

Tech-Talks BREGENZ - Prof. Ruairí O'Brien, Founder of Ruairí O'Brien Lighting Design



Ruairí O'Brien,

Ruairí O'Brien is currently an associate professor and head of the Architecture and Visual design department at the German University in Cairo.

He has executed a diverse portfolio of work including urban design, innovative and custom-built street lighting, public and private buildings, museums, memorials and exhibitions, just to name a few. He has also worked on theatre and dance projects, created sculptures, installations and performances with light. In 2003, he initiated the Light Poetry Festival LIGHT and WORD.

In 2014, he was co-founded of the Federation of International Lighting Designers and served on the board as Vice President until 2018.

O'Brien's international teaching experience includes contracts for universities in Germany, Czech Republic, Russia and Syria. As a visiting professor at the University of Wismar (2001–2005), he helped initiate the international master's course in Architectural Lighting Design.

O'Brien studied architecture at the University of Greenwich and at the University of Edinburgh, where he received a "Visiting Scholarship" to Columbia University.

O'Brien's research interests are an extension of the topics he has developed as an interdisciplinary practicing architect and lighting designer.

Ruairí O'Brien, associate professor and head of the Architecture and Visual design department at the German University in Cairo and CEO of Ruairí O'Brien. Architektur. Licht Raumkunst, surprised and delighted the audience with his lecture at LpS 2016 when he talked about allowing darkness. He expressed the same sentiments in a caption for a figure in the proceedings booklet: "The future in Dresden is not lighting excess - the future is Re-Darkness with intelligent SSL concepts." This year, Ruairí held two lectures at TiL in which he emphasized how important a thorough application of light is in respect to culture, ethics, and environment. In addition to his work, these interesting statements made it made a Tech-Talk Bregenz with him a top priority.

Ruairí O'Brien: I am from Ireland, born in Dublin. I moved to London to study architecture after finishing school and did my postgraduate studies in Edinburgh during which I also received a "Visiting Scholarship" to Columbia University in New York. After New York I returned to London to work as an architect and to do my professional practice qualification. It was at this time that the Berlin wall came down and the drama of Europe expanding eastwards inspired me to move to Germany. I got my first job in Frankfurt am Main but I soon found that the real "Zeitgeist" could be better experienced in cities like Dresden and Leipzig. In Dresden I was fascinated by what I saw, a dark stoned city and the still visible scars of World War II mirrored in its beautiful river, the Elbe. The open discussions about what it means to rebuild a city and of course the "Frauenkirche" debates were thought provoking and extremely stimulating. It was an extraordinary place to be at that point in time.

LED professional: Were you working as an architect or as a lighting designer at that time?

Ruairí O'Brien: At the time I was working as an architect. But as an architect I was always concerned about how light triggers a space into life. This interest in how light creates and defines space began very early, as a teenager I visited the national gallery in Dublin numerous times enjoying the light in the paintings and in the spaces of the galleries, the spaces within the spaces so to speak. It was during these visits to the masters of light, the painters, that I first thought that realms of light, painting and architecture could be perceived as being one and that somewhere in this triangle I could find my future. Because of my background and my interests in light I was always trying to find ways to work with light as a student at university and as an architect. Later as a member of staff in a big office I realized that it is not always easy to follow your personal interests and there comes a point when you

either accept this or you move on, so in 1995 I opened up my own practice.

LED professional: What were your first projects?

Ruairí O'Brien: A good example of one of my earlier projects was a project for theater which I called Interactive 3 and 4. My intention with this project was to demonstrate to lay people and theater guests how important light and architecture is to our everyday existence. I wrote a short script and found some dancers who would work with me and a theater house in Dresden that was interested in showing it. It was very successful. You could say it was a kind of Human Centric Light project for theater. For the project I built a series of mobile boxes with wood and plexi glass and executed a series of drawings depicting how the dancers should move in and out of the boxes according to their circadian rhythm experienced over a 24-hour cycle of day



As far back as 1995, Ruairí O'Brien addressed the question of how much light humans require in the My Light Theater Project with Interactive Rooms 3&4



Ruairí O'Brien when asked why he chose the topic "Inside the Pyramids – Light Where There Should Be Darkness" for one of his lectures at the LpS/TiL 2019

and night. Dynamic light positioned above the boxes animated and directed the movements of the dancers. The theater guests experienced the dancers being born or awoken by the bright morning light in their boxes, this was followed by diverse morning activities and continued on with the dancers performing working rituals in glaring office light and ending with a performance about leisure and interaction with the theater guests in a warm dusk light that phased into the darkness of nightlife, sleep and the chaos of the world offered by dreams.

LED professional: In one of your earlier articles in the LpR you also sent us some pictures from those days.

Ruairí O'Brien: Yes, that is right, I mention it again because with the passing of time this little project becomes more and more interesting in my eyes and in its importance. It really says everything and provides me with the core themes that we as lighting designers should be talking about in the public and

political forum. Take the lecture I gave today, "Inside the pyramids - light where there should be darkness"

Not only did the Sun God Ra and Kek the God of darkness and Chaos get a mention but the main question I asked was how much light do we need to see in the dark. There is a physiological answer to this and a philosophical answer to this question.

How much light do humans require to live, to work, to love and to play, how much space and how much resources do we need? All these big questions were in this little simple project. Today I am happy to make this project very important. I remember when I opened my office and people asked, "What have you done, show me your references". Well I did this theater project but of course a lot of clients could not always see the direct link to their world and their needs and their projects. However, this experience at the beginning taught me to try and find clients that had similar interests and, if necessary, to create and initiate my own projects.

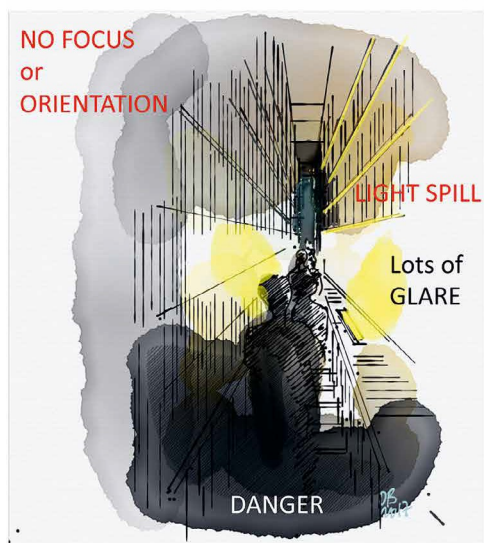
LED professional: But this theatre piece wasn't the only artistic work you did. You also do light sculptures and you initiated a light poetry festival. Do you think of yourself as an artist that works with lighting or a lighting designer that works with art?

Ruairí O'Brien: I think this the most difficult challenge I face as a freelancer to communicate successfully that there is a need for designers that do not pay attention to artificial professional barriers. I consider myself to be a polymath, I do not see boundaries I see opportunities, areas and things that awake my curiosity, my interest and my ambition. If I were a client I would be the kind of architect or lighting designer that I would like to employ, one who would challenge me in my own interests and in the interests of the project I wanted to execute. Unfortunately, I meet a lot of people and clients that think in order to do a project – in the symbolism of the theater project mentioned above – that you need to stay in the box of a specialist area. I see myself being capable of



A water color sketch by Ruairí O'Brien demonstrating where in the original concept of the pyramids, darkness should be, where today there is light

The Grand Gallery – BEFORE...No concept



BAD...

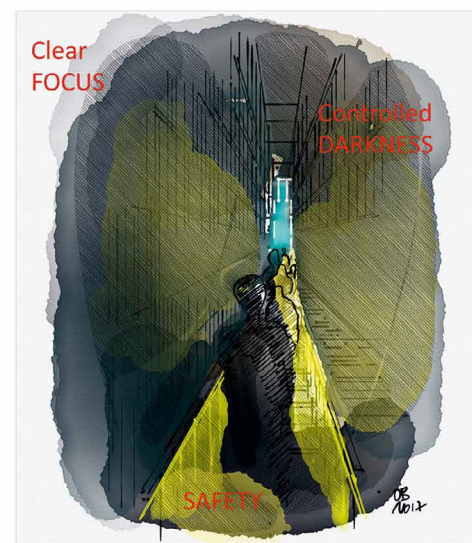
Lots of accidental Light...

Remember:
"LIGHT enables us to read the city and its architecture..."

Legibility is communication

The importance of "Offerings" and "Secrets" ...

The Grand Gallery – AFTER...with concept



BETTER...

NO Accidental Light...

Ruairí O'Brien Lighting Design FILD, LITG

Comparison of the current situation with a possible new lighting concept that accommodates safety and expectations of the visitors while respecting the intended privacy of the pyramid as good as possible



While some think of poetry and festivals as weak vehicles for transporting the message about the meaning of light, Ruairí O'Brien doesn't agree. He feels they are one of the most potent vehicles of change. Impressions from the Light Poetry Festival in Dresden, 2003



The "Micro" Light sculpture as homage to Inger Christensen is another example how to generate awareness for the importance of light in our life

existing inside and outside the box of specialization. A problem I observe in society is that there is a tendency to think that only a specialist can give us the right answer to a problem, which is of course also a marketing strategy for some and also a way of avoiding responsibility perhaps, but often the specialist cannot see the extent of the bigger picture. So, in the end we have a lot of fragments that do not work together in a holistic manner. People get nervous when polymaths or designers like me who have also worked as a specialist in many areas, talk about complex technology using the terminology of a generalist. If we want the importance of good lighting design to be understood in society we need to make our thoughts understandable. We cannot allow specialists to cloud or fragment the messages we want to send out to the public. The field of lighting design is very young and still developing, we need the big thinkers, the

polymaths, the interdisciplinary generalists, we need the boundaries to be more open. That is why I challenge my own working process and development with the art projects I do where I bring science and art together. The lighting sculptures I developed enable me to experiment with technology and the human interaction with light free of the constraints normally associated with an architectural or city planning project. This is also applied research and often as in the lighting masts for the market square in Freiberg, Germany, this applied research tested in my sculptures and installations finds a new form of expression in a more traditional urban or architectural project.

The Light Poetry Festival I started in Dresden in 2003 was about presenting light to the public as a medium for precise, simple and complex communication, poetry may seem weak to many,

but it is one of the most potent "Vehicles of change" known to mankind. In this sense I want to communicate that light is a life changing and life-giving force.

LED professional: Looking at lighting design in general, we have seen a lot of changes taking place over the past few years. When I started working with light in the late 1980's, light was very technical. You needed your 500 Lux and a strict cut-off angle, and so on, but since then we have moved on to dynamic lighting and LED colors in lighting. We now have variable color temperatures, and human centric lighting, and so on. How do you see these developments? Have they really improved lighting or is it just popular because it's new?

Ruairí O'Brien: It is fantastic to witness the technological developments that are taking place and it is true that we now have far

more sophisticated tools to avail of. But we should remember that good lighting is in the first instance about doing the simple things right, not correcting design mistakes with highly sophisticated and expensive technology. We have to approach each new task as a lighting designer with a holistic mindset. For example, the lighting designer is required today to interact with the architect on the planning of the daylight, the choice of materials and furniture, he or she must have a comprehensive understanding of architecture and building construction to be truly helpful in creating the right light for the spaces being designed. It is not enough anymore to know when executing a design for an office or workspace that a general lighting quantity of 500 lux is required or that task lighting requires 700 lux; one has to know far more about how society is changing and how people use space. Today the office worker doesn't constantly sit at the desk like he or she used to. Today's workspaces need to offer zones with different ambiances and atmospheres to accommodate the greater freedom of movement that people desire. People want to work individually or in clusters depending on the tasks and on their own moods, desires and needs. It is obvious that a purely technical approach, selecting the "right" Lux quantity will not suffice for such complex scenarios. In a more sophisticated society quantity is never going to win against quality. Of course, health and safety regulations need to be observed but that's the easy part, keeping an eye on the bigger picture of "happiness" at work, that is the difficult part, that will be the biggest challenge facing the lighting designer in the future, being strong and educated enough to take this responsibility. Turner, when he first started to paint, was very exact, technically as good as anyone before him, but his great works, that fascinate us today, seem blurry and, at the time, his peers thought he had lost control. Today we know he was just ahead of his time and that he had complete control of this blurriness and produced some of the most beautiful paintings on light mankind has seen. This is what I think makes a great lighting designer; having so much control that it is hard to see what you did.

"Eating the Light" - light sculptures to revitalize the Lingner Castle in Dresden: Experimenting and applied research opportunities for people of any age lead to understanding



LED professional: You mentioned Human Centric Lighting before. Some people say that all lighting should be human centric. What do you think? Is it just a catch phrase or is it something that is achievable now with the tools and technology available today? Has the opinion of human centric lighting changed due to the research results over the past twenty years?

Ruairi O'Brien: When I was teaching at the university in Wismar I communicated to the students from day one a user orientated holistic approach to lighting design where the well-being of humankind was placed at the center of the design. If you like, it was human centric lighting design. The terminology Human Centric Light (HCL) as it is now being used in the industry is based on the use of technological tools and luminaires that enable the designer and, in turn, the client to tune the color temperature and the intensity of the light to follow the circadian rhythm of the user. However, I think many lighting designers are concerned that a label or a catch phrase such as HCL can also be misused to sell expensive products that cannot deliver what is being promised or being recommended for installation in areas and projects where it is not appropriate or necessary.

I do not think that the research work being done on the topic has delivered all it can as yet, it is still only the tip of the iceberg we are

seeing, but at least we know the ice berg is there. On the other hand, it is good to have a catch phrase, if it is being used with responsibility, that focus's the attention on the importance of good lighting in the context of human wellbeing. In this sense I believe the term Human Centric lighting should always be understood to include the interaction of artificial lighting with that of the daylight planning of a building. I always enjoy, when talking about HCL with my students, revealing the fact with the support of various diagrams that one of the reasons why they are so tired during the first morning lectures is because of the level of melatonin still flowing through their bodies and that they should also avoid the blue light of their telephones and laptops before going to bed at night, hopelessly of course...

LED professional: There is a debate about whether we should bring the subject of melatonin into human centric lighting – or whether human centric lighting is just about creating a good mood or visual comfort, because subjects like melatonin go far beyond visible light. Do you think things like UV, infrared, melatonin, etc. should be under the heading of human centric lighting?

Ruairi O'Brien: The truth is, it is very difficult to exclude the discussion about melatonin, UV or infrared if I open the Pandora's box with the claim that HCL can improve

human performance in working spaces by increasing the level of concentration at certain times of day and provides workers with a healthier light. If I want to sell these products I have to provide evidence that they do work as described above without any negative side effects. Of course, the terminology HCL can help in the communication to clients and the general public that we should expect more from the artificial lighting being installed in our workplaces and that it is advisable to give this more thought and invest more money in good lighting. But HCL is not a concept that "fixes all" problems caused by the bad planning of workspaces with regards to inadequate daylighting. The application of HCL in schools and hospitals brings a greater responsibility with it and needs ongoing monitoring and further research. Therefore, I think perhaps we should qualify it a bit further with the differentiation in the description of a soft HCL that may support moods, atmosphere and visual comfort or a Hard HCL that would imply biological stimulation and manipulation. I believe the jury is still out on this one.

LED professional: Doesn't it make the topic even more complex than it already is? How do we explain to a client that the UV light doesn't always make sense for producing vitamin D because the people sitting in that area are fully clothed?



"Darkness is the true partner of light."
For public spaces like the Freiberg market square it is important that the city silhouette can be seen against the evening sky and that light is not excessive as the market square is the dining and living room of a city

Ruairi O'Brien: This is a question of professional ethics and credibility. The lighting designer needs to be prepared to answer questions about products from a neutral and objective position. We've noticed with some car manufacturers that promises were made that could not be kept. The lighting industry has to be careful that they don't promise something that they cannot deliver. That's why it's always good to have objective people in the loop who can give independent advice such as the lighting designer. I think the profession of the lighting designer has to be very clear about the importance of their objective expertise for the sake of society and the industry as a whole. That is why I also helped found the Federation of International Lighting Designers (FILD) so that Lighting designers could share knowledge and experience with each other and voice their concerns and interests in a collective voice to the outside world. We shouldn't be afraid to put up our hand and say that we don't understand something – I think we also have to be able to say, keep it simple, I tank my own vitamin D by going for a long walk outside. Where there is a medical issue then we need to get appropriate professional support involved. I have learned that our profession, and myself, personally, have been too diplomatic in the past and possibly too polite. Other people are not so polite, and have other interests which do not always lead to good lighting. We should definitely be more vocal about what we think is good lighting and which technology is appropriate for which use. For years I have been including a slide with a photo of fast food and a photo of healthy food in my public lectures to help people reflect on the difference between bad and good lighting, I used to apologize for the ugly greasy fast food image now I don't do this anymore I just say that's how it is, take it or leave it...nobody in the industry can say any more we don't know what the true price of bad lighting is.

LED professional: If you don't mind, I'd like to talk a little about IoT, now. IoT has become something that not only is used in lighting but in all aspects of living. What does that mean to you, as a lighting designer and what effects could it have on the future of this profession?

Ruairi O'Brien: For the lighting designer the question is how much responsibility do we share with other technical experts without losing the control or sight of the "Raison

D'etre" which is good lighting. If I have IT experts in the lighting industry who have not been schooled to understand that the core issue is the quality of the lighting then in the middle to long term IoT will do damage to the culture of good lighting. Here the emphasis must be on Light Centric Concepts and Teamwork. It is in the lighting industries own interest to protect the lighting designer in his position as head of the team over all other interests, this enables an objective quality control to take place. Of course, Lighting designers have to do Continuous Professional Development (CPD) to stay top of their game and this includes understanding what change and digitalization means for us and the user. IT experts and Lighting designers need to be very patient with each other in exchanging views on what is important for the industry. Nevertheless, let me say that the IoT alone cannot give me the romance of a candle lit dinner. Let's not forget the candle and the romance.

LED professional: You said that the industry has to do something to protect you so that you can do your job right. My personal feeling is that things are going in the opposite direction with all of this IoT stuff that the lighting industry wants to put into their products. If an IoT expert says that they want a luminaire in a certain place for various reasons, you have to place it there. Isn't that more confrontational than connecting?

Ruairi O'Brien: Yes, you are right, in such cases we have to be louder and communicate to the client and the general public how important it is to have a true choice. Comfort food is not always what we need even when we want it, it is important to make people aware of the alternatives. Perhaps the market will demand alternatives if it is made aware of the problems that experts like lighting designers see associated with a total IoT. The philosophy behind the IoT is that we should have more freedom not less, digitalization should be able to offer us more diversity, not less, but this is not always the case. With 3D printers' people will be able to print their own luminaire designs, that may start to happen on a bigger scale, so is the lighting industry creating more of a problem for themselves by making their products too sophisticated and too expensive with all the IoT stuff as you say? I think that they should concentrate on making luminaires that produce good light and do not also have to turn the coffee machine on or tell someone how long I

spend in the bathroom. But I think we will be moving in a direction where we will need a protective bubble – where there is none of this. As a client, or as a human being, I will want my bubbles where I am not affected by any of this. I don't know if that's too visionary but I like to have zones where I am completely out of it and I don't like it, even now, when I move and my telephone tells everyone where I am. I think there is going to be a freedom movement. It's like in the old Western where you have to put your guns up on the bar – in future you'll have to put your phones up on the bar and talk to real people.

LED professional: I had intended to ask you "How connected must light really be?" but I'm not sure if I still need to!

Ruairi O'Brien: Look, we have family and loved ones but we also have ourselves; and although there is a connectedness there is also the un-connectedness in every relationship no matter how intimate and I feel that we need to fight for this space in a society that wants to connect us all the time. Every artist knows this and it is the same for a community or a society. So maybe we need to have a more artist-driven society.

I do not want the lighting in my apartment to greet me with what collected data considers to be the appropriate mood lighting for my evening ahead or the colors of the national football team because we have reached the semi-final of the world cup. Technology that saves energy is fine if it really does this but I do not want life to be so predictable, so perfect, so programable and so fake. There's a line that I use sometimes: There is no such thing as splash-free spaghetti. It's my life philosophy. If you like eating spaghetti just don't wear a white shirt if you are worried about getting specks of red sauce on it. Total Connectedness is about as much fun as splash free spaghetti. Enjoy unpredictability.

LED professional: To follow up on that – what do you think about the dynamizing and personalization trends?

Ruairi O'Brien: We know that artificial light has always modeled itself on natural light, in the basic form of trying to eradicate darkness at night by making night to day, or in a more sophisticated form of mimicking the spectral richness of daylight in products. Natural light is by nature dynamic and with

the technological possibilities available to us today this means that we can now mimic this dynamism. Is this a good thing? Yes, if you want people to be less bored in boring spaces, but in truth if the architecture in its spatial richness, views offered, materials chosen, daylight planning are all of a high quality then the light needed to bring the required lighting scenarios to life does not need to be dynamic, it just needs to be good.

Let the life of the space itself be dynamic where possible. Regarding personalization trends, yes, it is good to give individuals and users in general more possibilities to fine tune the light of their personal zone in an office or in the home. However often the choice available is far bigger than the basic needs that most people have, if this is correctly communicated to the client then this is perfectly alright but again it does not necessarily lead to good and appropriate lighting.

LED professional: I'd like to get back to your ideas, and not lighting design in general. Most people who are in the lighting design industry say that we need light. You, however, say, we need darkness – and then we need light. Could you explain to our readers why darkness is so important to you?

Ruairi O'Brien: When painting a watercolor, I have to be very careful

how I proceed, it's all about layers. As soon as you have too much of anything it is difficult to go back, working with light is similar one can compare the fragility and sensitivity of the white watercolor paper with the fragility and sensitivity of the darkness of the night sky. We have too much light in our cities and the installation of artificial light is developing exponentially in one direction, making night to day. LEDs should have helped in reducing energy consumption, but because LED's are cheap and smaller than the light fixtures of the past, more and more light has appeared in our cities. It has spiraled out of control as brightness brings more brightness and buildings and cities enter into a competition of wanting to be seen brighter as the neighbor. Darkness is the true partner of light. I need very little light to put anything in focus if I have enough darkness. I will need less energy, less costs this is more effective and sustainable. My message is – if we start with more darkness we need less light to create visual comfort and to create atmosphere and quality. I know that there are many people in the industry that do not like to hear this but there are also a lot of people coming around to seeing it this way. In my lecture about the future of city lighting I showed a slide of Dubrovnik as an example of many cities I have visited where the streets at night are so bright it hurts the eyes

and the buildings look dead and uninteresting, as they are illuminated by what I call "Botox lighting", producing a mono tonal sameness that lacks all architectural charm and intelligence. In fact, today we now have smaller and more precise lighting tools we can truly do more with less. This should be our motto for good lighting, doing more with less.

LED professional: You have lived in different countries and different cultures. How does lighting design reflect cultures?

Ruairi O'Brien: I believe there is an intercultural understanding of light that can transcend all perceived barriers. In the Master's Program in Wismar we had students from all over the world and from different cultures wanting to be lighting designers and I used to start the first lecture with: Light is its own language. It doesn't matter where you are from or what your cultural background is – people have a complex physiological, philosophical and poetical relationship to light. So, we can communicate with people, just by using light. That was the core idea behind the Light Poetry Festival I set up in Dresden, light is a code that can trigger intuitively strong emotions, tell stories, calm and excite. In Cairo where I am teaching at the moment there are wonderful pockets of darkness where the cafes light the streets.

"Haribo Lighting" and "Botox Lighting" are two terms that Ruairi O'Brien uses to characterize overly colorful and unaccentuated lighting that ends up being too bright



Haribo Lighting
A one song wonder



Lets talk about **GOOD** Lighting...



Botox Lighting
Buildings damned to silence

THE NEED FOR MORE CONTROL...DIVERSITY and DYNAMIC
„Kitsch is about as useful as a pair of Flipflops on the Titanic...”

It helps me imagine how cities could be if we could develop more intelligent and diverse lighting masterplans that are truly in tune with the unique urban identity of the cities we live in and not just copy and paste culture pastiches.

LED professional: As we come to the end of the interview I'd like to ask you about how much energy you think we can really save with LED lighting. What is your opinion of the environmental aspect in your business?

Ruairi O'Brien: I think that our profession has to lead from the front on environmental issues if we want to stay relevant in the years to come.

The success of LED lighting will continue to mean that artificial lighting, as I mentioned above, will not help us collectively save energy. We will only save energy on a large scale if we, as influencers, help initiate a mindset change in clients and users about what is adequate and good lighting. We need to communicate that the quality of light is more important than the quantity of light and that includes darkness as part of the lighting design. In this respect, the lighting designer is now required to up his game and get

involved in the political discussion in policy making for better urban lighting regulations. I, for one, always include these arguments in my discussions with clients and the general public. One of my more recent projects was to develop an urban lighting concept and design guidelines manual for the city area of Lichtenrade in Berlin. This gave me the chance to speak about such important issues with local citizens, business people, city planning authority representatives and politicians over a period of several months. It was very enjoyable work as I felt that it was a great privilege to be able to contribute with my expertise to the development of a large urban community in a participatory process. I talked about the need for "Climate Change Lighting Design" and the "Right to Darkness" years ago and I noticed that I did not always make friends with such opinions, but now I feel as I did in Berlin that the people, the politicians and the local authorities are open to such thoughts. The lighting industry needs to move with the times and support this change. Presently I am working with my office in Dresden on a concept for a small lighting festival in Potsdam. Lighting festivals, generally have a lot of what I call "Haribo" lighting or mindless computer animation. I am delighted to say that that I was able

to win over the city authorities in Potsdam to try a different approach that is more in tune with the architecture and the character of the city where the emphasis is on reduction and communication. This shows that lighting festivals can also be responsible. These are all little things and they may seem like a drop in the ocean to some, but I am experiencing a trend where political and public offices are becoming more aware of their responsibilities and citizens more aware of their interests.

LED professional: So what would your final words to our readers be?

Ruairi O'Brien: Courage to say NO to Haribo and Botox lighting concepts and YES to Climate Change Lighting Design. Give Darkness a chance in the interests of good lighting.

Learn to do more with less and there is no such thing as splash free spaghetti.

LED professional: Thank you very much for your time!

Ruairi O'Brien: Thank you for having me! ■

Inspired by a 19th century painting of the Hofkirche in Dresden in evening light, at the LpS 2016, Ruairí already illustrated different "trending" lighting scenarios (here multi-colored and cool white) and demonstrated that these solutions are not appropriate for historical buildings: His vision is to bring darkness back to the city allowing old facades to appear as they did in mediaeval or pre-industrial times

