighting sources to the stage and introduced the movement of the theatre machinery with its lighting booms into the overall dramaturgy of his works.[17] In his designs, it is important to get light on the stage to be material and flat – he wants the stage to be bright and clear, despite also having created stage spaces that are contrasting and having used large set elements and various pieces of technical equipment on the stage. To achieve this even light, he and his team have developed golden fabrics that reflect behind the proscenium arch or used powerful spotlights intended for movie productions, which can illuminate large spaces evenly from a single source.

Forsythe often refers to lighting design as a tool for composition. For him, lighting design and dance create the composition of the work in counterpoint to each other; he mentions George Balanchine as his mentor in staged counterpoint in the ballet tradition – and the lighting design for Balanchine's works was often the handiwork of Jean Rosenthal. Forsythe has created his own aesthetic canon for how a dancer appears in his works. Rosenthal's lighting design highlighted the dancers as plastic elements through sidelighting, whereas in Forsythe's works, the dancers are often moving as if under working lights, albeit bright and even ones; the light fills the space and creates a special mood for each work (raw, warm, or bright). In this aim, Forsythe is continuing and refining the aims of Appia. This overhead emphasis in his lighting design also makes it possible to articulate virtuosic movement without the lights blinding the dancers, as the traditional sidelighting can be very difficult for dancers during movements demanding balance.

16 LEE 201 Full C.T. Blue (changes tungsten [3200K] to photographic daylight [5700K]) and LEE 202 Half C.T. Blue (changes tungsten [3200K] to daylight [4300K]).

17 The lighting bridge at the Frankfurt Opera is 30 metres above the stage. In Forsythe's designs, the ideal height for the light sources is 24 metres.

William Forsythe: *Sider* (2011). Photo: Julia Reichelt.

Senses and seeing: the impact of light art on the dance stage

Since the 1960s, light art has developed into a genre of its own. The light spaces and sensitivity Appia dreamed of have become reality in the works of, for instance, James Turrell (1943–) and Olafur Eliasson (1967–).[18, 19] Light has become an expressive medium in its own right. Through lighting design, many light artists have indirectly had an impact on how our sense of light and the corporal events of seeing and viewing are understood in dance art.

James Turrell's art consists of light and space. In his works, the viewer's perception of the work changes in relation to his use of space and time. Arriving inside or in proximity to the light space creates a shifting experience of light and colour. This observation changes with time – often the intensity of Turrell's monochromatic light spaces grows, while the colour being experienced changes

18 Turrell 2016.

19 Eliasson 2016.

through the experiencer's bodily adaptation. Turrell's interest in the psychology of perception steered him to study this extreme spareness of sensory impulses. In his series *Dark Spaces,* he explored the limits of perception and how perception of colour changes according to amount of light. He noticed that when moving into very little light, the event of seeing becomes the focus of the attention and our sense perception swings between and even merges internal perception and external perception. (Govan and Kim 2013, 94–97.)

Choreographers have also been interested in this artistic potential involving sensoriness and perception. In dance, the connection between sensitivity to the sensory experience of light and movement is plain. The movement is silhouetted differently in bright light than in dim, and as the intensity of light diminishes, we arrive at an area of perception where it becomes difficult to distinguish a moving object from the sensory stimuli of the retina. Very dim light confuses our ability to perceive – we no longer perceive distances, shapes, or colours as precisely bounded impressions; instead, our brains begin to generate uncertainty, changes, wavering.

One work inspired by the extreme limits of our perception is Jefta van Dinther, Minna Tiikkainen and David Kiers' *Grind* (2011).[20] The work operates at the fringes of the spectator's perception. One feels like they can almost distinguish the shadow of a panting, ponderous figure in the dark space, which is filled with heavy techno music. Later, a dancer dressed in black spools a cable in his hands, like a cowboy coiling up his lasso rope, while bouncing against the back wall. Both the wall and the figure of the dancer appear to be moving, guided by light pulsating in time to the music – rat-a-tat-tat changes in the orientation of the light, shifts in the colour of the light, and flashes create an optic counter-movement to the repetitive activity of the dancer; to the spectator, the figure seems to be moving against itself, jerking in two directions in the air. There is a point in the work where the vertical tremor of the movement encounters corresponding movements from the light and sound, intensifying from their combined effect. The work ends in a scene where a strobe light stops the dancer and the white rope he is twirling in the air with lightning-like strikes that, as they continue, weave onto the spectator's retina as a gradually morphing wall of light. Throughout the piece, Tiikkainen's lighting design keeps us aware of the event of watching, works on our perception of light together with movement and music as well as plays with the boundary between internal seeing and external perception.

20 van Dinther 2016.

Jefta van Dinther *Grind* (2011). Photo: Viktor Gårdsäter.

Dance in the era of post-internet art

The stage idiom of contemporary choreography reacts to the mediated reality of our era and takes influences from the images used on television, film, and the internet. As already noted, lighting designers have used all sorts of media in dance works; analogue and digital projections created with various slide and video projectors have also been broadly used in dance. Various virtual realities mediated by the internet, encounters facilitated by long-distance connections, and online material have become structural elements of stage reality, as video servers seek images from cloud-based services. The tools and software used to control the stage are almost exclusively digital.

Internet art and particularly the transition of the internet into a reality-permeating layer has also impacted the relationship between dancers and the reality of the stage; internet culture is no longer an isolated island but, increasingly, merely culture (Connor 2014, 61).[21] Many artists of the 2010s do not separate mediated realities from the contents of real life, but blend them and create their own referential relationships among the various forms of reality and virtuality. Examples include the works of Trajall Harrell or Florentina Holzinger and Vincent Riebeek, or the media works of Jacolby Satterwhite and their live in-

21 See e.g. Kholeif 2014 or Kholeif 2016.

carnations.[22, 23, 24] There is a visible trend in lighting design where the visual and often also virtual solutions of media reality and entertainment are copied to the stage; the effect of social media is also seen in dance works, for instance through YouTube dramaturgy: short frontal scenes of speech or dance.

In conclusion

Now, in the 2010s, the dialogue between lighting design and dance is rich and nuanced. The range of works is incredibly broad, and the resources available to artists vary greatly. Digital tools and the modelling of lighting facilitate much more flexible design work than in the past, which has in turn made it possible for lighting and colour to be generated with greater diversity, quality, and delicacy than at the beginning of the previous century. The development of LED lights, for instance, has expanded the universe of colour and its nuances; the originally difficult whites are easier to achieve with LEDs than with traditional spots and colour gels. Realizing colour changes and gradual transitions of colour is notably more flexible with digital tools; control over lighting situations and the programming capabilities of light desks are absurdly better than in the time of Jean Rosenthal or Adolphe Appia. Nevertheless, a dance piece is always a matter of artistic choice and the desire to bring the spectator into the presence of unique dance and lighting experiences. Advances in equipment never replace artistic thinking.

The relationship between dance and lighting design continues to change through the dialogue the artists engage in with each other and the audience. New equipment will make its way to the stage, expensive one-off solutions become everyday, and consumer products facilitate the adoption of previously expensive technologies. On the other hand, art also seeks to move beyond technological production, and in the future as well, artists will continue to use “found” performance spaces that highlight other elements of the performance. Performances built in nature or urban spaces that charge the space’s visual potential are also increasing, as artists’ interest in showing non-human agency as part of their works grows. In a choreographic work, a beam of light may also strike on a tree or a patch of moss. The source of light for a stage established in nature might be the sun or the moon: a performance illuminated by heavenly bodies.

22 Harrell 2016.

23 Holzinger & Riebeck 2016.

24 Satterwhite 2016.

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Jefta van Dinther: *Grind* (2011). Photo: Viktor Gårdsäter.

Ari Tenhula (1964) has been active as a dancer and choreographer since 1990, creating choreographies for dance companies and theatre and opera productions. He was the artistic director of Helsinki City Theatre Dance Company from 2000–2002 and awarded the Finland Prize in 2003. From 2006–2018, he curated the Moving in November festival in Helsinki. Tenhula worked at the Theatre Academy of the University of the Arts Helsinki as professor of contemporary dance 2008-2018 and vice-dean for teaching 2014-2018. He has been the managing director of Zodiak – Center for New Dance in Helsinki since 2018.

PART II

Dimensions of authorship

Fixed in advance or learned through process – what is the nature of contemporary performance lighting design?

MERI EKOLA

In this article, I investigate the preparatory stage of design, preliminary design, as part of the design process, using my personal experiences and interviews with several Finnish lighting designers as source material. I accomplish this by engaging in a dialogue with the methodology presented over 20 years ago by the US-based lighting designer Richard H. Palmer in his book *The Lighting Art* (1994), which I turned to as a theory-hungry lighting design student and a young professional; it was long one of the few works on lighting design that approached it as something other than a mathematical-technical field. Since that time, I have examined my activity as a lighting designer in contemporary theatre, dance, and performance art and come to the conclusion that Palmer's teachings apply to my work only selectively; I have repeatedly ended up stymied when attempting to approach the design process from his vantage point.

The defining characteristics of Palmer's description of the design process that made an impression on me were *planning* and *intent*; in his model, the performance is built on a foundation of existing material: a dramatic text, a choreography of movement, or the like. For Palmer, design begins from the analysis of this existing material. Once this analysis has been done, the lighting designer prepares a manuscript of lighting cues for the performance, ultimately converting that plan into technical information for execution. (Palmer 1994, 11-12.)

The inspiration for this article was the desire to hear the experiences of other lighting designers regarding the design process and to compare them to Palmer's thoughts; I ultimately interviewed seven lighting designers working in contemporary performance during the spring of 2016. As the basis for the interviews, I used questions that broke down the preliminary design process; these questions also served as the framework for the interviews proper. I recorded the conversations and those recordings served as memory aids when writing this text. This study of lighting design comes at a time when the internal hierarchies linking the various elements of performance have crumbled and the premises for design have diversified in terms of both content and working method. I reflect the perspectives that arose during the interviews against my personal experiences of Palmer's notions regarding the content of the preliminary design phase and its position within the overall design process; in doing so, I consider the extent to which contemporary design diverges from the practices described by Palmer. I cite two recent dissertations – Yaron Abulafia's *The Art of Light on Stage: Lighting in Contemporary Theatre* (2016) and Tomi Humalisto's *Toisin tehtyä, toisin nähtyä: esittävien taiteiden valosuunnittelusta muutosten äärellä* (Done Differently, Seen Differently: On Changes in Lighting Design in the Performing Arts, 2012) – both of which do a deep dive into lighting design and changes in its operating culture. In addition, I turn to two texts that deal more broadly with the characteristics inherent to contemporary performance – Annette Arlander's article *Tekijä esiintyjänä – esiintyjä tekijänä* (Performer as author – author as performer, 2011) and Hans-Thies Lehmann's *Postdramatic theatre* (2009) – to confirm my observations on changes in the methods used in the field.

The environment in which a lighting designer operates in contemporary performance diverges greatly from that field of the performing arts into which Palmer's text situates the lighting designer. The model of producing financially profitable content in a director or choreographer's wake is not in and of itself a thing of the past; however, it is generally executed within a different production framework than most contemporary performance currently is. The most experimental and *unusual* contemporary performances often take place outside convention-perpetuating institutions where production pressures are great. The theatre theorist Hans-Thies Lehmann asserts that postdramatic theatre is "more presence than representation, more shared than communicated experience, more process than product, more manifestation than signification, more energetic impulse than information" (2009, 85). To my mind, this quote accurately describes the current movement taking place in contemporary performance.

In Palmer's description, lighting design is stamped by nearly-unquestioned deference and servitude: one of the lighting designer's most critical skills is the ability to absorb and adapt to existing conditions. Greatly simplified, Palmer's (1994, 11) conception is one in which a lighting designer's creativity is targeted at adapting and advancing ideas handed down from above within an area of responsibility indicated by professional title – in this case, the expressive medium of illumination. He views as nearly utopian circumstances in which the lighting designer would work in close collaboration with the rest of the artistic team and be given both artistic responsibility in terms of the overall concept and decision-making powers. And yet these circumstances are almost taken for granted today; the lighting designer is incontestably viewed as a member of the artistic team from the outset of the project. Progress towards a more collaborative method and the light's increased autonomy as an expressive medium have come hand in hand. (Abulafia 2016, 246.) This reflects a fundamental hallmark of contemporary performance: the lack of hierarchy that permeates the entire creation process, from power structures within the artistic team to the way the various forms of expression are set on the stage. The lighting designers I interviewed see design work as still a service-oriented profession at heart, but the "client" is not any one person, such as the director or choreographer, but the entire artistic group and the performance itself. This approach to work is experienced as interesting; it advances towards a shared goal, not the preferences of an individual. The lighting designer always tries to understand the artistic team's shared motives, what it is trying to accomplish together.

Almost without exception, working with contemporary performances is experienced as process-oriented – and in the context of contemporary performance "process" means "approach" more broadly; it is much more than the gradual, step-wise progress and concurrent development of ideas that Palmer (1994, 11) saw it as. Based on my personal experiences, "process" means the creation of the performance's material in a process and spirit of collaborative design, without a vision mandated by any one individual. The idea of the performance is approached through the people involved, turning the collaboration into the basis for mutual interest in the other members of the team and their thoughts and the shared desire to create something special together. The starting point for the work becomes every individual involved in the project, with her unique traits, areas of interest, and individual expressive methods. It's as if all members of the artistic team, including the lighting designer, offer themselves and professional skills as the source material out of which the performance itself is created. The

artistic team is assembled like a band, and everyone has an impact on what sort of music the band plays. Performance artist and researcher Annette Arlander (2011, 97) considers this working methodology, grounded in the ideology of the group, as an example of the attempt to avoid traditional hierarchies and power structures in contemporary performance.

In my conversations with the lighting designers, we often touched on questions of professional identity and areas of responsibility. Many of the interviewees pondered whether preliminary design can even be separated into a distinct phase of the design process, and if so, on what grounds. The very notion of *preliminary lighting design* is experienced as a historical relic of sorts. "It's reminiscent of a time when a lighting designer was supposed to redeem her place among the rest of the design team working on the performance, and there was a need in institutional theatre production to differentiate the designer's identity from the technical lighting staff," notes sound and lighting designer Mikko Hynninen (2016). Many lighting designers experience their professional identity much more expansively than expertise in the field of lighting design alone. The lighting designer Tomi Humalisto speaks of the role's "expansion" and the introduction of "additional, parallel roles." A natural extension of the role of lighting are other visual elements of the performance, such as scenography and space design (Humalisto 2012, 284). Nearly all the designers I interviewed experience their praxis as being located to a great extent inside the category of dramaturgy, even though they do not receive separate recognition or special mention as dramaturges. More open-ended titles, like "dramaturgic dialogue" and "outside eye" have appeared in the programmes of contemporary performances in recent years, and the individual found behind such titles often has a background as a lighting designer in addition to other experience. As professional roles blur, the lines between areas of responsibility bleed; in some performances, distinguishing between the areas of responsibility is left wholly undone and the work is signed as a unified artistic team. Indeed, Arlander notes that, at its best, collective shared practice is self-organising collaboration based on mutual trust, love, and friendship, and at its worst leads to power structures that are unspoken and thus trickier to recognise and dismantle. (Arlander 2011, 93, 97.)

It is apparent that this fluid professional identity reflects the shifting character of the operating environment that the lighting designer adapts to from one project to the next. Every new project is a new beginning, an expedition into other people, a new environment, an unfamiliar topic, and one's self. As a result of these ever-transforming roles, Humalisto speaks of the authors of contemporary

performance as "professional dilettantes" who are forced or want to be forced into the presence of new solutions or challenges (Humalisto 2012, 285–286). I personally feel like a beginner at the outset of every new project, because I am always obliged to reset the principles that guide my work. Fundamental questions arise in my design process again and again: What do I base my design on? How do I collaborate with the other individuals participating in the performance and the other elements of the stage? How do I address each situation with the aim of the lighting design becoming an indivisible element of the performance's content? In the wake of such questions, it feels as if my approach is realised in a new way each time and differently than the time before. It is only over the course of the process that I learn the work and come to see the sort of design it requires.

In contemporary project-type performances, either an individual or a community serves as the convener of the artistic team. The convener almost always has an idea for the future performance that is verbally well-developed – as a result of drafting various applications for collaboration and funding – but usually still abstract. In the design process described by Palmer, the performance idea always manifests as a dramatic text or some other ready material that acts as the base on which to build the performance. In my view, this is the greatest distinction between Palmer's notions and the premises of contemporary performance, where the performance idea is simply a starting point and does not implicitly include any existing material that is presumed will appear in the final performance. This idea may approach the performance at the thematic level or, say, as a research question. It acts first and foremost as a starting point and springboard for joint authorship. The preliminary design phase consists by and large of familiarisation, which takes place through being present in situations, sharing one's thoughts and listening to others. Reference material – in the form of, for instance, image, text, video, or event – acts as a shared something to grasp onto and conversation opener. It serves as a channel into another individual's thought process and prepares the ground into which the shared work can be rooted.

According to Palmer, analysis of the performance material is what carries the organisation of the performance elements forward into an execution. During the preliminary design phase, the lighting designer engages in a dialogue with the artistic team regarding questions that unpack the performance material and its elements and address the themes, moods, and events they offer. In this task, the artistic team and lighting designer have traditionally used a scene-by-scene analysis in tabular form: this is a tool for distinguishing the elements of the performance and clarifying the events described in the source material;

the characters who participate in them; the time and place; and other circumstances characterising the event. This table model presents the contents of the performance text via concrete questions: what, where, when, who. Using the information laid out in the table, the lighting designer and the artistic team build up a shared understanding of the performance text and a foundation for closer, element-specific analysis. And based on this dissection, the lighting designer can start constructing the lighting plot and concentrate specifically on questions involving the nature and quality of the light – such as how to communicate the desired ambiance, how to build the rhythm of the performance through lighting changes, and how to depict the surrounding conditions, such as the time of day or changes in an event's environment – through that plot. (Palmer 1994, 12–33.)

When the lighting designer joins a process-driven performance project, she is not faced with the analysis of existing material. Even so, one of the fundamental pillars of preliminary design does exist: the posing of questions to one's self and the rest of the artistic team. Where are we? What are we doing? What are we dealing with here? And why? The focus of the analysis has shifted out of the fictive frame of a stage reality to touch more broadly on questions of the performance's existence; this is a consequence of a broader shift in conceptions of reality in contemporary performance. It can no longer be taken for granted that the stage will serve as the frame for an autonomous, closed world; contemporary performances increasingly strive to create an experience that permeates both stage and auditorium, in which the events on the stage become part of the prevailing reality. The equal weight given to reality and fiction is a significant core element of the postdramatic paradigm (Lehmann 2009, 178). Like the other members of the artistic team, the lighting designer comes up against abstract questions applying to the performance as a whole instead of resolving questions involved in the creation of representation. Indeed, Lehmann speaks of situational theatre (Lehmann 2009, 128). In his interview, the lighting designer Jani-Matti Salo (2016) uses the expression "framing" to refer to the conceiving of the performance's overall concept: "The important thing is to, along with the artistic team, understand what fits inside the frame of the performance and what will be left outside the frame. The aim of the framing is to define the methods and styles of expression, structures and the relationship among the elements of the performance and between them and the environment." For Salo, the key is determining how the work aims to communicate with the spectator. Defining and acknowledging the performance frame is essential for the lighting designer to be able to move forward with her design and grasp the register of the light.

During preliminary design, the lighting designer considers the perspective of her expressive instrument in relation to the whole that is under construction. In this process, the lighting designer relies on the thought structures that distinguish the various elements making up the performance, as well as parallels borrowed from the methodologies of other art forms, such as the fine arts, music, and architecture. For example, the lighting designer Erno Aaltonen (2016) uses the structural way of thinking about music as an aid in conceiving his lighting ideas; the terminology of music becomes a concrete tool for grasping the abstract, non-linguistic material of light. During the preliminary design phase, rhythmic sequences form in Aaltonen's mind that depict the changes in lighting; these transform into visual gestures as the lighting design process advances. The lighting designer Kristian Palmu (2016), for his part, tries to use adjectives to name the mood for the performance's overall concept, seeking correlations in the characteristics of light. This forms a juncture between the performance and the lighting idea that serves as a guiding principle during decision-making and is reflected in solutions regarding the quality of light. I personally tend to think of light as an adhesive material that keeps the performance event cohesive; I examine its dramaturgic structure and visual nuances from this perspective. As a concrete reflective surface for my thoughts, I use the space and the situation created jointly by the space and the light – the experiential sphere into which the spectator is invited through the performance. In my lighting solutions, I strive to engage in a dialogue with the spectator position proposed by this situation and the experiencer's subjective conceptions, and in this way be connected to the performance as a whole.

The interviewees were of a mind that the primary aim of preliminary design is to create a conceptual backbone for one's work: the lighting concept. In Palmer's (1994, 56) view, this concept is the central "product" that the lighting designer generates through her work and – hopefully successfully – sells to the rest of the production team. But the lighting designers I interviewed experienced the concept as a personal tool more than anything else. The concept allows the lighting designer to react to shared conversations regarding the performance in general; at times it may remain in the designer's secret language, the detailed grammar of which is illegible to the rest of the artistic team. The concept may also not be in any way outwardly discernible, but that is not relevant. The essential thing is that it act as a reference through which questions of design can be reflected. Ultimately the only one for whom the concept is essential is the lighting designer herself, because it serves as the pillar supporting and the surface reflecting all

her decisions. According to Palmer (1994, 55), the lighting designer's concept is at some level a visual manifestation of the work's overall concept and the claims it makes with regard to the subject of the performance; in contemporary performance, the relationship of the lighting concept to the overall performance concept is not this obvious. The overall performance concept rarely defines a perspective on the work that applies to all expressive forms, because in theory, the attempt to build it into a dominant tool has been abandoned. The parallel nature of elements (Lehmann 2009, 154) grants the lighting designer the responsibility and the freedom to choose the lighting approach herself. As Humalisto notes, it is also possible for a lighting design and related questions to serve as the premise for the performance concept; he cites *The Dark Project,* a performance mentioned in his dissertation, as an example. "The question of visibility and darkness was not exclusively limited to the domain of lighting design; it had a powerful impact on the performance as a whole: it forced [the artistic team] to challenge ways of thinking about the stage, the method of presentation, and the relationship to the audience." (Humalisto 2012, 292.)

The interviews indicate that the creation of the concept is the lighting designer's personal artistic work and clearly most independent phase of the design process; as a result, it is impossible to make any simple or general claims regarding its progression. Every designer has a to-some-degree established method of seeking and finding those impulses that lead to the defining of her lighting concept. The lighting designer's inspiration for the concept can well up from truly diverse spheres: abstractness, a personal relationship, room for interpretation, and intuitiveness are characteristics that arose during the interviews. In the introduction to his dissertation, lighting designer Yaron Abulafia acknowledges that the expressive dimensions of light have expanded as a result of technological advances over the last century, the rise of light art, and developments in the field of performance. The terrain of open association among the arts offers the lighting designer fruitful, freely workable soil burgeoning with representational possibilities and the artistic potential of the medium of light. (Abulafia 2016, 3.) Humalisto (2012, 284) feels that an expanded role grants lighting designers more room to move and thereby more freedom of expression as well as more opportunities to have an impact on the artistic end result.

An essential part of the lighting design process is understanding how to communicate about light. In the interviews, many of the designers mentioned striving towards communication regarding all elements of design, including the lighting, that was as open as possible to ensure a unified process. From the

lighting designer's perspective, it is important the other members of the artistic team understand the potential of light to serve as a meaning-transmitting medium alongside the performance's other elements; hence, it is essential to create a foundation for communicating lighting ideas – some collaborative instrument for bringing the members of the artistic team into a dialogue with each other. There is huge variation in people's ability to perceive light. When referring to different individuals' relationship to light, lighting designer Jenni Pystynen (2016) uses people's relationship to food as a point of comparison: "For some people, light is nothing more than a fundamental need, and they're satisfied as long as it's there, while others are very mindful of light's impact." Pystynen stresses the importance of understanding these differing sensitivities and needs. In my personal experience, conversation can be the best way of communicating thoughts with some people, but others find it challenging, as the abstract nature of language can easily lead to imprecision and obscure meaning. In these instances, visual examples have offered a way of grasping the impact of light that is more easily appreciated than verbal explanations. Sketches and scale models produced by the lighting designer during the preliminary design phase are essential elements of the material she uses to communicate her design, says Palmer (1994, 11). And indeed, many of the interviewees consider sketches and scale models convenient tools when discussing ideas, alternatives and, in particular, visual composition. However, the use of such visual material that leaves room for interpretation divides opinions. Some designers feel they easily give rise to misunderstandings and can do more harm than good; for others they are an essential supplement to the conversation. The interviewees see sketched studies as an essential element of preliminary design. Those studies are not, then, exclusively a tool for outwardly directed communication; they help the lighting designer progress in her independent work. When creating studies, the lighting designer becomes familiar with her own thinking and abstract ideas take their first concrete form. Transferring lighting ideas from a two-dimensional model into the three-dimensional world during the preliminary design phase gives the lighting designer the opportunity to participate in the shared work in a more egalitarian fashion. However, many of the interviewed designers mention the fact that few rehearsal spaces have the technical wherewithal to allow lighting rehearsals. Lighting experiments are often tested by adapting the source concept, gathering the available resources, and compromising on the final form; nevertheless, the key is having an opportunity to get any sort of inkling or sense of the physicality of the lighting at as early a stage as possible.

Palmer has a sceptical view of experimenting with lighting. To him, "playing with light" – in other words, testing out things that would clarify the desired visual design – is a waste of resources (1994, 10). In process-driven practice, on the other hand, practical experiments play a central role, as they actively create content for the performance. In her interview, the lighting designer Minna Tiikkainen (2016) relates how she often strives to organise her working conditions in such a way that even during the initial phases of the project, it is possible to test lighting ideas in practice with the rest of the artistic team. In Tiikkainen's experience, these early-phase lighting tests often carry through to the final performance, but "in order for the experiment to actually be of use, the design process has to be underway, and there has to be some notion of the lighting design concept before the practical work begins."

In my conversations with the lighting designers, the malleable form of many contemporary performances arose as a theme. A performance might, for instance, progress through sequential tasks or a temporal structure, in which cases the points at which the events and lighting converge may shift. Such works are guided by the notion that the performance does not achieve its permanent form on opening night, that the process continues through the final performances. In addition, many contemporary performances are site-specific in nature, in which case the designers have to take a stance on which elements of the performance are permanent and which are flexible when the performance is adapted to another environment. The lighting designer has to be prepared for the design process to continue as long as the performance goes on. In her interview, the lighting designer and scenographer Milla Martikainen (2016) asks, "How [can we] design in such a way that allows process?" The perspective of continuous process further blurs the lines between the phases of the design process and perhaps requires us to change our notion of the outcome of the lighting design as being a static goal.

The internal and external demands placed on the lighting designer's work from one project to the next shape the demands placed on and methods used during preliminary design, maintaining its ineffable nature. Preliminary design is, above all, a tool that can be used to acquire information as well as achieve various goals. We trap ourselves in a narrow and confining perspective in the context of contemporary performance if we conceive the sole aim of preliminary design as being the financially profitable illustrating of a specific outcome and a lighting designer's merits as being judged by the precision of calculating that outcome. Based on my personal experiences and those of the interviewees, the

key is understanding the diversity and interpretive nature of the notion of "preliminary design" and to know how to guide the design process using the wide range of methods entailed in preliminary design. This attitude makes it possible for the lighting designer to approach her work in a spirit of creativity and artistic freedom, with a personal touch. This means the significance of preliminary design as a part of the design process is, even at the theoretical level, absolute. It is the key to inspiration and the sensation of doing something worthwhile, as well as the foundation to cling to in the tempest of the project until the very end.

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The original interview material is in the author's possession.

Meri Ekola (1984) is a Finnish lighting designer who currently lives in Belgium. She received her MA in lighting design from the Theatre Academy of Uniarts Helsinki. She has experience working in the fields of performing arts and architectural lighting design as well as in creating light installations. The performance group Oblivia, the theatre group Blaue Frau, and choreographer Liisa Pentti have been her main collaborators over the last few years. She is particularly fascinated by the ability that light has to build and deconstruct tension.

Welcome to the jungle

In the footsteps of Sir David,
seeking the African sky

MINNA HEIKKILÄ

> It seems to me that the natural world is the greatest source of excitement; the greatest source of visual beauty; the greatest source of intellectual interest. It is the greatest source of so much in life that makes life worth living. (David Attenborough.)

According to my understanding, the quote above is one of Sir David Attenborough's best-known statements. It also happens to be an excellent characterisation of a 2015 production I worked on, in which we plunged deep into the heart of the African jungle. Sir David Attenborough (1926–) is a British journalist and cultural anthropologist familiar to TV viewers from the various series of nature documentaries he has narrated for the BBC since the 1980s, starting from *Life on Earth.* Also broadcast on Finnish public television, the opening credits to those series continue to bring up some of my childhood's most visually indelible memories: I can still see a herd of giraffe wandering across a fiery sunset, thousands of pink flamingos taking off into flight, kangaroos boxing against a turquoise backdrop. These are the images that instantly came to mind when I was asked to be the lighting designer for a musical set in Africa.

In this production, I used stylised natural phenomena as dramaturgic elements to carry the narrative forward, in some ways following the example of Robert Wilson (1941–). In his work *Postdramatic Theatre,* Hans-Thies Lehmann mentions Wilson as being one of the most significant developers of theatre methods, analysing his works thus:

> According to Richard Schechner, the plot of a drama can easily be summed up by compiling a list of the changes that occur to the dramatis personae between the beginning and the end of the dramatic process... they can be recurring metamorphoses analogous to natural processes

> or belong to a temporal form that is symbolic and cyclical.... painting with light reinforces the idea of a unity of natural processes and human occurrences... (Lehmann 2006, 77, 80).

The way we see when we observe nature is suited to expressing our deepest feelings and, I would venture, to some degree familiar to those uninitiated in the theory of theatre. Our everyday speech is littered with metaphors grounded in nature, and the interpretation of dreams finds numerous meanings for all kinds of phenomena. We've no doubt all heard that someone has a *sunny smile* or *a cloud hanging over their head*.

Abundant examples of the symbolic use of natural phenomena can be also found in the visual art of the late 19th century. The French artist Paul Gauguin (1848–1903) is considered one of the pioneers of the *synesthetic* style. Gauguin had little interest in depicting in a literal manner the things he saw; he sought out new themes and techniques in order to interpret his emotional reaction to the subjects of his paintings. Through the use of strong colours as dramatic, emotionally charged, and expressive elements, he wanted to question the prevailing impressionist aspiration towards naturalness. (*Synthetism* 2016.)

A young teacher's first night in the jungle. Photo: Minna Heikkilä.

The White Man's Grave and the mirror of emotions

Das Grab des Weissen Mannes or *The White Man's Grave* is a nearly four-hour musical set in Ghana two hundred years ago that sheds light on how the first missionaries from the Basel Mission were forced to face the new and unfamiliar when traveling deep into the jungle. The focus of the production I worked on, which was performed in Basel, Switzerland at Eastertime 2015, was not the narrative per se, but on exploring the main characters' developing sense of self and identity. The work's music is dramatic, including both Bach oratories and religious material.

In conversations I had with Kaspar Hort, the musical's writer and director, it quickly became clear that we both wanted to bring to stage a sense of the jungle as a pitiless environment where nothing is familiar or safe. During the performance, this mood served as a mirror of sorts through which we investigated the characters' interpretations of themselves in the face of the unknown. In its oppressive heat and humidity, the jungle is extreme, alien, wild, and unforgiving of human weakness, and thus ended up the final resting place of many a zealous preacher. Often, the individuals in the work are simply incapable of adapting to this new environment. Attenborough says:

> The whole of science, and one is tempted to think the whole of the life of any thinking man, is trying to come to terms with the relationship between yourself and the natural world. Why are you here, and how do you fit in, and what's it all about. (*Brainy Quote* 2016.)

The performance in its entirety was reminiscent of the postdramatic theatre Lehmann described, as it lacked the imitation-based depiction of a plot-driven world characteristic of dramatic theatre. On one level, the aesthetics of the performance followed the narrative conventions of epic theatre, even though it didn't attempt to knit events into various scenes of action through a frame of continuity (Lehmann 2009.)

The inspirations for my work, then, were actual, naturalistic African phenomena that, much like Paul Gauguin, I tried to plumb for elements that best characterised a given emotional state; at the same time, I tried to avoid turning the result into a patchwork of kitsch. This framework is also supported by the style of the work's music, so we strove to reinforce the idea of the extreme living conditions in Africa without resorting to over-abstraction. As a whole, the colour scale and main lighting angle I settled on can be found in natural phenomena.

A missionary succumbs to malaria. Photo: Minna Heikkilä.

The search for extremes in my Africa

What, then, is the essence of Africa? I have to admit I have not been there – yet. Because visiting the geographical location of the play's setting was not possible for me, I benefitted from the fact that I have been to the Equator in Southeast Asia, so I had some first-hand understanding of the natural conditions. When I create a lighting design, I always conduct thorough image-based research and groundwork to form a notion of what is essential to the theme and how I can find intriguing lighting-dramaturgic perspectives on it. In this case, my goal was to discover an idiom where the setting was clearly identifiable but not necessarily in a naturalistic way. Visions from *Life on Earth* and of Attenborough crawling into an enormous termite mound and hunting rare fireflies lurked in the background of my artistic design process. But to create a credible experience for the audience, I felt I needed more.

Does a stereotypical image of Africa exist in Nordic or European thinking? For me, the first things that come to mind are the vivid hues and patterns of African figurative art and textiles. Batik, colourful woven baskets, multi-layered bead necklaces, skilfully painted clay vessels. A Google search of the terms “African art” and ”African culture” instantly produces a screen full of more or less abstract images, all of which share a striking richness of colour and distinct contrasts. Ultimately, these images are not so far from the paintings of Paul

Gauguin. These representations may not apply to the entirety of the vast, culturally diverse continent, but they influenced my personal visual associations.

Another inspiration to arise, in addition to art and culture, is the contrast between the dusty dryness of the savannah and the incredible lushness of the rainy season, oases, and the jungle, how when the rains finally arrive, everything bursts into fleeting bloom in the blink of an eye. Based on my own experiences in Asia, the quality of light also abounds with contrasts; the angle is completely different from what we are accustomed to in the Nordic countries. On the searing savannah, the amount of light is blinding, making it difficult to distinguish a mirage from reality through the shimmering air. And then the dense jungle is magically dim, even during the day. Africa is not only a continent of exotic animals; it is a continent of contrasts.

That's why my Africa is straightforward, passionate, extreme in its expressiveness and bold in its hues, all of which is evident in the traditions, arts, dance, and mundane objects of the nations who live there.

My own experiences of Equatorial climate zones supported the notion of certain superlativeness: when it rains there, it rains in a deluge, and when the sun shines, you can fry an egg (or a pale Nordic tourist) on the sand.

During my background research, I came to the conclusion that, for me personally, there were a handful of lighting elements that gave shape to both the continent and the "mirror of emotions" I was going for as a visual framework: the extremely short shadows cast by vertically angled overhead light mimicking

Mission workers doing daily chores in the mission yard. Photo: Minna Heikkilä.

the angle of Equatorial sunlight, the expressive colour saturation of the sunrises and sunsets (cue the giraffes from *Life on Earth*), ceaselessly moving nocturnal shadows and perpetual mist. For the backbone of my lighting design, I settled on simply bringing the daily cycle of the Equator into the performance space, because the musical as a whole can also be viewed as a certain sort of 24-hour cycle. The sharply angled overhead light imitates the direct overhead orientation of the blazing Equatorial sun while simultaneously creating the impression that hiding is impossible. It's as if the individual in this landscape were under a magnifying glass, naked, with no escape. The tones I chose are rich and strong without being synesthetic, which would have conflicted with the reference frame of a musical. The initial scheme is an optimistic, hopeful morning of new possibilities as the missionaries arrive in this utterly new corner of the world. As the performance progresses, the circumstances and mood grow more fraught, as the characters encounter illness, cultural conflicts, and other unforeseen setbacks. This culminates in the death of a character, which arouses a storm of emotions: fear, anger, despair, grief, and resignation. Meanwhile, unexpected if questionable encounters also take place: a forbidden love condemned by the church blazes up passionately. And as so often happens in musicals, morning and fresh hope ultimately dawn for those who have survived their tribulations and emerged victorious.

In a certain way, *White Man's Grave* represents the sort of traditional tableau stage space that, for instance, Robert Wilson often uses in his works. Lehmann's description of a tableau accurately characterises this performance of *White Man's Grave*:

> At first glance, the stage is programmatically distinct from the house, a sort of framed tableau. The holistic internal order of the stage takes precedence....in the productions of the Wooster Group and Jan Lauwers' production as well as many of the works of Jürgen Kruse, attention is called to the performers being placed right at the front of the stage, near the so-called fourth wall....this creates an impression of a composition; setting the actors on the ramp inevitably calls up associations of a painting. (Lehmann 2009, 276–278.)

But we wanted to move away from a purely tableau arrangement. Offering the audience an all-encompassing experience and toppling the fourth wall felt like an interesting challenge. In the words of Susan K. Langer, the lack of the fourth

The final scene. This was the mood when the audience exited the room. Photo: Minna Heikkilä.

wall means “each person becomes aware not only of his own presence, but also of other people’s...” (Lehmann 2009, 107). This is why, at an early stage, we decided to expand the 24-hour cycle of daylight to encompass the entire space, including the audience. The full-day cycle would be present as a suggestion, leaving room for the audience to comment on the characters’ emotions. I wanted the audience to get the sensation that they, too, were deep in the jungle and experiencing the performers’ emotional states over the course of the cycle through the colour of the light falling over them. The spots I placed in the audience area followed the main light and the lighting changes that took place on stage, casting the audience in a slowly shifting imitation of foliage created with gobos. I depicted positive emotional states with a relatively neutral, warm-tinted white midday light; on stage, this was vertically angled overhead lighting, which reinforced the notion of an individual under constant surveillance and of hiding being impossible. Passion was mirrored by the strong orange and crimson tones of sunset.

Mystery and hidden intentions were interpreted by the cold white of moonlight.[1] The gobos used in the audience didn’t change during the performance; the foliage remained the same throughout, although the image was slightly enlivened through a double effect: the gobo’s precision and rotation moved in a

1 Created with a Lee 200 Double C.T. Blue filter.

The Oekolampad performance space, about halfway through construction. Photo: Minna Heikkilä.

slow rhythm at an approximately ten per cent scale, mimicking the movement of leaves in the wind.

Challenges with the performance space

Oekolampad Allschwilerplatz is a former church: an expansive, tall, white-walled room that currently serves primarily as a seminar space. The building is of local historical significance, and for this reason the room is a protected architectural cultural heritage site. This made my work unusually challenging, as we could not so much as drill a single hole into the wall. Furthermore, the equipment and rigging of the smallish proscenium stage were no longer safe to use. Instead of being able to easily create a lighting design that made use of the theatre's existing structures, I had to design a stand-alone, wholly freestanding system that could carry the weight of the lighting and sound equipment as well as any necessary set elements. On the other hand, building everything from scratch naturally made it possible to hang the lighting elements exactly where I wanted them. In the final execution, we used 312 metres of metal truss pipe to rig the spots, which in addition to providing lighting for the room as a whole, provided three rows of front, overhead, and backlights.

The heart of Africa and emotional mirroring in practice

Flexibility in the technical solution was critical, because it was almost impossible for me to get detailed, accurate information on the details and precise scale of the set in a timely fashion. Despite my numerous requests, the set designer refused to meet with me, which meant that all the concrete information I received was communicated through a few examples and sketches shown to me by the director. The only three things I knew for certain were that an extension would be built onto the front of the proscenium stage proper to increase the stage's square footage, that the pulpit would be transformed into a large wawa tree, and that the tree's foliage would be suggested by three-dimensional cardboard mobiles. The ways in which the set designer wanted to concretely interpret Africa in conditions and ambiance remained a mystery to me until we moved into the actual performance venue.

After discovering the set designer's lack of interest in collaboration, I was forced to base the majority of my artistic design process on conversations I had with the director and old photographs I saw in the archives of the Basel Mission. The director and I spoke a lot about the mood and dramatic arc of the performance, but he didn't want to offer input on the technical solutions proper. It was essential for him that Africa appear believable, if not necessarily naturalistic, to the audience. I had to trust that the set designer had received similar instructions and, with luck, the pieces of the puzzle we were building would click into place onstage.

Rehearsals took place in a space approximately three times smaller than the actual stage, with rolls of toilet paper used to mark off the stage's various areas. Needless to say, sitting in on rehearsals did little to help me conceptualise the space, so I had to finalise the lists of equipment for the rental bids in such a way that the equipment would be able to handle almost any challenge that might arise during the stage rehearsals.

During stage rehearsals, the set design did gradually take shape, and eventually the mission facade and grass huts in the jungle stood at the rear of the stage, which consisted of the proscenium stage proper and the two extensions. The pulpit truly had transformed into a massive tree trunk, and three mobiles dangled over the stage extensions, each draped with hundreds of slowly swaying origami flowers and shimmering rattan balls. Hemp ropes crisscrossing between the trusses imitated lianas. At my request, the rear wall of the proscenium stage was left as open and white as possible.

As lighting equipment, I selected 20 Martin Mac Aura LED wash spots and 14 Vari*Lite VL3500Q Spot profiles, because both of these moving spots are extremely flexible thanks to their wide-aperture zoom. I executed the front light with ETC Source4 25–50-degree 750-watt profile spots and the colour washes on the rear wall with 500-watt asymmetrical flood wash spots. For a little extra spice, I tossed a few Martin Atomic 3000 Strobes, a Lycian Starklite 1271 follow spot, and four fog machines into my stew of lighting equipment.

I used the Mac Auras for downlighting, which interpreted my notions of the Equatorial sun and the short shadows it generated as well as relentless surveillance. The VL3500Q profile spots were positioned as high sidelights from the right in both the stage and the house, with gobos to break up the light and create the slowly shifting and changing effect of foliage. The effect changed colour according to the time of day, creating the impression of sunlight or moonlight filtering through the jungle's canopy. The fog machines blew a thin mist for the duration of the performance, which made the beams of light visible and thus reinforced the illusion of a misty jungle.

The sky as storyteller

As I studied the performance space, it occurred to me that my lighting design had to have some sort of unifying element that would bring my concept together. Something that would lift the overall visual design above merely naturalistic interpretation to the next level of expressive dramaturgy. It was a lucky break that the rear wall of the proscenium stage was white, and that I had managed to convince the set designer to leave it that way. I thought I would use the rear wall as the sky, which in the end proved to be the most important dramaturgic element of my lighting design. The sky breathed according to the time of day and interpreted the emotional states emerging from the story, adjusting from nearly black-and-white to a coloured glow as needed: at the beginning, when the eager, naive missionaries arrive, happy, cottony clouds floated in a blue sky; when forbidden love blossomed, the sky was stained into a flaming sunset inspired by *Life on Earth;* and with the death of a beloved brother, its monochromatic thunderclouds told of fear, grief, and pain.

The practical realisation of the sky-wall proved to be a complete surprise to me, too. I lit the wall with flood spots: two different blue tones from above and an orange from below. I aimed one of the VL3500-profile spots on top of the colour wash, using two different standard gobos: a gauzy, static Alpha Rays for the night sky, and for the day the world's ugliest triangular break-up softened

The brother's funeral. Photo: Minna Heikkilä.

with a slowly revolving Glacier Gag gobo. In the end, no one had any idea how clumsy the triangles originally looked. Sometimes you end up at an interesting result through sheer chance.

A church as a performance space

As a space, churches are generally acoustically designed so that everyone, all the way to the back row, can clearly hear the Word of the Lord. This proved to be the biggest challenge in this production. Equipment that in normal conditions seems relatively quiet was suddenly incredibly loud, which simply hadn't occurred to me. We were forced to turn the fans on all of the moving elements to the minimum setting, while the DF50 fog machines I had initially ordered proved utterly impossible to use: they sounded like someone had started up a tractor. That being the case, I had to top off my equipment with two Tour Hazer IIs to achieve the thin, even mist I wanted wafting across the space throughout the entire performance.

We left the enormous organ to the left of the proscenium arch untouched, because the musical included the organist playing Bach's *Toccata and Fugue* live. I was surprised by how little attention the metal surfaces of the massive instrument drew during the course of the performance. My guess is the set featured enough elements that "broke up" the space that the organ seemed to, in a sense, retreat into the background. In terms of my work, the *Toccata and Fugue* was the sole extremely abstract dramaturgic moment in the performance,

and the exception that reinforced the rule. The first act ends in an earthquake that destroys the entire mission station and slides into an eight-minute solo that brings the organ into the centre of the performance. At the director's request, I built a spectacle-like choreography of moving light, in which the narrow, white beams of the Vari*Lite spots danced throughout the entire space. Through the monumental sound of the organ and graphic choreography of black-and-white light, we made Africa and the mission momentarily disappear and carried the audience somewhere completely different, into a metaphysical inner landscape. Nevertheless, programming this spectacle in the middle of the performance was insanely challenging, because the organist didn't play the piece at the same tempo or in the same way twice. And so I decided to build the entire choreography from distinct parts I manually initiated once the organist got to the right spot.

How did the lighting designer do on her journey to the mission?

During rehearsals, I was a little uncertain if I was carrying the story in the right direction, because I got very little feedback from the director. My inference that "no news is good news" was accurate, however: the director and the rest of the artistic team, including the representatives of the Basel Mission, proved to be practically spellbound by what they saw; they just didn't think it necessary to tell me. It was only sometime around opening night that the director remarked that he had stopped paying any attention to what I was doing long ago, because what he had seen more than fully met his expectations. This is not an unpleasant place to be in, but it can leave a designer at loose ends. The director is a long-term theatre practitioner, but as is often the case in Switzerland, I didn't get the impression that he was particularly well informed as to the possibilities lighting afforded as a narrative element. I'd say that, aside from a few "Wow!" moments, the majority of the nuances I built into the lighting concept escaped him; nevertheless, in his mind the end result bore out the vision I had presented in my preliminary designs.

It's always good news when the production team is satisfied with the outcome of the work, but a performance doesn't truly undergo its baptism by fire until experienced by an impartial audience.

I was worried that the audience would feel my work was overly expressive, but the for the most part the feedback I received was positive. "Normal" audience members and professionals in the field alike felt they had been credibly and movingly transported to another time and place. As a result, I was asked

Forbidden love blazes up in sunset colours. Photo: Minna Heikkilä.

to write an article on the topic for the journal for Swiss professionals in event technology, the quarterly publication *Proscenium*.

The highest number of dissatisfied comments I heard had to do with the audience seating being present in the space and jungle for the duration of the performance. This did not correspond to the audience's accustomed way of experiencing theatre, where one sits in darkness and watches events on stage. In addition, some spectators felt that the visible light sources, some of which were trained on the audience, detracted from their ability to concentrate on the performance. But neither the director nor I wanted to wholly give up on this idea, so during the course of the production I fine-tuned the intensity of the light directed at the seating, leading to less grumbling from the audience.

White Man's Grave has hands-down been one of the biggest and most challenging productions of my professional career to date, and I feel I successfully made it to the goal, having navigated the majority of hurdles I came across. I can say that, on the whole, I'm satisfied with the final visual expression, and the few unpredictable surprises that arose during the programming stage worked as positive accents in the final product. I even managed to include those fireflies Attenborough had hunted for with such gusto.

I wonder what Sir David would have made of that?

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Minna Heikkilä (1974) is a freelance lighting designer based in Basel, Switzerland. She has worked in the performing arts since 1996. She has an MA from Theatre Academy Helsinki (2008) and a BA from the Häme Academy of Applied Sciences (1998) and has worked as a designer for productions in theatre, dance, opera, and concerts around Europe and Asia. In addition to designing, she works as technical director of Theater Roxy, Birsfelden, tour manager and board operator, and chaired the jury for the 2016 Light Design Award in Prague. Minna takes life easy and her work seriously.

Lighting design in transition

On expanded lighting design
and the expanding role of the lighting designer
in contemporary performing arts

RAISA KILPELÄINEN

It's rare that edited volumes are published in the field of lighting design, especially in Finland. As far I know, this publication is the first of its kind to appear in Finland, which makes contributing to it a unique experience. It also makes it difficult: What perspective should I write from? What do I want to say about the field of lighting design right now? There are multiple potential topics: the history of lighting design in the Finnish performing arts, lighting design and dramaturgy, lighting design for postdramatic theatre, the spatiality of lighting design in staged works, lighting design and interaction in performances, the relationship of lighting design to immersion, the relationship of the lighting designer to the rest of the artistic team, various perspectives on preliminary designs, the political dimensions of lighting design, a cultural-historical perspective on light, awareness of working methods in lighting design for contemporary performance, or, say, designer-initiated works and performance concepts.

It is important that lighting design be written about, and if we, as professionals and artists in our field, do not talk about our work ourselves, someone else will do it for us. The words for our field have yet to be written – and doing so means taking control of our work. Our capacity to work is a critical source of strength, so why isn't writing about it? In this text, I use examples to introduce one perspective related to *doing differently* in lighting design and ponder both the designer's *expanding role* and *expanded lighting design*.

Expanding, redefining, collaboratively

Being a designer in the performing arts involves expression that is not only distinctive but appropriate, the considering and choosing of an aesthetic, and flexibility of vision in one's approach. The work is full of diverse perspectives. Creating a performance means being in a continuous, multifaceted state of building;

it is useful to be able to function in states of incompletion and tolerate constant change, both your own and that of others.

The role of the lighting designer in the arts in general and the performing arts in particular has expanded. The so-called culture of *doing differently* is spreading and perpetually taking new forms. The lighting designer increasingly acts as the convener of the artistic team, as one of the performers – or then simply as a member of the artistic team who contributes to the creation of the work in accordance with the methods agreed upon as a group, with his specific area of expertise being lighting design skills and thinking from a lighting-spatial-dramaturgic perspective.

The creating and realising of art naturally involves the crossing of boundaries and the re-ordering of the familiar. Well-rounded mastery of the creative process is a key element of the designer's professional skill.

Scenographer and professor of design for the performing arts Liisa Ikonen (2017) from the Aalto University School of Arts, Design and Architecture says that the growing number of designer-initiated artistic groups and the increasing number of works tells of freedom and recognition of the power of scenographic modes of expression, as well as the development of a new notion of performance. "At the same time, it is a symptom of the fact that, for instance in the most traditional contexts of theatre, there is not enough space for alternative artistic forms or approaches. And then I also see the emergence of this phenomenon as a consequence of the changes that have taken place in education in the field," she says (ibid.).

In his dissertation (2012), professor of lighting design Tomi Humalisto from the Theatre Academy, University of the Arts Helsinki examines alternative ways of doing lighting design through the concept of *doing differently*. Humalisto (2012, 285–286) writes: "The accelerated movement in the forms and aims of contemporary performance places distinct challenges on all members of the artistic team.... Other types of roles take on a positive meaning, because the clout of traditional and established practices diminishes."

For several years now, I have been involved in the independent collaborative group of artists known as KOKIMO. For its members, KOKIMO serves as a community for doing differently, for creating collectively, and for facilitating the expansion of authorship. In addition to participating at KOKIMO, I work as a scenographer, lighting designer, and hourly lecturer at the Theatre Academy. My role morphs according to which of my professions I am headed off to practice, and in which community.

For me, working as a lighting designer and scenographer within a team is interactive functioning as an artist, co-thinker, and co-expresser with the aim of jointly creating a complete work of art, a *Gesamtkunstwerk*. One of my most important tools is dramaturgy. My role is constantly being redefined. Working in a collective art form is group-, communication-, and situation-specific. I'm interested in realizing polyphony and dialogicality in the processes of various performing arts. I have a strong affinity for a variety of practices employed in preliminary artistic design, but I also find inspiration and joy in the work that emerges purely during rehearsal and various collaborative working methods. The essential thing is defining the working method jointly. The way the artistic team and project get off to their start also plays a particularly important role, as does the *founding contract*: Within what sort of framework, premises, hopes, and expectations are we going to start working? In which of the work's processes is our thinking and competence needed? Will the whole group begin working at the same time, or will people join in at different times, with contributions of varying degrees?

As a scenographer and lighting designer, I am eager to operate in both traditional and contemporary forms. I have received a tradition-based education as an artist and a designer at universities of the arts as well as, during my years studying at the university level, the opportunity to learn about working methods currently popular in the performing arts. I believe that, as an artist, it is possible to realise all working methods and expressive forms in parallel and in combination. What is essential in the work of a lighting designer and scenographer is to acknowledge the communicativeness involved in a collective art form as well as the constant redefining of working and group processes. The lighting design for a performance is made up of, among other things, the performance material, including the lighting-expressive material and aesthetics; the elements of time, place, space, and space-time; and the meaningful melding of the authors' shared thinking. Working on a performance within an artistic team is shared thinking and the staging of that thinking.

The researcher-scenographer Laura Gröndahl (2014, 73) writes: "A stage can open up in any given concrete space; it permeates all levels of experience. We can think of scenography as the construction and maintenance of this sort of stage space." Adapting this view, lighting design is, for its part, working with – building, dismantling and maintaining – a stage that can open up anywhere. Ushering space, scenes, and encounters into the light, touching through light.

Scenography and lighting design can be a situation, condition, or even a deliberately empty space shown in the prevailing light.

According to Gröndahl (ibid., 77), scenography is what scenography is understood to be in a given situation: "Now, a much more interesting question is, what form this understanding takes in a specific instance."

KOKIMO everywhere

In addition to working on theatre and dance pieces for stage venues, I have also often worked on performances set in public and urban spaces. By *performance*, I am referring to the field of arts that falls into the terrain between the traditions of the performing arts. Closely related fields include contemporary theatre, performance art, and live art.

The other founding members and I founded the aforementioned KOKIMO group in 2010. KOKIMO explores the relationship of humankind to its environment through perceiving diverse realities and applying performative methods. KOKIMO's works are multisensory, shared spaces to be experienced associatively and corporeally. The works fall into the context of performance and contemporary performance.

The starting point for our work in KOKIMO is egalitarian collaboration as artists and designers, collective authorship. KOKIMO questions the director-driven approach and works without a designated director. Nor has KOKIMO used designated performers or actors to date. Questioning and doing differently in relation to the prevailing professional conventions and rewriting established working methods are the premises of our work. Our guiding principles (KOKIMO, 2017) include the following: "The stage is a space for experiencing, and it is everywhere. Space is always a situation. KOKIMO is a medium for thinking and experiences, for inner spectacles."

In our projects, we start from a premise of perception and association and generally work site-sensitively and site-specifically. We question the relationship between stage and auditorium and often utilise thoughts on spatial analysis familiar from architecture as well as the notion of a series of spaces as a dramaturgic tool. The dramaturgic structure of our performances generally takes its inspiration and form from the performance space or site and its environs: its interior, exterior, or social space, for instance.

We have created performances for the Museum of Contemporary Art Kiasma, Kiasma Theatre, and international festivals, among others. Our previous work for Kiasma, *altARS17* (2017), part of the programme for the ARS17 exhibition,

premiered in October 2017. At the moment KOKIMO is designing and curating the Finnish national exhibition *Fluid Stages* for the Prague Quadrennial of Performance Design and Space 2019 (PQ19) in Prague in June 2019.

In KOKIMO works, the experiencer is invited to perceive the prevailing situation, environment, space, architecture, and the relationships between these wholes in an experiential and associative manner. In our scenes, we strive to massage the senses – to attune or weaken them in different ways. The stage-auditorium relationship in a KOKIMO work can be a mobile one; the performances frequently involve walking or being transported. The performances also make use of music and material from audio works: sound collages, radio plays, binauralism, and the use of spatial sound.

In KOKIMO performances, the experiencer's *inner stage* is activated alongside the realities and stages perceived by the senses. In the context of a KOKIMO work, the inner stage could mean each experiencer's personal, unique, corporeal-conscious performativeness experienced during the performance.

The inner stage could also be, say, a unique landscape that opens up and is revealed personally for us as we read a novel or listen to a radio play. Or it can be used to refer to, on the other hand, memory visualised through the methods of object theatre, or a lived story made concrete through dramatic means.

The German theatre researcher Hans Thies Lehmann (2009, 157) also mentions the nested stages of a performance, using as an example the *auditive stage* that is created at the same time as the visible events on stage. In conjunction with KOKIMO, the auditive stage is created in our consciousness through, for instance, wireless headsets and from material arising from the present moment and its space-time realities, which is generated by the situation of both the environment and the experiencer.

Adapting the thoughts of Lehmann (2009), the researcher Katri Tanskanen (2010, 410) writes: "Performance is not an entity to be viewed in the same way as dramatic theatre; it is a social situation in which the spectator is aware of the presence of the performers as well as the other spectators in addition to his participation in the event....In addition to the traditional senses of sight and hearing, other senses have a tendency to be activated too, if the spectator can move around the space, touch or be touched, sometimes even eat, drink, or smell."

The researcher Mari Martin (2017) describes the spatiality and conditions of KOKIMO performances thus: "The performance consists of looking at and experiencing a familiar urban environment or structure differently. To my mind, KOKIMO's work is characterised by an all-permeating ethicality....Your work is

considerate and respectful of the individual and the environment, it is nurturing and caring. It is ecological: when seeing differently, wastefulness is replaced by encountering what already exists, recognising its value and significance."

Martin (2017) continues by discussing the performers' relationship to the performances: "It appears as if the performers in your performances have no need to perform, which is a good thing. That means as an experiencer I'm not put in a position where I just receive the performing. I'm not put in a position where I can critique the performers' performing. All that happens is that I feel the need to participate and see it through. Applying Michael Kirby's (2002) scale of acting, your performing is at a zero, which is a skill in and of itself. The performers encounter the participating experiencers, carry out their tasks, take care of everything. All the arrangements that make up a work are well thought out. It's in this meticulousness, and perhaps also the appearance of effortlessness and ease, that I see your backgrounds as designers. The performers' activities take place with zero stress."

Why our own designer-driven group?

What prompts designers to work together as a group? I myself have decided to work in a collaborative designer-driven group for a variety of reasons. Important motives for convening the group have been equality, community, trust, inviting interaction, and the goal of doing differently with regard to one's own role, to be at the core of creating the performance, to define the work's concept, impulses, and theme as a group, as well as how we are going to address them. Our roles in the group are more diverse than when working in our traditional positions as designers. In our group, we strive for *collective, joint authorship* and *joint leadership*. By creating our operating culture ourselves, we bestow authorship of the works on our group and are able to be in a more direct relationship to the creation of the work: we ourselves define our works and our roles in them. In seeking out forms of doing differently in our own work and art, we are questioning our fields' relationship to tradition and the values it represents, we are probing the flexibility of the frameworks set by tradition. It is frequently a learning process, and requires developing as an artist. The social structure and trust within the group are also important, as is a flowing state of creativity.

Doing differently has its roots in, among other things, postmodernism and feminist philosophy; it is characterised by a suspicion of the familiar, existing order and reality and an impulse towards re-ordering. In fields of performance

design, another frequent motive for doing differently is the expansion of one's position as author – stepping forth from invisibility.

The director Pieta Koskenniemi (2007, 66) writes about group authorship, authoring through activity, and the founding of the Finnish company Homo S in the 1980s thus: "Inside our own company, we could practice the skill of dialogue first and foremost through joint activity. I conceive of dialogue as a space in which I make myself visible to someone else and then try to see that other person. (Seeing here is comparable to understanding.) It is also a space/situation in which I make sense of myself and my relationship to the world....a dialogical situation elicits things from the world that you can grab hold of or retreat from."

All members of our group are actively employed in the performing arts; our role of shared expertise and authorship as a performing artist within our group does not shut out other design work. Diverse perspectives and working methods enrich an artist's life and creative activity, but the experience of working in a functioning collaborative might be revolutionary in an individual's thinking in relation to a strong hierarchy; it is possible that it is in principle necessary to approach work based on an existing text or the interpretation of a strong individual relying on an already-formed vision in a different way than work done in a common, shared, simultaneous process. KOKIMO's dialogue-based, designer-initiated approach to work involves *restrained radicalism*, *occupying space*, *building a* so-called *third space* – aiming at creating new ways of doing things that reinforce the inherent value of working. The activities in this third space and being liberated from traditional models of hierarchical work strengthen artistic and professional identities. Belonging to a community that has shared values plays a role as well.

These values also involve a *worldview*, which in conjunction with KOKIMO might mean, say, that the claims the performance makes about the world have been arrived at in accordance with agreed-on notions of and justifications for information gathering. This shared worldview entails a shared conception of the authors' tasks when creating the performance as well as the sharing and acknowledging of values. This worldview may also be mirrored and reflected to the experiencer during the performance, and it can serve as the central content of a performance.

The researcher Timo Heinonen (Lehmann 2009, 32) writes: "At the moment, there are several companies working in the field of performance whose aesthetic premises are novel performance concepts and the conditions and potentials of the performing arts. The issues involved in forming a group have been acknowledged,

even problematised. New independent companies have often rejected not only performance conventions, but also customary working methods, professional territories, hierarchies, and production models. The theatre that emerges from such configurations may also require a new audience – and challenge criticism."

Expanded lighting design

But how can light be present in these works that are situated outside a theatre space, and which often take place in found environments or site-specific concepts? Does the lighting designer design lighting for such works at all? Does the scenographer set design? What is it like to be a lighting designer for a performance taking place in the prevailing lighting conditions? What does it mean in terms of one's work? Can the end result be controlled?

In the works of KOKIMO, light is present not only as a condition, but also in the form of designed gestures. We might, for instance, emphasise some architectonic direction of light and ensure the light floods from that direction even on a cloudy performance day. We might use light to tune the experiencer's sense of touch while he is in a scene where his sense of sight has been shut off: the experiencer feels warmth, as the particles of light, the photons, carry energy that generates heat when it encounters an impermeable and non-reflective material, in this case a human body. And while the experiencer is participating in the scene, with his sense of touch activated, the scene might appear to an outsider as a choreographed series of events, where a brightly lit scenography and staged situation emerges in a mundane environment.

Using a series of spaces as a dramaturgic frame in our works produces not only spatial-dramaturgic but also lighting sequences. The routes we choose through architecture and space form lighting transitions. We also make use of light's fundamental phenomena, like reflection and refraction. One example of the lighting gesture we have used is a scene that takes place in a public space: in apparently blackout conditions, a surprising light solo is created with wireless, chargeable, powerful handheld lamps, as their light is directed at various spots on the surface of a building in an agreed, architecture-driven manner. A phenomenon akin to this gesture is so-called *guerrilla lighting*, or a happening where a group of people unexpectedly and temporarily illuminate a designated target.

One lighting design idea in our works has been an atypical lighting condition in an art museum for which we have designed a multidisciplinary, after-hours happening. The idea was that a familiar place could be experienced differently than what we are accustomed to through its lighting, or the way of using or oper-

ating the lighting. In addition, we have expanded our repertoire into light art, introducing memories about light condensed into poetic verses into an installation.

At this point, I introduce the concepts of *expanded scenography* and *expanded lighting design*. What is expanded lighting design? Could the aforementioned KOKIMO lighting gestures in public spaces be examples of expanded lighting design? Into what other new propositions does expanded lighting design extend? The expanding of visual-kinetic space through the use of other mediums? The potentials of virtual reality, augmented reality and mixed reality? Multiplying and multidirectional interaction? Immersiveness? Bioluminescence? Robotics? Well-being and health care? Where and how can light and lighting design be and be realised differently and still exist in relation to expression? How does light break boundaries within, for instance, the performing arts?

According to Professor Liisa Ikonen (2017), expanded scenography is the expansion of scenography beyond its traditional and customary limits, on the one hand expanding outside of the performing arts and, on the other, toying with the borders of other art forms. In addition, in Ikonen's (ibid.) words, expanded scenography can be the rethinking of scenographic methods of expression, working methods and hierarchies within the context of performance. She (ibid.) explains her notions thus: "For me, expanded scenography is scenography that seeks its form and expression in interaction with various agents as well as new fields of activity and developing technologies. The boundary between expanded scenography and contemporary art is blurred, and makes it possible for various genres of art to freely find inspiration from each other and borrow each others' methods."

The examples Ikonen (2017) provides include 1) environmental and urban art that take influences from scenography 2) scenography participating in the design of public spaces, events, art and museum exhibitions, and games, and 3) this design being based on scenography. She (ibid.) describes: "It is a symbiosis between scenography and the visual arts, a melding, a mixing of methods. It is a rethinking and reconceiving of space, a creation of new spatial connections and wholes through, for instance, the methods of augmented reality. Scenography is also currently stepping into the space of social media through various applications that can be uploaded to media devices."

Ikonen (ibid.) specifies the flowing nature of expanding scenography: "Expansion is movement. The expansion of scenography reflects a situation that is not static. There is not any one definition of scenography, nor does it end anywhere. We have the opportunity to be constantly asking what scenography is

and where does it operate and take our scenographies further from the familiar contexts."

Liisa Ikonen (2017) starts dissecting the meaning of the word scenography. When lighting design (or light) is thought of as part of scenography, we can think of expanded lighting design in the same way we think of expanded scenography. According to Ikonen (ibid.), it is the expanding of scenographic lighting design beyond its own traditions and boundaries and can mean, for instance, expanding light-based expression beyond the performing arts and playing with the boundaries between light-based expression and other forms of art.

Ikonen (ibid.) says that light has appeared more frequently and much longer in public space outside the performing arts than material or digital sets: "Lighting has always had a place in the design of public spaces, as an aesthetic, functional, and commercial element. That means the boundaries of scenographic lighting design have already spread into broader territory, so maybe it's not as easy for lighting to cross its borders."

Ikonen (ibid.) poses a question: what is the difference between scenographic lighting design and other lighting? In her (ibid.) view, scenographic lighting always involves a dramaturgy: "Dramaturgy is order and form; it is the organising of meanings and making them accessible. Scenographic lighting is not 'just light'; form and meaning are always related in it. Its task is to generate wholes that express or speak in various ways."

According to Ikonen (ibid.), the question of expanded lighting design means asking where there is room for the phenomenon of "expressive lighting" to still expand: "Where could it appear, where has it not yet appeared? What sort of novel dialogue could it engage in with nearby (or distant) art forms? Light art already has connections to community art, sculpture, and environmental art, for instance. You could also ask how the expressive force and methods of lighting could be expanded within these encounters. Or you could just look out at the world, environment, and society surrounding us and ask, where is there a need for change? And then the next question would be: how could light contribute to this change?"

Liisa Ikonen (2017) tells of an example she heard about in the summer of 2016 at the Performance Studies International conference in Melbourne: "I met the Australian lighting designer Efterpi Soropos on an 'Expanded Scenography' panel organised as part of the conference; she had developed a 'human rooms' concept for hospital environments. The concept is a space that offers different experiential qualities as an alternative to sterile hospital environments; a space

where the seriously and terminally ill can encounter their loved ones." Ikonen (ibid.) says that Soropos' work was inspired by the period she herself spent with a dying loved one in a hospital environment, and the need that arose at that time to alter the surrounding space into one that it would offer facilities better suited to such encounters and goodbyes.

According to Tomi Humalisto (2016), new concepts like expanded scenography are one element of an updated self-understanding in the arts, while also serving as an attempt to react to current phenomena in our surrounding reality. "I see expanded scenography as, in its own way, representing some sort of cultural climate change, which ought to be examined with curiosity."

"Because lighting design used to be part of earlier definitions of scenography, it would be natural to ask what is meant by these newest definitions, and on what terms can lighting design be realised as part of these newer definitions? The instruments and intentions of lighting design are certainly subject to re-evaluation as performance moves beyond the traditional space and concept of the stage." In Humalisto's (ibid.) view, this means it is essential to ask, what sort of visual experience is the aim when an event takes place at, say, a shopping centre or a private home, and how can the lighting solutions entailed in it encounter the intended meanings of the work?

The critic Maria Säkö (2014) wrote the following about the KOKIMO performance at Kiasma: "In KOKIMO, the audience is an experiencer, not just a spectator. Lighting is used to generate warmth, the field of vision is taken away through glare and shadow, things other than illumination are accomplished. An action figure, only a few centimetres big, is placed in your fist for the duration of the wheelchair ride as a miniature proxy experiencer. The thing that sets the group apart is that it is made up of sound designers and scenographers. This is evident in the discreetness of the experiential performance. How skilfully the scenographic insights melt into part of my journey, how delicately we advance between a natural and unnatural experience at the border of experiencing sound and lighting, at the border between the aesthetic and the societal."

The KOKIMO performance piece *Series of Spaces II – The Kiasma Edition* (2014) aims at offering its experiencers a new spatial relationship to the Kiasma museum and to attune them both experientially and associatively. Photo: Finnish National Gallery / Pirje Mykkänen.

In the KOKIMO work *Series of Spaces II – The Kiasma Edition* (2014), the audience moved through the museum space with wireless headsets in their ears. Photo: Finnish National Gallery / Pirje Mykkänen.

The KOKIMO work *Series of Spaces II – The Kiasma Edition* (2014) ended in the Kiasma room, which overlooks Kansalaistori square and the primary entry into Helsinki. Photo: Finnish National Gallery / Pirje Mykkänen.

The KOKIMO work *Series of Spaces III – Ubiquitous Prague* premiered in spring 2015 in Prague, as part of the international, curated *Space Exhibition* at PQ15. In the work, the experiencers moved through urban space. Photo: Jani-Matti Salo.

KOKIMO participated in the autumn 2016 /teatteri.nyt festival at Kiasma with the work *Series of Spaces Extra – The Catastrophe Edition*. The impulse for the works featured at the festival was climate change. In the piece, participants moved inside and outside together. The aim was to reveal themes of climate changes in a corporeal, experiential, and associative way. Photos: Finnish National Gallery / Petri Virtanen.

The KOKIMO concept *After Dinner* (2016) is a performative installation that takes place at a dinner table; it explores binaural audio and attunes the experiencer in a multisensory way. Photos: Theatre Academy / Petri Tuohimaa.

KOKIMO's After Dinner (2016–), here performed at Kiasma Theatre, as a part of KOKIMO's concept *altARS17* (2017), for the ARS17 exhibition's programme at the Museum of Contemporary Art Kiasma, in Helsinki. Photo: Finnish National Gallery / Petri Virtanen.

In conclusion

Lighting appears to me as a performative element through, among other things, its various dramaturgic, spatial, and functional tasks as well as its changing and changeable quality. Almost always the impact of a change in lighting on a space and situation is immediate.

The immateriality of light, its shifts in nature, in built environments, and on the stage interest me: I love the construction of situations and transitions, the building and sustaining of lighting suspense. I love the layered essence of a scenography, and I love stripping it back with lighting. Even though lighting design can in contemporary performance manifest as, say, as a prevailing condition, it can entail the programming, refining and rehearsing of lighting cues, dramaturgic arcs, and programmed sequences.

Preliminary design can mean, for instance, designing a concept resting on the execution and variation of one overriding lighting idea. And on the other hand: it can also be working based on a text, in which the text is analysed and parsed dramaturgically and through various subareas of design, and in this manner a shared conception of the performance's materials is created and the foundation for the performance design is laid.

Theoretically, a single indication, a single highlight created with a lamp is, when removed from its context, as abstract or referential as a brushstroke painted on a piece of paper, if even more fleeting in its immateriality and ephemeralness. The lighting choices, textures, and gestures used in a performance exist in relation to the various elements on the stage. The gestures can present, emphasise, and manifest as conventionally charged, as familiar in the stage context; but they can just as easily be utterly wild and unfettered solutions and still wholly true in the world of the performance. Immateriality, non-performativeness and infinite opportunities for combination make lighting design a rich and difficult field in which to operate. There is no right or wrong: there are styles, aesthetics, tastes, customs, serendipities. A lighting designer is like a fine artist or a poet – capable of painting a representative still life, capable of composing rhymed text or an open, crystallised thought, capable of building suspense but also free to express himself through his instrument as he sees fit: systematically, adhering to the rules, in fits and starts, or ragged bits, fumbling, suggesting, overwriting, painting and colouring, listening to the world, focusing on random perceptions. And above all, the lighting designer has to be capable of participating in the creative process of a work in a variety of ways: communicate, talk about his work,

make his thoughts visible – and not just in the design and rehearsal situations, but in the world.

Like many of the designers of our day, the students of lighting design at the Theatre Academy, University of the Arts Helsinki increasingly experience themselves as being not only lighting designers but performing artists. Like lighting design and scenography in and of itself, authorship also expands when its boundaries are questioned. New images of lighting design are being constantly drawn in collective, collaborative processes. The redefining typical of an identity as an artist also emerges in lighting design.

In the KOKIMO group, works are signed as a group and anyone can end up doing anything within the group. The activity a lighting designer takes part in at KOKIMO is an example of *expanded authorship*, *expanded designership*. The appearance of this article, inspired by the activities of the KOKIMO group, in an edited volume produced by a degree programme in lighting design, is also part of the public conversation on expanded lighting design.

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Light in their bones

MIA KIVINEN

The Theatre Academy's programmes in lighting design and sound design (previously the Department of Lighting and Sound design, in Finnish *valo- ja äänisuunnittelun laitos*, or VÄS) train lighting designers who possess a strong artistic vision for work in the theatre. Many students have – or develop – such a strong identity as an artist that their career takes them from the dramatic arts to the fine arts, either partially or totally. Tarja Ervasti, Terike Haapoja, Mikko Hynninen, Juha Rouhikoski, Kaisa Salmi, and Tülay Schakir are such artists.

These artists' styles and inspirations are extremely varied: Salmi's works are marked by abundance, whereas Hynninen's preferred materials are austere. Ervasti's works frequently feature narrative, colour, and illusion, whereas Rouhikoski focuses on pared-down abstraction. And where Schakir is interested in the essence of light and perception, Haapoja has harnessed her work for a very political purpose.

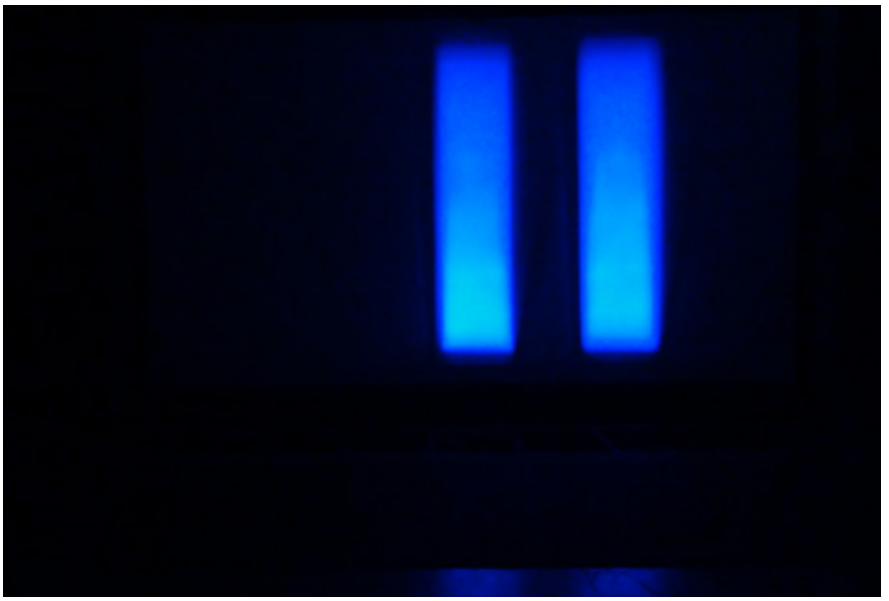
How did light enter their lives and how has it affected their work as an artist?

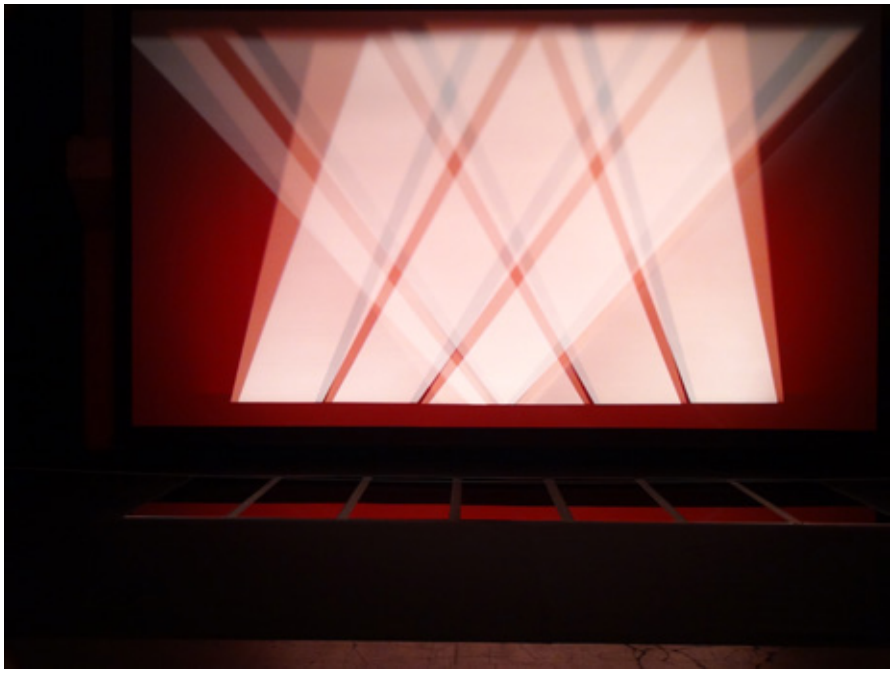
Light art and its fringes

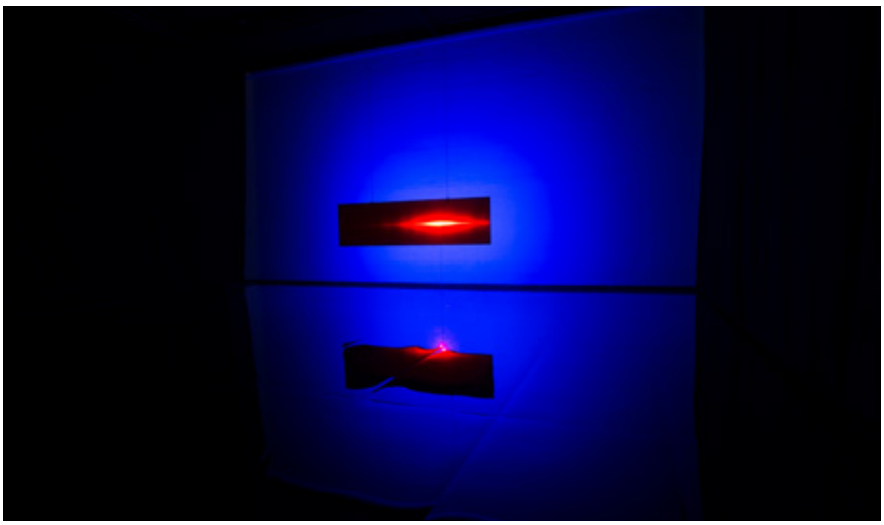
One might imagine that a lighting designer who shifts into a fine arts context concentrates specifically on light art. And indeed, the works of the aforementioned artists' frequently rely on light as a primary material and clearly meet the criteria for light art – light plays the main role; the works simply wouldn't exist without the illuminated element; the quality of the light is of fundamental significance. Nevertheless, some of the works push the boundaries further, and some slip across them entirely.

Tarja Ervasti's piece *Seven Gates* (2014) is an example of a work that is self-evidently counted as light art. It is a sort of abstract painting formed as the colours and forms of beams of light blend on a surface and reflect onto each other. In contrast, Juha Rouhikoski's experimental space *Klangfarbe* (2016) is based on the experience of light: without the specific, strongly coloured light, the narrow,

In Tarja Ervasti's work *Seven Gates* (2014), mirrors reflect light onto a wall.
Photos: Tarja Ervasti.







Juha Rouhikoski's *Red Horizon* (2014). Photo: Juha Rouhikoski.

Mikko Hynninen's work *Operator* (2012). Photo: Mikko Hynninen.

evenly lit tunnel would not impact the viewer's perception as powerfully as it now does. A number of Hynninen's works also feature light as a key material. *Operator* (2012) consists of a matrix of florescent tubes that form various words as the tubes flash on and off. In these works, light plainly has a primary role, at least as material, but often as motif as well.

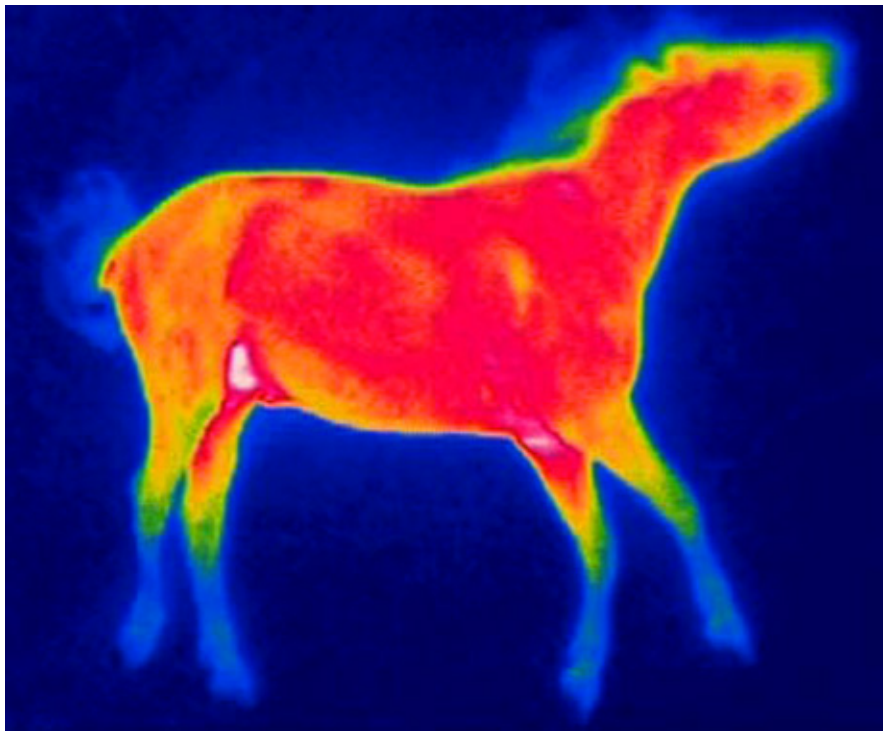
Tülay Schakir's work *OFF. Silmän sulkemiskuvia* (1999). Photos: Tülay Schakir.

A portion of Tülay Schakir's multipart work *"tuskin huomattava"* ("barely noticeable," 2012).
Photo: Tülay Schakir.

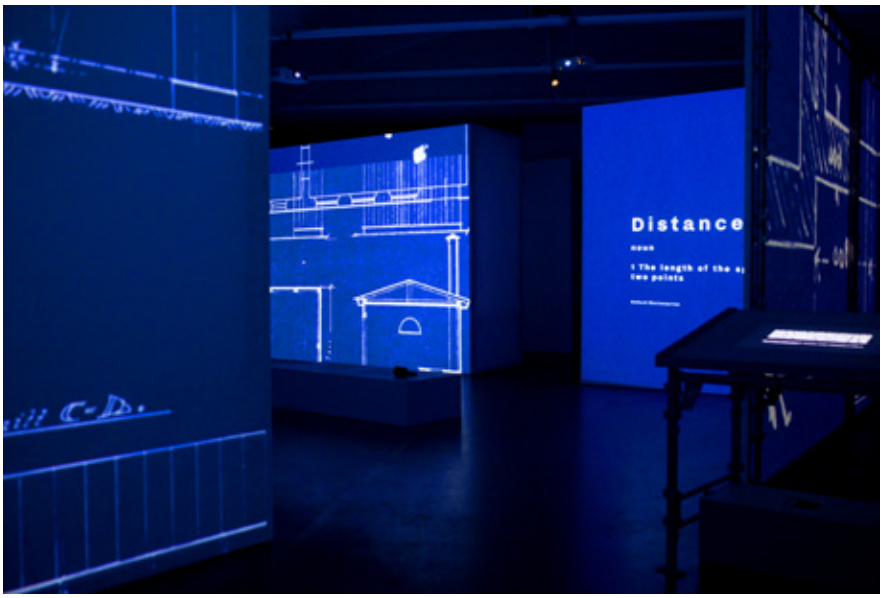
Some of Tülay Schakir's early works in particular represent this orientation of focusing on light as light. But Schakir often studies light from further remove, dealing with phenomena related to perceiving light. Even though Schakir's subject is generally light, she doesn't always land on light as a material. *Museoitu maisema* (Landscape as Museum 1999) and *OFF. Silmän sulkemiskuvia* (OFF. Images from Shutting Eyes 1999), which were seen in the same exhibition, approach light from different directions. Constructed of an old barn door with daylight-toned florescent tubes placed in its cracks, *Museoitu maisema* is a nearly illusory reconstruction of light, whereas the material for the series *OFF. Silmän sulkemiskuvia* is a traditional print, but its motif is the perception of light and the after-images it produces in the human eye.

Tülay Schakir's work *Museoitu maisema* (1999). Photo: Tülay Schakir.

Terike Haapoja's works are frequently situated at the fringes of light art. *A House to Inhabit* (2002) and *Private Collection* (2006) are based more on the shadows of absent objects than on light; after all, darkness is also part of light's continuum. And light plays a powerful albeit supporting role in terms of an object to be viewed in the work. *Entropy* (2004) blurs the border between light and video art. It is, on the one hand, clearly projected video footage, but the material – the slowly cooling carcass of a dead horse, shot with a thermal camera – is so abstracted as a result of the photographic technique that the image approaches pure light. Her series *Digital Horizons* (2005), which is based on ultrasound images and thermal traces, also makes us aware of how closely akin light art and video art are – if there is even a distinction to be made between the two.



Terike Haapoja's work *Entropy* (2004). Photo: Terike Haapoja.



Terike Haapoja and author Laura Gustafsson's *Museum of Nonhumanity* (2016), primarily realised through video projections, received Finland's State Prize for Media Art, 2016.

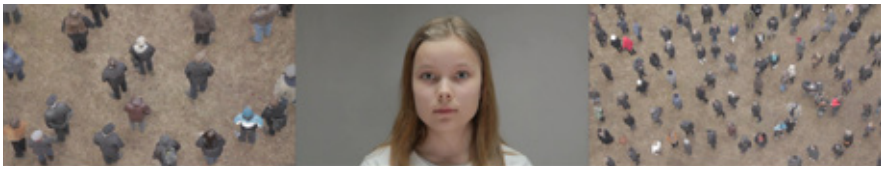
Terike Haapoja's work *A House to Inhabit* (2002). Photo: Santeri Tuori.

Of the artists mentioned here, Kaisa Salmi has moved furthest from light art. Her early works, like the projections against the facade of the Hallgrímskirkja in Reykjavik (2000), are clearly weighted towards light, and even *Greenhouse with Sound* (2008) glowed in the courtyard of the Lasipalatsi complex like a lighthouse in the night. Nevertheless, light only plays a supporting, if not insignificant, role in her recent works. Despite the essential uplighting that made the bottles glow in her work *The Bottle Sea* (2015), a comment on plastic waste that ends up in the sea, its most important element were tens of thousands of plastic bottles. Light was a given condition in the ten-thousand-person performance *Fellman's Field* (2013), which dealt with the Finnish civil war; in the subsequent piece of eponymous media art, the conscious use of light was limited to the considered lighting of talking heads shot in a studio.

For all of these artists, light is or at least has been an important element as material, motif, or subject of study. Did they find it by chance or intent, and why did they originally gravitate towards it at the Department of Lighting and Sound Design, or VÄS, at what was then the Theatre Academy Helsinki?

Kaisa Salmi's *The Bottle Sea* (2015). Photo: Poikilo Museums / Johannes Wiehn.

Fellman's Field – A Living Monument of 22,000 People was a performance directed by Kaisa Salmi at Lahti's Fellmaninpuisto park in April 2013. The work was based on events that took place at Finland's largest prison camp during the civil war of 1918. Photo: Tiina Rekola.



A still image from Kaisa Salmi's documentary film *Fellman's Field* (2013).

The route to VÄS and beyond

For some of these artists, applying to VÄS, or the Theatre Academy's Department of Lighting and Sound Design, was a conscious choice in their careers as a fine artist, while others discovered the fine arts context – unexpectedly, in some instances – only after beginning their studies at the academy, for most of them in the 1990s.

Almost none of them were exclusively interested in a career as a lighting designer; rather they had been generally interested in the world of the arts, and light served as the gateway into it.

An image of Kaisa Salmi's projections onto the facade of Reykjavik's Hallgrímskirkja church (2000). Photo: Kaisa Salmi.

Tarja Ervasti started her career as a lighting designer in the 1980s, also creating works of light art since that time. She was an adjunct lecturer at the department in its early years, 1988–1990, and later worked there as a lecturer. It was only afterwards she attended as a student, as soon as the opportunity to earn a masters degree opened up in 1997. For Ervasti, who already possessed solid professional skills and a professional identity, the masters programme was an opportunity to fill the gaps in her knowledge, a critical form of continuing education.

Terike Haapoja was interested in being a roadie. "I come from a family of artists, and I rebelled by working as a technician. I was more interested in technology; I wanted specifically to be a roadie." After working with bands for a few years, Haapoja applied to the department in 1996, not realizing it was a school of the arts until after she was accepted. As it turned out, making art proved to be Haapoja's thing, but it soon became clear that she wanted to do it on her own terms, not in the traditional team structure of theatre. She took classes at the Academy of Fine Arts, went to Poland on exchange through its painting program, and after receiving her candidates' degree transferred internally to the Performing Arts and Theory programme to complete her masters degree at the Theatre Academy. From there, she continued on to the Academy of Fine Arts.

The department's focus on design in general was what appealed to Mikko Hynninen, and he began his studies at VÄS in 1994. Fine arts started to exert a draw while he was at VÄS, and Hynninen's works took off in a direction completely divergent from what VÄS had the capacity to handle as its curriculum sought its shape. Hynninen craved a more conceptual approach, and after his candidate's degree, he transferred to the masters programme in Time and Space Arts at the Academy of Fine Arts. He did not, however, abandon the theatre arts, and continues to work as a lighting and sound designer as well.

When he began his studies at what is now TAMK Mediapolis, Juha Rouhikoski wasn't really sure what he wanted to do. His first student project was serving as a lighting assistant at the student union building, and Rouhikoski found his medium. The lighting designer Simo Leinonen, who had chaired VÄS and taught at TAMK, confirmed Rouhikoski's choice through his instruction: during the courses, students didn't simply work on lighting schemes; they created works of light art. After ten years of working with show lighting, Rouhikoski decided he had received sufficient instruction in the medium's use and applied to VÄS in 2008 to deepen his thinking about light. After receiving his masters degree,

he was accepted as a doctoral student at the Academy of Fine Arts, where he is studying time and stopping awareness of time's passage, among other things.

Kaisa Salmi had trained as an engineer before she tried to get into VÄS. She applied in 1994, because she was interested in art in general and VÄS seemed to provide a good channel into that world. During her time at VÄS, she started creating works of environmental light art, and the masters programme in Environmental Arts at Aalto University was a natural continuation of the work she had done at VÄS. More recently, Salmi has introduced performative elements into her works of environmental art. Now Salmi is working on a dissertation on contemporary art at Aalto University.

Tülay Schakir studied fine arts at TAMK and grew increasingly interested in space. Painting space no longer satisfied her; she wanted to explore what light is in greater detail, and how it generates an experience of space. As a result, she applied to VÄS in 1992. Schakir is interested in the impact of perception, space, and light on the individual and is currently working on the artistic portion of her dissertation on this topic at the Academy of Fine Arts, University of the Arts Helsinki.

Soldering, philosophy, and pigeonholes

At the turn of the 1980s and 1990s, VÄS moved from Helsinki to Tampere. In between building the department, scrounging up extension cables, and artistry, the early years were spent refining the curriculum, with sometimes violent lurches. The instruction started to be in shape by the mid-'90s, a development evident in the memories of the artists interviewed for this article, which grew increasingly gilded towards the end of the 1990s.

Tülay Schakir was a student during the worst years of departmental soldering and doesn't recall the artistic instruction with particular warmth. She considers project management skills and teamwork the most important things she learned at the time: "The lesson I remember best was Kaisa Korhonen's laconic remark 'Every production takes precisely the amount of time reserved for it.'" As a more recent VÄS student, Juha Rouhikoski is especially appreciative of the diversity of instruction, but notes that at the masters level, students are expected to demonstrate initiative. Ervasti stresses this as well.

Few fine arts courses proper have made it into the VÄS course offering, but fine arts thinking has infiltrated it surreptitiously. The program's comprehensive curriculum, which delves into the histories of various art forms, composition, perception, and visuality, has created a solid foundation for the language of the

fine arts as well. VÄS has served as a door to the world of visuality and spatiality in particular. Comprehensive thinking about space, albeit from theatre-arts perspective, has opened up many students' conceptions of spatial dramaturgy and its value as an artistic medium. VÄS has thus steered students into the fine arts, if not directly, then by showing them the possibilities of light and introducing them to the arts at a general level.

The interviewees considered both the philosophy courses proper and the philosophical attitude that marked the entire curriculum as especially valuable. In particular, Terike Haapoja appreciated being included in discussions on the artistic team: "As a VÄS student, your role wasn't to serve the director, but to create your own work. This was incredibly important in terms of artistry."

However, the programmes at the Theatre Academy's main campus did not share an equally progressive approach to involving lighting designers as co-creators of content. "Starting from orientation, we were placed in different pigeonholes. In this jury-rigged hierarchy, directors were the smart ones, set designers were the ones who made things pretty, and lighting designers were technicians," Haapoja recalls. "Within the Theatre Academy, quite a number VÄS students are still at the progressive end of the student body, and more than a of few them work in the fine arts – fluidly mixing art forms and thinking critically."

The interviewees value the technical instruction they received at VÄS. Even though the students from the early years of the Tampere era felt the impact of the department's newness in their course offerings, later cohorts had a fuller complement of technology available to them. "The conditions were first-rate," Salmi confirms. Hynninen also has fond memories of learning the hands-on aspects of the work, although he would have preferred a deeper delve into theory as well. The interviewees reiterate what lighting designers have known for a long time: technology has no inherent value, but as in other art forms, technical competence facilitates better use of the medium.

Tülay Schakir notes that VÄS forced students to adopt an attitude towards technology, to define the relationship between art and technology for themselves. Schakir is more interested in the possibilities technology opens up at the theoretical level, not so much in practice – a view that is shared by the majority of the other interviewees. There is little need to get their hands dirty anymore. Schakir's early installations in particular demanded technology that was not available off the shelf, meaning she had to make it creatively and independently. "I have a hate–fascination relationship to technology," she notes, but considers the issue of technology interesting on a philosophical level.

What's wrong with the theatre arts?

Although the majority have enjoyed working in the theatre arts, at least at some point, some of the interviewees have wholly left the field behind, and the others only work in it part-time. Some reasons for moving towards the fine arts appear repeatedly in the interviews.

The theatre arts are team work. One must make room for others' requests, demands, schedules, and needs in one's own creative output. If you have a lot to say, a group is not the easiest way to get your messages heard. In contrast, in the fine arts the artist generally works alone or in a small group, meaning for better or for ill, they are responsible for the work. Besides, if you are creating lighting design for the theatre without the rest of the artistic team, you have relatively automatically moved into the realm of the fine arts.

The hierarchies that have formed in artistic teams in the theatre arts over the last century are for the most part considered self-evident. Although it's no longer scandalous to suggest the artistic team be led by someone other than the director, the traditional director-weighted hierarchy still maintains a firm hold – not to mention how strong it was twenty years ago, when those working in lighting design were still struggling to shake the role of technician. The VÄS spirit of supporting an artistic identity may have been ahead of its time and caused a certain trailblazer frustration when the lighting designer was more or less directly shown their place: sitting in the dark corner behind the lighting console, not speaking until they were spoken to. For an independent-minded artistic soul, this was a fundamentally intolerable situation.

Although the interviewees applauded the philosophical basis for their training at VÄS, some craved an even more theoretical approach, more theoretical thinking. The grounding in visuality could have been complemented by stronger conceptual content in design. The interviewees believed they would find it – and did find it – in the fine arts programme. Nor is this desire restricted to the training alone; the entire field of the fine arts was considered to be more challenging theoretically.

The shift to the fine arts was not a major revolution for any of the interviewees; rather, it happened slowly. For some, it was purely a question of "seen that, done that" when it came to theatre arts and it being time to move naturally in a different direction. Upon completing his candidate's degree, Mikko Hynninen immediately applied to the Academy of Fine Arts' Time and Space Arts programme, specifically to seek a more conceptual approach. VÄS did not nudge Tarja Ervasti

towards the fine arts, as she was already there, but the others realised at the latest by VÄS that the fine arts was their thing – with or without light.

Finding that thing of your own

Kaisa Salmi's shift to the fine arts context has been a gradual process: after a projecting class, Salmi started to create projections on an increasingly large scale and soon found herself doing projected facades in Iceland instead of lighting design in theatres. Salmi realised that the stage wasn't her thing after all, that she can do anything at all – and she has, from flower installations on the steps of Finnish Parliament Building to a performance involving tens of thousands of people.

"I love the moment when the stage starts to come together, and the lighting phase is the nicest phase. Being able to build yourself a world to populate and invite others into it still enthrals me, but having to watch that stage from a distance creates an exclusionary experience," Terike Haapoja says, in reference to her work as a lighting designer. Her post-VÄS shift to the fine arts was more of a homecoming than a change in course. VÄS had afforded her outsider status in the fine arts in a positive way: as it turned out, the traditions of theatre, technology, and light she had picked up at VÄS proved a fresh perspective when she entered the fine arts. "It was an incredible gift! If I had just painted, I'd never have found the things I've found. Since I didn't know the grammar of either discipline perfectly, I found my own idiom."

For Schakir, the fine arts have been her primary focus from the start, and her studies at VÄS simply part of it. Theatre didn't even really interest her, and more than anything VÄS brought her back to the fine arts. Schakir is interested in lighting design for contemporary dance, as it shares traits with the fine arts and in that context she's been able to adapt those things that interested her about the fine arts. Schakir has reflected her own thinking against the language of movement – in theatre, this interplay didn't work. "Even as a lighting designer, I have acted as an auteur of sorts, and dancers want and need that. In theatre, on the other hand, the lighting designer often has subordinate status."

Rouhikoski was given a firm push into the fine arts context: when he was considering continuing his studies, his professor at the time, Markku Uimonen, ordered Rouhikoski in no uncertain terms to attend the Academy of Fine Arts rather than VÄS. "VÄS drove me out, but in the right direction," Rouhikoski laughs. Doing another advanced degree at the Theatre Academy would have been a repetition, but at the Academy of Fine Arts, Rouhikoski's topic, light in

the fine arts, was plunged into a new context – and Rouhikoski was forced to learn a totally new language. At the Academy of Fine Arts, he also received new perspectives on the interpretation of works from people in fields other than lighting. The Theatre Academy remains an institution focussed on doing, while the Fine Arts Academy is one of speculating, where the culture of discussing art is more developed.

A shared interest in space and light

Even though the styles, inspirations, and genres of the interviewees are very different, they share the same emphases in their thinking.

The most important characteristic the artists share is spatiality. Spatiality does not refer to three-dimensionality alone; it is, rather, a fundamental building material in these artists' work. Even when a work itself is two-dimensional, the space around it is significant, viewed as meaningful and considered. The significance of spatiality is also visible in site-specific works. Ervasti in particular has focused on large-scale site-generated works, while for Salmi, the location of a work creates meanings, like a meadow of flowers on the Parliament Building steps or a mega-performance at Fellman's field. As Haapoja says: VÄS has given her work a human-accessible scale.

Thinking in terms of light is and remains part of these artists' work, regardless of their technique. Many of the interviewees look at me as if I were an idiot when I ask about the specialness of light as a material. "Of course it's special; it's *my* material."

Rouhikoski enjoys the versatility of light: "You can do everything with it! And no matter how well you think you know how light works, it always surprises you and gives you new things to discover. It's a material you never get bored of." In addition, the opportunities to deepen one's knowledge are infinite: "You could spend the rest of your life focusing on red LED light alone." Rouhikoski is interested in not only seeing light, but in sensing it: he is currently working on a piece of light art that "doesn't look like anything" and only opens up through spending time in the space.

Schakir has been creating environmental works lately, and plans on creating more smaller-scale pieces. Light continues to be an important element in her works, even though it doesn't play the main role in all of them. "I think about the nature of light a lot. As a medium it's difficult, downright invisible."

"Now that I've started taking photographs, I realise that thinking in terms of light is in my bones," Terike Haapoja claims. Light is the foundation from which

everything else has sprung. With light, Haapoja is particularly interested in the creation of atmosphere and construction of image, in representation. These days, Haapoja primarily uses video projectors as light sources, but she also relies on traditional lighting equipment. “Simple old Fresnels are really great, and a six-channel light controller is all you need. I haven’t done a whole lot to update my technical competence in lighting since the early 2000s,” she notes. “The subjects of my works are rather existential, and light is useful in that it helps spark the ambiance or experience that is the subject. Light is a physical experience; it tunes one’s entire body to a work.”

For Tarja Ervasti, light is, in addition to her primary material, an agent that creates content, a theme. In her works, she explores the interaction between space and light and says the fundamental essence of light is about communication: “In and of itself light is nothing; it expresses itself only when it comes in contact with some material.” Ervasti explores the confluence of light and material and sees light not only as material, but as some sort of ineffable content, a mystery behind everything. A sense of experience and space are important in her works, which can be seen as performative – just without performers. In Ervasti’s works, light is generally neither external nor an illuminating, but rather a self-illuminating object. Reflectiveness and reflections are repeating themes in her pieces: the concrete source of light is often somewhere completely different from where the light eventually appears. “I create spaces where a person can have a quiet moment and encounter herself.”

Artistry in design

Tarja Ervasti continues to work as a lighting designer, even though most of her works of recent years belong to the realm of light art. The others have left lighting and lighting design completely by the wayside or engage in them only occasionally and very selectively. Just as being a lighting designer has affected their work as a fine artist, their activity in the realm of fine arts has influenced their work as a designer.

According to Mikko Hynninen, working as a fine artist has not only expanded his palette as a lighting designer but also impacted his identity as a designer. Hynninen emphasises the inherent value and content of light apart from supporting the work of others; in his artistic teams, he acts as one of a group of *auteurs*.

Juha Rouhikoski selects his design projects based on whether they offer the opportunity for experimentation and artistic ambition. His work as a fine artist has brought to his lighting design the need and ability to see even further, from

an even cleaner slate, and offered the opportunity to turn everything upside down and do things in new ways, without regard for conventions. From a director's perspective, this might seem like resorting to tricks – which is probably feedback some of the other lighting designers have also received for their more unconventional solutions.

Tülay Schakir is interested in environmental lighting: "The levels of meaning generated by an environment are starting to be dealt with more consciously, and that includes using light to influence them. The environment is starting to be treated as an experiential destination. Up until now, environmental lighting has striven for so-called neutrality, whatever that means. From this agreed-on supposedly 'neutral' we are moving on to a different way of using light. It no longer needs to remain invisible, even in the environment."

Extraordinary team spirit

Things have changed at VÄS over the years, but one thing remains the same: team spirit has always been strong there, and supportive of artistry.

The students learn from each other – this is not unheard of in the arts, but what has made the VÄS student cohorts exceptional are their supportive attitudes and solidarity. The formation of this team spirit is probably due in part to impact of the Tampere years and the downstairs restaurant Koivu ja tähti, later Ravintola Teatterikulma: "VÄS is a little like its own separate unit," remembers Haapoja.

It's physically impossible for the instructors from VÄS to keep up on all of their students' works around Finland and the world, which means the increased importance of feedback from and discussion with other students. Various working groups and collectives were formed and continue to be formed at school. For Rouhikoski, the end of VÄS also meant the vanishing of his creative network. "A creative environment is at least half the benefit of an education, even though it's a bit of luck of the draw whether or not you happen to run into the right people."

Haapoja currently teaches at VÄS. "It's lovely to see that spirit appears to have been preserved – that ambiance of support and solidarity. The students there take it for granted that they will be shaped into artists. It still puts me in a good mood when I think back to my time at VÄS, to those people and that spirit. I love visiting there, in both my memories and in person."

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Mia Kivinen (1972) is a lighting designer and curator specialising in light art. Kivinen earned her MA's from the Theatre Academy Helsinki in 2005 and from the the Academy of Fine Arts of the University of the Arts Helsinki in 2018. She has also worked as a producer and teacher, held a variety of jobs planning and executing exhibitions, and is a member of the light art forum Galleria Kandela and the vice president of the Finnish Light Art Society (FLASH). Kivinen is especially interested in space as a starting point for both lighting design and light art, and in how the two overlap. Her wish is for Helsinki to one day be seen as the world's capital of light.

Role bleed

SAMULI LAINE

In more than one work, I've played simultaneous roles – not only those of lighting and spatial designer, but also of performer. The fruitful cross-pollination between the designer-ness that demands an external gaze and the performer-ness that operates from within has become part of my personal artistic identity. Having multiple roles has provided me with a more comprehensive way of approaching performance events. It has taught me to think more dramaturgically and opened up channels to spontaneous creativity. In this article, I reflect on how multi-role practice been realised in my case and what sort of questions it has led me to. I open up these observations by relying on examples of works in which I've personally acted as both designer and performer. At the same time, I describe the environment that has made this more versatile practice possible, because working environments and the discourses interlinked with them shape artistic activity and output; this being the case, methods of production and creation are relevant.

W A U H A U S and co-practice

I have generally been able to make my lighting design concrete in the performance space a couple of weeks before opening night. As a material, light is rarely included earlier in the rehearsal process; prior to this it exists only in concepts and models. But if during the rehearsal process I'm also on stage, my relationship to the work has felt more organic from the start. I've often found myself frustrated with the traditional role of lighting designer who observes rehearsals. I've felt that performing, on the other hand, has offered me the opportunity to physically participate in the creation of the work throughout the rehearsal process. Multiple roles have liberated me to move forward with the lighting design on the work's terms towards a method in which aesthetics live through and are

in a more dialogic relationship with the work. Part of the aesthetic solution can be found through the performer's position – concretely, from within the work.

Cooperation with the choreographer Jarkko Partanen (and at times with the choreographer Anna Maria Häkkinen or director Anni Klein) has offered me a working environment in which a multiple role of this sort has been possible. In the productions we've prepared together, we've gathered around the theme without a framework of rigid roles. This working process has offered me, at least, with the answers to what we're doing and how we're doing it. My ending up on stage during performances has at times happened gradually, through my participating in rehearsals, as in the productions *Kommandobiisi aka Space Invaders* (Commando Piece aka Space Invaders, 2012) and *Dirty Dancing* (2014). This intense collaboration has formed an artistically rich but structurally liberated environment. In order to develop collaboration and grow artistic capital, we wanted to take a further step in early 2016, and on January 1, director Anni Klein, sound designer Jussi Matikainen, choreographer Jarkko Partanen, sound designer Heidi Soidinsalo, and I founded a collective bearing the name W A U H A U S. One motivation for founding the collective was the notion of sharing artistic practice among the members of the team, because we felt a choreographer- or director-centred method of putting one's signature to a work of art does not correspond to our personal way of working. We wanted to create an artistic identity we could use to sign our future works.

When we start to create a new performance, we don't have a ready-made map, such as a libretto or script. Instead, we approach the performance being generated through the concept for the work. Often a conceptual framework serves as our starting point, as well as a dash of aesthetic-philosophical questioning, both of which were, prior to

W A U H A U S, initiated by the convener or conveners in a given instance. Then we jointly develop a thematics of content, and the future performance is shaped both inside and outside the rehearsal room by updating the action plan. We don't build a scale model in which we model the performance's progress in miniature beforehand; the work and its world are formed during rehearsal: the preliminary design melts into part of the rehearsal process. You could even say the work being generated itself proposes the form it will take, and the performance's aesthetic terrain is conceived alongside the rest of the work during this process. The progress of the work is convener- or conveners-driven, but the artistic team as a whole is always invited to engage in these processes.

Dirty Dancing premiered at Zodiak in 2014. Photo: Katri Naukkarinen.

The inner and outer gazes

In rehearsals and performances, the performer focuses his doing with his body and its presence; attention is directed from the inside out. The focus is on the present moment and what the assignment feeds in the moment. I've enjoyed impulsive, improvisation-based rehearsals in which the assignment seeks, for example, movement-based material. The designer's gaze, on the other hand, processes frameworks: the light in which the material is desired to appear, the lens through which it is viewed, and the relationship the scene being rehearsed has to the rest of the material. The designer also strives to conceive how the rehearsal material is positioned in relation to the thematic discourse engaged in through the work. The notion of the whole is different in these two instances: the performer sees the stage and the performance situation from the inside, whereas the designer traditionally sees the stage from the perspective of the house (and thus the audience).

Performing – in other words, being in the work from the inside – has furthered my understanding of the performance in a manner that can be adapted to the work's visual reality. This was manifested in the performance *DIG MY JOCKEY- Live version* (2013), which premiered at Zodiak – Center for New Dance. In this work, I acted as both scenographer and performer. The visual idiom of the performance and the work's lighting solutions were discovered from the

position of the performer – from the stage. I saw both the generating movement material that I brought as a performer and the performance's lighting solutions taking shape in a progressive, overlapping process. One could say this opened up a new door for me to the logic of staged work. The lighting design of *DIG MY JOCKEY* emerged on the basis of needs arising "within" the work – in other words, as viewed through performer-ness. Much of the work's visual appearance took shape by simplifying – as experiment, shaping, and editing.

When I am both performer and designer, two domains of activity are built into my artistic activity, and the relationship between those two is rewarding but challenging. If, as a performer, I'm watching, producing, and observing movement material throughout the rehearsal day, when am I viewing the situation through the eyes of a lighting designer? A question arose from this work: what is design that does not try to look at itself from the outside? Can that looking be avoided? Does design demand an external eye – a gaze with which to make decisions about wholes, and often from different premises than the performer acting in the moment? Rehearsal methods in which we, alone or in small groups, create scenes for the gaze of others are helpful in this construct. This way everyone can see what we're in the presence of as a group, as well as what the activity looks like as viewed from the outside. Meanwhile, the entire group's investment in the design grows. If I myself can't see what a given scene looks like from the house, the comments of those watching increase in importance. The significance of collaboration grows.

Live dramaturgy

In *DIG MY JOCKEY - Live version*, the dualistic division of labour between the designer-ness and performer-ness came to an end with the performance season. Things were different with the work *Dirty Dancing*, which debuted two years later at Zodiak – Center for New Dance.

In this project, I once again had the dual roles of performer and scenographer. The performance found its shape a week and a half before opening night, when we decided to give up on a fixed dramaturgy and an agreed-upon order for the scenes. The work demanded the performer step into a rink surrounded by audience members without a fixed overall picture, structure, or plan. Having a dramaturgy that changed from one performance to the next inspired within me a need to run the lights myself, because the performance and lighting dramaturgy had to be negotiated during the performance situation with the other performers and sound designer Heidi Soidinsalo. The balance between this performing and

the live lighting control meant constant chaos management and acceptance of chaos. In this case the question that arose was: how can I observe the performance event with the eyes of an outsider? Time and events appear differently on the stage than when viewed from the house.

At times the possibility of an external gaze shrank or even disappeared. You could say the work's aesthetic balance wasn't actually discovered until we performed it in Tallinn, Estonia, a year after the premiere. I had formed the requisite experiential foundation for being inside the work and, with it, a sense of calm. An external gaze with which to take in the whole had become possible. The time between the performance season and touring also offered the opportunity to adjust the lighting cues. Through touring, we found repeated moments in the performance in which sound, lighting, and movement clearly wove together. These situations momentarily interlinked all elements of the performance by creating a clear counterpoint. The dirty, chaotic performance took on a few all-encompassing condensations and a sense of order, before it once more slid into the thematically important disorder.

Finding the dramaturgic shape of the work so close to opening night left limited opportunities for conceiving the performance event and its visual world. And herein lies one challenge of having multiple roles: how can you find the methods and the time to think about the work from multiple simultaneous positions, particularly in a situation in which all of the key decisions regarding the work are made so close to opening night? It feels like it's only been during the past two years that I've started to find a more organic relationship to having multiple roles. I've had to be careful to ensure that both remain in balance. It has also become clear that, aside from the artistic crosscurrents, I have to keep an eye on my personal limits. Having multiple roles by no means decreases the danger of burnout, so resourcing time is critical. In short, the last few years have provided me with a more organic relationship to multiple roles not only artistically; my working methods have also grown more streamlined as a result of my experiences with burnout. At the same time, my attitude to my artistic work has changed. I have striven to put distance between my identity and my professional roles.

Running the lights for *Dirty Dancing* approached improvised concert lighting, albeit the lighting controls had to be operated from the edge of the stage while I was performing and covered head to toe in food. Operating the lighting console was challenging even after I had accumulated experience. The question here was: How can I best balance performing and running the lights? I didn't want to sit at the console, waiting for a potential dramaturgic moment for a lighting

Anna Maria Häkkinen, Samuli Laine, Jussi Matikainen, and Jarkko Partanen perform in the *DIG MY JOCKEY – live version* at Zodiak (2013). Photo: Timo Wright.

transition. On the other hand, the dramaturgic moments for creating a transition often came unexpectedly. Running to the lighting console at the last minute didn't feel natural; either the moment would pass or the dramaturgic impact of the lighting transition would be diverted to my overly visible approach to the lighting console from the lighting cue itself. And so I had to accept the fact that some of the good moments would pass by (which meant the creation of a new dramaturgic bridge later) or that I intermittently had to withdraw to a position near the console.

By the Pool #4: Elina Pirinen plays Mermaid by the pool

By the Pool #4: *Elina Pirinen plays Mermaid by the pool* (2016) was a performance in which once again all practitioners involved performed on the stage. Whereas the logic of the lighting design in *DIG MY JOCKEY - Live version* was found through performing, in *By The Pool #4* the logic of the lighting design created this way of being on stage. This offered an interesting solution for acting from the stage. If I am trying to create a sufficiently potent visual environment in which to be as a performer, can I then trust that the situationality of the aesthetic environment will also be communicated to the audience?

By the Pool #4: Elina Pirinen plays Mermaid by the pool premiered at Zodiak in 2016.
Photo: Kristiina Männikkö.

Considering the overall time dedicated to the process, we had a remarkable amount of stage time for our use (which was also a result of an atypically short rehearsal period). This offered a titillating opportunity to warm up, tune in, and rehearse in the performance lighting. For once, I could settle into the presence of the work and the lighting simultaneously; I could create and concretise my performing and the lighting design at the same time. I placed as much equipment as possible on the floor, so my activity would be flexible. This way I was able to make the changes quickly, without being bound to an existing rig design or time-consuming work at the ceiling. I could create lighting suggestions in an instant, from the stage, while we were together with the performance material.

The lighting premise of *By The Pool #4* gradually became experientiality – that which the lighting brings to the conditions. What emerged as significant was how lighting can be a condition and how that condition creates the work, shapes it in a given direction. The lighting did not arise from a need to illuminate the performer, but was part of creating the performance – one of the fundamental levels in which the performance was able to take place and the performers act.

The same thought was also presented in the performance video created of the staged work *Sädekehiä – täydellisuuden politiikka* (Rainbows – A Politics of

Perfection, 2015) by Jani-Matti Salo (Aune Kallinen: Sädekehistä 2015, 4:21). Salo and I are both interested in how light suggests a way of being and presence as well as creates space for the reality of the performance. In *By The Pool #4*, what rises to a meaningful position is not only the external aesthetics, but also the performer's internal experience, because we are all on the stage, inside the work. The fog, the slow, undulating music, the crepuscular light, the saturation of colour, the warm water in the pool we're sitting in – all of these offered a certain way of being. They suggested how to be on stage, but also how to be in relation to each other, the performance situation, and the spectators sitting in the house.

Flashdance – light as a condition

This research into light's experientiality continued in the W A U H A U S production *Flashdance* (2016), which premiered on the Zodiak stage on December 7, 2016. In *By the pool #4*, experientiality was present between the performance conditions and the performer. In *Flashdance*, the working group was interested in linking the spectator into this experientiality. What if the lighting condition surrounded the entire performance event, incorporating both the stage and the spectator out in the house? During the process, I asked myself: if no one is capable of looking at the event from the outside, but everyone (both the spectators and the performers) are inside the same condition, could designer-ness also then be executed from inside, by way of the performer's position, and without the need to consider what the performance looks like aesthetically and dramaturgically from outside the stage? Although the focus of the work moved in a different direction during the process, the condition and maintaining spectator-ness and the gaze at the centre of the performance event were preserved until we opened.

We held a residence week at Zodiak in late June–early July focused on *Flashdance*. The week began with Jani-Matti Salo and I testing ideas together on the Zodiak stage. Our performance lighting tests were based on the artistic team's thematic conversation. We tried out different ideas and aesthetic premises for two days, and at the same time, carried the aesthetic-thematic conversation onwards. After this, we presented our findings and continued experimenting with the entire artistic team based on those premises. In this way, the boundaries of who does what crumbled. We were together in the presence of the theme and the medium. Jani-Matti Salo and I tried to democratise the lighting design and create a potential in which both the performers and the rest of the artistic team could make observations and discoveries along with us – from the position of performer. Another factor that made this possible during that summer

The W A U H A U S performance *Flashdance* at Zodiak, 2016. Photo: Katri Naukkarinen.

rehearsal week was that we were working with lighting instruments, like bicycle LED lamps, whose use didn't require previous experience. Lighting design easily becomes extremely technology-bound and dependent on technical knowledge, and thus has a tendency to remain an esoteric field. During our workshop week, we wanted to facilitate opportunities everyone could use. At the same time, the lines between practitioner roles blurred.

Conclusions

The *Flashdance* process raised the question of whether we could build toolkits within the framework of which shared practice would be possible. Could we create a working environment in which light was concretely part of the performance material? In *Dirty Dancing*, the buttermilk and other foodstuffs were not only part of the work's aesthetic domain, but also part of the choreography. Without them, the movement idiom would have been different, being on stage would have been different. The mess and the filth were a defining element of the work's aesthetics. The performance's visuality was found through cooperation and experimentation as led by Jarkko Partanen and Anni Klein. This shared practice had an effect on the appearance of the performance. Nor could I claim that visual world of *Dirty Dancing* as my own; so many people had contributed

to it. Ultimately we also created a shared dramaturgy in *Dirty Dancing*. The open nature of the performance's structure turned the sound designer Heidi Soidinsalo and the performers into the dramaturges of each performance, and in this way we shared overall artistic responsibility for the performance event. To me, this is one of the cornerstones of concrete, collective doing: shared doing and responsibility.

I don't have any formal training in performance. Because of this, I didn't have the need to repeat learned models or ways of doing things correctly, nor did I feel the pressure to succeed in the performing. I have been a dilettante of performing. For me, performing has been a space free of conventions, which has in and of itself released a lot of creativity, and this liberated creativity has seeped into my design work over time. I no longer yearn for some ideal, orthodox design (whatever that might be); instead, I strive to find something organic. This has also prompted me to ask: what if we were to give up the roles of performer and designer? Instead of this notion of multiple roles, could we reject the entire paradigm of roles? If the primary community in which I'm operating (the working group) were to allow this, then the aim of my activities could be the creation of the performance itself. On a personal level, I have taken strength from this thought: I can act as a practitioner without my practice being stunted into some externally assigned role.

At the same time, my personal experiential foundation and educational background steer my artistic thinking and drive me to the lighting desk – starting from the simple reason that I'm the sole member of the W A U H A U S collective who knows how to work the technology used to realise lighting design. Nevertheless, I don't think of the performance solely through my own medium, but as a whole. What could it mean to let go of medium-specific expression (which lighting design in particular easily tends towards)? I see this as the harnessing of potential – in a situation in which one thinks about the performance as a whole, making use of one's personal know-how. In this instance, the group carries joint responsibility for the success of the work and one can focus on the essential – in other words, creating the performance. This is not a matter of wanting to forget one's training, but the opportunity to use the potential welling up from one's self more broadly.

Roughly speaking, it is through performing that I have comprehended the logic of staged work. At the same time, I have found a simple, concrete way of being part of the work. The processes and structures of the work have opened up to me more concretely in performer-ness that acts from the stage. I have

found spontaneous creativity through dancing. Being on stage and engaging in my practice from there have offered me a physical image of how works come about. They have led me to think about performance as processes to which I am now capable of relating my visual thinking more organically. In this manner, two different perspectives open up into the work during the planning and rehearsal phase, which offers a more comprehensive approach to creating the performance. Creating the performance feels like learning. The more I've accepted this, the better I can do my work: I dare to allow the work itself to suggest what it could be, both aesthetically and dramaturgically.

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Samuli Laine (1983) is a Helsinki-based scenographer, video artist, and performance creator. Laine earned an MA from the University of Art and Design in 2011 and an MA (Theatre and Drama) from the Theatre Academy in 2014. He has worked as a lighting, video, and set designer and occasionally a performer in the field of contemporary theatre and dance. He has also designed sets for television. He is a member of the newly formed arts collective

W A U H A U S, which consists of five Helsinki-based artists with various professional backgrounds in the performing arts.

Flip-flops cannot go on stage! – working as a lighting designer in Singapore

ANNA ROUHU

This essay is a recollection of a significant period in my life. It is based solely and exclusively on my personal experiences working as a lighting designer in a foreign country.

No chili, no food

You can react to living and working in a foreign culture in any number of ways. Some people cling to their own culture and show no interest in getting to know the local one. A second alternative is integration of various degrees. For me, integrating into Singaporean culture went so far that I started putting on a sweater when the temperature dipped to 25 degrees Celsius and food had no flavour unless it was spiced with hot chili. I also started to use idioms like "*makan*" completely naturally.[1] I had already experienced a similar process of adapting to a local culture during 2007–2008, when I was an exchange student in Hong Kong and had to deal with my biggest culture shocks related to working in Asia. Hong Kong and Singapore are very similar Asian metropolies. In both cities, their British heritage and practices have a powerful presence in the performing arts, such as the importance of the stage manager in the production process.

A former British colony that gained independence in 1965, Singapore is a small island between Malaysia and Indonesia in Southeast Asia, near the Equator. The majority (74 per cent) of its approximately five million residents are ethnic Chinese, with the rest of the population made up of ethnic Malaysians and Indians, among other groups. The state maintains tight control of many areas of life: censorship is strict, and in practice the country is governed by one party. (Wikipedia: Singapore June 15, 2016.) This tight control, along with severe punishments for even small

1 *Makan* means eating and food in Singapore's Singlish slang.

Mr Sign, T.H.E Dance Company, 2013. Choreography: Kim Jae Duk. Photo: Bernie Ng.

Mr Sign, T.H.E Dance Company, 2013. Choreography: Kim Jae Duk. Photo: Bernie Ng.

The Body Speaks, T.H.E Second Company 2014. Choreography: Renxin Lee & Miwa Okuno. Photo: Bernie Ng.

infractions, make Singapore a very safe if slightly lifeless place. Among Asians, Singapore has a reputation for good food, and lots of tourists come there for the food alone. The city is abounding in food courts and "hawker centres" from which you can get dirt cheap or merely inexpensive food, depending on the location.[2]

Sidelights

I had my first show in Singapore in January 2009, and my last to date in December 2014. During those five years, I worked on several different productions. I actually lived in Singapore for a year and a half during 2010–2011. Most of the productions I worked on in Singapore were with T.H.E Dance Company, founded in 2008, but I also did a few productions with dance students from the School of the Arts and the National University of Singapore. I was involved with T.H.E. from the time of their second production, and during those years I was working with them, T.H.E rose to become Singapore's leading contemporary dance company. (T.H.E Dance Company, June 15, 2016.)

2 Both are dining establishment types formed of a variety of small food stands.

The prevailing culture in China and Southeast Asia is one of copy–paste: if something is popular and viewed as good, copying it wholly or partially appears to be completely acceptable. The notion of "original" or "unique" is rather rare, even in arts circles. In my first years in Singapore I noticed that the local lighting designers didn't put much effort into the visual expression of dance performances and seemed satisfied with sidelighting. As T.H.E gained popularity, the visual style of its performances were viewed as worth emulating, and so the visual expression of contemporary dance performances in Singapore increasingly started to resemble Finnish minimalism.

Where are your safety shoes?

In Finland, the professionals employed in various roles at performing arts venues are able to work independently and know how to plan their time accordingly. In Singapore, on those few days we were at the performance venue (quite often only one full day and the afternoon of opening day), a strict schedule had been drawn up. Every facet of the day had been scheduled – including lunch and dinner breaks. The day generally began at 9 AM and ended at 11 PM and was divided into four-hour segments with an hour-long break for food in between. As noted earlier, food plays an important role in the local culture, and the performance team wanted more than a sandwich and coffee for lunch or dinner, as is quite common in Finland on busy days.

Rigid hierarchy in the theatres often made working very slow; for instance, the theatre technicians rarely proposed suggestions for more sensible technical solutions to the lighting designer or scenographer or made even small adjustments without permission. We performed relatively frequently in the studio theatre space at the cultural centre known as Esplanade Theatres on the Bay, and over the years the theatre technicians came to know me and realised my attitude was more relaxed than that of most of the local lighting designers. In the end, I was no longer asked permission to make small changes.

I had grown accustomed to rigid hierarchies and rules in Hong Kong, but even so, setting up my first production in Singapore (*Within Without*, 2009) got off to an unforgettable start. I had just stepped into the studio theatre on the morning of the first set-up day in flip-flops (they're worn everywhere in Singapore), when the production coordinator Isis Koh rushed up to tell me that during set-up construction I needed to have shoes on. My lodgings were an hour's metro ride away, and only one day had been reserved for set-up. I decided we'd be in trouble with the schedule if I headed back to get my own shoes and asked them to make

an exception and let me enter the theatre in flip-flops. This wasn't possible, so eventually Isis went and fetched me a pair of extra safety shoes. They were too big, and of course I didn't have any socks with me, but I still clomped around in them for the entirety of the thirteen-hour day.

A few times I worked on productions during Ramadan, when Muslims fast. Most of the Singaporean theatre technicians were ethnic Malaysian Muslims. In August 2009, I was working on the piece *Silence*, and towards the end of the first set-up day, team members including the lighting operator responsible for programming the lighting board started getting quite confused and constantly making programming mistakes. I commented on the matter to my lead lighting technician Ismahadie Putra, and he explained that because it was Ramadan they had woken up at 5 AM to pray and hadn't eaten or drunk anything all day. I silently hoped to myself that this would be the first and last time I worked on a production during Ramadan.

Nevertheless, once again, while working on *O Sounds* (2010), there was a small problem with the schedule:

"Anna, on Friday lunch break needs to be three hours."
"Um, why?"
"Because it's Friday so my technicians need to go pray."
"But we have only Thursday to set up. Friday is show already."
"Okie, I get you one Chinese guy. He needs only one hour lunch break."

Generally an hour-long lunch break was also sufficient for praying, but during Ramadan the technicians wanted to go all the way to the mosque.

Can... Cannot... – communication and cooperation

In Singapore, I often worked with choreographers from other Asian countries, and their English-language skills varied. We had to develop new ways of communicating, since there was no possibility to engage in particularly deep conversation about the content of the work. The notion that lighting design could bring content to or support the content of the performance was also completely new to many choreographers. At times communication with the choreographer never got off the ground, and there was no other choice but to sense the ambiance at rehearsals and create my own interpretations. At others, when I asked about the content of a performance, the answer was something general, like "humanity."

More than once, I learned what the work was really about after reading an interview with the choreographer in the press. The choreographers seemed to think that I was only interested in where the dancers perform their solos, so I could light the proper area of the stage without any background information on the work or its content.

I also came to learn it was pointless to look for or prepare conceptual images; generally speaking, they were too abstract a starting point for conversations conducted in simple English. On the other hand, images created with 3D modelling software served to stimulate discussion and were an easy way of showing what sort of light and ambiance I had envisioned for the work. The concreteness of the 3D modelling images facilitated a much smoother exchange, and the visual expression I had in mind was communicated more readily.

While in Singapore, I created about ten works in cooperation with Kuik Swee Boon, artistic director and choreographer of T.H.E Dance Company, with relative autonomy in the preliminary designs. The first production we worked on together was the aforementioned *Within Without* (2009). Swee Boon was polite and friendly during rehearsals and said, let's see what it looks like in the theatre. Once we started looking through the lighting cues, I was a little nervous about how different our views were. Swee Boon would say: *"Can... Cannot... Can... Hmm, can... Cannot."* At the time, I didn't know that in Singlish "can" and "cannot" mean

Cumulus, T.H.E Second Company, 2010. Choreography: Yarra Ileto. Photo: Anna Rouhu.

basically "yes" and "no," or in this instance more like "works" and "doesn't work." Swee Boon was very particular about the visual world of his pieces, and in the end, when he started saying "can" to more lighting scenes, it was the beginning of a cooperation that lasted years. The amount of communication varied between projects. Sometimes I was given so-called free rein, and in other productions we engaged in long conversations about the work's visual expression while reviewing 3D modelling images during the rehearsal stage.

Hit those cues

Regardless of the choreography, there was very little space in T.H.E Dance Company's works for improvisation, and everything that happened on stage was very controlled. In Singapore, the stage manager plays a big role in the production; he or she basically runs the show and makes sure everything from staying on schedule to calling cues for lighting and sound. One thing that proved a challenge was "teaching" the stage manager the timing of the lighting cue points. During rehearsals, Shining Goh, stage manager for T.H.E, recorded meticulous notes on when and from where the dancers come on stage, as well as their movements on the stage. She did not, however, pay much attention to the music. I, on the other hand, listened closely to work's music, and many of the cue points for the lighting were based on the music. During the rehearsals for the first productions, we often engaged in conversations like the following until I learned to look for a visual cue point in addition to the musical one:

"Cue 23 is when the music starts to slow down."
"You mean when Jessica does back bend down stage left?"
"Um... No... I don't think so... earlier lah."
"But this cue is for her solo, right?"
"Yes... But the time is 45 secs, so you have to take it before her solo starts... The idea is that the fade is about ready when she starts."
"*Okie... I take when Zihao exits then?"*
"Okie... we try that (deep sigh)."

Artistic issues

The aesthetic sensibility of Asian lighting designers can frequently be described as "quantity over quality." When I watched other dance pieces, it felt as if the lighting changed all the time without any logical reason and that all possible lighting effects had been crammed into half an hour: three different gobos, all

colours of the spectrum, with a dash of strong, flashing strobe light without any unifying aesthetic. It's as if there were a guidebook that read "*change lighting completely every 30 secs regardless of what happens on stage*." My own style is minimalistic and tends to a "less is more" aesthetic. Because of this, Swee Boon occasionally worried that a performance looked too simple visually, and asked me, for instance, how many lighting cues were coming:

"Anna, how many cues?"
"Hm... About 60."
"Sounds enough."

Swee Boon was not particularly fond of colours. The costumes, for instance, were very grey, but as long the colour palette remained restrained, it was possible to use colour in the lighting.

"Anna, what is this colour?"
"Lee 201."
"I like this colour. We use this, ok?"
"Okei..."

T.H.E's resident choreographer, the South Korean Kim Jae Duk, was a unique case when it came to colour. He not only hated colours, he also hated warm white light. In several works, I only used a L201 colour gel, but when as we were creating the work *Mr Sign* (2013), I cautiously suggested we use a touch of colour.[3] Jae Duk agreed to try it out, and in the end he was enthusiastic about the result. He did say, however, that I was the only lighting designer he dared to try colours with.

Jae Duk also had an idiosyncratic aesthetic vision when it came to the dramaturgy of lighting cues. He wanted a lot of cues, and the cues had to change at a rapid clip. The intensity of the light had to be a hundred per cent (or full), and the changes in lighting needed to happen in zero seconds. I fooled him a few times by saying "yes, yes, they're on full," even though the intensity was only 60 per cent and the switch took two seconds. When we did *Hey Man* (2012), I decided to do things exactly the way Jae Duk wanted them from the start. I set all the

3 The code L201 refers to gel number 201 manufactured by Lee Filters ; it cools the colour temperature of halogens without adding any tones.

Organised Chaos, T.H.E Dance Company 2014. Choreography: Kuik Swee Boon and Kim Jae Duk. Photo: Joseph Nair.

transitions to zero seconds and the intensity of the light to full during our first run-through in the theatre. In addition, I programmed a huge number of cues, especially in the first part of the work. After the run-through, Jae Duk suggested: *"Anna... Maybe not zero second every time, ok?"*

Working abroad is a treat

When I began my studies at the Department of Lighting and Sound Design at the Theatre Academy in 2003, a mandatory internship abroad was still part of the curriculum. Professor Markku Uimonen felt that it was good at some point during one's masters studies to go to another country where you didn't have any connections and be reminded of how easy it is to work in Finland, in the end of all. In Singapore, I learned over the years which neighbourhood to go to find a colour-gel store and where I could find the best selection of LED strip. As I made connections, the work lost its exoticism. In the end, it was all the same if I were I working in Finland or Singapore. For now, the last time I worked in Singapore was in December 2014, when I wistfully bid my good-byes to the tropical warmth.

Mr Sign, T.H.E Dance Company 2013. Choreography: Kim Jae Duk. Photo: Bernie Ng.

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Looking for a new lighting

MARKKU UIMONEN

Scenography and lighting design: they can no longer be divided from each other. Neither one would exist without the other, at least in the context of the theatre arts. Nowadays no one talks about set design anymore, but of *spatial design* or *space design for performance*, for example. Performative theatre can take place anywhere outside arts institutions, and it feels completely normal to treat lighting and scenography as one and the same whole – that can start anywhere and end anywhere, and for any reason.

I personally have been of the mind since the late 1980s that the director, scenographer, and lighting designer are one and the same – that this is the only way to achieve a successful result: a work of art. Of course this one artist can inhabit two or three different bodies, but in terms intention and end result, the thinking should be in some way unified or commensurate.

It's been claimed that multiple personal visions introduced into a production enrich it. This is an accurate and often-heard phrase, but again, these two or three personal visions regarding lighting and material can also live inside the same head.

There are many types of lighting design. There is light-art design, where we could just as easily drop the word design and concentrate on light art in and of itself. The difference between design and art often lies in design being commissioned and there being some expectation regarding the end result. Art, on the other hand, is free.

The – completely understandable – fervour that developed among lighting designers during the 1980s and '90s to be artists can, in the light [sic] of current research, be seen as more of a sociological endeavour than a challenge welling up from artistic content. Nowadays young lighting design talents, who have breached the fortresses and bunkers of even the most retrograde theatre arts, do not waste

their time pondering whether or not lighting design is art. Instead, the primary concern is more one of a motivated process within teams that have a shared vision of theatre or art. The aim is art, not the right to call oneself an artist.

There has been a fundamental shift in the relationship to the medium – it is not merely technology and products that, when used correctly, can be used to light the performance (and set) as well as possible. We used to talk about aesthetic-technical lighting design, in which light was used to react to given conditions in the best possible way and the most skilled lighting designers knew how to do this. The best of the best also rapidly learned how to resolve these aesthetic questions through increasingly mathematical models, calculating the proper angles and intensities of light and selecting a harmonious colour palette.

The majority of lighting design continues to function this way when we talk about institutional production models and large-scale, fiscally megalomaniacal productions that have their own models of risk management. The goal of these works has been set at a level where a specific, uber-certain investment in lighting design is expected, and indeed high-quality equipment in both preliminary design and production technology have been created to this end.

An utterly different sort of risk-management model is executed in those fields of the arts where no goal has been set for the lighting or its design. The process might be devising-driven and either interested or not interested in light as an expressive instrument. Or the performance could be a production emphasising visuality in which performing is also possible.

From the beginning of time, light has served only one god: the actor. Or if we take the pressure off the actor, light has served the notion of the whole work of art, the *Gesamtkunstwerk*, in which the major artistic vision is director-driven and served by the set and costume design and so on.

Even today, our national (major) institutional stages do not flex to allow insane experimentalism, except in rehearsal rooms, where the experimentalism frequently continues to take the form of interaction between the director and the actors. Nevertheless, the preliminary artistic design that is a prerequisite for the design of the set, costumes, lighting, and sound takes place somewhere. And it can take place in a very experimental way, a way that searches for the new.

Boundaries in the theatre arts, above all historical hierarchical boundaries, continue to melt. The validity of experimentation and preliminary artistic design that takes place in a state of flow is acknowledged at even the largest institutions. This is facilitated not only by the development of new technology, but also the desire of artistic teams to rediscover light. As a result, light is no longer seen

simply as a medium that makes seeing the performance possible or as visual fairy-dust that brings to life a set that looks bleak under work lights.

While it's true that the majority of "productions" continue to be created in this fairy-dust "light" that guarantees visibility, light increasingly works in ways other than simply reacting to given surfaces and the dramatic arc written into the work – by this I mean the notion that every change in lighting is both a directing and dramaturgic decision, so if there is no dramaturgic explanation for a change in the lighting, that change is unnecessary.

We see a lot of performances – and no longer exclusively in contemporary dance – in which lighting is the sole scenography and understood as an extremely versatile visual and dramaturgic 4D-medium that can no longer be executed a week before opening night. Lighting has become a factor that generates content and action, no longer a simply executive, visibility-granting function. Meanwhile, the input-output analogy of the lighting designer has been flipped on its head: the lighting designer no longer sits, listens, waits, and then executes, but rather in addition to these traits of a good hunting dog, she also produces material for the work from the start, conscious of her responsibility for the cumulative effects of her proposals on the performance as a whole, not just its ultimate visual aesthetics.

In terms of training in the fields, this afore-described development only means problems and difficulties, especially when viewed through a loupe of strict professionalism. How can the student learn those professional criteria and skills demanded of scenographers and lighting designers if one's entire education is spent bouncing between different art forms in the spirit of experimental art and every installation – every jury-rigged pick-and-mix – serves as a significant work of serious art, as long as it has been textually justified and verbalised as well as introduced enough times at international conferences?

Luckily this process was already undergone ages ago in the field of fine arts and the world of art lives on, and despite the existence of photographic apparatuses, paintings are still being painted. Movement between fields of study creates a comprehensive view and ability to understand the term "full responsibility," which means – simplifying to the extreme – that the scenographer no longer creates a world that has no room for lighting (or that lighting can even penetrate), nor does the lighting designer create a narcissistic "work of art" that is completely unrelated to the work as a whole.

The more a former scenographer fiddles with new LED lights and video projections the better, if at the same time the lighting and video designer under-

stands the significance of paints, materials, plasticity, textiles, and textures as a surface that reflects light and makes it visible. Such renaissance individuals who master all of this proficiently (not to mention questions of technology, which are so demanding these days that they require training of their own) are truly rare. Luckily there's a growing cadre of visual design professionals who speak and understand the same language during the preliminary design phase, in which case the direction, dramaturgy, scenography, light, projections, live video, sound, costume design, and so on arrive at the intended point without deflating, dull, frustrating, and degrading last-minute compromises due to lack of communication, competence, and knowledge.

When we are moving in a scale from minimalism to spectacle, from kitchen realism to candy-coated musicals, the thing all of these share is the need for a lighting designer. With the instruments that contemporary technology offers for creating lighting, the end result bred by the designer can be a complete catastrophe and a boring, vapid, flat, two-dimensional, stale, dim, smudgy, murky, blurry, miserable embarrassment, an unmotivated, purely technical performance.

Or an ingenious work of art.

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PART III

On perception,
transparency, and technology

Between me and the world – technological relationships from a post-phenomenological perspective

TOMI HUMALISTO

In this article, I explore the relationship of performance to technology; I reflect my observations against the American post-phenomenologist Don Ihde's (2009) framework of a technology-mediated perceptual relationship to the world and the impacts of so-called "background" technologies. In describing these relationships, Ihde uses the concept of *transparency*, which is an interesting term with regard to lighting design. Because lighting design is an art form that has traditionally been tightly bound to lighting and performance technology, the question of the nature of technology is essential. Technology is not merely a vehicle for art or any other human activity; it, in and of itself, already forms a way of being in the world. This is why I consider it important to present Ihde's thinking and consider its connections to practices in lighting design. Readers interested in a deeper dive into the philosophy of technology would behove themselves to delve into Ihde's ideas as well as familiarise themselves with the writings of his younger colleagues, such as Robert Rosenberg and Peter-Paul Verbeek (Rosenberg & Verbeek 2015). My aim is to focus on the present situation, in which our conceptions – including those involving the creation of art – are being challenged in the crosscurrents of old and new technological phenomena. What I am referring to as "technology" is to be understood at its narrowest as the devices we use as tools and aids. A broader definition is represented by the researcher Tarmo Lemola's conception of technology, which further includes the skills and

knowledge necessary to operate said devices (Lemola 2000, 10–11). The sound designer Ari Lepoluoto reminds us that concept of technology has been linked to industrial production and the use of natural resources.

The ethical problems that have emerged and continue to emerge in this arena have been unparalleled in tenaciously maintaining the opposition between art and technology (Lepoluoto 2014, 13.) If we focus on technology and its most visible form as devices and the output of their operation, inherent impacts are easily overshadowed. From the perspective of art in particular, it is essential to ask what is the diverse essence of technology, and what our relationship to this essence is. Using a device and growing accustomed to how it works has an impact on us, as does the opposite – drifting away from it. In the 2000s, the use of devices has become an increasing part of our culture and the communication intrinsic to it. This is why we need to develop an understanding of the interactive relationship between humans and technology and technological-philosophical frameworks like those of Ihde.

Perceiving the world through embodied technology

The first relationship between human and technology that Don Ihde addresses is how we, as bodies, are in interaction with our environments through technology: *technics embodied*. This relationship is manifested, for instance, when we look at the world through eyeglasses or a telescope. In contrast to our viewing our environment with the naked eye, optically manipulated glass that corrects and enhances what we see is inserted into the chain of events. Ihde (2009, 77) formulates this event as an equation:

I – glasses – world.

The lens that enhances our vision is concretely transparent, and due to our familiarity with it, we pay little attention to the glass itself. In this instance, the eyeglasses become "transparent" as a technology; we perceive the world through this technology so effortlessly that it melds into part of our body. This can be formulated as the relationship (Ihde 2009, 77):

(I – glasses) – world.

In the case of the lighting designer, the use of eyeglasses does not theoretically diverge from any other professional group's need to see more clearly. To be

exact, what is happening is an attempt to restore one's eyesight to its "original" flawless level (original in quotation marks, because the sense of sight diverges among us at birth). Through her eyeglasses, the lighting designer looks at targets of various distances in often dim or highly contrasting conditions. Compared to, say, a dancer, it is much easier for a lighting designer to use eyeglasses, meaning transparency is realised more easily.

Unlike the dancer, the lighting designer does not generally notice the eyeglasses, because they barely interfere with her work: it is only when they are in danger of falling when she is rigging the lights, or due to the lenses fogging up during wintertime conditions that she may be momentarily reminded of their existence; at such junctures, the technological relationship momentarily becomes less transparent. Contact lenses are one step even closer to transparent technology. Right at the surface of our eye, almost part of it, their mediating activity is practically forgotten during the event of looking, because they in no way interfere with one's movement.

If we shift perspectives from the practitioner to the spectator, the aids to seeing apply in the same fashion. The preconditions for seeing are, however, sufficient lighting, perceiving the stage with or without the assistance of eyeglasses. At this point, it is worth asking if artificially executed transparency in stage conditions is, in and of itself, a technological phenomenon like a lens, one through which we view the world of the performance. The lighting design of a performance is not a small and clearly bounded article, like a lens; it consumes nearly the entirety of the three-dimensional space. The space consumed by the light can be near or far from the viewer, but we perceive its various surfaces, colours, and shapes as mediated by light. In the viewing event, the light is located between the spectator and the object; it mediates a projection of the stage to our eyes, and so we see the world through the light without paying any attention to it itself. Adapting Ihde's conceptions offers the following variations to describe the relationship, if we include the spectator's possible use of eyeglasses:

spectator – light-performance / (spectator – glasses) – light – performance
(spectator – light) – performance / (spectator – glasses – light) – performance

The central question that rises is whether light, like eyeglasses, can be an embodied transparent technological mediator of the sense of sight. The idea of light as a technology is not unproblematic. If our sense of sight in any event requires

light reflecting from an object into our eyes, how does seeing with artificial light differ from seeing with natural light? If we think about natural light, its role is like that of eyeglasses – extremely transparent. It functions between the viewer and object without us really noticing. Like eyeglasses, natural light is near us: it extends from the object to our retinas. And yet the relationship between natural light and technology is more problematic. When is light technology, and when is it a natural phenomenon? Fire serves as a good borderline case: is a fire originating from a lightning strike different from a bonfire lit by a human? If fire reflects the object into the eye in the same way in both instances, and in both instances is positioned as a mediator between the viewer and the object, is the origin of the light the sole differentiating factor? Can we only speak of human-ignited fire as a technology, even though in both instances the perception is mediated in the same way? I'll set aside the problematic question of natural light and fire in order to proceed into terrain of greater interest with regard to the technological nature of performances.

We have not satisfied ourselves with only repairing our sense of sight to the "original" state: through the telescopes of Galileo Galilei we have become fascinated by the possibility of seeing more than we would see with a healthy naked eye. The micro and macro levels of eternity have entered our field of vision, altered through the technology we use to human scale; we look at images of amoebas and galaxies side by side. (Ihde 2009, 81.) The notion of magnification is also present in the fundamental essence of performance. Opera glasses have made it possible to follow a performance or events on stage in greater detail. Magnifying, bounding and highlighting are common methods applied in performance lighting design executed on the spectator's behalf. This regulating of visibility goes further than simply ensuring visibility. Viewing that is considered "neutral" (although it must be noted there is no such thing as neutral light) is replaced with altered perception, in which the lighting changes the world of the performance being viewed as if we were looking through a tinting, magnifying or distorting lens. The delicate adjusting of parameters can sustain an incredibly transparent technological perception relationship between the spectator and the performance. The artificially constructed world of the performance is accepted visually as it appears, and the spectator pays no attention to the light itself. It is in these specific contexts that lighting design appears to function almost imperceptibly as a transparent window between the material reality of the performance and the spectator.

Technology as a pre-interpretive language

Ihde uses the term *hermeneutic technics* to refer to a functional relationship requiring interpretation; such an event would be similar to a text and its reading, where we perceive interpretation requires a system of symbols, a language that is visible, even though the form of writing does not necessarily represent the object. Here a geographic map acts as a borderline case, because a certain visually demonstrable correspondence in relation to the terrain – albeit depicted from a bird's-eye perspective – can still be perceived in the drawing. When looking at a map, transparency is partially realised: less than in the case of eyeglasses, but more than when compared to say, a text describing the terrain, where the letters are the target of attention.

Explaining the lighting rigging for a performance in an exclusively verbal fashion would be slow to formulate as well as to read – on the other hand, verbal additions to a map can clarify what is too complex to be read from the map. The light plot the lighting designer draws of the performance space strives to a certain reality-corresponding similarity with the architecture of the performance space. Even though the readability of this plot demands significant simplification, the visual correlation between the plot and the space aids its legibility. Preserving scale reminds the reader of distances and helps her perceive and keep in mind potential problematic spots in the lighting scheme. The more general light plots included in tour riders cannot precisely describe the stages depicted, because at the moment of drafting the destination stages are not necessarily known. Even in this instance, by reading the plot one can gain an understanding of the desired placing of luminaires and set elements and their symmetry, asymmetry, or emphasis on certain areas of the stage. The technician at the receiving performance space makes an interpretive comparison in relation to the possibilities offered by her own stage; this comparison is accelerated by the map's visual correspondence, which allows her see at one glance that a bank of cross-lights are needed stage left, or that she will need to hang both spotlights and a backdrop from the rearmost batten. The same speed of perception is the aim of contemporary light boards, where the stage lights being controlled can be arranged in a plot view on the screen. This means the user doesn't have to immediately remember the address of a specific spot; she can find the lights she needs on the basis of the map and activate them by touching the symbol for them (note the embodied relationship here). The speed of perception adds to the effortlessness of controlling the spots, and the effortlessness decreases the attention paid to the user interface

itself. Making use of this direct perception increases the transparency of the technology's user relationship, even in operating modes requiring interpretation.

According to Ihde, writing is technologically mediated language and is, in and of itself, the object of visual perception (Ihde 2009, 82–83). This means the text lets the gaze pass through it and reveals the object being described in a purely hermeneutic manner, which demands the ability to interpret the linguistic system. This literacy does not, however, apply solely to text as writing; we also read various meters, like thermometers. For instance, during the winter, we stand inside our warm home and look out the window at the thermometer, hermeneutically interpreting the current temperature by reading the temperature from it or from the position of the needle. Even though we can also, on the basis of our sense of sight, rather effectively and directly infer the temperature based on the weather conditions, we do not have sensory perception of it beyond the temperature claimed by the thermometer. If we did not have a line of sight to see the rest of the world outside the window, we would have to trust the reading from the thermometer and our ability to interpret it correctly. The world is hidden behind the technology, a relationship that can be depicted thus (Ihde 2009, 84):

I – (technology – world).

Ihde raises the possibility of distortion and error that can take place in both embodied perception as well as in hermeneutic technics. Galileo's early, coarsely polished telescope lens is only one example of the limitations of optical quality. In this instance, for example, the flaws and limitations of lens-like technologies that strengthen our visual perception can vexingly hinder perception. The cooperation between a human's bodily perception and technology is no longer completely clear. Ihde (2009, 85) describes the possibility of an enigma like that caused by an optical flaw with the formulation:

(I – technology) – world
↑ *enigma position*

When preparing a performance, the lighting designer's perceptual connection is easily severed if she is forced to both operate the lighting desk and make and read notes during a busy rehearsal. Adjustments to timing, balances of intensity, and the combined effects of various elements are easily overlooked when she is occupied at the lighting desk controls and her papers. An even larger disconnect

between perception and the technology being used by the designer emerges when the designer is programming the lighting cues alone, without the direct perception of the impact of her decisions rehearsals offer. In this instance, the programmer is at the mercy of her notes and sketches as well as the information provided by recordings and the lighting desk. Lighting cues programmed outside of rehearsal may well provide surprises during the next rehearsal. Nevertheless, it must be remembered that "blind" pre-programming can also be an essential part of the design process. The aim is not a perfect end result, but an attempt to prepare the end result as far as possible in advance, so during preparatory joint rehearsals she can focus exclusively on the finalising of the cues.

On an empty set the programmer can at least see the impact of light on various surface materials, but when executed away in an office somewhere, the relationship between the programmer and the world may be realised almost purely hermeneutically, through language. In this instance, the user of the lighting desk must employ the language understood by the programming software, primarily numbers, to produce a visual design that is difficult to confirm at the moment of programming.

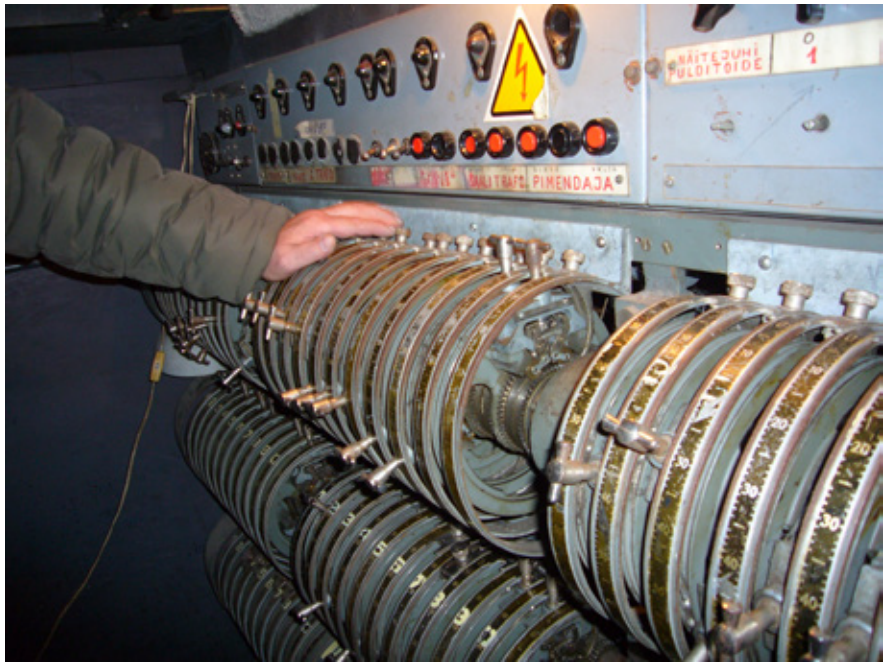
The pressure of tightening production schedules has increased the demand for various modelling methods for the specific reason that "blind" programming based on experience and capacity to imagine is not precise enough. The missing visual perception is replaced with three-dimensional modelling, in which the lighting desk programmer sees the changes in numeric value in visual form from a computer monitor. She can, with her immediate visual perception, perceive that the direction she just entered into the system for the beam of moving light aimed it at the wrong place and spoiled the composition. In this sense, the computer modelling of the performance provides a technological relationship reminiscent of direct embodied perception. The screen acts as a pair of eyeglasses of sorts, and even though the isomorphic image that results from the programming is not perfect, the imperfections can be thought of from one perspective as blips in the transparency of the device, like optical flaws. On the other hand, 3D modelling is by and large a technologically mediated image of spatial reality. The usefulness of the modelling depends on the precision of the model: the combined effect of its various parameters on the quality of the visual calculation. An error in or coarseness of modelling can distort perception and decisions made through it, and it can leave many errors in numerical programming hidden. It is also possible that in addition to mistakes made by the user, the technology does not function as intended, and creates a disconnect between the human and the world.

The nuclear power plant accident that took place at Three Mile Island in 1979 served as a serious example of a disconnect in the technology-mediated relationship between a human and the real world. The only thing the operator working in the power plant's control room could perceive was the indicator in front of him, which had been stuck in a "closed" position due to a technical glitch. Because the employee did not have a visual connection to the reactor itself, the surface of the coolant dropped without anyone noticing, allowing a fuel rod to melt. The technological interface had been clearly visible, but that was the limit of the operator's perception connection. He could not interpret what he saw, nor could he access a real image of the state of the world through any other manner. Ihde (2009, 85) describes the situation using the formula:

I – (technology – world)
enigma position ↑

Mastery of the mediating interface, which is reminiscent of knowing a language, becomes a key factor in the hermeneutic relationship to technology. These days systems, particularly those related to security, stress parallel methods of receiving information regarding events as well as the construction of backup systems that prevent accidents when one system fails.

The possibility of the aforementioned flaws underscore a negative perspective involved in the relationship to technology. In combinations of direct embodied perception and hermeneutic perception, other sorts of relationships are realised that do not only magnify things so we can see them – the intent is to see them in a different light. The simplest example is sunglasses, a modification of eyeglasses. We eliminate the glare of bright sunlight with polarised lenses and see more clearly, even though the sunglasses change the colours in the view. Seeing can also be extended to that area of reality unseen by the naked eye. Cameras based on infrared radiation make it possible to see in the dark, and a spectroscopic image reveals the structures of astronomical objects by measuring the consistency of light's wavelengths. In the latter case, the significance of hermeneutic interpretation grows; despite the imaging-related terminology, a spectroscopic image of a star bears little correlation to a layperson's perception of a star. A researcher in the field, on the other hand, can read the prevalence of elements from the various coloured columns. In conjunction with colour gels, lighting designers and technicians have used a standardised code for a long time in their communication. The expression "Lee 201" specifies a desired or available tone



The old lighting control console at a stage in Viljand, Estonia requires the interpretation of the position of knobs, symbols, and signal lights. Visibility to the stage is poor. Photo: Tomi Humalisto.

A lighting designer's workspace during rehearsals. When programming, the designer compares the information on the screens of the lighting desk to the lighting seen on the stage. Photo: Tomi Humalisto.

and decreases the possibility of misunderstanding, as opposed to referring to a "cool conversion filter" or a "light-blue tone." As spotlights make the shift to LED-based light sources, the use of filters has decreased and no corresponding universal marking system has emerged yet to define colours.

The alterity of technology

As the third framework for conceiving technology, Ihde presents relationships involving otherness: *alterity relations*. This concept of alterity comes from the thinking of the French philosopher Emmanuelle Levinas: as humans, we represent difference to other humans in a radical and aesthetic manner, which is revealed in face-to-face encounters. Based on this, Ihde asks to what extent technologies become others or pretend to become others: "quasi-others" of a sort. The question of genuine and artificial otherness relates to our fascination with perceiving the world through humanisation, or anthropomorphisation. (Ihde 2009, 90.) We assign human characteristics to beings and imagined and inanimate objects; we use terms typical of human behaviour to describe the behaviour of these beings and objects. We speak of our computer "acting up" or "fickle" weather, as if they were humans with a will of their own.

Ihde presents an interesting comparison between the otherness of a racehorse and that of a race car. Even though the horse is momentarily subjugated as an instrument for activity operating on human terms, it still has a will and life of its own. Both the car and the horse are "raced," and the driver/rider experiences the ecstasy of speed that supersedes the limitations of his own body. Both can also break: a horse's leg, or a car's axel. In both cases, human will is challenged by the breakdown. Despite equivalencies, the inoperability of the car is the result of a fault, but a horse can also be disobedient. Unlike a car, a horse has a self-protective instinct that would make it hard to force it to run into a wall. Their otherness in relation to the human is differently built, even though the rhetoric of anthropomorphisation blurs this. Recent news about cars that can correct driving errors challenge this example on a new level. Disobedience designed to improve safety is based on advances in sensors and artificial intelligence. Even though prototypes have not learned to be safely disobedient, as in the case of the Tesla accident (Ervasti 2016), technology has approached the horse's otherness in this realm. The discovery of technological otherness like that of HAL, the computer from the film *2001: A Space Odyssey*, has been pondered for a long time, and a group of researchers at the University of Reading claims to have passed the Turing test for measuring machine intelligence (University of Reading 2014).

Their results have been criticised as premature (Kurtzweil 2014); nevertheless, through intensified attempts advances in artificial intelligence are reaching the level where the humanlike technology is not based solely on our preference for pretending to have a relationship with a technological other.

Ihde has formulated the notion of otherness as reflected on our relationship to technology as follows:

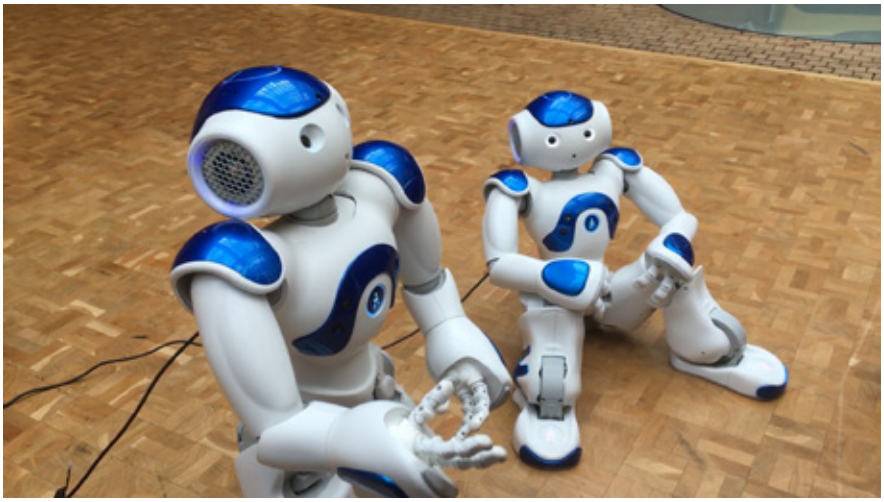
I –> technology – (– world)

In the formulation, the encounter between human and technology ends up being the primary relationship, and the world remains further in the background. In such a relationship, technology is in a certain way distanced from normal contexts of use and makes room for other sorts of activities, which might be related to sports, games, or art. (Ihde 2009, 93.)

At times some certain technological solution is a very organic part of a performance, and in other instances it can be noted in the performers' activity as a certain type of "co-star" conceived of as the other. Nevertheless, it is striking how the relationship to technology is easily defined from the perspective of human-centred interaction and the valuing of parity. A device, activity or technology becomes more interesting and more valuable when we feel we can recognise our own (humanlike) reflection in its essence, or when we experience ourselves as being in interaction with it (quasi-otherness). We bring the technological phenomenon closer to us as opposed to seeing the interactive relationship as a cyber-punk vision of hybrid organic and non-organic technology, where it is the human that approaches the technology in essence. At its foundation, a performance relies on the long history of the performing of theatre, dance, and music and the work of the living performer; this being the case, we can say that performance is, in terms of its traditions, a womb of human-centeredness. The "game of theatre" turns a chair into a car and a table into a mountain and gives a follow-spot an erratic will during a clown act. All of these, however, are simply manifestations of the quasi-other modified and controlled by the practitioners and spectators; technological otherness positioned outside the total control and understanding of the practitioners or the spectators arouses uncertainty. We suspect technology of taking over human-mediated content. When the idea of a work is expressed distinctively in the interaction between human and technological agents and phenomena, we grow concerned about the fate of art and are

afraid of losing the human presence – it's as if we are afraid of losing ourselves when we lose our mirror image.

The artist Essi Kausalainen calls herself a compost that consists of a body made up of objects, beings, and machines. This is an intriguing notion, because it bypasses the technological fantasies related to cyborg-like dimensions by examining the spheres of human activity as a network of materials of equal value. She lists *key interactive relationships* from the perspective of her artistic work: *dialogues with various things* such as houseplants, gems, office chairs, water in its various forms, bike helmets, tap-dancing shoes, computers, different kinds of tape, books, and human bodies. The dialogues are not similar; they diverge in duration, power relationship, and intimacy. According to Kausalainen, such companions demand patience and resist simplifying definitions. On the other hand, they can be very generous in their cooperation; the dialogues may take the form of thinking at the level of material, a thinking expressed in being, gestures, and activity. (Kausalainen 2014.) The relationship described by Kausalainen does not underscore an assumption of anthropomorphisation, although the notion of dialogue is inherent to human understanding and can be examined as a quasi-otherness, as in the previous examples. Nevertheless, the thought of the body's extending around these othernesses shifts something essential – they turn from something other into themselves. This terrain opens up one channel to understanding our relationship to technology beyond the human-centred preference for objectification that comes so naturally to us.



NAO humanoid robots are designed to arouse sympathy. Photo: Kimmo Karjunen.

Technologies impacting in the background

The final technological relationship Ihde presents is no longer realised in the foreground in relation to our perception. As indicated by the term, *background relations* are various technological environments and automatic or semi-automatic systems not made to be viewed in and of themselves, and we are generally uninterested in examining their activity or form. Such technologies include mundane lighting, heating, plumbing, and ventilation systems. The mechanism of automation is not, however, simply a product of the industrial age. Scarecrows and the Hindu prayer wheel are examples of technologies that work in the background, freeing the user to engage in other activities. (Ihde 2009, 96.) Technologies that work in the background take on a prominent role in the Western construction culture of the northern hemisphere, where the notion of protection has been taken far indeed. In Finland, for instance, well-insulated buildings with their automated HVAC systems are perfect examples of Ihde's technological cubbyhole compared to the half-open construction culture of Equatorial regions. The technologies influencing in the background are not insignificant; because we pay almost no attention to their functioning, *we actually only notice their absence* (Ihde 2009, 95). When the air conditioning quits humming or the noise of traffic is left behind, we are startled by the perceived change. How surprising it is these days to see the stars of the night sky or how uncomfortable it is to sleep in the heat when the air conditioning stops working. We are forced to notice the meaning and vulnerability of our technological infrastructure when it stops working, for instance as the result of a natural disaster. Our dependence on electricity-operated systems in Finland has increased since the 1970s, when in rural areas food was often cooked on gas or wood stoves and candles or oil lamps sufficed as lighting for summer cottages. Blackouts did not have as much of an impact on daily life then as they do now, where the mere loss of a network connection is a crisis for many.

Our relationship to technology seems to lurch between fascination and fear. Our fascination is often targeted at technologies that are rising in the foreground or perceived as an otherness. The fear can be related to losing control: to a robot harming us or to social media stripping us of the skill to engage in face-to-face encounters. We do not fear background technologies in the same way, but they also rise to the foreground during failures. For instance, the possibility of Finland's 14,000-km long electricity network going down has been taken seriously in investigations by Finnish national security authorities (The Security Committee 2015). We believe in technological development and are in awe of its

achievements, but at the same time we are afraid of the threat hidden behind the hubris of progress, fuelled by mythical tragedies like the fate of the *Titanic*. A similar bifurcation can be seen in lighting design in the balancing between artistic thinking and the use of technology, where technology is both an inspiring expressive instrument and a savage requiring civilizing and (artistic) control – a noble savage of sorts that makes a good servant but a bad master.

Technology is everywhere, and that goes for performances too

As if imperceptibly, we find ourselves surrounded by technology and live in a reality shaped by it. To paraphrase Ihde, technology often works in such a transparent or discreet manner in the background that we don't perceive it between us and the world. This also takes place during performances. The spectator easily forgets the impact of the stage lighting as he sinks into the story of the play or is absorbed by a dance. At moments of boredom, of strong effects, or of contrasting lighting cues, the spectator will in all likelihood notice them and think to himself: "technology was used there." This sort of manifest technology or its most visible elements steal the attention from more discreet technologies. An induction loop added to a hearing system is not visible to the spectator, nor is the route of the signal from the lighting controls to a spot, or the rays of infrared light (motion sensors) utilised in the altering and targeting of a video projection. We can transmit images, sound or control information through wireless networks to meet the needs of devices and performers. They are not directly visible, but can influence the positioning (audibility), timing (delays), and unique quality (disturbances, delays, speed, directions, use of space) of an activity. The technology that remains invisible thus participates in constructing the performance and gives it its own stamp, including the performance technology that works in different ways and at different levels, with its lighting changes, projections, revolving stages, and amplification. This is why, for example, directors, dramaturges, or actors have no cause to throw up their hands and imagine they are operating in an isolated island with regard to technology. Even if they never touch the lighting desk, all technology has an impact on their activity on stage, whether in rehearsal or during the actual performance.

It must be noted, however, that the performance's relationship to technology is not linked exclusively to performance technology. No one is detached from that technological reality that extends into performance and everyday spaces, into work and free time. And if art in any way continues to reflect the surrounding

social reality in the forms works of art take, our daily relationship to a world reliant on widespread consumer technology will force us to consider this in the themes, structures, and executions of staged works. I have been following the societal change that has taken place over the course of the 2000s with great interest in terms of the technology we use. Whereas the internet and email boosted our ways of using IT to a new level, various mobile technologies have changed our daily behaviour, through the expansion of smartphones and social media. The imminent internet of things and augmented reality in the vein of Pokémon Go and dimensions of gaming are being woven into our sphere of experience in a way that makes them increasingly necessary for our everyday lives (Rautio 2016). In augmented reality, the world is looked at through an electronic surface of information, where virtual objects are combined with a view perceived with the naked eye. If the internet revolutionised our relationship to the search for information, augmented reality shifts knowledge to embodied situations and instances where we need instructions: fixing a car, or picking mushrooms. As in the past, we will also gain a lot of information we do not need, as technology opens up new opportunities for commercial activity and marketing. Because the play involved in gamification is also one of the traditional building materials of performances, we can expect to see applications of a new sort of embodied reality that makes use of augmented reality on stage as well. Will we be able to see the translations of the lines spoken by foreign-language performers in our field of vision, will we be able to receive parenthetical additional information about events, or will we be able to use virtually present parties in performances? Are augmented elements individual and spectator-specific? Can a scene have parallel lighting cues or lighting details? Because art reflects the reality surrounding us, the impacts of changes will extend to performances and, in my mind, particularly to how the various mundane technological relationships imperceptibly slide into the world of performance. This is precisely why their essence is worth understanding.

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Tomi Humalisto (1970) has worked as lighting designer and collaborated in visual art and performance projects since 1995. His lighting and stage designs have been seen particularly in contemporary dance and theatre productions, for example at Zodiak – Center for New Dance, the Seinäjoki and Oulu City Theatres, and the Kiasma Theatre. He has also created and supervised performance projects. Humalisto defended his artistic doctoral research on alternative approaches to lighting design in 2012. He was appointed professor in lighting design at the Theatre Academy of the University of the Arts Helsinki in 2015.

On the transparency of light

TÜLAY SCHAKIR

In this two-part article, I reflect on light as a medium for seeing and expression, and light and its relationship to and impact on perceiving and meaning. The key property of light is its transparency; this applies to light as both a medium for seeing and an expressive technology. The first part of the essay deals with light and sight. In the second part, I investigate light-based expression.

I Light as a medium for seeing

Humankind uses tools in a world it is trying to adapt to and control, a world whose limits it strives to expand beyond its bodily starting point. The American philosopher of science and technology Don Ihde (1978) notes that a technology ultimately takes on varying degrees of transparency for its users: in other words, when driving a car or using a pen, the car or pen is not the primary object of perception. Instead, our attention is focused "beyond" the medium, on the road and traffic or on the paper and the content being produced there. The various tools, mediums, and technologies between the body and the object of attention melt into and become part of the image of the body at that moment; in terms of perception, the medium itself has become transparent. This experience of transparency dissipates when the technology or medium ceases to function. In this instance, one's attention shifts from the activity horizon or contents to the faulty medium, making it the primary object of attention. In the same vein, when learning how to use a new medium, our attention is directed primarily at the medium and our relationship to it is conscious. The relationship between human and medium becomes increasingly transparent as the use of the medium and the skills involved are learned and mastered.

Our relationship to light functions in the opposite way: as a medium, light starts off being transparent to us. The sense of sight is humankind's physiological

adaptation to exploiting electromagnetic radiation in order to collect meanings from the environment: in other words, light is a medium for seeing. Because as humans we don't perceive this radiation directly, but always and exclusively as reflections from various surfaces or filtered through mediating substances, we can assert that, as a medium for seeing, light is utterly transparent to us. This brings an unusual dimension to the use of light as an expressive medium.

Visual reality begins from a point of illumination, in other words a light source. The radiation from the light source is dispersed into the environment, where it penetrates various materials and bounces, scatters, and refracts from them in different directions. Some of the radiation is focused from objects at a certain angle onto another point: the human eye. In between lies space criss-crossed by a dense web of light formed of rays advancing in different directions and at different intensities. For a perceiver positioned within this web, the web organises into meaning at only exactly one specific place at a time.

The eye is not a tool for measuring light. When it comes to analysing the physical properties of light, the eye is very imprecise. The human visual system is more sensitive to contrasts than to absolute amount of light. Because we seek holistic content-based meanings in our environment, when it comes to light, precision is secondary and we are able to take a cursory approach to its analysis. Examples of this imprecision are *metamerism* and *colour constancy*. Even though objects are perceived as nearly immutable irrespective of lighting conditions, changes in lighting alter the atmosphere of perception and bring to it various layers of information.

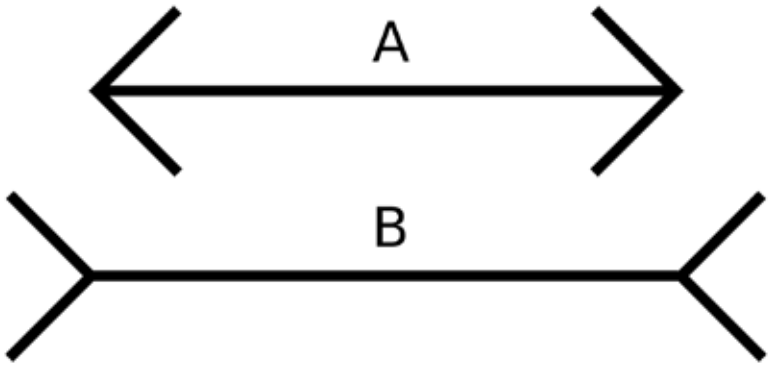
Because our system of perception has adapted to functioning in conjunction with and as part of the world, we perceive meanings and values in what we see, as opposed to abstract sensory data. This leads to us seeing both somewhat more and somewhat less than the perceived material itself would suggest.

Our experience of seeing contains coherent objects and surfaces situated in a three-dimensional environment. The information light carries to the eye does not, however, include these objects and surfaces, but only a two-dimensional matrix or field of illuminated areas of varying intensities. Phenomenologists such as Edmund Husserl, the German philosopher and founder of phenomenology, have referred to horizons of perception when pondering this contradiction. Husserl stresses that in order to achieve a whole, unchanging image, the perceiver must also be in a relationship to the missing horizons of the visible objects, which nevertheless remain beyond the object, out of sight. (Hirvonen 2016, 28–29.)

While colours are not characteristics of surfaces, reflective properties are. Colours are a physiological and experiential phenomenon created by human perception and interpretation (see *metamerism*).

How we arrive at these interpretations of images is unclear. Theories of perception can be divided into *inferential theories* and the *theory of direct perception*. The premise of the former is that meanings are formed from raw data in the individual's mind, for instance through representations, whereas in the latter the understanding is that meanings are grounded in one's environment and are independent of inferences regarding meaning that take place in the mind. Traditional cognitive psychology treats perception as the construction or processing of representations inside the mind or as some sort of recognition matrix generating template-style matches. According to this orientation, purely sensory data void of meanings is combined with models or memories stored in the mind, where they are identified and interpreted and the raw data receives its meaning. The theories on the origins of representations are, however, disputed. From where and how would these representations have originated in the first place? For something to be perceivable, it must already have meaning. Like the phenomenologists and, later, the enactivists, the American psychologist James J. Gibson, who has studied visual perception from a basis of perceptual psychology, emphasises both direct, pre-linguistic experiencing and non-representationalism as underpinning the perceptual experience. Gibson (1966) notes that by perceiving lighting invariants, which are related to essential properties of the environment, we are able to receive immediate meaningful information about our environment without mental representations being constructed from the external environment. This immediate perception of the opportunities, affordances, or offerings in the environment makes the perceiving of critically important aspects of it fast and efficient. And indeed, Maurice Merleau-Ponty (1962, 3), known particularly as a phenomenologist of perception, states that so-called pure or raw sensory data is merely a theoretical construct that has no resonance in our experiential world. We never perceive an individual, disconnected piece of data; rather we see even the tiniest point in relationship to its background: all objects are always whole figures and in a figure–ground relationship.

Even though changes in (natural) light do not generally prevent us from seeing our environment as an immutable whole, the information provided by light on weather and other conditions is registered as a continuous, secondary level of information. It is generally an immediate, non-linguistic, atmospheric experience somewhere in the background unless the information sensed through it



The Müller-Lyer illusion. Image: Wikimedia Commons, Italian Wikipedia, Trocche100.

conveys to the consciousness a need to react quickly to something, for instance to take shelter from the rain. As photophilic (Greek *filia*: friendship, fondness for something) beings, orienting to light and information about its affordances is critical information in terms of our existence. Abnormalities in visual perception, ambiguous pictures (*multistabilities*), illusions, and brain dysfunction provide information about perception and the related interpretive processes. With regard to light, ambiguous pictures are of particular interest. In them, information is immutably present, but intention may impact its interpretation.

The philosophers Dan Zahavi and Shaun Gallagher (2012) question the usefulness of visual illusions as traditional examples of the imprecision of perception. As an example, they take the so-called Müller-Lyer illusion, which tricks they eye with two line segments of equal length ending in arrowheads facing in opposite directions. The claim is that the mind misperceives the segments as being of different lengths due to the arrowheads. Zahavi and Gallagher claim that the setup is nonsensical from a phenomenological perspective. Because our perceptual system perceives not individual pieces but wholes whose relationship to us is based in bodily experience, a pattern is interpreted in relation to its affordance, such as a context of grasping, or a tool. In terms of activity and experientiality, the figures are, thus, evaluated completely accurately, as in relation to them, the line segments are different. If the arrowheads were removed from the ends of the segments, the segments would be identical and interpreted as such; according to Zahavi and Gallagher, then, there is no misinterpretation. (Zahavi & Gallagher 2012, 106.)

In the spirit of Husserl, Don Ihde proposes in his book *Experimental Phenomenology* that the (fundamental) properties of objects can be examined

and dissected in a different way through phenomenological description, through analysis. According to Ihde, habitual ways of seeing result from learning, and ways of seeing can be subverted or practiced. (Ihde 2012, 18–25.) Ihde suggests two different approaches and interpretive methods when it comes to ambiguous (multistable), abstract figures. The first of these is noetic, or grounded in transcendental phenomenology.

This way of perceiving can, for instance, include instructions for looking, like referring to some structural property that helps the viewer see the image in a different way and thereby leads to a change in perception or interpretation. Through the instructions, attention is fixed on some other property that shapes the way of looking and thus alters the first interpretation of the object. (Ihde 2012, 61.) How the noetic form is modified or defined influences our seeing the form more as one noematic manifestation than some other noematic manifestation. According to Ihde, a noetic approach emphasises the so-called active viewer and tends towards idealism. This transcendental strategy is also analytical: if we know enough about perception, in principle we should be able to predict all of the potential manifestations of a pattern.

The second type of analysis is the noematic or hermeneutic strategy. In it, stories and names create an immediate noetic context, and its effectiveness lies in the familiarity of mental associations. It is based on hermeneutic phenomenology and has a tendency towards the linguistic, metaphoric, and realistic. In it, the object of viewing is, for instance, renamed and thus seen through this new expression or meaning. This story method or metaphoric naming links the abstract figure to familiar meanings. Ihde notes that, throughout the ages, storytellers, writers, poets, and artists have employed comparable methods to make something new visible and find its form. In the noematic approach, there is no need to steer the way one looks or sees; in contrast, immediate identification of the figure takes place through naming.

Despite their differences in emphasis, both of these aforementioned *variational methods* provide us with a way of seeing differently and thus help us form an understanding of variations in seeing, limitations of perceiving, and scale of possibilities. It is only through variations that we can arrive at the invariant, or unchanging, element.

The *eidetic reduction* of Husserl's phenomenology, the exploration of the potential manifestations of things, is also a matter of perceiving variations; by questioning variations, the essence of things is stripped down and revealed. Always at work in the background here is the fundamental philosophical attitude reaching

back to the reasoning of Plato that encourages us to unshackle ourselves from everyday thinking (Backman & Himanka 2007.) This also reflects Ihde's notion that the more seeing is related to pragmatic, everyday experiencing, the more difficult it is to find variations in it; this is due to adopted cultural ways of seeing (Ihde 2012, 18–25). Beliefs, customs and expectations form the noetic context. The arts can be seen as the products of these sort of "variation exercises" and methods of transformation. Sometimes they can lead to revolutionary paradigm shifts in perception, as happened with the impressionists, who shifted seeing from objects to light.

In his work *Man, Game and Play*, the French sociologist Roger Caillois divides types of games and play into four categories: *agon*, *alea*, *mimicry,* and *ilinx*. Of these, *ilinx* is the form of play that shatters our accustomed physical state; it includes activities that throw off our balance and confuse our senses, such as rolling and climbing and the related sensation of dizziness (Caillois 1961, 54.) As in the aforementioned illusions, ambiguous (multistable) images and throwing off our accustomed ways of seeing, this category can also be applied to the sense of sight and perception – we are momentarily at a loss due to the lack of an immediate meaning or when expectations regarding it are subverted. *Ilinx* could be considered closest to the noetic method, whereas the noematic method could represent Caillois' category of *mimicry*.

In his own works, the British artist and neuroscientist Robert Pepperell has explored interpretitiveness or "the *ilinx* of perception" through the use of phenomena he terms *visual indeterminacy* (Pepperell 2007). In Pepperell's experiments, *visual indeterminacy* refers to a situation in which an image cannot be interpreted despite prolonged observation or efforts – but in the case of light, this can also be applied to landscapes and environments. The human system of visual perception finds partially familiar characteristics in landscapes and environments and tries to interpret the image based on those characteristics.

Unlike with unstable images or images with multiple interpretations, in which we end up sequentially at one interpretation of the image (at any given moment, the rabbit–duck image is seen as either a duck or a rabbit, but not both at the same time), an indeterminate image means a space where the image is non-representational and, this being the case, it should be impossible to arrive at any one (correct) interpretation.

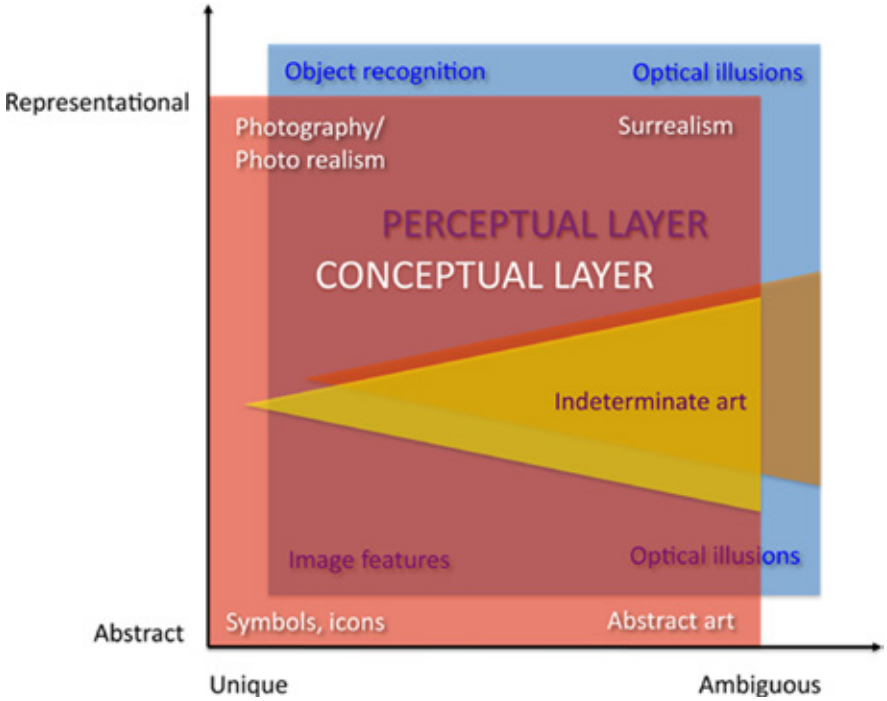
Pepperell's method involved painting abstract paintings whose formal idiom and colour scale observe the structure of European paintings produced from the 1500s–1900s; they diverged in that they lacked representative elements (Pepperell

2015). He then took brain scans of people who observed these paintings. From the brain scans, it became clear that people use slightly more time than usual looking at indeterminate images than looking at either representational images or images that contain merely visual noise. In addition, more areas of the brain than normal had activated simultaneously. The differences were not as great as Pepperell initially anticipated, but he was genuinely surprised that in 24 per cent of cases, the viewers claimed to identify objects in the paintings. I remember someone having once aptly noted that a human is a meaning-forming machine. This tendency to name contents where they do not exist seems to hold true in light of Pepperell's experiments. The research also indicated that the indeterminate images are considered aesthetically "interesting"; this is directly linked to the fact that when they were being observed, they concretely arrested the viewer's mind slightly longer than usual. (Pepperell 2011.)

This aesthetics of ambiguity can be both a positive and negative experience, depending on the circumstances. In insufficiently illuminated parks and outdoor areas, for instance, the inability to arrive at an interpretation despite prolonged observation can be anxiety provoking and impact one's experience of security. This came out in the project *Valot, varjot, vaarat: tutkimus valaistuksen merkityksestä turvallisuuden tunteeseen puisto- ja ulkoilualueilla* (Light, Shadow, Threats: Research Project on the Effects of Lighting on the Feeling of Safety in Parks and Recreational Areas, Koskela, Nikunen & Schakir 2013), which explored the illuminating of parks and recreational areas. Because visual ambiguity does, however, involve aesthetic potential, this factor that has been overlooked in the lighting of outdoor areas would offer a superb subject for further research into the aesthetic potential of recreational areas during times of darkness.

Image-based information is processed in many ways. In the scheme presented by perception psychologist Christian Wallraven and his colleagues, it is organised using two parameters: abstract vs. representational and unique vs. ambiguous (Wallraven et al. 2007). Unique images are naturally and easily recognizable, whereas ambiguous ones are not. In addition, these two parameters operate at two different levels, which in instances of normal perception act jointly: at the perceptual level, or "bottom-up" processing (noetic), and at the conceptual level, or "top-down" processing (noematic). The figure illustrates the area where indeterminate images are situated in relation to Wallraven's parameters.

The location of indeterminate images in relation to the axes of abstract–representational and unique–ambiguous. Figure: Wallraven et al. 2007.



The location of indeterminate images in relation to the axes of abstract–representational and unique–ambiguous. Figure: Wallraven et al. 2007.

II Light as an instrument of expression

Through the project *Valot, varjot, vaarat: tutkimus valaistuksen merkityksestä turvallisuuden tunteeseen puisto- ja ulkoilualueilla* (Light, Shadow, Threats: Research Project on the Effects of Lighting on the Feeling of Safety in Parks and Recreational Areas, Koskela, Nikunen & Schakir 2013), I started to think about the connection between insufficient illumination of outdoor areas and ambiguous images – in this case visual indeterminacy. Incomplete visual information about the environment allows the emergence of imagined contexts and figures. As in Pepperell's experiment, a nearly representative landscape that, due to weak lighting, is not perceived as a whole, makes it possible to find contents that do not exist there. In this instance, the invented or imagined meanings do not add to the landscape's noematic dimensions per se or to variations in perceiving the landscape; rather, an extra background layer is created by the imagination. Sometimes the output of this imagining is frightening in nature. Against this thinking, it is interesting how the philosopher and researcher of aesthetics Arnold Berleant writes about an aesthetic way of observing in relation to our comprehension of experiences that impact or frighten us (Berleant 2002, 54). In our aforementioned

project, areas and their illumination were studied specifically in terms of sense of feeling unsafe. A dark environment's already aesthetically charged way of observing is a fruitful target for aestheticisation through light and adding levels of interpretation with rather unobtrusive gestures, as we discovered in our study.

An image or landscape that cannot be interpreted sufficiently due to insufficient illumination makes the use of the light present partially opaque to the viewer. In this instance, the viewer or experiencer is disturbed by the "broken" instrument and grows aware of the light and its inappropriate or abnormal use. The same applies to the aesthetic and meaning-generating use of light. These transparencies and opacities of various levels in the expression of light can be exploited in the use of light as art or an instrument of design.

Although lately I have been pondering visual indeterminacy primarily in terms of environmental lighting and sensations of fear in or the ambiance of dark outdoor areas, the notion can be applied to all revealing and controlling of visual information related to the use of artificial light. In a landscape of artificial light – whether a stage or a dark landscape – it is the user of the light who determines what sort of visual information is highlighted for the viewer's observation and interpretation. To my mind, this self-evident fact is perhaps the most central and interesting property related to the use of light.

The so-called technical lighting executed in recreational areas is a comparatively poor way of approaching the environment to be experienced. It approaches this environment through the traditions of road lighting, which ignores the perceiving of the overall surroundings. In a park environment, this design solution refers outside itself, to an imaginary standard environment that does not exist. A more functional design solution for recreational areas takes the environment into consideration; the designer-interpreter considers the experiencing of the area as a whole in the lighting.

In a dark park, only partial information is received from the surroundings; the dark environment is like a puzzle with most of the pieces missing. The experiencer's mind and observation are located within the park context, but the direct experience is left incomplete. Why does awareness of the lack of horizons not suffice in insufficient park lighting to produce an experience of the object as a whole?

Gibson notes that the light in the environment carries information, which, against various surfaces and at a certain viewing angle, arranges into an *optic array* and that ultimately art is *the art of structuring light* (Gibson 1966, 240). He writes:

A park environment in daylight and in artificial light at night. Photo: Tülay Schakir.

> *What the artists and perceptionists are ultimately concerned with, therefore, are the boundaries, textures, patterns, and forms of light, the optical stimulus; but what they have to work with are the boundaries, textures, patterns and forms of surfaces, pigments, and shadows, the sources of the optical stimulus. These are not the same, but we tend to confuse them because the words are the same. (Gibson 1966, 240.)*

Gibson describes the forms of art that are bound to and arrange materials. He does not address the treating of light as art. Against Gibson's categorisation *optical stimulus – source of stimulus* (Gibson 1966, 240) we could think of the medium of light as an art form distinct from all other art forms, in that instead of or in addition to light-reflecting surfaces, the focus is on the light that strikes these surfaces. What is seen, how seeing is bounded, or how one sees become central targets of alteration and attention. The meaning content of light does not necessarily have to relate to the objects from which it is reflected.

The central factor in expression through light is its relationship to transparency and making it opaque. We could say that the art of light is the ability to use transparency as a tool where that the amount of transparency is a variable. Light's partial opacity – in other words, making the viewer conscious of the use of light – appears to be a prerequisite for evaluating light as independent and meaning-containing art. Practice in the viewing and use of light can further this.

When light is used as an ambient element, as a background factor, the amount of transparency is high. The more transparent the light, the more "natural" and all-encompassing the experience and the more likely it is that the experience remains an unconscious experience. Of course the artist must be conscious of

the light's contents and effects, but there is no attempt to shift them so they will be noticed or pondered by the viewer.

The ambient use of light represents, perhaps, an aconceptual, non-linguistic, hermeneutic – in other words, noematic – variable in the way something is seen. The object to be seen is interpreted variously based on certain ambient shifts in mental associations.

Transparent light is difficult to talk about. It is often a mood, a feeling, an inkling that escapes verbalisation. Often "nice" or, for instance, "disturbing" suffices as a description. Transparent light leaves the viewer with a feeling but not much to discuss. This also makes it difficult to distinguish between describing its properties and describing experiences of it.

Husserl and other phenomenologists have pondered the biological prerequisites of interpretation as well as what elements of perception are related to learning and culture, and whether they can be unlearned. Interpreting the mood of lighting is partially both a biological and cultural *a priori* judgment. This is the basis of the transparency, impact, and shared experience of ambient light.

At one end of the continuum of works that make use of light as expression are those works in which the meaning of the use of light has been conceptualised. In them, light becomes less transparent and the use of light communicates the central meaning or content of the work. In this instance, the experience of light is more detached, more "unnatural," more mediating or mediated, and more mentally arresting.

The various methods described in the first part of this article that can be used to destabilise our way of seeing make perceiving perceptible and less transparent. The surprising and exceptional uses of light include such methods of making light perceivable. General awareness of light and lighting and the amount of and alternatives in consumer lighting products have helped spark conversations about light; laypeople are starting to have experiences of the impact of different sources and colours of light on their living environment and comfort.

Husserl divides intentionality with regard to objects or states into *direct, imaged, indirect, imagined* as well as *remembering* (Tieteen termipankki: Intentionaalisuus. March 22, 2017). These can be distinguished according to capacity to mediate the object most directly, most originally, and most optimally. In this model, the object's presence is more or less direct and present for us. The experience of light is a paradox. We are in light, and it is thus an infinite, direct, physical-spatial experience, but at the same time our experience of it is always indirect and mediated.

For us, then, light is both a medium for perceiving and an object that is not perceived. The ways in which the artist succeeds at making the light less transparent has a fundamental impact on the meaning-ness of the light and experiencing it as art. The artist has to be able to turn light into an "object," and this battles against one of its natural properties. Light places the attention fully outside of itself. For light to work as content in meaning-containing art, it must become a third agent in the subject–object relationship: subject–light–object.

Light is a prerequisite for the intentionality of sight perception, and yet if the situation allows and the expected values are met, we can bypass its meanings (constancy) as well as its meanings in relation to content, not as an optical factor alone.

Natural light works like a primordial gaze. It falls on everything without particularly emphasising anything. No object that can be seen exists without the intentionality of natural light; in phenomenology, intention expresses the object. According to the American philosopher Graham Harman, intentionality is not a specifically human property; it is an inherent ontological trait for objects in general. (Harman 2013, 205.) If we think about light in the sprit of Harman, as an object, we can say that light is an intentional element and that it has an intentional relationship to its environment. This would mean that natural light, as a legitimate object, is connected to the objects on which it falls. As people, do we perceive our environments and objects in the intentionality of light, and correspondingly do we perceive light as an expression of the intentionality of the objects on which it is targeted? If so, the connection between light (as a legitimate object) and every sensual object in interaction with it always creates for us in some way an indirect experience of the objects. Harman states that just as all connections are objects, every object is a consequence of a connection. This is in some ways related to the phenomenologists' view that intentionality expresses an object, albeit for them this view is completely human-centred. (Harman 2013, 208.)

Like Harman, the French philosopher Quentin Meillassoux represents an orientation known as *speculative realism*. The thing that is interesting about Meillassoux's critique of correlationism is the view that reality does not return to consciousness, nor is it dependent on the human mind. (Autioniemi 2010.)

This would allow us to perhaps think that *ilinx*-like experiences of light, where interpretation and the automations that facilitate its familiarity are subverted, generate an impression in which the object detaches from the correlationistic relationship and the viewer is momentarily left fumbling around alone. This mo-

ment is opaque and often "clear" as an experience. If perception is understood as an internal adaptation or reaction to external circumstances or stimuli, the use of artificial light and lighting design could then be seen as an external manifestation of internal conditions.

The internal world is an internalised interpretation and continuum of the body's external environment. External stimuli affect bodily functions and states of mind, and correspondingly internal mental shifts and physiological changes can change our understanding of what is happening in the environment, in other words the environment can experientially turn into something different. The body strives to achieve a state of equilibrium with its environment.

States of mind and moods are not detached from the world, nor do they shut the individual within himself. They are an atmosphere that affects our relationship to the surrounding reality and the way in which it is revealed to us, as well as what sort of interaction we are in with it. It manifests itself as the quality of affect-imbued intentionality, or "atmosphere," which affects our way of encountering the world.

The use of artificial light shifts our perception from the environment to a depiction of human intention, and it could be thought of as a depiction of that intention, or noesis. Unlike, for instance, the afterimages produced by our own sense of sight, which we cannot directly present to each other and that are in that sense inexistent objects of intention, lighting reveals the intentionality, the way of intention, the mental landscape as which the designer wants to share her experience of the object. This gesture moves the intention outside the individual's body and creates a shared space. If light has been used transparently, sharing this space is easy. In performance situations and environmental lighting, the way the light is used expresses the desired intention towards objects or events. When the lighting changes, the content of the intention towards the object also changes. Generally this shared space indicated through the use of light is merely a mood-defining frame for the content "proper" of the work. (The use of artificial light can perhaps be seen as a rudimentary medium of *augmented reality*.)

Generally the aim in lighting an environment is transparency or at least a very restrained opaqueness. Apparent neutrality and transparency are nevertheless the result of an unspoken, shared consensus dictated by the prevailing values and technological development, or perhaps more accurately, we are accustomed to them being left unperceived.

Arthur Zajonc, an American physicist who is interested in and has written about light, intriguingly points out in his work *Catching the Light: The Entwined*

History of Light and Mind (1995) that the way our view of light has evolved over the course of history has directly described the history of philosophy of mind. Natural light and the internal light of the mind have exchanged places as objects of focus. In the earliest conceptions of the relationship between light and perception, the notion of light residing in the eye was central. It was the light of consciousness, imagination, and interpretation that was needed to create perception and understanding. Inner light had a more important role than or at least equally important role to that of natural light for approximately 1500 years. This philosophical premise saw the individual as an active participant in the creation of perception. Without the light of the eye, there was no such thing as a perceiving, comprehending human. The Greek mathematician Euclid defended the notion of visual rays, noting that if seeing were dependent solely on external light, we would immediately distinguish the needle from the haystack. But this does not happen, because it is only when the eye's visual ray strikes the needle that we immediately perceive it.

Against this notion, we can return to the perception of the aforementioned ambiguous pictures, in which the viewer distinguishes one figure or another inside the same visual information. The visual difference between the different interpretations of an ambiguous picture is zero, even though the "distance in the soul" formed by the interpretation is complete and all-encompassing. The sole variable is the viewer's interpretation.

The physics of light, the study of optics, and instrumentalism led us away from the world of interpretation and meanings. The eye became a dead, soulless, physical instrument. Seeing became mechanics. The eye that once contained light turned into a dark chamber passively waiting for an external stimulus to fall on it. Recent philosophies (such as enactivism) have once more started to emphasise human agency and interaction with the environment.

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Tülay Schakir (1968) is a lighting designer and visual artist. As a visualist her background is in the field of contemporary dance. At present she creates art for public places as well as architectural lighting. Her main working material is light in space. She has received multiple awards for her work with light and art, for instance the State Prize for Art in 2000 and Young Artist of The Year in 2001. Schakir has degrees from the Tampere School of Art and Media (1995) and from the Theatre Academy Helsinki (1999). At present she is a doctoral student at the Academy of Fine Arts of the University of the Arts Helsinki working on a dissertation titled *Light, Perception and Being as Art*.

The Theatre Academy Helsinki began teaching lighting design in 1986. Since that time, instruction in the degree programme has focused on artistic and technical competence in its mission of helping students form an independent artistic identity. A bold move in its day, the establishment of the lighting design programme has had a profound impact on the Finnish performing arts, as artistic teams have been enriched by a new class of practitioners – artists, thinkers, designers, executors – whose contributions are integral to creating total works of art.

Three decades later, lighting design has become established as an artistic field in its own right in the Finnish performing arts; lighting-centred thinking and the use of light have also made strong inroads in other fields, including the fine arts and architecture. The work of lighting designers has left a critical, concrete imprint in the form of both powerful works and collective learning. Despite this, research and articles on the field are rarely published in Finland. This collection, *360 Degrees: Focus on Lighting Design*, aims at stimulating conversation about the profession and its history through a diversity of phenomena and perspectives. The hope is that deeper self-understanding will spur further evolution within the field, while making lighting design visible as one art among others.

Contributors responded to an open call for submissions, and their writings fall under three broad themes. The first section of this book covers the history of lighting design and its instruction in Finland. In the second, lighting designers reflect on their approach to their work and professional identity as designers and artists. The third and final section delves into questions of visual perception, conceptions of transparency, and the relationship between designer and technology.

Originally published in Finnish in 2017, this volume was commissioned to celebrate the 30th anniversary of the lighting design programme at the Theatre Academy of the University of the Arts Helsinki.

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