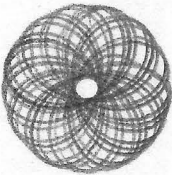


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Reflecting Light is a fanzine about light and lighting design in the arts.

(NEAR) FUTURE U/DIS-TOPIAS OF LIGHT IN SOCIETY

We but by party other and a society
/e experience light not simply as a physical or natural phenomenon, ut as a (mostly constructed) light environment that is hugely colored y ideology. Choices in lighting dictate how and where we live, walk, arty, dream, imagine, sleep, feel safe ... Light environments, just as other environments, shape our identities, our ways of thinking, feeling and knowing. Lighting, the way in which we apply light, has always been a political practice. The different histories of these practices reflect a society's ideas on visibility, clarity, ambiguity, ghostliness ...

Nowadays, most of us live in very specific, increasingly polluted and highly aggressive light environments that affect us enormously, often without us knowing it. The artistic practice called 'lighting design' takes place in that hectic and diffuse environment, not in a presumed void, even if it often takes place in the safety and seclusion of theater spaces.

In September 2022 our research group was in residency in Copenhagen. Invited by the art space HAUT, we worked in the Danish National School of Performing Arts (DASPA). We were joined there by master student Ingunn ~~Fjellang Sæther~~ and teacher Pernille Plantener Holst. We ourselves invited two other lighting designers, Minna Tiikkainen and Estelle Gaultier, to join us in Copenhagen. For five days in a row, we set out to predict, imagine and possibly to shape the future of lighting design in a practice we started calling light futurism. Futurism is the systematic, interdisciplinary and holistic study of social and technological advancement, and other environmental trends; often for the purpose of exploring how people will live and work in the future.

Imagining the future of lighting design, as it turned out, cannot be done without imagining the future of societies in general. Thinking about lighting design in the future means thinking about the specificities and needs of that future environment and taking a stance in how we want to deal with that environment.

In this fanzine you can read some of our forecasts, desires, dreams and nightmares, as a starting point for a more systematic exploration of alternative futures. The fanzine finishes with a reflection by Tomi Humalisto on the current implementation of LED technology. But we start our venture into the future with the ghosts that haunt us from the past. Emese Csornai has engaged in a series of hauntological interview to trace the events that shape present and future practices in lighting design. An extract of these interviews can be read [here](#).

Ingunn Fjellang Sæther

LIGHT FUTURISM

DOME

DOBBEL LAYER GLAS FOR WATER, REFLECT LIGHT

MIRRORS, REFLECT LIGHT

PLANTS, NEW GOBO

THE SUN IS THE LIGHT

THE TUBE OF SUNLIGHT



HAUNTOLOGICAL INTERVIEWS

Emese Csornai

As part of a hauntological practice, Emese Csornai led a series of conversations with fellow lighting designers to trace the shifting landscape and the recurring events of theater that shape their current and prospective practices. The circumstances of lighting design are rapidly shifting from year to year, partially coordinated with the shifting of performing arts itself, its shifting audiences and informed by theater's attempts to shift its position in a society largely animated by online tools and virtual gatherings.

This text is an extract of the common points of the interviews. The full-length version of it and future follow-ups can be found via the QR code in the back of this fanzine.

'...It was light itself. Whatever comes with it, I take it.'
(Tomi Humalisto)

Lighting design is one of the newer educational programs. Now established lighting designers mostly come from the widest array of backgrounds and ended up in performing arts by chance. Tomi Humalisto, one of few, studied arts. During an exchange year in the fine arts, he took a workshop led by the lighting designer Tarja Ervasti in a fortress on an island outside of Helsinki, with endless caves and rooms and cellars. They built a light installation from scratch. He was blown away by the tool and its impact. For him it wasn't so much about theater, it was light itself he was impressed with, and he decided to take it, whatever comes with it. Bruno Pocheon and his friends from art school were hired by their professor to assist an audiovisual installation of slide projections and moving screens, in the palace of festivals in Cannes for the launch of the perfume Egoist by Chanel, making it his first encounter with the stage.

Jan Maertens entered STUK in Leuven as an extracurricular activity, taking responsibilities as a volunteer and getting entry tickets for performances in return. Doing technical work, he recalls, made him realize that lighting design could be his artistic language. He learned to express himself in a non-rational, creative way, and, with that language, to add to a broader artistic discourse. Finding a voice in that non-rational communication was a big event, says Jan Maertens. Lighting as a medium gave him the opportunity to get out of a forced monocultural mentality. He encountered the necessity for being rational and non-rational at the same time. Expressing yourself with lighting should be the main form of expression as opposed to verbally elaborating on it to represent the work to collaborators, he states. That possibility to express oneself with light is limited in time, and that suppression makes one want to communicate rationally. There is a big chance, however, to be misinterpreted and misread when you communicate rationally, as the content of lighting is non-rational. That means there can be freedom in the absence of understanding.

In the rarest case, it is obvious that someone will work in theater, like Henri-Emmanuel Doublie, who himself comes from a theater family. He entered with the ambition to be a musician, involving himself in performing and stage work from the young age of eight.

Unsurprisingly the path that gets us to the theater contextualizes our ambition in it, informing our development in it and always leaves a trace of legibility on our further body of work. There is always a little window of time and space where the initial interest our younger self shows themselves, just getting mesmerized by what they see, upon our first peek into the theater and lighting.

Stage rules- theater is forgetting its skills (Bruno Pocheon)

The theater many of us entered, was less specialized than it is now. The knowledgebase acquired through hands-on practice was the base of the engagement. A personal engagement in each case within the theater was a strong choice, out of genuine interest.

Knowledge sharing is the nature of this hands-on way of working. Negotiating, actualizing rules according to the situation, is the trajectory of the work. Thinking efficiency, from down to up considering the right investment is essential in this way of working. To quote Henri-Emmanuel Doublie: if the head is good, the whole team goes well. In this practice of collaborating between theater technical crew and lighting designer among others, thirsting for complex knowledge is a key character of the motivation and practice of the work, as opposed to having a lot of information in an isolated area, specialization.

In theaters some old pulley systems for hoisting individual pipes, sliders for adjustable hanging, motors, drop-boxes, scrims, and dimmer cities communicating via Ethernet bundles and so much more can co-exist. Traditionally theater is not a place like the market, where one system wipes out another, here an accumulation of witty and practical solutions takes place, where the relevance of a technical solution is indicated by its simplicity, precision, ease of operation and installation, its capacity to be developed. This is also a ground for inventions as there are some archetypes of solutions that can be developed and customized infinitely. Situations that would be evaluated case-to-case on a commonsense ground by knowledgeable and devoted technicians operating day by day in that versatile knowledgebase have gradually shifted to a regionally uniform safety regulation system that compliments the idea of specialized experts and not risking the holistic knowledge base. Of course, in the framework of the latter, the technician is personally responsible for a potential tragedy taking place, in the reality of the specialized experts in a generic regulation, it comes down to regional insurance systems and this is how risk-taking and responsibility are dissociated from one another, in a place where everyone goes because no generic events take place.

Most young technicians I meet still go to theater to learn in such a holistic way on both ends of computing and phenomena of physics, from the older colleagues who are a living archive of this versatile knowledge, coming from all different backgrounds.

Another strong example of the generic is the repertory plot. I think it originates from the idea that lighting is a more sober and functional service, and it inevitably will contain sidelights, back lights and front lights. Taking in consideration what the generic best use of each fixture is imagined, and how many fixtures are needed for a wash without a dip, an optimized rig is serving as a base of work for the production entering the theater. In this way less manpower is needed to set up, and it all can happen in a shorter time. A contemporary version of a repertory plot is the same but composed of moving head LEDs. In this layout the idea of the generic is taken a step further, as each fixture can produce a variation of colors or even shapes, nothing needs to be added to the repertory plot.

In this ideology of practicality, the angle of light, one main parameter defining the use of a light source, is already disappearing, if we do not count color and the quality of light. These moving heads of course are a lot heavier and non-modular, compared to traditional theater fixtures, so diverging from a repertory plot is even less possible for practical reasons. In an anecdote of Jan Maertens, a lower rig has been built with the fixtures placed in accordance with his plan, right under a repertory plot that was not to be touched. This is exemplary to the ideology of efficiency overgrowing common sense. A theater is built within the theater in order not to touch the supportive generic plot that is there to save time and manpower.

Luxury - The only shared language we have is what happens on the stage (Geert Belpaeme)

The notion of luxury in the context of lighting design mostly relates to time. The most efficient time to work on lighting design is in a studio or on a stage with a rig with a possibility (with electricity and decent dimmers) to make at least a sketch if not a full setup of the lighting one is considering related to the other media on stage. The distance of the rig from the floor, the color of the floor, the quality of the walls and the distance of them from one another, the flexibility of the different layouts offered by the rig, the quality of the equipment in use, the possibility of darkening the space, not to mention a full black-out, are all important factors in understanding what is it actually we are working with. The closer these parameters are to the ones of the performance, the more representative the work will be to its physical manifestation in front of audiences. Inherent to working with lights is setting up, striking down and making changes. That also means that if the room is free, but the rig needs to be rearranged in-between rehearsals for another purpose, one will lose significant time by setting up the same plot repeatedly.

This could be the trivia of lighting. I nonetheless recognized the need to mention it, as from all people I interviewed, Geert Belpaeme was the only one to elaborately discuss the topic of choosing the right space to rehearse. The work must define that, and find its own methodology, emerging from the making. Geert in this statement thinks primarily from the maker's point of view. It is not that my lighting designer colleagues do not initiate creative processes or would avoid putting on the hat of the maker. We eventually give up on some discussions and surrender to the more senseful or more threatening ones of those discussions, when we are devoid of the luxury of time. The amount of time we have and its conditions are always the result of an agreement within a collaborating group, and this agreement is based on concepts of working together, on the resources of the producing institutes and on ideas of support.

Talking of luxury, we must glance at the ideology of experts. In this ideology lighting design is an isolated service, not mixing in with other media. Although lighting design dressing up a work before the public sees it, is a non-contemporary concept, it haunts us in collaboration agreements, financial plans, and at times post-education ideas of young makers. It is interesting to witness different collaboration models in performances as an audience and compare for oneself what outcome is based on what system of collaborations.

A small theater can now come up as a possible luxury, as one may get permission to work from an inventory by oneself or being allowed to make changes without a technician being present. In this way one can have a freer schedule and an easier handling of non- pre-amped changes. Another luxury is well working fixtures with good optics. That requires maintenance from the venue, and a sincere listing of instruments-some fixtures sharing parameters but different produced, are never going to function in the same way. Time, transparency and trust in the communication between lighting designer and technical team are essential here. The examples I have brought up are evocative to the non-generic nature of technical communication.

Establishing continuous artistic relations, as a method of creating favorable working conditions, and deepening multimedia collaborations and defining methods and strategies over time is a popular choice of many of us. It is a way of providing continuity for our creative processes and develop common values, upon which future working conditions can be based. Real luxury is working with artists who understand and accept the different growth curves of the different media at play in the work they bring to life, artists who are willing to shape the making of the work according to a common vision. In such an environment different artforms can generously cross-pollinate each other and inevitably something new emerges just by generous interaction over time. Non-human theory can be a helpful framework for such collaborations. It is more and more present on a discursive level but still has to make its way to practice. In the free scene this phenomenon is often understood, but

PERSONAL UTOPIA IN A WORLD THAT DEVELOPED IN PEACE.

Minna Tiikkainen

Today is the 29th of September in the year **2040**. I live on an island high in the mountains but close to the sea in a self-sufficient village that produces its own energy with solar panels, hydro power tunnels and a small fusion power plant.

I live in a community with 650 people who come from all over the world. On our island there are 10 villages, where one can find culture, restaurants and entertainment. All in all, we are around 15 000 people on this island.

We travel around by wearing special shoes that make us walk in a speed of 35 km per hour. To the mainland we travel by flying with a vehicle called a ladybug, which can take in 4 people at a time. There is no more traffic on the sea since from **2035** onwards all life is protected and even the noise of boats is considered a form of pollution for the sea flora and fauna. Goods are transported from the mainland with an electric airplane which looks like a flying disk from Ed Woods film "Plan 9 from outer space".

I am a lighting designer in a field of performance arts. Every year I create one performance outside the island and twice a year I participate in creating events in our local theater. The rest of the time, I am doing my commissioned work to design and develop lighting systems for our local environment.

Since the so-called Great Energy Crisis a.k.a. GECCO in the mid **2020**'s things started to move fast and in **2030** a global decision was made to reduce all pollution, and therefore also light had to be reduced to its minimum.

That is why all lighting designers got invited to participate in rethinking how to provide the necessary visibility and safety in terms of lighting. Light pollution had to be reduced by 70% in only 2 years' time and therefore, for example, all lighting commercials were forbidden and all streetlights had to be redesigned to illuminate only the very necessary actions on the street.

not dealt with because of the lack of the tools and the lack of time. There is an air of survival, creativity is invested to implement only that. The institutionalized world of staged arts, on the other hand, easily takes the life out of live art, by its hard separation of creation and touring.

Enough time seeing rehearsals and relating to the artistic language of a piece is a necessity that is at times considered luxury. Time to negotiate both with technicians and in rehearsal, making try-outs, time for starts-stops and making precision work is the ideal set of circumstances defined by Tomi Humalisto. Participating in warm-ups and not always looking from the back of the rehearsal room is a commonly preferred way of working, or in any ways using the focus point of but not reducing activity to light and its prerequisite to be a quality work, which is the technique.

As a conclusion on luxury, the language and words of lighting design need to be carefully differentiated from each other. If something is technically defined, it means it can provide the words but not yet or not consequently the thoughts described through words. The wording can change. The hard-wired reflex of theater makers, namely that searching needs to happen in a non-technical space is an economic conditioning which does not do its justice to lighting design in relation to the rest of the media, and makes lighting look like a luxurious commodity, pushing it back into a cliché role of making things look good.

My background in theater helps me to not only create a healthy but also an aesthetically inspiring environment for the citizens. I am not alone doing this because we are 5 lighting designers living here on the Island and since we all have a different background and interest, we make a great team. Last year we developed an add-on into our shoes that illuminates our path when walking and therefore we could finally get rid of almost all street lighting. We designed a sensor system that has a direct link to our vision. This sensor activates lighting only when you need to see your surroundings better. Lighting changes color temperature accordingly to maximize both contrast and visibility but also to create a pleasant atmosphere for pedestrians to walk around in. Nowadays, when people on our island walk around after dark, you can see a glow of light passing by with all shades of white and hues of color that melt into the landscape without disturbing it.

I have my personal studio which is not too big but not too small either and it is partially built into a cave inside the mountain. One of the walls is a window that can be dimmed with a liquid crystal curtain, so if I need to test my lighting ideas in practice, I can create total darkness. My tools are mainly computer-based modelling systems that allow me to create a hyper realistic environment of the setup I am working with. In **2032** an innovation was launched that you don't need any more computer screens nor keyboard. Instead, I use very special glasses that allow me to see what I am doing. They look like normal reading glasses that were used back in the **2020**'s. Nowadays the work with computers is very physical and you control the virtual world by voicing out the commands or by moving in the space. As a result, my studio has a platform size 5 by 5 meters, where I dance my lighting design. I move a lot every day and use my entire body in my work. I am already 71 years old, but I feel very young and energetic and I am in extremely good health. I am very happy in my life and on top of the performances I am designing lighting for, it is very

exciting to commit to the community and develop the darker but brighter future together.

LIGHT AND TIME

Henri-Emmanuel Doublieir

"Everyone thinks they know what light is. I've spent my life trying to figure out what light is and I still don't know."

This quote by Einstein has a great echo today, in **2033**, because it is the starting point of the biggest technological revolution of the 21st century. In **2022**, a group of lighting designers, researchers at KASK, were working in Copenhagen on the future of lighting design and invented a new energy-free light fixture to solve ecological problems.

Their idea was quite simple: to pedal an exercise bike to activate a movement of electrons in a bi-fluorinated active cadmium lamp. What they didn't anticipate was that the photons generated by this lamp were slower than 300,000km/s, the normal speed of light. Because of that, Einstein's equation $E=MC^2$ is totally modified, and the balance between energy and weight changes, and this changes

TIME.

The first time a lighting designer tried it (her name was Minna Tiikkainen), she had the scare of her life, because she suddenly found herself in the Middle Ages, surrounded by drunken, smelly Vikings, who were also scared of her pedaling her bike, and wanted to kill her with their axes. She stopped pedaling and immediately returned to Copenhagen in **2022**.

We are now in **2033**. After a big economic and ecological crisis, the capitalist system has collapsed. Very rich people and politicians escaped to Mars, to protected glass islands and they all killed each other there. Humanity had to find new ways to survive and live

together. There are no more borders, just a multitude of communities living in peace and exchanging knowledge and experiences to survive. Theaters have become the places where different communities can meet, to see beautiful plays and debate philosophical and political issues. Lighting designers have a very important role to play in illuminating these performances.

Creating light on stage has become a kind of meditation. The lighting design researchers created a machine directly connected to the brain, which can reproduce directly onto the stage the colors, the angles and the qualities of the light they want. To become a light designer, you must become a composer, a visual artist, have an overflowing imagination, be humble, and spend at least 3 years meditating in a Tibetan community to be in resonance with the machine.

And lighting designers keep on using their bikes to travel back in time and show relevant shows from the history of theater. They can take everyone to the past and watch Greek theater, or Shakespeare's plays from the Elizabethan century, listen to Callas singing Norma, dance with Pina Bausch's dance theater, have the back wall of the theater in flames with Castellucci or enter an abstract painting in a performance by Mier Warlop.

But in the end, this machine that allows you to travel in time and space does exist.

In the theater, time and space have no limits because the imagination of the community of artists has no limits.

I'll stop pedaling now, it was nice to see you again.

We will be back with our bike around **2040** to see your wonderful shows.

Because your imagination has no limits.

NIGHTMARE OF AN OPPRESSIVE LIGHTING REGIME

Jan Maertens

Some years ago, I woke up from a bad dream, a real nightmare.

I was working in a very nice theatre on the lighting design for a performance getting ready to be presented to the audience, when all of a sudden, as a devil out of a box, a representing officer from the city government arrived to announce that all lamps in the theatre, including those inside the stage lighting fixtures, would need to be replaced by the — at that time newly introduced — energy saving lamps. I don't know if you still remember those lamps: a somehow cubist design starting up over a very long incubation period with painful intensity-peaks from the ugliest parts of the visible spectrum before finally reaching a (more or less) stable but far from cozy whitish and harsh light output. Not only the theatre was under siege, but it became clear that a populist city government was playing a power game, steering up the masses against an elitist bunch of artists while holding them responsible for an energy crisis still to come.

Outside the theatre, I was witnessing a tumultuous gathering of people, circling around a bonfire onto which they were smashing all the Edison bulbs they could find on their riots along the city's households, businesses and institutions. All this being approvingly watched over by the city government representatives, from a safe distance in their offices lit by cozy candlelight. Inside the theatre, we were forced to organise intermissions before every new lighting scene as it became impossible to implement cross fades with the new energy saving light bulbs, a bit like organising an intermission for a set change-over in the old days. With all the dramaturgically planned lighting changes, our performances ended up looking more like one big intermission with some chunks of entertainment presented in between.

I can imagine waking up from a bad dream somewhere in the future to come, when my dystopian forecasts on

how, today, we are merely focusing on a converging quantifying approach to deal with the energy crisis has become —alas— a strong reality. Simply replacing old technologies by newer ones without finding answers to the quality deficit that goes along with it.

In this nightmare, we, stage lighting designers would not be able anymore to confront audiences with the beauty and richness of the full continuous spectrum of visible light as we know it today. We, stage lighting designers would not be able anymore to manipulate that spectrum of energy by playing around with it in a delicate spatial and temporal fiction as we do it today. We, stage lighting designers would end up being confronted with lighting merely existing as an interchangeable commodity for efficient visual perception with oversaturated first-degree attributes. We, lighting designers would need to come up with interchangeable fast food for an ever-unsatisfiable audience, hungry for the missing quality in their visual perception... leading to missing quality in life as such.

This would be waking up in a nightmare where human beings get mentally ill by their self-inflicted lack of nourishment of the missing wavelengths in their everyday exposure to a poor and brutally presented set of discrete wavelengths that produce a mockery of full spectral light... a little bit in the same way the myth goes that people on the American continent are suffering from a more frenetic state of mind just because they are under constant exposure of an electric universe that alternates on 60Hz instead of 50Hz.

But luckily not all dreams are nightmares, so I could as well imagine waking up from an orgasmic dream where mankind has finally understood the urge to look with qualifying glasses towards technology while implementing a holistic approach in tackling crises. This would have led to a genius technology where solar energy would be containable not only in quantity units of (Mega)Watt but also in quality units of (Mega)

Spectrals... or call them Spectres? Tools for lighting design would then no longer be lamp fixtures fed by whatever form of electricity quantified in Watts but a sort of direct representatives of the sun in the form of 'Spectral Spectres', flexible stand-alone units, manipulatable in all qualifying attributes of the physical phenomenon 'light' and to be recharged in daytime for indoor theatre use at night time.

The quality approach of lighting would re-calibrate the mindset again to normal proportions without the urge to consume madly in a fictional universe to fill in what was lacking in daily reality.

And lighting design could become again a slow-cooking process with a quality approach and generating a long-lasting aftertaste.

DREAM FICTION OF A LIBERATED LIGHT ENVIRONMENT

Estelle Gaultier

We are in a time where everyone can be a lighting designer in daily life. We all have the capacity of changing the atmosphere, color and intensity that surround us by the simple fact of thinking of it. You can change the meteorology when you want: sky color, intensity of light, sparkle, contrast, brilliance. You can start a walk in a very shiny light day, change fast to darkness with a bit of green and finish by a storm feeling when dark and red sun alternates.

When groups of people gather, they must agree on a light environment for the meeting. It is the first question in every meeting: in which light environment we will have this discussion? We notice that it is influencing group discussions and some people try to find specific lighting designs to encourage peaceful decision making. We call these people "facilitators of light environment decision". This profession is developing very fast now and there is a large demand for these facilitators. To

become a facilitator, one must be very sensitive and have a very developed intuition. One must be educated in a long program involving visualisation, meteorology, anticipation and body movement.

In public spaces it is forbidden to change your own light atmosphere. The multiple information and contractions of atmospheres can trigger big meteorologic instability, that could trigger political and cultural instability. We observe more and more people leaving cities and going to deserts or empty spaces to be able to imagine and create their own landscapes. It seems to be a new type of meditation and/or spectacle.

Some of them invite others to see the light atmospheres they are thinking of. They inform a time frame and localisation where you can observe the light atmosphere they imagine.

In nature you can meet groups of people walking for long days to join an atmospheric spectacle on an empty mountain or in an abandoned building somewhere. In some cases they even start forming a kind of community that gathers through a specific light atmosphere.

MY DESIRED FUTURE FOR LIGHTING DESIGN

Ingunn Fjellangsather

My desired future of lighting design is a dark one, with loads of lights in it.

I will try to explain, and I want you to go on a ride with me. A bicycle ride into a dark, but bright future.

The year is **2070**.

I remember back in **2022**, in my mid **30's**, living in Denmark, studying at The Danish National School for Stage Performing Arts. The use of artificial lights around me felt brutal at the time.

Almost everywhere I saw a person, I also saw a bright blueish light from a phone screen, with a high contrast level towards the surrounding lights. I spent a lot of

time wondering what would happen to our night vision if we kept on exposing ourselves to these bright artificial lighting conditions. Would we in the end no longer be able to register the absence of light? Would we at all have an interest in registering it? Sensing it? And: if we were not conscious about the absence of light, how could we have a rich consciousness on the presence of light?

How could I enter a working space for stage performing arts, and hope for a rich discussion around lights with my colleagues, with this brutality as the backdrop?

My desired future of lighting design in my mid 80's was therefore filled with a hope for an extensive dark consciousness.

The year is 2070.

We live in a society with a high consciousness around the use of artificial and natural light. We now approach the use of artificial lights just as gently as we approach our newborn babies.

We want to take care of all the ecosystems around us that are dependent on specific natural light conditions in order to exist.

The year is 2070.

Over the last 50 years, there has been a growing consciousness amongst lighting designers regarding the connection between the light conditions in our everyday lives, and lighting in stage performances and art installations. Over the last 50 years, there has been an extensively growing community of all sorts of people that wants to engage in the dialogue about light and space.

space:

The dialogue is not only about lighting for the arts, not only about daylight, it's one that is ever touching both of the two.

There has also been a constantly growing interest for sharing reflections on what lighting design can be, and how light affects us.

There is a strong belief that the collective is stronger than the individual alone, and therefore we see it as crucial not to conclude on what lighting design is, but rather to wish all sorts of reflections (and refractions) welcome.

The dialogue is very vibrant and dynamic.

I want you to close your eyes and follow me on my bicycle, to the upper North part of Norway.

The year is 2070.

You are on an island called Svalbard, in the city called Longyearbyen.

The Long Year City.

Here you find the world's northernmost settlement of people, and there are around 2500 people living here.

Your relation to daylight is an ever dynamic one throughout the year.

From the middle of April (17th) until the end of August (26th), you have midnight sun all day.

Meaning, the sun will be constantly above the horizon 24/7 for more than 4 months in a row.

Daylight all night.

Night is day, in a way.

Then, from the end of October (26th) until mid-February (15th), you have 0 hours of daylight, as the sun is always below the horizon.

This is also around 4 months.

Nighttime all day.

In between these two very bright and very dark time periods, you have 2 months where the duration of daylight goes from 0 hours to 24 hours, and from 24 hours to 0 hours.

There is a crucial change of daylight conditions in a very short time span.

Imagine your relation to daylight in these conditions.

Will thoughts about daylight take up a lot of your daily life?

Will you adjust your way of living throughout the year, according to how the daylight conditions are?

Will you always work 9-17, or will your working hours adjust during the year?

~~year?~~
How will you feel during the 2 months where the sun all of a sudden comes back, after 4 months below the horizon?

Let me briefly take you through the transition:

One week after the sun is back, the day is almost 5 hours long. Yes, 5 hours longer than the week before.

After two weeks, the day is 7 hours long. After three weeks, 9 hours.

After four weeks, 11 hours.

After five weeks, 13 hours.

After six weeks, 15 hours. After seven weeks, 17 hours. After eight weeks, 19 hours. After nine weeks, 24 hours.

Earlier, I talked about brutality.

Is this a sort of brutality as well?

In what way is this brutality different from the 2022-brutality that I described for you earlier?

Please keep your eyes closed. The year is 2070.

Now, follow me to a country at the Midwest of the African continent, to the country Gabon. You are in the city Libreville, the capital of Gabon.

700.000 people are living here.

The length of day changes only 2,5 minutes during the whole year.

In mid-December, you have daylight for 12 hours, 6 minutes and 10 seconds.

~~seconds.~~
In mid-June, you have daylight for 12 hours, 8 minutes and 44 seconds.

The golden hours and the blue hours have almost the same duration during the entire year.

The shadow conditions differ a little throughout the year, as the sun will follow a bit different path on the sky.

But still, you will never have a shadow that is longer than yourself in the middle of the day, when the sun is at its highest.

Again, I want to ask you:

Will thoughts about daylight take up a lot of brain capacity in your daily life here in Gabon? What kind of thoughts will you have?

How will you, a person in Gabon, contribute to conversations about light and space?

In a place almost exactly between these two — the country of Gabon and the Norwegian island Svalbard — you find Copenhagen.

Now please, come with me on my bicycle, back to Copenhagen.

Tomi Humalisto

You are all here, in Copenhagen, right now in a blackbox, with me carefully bicycling you into the imagined future.

The year is still 2070.

Here, around 600.000 people are living.

In the middle of June, you have 17,5 hours of daylight.

In mid-December, there are 7 hours of daylight.

In mid-December, at mid-day when the sun reaches its highest point, your own shadow is 5,2 times longer than yourself.

You are 1,7 meters tall, and your shadow is 9 meters long.

In Gabon, your shadow at mid-day would never be longer than 70 cm throughout the whole year.

Thank you for visiting these three places together with me in your imagination.
imagination.

I want to ask you about artificial lights:

What role does artificial lights have in your life, in these three places? What relation do you have to daylight in these three places?

Is your relation to daylight a static one, or is it dynamic?

What do you think about right now?

I want to hear your thoughts of this little world tour, and your thoughts on the future of light.

If you want to, you can speak out your thoughts now.

Listen to the room and speak whenever you think is a good point.

Where is the smell of death coming from?

Lighting designer Emese Csornai presented some while ago an interesting question about unwelcomed practice, and possibility to detect "ghosts" of lighting design referring to the concept of hauntology, originally proposed by philosopher Jacques Derrida, understood as an influence of cultural or social elements from the past, haunting us persistently in our present day.

Concerning the first part of her question, I think over-standardization, meaning efforts to make working time in expensive performance spaces as efficient as possible. This has become visible in recent technological leap from incandescent light sources into LED technology. Along with this there has been a change of a mindset what comes to controlling lighting and how to arrange spatially your light sources. When one fixture is by default a multi-function lamp, there is less need for "specials", which in decades ago used to be striking effect of color washes, single light spots, or kobo patterns. There is a less need for multiple specialized fixtures because you can basically make all color washes with one set of LED wash lights. Additionally, you can use same moving heads to spot out numerous performer positions, set details or make kobo effects. This is good news for power consumption, heat generation, smoothness to experiment and correct tones and focus. Deep colors are more intensive and stable (vs. burned gels). Led color spectrum and quality has improved impressively.

Hooray to the progress, but I have some doubts.

Along with these new efficient standards arise practices, which basically just try to make best out of this equipment. "The best" is however an ambivalent concept, depending on who you ask. One practice is especially puzzling lighting designers, who have been used to begin their design concept from scratch or "empty" table and explore the whole spectrum of light

and space. Multi-function fixtures tend to have an optimized rigging locations in the performance space where they can reach different areas of the stage. Positions serve efficiency but lead to a challenge if the hanging place is not good for creating a special beam angle or a direction. Stage technicians may be reluctant to rig lights into new positions only for one production. There might be too tight schedule or lack of working hours. In this reality lighting designer is forced to think carefully how special or unorthodox light plot is possible in first place, especially if the show is going to tour after premiere. A painful question is, does this lead more universal lighting designs, which look similar because they lack special lighting angles or spatial composition?

As a continuum to this concern, there is a question about light sources and the quality of light as an element of artistic expression. Things are proceeding into direction where LED light sources dominate the business. Despite the remarkable improvements in fixture optics, color rendering and mid-tones, the visual "sound" of the LED source is similar. This is another aspect, which creates a certain homogeneity within singular lighting design but between lighting designs of different shows as well.

However, approaching the second part of Emese Csornai's question, future may not be artistically so grim and aesthetically boring as previous concerns indicate. The concept of hauntology becomes interesting in a sense how past influences in our culture. For lighting designers there is obviously a nostalgic, but on the other hand very practical need to play with wide selection of visual options – how light communicates to spectator. Designer and audience share potential for collective visual memories, connotations whether they are old or new. Of course, LED sources may be capable of imitating these visual ghosts of the past, but I tend to believe that there remains an aesthetical difference e.g., between an

incandesce and LED sources. Haunting itself could be understood as a sensibility to recognize and embrace these aesthetical differences, no matter how authentic they may be. Visual haunting of light's quality which goes beyond concerns about "real", "authentic" and worries about degeneration of possibilities. It has artistic potential itself.

An interesting phenomenon happen in front of our noses what comes to digital cultures. Impressive high-quality images taken for social media have recently become boring among some teenagers. Fuzzy, underexposed photograph appears more appealing and interesting. Old film cameras are booming and shops cannot deliver enough film material. Similar happened with C-cassettes already before and LP-records survived through CD and streaming services. Common factor seems to be analog technology, but culturally it may be even wider tendency to look back to nostalgia, rebel contemporary formats or get interested in ghosts, even reach out for them.

In close future a show made with PAR-cans may be interesting sample of archeology of light, similar to our fascination towards lighting of the Drottingholm Palace Theatre from 18th century during museum tour. But in contemporary context visual contradiction may be fresh and interesting, perhaps just one scene long effect – a scene of ghosts, which doesn't necessary smell rotten.

Biking into the future - *All texts were performed for an audience on the 29th of September 2022 in Copenhagen in a completely dark space, riding a bike (with the back wheel lifted from the floor to be able to bike on the spot) to ignite a dynamo that lit up a small light attached to the steering wheel. Biking to light the text, reading out loud, the lighting designers were themselves lit by the reflection of the light on the paper.*





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