Stilvi
the scale of lighting

GEORGIOS PAISSIDIS

Dr.-Ing.

Georgios Paissidis graduated from the Technical University of Berlin in 1988 after five years studies at the faculty of electrical engineering with focus on Lighting Engineering. In the same year he was honored with the 2nd international Karl Miescher Award, which is awarded to young scientists with distinguished attainments in Advanced Colorimetry. In 1991 he received a PhD in the integration of cutting edge technologies into architecture from the Department of Architectural Technology of NTUA's School of Architecture with his dissertation about the simplification of photometrical procedures for indoor lighting fixtures by means of a room-saving goniophotometer.
Georgios Paissidis has carried out several lighting research projects with diverse thematic orientation, ranging from the use of holographic optical elements (HOE) for energy efficient daylighting (EU contract no: ENK6-CT-2000-00327) to the documentation of biometeorological resources and their evaluation for the development of phototherapeutic treatments of the Seasonal Affected Disorder (SAD).
In 2000 his Light Art Installation, dedicated to the concept of Transparency was exhibited in the German Center of Architecture in Berlin. In 2004 his Light Artwork, dedicated to the truncated icosahedron of Archimedes was exhibited in the 18 Englishmen Square of Heraklion on the occasion of the Football Olympic Games commencement.
From 2003 to 2009 he taught Lighting Design to the Postgraduate Programs of Lighting Studies at the Architectural Schools of Wismar's and Coburg's Universities. In 2011 he taught in the Interdepartmental Postgraduate Studies Program "Archeology, City, Architecture" of the Department of Cultural Technology and Communication (Aegean University), School of Architecture (University of Patras) and Department of History and Archeology (University of Athens) on the subject of "Light Art – Monumental Lighting".
In 2010 he was elected President of the Professional Lighting Designers Association (PLDA, former ELDA European Lighting Desigmers Association). He is a Professional Member of the International Association of Lighting Designers. As President of the Hellenic Association Committee (HIC) he represents Greece at International Commission on Illumination (CIE). Since 2013 he is the Chief Educator of the Annual International Lighting Design Workshop «Rethink the Night!» supported by several universities and academic institutions.
Georgios Paissidis has unfolded his specific scientific knowledge and his rich experience in numerous lighting design projects over his 25 years professional experience as a lighting designer and in relevant lighting magazines as author of erudite approaches to light and perception.

IVA VASSILEVA

Dipl.-Ing. MAS ETH ARCH

Iva Vassileva graduated in Architecture from the Technical University of Dresden, Germany in 2003. She was awarded in 2002 the 1st Prize in the National Competition of Hebel Germany "Living in the metropolis" - administrative and residential complex in Berlin and in 2004 the 1st Prize in the International Competition Europan 7 for Oeiras, Portugal.
In the upcoming years she was involved in the Facade Lighting Design of Monumental Public Buildings in Sofia, Bulgaria as the Parliament, the Ministry of Defence of the Republic of Bulgaria, Sofia Court House and the Lighting design of Media Village Mall in Athens.
Following her enthusiasm for Lighting she completed in 2006 a Master of Advanced Studies at the ETH Zurich with her thesis "Identity of Public Space. Day and Night Perception". She is a co-author of the book "Architectural Lighting and Luminous Advertisements" published in 2007, ISBN 954-8873-68
She has rich experience in numerous lighting design projects about Retail, Monument Lighting and Lighting Master Plans in Greece, Cyprus and Bulgaria. The results of her work have been presented on International Lighting conferences and published in respective professional magazines.
In her architectural practice she focuses on Residential architecture. Her recent residential projects were honored the First price in the Category Dwelling Houses in the Architectural awards "ARCH INOVA 2016", a honourable mention in the category "Best Built Work of the years 2010-2014" in "DOMES 2015 Awards", the 4th place in the category "Best First Building by a Young Architect of the years 2010-2012" in "DOMES 2013 Awards" and the first prize in the National review of Bulgarian Architecture in the Category Dwelling Houses in 2011.
She is responsible for the development and implementation of big scale modular lighting fixtures and numerous furniture pieces in wood and stone.
Since 2013 she is an Educator in the Annual International Lighting Design Workshop «Rethink the Night!» on the island of Kea, Greece, supported by several universities and academic institutions.
Since 2017 she is teaching at the Architecture Department of the University of Patras.

www.stilvi.gr

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RETAIL SHOP

interior lighting
Ermou, Athens, Greece

The accomplished project differs from the mainstream energy saving lighting projects in the care about visual comfort, which has been addressed by the pursued approach.
The adopted approach proved that a remarkable upgrading of lighting conditions can be combined with unexpectedly high energy savings also in cases, where the lighting quality has not benefited from a recent transition from obsolete lighting technologies to the prevalent solid state lighting technology.

A considerate displacement and modification of the operation of existing SSL based lighting fixtures and spotlights and a slight differentiation of lighting design with the involvement of few additional key fixtures led to an excellent glare limitation and a balanced light distribution, thus turning lighting into an effective and discreet instrument of sales promotion.
All that, while energy savings of about 50% were achieved in a shop, which had already adopted the SSL technology just 3 years ago!

The initial energy efficiency branded LED-based lighting solution -
Annual Energy Consumption = 8.727 kWh

The revised lighting efficiency minded LED-based lighting solution with a considerate reuse of the existing lighting equipment - Annual Energy Consumption = 3.969 kWh

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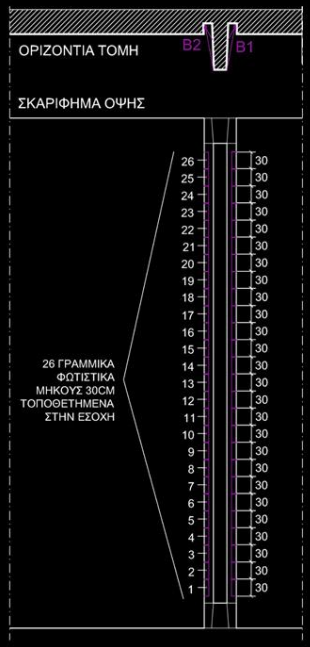
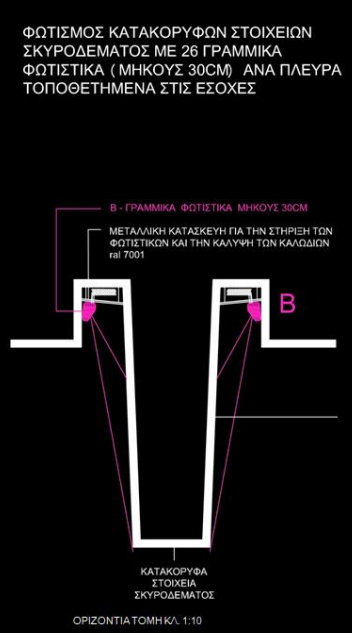
WAR MUSEUM

facade lighting
Athens, Greece





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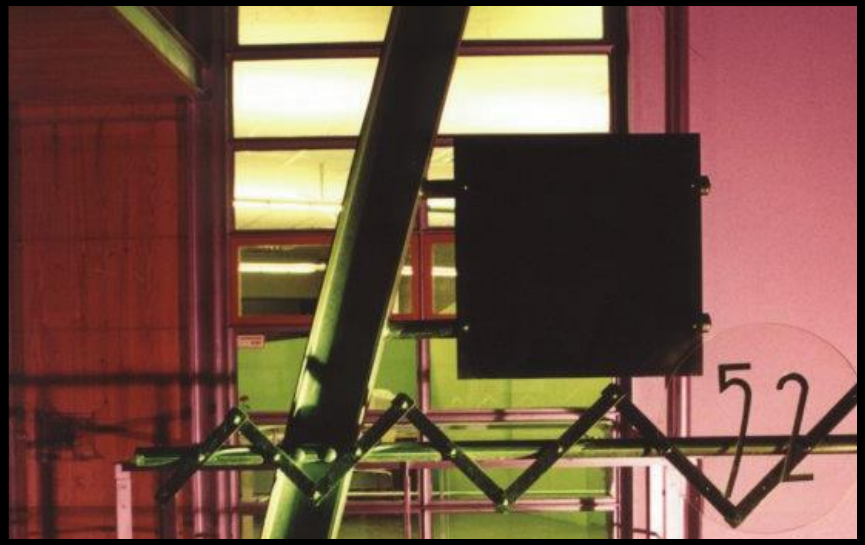
ARCHITECTURAL OFFICE

facade & interior lighting
Athens, Greece

Exaggerations in brightness are being controlled through the creation of contrasts mainly based in color differences and less in a luminance discrepancy. The green colour inside is the prevailing colour of the interior design. Green metal halide lamps used in wall mounted uplighters enhance the saturation of the colour appearance, which is beeing further strenghtened by the choice of the complementary magenta light colour over the whole skin of the building.



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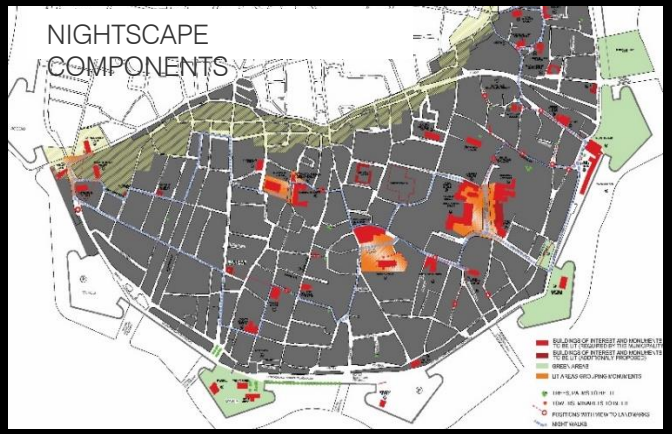
NICOSIA

LIGHTING MASTER PLAN - Cyprus - 2008

The LD Masterplan of the Historical Walled City of Nicosia aims at shaping the nocturnal urban identity of the city on the basis of converging lighting interventions, public and private as well, which are expected to yield an attractive nightscape and thus favour the development of leisure economy in the neglected districts, suffering from the adverse repercussion of city's division. The adopted approach to lighting design focuses on administering, in contrast to the usual precedence of space, rather the time of a city walk in terms of consecutive impressions, which have to display a seamless flow alluding to the legend of the city's emergence and to comply with the principle of a coherent and night-prone storytelling.



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NICOSIA

LIGHTING MASTER PLAN
Cyprus - 2008

NIGHTSCAPE ELEMENTS
VERTICAL landmarks
TOWERS

Bell Towers and Minarets constitute important vertical elements protruding from the typical height of the prevalent 2-storey building type in the historical center of Nicosia and have to be lit according to their specific architectural and cultural identity in order to represent distinctive signs helping passers by orientate in the pretty flat city of Nicosia. The respectively adopted approach to lighting design for each of these tall monuments considers the differentiation of their appearance with the changing point of view of walking passers by, aiming to turn the conglomeration of sporadically arranged monuments into an attractive ensemble.

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NICOSIA

LIGHTING MASTER PLAN - Cyprus - 2008

MONUMENTS

The Taht El Kale mosque

Bairaktari mosque

Famagusta Gate

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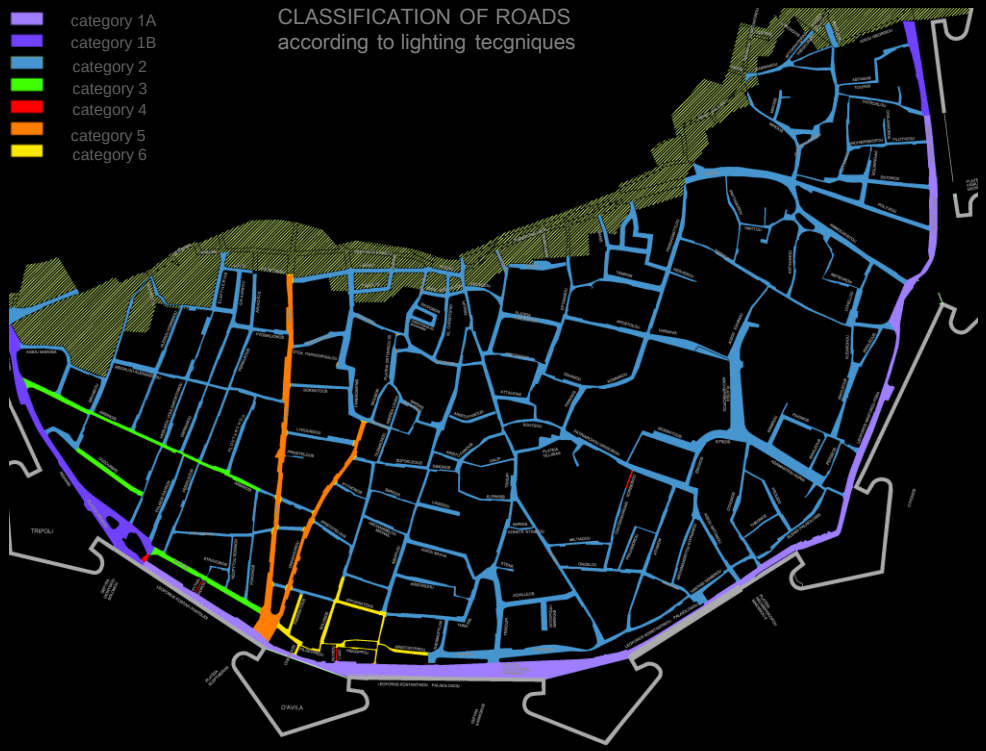
NICOSIA

LIGHTING MASTER PLAN - Cyprus - 2008

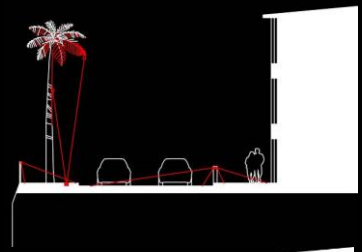
category 1A
category 1B
category 2
category 3
category 4
category 5
category 6

CLASSIFICATION OF ROADS
according to lighting tecgniques



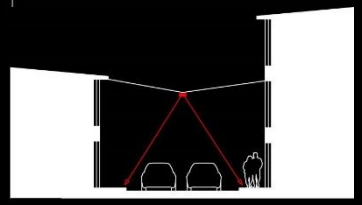
Category 1A:

street luminaires with low mounting height (0.9m)
pedestrian lighting integrated in hand railing
recessed lighting fixtures for palms illumination



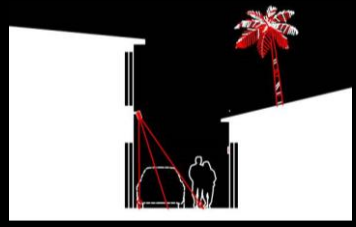
Category 3:

suspended lighting fixtures guiding along the road



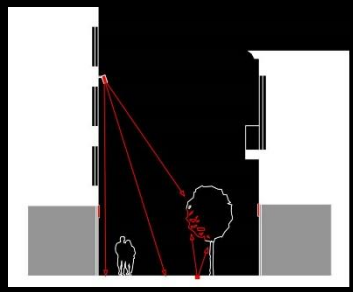
Category 4:

wall mounted spotlights, illuminating only road
(post top luminaires if no buildings available)
recessed luminaires for trees illumination



Category 5:

wall mounted spotlights, illuminating only street
recessed luminaires for trees illumination
luminous advertisements on ground level only



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HYDRA

LIGHTING MASTER PLAN
Greece - 2005

The LD Masterplan for the Waterfront of the harbour of Hydra island aims at welcoming the boats to the most ecological island of Greece as it lacks motorized public transportation while the use of cars is prohibited. This is why the lighting design approach can defy in this case the recommendations of relevant standards as EN 13201 and why it has to become aligned with the natural night ambience by constituting a harmonious supplement to it. The lighting level subsides by veering away from the monuments or rises smoothly by approaching them while the concerted range of all emerging luminance values within the field of view elaborates the accord of a united nightscape. The arrangement of highlights along the coastline has been dictated by the distorting mirror effects on the undulating sea surface.

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INTERBALKAN MEDICAL CENTER

Thessaloniki - 1999

The complexity of the project lies in the fact that hospitals should provide quietness for the patients so that artificial light penetration from outside into the rooms is totally precluded. The careful treatment with light focused in the exploitation of the optical features of the materials. So the light is coming outside through the transparent parts of the building and is being reflected on specular materials or both physical processes occur together like in the picture 1. Decorative and Functional Features in the Entrance Area complete the night view of the site ensuring at the same time that no lighting equipment appears in the field of view. Glarefree Lighting is the result which suits to a stressfree environment.

Lighting design for the facade is based on the concept of allusion. Highlighting critical rhythmical elements as for instance the gaps of the wall make an allusion to the whole surface of the wall, its form and its orientation. Particular details for the integration of the illustrated bright glass rods into the gaps have been elaborated to facilitate the implementation of the respective lighting design. Positive and negative contrasts alternate to render the volume and structure of the building, so that backgrounds of specular materials are left unlit due to the bright appearance of the shiny stripes in front of them and conversely backgrounds are lit in cases where lack of light in the surrounding, which could be reflected by the stripes deprives them from their shiny appearance.

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the scale of lighting

INTERBALKAN MEDICAL CENTER

Thessaloniki - 1999

The ceiling has been treated in such a way that it can not be perceived as a stable border in the vertical flow of the space. The interreflections which occur between the back side of the semi mirrored glasses and its specular background open a virtual space into infinity. The construction, the arrangement and the design of the shape of the semitransparent glass slabs chain has been supported by a series of elaborate drawings.

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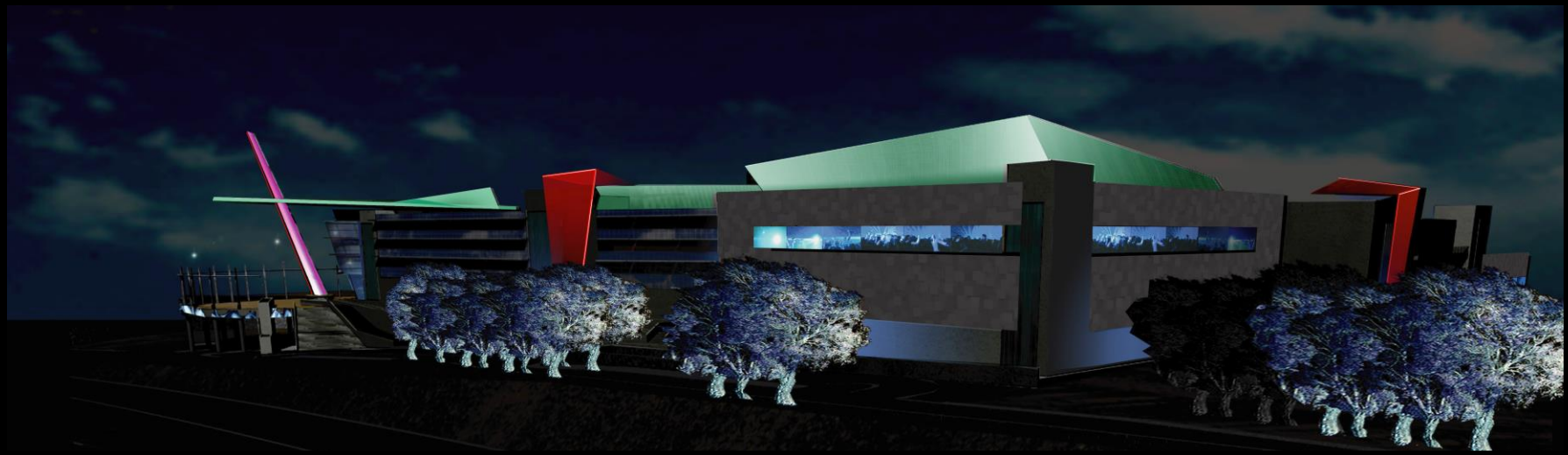
MEDIA VILLAGE MALL

facade lighting - Athens - 2004

As a main entertainment area of the Media village the complex has to meet commercial requirements on the one hand and to comply with the aesthetic value of the night appearance on the other hand. The lighting concept is based on the analogical thinking and conveys the feeling of travel experience. It points out the landscape character of the site treating elements like water with waves and sky with star effects.
Additionally feeling of deliberate disorientation and discovering encouragement are caused by the tree dimensionality of the complex and the foreseen interactive implementations.
Unique details support the unity of the whole complex.

Lighting effects – list

F1. ship mast
F2a . lights resembling waves
F2b. dark blue light reminding of the sea
F3a. star light effects
F4. red 3D line
F5. blue background
F6. blue background
F7. cinema effect
F8. roof illumination



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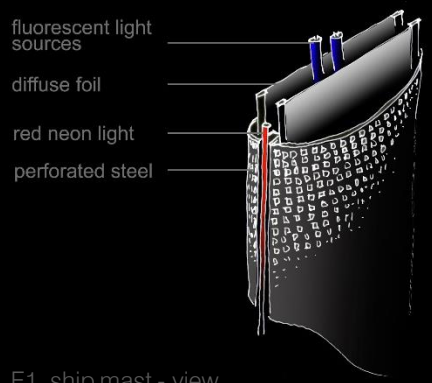
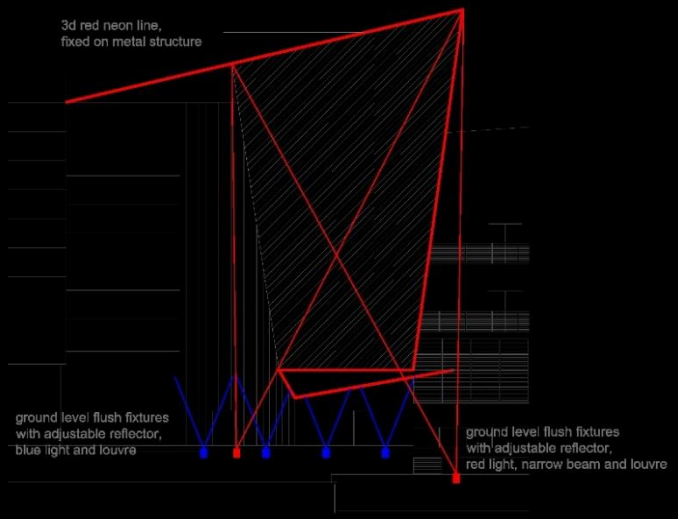
MEDIA VILLAGE MALL

facade lighting - Athens - 2004

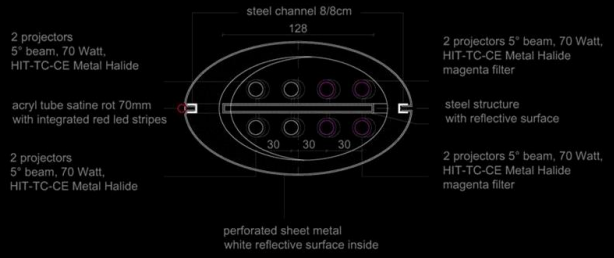


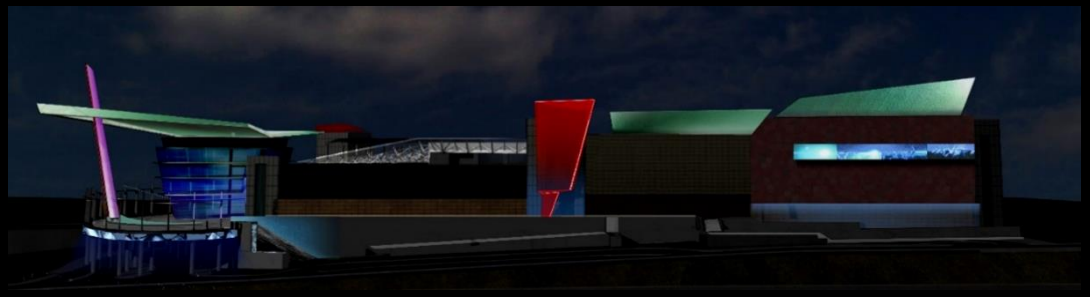
F1. ship mast - view



F4. red 3D line

F1. ship mast - section





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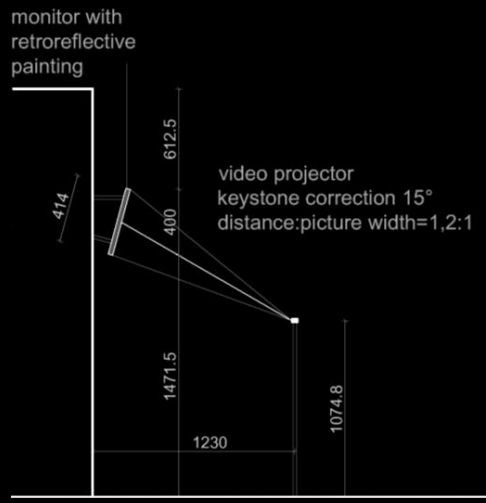
MEDIA VILLAGE MALL

facade lighting - Athens - 2004

F6. blue background / F7. cinema effect



F7. cinema effect - section

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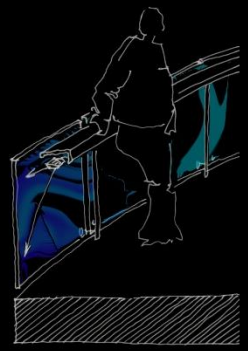
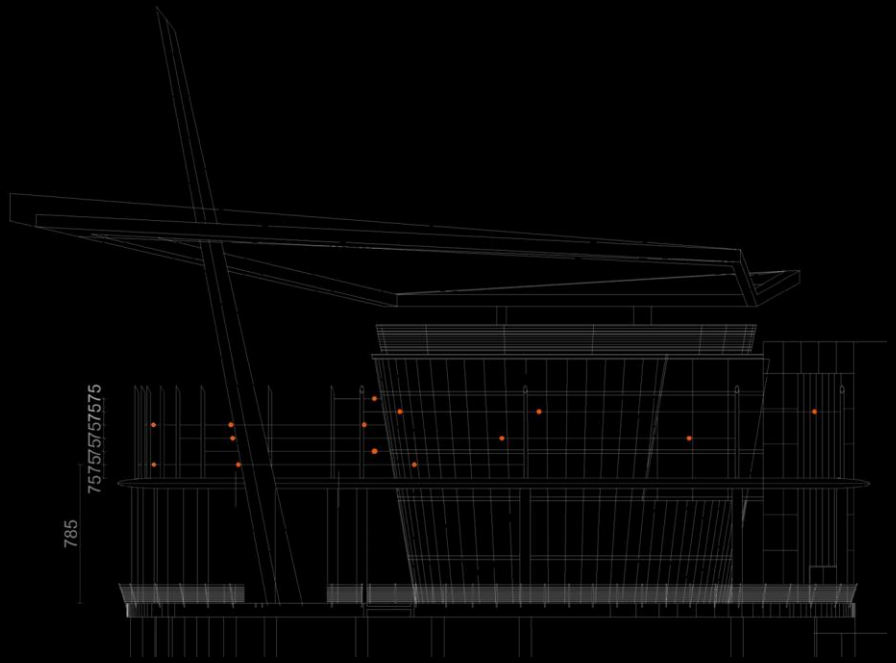
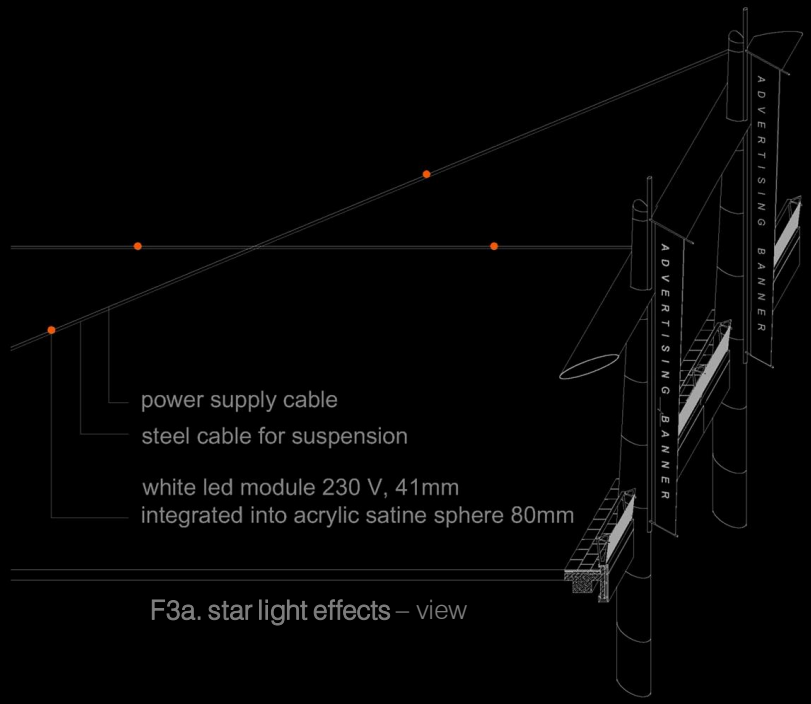
MEDIA VILLAGE MALL

facade lighting - Athens - 2004



F2a. Lights resembling waves – view, section





F3a. star light effects – view

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MEDIA VILLAGE MALL

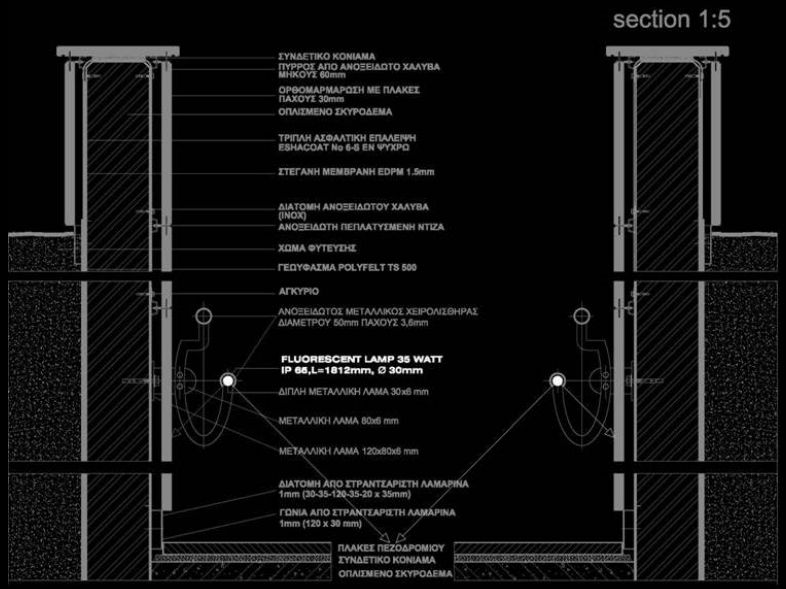
landscape lighting - Athens - 2004

L1. walter lighting with subsiding direction

L2. wall washing effect with subsiding direction

LANDSCAPE LIGHTING PLAN

1 - water lighting with subsiding direction
2 - wall washing effect with subsiding direction/stairs
3 - escalator lighting, integrated into railing
4 - ramp lighting, integrated into railing
5 - general ground lighting
6a - water/bench lighting
6b - grass/bench lighting
7 - trees, illuminated with blue light
8 - advertising projection in entrance area



L4. ramp lighting integrated into railing

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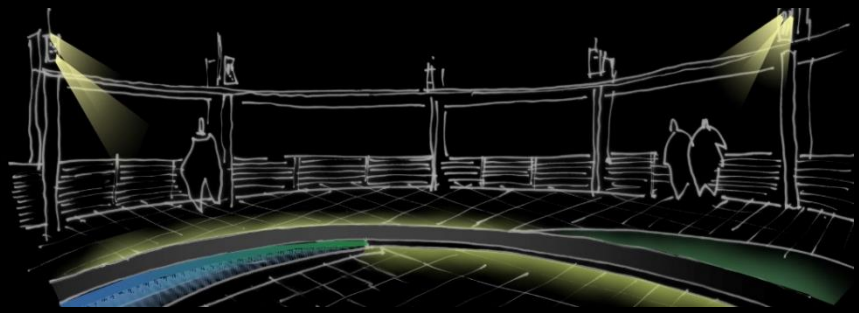
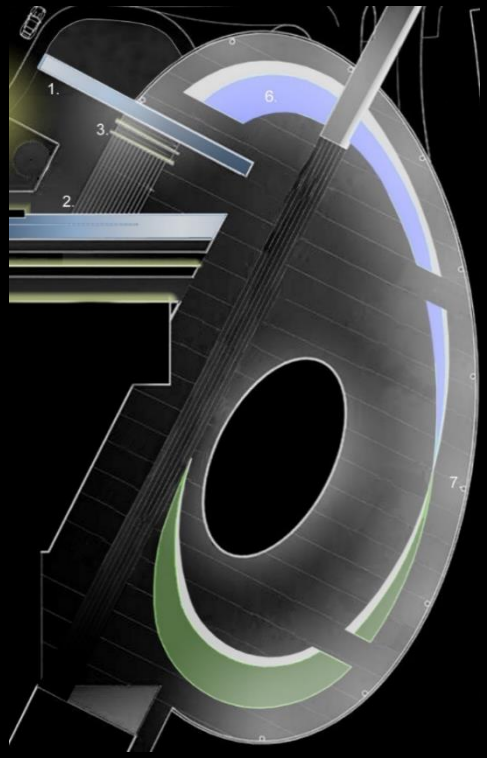
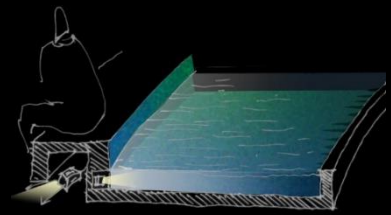
MEDIA VILLAGE MALL

landscape lighting - Athens - 2004

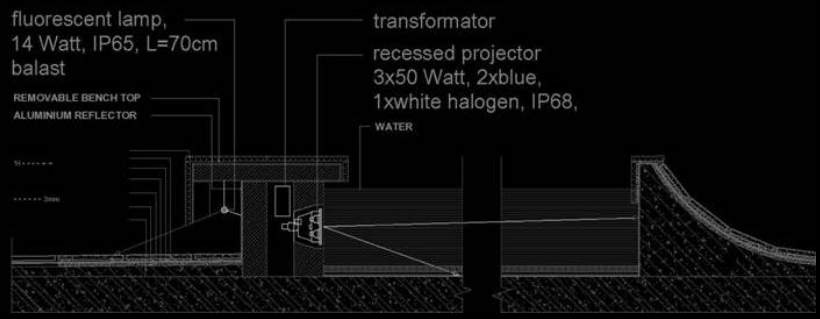




L6. grass lighting – bench lighting



L6. water lighting – bench lighting



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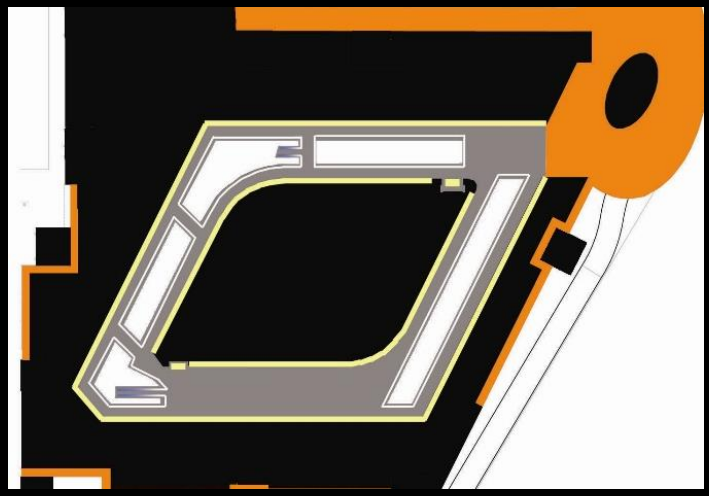
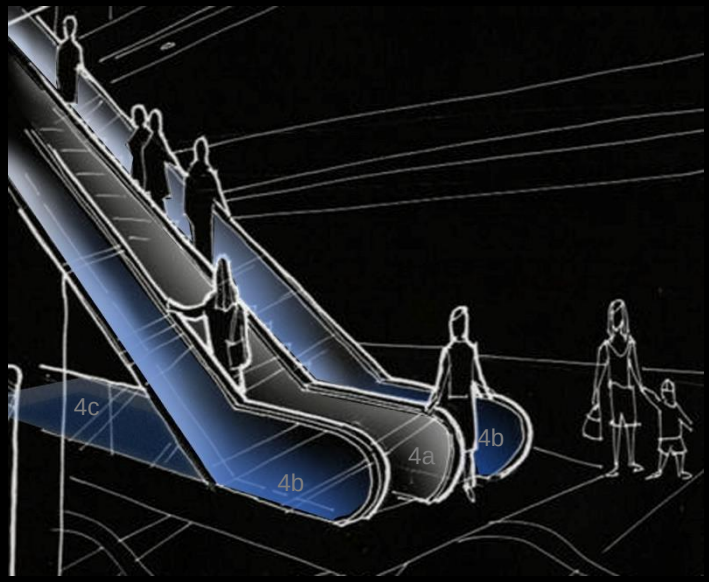
MEDIA VILLAGE MALL

interior lighting - Athens - 2004





4a. lighting integrated into middle railing, 4b. blue and white leds integrated into glass, 4c. uplights in water

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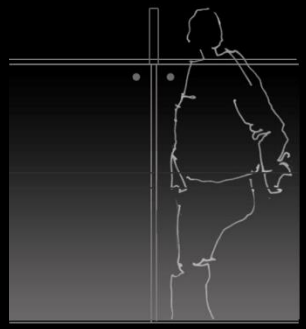
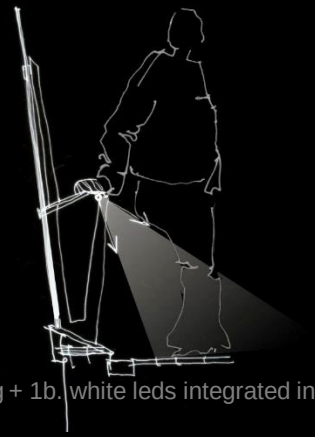
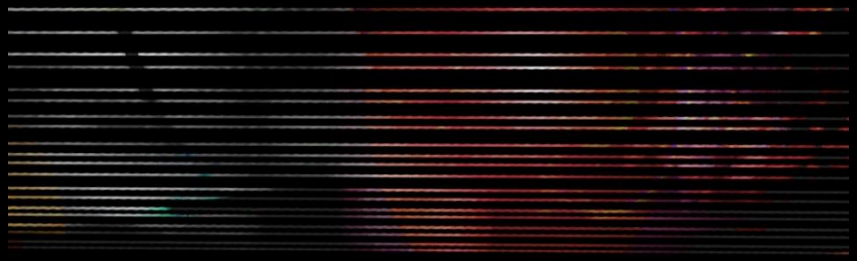
MEDIA VILLAGE MALL

interior lighting - Athens - 2004

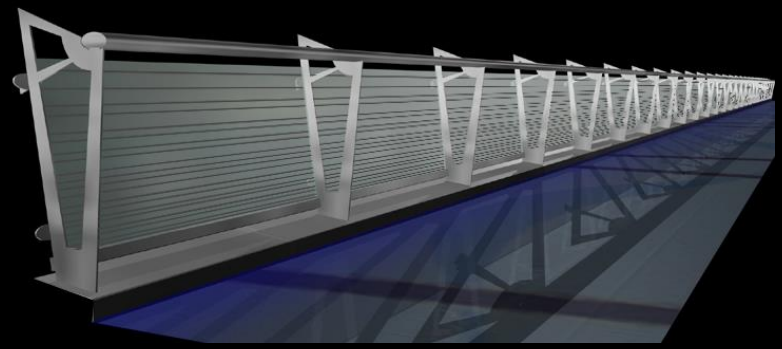




1a. lighting integrated into railing + 1b. white leds integrated into patterned glass



gallery balustrade outer surface of glass elements



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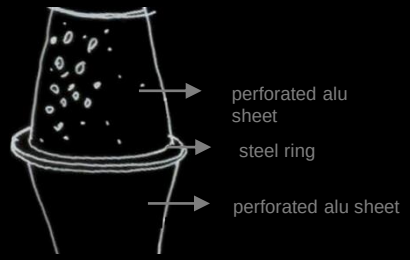
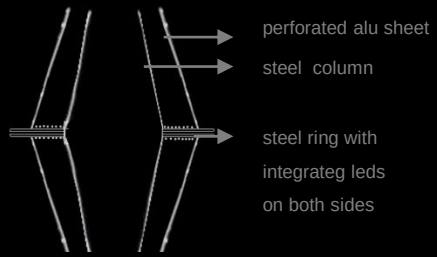
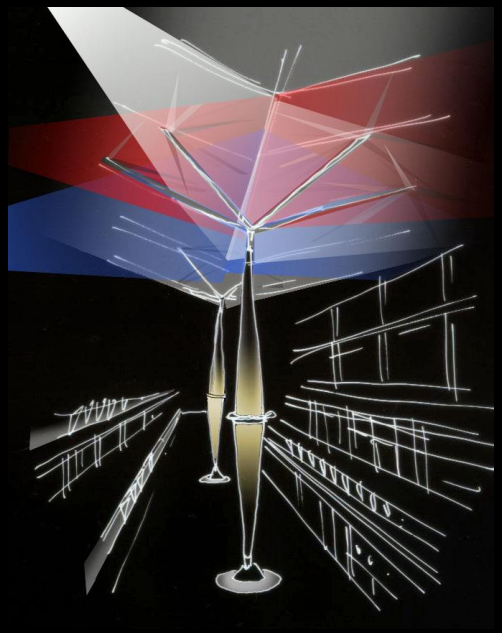
MEDIA VILLAGE MALL

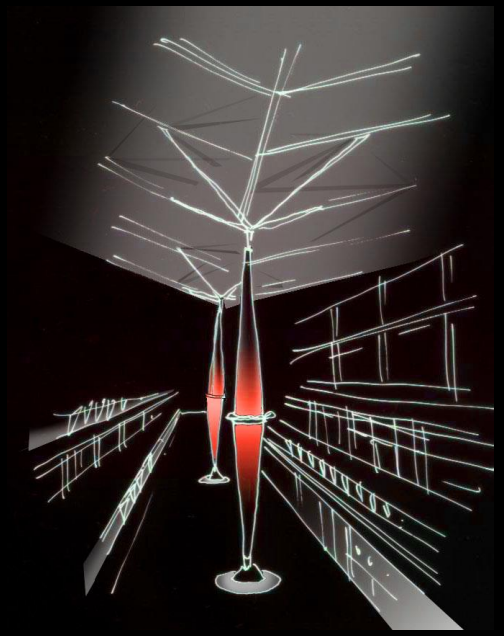
interior lighting - Athens - 2004





opening hours





closing hours

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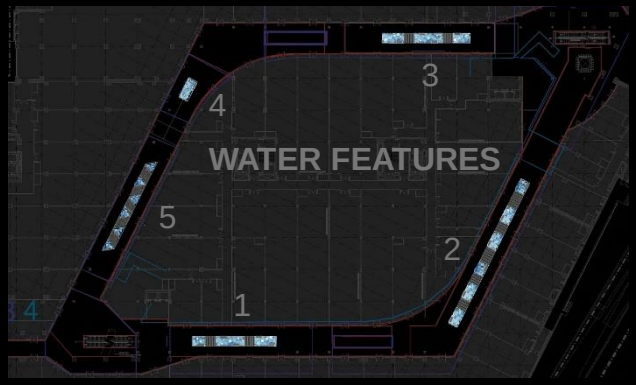
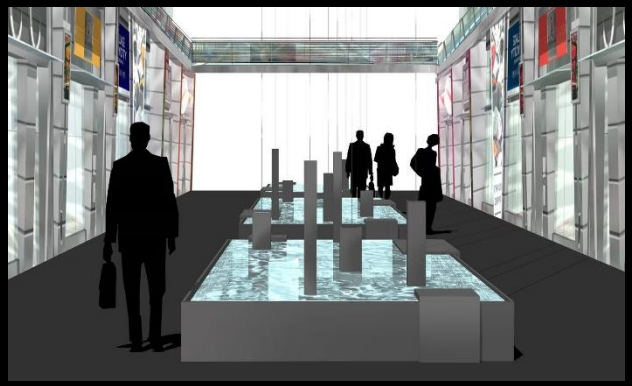
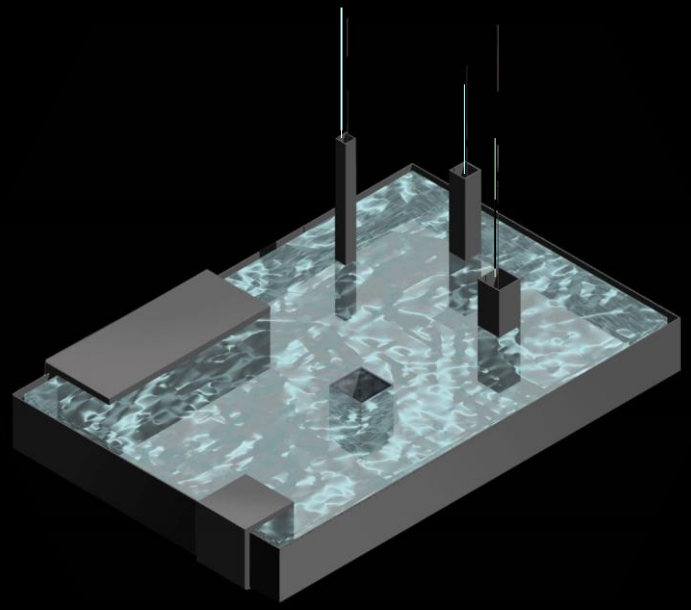
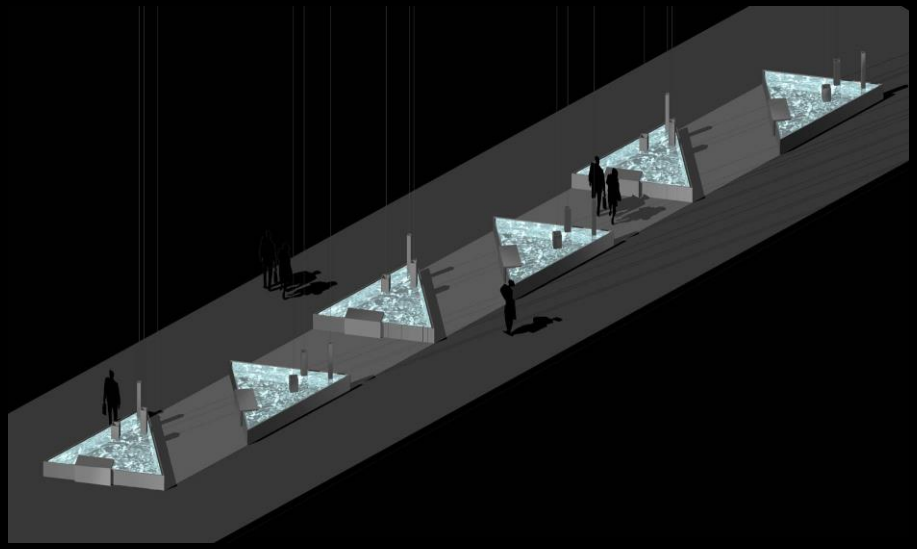
MEDIA VILLAGE MALL

interior lighting - Athens - 2004





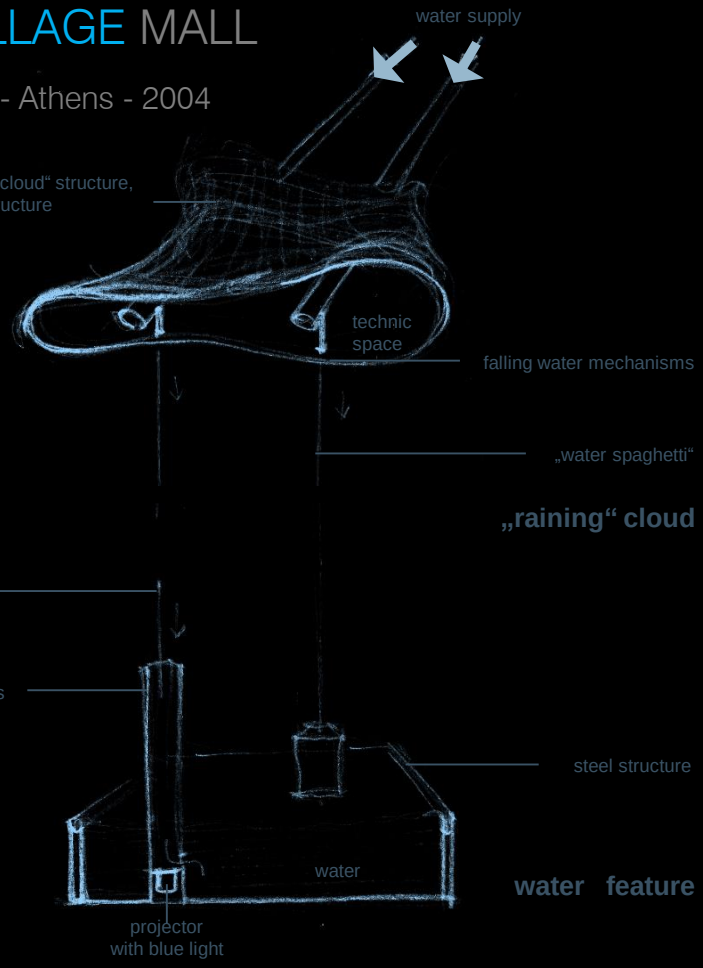


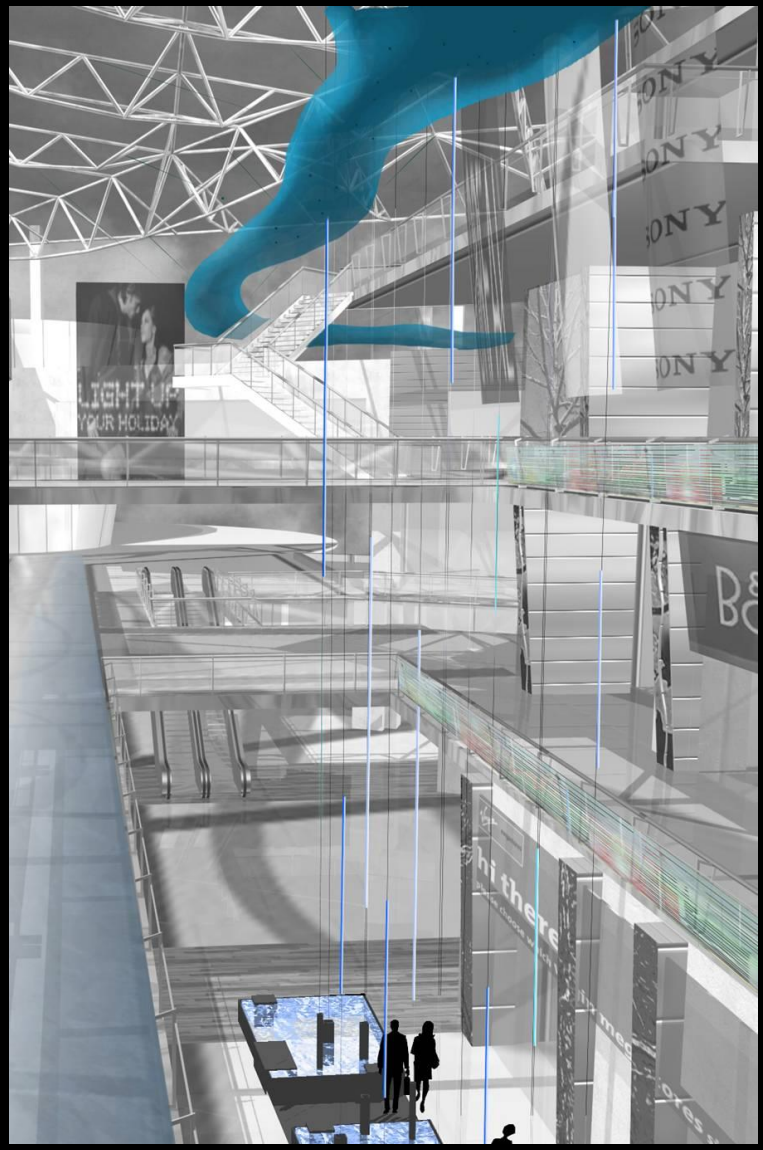


Stilvi
the scale of lighting

MEDIA VILLAGE MALL

interior lighting - Athens - 2004





Stilvi
the scale of lighting

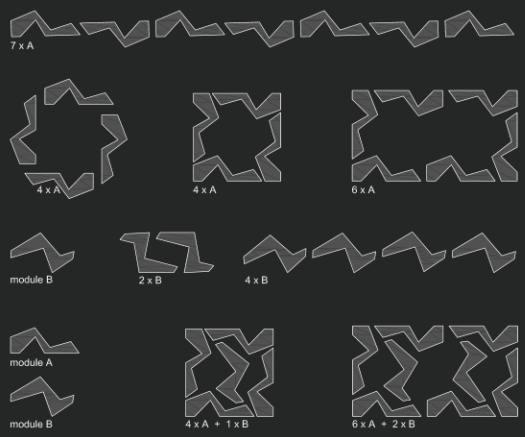
LIGHTING FIXTURE

development

ANASA makes an allusion to the inwardness of lighting perception, which is equal to that of flavour perception by inhaling the air of a room and experiencing its ambience.
The body housing of the hovering luminaire is made of a sophisticated translucent beton. The suspension rests on a set of 9 load bearing wires. The bottom section of the cover consists of a matt translucent, subtle weave fabric. The upper section is made of satin matt translucent plexiglas fragmented in a way allowing easier access to the lamps and maintenance.

ANASA® modular design

ANASA is conceivable also in a proliferation version with the ANASA ensemble arranged in different configurations according to the respective needs of a project.



Stilvi
the scale of lighting

Rethink the Night!

International Lighting Design Workshop
Kea island, Greece – 2014, 2015, 2016,2017

Rethink the Night! is an International Lighting Design Workshop (ILDW) staged by the Hellenic Illumination Committee every October in Kea island/GR. The workshop aims at providing participants with personal visual experience of natural nightlight as well as with opportunities of evaluating its sufficiency and at developing skills of devising darkness minded lighting design concepts and applying relevant Low Lighting Level technologies in a commensurate with the available nightlight manner.









RETHINK THE NIGHT!

During the second International Lighting Design Seminar on the island of Kea, Greece, the Hellenic Illumination Committee created Rethink the Night!, aimed at the development and promotion of night friendly lighting techniques for areas of extraordinary night sky quality.

It could be argued that human vision functions totally disjunctively - it doesn't have the ability to simultaneously compare the quality of daylight with the quality of semi-darkness. Aristotle said in the *De Coloribus* (791a, 1) "Darkness occurs in the absence of light". This is a recipe for the creation of the quality of light that we call darkness, which becomes so much more perceptible as light recedes. The receding of light is, in other words, a qualitative and not a quantitative characteristic - one that is totally interwoven with the sense of time. In absolute values, the changes in lighting at sunset are no greater than those, equally changing, in the sunlight of noon. This was highlighted by Patricio Hales at UNESCO's emissary to Chile: "If we lose darkness, we lose light," he said, on the occasion of the events marking the International Year of Light 2015.

In view of the above, it can be appreciated that light cannot be understood as an element foreign to the night-time landscape; night has specific visual characteristics.

The International Experimental Lighting Seminar, held in October 2015 for a second time on Kea Island, Greece under the auspices of the Metropolitan Bishopric of Syros and with the participation of the Universities of Patras (Greece), Madrid (Spain), Wismar (Germany), and Aalborg (Denmark), yielded new examples of a night-time landscape, proving its visual viability, contrary to scotophobia, which governs the majority of instances of urban lighting.

Kea was chosen as the venue due to its documented high quality of dark sky. This, on the basis of the relevant measurements, proves to rival the model quality of night sky in the Atacama desert in Chile. The resultant finding is attributed to a combination of two factors: on the one hand, the delay in bringing electricity to the island and its under-population, which have contributed to a low demand for lighting, and, on the other, the strong winds, which prevent the spread of light pollution from the strongly-lit areas of Attica to Kea.

Based on phosphorescence, this environment was the ideal location for the applications of lighting, including the countryside Chapel of the Archangel Michael at the town of Ioulida, Kea. The luminance values of the phosphorescent elements, after many hours of discharge, approach the threshold of the scotopic region on the lower limit of mesopic vision, presupposing the maintenance of a natural nighttime level of lighting. This has been agreed to approach 0.3 lx, and corresponds to conventionally calculated moonlight.

This precondition was observed in all three experimental lighting projects carried out at Ioulida on the Greek island of Kea, under the motto *Rethink the Night!*, such as the night-time elevation of Sts Antony and Menas, of the Holy Trinity, and of the Archangel Michael at Korakogremno.

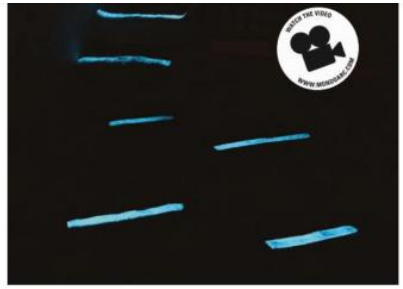
For purposes of the relevant photometric documentation, measurements were taken with a frequency of 1Hz and special equipment capable of measuring accurately a level of lighting of 50-100μlx and noise of just 20μlx at a level of lighting of 1mlx.

In the neighbouring environment of the three churches, that is, at a distance of 2-10 metres from their elevation, levels of lighting were measured in the public space of 0.06 lx, 0.08 lx, and 0.02 lx for the Churches of Sts Antony and Menas, of the Holy Trinity, and of the Archangel Michael, respectively. These levels are more than four times the level of lighting with a full moon at its zenith and totally comparable with the median value of moonlight in October for Kea's latitude, which is 41mlx, and the corresponding mean value for moonlight, which is 57mlx.

The applications of night friendly techniques to the darker environment in the Church of the Archangel Michael area were of particular interest. This was, in part, due to the relief of Ioulida, since the distance from the well-lit square, in conjunction with the significant difference in altitude from it and the abundance of narrow paved thoroughfares (which act as traps for artificial light). The resultant values, for the level of lighting along this route to the church, approach 1mlx - a level that corresponds to a typical value for regions with observatories. In the church itself, the replacement of every form of artificial light by phosphorescent striations, coinciding with the occurrence of the joints in the paving, proves to be an ideal condition to scan our galaxy in the unique sky of Kea.

The seminar on Kea proved the pragmatism of these particular low-lighting techniques. Additionally, these techniques now constitute a tool of international range for the promotion of initiatives for the establishment of maximum values for lighting in public spaces. In doing so, acting as a first step towards managing the consequences of public lighting, which are harmful to the authenticity of the night-time landscape.

www.rethinkthenight.com



Right Rethink the Night! consisted of three experimental lighting projects, carried out at Sts Antony and Menas, of the Holy Trinity, and of the Archangel Michael at Korakogremno.

PUBLICATIONS

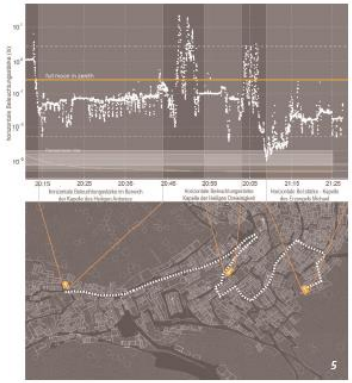
Magazine Licht (Jan/Feb 2016)

Im Oktober 2015 fand auf der kykladischen Insel Kea zum zweiten Mal der Internationale Lighting Design Workshop »Rethink the Night!« statt. Lichtplaner, -techniker, -wissenschaftler und Studenten aus zahlreichen Ländern trafen sich hier zu einem fünftägigen Wissens- und Erfahrungsaustausch und realisierten gemeinsam drei Projekte.

Der Schwerpunkt der Veranstaltung lag auf der nachtfreundlichen Herangehensweise an die Lichtgestaltung im öffentlichen Raum. Zum zweiten Mal unterstützten die Masterstudiengänge Lighting Design der Universität Wismar, der Universität Aalborg, des IED – Europäisches Institut für Design, Madrid, die Universität Patras und die Kuffner Sternwarte Wien den Workshop. Die Teilnehmer aus Venezuela, Italien, den USA, Deutschland, Ungarn, Mexiko, Spanien, Zypern, Griechenland, Dänemark, Indien und anderen Ländern hatten Gelegenheit, inspirierende Vorträge zu hören. Themen waren dabei der Verlust der Nacht durch die künstliche Beleuchtung, Lichtsuffizienz in der Dämmerung oder das Vermeiden unnötiger Lichtemissionen. Das interdisziplinär zusammengesetzte Referenten-Team erörterte die Themen aus ganz verschiedenen Blickwinkeln. Zu den Vortragenden zählten unter anderem der Vorsitzende der Wiener Kuffner-Sternwarte Dr. Günther Wuchterl, der Vorsitzende des griechischen Nationalkomitees für Beleuchtung und Workshop-Leiter Dr.-Ing. Georgios Paissidis und der Direktor der Mobile School of Lighting Design Ruairi o'Brien.

Abb. 1: Kapelle des Erzengels Michael. In dieser Momentaufnahme sind gerade die UV-Strahler eingeschaltet, die die phosphoreszierenden Streifen im Bodenbelag laden.

Abb. 2: Kapelle des Erzengels Michael. Hier erfolgte die Beleuchtung mithilfe der Chiaroscuro-Technik und mit der Lichtfarbe einer Kerzenflamme. Phosphoreszierende Streifen im Bodenbelag dienen der diskreten Führung des Blicks bei der Annäherung an die Kirche, ohne den für die Hervorhebung der Kirche notwendigen dunklen Hintergrund aufzulösen.



LICHTPROJEKTE IN DER PRAKTISCHEN ANWENDUNG

Der Praxisteil des Workshops stand unter der Schirmherrschaft der Heiligen Metropolis von Syros und widmete sich der architektonischen Außenbeleuchtung von drei Kapellen in der Altstadt von Ioulis, der Hauptstadt der Insel Kea. Die drei Projektteams wurden von folgenden Experten geleitet:

- Lara Elbaz, Leiterin des Masterstudienganges am IED– Europäisches Institut Für Design, Madrid
- Iva Vassileva, Lichtarchitektin
- Christoph Drews, Medienexperte mit Schwerpunkt Videomapping

Für die drei Kapellen kamen unterschiedliche Planungsansätze und Lichttechniken zum Einsatz. Den Projekten gemeinsam war das Ziel, sich im »Skotopischen Lichtdesign« zu üben.
Im Falle der Kapelle des Heiligen Antonius wurde der sakrale Charakter des Innenraums durch künstlerisch verarbeitete Projektionen auf der Fassade abgebildet. Bei der Kapelle der Heiligen Dreieinigkeit wurde die Schattenprojektion eines Baumes auf der Eingangsfassade zum Ausgangspunkt für eine Inszenierung mit dynamischem Licht. Es scheint aus den Fenstern der Kirche heraus und geht entlang der Straße in warme Farbnuancen über. Bei der Kapelle des Erzengels Michael wurde die Chiaroscuro-Technik angewandt. Durch die gezielte Aufhellung nur kleiner, ausgesuchter Flächen bzw. Konturen des Baukörpers entstand ein beeindruckender Hell/Dunkel-Kontrast. Ein phosphoreszierender Pfad zu Kapelle sorgte für mäßiges Licht in der Umgebung. Diese sehr wirksame und attraktive Lichtlösung bewegt sich an der unteren Schwelle des mesopischen Bereiches. Sie generiert also beträchtlich niedrigere Beleuchtungsstärkewerte als bei entsprechenden Anstrahlungen üblicherweise herrschen. Lichtmessungen, die von Dr. Günther Wuchterl mit besonderen lichtmesstechnischen Geräten der Kuffner Sternwarte Wien ausgeführt wurden, haben bewiesen, dass die angewandten nachtfreundlichen Beleuchtungstechniken bei allen drei Projekten nur vernachlässigbare Lichtemissionen hervorrufen. Die am Boden und in 2 m Höhe über dem Boden gemessene horizontale Beleuchtungsstärke ist bei allen drei Kapellen viermal niedriger als die bei Vollmond zu erwartende Beleuchtungsstärke und liegt in etwa der Größenordnung der mittleren Mondbeleuchtungsstärke für die geografische Breite der Insel Kea für Oktober (41 mlx). Im Projekt »Erzengel Michael«, das phosphoreszierende Anstriche verwendet, wurde dieser Wert sogar um den Faktor 2 unterschritten. ■

Weitere Informationen:
Die nächste Veranstaltung »Rethink the Night!« auf Kea findet vom 10.-14. Oktober 2016 statt.
Anmeldungen unter www.rethinkthenight.com
Fotos: Rethink the Night

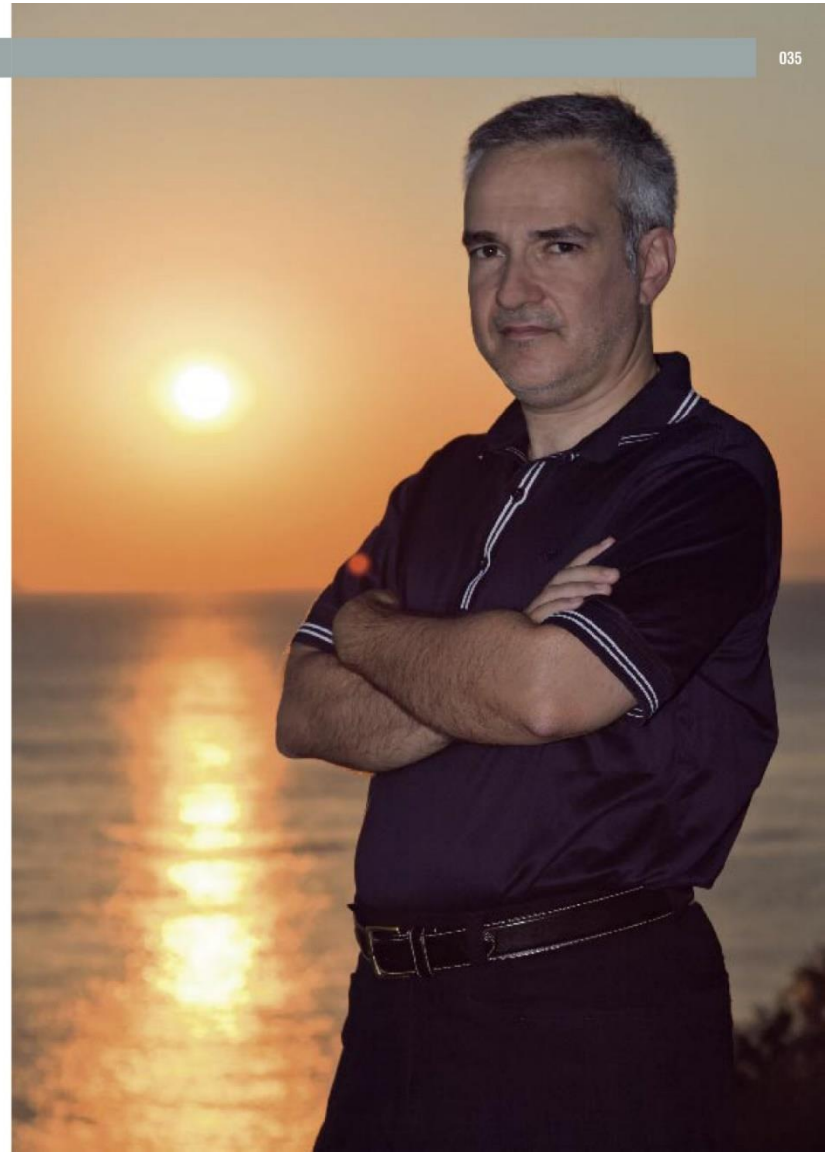
Abb. 3: Kapelle des Heiligen Antonius. Momentaufnahme von der Projektion eines bewegten Bildes auf die Kirchenfassade. Die hingebungsvolle, fromme Atmosphäre des halbdunklen Innenraumes der Kirche entfaltet sich nun auch im Außenraum und stärkt die spirituelle Identität des Umfelds der Kapelle.

Abb. 4: Kapelle der Heiligen Dreieinigkeit. Die Schattenprojektion eines Baumes auf die Kirchenfassade beschränkt die beleuchtete Fläche der Frontfassade auf ein Minimum, so dass diese nicht gegen die hinterleuchteten farbigen Glasfenster der Eingangstür antritt.

Abb. 5: Messungen der horizontalen Beleuchtungsstärke entlang der Route von der Kapelle des Heiligen Antonius zur Kapelle des Erzengels Michael. Die gelbe Linie im Diagramm zeigt die horizontale Beleuchtungsstärke bei Vollmond.

MEET EL PRESIDENTE ... (PT5)

In the last of our series of interviews with lighting association presidents, Paul James talks to Georgios Paisidis, newly installed president of the Professional Lighting Designers Association (PLDA) following the early resignation of Martin Lupton

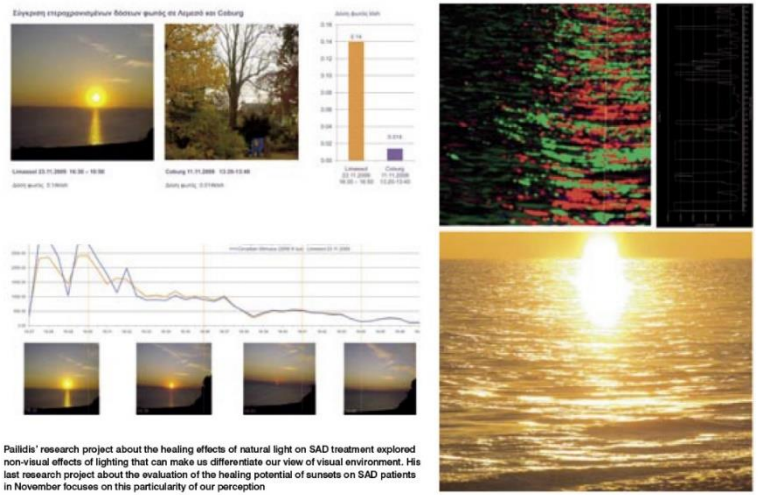


"IT IS MY DUTY TO ALSO REPRESENT LIGHTING DESIGNERS WHO ARE NOT YET MEMBERS OF PLDA. THIS IS THE ONLY WAY TO BECOME LARGER, STRONGER AND FIRST AND FOREMOST DEMOCRATIC IN OUR ATTEMPT TO REPRESENT LIGHTING DESIGNERS ALL OVER THE WORLD."

The president of the PLDA was due to be third in our series of interviews with the heads of the lighting associations. But that was in June and our subject was to be Martin Lupton who was tending his resignation a year early to concentrate on his new venture, the Light Collective, with PLDA UK coordinator Sharon Stammers. While the association has been in a state of flux with such high profile resignations (plus the retirement of Alison Ritter as director, replaced by Wim Aalders, Export Manager at We-ef) and criticism from within the organisation for a lack of transparency, a steady hand has quietly come in to steer the ship through choppy waters. His name is Georgios Pailidis, a Greek lighting designer and scholar who, whilst not being the most high profile of presidents, believes he can be a vanguard of revolution for the organisation.

"The growth of PLDA from a small European family to the current state of some 800 members within only fifteen years was surprisingly fast," comments Pailidis. "On the one hand it was a a successful growth but on the other hand this stochastic growth resulted in an obvious representation asymmetry. Italy, with a population of some 60 million, is represented in the PLDA General Assembly by only eleven professional members, while Germany with a population of some 80 millions by 30 professional members. In other words Germany possesses a threefold representation while its population is only 30% higher than that of Italy. "France, with a population of some five million higher than that of Italy, is represented by half of the number of members. Finland, with only 8% of France's population, is represented with the same number of voting members.

"This asymmetry in the representation of different countries doesn't mean that France or Italy have less renowned professional lighting designers. I also can't believe that Spain has only one professional lighting designer for every twelve million people because it is represented by only four voting members in the General Assembly. The same thing happens with Greece, where I come



Pailidis' research project about the healing effects of natural light on SAD treatment explored non-visual effects of lighting that can make us differentiate our view of visual environment. His last research project about the evaluation of the healing potential of sunsets on SAD patients in November focuses on this particularity of our perception

from. There is still a lot of work to be done in order to correct this asymmetry."
So how will he right this imbalance?
"It makes my job difficult as I feel it's my duty to also represent lighting designers who are not yet members of PLDA. This is the only way to become larger, stronger and first and foremost democratic in our attempt to represent lighting designers all over the world. My purpose is not to belong to a self confident majority but rather to assimilate idle dispersed minorities, which I understand as our potential force and the potential majority of tomorrow. My origin helps me at this point as I don't have a problem being part of a minority. What else are Greeks if not a minority in this world? The majority is a threat to democracy and equally to success, which is always an enemy to talent. Majorities want to express themselves by means of power, while democracy thrives on unbiased dialogue among minorities. The result of democracy should be a composition of opinions not the victory of a violent majority over suppressed minorities."
When asked about the current situation of the PLDA and the hole left by the sudden resignation of Martin Lupton, Pailidis is equally philisophical.
"Every resignation on earth is a surprise as it constitutes an unexpected development compared to what was initially planned. I couldn't be happy with such an unexpected development. And I haven't met anybody who was happy with this development either.
"On the other hand I was well prepared as I was confronted with my first surprise in PLDA very early on: I was the only candidate for President! Some members nominated me and I was asked if I would accept the nomination. I responded positively just to enhance democracy by offering an additional election choice among others in the relevant process. I never expected to be the only candidate and to become President of PLDA as I failed in being elected Director of Education one year ago."
If he sees his new position as a poisoned chalice following the criticisms by Past President Gad Giladi who lambasts the association for 'a total lack of transparency', he is not showing it.
"These comments wouldn't be so important if they were said by anybody else other than a Past President of PLDA like Gad Giladi. I prefer to distinguish what is said from who is saying it. It is much better to focus on the question if PLDA lacks or possesses full transparency. If I answer with a yes or no as President I am violating the major duty of a President, which is to represent all members of our Association if not potential members, who are still reluctant to join us. I don't know if our members know everything about PLDA governmental structures and their historical background and I also don't know if members are interested to know everything. However *mondo*arc* serves the purpose of transparency at this moment with this interview by giving me the opportunity of talking about collective responsibility."
So he does concede that there is a problem of transparency within PLDA...
"Problems of transparency always emerge in large governmental structures like Russia, where Gorbachev introduced Glasnost policy against corruption. In my view PLDA can't be compared with Russia or Liechtenstein. We have some 170 voting members. This is not such a large community. Since this community participates in PLDA governmental activities, sharing relevant collective responsibility, transparency is immediately achieved. There is no need to inform members about their own activities in such a case. Even if all these voting members participate in an AGM and decide for some 200 Design Members without a voting right the result will not be representative. And as members come from all over the world and have to finance their trip to Milan or Frankfurt to attend an AGM they are not encouraged to do so, in particular when they are not allowed to vote.
"A first measure to rectify things would be to allow Design Members to vote. This is not easy. According to the Statutes they can't vote and they can't demand their rights. Anyway, participation remains the only key to transparency for PLDA. I am wondering how many Professional or Design Members visit Milan or Frankfurt (during Euroluce and Light+Building) and how many of them are absent from the AGM. I can conceive more than 50% of members abstaining from decision making in an innovative way outside the hall of the AGM without being registered as abstaining members. This is also a form of intransparency but not intentional.
"In this regard a transparency deficit shouldn't be handled as a crime. It is only a flaw of a governmental system, which makes it less efficient because it deprives it of faith. I will be open to any proposal how we can enhance transparency, if not participation, as nobody is against both. To creative proposals, not to criticism. From members and not from journalists."
But there is life other than the PLDA and Paisidis is particularly active in research exploring the affects of lighting on health. His company, Stilvi founded in 1995, is the leading organisation in Greece in this sector carried out through its participation in international consortia. Combining highly technical and scientific knowledge of illuminating engineering with a creative and artistic approach to lighting design, Stilvi is capable of working out unique and original lighting concepts for a very wide range of lighting design, light art and research projects.
His research activity is orientated to the fields of daylight, light guiding systems and optimisation of light propagation which, for him, is an indispensable tool for the development of truly modern and innovative lighting applications and, at the same time, the basis for a longlasting and sustainable superiority. This has led him to a particular field of research relating to the perception of light.
"My lighting heroes are blind people. Their imagination makes the world emerge from the darkness. Their inspirations are relieved of visual illusions and allow them an immediate relation to truth. They are completely blind, while we are only partially blind, as we can't perceive bacteria and microbes floating in the air due to certain limits of our visual acuity and we can't perceive infrared or ultraviolet radiation. Nevertheless we have the illusory impression that we can see everything. This is a sort of arrogance. Conversely, blind people are not exposed to such an extent to this form of arrogance."
So how do those of us who are fully sighted overcome this 'arrogance'?
"By exploring our underestimated and possibly disdained blindness resources. The eye isn't necessarily the most important and surely not the sole part of our body. There-

Above **This concept of Light Art in Heraklion, Crete during the Olympics in Athens 2004, is a contemporary expression of the icosahedron invented by Archimedes and determines the way the soccer ball is put together** ***Below*** **Pailidis also lit the Venetian Fortress at the Harbour of Heraklion during the Olympics, which welcomes the incoming ships, and has now also become a nighttime orientation spot for residents, visitors and seamen**

CURRICULUM VITAE

Education
• 1989-1991 Ph.D. on light measurement problems, Faculty of Architecture, Technical University of Athens; Subject: "Development of a photometrical measurement method of practical value in Lighting Design"
• 1985-1988 First degree, Electrical Engineering, Technical University of Berlin, specialised in Lighting Design in the Faculty of Environmental Engineering
• 1983-1985 Vordiplom degree, Electrical Engineering, Technical University of Stuttgart

Positions
• 1993 - present: Managing Director of Stilvi Ltd., active in Lighting Design and light and colorimetric documentation for certification and development purposes

Research
• October - November 2009: Investigation of the healing potential of natural light in Cyprus / Limassol for SAD treatment
• November 2009: On the biological impact of primary not accordingly weighted visible radiation, in collaboration with psychiatrical clinic of the University of Vienna, University of Veszprem, Multimedia Institute, Agricultural University of Athens, Institute for Molecular Biology
• Ongoing: On the light potential of bulding materials performance of spectroradiometric measurements on building materials and determination of lighting quality of highest colour purity (till present), financed by Stilvi Ltd;
• 2004 - present: Production of sun shading blinds in transparent water container of prismatic shape, financed by Stilvi Ltd. First results were presented in Lux Europa in Berlin In September 2005
• 2001-2004: Participation on the European Union Research project NNE5-2000-00326, Subject: Holographical Optical Elements for High Efficiency Illumination and Solar Control, financed by the European Union
• 1997: Production of hollow light guide for directing sunlight in a windowless room in collaboration with the Institute for Actinometry of NOA (National Observatory of Athens), financed by the Ministry of Development, Secretariat for Research and Technology
• 1992-1993: Research management in army centre for research and technology , colorimetric evaluation of camouflage colours in diverse backgrounds
• 1991: Production of a Goniophotometer with fixed detectors
• 1987-1988: participation as student assistant in research project at the Technical University of Berlin financed by AEG/Daimler BenzSubject:Development of criteria for the lighting of workplaces for visual control of assembly line

Professional Bodies / Committees
• Present: President of PLDA
• Present: Member of IENE (Institute of Energy for South and East Europe) Technical Committee on Optimisation of Energy Efficiency Measures
• 2006: Member of scientific committee of Urban Nightscape Conference, Athens
• 2004 - present: Member of TC 5-21 Subject: Urban Nightscape of the International Commission on Illumination CIE
• 2004 - present: Scientific Committee Member of the International Conference for Urban Nightscape
• October 2004: Delegate on behalf of Hellenic Organization for Standards (ELOT) in ISO/IEC 19839 Subject: Colour Rendering in Office Devices
• 2002 - present: Chairman of TC 5-1/EFE of National Commission on Illumination, Subject: Urban Nightscape
• November 1991: Delegate on behalf of CIE in ISO/TC 180 Subject: Solar Energy

PUBLICATIONS
magazine PLD 4/ 2005

Triad in light

The beauty of the Olympic City of Heraklion is revealed after dark.

Text: Georgios Paissidis
Photos: Georgios Paissidis

The East Arsenal in the Olympic city of Heraklion/GR is one of the most important architectural remains of the Venetian time. Situated on the sea coast, in direct neighborhood with the old harbor, it is inseparable part of the city and its night life, especially when its three-colour quality evolves as darkness falls.

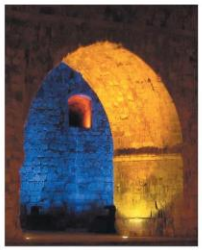
The project in Heraklion is a good example of how lighting can enhance the quality of a simple underpass – from a design point of view and with regard to the users' feeling of safety. During the daytime the 70-metre long arcade is practically invisible within the urban scenery. At night it becomes a real eye-catcher.

Coming from the port or the airport you cannot miss the remarkable presence of the 70-metre long illuminated stone structure. Mainly used as a passenger area the tunnel offers not only a connection between important city sites but also a pleasant atmosphere with views out onto the sea through its rhythmically arranged 4.5-metre high arches.

The cylindrical tunnel space, hidden in dark shadows through the day, reveals its beauty in the night hours. It becomes a vivid place where people and light meet, a place of contrast of bright and dark, of warm and cold, a point of orientation for passengers and drivers. The main goal in this unusual project was to enhance the form of the monument using shadow, light and colour. Since both exterior and interior spaces of the East Arsenal are part of the city landscape, both were treated, but to appear differently from during the daytime. By day the foreground with the arches is bright and the space inside the structure dark, whereas at night the bright inner hearth of the tunnel is revealed in juxtaposition to the dark foreground of the tunnel "street façade".

Besides enhancing the aesthetic quality of the project, another aim was to enhance its function as a monument. Before this intervention the East Arsenal, which has to serve traffic flow, was completely dark. Now the appearance of the interior space of the arched tunnel is emphasized through gently fading blue lighting on the one side and an interplay of shadows and yellow light on the other. This is in direct relation to how we view the project in the day-

During the day the arcade facade is in the foreground, while at night it is the other way round. The interior space is lit in blue and attracts the viewer's gaze into the depth of the arcade. Apart from the yellow arches, the facade takes a step back and is subordinate to the blue. The coloured light changes the viewer's perception of the structure.



The atmosphere is marked by the extensive lighting of complete surfaces in the different zones and the way they are defined by colour.

light hours when we are used to seeing natural light coming from two components: from the diffuse light emanated by the extensive blue sky and from the yellow focusing rays of sunlight. The light that reaches us on earth is white, however. The same occurs in the inner space of the East Arsenal in the Olympic city of Heraklion. The yellow light covers only the restricted inner surfaces of the arches with an average luminance of 70 cd/qm while the blue light covers the ten times larger wall surface of the gallery with a respectively lower luminance of 7 cd/qm. Both coloured lit surfaces contribute to make white light, which seems to be warmer near the arches and colder near the wall of the gallery with typical coordinates x = 0.41 and y = 0.38 in the centre of the passageway. For remote observers the environment is colourful and spectacular, while this combination of colours actually fulfils the functional requirements laid down for neutral white light as an energy efficient lighting installation designed to form part of the urban nightscape. The average illuminance in the gallery is about six lux with an exemplary uniformity of 0.80 in the walking area. The blue colour appears in the background of the arches and enhances the feeling of depth.

Blue colour, favoured because of its brightness sensitivity under the created mesopic conditions, has been achieved using 70 watt blue metal halide lamps in inground projectors with asymmetric light distribution, while for the yellow light one dichroic filter has been applied to change the colour of the 70 watt metal halide lamps in inground projectors with symmetric light distribution. Due to the spectral selectivity of the dichroic filter the light features a smooth degradation from its darkest zone at the foot of the arches to the top of the same. Both projectors operate with the same control gear type (ballast and ignitor). The diagonal arrangement of the recessed projectors for each arch enhances the sharp view of the monument from the castle location where only one side of the arch is visible, and projects asymmetrical shadows on the ceiling. This conveys a feeling of holiness reminiscent of the architecture of medieval churches in Genoa, which predominantly influenced Heraklion's history. At the same time, the light is appropriately distributed to address the askew form of the arches, the walls of which are not parallel to each other and not vertical to the wall behind.

The top has been lit by red 35 watt T5 lamps. Due to the indian red colour of the top, the reflected colour reaches a saturation of 82 per cent with the respective x = 0.59, y = 0.35 coordinates approaching the edge line of the colour map. That way the luminance of the top at just 30cd/qm seems to be very bright, because we confuse the brightness with the intensity of the colour appearance/chromaticity.

Thus the mathematics of light enabled the creation of poetry in light in the Olympic city monument. The Eastern Arsenal of Heraklion has become a part of the urban nightscape and stands in proud dialogue with its surroundings. Even the smallest details give an indirect connection to nearby monuments. The differentiated orange color in the small opening in the tunnel is exactly the same as that of the openings of the Castle on the other site of the harbour. Additional reflections in the water create a means of communication with the surroundings and the people.

The East Arsenal project was completed the summer before the Olympic Football Games in Heraklion. The lighting design team was headed by Dr. Paissidis and Sotiris Bravos from the design practice Stilvi in Athens together with architect Iva Vassileva. This intervention is part of a larger scale project, namely the Heraklion Night Lighting Master Plan. Together with the illumination of the Castle in the sea it set the beginning of a new era for the night life of the capital of Crete.

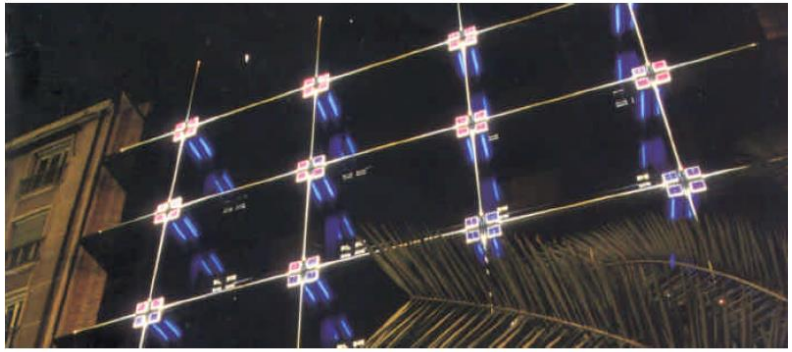
Project team:
Lichtdesign:
Georgios Paissidis, Iva Vassileva

Products applied:
Coloured lamps: BLV
White lamps: Osram
Es-system

PUBLICATIONS
magazine PLD 7/1999

Diskrete Kompetenz und modernes Image

Piräus Prime Bank in Athen/GR - ein Beispiel für progressiven Konservatismus



Erst bei genauem Hinsehen läßt sich die Lichtinstallation er kennen. Sie ist ein Spiel mit der Dreidimensionalität und den menschlichen Erfahrungswerten der Optik

In der Betrachtung internationaler Bankenarchitektur bekommt man nicht selten das Gefühl, daß der Wunsch nach einer Präsentation von Diskretion und Vertrauen einerseits und modernen Geschäftsgebaren andererseits oftmals zu einem architektonischen Krampf führt. So endet man häufig in der Erkenntnis, daß es von Vorteil ist, wenn der Anblick von Banken zumindest nachts verborgen bleiben, weil das gestalterische Geschick über Protz nicht hinausgeht. Besser ist, wenn man Licht einsetzt, um ein Image zu verbreiten, das High Tech und tiefgehende Kompetenz in sich vereint und zumindest der optische Umgang mit einer Bank zu einem Genuß wird.