

the Architect

The official journal of the Kamra tal-Periti



Issue no. 34 | Autumn 2005

IN EVERY ISSUE



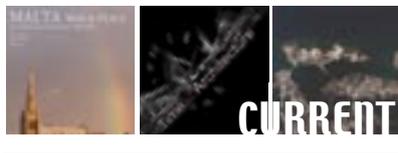
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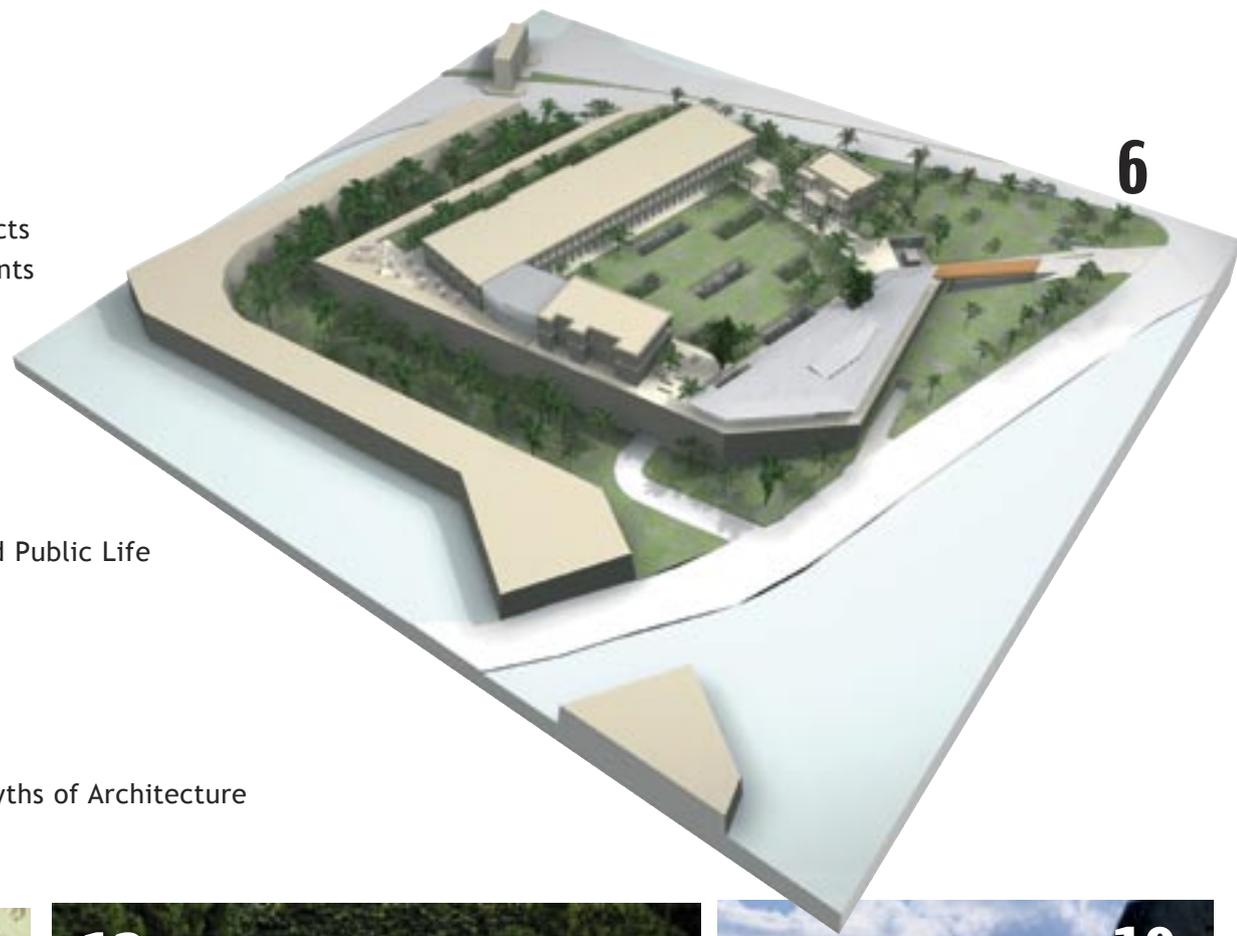
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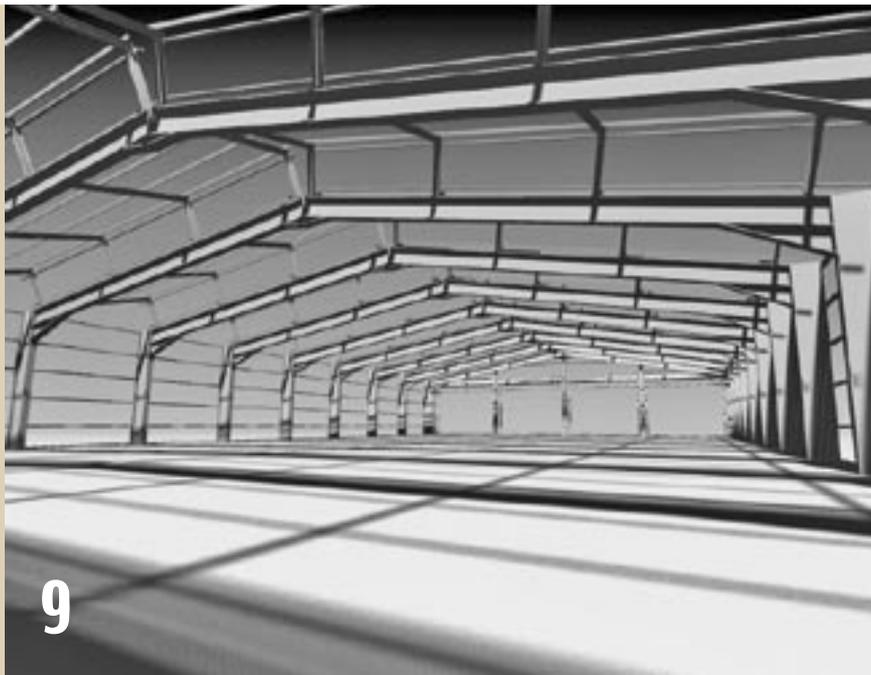
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“Architecture is an art form which can and should inspire people”

George Pullicino

The Interest of the Nation

Fifteen months ago, in parallel with the re-launch of The Architect, the KTP opened a discussion on the merits of the development of a national policy for architecture. The event was very well attended and included presentations by representatives from both sides of parliament; even at those early stages, the KTP believed that, for this venture to go anywhere, it needed the support and the participation of the policy-maker. I remain unsure as to whether the need or otherwise for such a policy was actually discussed on that day. On the other hand, that event, a Business Breakfast organised by Newworks, now Mediatoday, the publishers of this journal, certainly helped the KTP achieve another of its goals, that of putting Architecture solidly on the national agenda and to carve out a space, at the cultural level, for open criticism on the quality of our built environment.

Strange, is it not? In a country where the built, artificial environment dominates the landscape, where the construction industry ranks practically alongside tourism and the services sector, where the economic impact of the value, perceived or real, of land and buildings, are all topics for continuous discussion, whether at cocktail parties, in parliament or the grocery shop next door, if you still have one that is, the general requirement of quality of our buildings seems to remain at an almost trivial level, superfluous to our real daily needs, even though it is known that we spend most of our time in buildings, and most of the time outside them, looking at them.

But back to that Business Breakfast; you may also remember that the effect rippled on for a few weeks. There were letters in the press, opinion makers giving their...well, opinions. And, just when it seemed to be all over (I remember someone then asking me, what's all this? Why is everyone suddenly interested in design, in quality, even in Architecture?!), hey presto another Business Breakfast (what a combination, I wonder who thought this one up? Business for breakfast? Breakfast for Business? Can't think on an empty stomach?), again with another issue of tA, more politicians talking about architecture (great, isn't it?), and another hot discussion, this time on the future, if any, of the Opera House site. Yet again, more exchanges, particularly in the printed media, anybody who is considered to be anybody, or considers himself or herself to be anybody, now had an opinion about anything loosely connected to architecture. Hmm...we're onto something here... or was it maybe that we (the greater we, not we as architects) were actually always interested, we just didn't have the time, space, energy, to express ourselves in this regard?

In fairness there were other issues which we, at tA and at KTP, brought up that we thought would cause a stir. They didn't. Our disappointment was equivalent to the enthusiasm that drove us forward with the discussion on the issues mentioned above. There were the items in Planning Watch in tA(it's only taking a break this time round, due to volume of space we wished to dedicate to Timeforarchitecture in this issue), cases like the Qala school redevelopment, the regeneration of St. Anne's Square in Sliema, those raised in our interview with Chris Abel in tA of Autumn 2004. And many more. Why did these not raise as much as an eyebrow? Was it that these were issues that interested only the few? Or were they simply not 'sold' well enough?

Nine months later, we find ourselves in the middle of an event, Timeforarchitecture, that is, mostly, an experiment, but also a commitment to a process that the KTP believes in and that will grow if proper support is forthcoming. It also ties in neatly with the soon to be launched roadmap for a National Policy for Architecture; already this has achieved the unequivocal and much valued support of Prime Minister Dr. Laurence Gonzi and Leader of the Opposition Dr. Alfred Sant. The KTP has actively participated in meetings of the European Federation of Architectural Policies in Rotterdam, Luxembourg and soon in Edinbrough, within the structures of the Architects' Council of Europe, the newest mother organisation to which the local profession looks at for advice and inspiration.

Talking about inspiration, we can all learn a lot from those special words written by Quentin Hughes which will be worth reproducing here, originally carried in the Architecture Review special on Malta in 1969, and repeated in that first Business Breakfast of June 2004;

"Malta is a test case of whether our generation, with its increasing leisure, mobility and taste for foreign travel, is capable of dealing sensitively and intelligently with an environment it takes over as a playground, or whether it only knows how to exploit such an environment commercially until its charm and character have gone, and then move on to do the same elsewhere."

Only the pessimists out there will claim that Quentin Hughes' words are not relevant today as much as they were then.

David Felice

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KAMRA TAL-PERITI

To support members of the profession in achieving excellence in their practice of architecture and engineering in the interest of the community

The Council of the Kamra Tal-Periti for the year 2005 consists of David Pace (President), David Felice (Vice-President), Keith Cole (Secretary), Alfred Briffa (Treasurer) and Council members Anthony Fenech Vella, William Lewis, Lawrence Mintoff, Edgar Rossignaud, Alberto Miceli Farrugia, Bianca Vella and Guido Vella.

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Cover: Time for Architecture

EDUCATIONAL SYSTEM

Dr.Alex Torpiano's letter (tA, Summer 2005) raises a number of valid points concerning the Bachelor degree course in Architecture and Civil Engineering provided by the University of Malta. It is indeed disappointing that there was no debate on this matter, especially since our educational system has now been hitched to the European network of training facilities for architects in line with the Architects' Directive and with the right of reciprocal automatic recognition of academic qualifications. There is a need for a healthy dialogue on the organisation of the course, its philosophy, and its relevance to the training of our 'periti' now and in the foreseeable future. First of all, I am in complete agreement with Dr. Torpiano's assessment of the validity of our bi-disciplinary course structure combining architecture and civil engineering. This structure responds to the country's need for a supply of professional expertise in the construction industry. The experiment in the 60's to divorce the two disciplines and produce separate professions of architects and

civil engineers on the British model failed since there was no legislative framework to allow both professions to practice independently, with the result that the civil engineering graduates had to follow a further course in architectural training to obtain the necessary academic qualifications recognised at law for obtaining a warrant.

I strongly believe that there is still no need in Malta for two separate professions, notwithstanding any moves apparently being made in the Faculty in favour of such a separation. The current system works well, with first degree graduands providing the 'general practitioner' level. Further specialisation can be obtained either locally or abroad according to the area of specialisation chosen. Access to EU universities is even more attractive now, following Malta's accession.

Dr. Torpiano makes reference to the Bologna Declaration in the context of the degree system which could be adopted as an alternative to the present system. I would be hesitant to follow the Bologna Declaration's proposals blindly, at least where our profession is concerned. This is because the litmus test for courses in architecture (and I have to be pre-

cise in stating that this applies only to this discipline) is not in conformity with the Declaration but with the Architects' Directive. This emerges clearly from recommendations made by the Advisory Committee on Education and Training of Architects (ACETA) in relation to new courses proposed by training institutes of EU member countries. ACETA is an EU advisory body on architectural training. It is composed of a delegation from each member country. Each delegation is composed of three members representing the administration, the profession and the academic sector. It meets every time that a proposal by an EU member state to include an architecture course in the list of recognised courses is challenged by another member state.

Representatives of the Ministry for Resources and Infrastructure, the Faculty of Architecture and Civil Engineering and the Kamra tal-Periti are participating in preliminary meetings in order to adopt a common position on the proposals up for debate at ACETA level. This is indeed vital since it provides a unique opportunity for exchange and information at the highest European level which is crucial for the profession locally to remain abreast of developments.

As Dr. Torpiano correctly points out, our course structure is not unique. Besides the courses he mentions, the Austrian and German systems closely resemble ours. On graduation however, the choice is made whether to join the architectural or engineering profession as they are two separate professions. What is needed is a strengthening of our course structure not its dismantling. I would venture to state that if properly reorganised and led, our Faculty could easily compete in the European market in offering courses in Mediterranean architecture and construction.

Although the Warranting Board is now processing requests from graduates and professionals belonging to other EU countries, the core subjects which form the basis of the assessment have been taken from our local course. In practice therefore, our warranting process is closely tied to the local academic process, which in a sense is logical, but poses certain problems with applications from other countries at present. Until such time as changes take place, the Warranting Board will have to adopt the local yardstick based on the core sub-

jects, in assessing applications. I therefore disagree with Dr. Torpiano, since the Warranting Board, according to present legislation and assessment standards adopted, cannot but seek to ensure that the bi-disciplinary structure of the course is reflected in the experience and knowledge gained by the candidate, albeit with allowance for a deeper knowledge of certain subjects in relation to the rest. As for foreign applications, I do not believe that the solution lies in the granting of an 'ad hoc' warrant to every Tom, Dick or Harry who applies and insists on being granted a warrant when our system does not provide for it. The solution lies in an integrated approach which would permit the recognition of specialisations, and here I once more agree with Dr.Torpiano's view on the retention of the singular warrant system.

At present, the warrant entrusts the 'perit' with the responsibility for the structural integrity of our buildings. I believe that in this age it should be extended to cover the environmentally-sustainable performance of the building according to preset standards. This will reflect the responsibility the 'perit' already carries and which will increase with the gradual coming into force of the building regulations.

Perit David Pace, President KTP

WHAT'S IN A NAME?

Having read Prof. Alex Torpiano's contribution in the last issue of "the Architect" about the possibility of instituting a bachelor's degree in the built environment, and encouraged as I am by Prof Torpiano's pacific attitude towards opinions in respect of the name that should be given to such a degree, may I make so bold as to advance my preference for such.

I propose that the degree should be known as BaBE and that all graduates should be required to write this acronym after their name always, penalty the withdrawal of the degree.

Yours sincerely,
Perit Amadeo Mifsud

Letters from our readership to be considered for publication are most welcome. Letters for inclusion in Issue 34 are to reach tA by the 15th November 2005. Please write to: The Editor, 'the Architect', Kamra tal-Periti, The Professional Centre, Sliema Road, Gzira GZR 06 or send an email to thearchitect@ktpmalta.com. All contributions will be acknowledged.





TIME FOR ARCHITECTURE

By the time this issue of tA is published, Time for Architecture would be in its eighth day. This initiative, organised by the Kamra tal-Periti and SACES, under the patronage of the Minister for Tourism and Culture, is aimed at bringing the architectural debate in Malta to the forefront and to serve as a platform for such debate to continue and unfold.

The exhibition of work by local periti and students runs until Friday 7th October at the Auberge d'Italie. The vast range of projects on display is a testimony to the diversity of approaches to building design, as well as a snapshot of the profession at this time.

A full report on the event will be carried in the Winter issue of tA. On behalf of the KTP Communications Standing Committee and SACES, the editorial team thanks the main sponsors of this event: AON Malta Ltd, Elmo Insurance Brokers Ltd, Malta Environment and Planning Authority, Ministry for Rural Affairs and the Environment, Schembri & Sons Ltd and Vassallo Builders Group Ltd.

For further information on the events visit HYPERLINK "http://www.timeforarchitecture.com" www.timeforarchitecture.com

PERIT ANTHONY ZAMMIT

Anthony Zammit passed away on the 16th September. On behalf of the Kamra tal-Periti and its members, the tA editorial team extends its condolences to his wife, children, family and friends.

EXTENSION TO MEPA OFFICES

Four submissions were received by the MEPA for the design of an extension to the Authority's offices in Floriana. These were submitted by Architecture Project, David Xuereb and Associates, Doric Studio u



Mangion & Mangion and Partners. The competition was won by the submission presented by Architecture Project. The judging panel deemed this to be the project that sought most to integrate the existing buildings with those being proposed. The proposal contemplates the erection of a building that would serve as a customer care base in the area currently occupied by the main entrance, security post and part of the parking area. The extension of the offices would be at an



underground level in the central part of the site, while innovatively integrating elements of daylighting, ventilation and landscaping into the design. Moreover, the amount of parking space proposed by the project would be significantly increased.

Extract from the design concept submitted by Architecture Project: "The building representing MEPA should set an example for, and be an inspiration to, anyone contributing to the reshaping of the Maltese environment, and in particular those involved in the building trade.



It should be a building that is minimal, unpretentious and well-mannered, which is at the same time rich in spatial experience and sensitive to its historical and natural context. Our vision is that of 'an invisible architecture that enables the creation of continuous space without any apparent form.'

BEPIC SEMINAR

The Built Environment Professions in the Commonwealth (BEPIC) will be presenting a seminar prior to the Commonwealth

Heads of Government Meeting (CHOGM). This seminar will be held on the 22nd November 2005.

The Seminar will deal with "Spatial Knowledge and Land Economy in Achieving Sustainable Development", as well as "Construction Professions Working Together to Ensure Environmental Sustainability". Speakers will include George Martin, Director of Sustainability BRE, UK, and Llewellyn Van Wyk, President of the Commonwealth Association of Architects (CAA). Paul Fleming, Professor of Energy Management and Assistant Director of the Institute of Energy and Sustainable Development will also give a presentation entitled "Local and regional initiatives to reduce carbon emissions; a multi-disciplinary approach".

FUTURISTIC DESIGN WINS COMPETITION FOR NEW ANTARCTIC BASE

A futuristic design by Faber Maunsell and Hugh Broughton Architects has won the competition for the new British Antarctic Survey (BAS) Halley Research Station. In a very close-run contest, three finalists presented their ideas to a Jury Panel, technical advisory panel and BAS scientists. Each scheme proposed an exceptional solution for living and working in this extreme environment.

The new modular station, elevated on



ski-based jackable legs to avoid burial by snow, can be towed across the ice. The modules are simple to construct and can be re-arranged or relocated inland periodically as the ice shelf flows towards the sea. A central module packed with stimulating areas for recreation and relaxation is flanked by a series of modules designed to suit the changing needs of the science programmes. It features renewable energy sources and new environmental strategies for fuel, waste and material handling.

The first phase of construction at Halley will commence in January 2007 with



handover to British Antarctic Survey in December 2008.

For more images and information visit www.antarctica.ac.uk

LIVING STEEL INTERNATIONAL COMPETITION FOR SUSTAINABLE HOUSING

Living Steel is a five year worldwide programme created to stimulate innovation in the design and construction of housing. Living Steel is managed by the International Iron and Steel Institute (IISI) on behalf of the programme members. Current members of Living Steel include Arcelor, Baosteel, BlueScope Steel, CELSA Group, Corus, Erdemir, IMIDRO, Mittal Steel, Posco, Ruukki, and Tata Steel, The European Convention for Constructional Steelwork, The Steel Construction Institute, and The International Zinc Association.

The aim of the competition is to design buildings that are able to meet global housing needs while contributing to the economic, social and environmental objectives of sustainable development in two locations (one in India, the other in Poland) and at the same time demonstrating the value and performance of steel in this field.

This is an international competition, by invitation, in one stage, following a pre-selection, open to architects and teams of architects worldwide. Architects wishing to be included in the short-list are invited to submit their expressions of interest to participate in this competition →



INTERNATIONAL EVENTS 2005/2006

24th September 2005 to 8th January 2006

NAI, Netherlands

Team 10 – Utopia of the present: Exhibition



http://www.nai.nl/e/calendar/activities/team10_e.html

26th – 29th October, 2005

Romania

EAAE 2005: Diversity, A resource for Architectural Education
www.iaim.ro/en/eaee2005/



31st October, 2005

London, UK

ICE Conference: Making Energy Efficiency Happen: Action in the housing, building and transport sectors
conferences@ice.org.uk

1st – 3rd November, 2005

Boston, USA

interGLASSmetal/FENESTRATION World 2005
15th Biennial International Industrial/Trade Exposition and Conference
www.igmfw.com

→ by the 1st December 2005.

Further information on participation can be found on www.livingsteel.org

BRITISH CONSTRUCTION INDUSTRY AWARDS

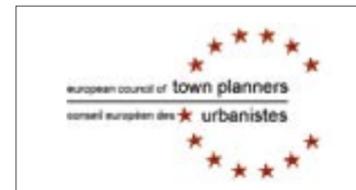
230 entries participated in the British Construction Industry Awards this year. Of these, 28 UK and 6 international schemes were shortlisted. 15 schemes were also shortlisted for the Prime Minister's Better Public Building Award. Winners will be announced on the 13th October in London. For further information visit www.bciawards.org.uk



british construction industry awards 2005

EUROPEAN URBAN AND REGIONAL PLANNING AWARDS 2006

The European Council of Town Planners (ECTP) has invited entries for the 2006 awards. These awards give recognition to



planning strategies, schemes or developments which make an outstanding contribution to the quality of life in urban and rural regions of Europe. The scope of the subjects to be considered for the awards embraces published plans and studies, projects involving community participation, and significant physical development, either at a trans-national, national, trans-regional, regional or local scale. The themes or topics are freely chosen, and do not have to be considered of "European relevance" to be submitted. Full details on how to enter can be found at: www.ceu-ectp.org

2nd November 2005

Victoria and Albert Museum, UK

Lecture: Architecture And ...



Ornament

www.vam.ac.uk/activ_events/courses/lect_debates/architectureand/

7th – 12th November, 2005

Paris, France

BATIMAT - International Building Fair 2005
www.batimat.com

9th November, 2005

Chicago, USA

Mies is More — Learning from Mies



Lecture by Robert Venturi

http://mies.iit.edu/upcoming_events/

18th – 20th November, 2005

Berlin, Germany

Modern Earth Building 2005
www.moderner-lehmbau.com

22nd – 24th November, 2005

London, UK

Civils 2005: Exhibition for the Construction World
www.civils.com

30th November 2005 to 5th March 2006

Toulouse, France

Architecture du Monde: an exhibition of architectural photographs taken by the historian, critic, painter and photographer William J.R. Curtis.
<http://cmav.free.fr/ARCHI%20MONDE/englishlien.htm>

12th December 2005, Kuwait

Gulf First Urban Planning and Development Conference and Exhibition
www.gulfurban.com

15th – 16th December 2005

Edinburgh, Scotland
Architecture Research Futures
Conceptual models for architectural research, trends and problems
www.archresearchconf.com

15th December 2005

Netherlands

Symposium: Tactics for a Changing Metropolis
www.nai.nl/e/calendar/soon.html

25th February 2006

Victoria and Albert Museum, UK
Lecture: Architecture And ... The Moving Image
www.vam.ac.uk/activ_events/courses/lect_debates/architectureand/

1st – 3rd March 2006

Wels, Austria

World Sustainable Energy Days 2006
www.wsed.at

April – July 2006

Victoria and Albert Museum, UK
Exhibition - Modernism:
Designing a New World



ARCHITECTURE AND QUALITY OF LIFE

In 1995, the Architects' Council of Europe (ACE) published the White Book, entitled "Architecture and Europe – Tomorrow". This document facilitated the coming together of all the organisations represented by the ACE, and also initiated the emergence of a number of voluntary national policies in the field of architecture. Since this document's publication, there have been important political developments that have impacted on national and European policies, but little progress in the improvement of the living environment for Europe's citizens. In 2004, the ACE published "Architecture and the Quality of Life", with the principal objective of making politicians, decision-makers and professionals themselves aware of the pressing need to bring together major political goals that encompass progress and competitiveness on the one hand and sustainability on the other, all relating to the quality of life. In an increasingly well-educated and knowledgeable society, people's expectations for the quality of the built environment have risen and the creative resources to meet these expectations have also increased. All parties involved in the future of construction in Europe have the task of recognising and overcoming the unavoidable discrepancy between the demands of the market and the needs of the people.

In an attempt to enhance the involvement of all stakeholders in the construction process, and to communicate the cultural and economic value of good architecture, many European countries have adopted, or have started to develop, national architectural policies, which identify principles that would permit the holistic integration of the key aspects required for achieving quality in the living environment including cultural, social, economic and environmental factors. European architectural policies must bridge the gaps between existing perceptions of the built environment and the reality of present day structures. In an enlarged Europe, the need for common

guidelines for the quality of the built environment will further increase. In 2000, the European Forum for Architectural Policies (EFAP) was founded as a platform for architectural policies, acting as a networking organisation for European governments, professional organisations and cultural institutes.

EUROPE 2010

By 2010, the EU set itself the aim of becoming the most competitive knowledge-based economy in the world. In parallel, the principle of sustainable development must be implemented in all policies of the EU. Moreover, seven Thematic Strategies are to be prepared, amongst which is the Thematic Strategy on the Urban Environment. The 21 Key Messages set out in the ACE's document are intended to make a positive contribution to this process. Today's built environment results from the combination of the accumulated knowledge of past generations with the incorporation of innovative and forward-looking concepts. The built environment records the mood of society more than any other form of cultural expression. Society's economic and social efficiency is made legible through the way it treats its public spaces and through the nature and extent of its construction activities.

THE QUALITY OF THE URBAN ENVIRONMENT

Four of the Key Messages set out in "Architecture and Quality of Life" deal specifically with the urban environment. Cities, while presenting the most complex problems faced by society, are also the best places for the implementation of solutions. 80% of European citizens live in towns and cities, and spend 90% of their time in buildings. Yet an Urban Policy for the EU does not exist. This has historical reasons, as urban policies are still largely a prerogative of the Member States. However, the Amsterdam Treaty has initiated some new developments,

enabling the European Commission to promote and co-ordinate such policies. One of the Key Messages states that "Quality architecture, incorporating the full principles of sustainability, is a pre-requisite for an attractive, viable built environment that responds to the actual needs and legitimate aspirations of our citizens. It must be considered to be a substantial ingredient of well thought out urban policies, not the cherry on the cake."

Where public well being is enhanced by well-designed public spaces, attractive urban districts and extensive recreation areas, it is much easier to attract new businesses and investments. Special mention is also made of the importance of the concept of beauty, which is not just a subjective appreciation of a façade or an object, but a central element of the feeling of well-being that citizens have of the living environment. The psychological effects of being surrounded by beauty assist in the creation of a balanced and well functioning society, and therefore efforts must be made to instill concepts of beauty into the projects that make up the occupied environment.

THE WAY FORWARD

The ACE stresses the importance of the need to move towards the development of an architectural policy for Europe. "Architecture and Quality of Life" sets out the current context within which the spatial development of Europe is taking place. It is now up to the different stake-



holders to react to and pursue the issues raised in this document. The Kamra tal-Periti is actively involved in promoting the drafting of a National Policy for Architecture for Malta. It first launched the idea in a Business Breakfast organised last year and has since achieved the support of Prime Minister Lawrence Gonzi and Minister Zammit Dimech – the Ministry for Culture will be hosting this endeavour with the active involvement of Heritage Malta. The KTP is also holding regular internal meetings to draw up a road-map for the development of this National Policy, which it intends to launch formally in the media in the immediate future.

Perit Simone Vella Lenicker

Related web links:
www.ace-cae.org
www.architecture-forum.net
www.europa.eu.int/comm/regional_policy/index_en.htm

PITKALI FRUIT AND VEGETABLE GRADING STATION

The first thing that came to mind when considering the design for the Grading Station was that a large open space was required, a space free from columns and any obstructions. The space must have plenty of good task lighting for the workers to perform. The best response to this call would be a portal frame with north lighting. The challenge was to steer away from an industrial building that would look like the "traditional" hangar-type building.



The grading station spans 28m in width and 55m in length, along a North-South orientation, with the long walls exposed to East-West sun as the day progresses. The façade is split into eleven panels, respecting the structural portal frames within that keep this structure standing. These faces are oriented at an angle equal to the angle of the saw-tooth roof profile and rise vertically to meet the pitched roof, losing a horizontal joint that is customary in this kind of building. Corrugated sheeting clads these eleven panels, angled equal to the roof pitch. Window slits perforate the station's skin, providing long and thin slits of light punching

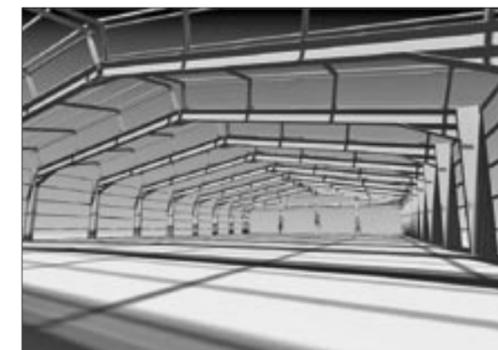
through the station's walls, creating a play of light all over the station's working area. Overhead lighting is nonetheless provided by north facing fenestration within the roof pitch, allowing daylight to come in but not direct sunlight. All corrugated sheeting comes with an insulation backing to minimise heat loss through the station's skin, and is left in its original galvanised steel colour to give a hi-tech industrial touch. Reflecting sunlight and other vivid colours that fall upon the building, project a bold image on a noble job that is battling to keep its head high, in times when we tend to forget that the bulk of our food, our fruit and vegetables, still comes from the same place – the earth itself.

THE STRUCTURE

The structure is a series of thirteen fixed base portal frames at a spacing of 5m. These are tied together by a number of structural members. Attached to the columns are an eaves beam designed to tie the portal frames together and transfer an amount of axial load arising from the gable end picking up wind, as well as six sheeting rails, designed to pick up any wind loading incident on the longitudinal face of the structure, transmitting this load into the column, which in turn is designed to resist a number of wind load cases that are likely to be experienced. A number of triangular elements are bolted to the rafters, in the transverse direction, connected to each other by a number of channel members designed to act as purlins to which corrugated steel sheeting will be attached to enclose the structure. One face of these triangular elements serves as a space to which fenestration can be attached, so as to provide overhead lighting for the workers to perform below. On the other hand, they also serve as lateral restraints to the rafter, shortening its effective length, hence preventing this

member from failing prematurely by lateral torsional buckling occurring under load application. In certain locations, where due to the load case, the free lower flange is in compression, this flange is restrained by knee-braces (or fly-braces) to further reduce buckling of the compression flange due to a rafter being subjected to a situation of high moment and axial load. The first and last bays of the structure are braced to provide building stability against wind loading. Gable posts on the gable ends are designed to pick up any wind loading incident on these walls. Sheeting rails transfer the loads to the gable posts, which in turn transfer their loads to the bracing, not to the rafter. The triangular elements (five per rafter) line up perfectly with each gable post on each gable end. This means that any reactions picked up by the gable post are routed to stiff point provided by the rafter bracing. Reactions from the gable posts were calculated, and rafter and wall bracing was designed accordingly to act as one whole bracing element.

Karl Farrugia
 Thesis Project 2005

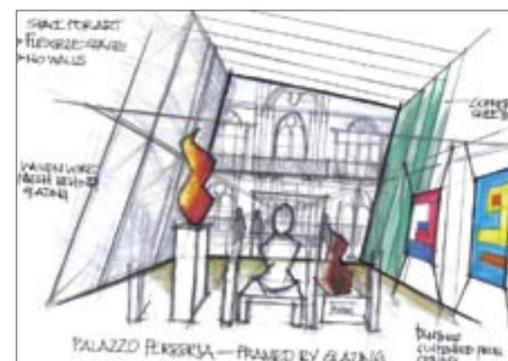


SACES News

During the summer months, the Saces committee has been working harder than ever to organise as many events as possible for the students. Firstly the committee met up with the first year students-to-be, so as to give them an insight to the world of an "architecture student". Quite a few dos and don'ts were pointed out to these students. A booklet containing useful general information was distributed to all Architecture Freshers.

The Saces committee has also been very actively involved with KTP in the organisation of "Time for Architecture". Two events which are usually organised by Saces during the year where grouped up to form part of this event. The Designs exhibition will form part of another exhibition of works by local Periti. This means that students' work is being displayed alongside that of established professionals, and will provide a good opportunity to compare and contrast! This exhibition kicked off "Time for Architecture" on the 28th September, while the annual Saces Workshop will close the series of events. As for the workshop, the committee is working so as to retain the high

level of organisation that was achieved last year. The popularity of this event is increasing exponentially! The location of this year's workshop will be announced shortly, and we assure all participants that it will be ideal for such a sought after event since the site possesses magnificent architectural features that make it an experience in itself. Last but not least the committee is also in the process of doing up a common room for the architecture students thanks to a sponsorship from Go Mobile. Not that we students have much time to waste, but a decent place to relax is much needed! **Gaston Camilleri and Anne Marie Mifsud**



Contemporary Theatre, Valletta; Daniela Valentino: One of the students' projects on display at the exhibition at the Auberge d'Italie

Filfla Chapel

From the Womb of the Earth to the Navel of the Sea

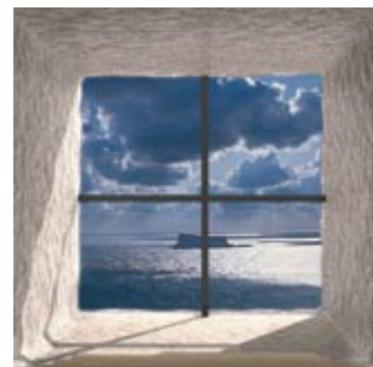


“The idea of the holy was inherent in the landscape from all time.” Paul Devereux

THE ISLAND

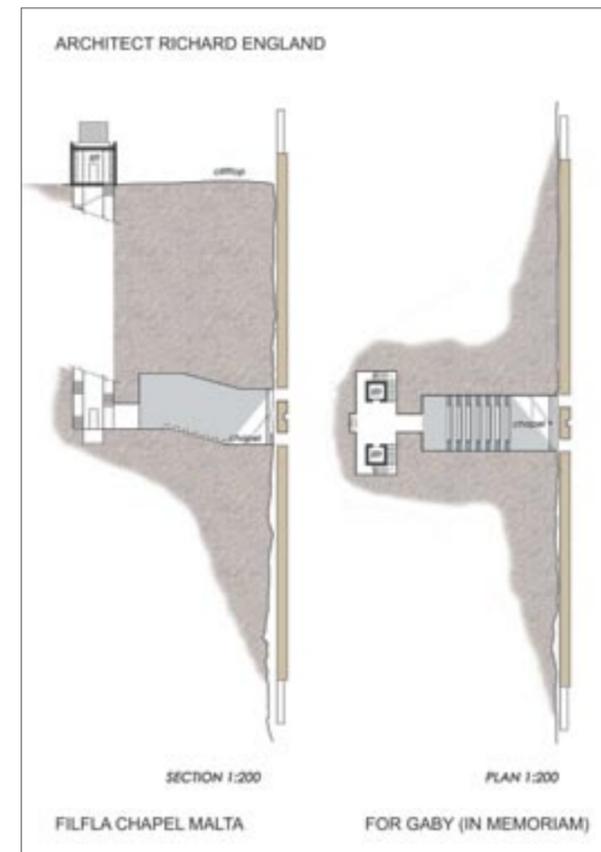
The island of Filfla, a mere 2.5 hectares in area, floats five kilometers off the south coast of the Maltese mainland. Its cleft-shaped silhouette earmarked it as an important alignment altar-stone for the Neolithic builders of the 3500BC twin Megalithic temple shrines of Hagar Qim and Mnajdra on the main island. The upper Hagar Qim structure at one stage turned its axis 900 towards the iconic horned form of this rocky outlet while a twin-figured sculpture of the deity, once projected its enchanted gaze onto the incantatory sacredness of this ossified iceberg. The doorway of the East temple of the lower Mnajdra complex also looks out and aligns its view onto the islet rock as a terminating focal point.

There is little doubt that this horned altar-table was read by the temple builders as a sacred locus, perhaps as a shrine or some form of sentinel of sagacity, warden of wisdom or keeper of knowledge, or even perhaps as a personification of a goddess of the sea. At a time when man's path was defined and directed by the visual forms of the landscape, impregnated as this exiguous rock was, with a unique spirit of place and superimposed with a strong sense of sacrality (its shape is strangely reminiscent of the bull-horn forms found in later Knossos), it must have been a powerful agent for the awakening of Neolithic man's soul and spirit. The Neolithic was a period when man lived in peace and



harmony with not only his brethren but also the whole of the planet itself; a time when the veil between man and nature was thinner and man's perception towards nature was perhaps sharper. Sacred structures of this period were always placed in dramatic geo-physical locations. It is interesting to note that in the 14th century a chapel was built on the island dedicated to the Virgin Mary and mass was celebrated for the fishermen out at sea. The chapel however was destroyed in 1856 by an earthquake. More recently, reflecting modern man's thoughtless disconnectedness from nature, the island was used for target practice by British and other naval forces.

“As ancient standing sacred stones bear silent witness from afar time fulfills the oracle.” (Richard England)



THE CHAPEL

The new chapel project carries the island's previous religious site intensity over to the present day and celebrates a return of reference and respect for nature by man. Once again now space becomes place and place assumes the overlay of sacrality thus making us aware that we



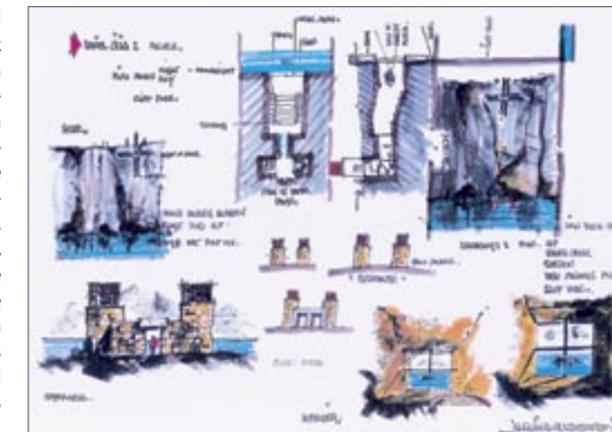
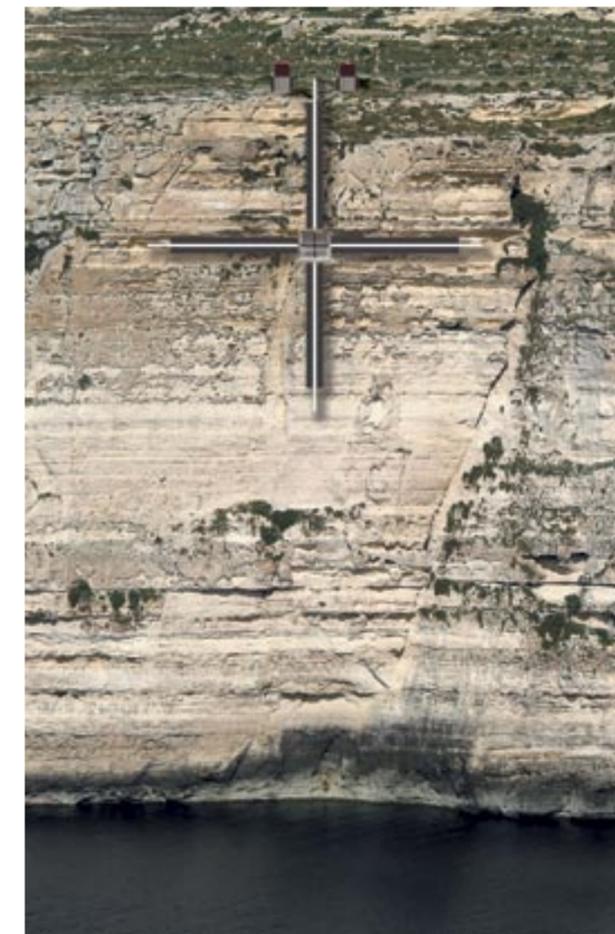
are in the presence of the Holy. In this out-looking subterranean chapel the focal floating rock is transfigured into a Christian altar; a relic of ancient wisdom reawakened phoenix-like to illuminate the darkness of man's modern times. The chapel is constructed by burrowing deep into the rock and producing a window which looks out over the waters focusing on the isle. Its subterranean location and the act of descending into the earth evoke the hewn out chambers of the rock-cut Hypogeum Neolithic temple, situated not far from the site. A metal cross placed inside the “eye” opening Christianizes once more this floating icon altar. From the seaside, the chapel assumes a different scale. Superimposed over the diminutive opening is an oversized cross, illuminated

at night, scaled to relate to the magnitude of the towering overpowering cliff face. After sunset the two access towers housing lift and stairs to the chapel level are also lit up in order to appear from a distance as invitational beacon-candles framing the top edge of the vertical arm of the cross.

The pagan altar stone of the long-lost Neolithic temple builders has now become a Christian tabernacle of today. Internally the chapel itself strangely extends itself as it metamorphoses into the macro scale of an open-air cathedral where the aisle is the sea, the walls are the wind and the altar-stone the isle. One sits on the rock-cut steps within this man-made cavern silently in prayer with a meditational eye looking out to the isle hovering between the womb of the earth and the navel of the sea, between the not yet and the no longer, as the wind dances on the silver surface of the ever-changing sea in a silent hymn of spiritual exhilaration. The timeless sacred of yesterday transmutes itself into the sanctified holiness of today as the mythic deity of the earth is now replaced by the heavenly Divinity of Christ in a hallowed transfiguration from pagan pantheon to monotheistic Messiah. In the process the site retains its hallowed sanctity as a numinous place of veneration in a transformation

into what will hopefully become a contemporary Mediterranean altar of truce for this turbulent arena of violence ... a sanctuary

of peace tied to the sky, bound to the sea and chained to the earth, balanced between remembrance and desire.



**“Below you the land
Above you the sky
Within you the ladder.”**
Sándor Weöres

This project is dedicated to the memory of Gabriella Solano.

Prof. Richard England

This project is one of those currently being exhibited at the Auberge d'Italie, Valletta, as part of the activities of Time for Architecture. The exhibition runs until Friday 7th October.

ARCHITECTURE AND PUBLIC LIFE

AT THE SALZBURG SEMINAR, AUSTRIA

"Any city which stands still is dead" Robert Stern

During the last week of July, I had the pleasure and privilege of participating in the Salzburg Seminar for its session Architecture and Public Life. The seminar was convened in collaboration with the Yale School of Architecture at Schloss Leopoldskron in Salzburg, Austria.

The Salzburg Seminar is a non-profit organisation, incorporated in the United States and Austria. Since 1947, the Salzburg Seminar has been a leading forum for global

dialogue dedicated to the professional advancement of tomorrow's leaders from government, business, academia, and the non-profit sector. The Seminar's mission is based on a vision of a world where dialogue inspires mutual understanding, where the exchange of perspectives fosters enlightened decision-making, where differences among values and ideas are respected, and where individuals are committed to creating change in their societies, organisa-

tions, and institutions.

The purpose of this session was to explore the relationship between architecture and public life. Architecture is about the built environment, but it is also much more: architecture provides the physical framework for all human activity and thus shapes the way we live and interact with each other.

Architecture is the interface between the human and the physical environment. It gives structure to all eco-

nomi, political, social, and cultural activity. Thus, what and how we build shapes and forms our civic realm, our environment, and influences all aspects of public life. Architecture is about shaping our environment - past, present, and future. Buildings and public spaces mould our societies and cultures. Therefore, in order to think about where and how we live and interact today, and to affect and improve the way we live and interact in the future, it is crucial to look at ways in which architecture intersects with the economic, environmental, historical, philosophical, and cultural fabric of our societies and to explore and analyse the complex interrelationship between architecture and public life.

Of course architecture is neither created in nor does it exist in a vacuum. The building of physical infrastructure is subject to a variety of constraints and conflicting demands, including political factors, financial realities, spatial and technical limitations, historical considerations, and public opinion. Therefore it is important, when considering the interface between architecture and public life, to take a multi-disciplinary approach and enrich the discourse with a variety of viewpoints and perspectives. To this end, this session brought together architects, urban designers and planners, politicians, public policy experts, and architectural critics and scholars from around the world to examine the relationship between architecture and public life



Schloss Leopoldskron, venue of the Salzburg Seminar

and to identify ways in which buildings and public spaces can shape our societies and cultures in positive, beneficial ways.

The chairperson for the seminar was the distinguished architect Robert Stern, currently serving as Dean of the Yale School of Architecture, and one of the leading architects in the United States. Bob Stern with his inimitable New York humour set the ball rolling for the week-long symposium with a lecture entitled 'City as Theatre'. As an erudite architectural historian and writer of several urban historical texts on New York City, it was inevitable that Stern would use the city of New York as the basis for his lecture. He touched upon the rich cultural diversity of the urban and architectural realm of this city as the backdrop for a wide range of human activities. The case study of an on-going urban design project intended to revamp the urban set-

ting of Time Square replete with its complex dynamics of multi-national and corporate advertising was in many ways thought-provoking.

Richard Burdett, centennial professor of architecture and urbanism at the London School of Economics, used London as a case study for analysing urban transformations. Burdett currently serves as an advisor on architecture to the mayor of London and is also director of the Urban Age project, which has been organising conferences analysing the dynamics of mega-cities such as Shanghai, Mexico City, London, etc. The lecturer took a macro-view of the growth of cosmopolitan urban metropolis and their transformations over time in response to socio-economic forces.

One of the most topical and provocative lectures was that delivered by Patrick Bellow, and entitled 'From Anthills to Labyrinths: Engineering Sustainable Engineering.' Bellow, as principal and founding director of Atelier Ten in London, has completed projects around the world noted for their innovative design as well as their sustainability. He started off his lecture by scientifically analysing the way termites build anthills, and progressed to large-scale, human-engineered projects which are intended to be as energy efficient as possible with minimum reliance on fuel-engineered systems.

Besides the plenary sessions, the fellows at the seminar had the opportunity to actively participate in informal workshops. I took part in a workshop



Architect Robert Stern delivering his keynote lecture on 'The City as Theatre'

led by Alexander Garvin, who has combined a highly successful career in urban planning and real estate with teaching, architecture and public service. He focused on three projects. His first exposition was regarding his active involvement in the urban master plan drawn up on behalf of the NYC2012, a specially-appointed committee which unsuccessfully bid to bring the Summer Olympics to New York City; the second presentation dealt with his role as coordinator in the drawing-up of a master plan scheme for the reconstruction of the World Trade Centre district after the 9/11 destruction of the Twin Towers. The third project was the planning of a combined green-belt parkland and rapid-transit transportation system that is being planned for the city of Atlanta.

The symposium was a highly intensive and intellectually-stimulating experience, where one could freely intermingle with architects, planners and academics from all over the world. The lavish banquets and dinners that were held daily at the seventeenth-century Baroque schloss were also welcome occasions for cultural exchanges and informal discussions. Following the seminar, one could not feel but better equipped to understand, to approach and perhaps to solve complex contemporary problems as they arise in specific local, regional and professional circumstances. That is why the Salzburg experience was "educational" in the broadest and best sense of the word.

Perit Conrad Thake



Group photograph of the Salzburg seminar fellows and Yale architecture faculty.

Architecture – Striving for Quality and Sustainability

The editorial team sent a set of question to the current architects to seek their opinion on current architectural issues from the perspective of architects who are conversant with politics...or politicians who are conversant with architecture. Monday 3rd October marked World Architecture Day, the theme for which was "Sharing the City". This day focused on a new solidarity, sharing all aspects of the city: sharing its values, cultures, heritage, livability, quality, utility, its resources for a sustainable environment and its technology for humanity. The questions we asked were: How do you feel that Malta can achieve the above goals? What aspects of city life and the quality of our built environment can be improved upon? Given your ministerial role, how can you work to achieve all or some of the goals mentioned above? What are your views on the National Policy for Architecture that KTP is pushing for? What aspects of the local built environment should this policy tackle? Unfortunately, we only received a reply from Minister George Pullicino, so this article does not represent the range of opinions of our policy-makers as we would have wished. On the other hand, full marks to Minister Pullicino and his team of advisors for taking time to give us their feedback – it is very much appreciated.



ence. It does not unduly impose itself on its surroundings and strives to have the least possible impact on the environment. This does not preclude innovation and new design approaches as long as this is respectful of the context.

In recent years there has been a renewed effort by several Maltese architects to strive for quality. The number of notable buildings which provide a positive experience is increasing. There is, however, more room for further improvement. The approach of some developers, and regrettably of some architects as well, is that the construction industry is simply a machine that produces apartments, showrooms or whatever. The economic dimension of construction is given excessive weighting to the detriment of cultural and artistic aspects of architecture.

The responsibility for quality architecture is not limited only to the architect but falls also on the client and the regulatory authority. There is a need for visionary clients able to understand that their development can give a positive contribution to the urban environment and an understanding that ultimately quality is in his or her best interest. Clients need to give more leeway to their architects. Good architecture also requires a creative architect capable of translating the client's needs into a functional and attractive design. Good design requires perseverance by the designer and a willingness to change and improve first designs; good design requires time and effort. It also requires a

regulatory authority, like MEPA, that facilitates the creativity process which leads to quality architecture. For some projects, there is a significant improvement from the design as first submitted to what is eventually approved. One should also not forget the impacts that are created during the construction activity itself. Dust, noise and the occupation of public space create inconveniences to residents and passersby. With the increasing number of redevelopments, this issue is becoming a matter of concern. For this reason, MEPA is ensuring that the permit condition to provide hoarding is more closely adhered to. Moreover, in the coming months my Ministry will introduce regulations relating to the construction site management – the intention being to minimise as much as possible the impacts of the construction activity. I take this opportunity

to appeal to all periti, developers, construction site managers and contractors to be more proactive in seeking ways to minimise the impacts of the construction activity, even before the new regulations will come into force. Minimising the use of energy in buildings is of direct interest to my Ministry. EU Directive 2002/91 on the energy performance of buildings will require member states to set minimum energy performance standards for buildings. Apart from the increased use of renewable energy sources such as solar panels, we need to make greater efforts to reduce the energy consumption of buildings. Periti need to provide more comprehensive advice to their clients and incorporate features in the design of buildings aimed at reducing energy consumption. This could include good insulation, reducing solar heat intake during the summer

and providing for passive solar heating during the winter. My Ministry has taken the initiative to appoint green leaders in various ministries. Their responsibilities include, amongst others, identifying ways of reducing the energy consumption of ministry buildings and the commissioning of an energy audit of at least one building within that ministry.

There have been various architectural initiatives in recent months from the Kamra tal-Periti, MEPA and others. Aspects of architecture, other than the economic dimension, are increasingly coming to the fore. This augurs well for architecture and the architecture profession in Malta in the coming years. ”

Perit George Pullicino is Minister for Rural Affairs and the Environment

ENVIRONMENT PLANNING AWARDS 2005

Over the years, the Malta Environment and Planning Authority has processed a number of applications which, in its opinion, contribute positively towards the environment. This spurred the Authority to launch the Environment Planning Awards. Six main criteria were employed during the evaluation of the projects, these being innovation, quality, implementation, problem-solving, public participation and energy efficiency. The awards were presented as follows:

Special Award for Engineering Solutions and Urban Design
Project: Inter Continental Hotel
Client: Eden Group
Architect: Bezzina & Cole



Award for Conservation
Project: Sea Passenger Terminal
Client: Viset plc
Architect: AP

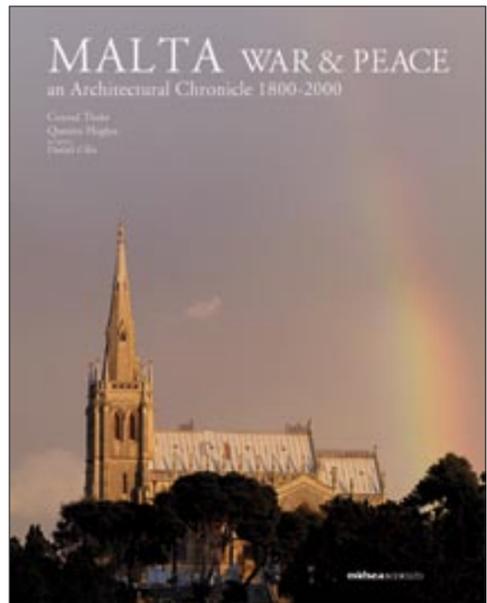


Award for Environmental Enhancement
Project: Xarolla windmill
Client: Works Division
Architect: Emmanuel Buttigieg



Special Mention for Engineering Solutions and Urban Design
Project: Cottonera Sports Complex
Client: Ministry for Sports and Culture
Architect: Ray Farrugia





Malta - War and Peace an Architectural Chronicle 1800-2000

geo-political importance. For most of the two centuries covered in this book, war and military warfare were major themes that conditioned the built environment in Malta.

Local architectural history has to be viewed against an unfolding canvas where for a considerable period of time, the threat of military hostilities was a major preoccupation. It was only during the second half of the twentieth century that the prospect of war receded from the shores of the island.

Malta – War and Peace, is an architectural survey of the Maltese islands covering the period 1800 to the year 2000 and beyond. Malta was throughout its history a fortress island, located at the crossroads of the Mediterranean, and it was coveted by diverse ruling powers primarily on account of its strategic,

Hence, the thematic of 'war and peace' is deemed to have greatly conditioned the destiny of this small island-state. It is in many respects the prime generator of the built environment during this period.

This new book follows logically from the definitive initial publication by Dr

Quentin Hughes and Dr Conrad Thake, Malta - The Baroque Island which surveyed the buildings from the Mannerist and Baroque periods (1530-1798) which adorn the Islands. Malta - War and Peace is different and takes up the story of the more recent architectural heritage, bringing its history up to the millennium in the form of a colourful gazetteer. Once again the outstanding photographs taken by Daniel Cilia embellish a publication that documents and does justice to the richness of the architecture of the post-Renaissance 'Modern' period. His pictures build on the entrancing effects of light found on the islands during the summer reflecting in their sharpness and immediacy the warmth of the sun and the profiles of shadow-filled façades.

Thus, the two separate publications can be seen as complementary, bringing heritage history together in a rich and formidably diverse array of examples. They depict an island that one commentator claimed has more buildings and monuments per square kilometre than probably in any other part of Europe!

The writer Nigel Dennis – a long-term Malta resident – concurred and wrote in his Essay on Malta (1972): 'The wonder is that in so small a place, so much remains'.

Malta has a remarkable building history from the dawn of civilization, through the fascinating remains of the Phoenician and Roman eras right up to the most recent time. Over decades architects, archaeologists, artists, engineers, writers and musicians have energetically contributed to the enrichment of a cosmopolitan country that enjoys a reputation as a regional cultural oasis. Constantly over the years it has fostered a good standard in the arts, developing unique cultured strains that makes it so different from nearby North Africa and its powerful Italian neighbour.

Prof Dennis Sharp

The book will be formally launched on the 6th October 2005 at the Mediterranean Conference Centre as one of the events being organised during "Time for Architecture".

BOOKS

The Founding Myths of Architecture

The relentless progress of architectural technology and practice throughout the centuries has proved to be an irresistible seduction, often providing a distraction from the fundamental values of architecture, and its primary objectives. Formal and technical controls have, as a result, formed the foundation of the architect's discipline. The profession, sometimes unaware of having relegated the true and authentic values of Architecture to a subsidiary role, concentrates its attention on the pragmatic science of building.

In his preface to *Essai sur l'Architecture* (1753), Marc-Antoine Laugier steered away from the notion of a theory reduced to an *ars fabricandi*. In so doing, he distanced himself from the rational architectural principles conceived by Vitruvius and adopted by his modern followers. He strongly advocated the need to penetrate the mysteries of architecture by providing a theory of architecture grounded in a philosophical discourse that studied the dialectic between science, nature, art and society. Laugier's treatise was a timely reminder that there can be no moving forward without a re-evaluation of Architecture as a bearer of symbols. In view of the continual erosion of the deeper meanings of Architecture, the necessity to pause from the time-consuming, energy-demanding world of building, to stand back and rediscover the authentic roots of Architecture must, from time to time, resurface. Architectural history, theory, creativity and criticism cannot exist without an understanding of the founding myths of architecture, those that relate the origins of man and his relationship with his environment.



Charles Frederick de Broecktorff
RUINS OF THE PRINCIPAL ALTAR, IN THE LITTLE TEMPLE
National Museum of Archaeology, by courtesy of Heritage Malta

It is in the light of this search for the meaning of architecture that took hold of the imagination of architects, theorists, mathematicians and philosophers at different times that one can appreciate the consistent reference to the primitive hut as a symbol of the architecture of man in an idyllic and natural state. It is perhaps a nostalgia for the latter that has generated at various times new theories in town planning, experiments in landscape design, the manipulation of perspective and the exploitation of the central plan, or the study of the labyrinth that have informed architectural theory throughout history. It is often in this context that the interest in, and curiosity for, the exotic and the unknown prevailed, providing the motivation of numerous travellers to Egypt, North Africa and the Middle East. Here architecture, in view of the climate, the specific natural resources and an alien cul-

ture, was perceived to have retained its authenticity and essence. In many ways, Malta's reputation from the mid-eighteenth century onwards was linked with this search. Malta was the gateway to that world of unadulterated innocence, the first port of call on a traveller's journey to the Orient. Situated on the crossing of the major sea routes linking the East and West Mediterranean, it provided a safe haven for vessels travelling to and from the East.

It was the island that captivated Ulysses and entrapped him, that shipwrecked St. Paul and offered him shelter, welcomed Caravaggio and imprisoned him and that entertained Byron and tortured him with its stepped streets. A host of other travellers on their quest to discover secret knowledge stopped in Malta...

Faithful to that ancient reputation, a Conference is being organised in Malta that will bring together an international group of architects, architectural critics, academics and historians who will talk about the mythologies that inspired, and were created by, Alberti, Louis Sullivan, Le Corbusier, Archigram among others. The conference, which is entitled 'The Founding Myths of Architecture', will be held at the Auberge de Provence in Valletta. Co-organised by Architecture Project (Malta) and Rencontres Orient-Occident (France), in collaboration with Heritage Malta, the Conference is bound to be an inspiration to anyone with an interest in the mysterious origins of architecture and the built and cultural environment of the islands.

For further information and registration contact info@ap.com.mt or www.timeforarchitecture.com.

www.timeforarchitecture.com

A fresh, new website, launched last month, to serve as a platform for the activities organised around this 19-day event. Time for Architecture is organised by KTP and SACES and is to be an annual appointment on everyone's agenda. The site offers information regarding the programme, with details of each and every activity, including the Conference, SACES workshop and Kid's workshop. Film reviews as well as short biographies of the two foreign guest speakers can also be found. The exhibition of architects' and students' projects is highlighted with images of the various works exhibited. An application form for registration for the events may be downloaded. The site also offers web links to the sites of the various sponsors. Timeforarchitecture.com will still be active after the event, serving as a forum for discussion on all that is related to the profession.



www.architecture.com

The Royal Institute of British Architects (RIBA) created this truly extensive website dedicated to all that is related to architecture. A standard column offers information regarding the profession. "Using an architect" provides guidelines to engaging an architect, professional conduct and also downloads for a directory of practices. "Careers" offers information to architects with respect to personal skills, further study and job opportunities. A section is dedicated to "Debate", and aims at simulating discussion on the future of the built environment. In addition, various fora have been set up to strengthen the relationship between architects and their clients. News is constantly updated, and information on upcoming events and competitions is also provided. One can find endless useful downloads as well as numerous links to various sites, including RIBApix, which is a growing database providing exceptional images from the British Architectural Library.



WEBSITES

FRIDAY, 7TH OCTOBER 2005

0800 REGISTRATION
0930 Opening address by the Hon. Minister for Tourism and Culture, Dr. Francis Zammit Dimech
1010 Kari Jormakka, Professor, Technische Universität, Vienna; Principal, Wombat Architects: The dark side of architecture
1100 Albert Ganado, Lawyer, Co-founder and President of the Malta Historical Society: Discovering Atlantis; The personal adventure of Georges Grognet
1150 Pascal Julien, Professor, Université Toulouse II, Toulouse:

From Atlas to the caryatid order: man in the chaos of the world
1240 BREAK
1410 Caspar Pearson, Lecturer, American University of Rome: The foundation myths and the origins of architecture in the writings of Leon Battist Alberti
1500 Vicki Ann Cremona, Maltese Ambassador, Paris: Creating Mythology through Scenic Architecture; the case of the Baroque
1550 END OF DAY 1
1830 Opening of an Exhibition of the "Grognet Manuscript" at the National Museum of Fine Arts in Valletta.

SATURDAY, 8TH OCTOBER 2005

0930 Laurent Baridon, Assistant Professor, Université Marc Bloch, Strasbourg: The myth of the incarnation of the architect; the portrait as frontispiece in Renaissance treatises
1020 Claude Massu, Professor, Université Paris I Panthéon – Sorbonne, Paris: Function, form, ornament; Louis Sullivan's founding myths of architecture
1110 Henry Dietrich Fernandez, Senior Lecturer, Rhode Island School of Design: Le Corbusier and his observations of the Neolithic origins of Architecture

1200 Luca Molinari, Architect, Critic, Free-lance Professor, Faculty of Architecture, University of Naples; outgoing Head of the Architecture section, Triennale of Milan: Superarchitecture/ Radical design; the sixties as incubator of our time
1250 BREAK
1420 Walter Hunziker, Architect, Director of Walter Hunziker Architekten, Bern: The Cosmic Element in Architecture.
1510 George Ferguson, Architect, outgoing RIBA President: The Power of Place
1600 END OF DAY 2

SUNDAY, 9TH OCTOBER 2005

0930 Fabio Barry, Architect, Lecturer, American University of Rome: EX UNO LAPIDE and the miraculous birth of building
1020 Eric Parry, Architect, President of the Architectural Association, London: The reciprocity between origins and the everyday
1110 Closing address by the chairman of Heritage Malta, Dr. Mario Tabone



Tsunami Risks in the Mediterranean – Part 2

Excerpts from a paper by Perit Denis Camilleri presented at the Lisbon IASBE September conference. Part 1 of this paper was published in the Summer issue of tA.

Due to changes in the style and density of occupation, utilisation of the Mediterranean coastal zones for tourism and infrastructure developments over the past 40 years, the potential impacts of future tsunamis are likely to be much greater than in the past. Disaster and emergency planners will be interested in determining maximum wave runups, horizontal inundation and their effect on wave flooding in terms of number of deaths and injuries, the need for response, recovery and rehabilitation activities[10].

To date, tsunami hazard studies have concentrated on a uniform vulnerability of population, infrastructure and business. New vulnerability assessments are to incorporate parameters relating to the natural and built environments together with socio-economics[11]. Vulnerability includes the presence of on and off-shore protective barriers, distance from the shore, depth of flood water, building construction standards, preparedness activities, socio-economic status and amount of warning and ability to move away from the flood zone[10].

Site specific evaluations to tsunami hazard should be drawn up for large and important risks situated in low-lying coastal areas. These might be defined as those <3-5m above sea-level or 7-10m in the case of the most hazardous regions. Once the hazard of the wave runup has been defined, the potential inundation zone (IDZ) is defined as the area between the coastline and the contour of the highest recorded tsunami. The IDZ is further subdivided into 4 units: high, medium, low and very low IDZ, by subdividing the IDZ reach. Onshore velocities for the December Indian Ocean disaster ranged from 17 to 47km/hr, whilst noting that velocities of 10km/hr for a river is considered as fast flowing[12]. Observed flow velocities in historical tsunamis have been inferred to be of the order of 35 to 108km/hr[2].

Vulnerability of the built environment to include [11]: **Number of storeys:** one floor, vertical evacuation impossible; more floors, vertical evacuation possible. Buildings which are likely to contain trapped or injured survivors to be identified.

Description of ground floor: open plan with movable objects, high vulnerability; open plan without movable objects, moderate vulnerability.

Building material, age, design: buildings of field-stone, crumbling and/or deserted, high vulnerability; ordinary brick/masonry, moderate vulnerability; pre-cast/reinforced concrete, low vulnerability.

Building surroundings: no barrier, high vulnerabil-

ity; low/narrow earth embankment, high vulnerability; low/narrow masonry wall, moderate vulnerability; high concrete wall, low vulnerability. The rapid rise/fall of water on either side of obstacles creates imbalance of forces between one side of a raised embankment or wall, with the resulting pulling over or displacing off its foundations. Sediments and even rock surfaces may be loosened with undermining of buildings and coastal defences. Fixed objects such as fuel storage tanks may also be ripped off their foundations by buoyancy forces.

Movable objects: can cause injury to persons, damage to buildings or block evacuation routes. These include old cars, refrigerators, containers. Disaster managers to make sure that access roads to the beach are not blocked. Trunk roads, telecommunication lines to be placed above maximum flood levels, together with emergency shelters.

Sociological data: population density during the night, day, summer and winter. Tourist centres will have high variations between seasons, with the beaches vacant in mid-winter and most people keeping inland. The number of people per building is also of importance. Schools are densely populated in winter and the density changes in hospitals to be noted.

Economic land use data: business (shops, restaurants, hotels), residential, services (schools, hospitals, power stations, marine works). This data is important for insurance companies, as premium levels may be set for buildings, considering contents loss and business interruption loss.

Land vegetation cover: no cover, high vulnerability; scrub cover, moderate vulnerability; trees, low vulnerability; large engineered coastal barriers could have a negative environmental impact.

It is vital that disaster managers have detailed information on which buildings, infrastructural works and groups of people are particularly vulnerable to tsunami impacts. When such data is available, cost effective mitigation measures may be developed and applied. This is to be used as a tool for local planning and to determine post-tsunami emergency disaster response.

ANTICIPATED MALTESE TSUNAMI HAZARDS

In "Gozo Antico e Moderno", Aguis de Soldanis recounts how the sea at Xlendi rolled out to about one mile and

swept back a little later "con grande impeto e mormorio", in the earthquake (MMVII) of 1693. This description tallies with a destructive tsunami (KcV).

Another tsunami-like event was recorded in December 1908. This was generated by a massive earthquake (MMXI) in the Messina Straits, which in turn generated a tsunami with at least three large waves causing serious damage and considerable drowning on the eastern coast of Sicily. The waves of this tsunami reached the shores of Malta an hour later causing flooding in Msida and Marsaxlokk, while unusually high sea levels in the Grand Harbour were also recorded. A number of fishing boats were damaged or destroyed, but no deaths recorded[13]. The flooding in Msida was further reported to have reached Mannarino Road after water had been sucked out of Ghajn tal-Hasselin (the extent of the shoreline at that time), with many of the old Msida dwellings damaged or destroyed [14]. As a result of the same earthquake, the sea at Marsaxlokk turned into a foaming wave that rushed half way up the main road leading to the fishing village next to St. Peter's church. In Sliema at the Ferries, the sea moved out from the shore baring the seabed. It was only hours later that the sea gushed in again to shore [15]. Details of the La Valletta tide gauge readings, 1908 Messina Strait tsunami are portrayed on the GITEC-TWO European Tsunami Catalogue [16].

In 1973, it was reported that in Salina Bay a sudden recession of the sea occurred, lowering the depth by 0.6m, followed a short while later by a wave that caused the sea level to rise 0.6m, the event accompanied by a rumbling noise. Boats anchored in shallow water were noted to rest on the seabed. A normally dry stretch of land remained covered in seawater for a few days. Mount Etna was reported to have been active a few days earlier. In 1983, the sea in front of the Msida parish church seemed to rise in spite of calm waters, flooding the road. An earthquake (MMVII) was noted in the Aegean Sea [13]. The latter two events could possibly not be attributed to a tsunami, but could be waves excited by meteorological perturbations.

Careful search for data is carried out in libraries, newspapers collections and public archives, both ecclesiastic and of the state, would help to further assess Malta's tsunami risk. If a tsunami similar to 1693 were to strike Xlendi today, the 5-7m wave runup would meet 5 to 6 storey high buildings on the shoreline. Loss of life would be minimised if adequate circulation routes to the



upper floors are in place. Horizontal inundation could be expected to be 300m inland over a 10 to 20 minute period, with house contents swept out by the receding waters. Fishing boats could be expected to be swept inland. The Xlendi 1693 tsunami scenario is typical for all the low lying shoreline developments, occurring mostly on the NE tilt side of Malta with 300m high cliffs on the SW. The coastline is rather indented, with many headlands and bays. Thus this scenario also applies to the seaside towns of Marsalforn, Sliema, Msida, Marsaxlokk, Marsascula, Birzebbuga, St Julians and the St Paul's Bay area.

The bathymetry features of the 72,850 km² continental shelf of Malta vary from a gentle slope of 1.50 (1:35) along the Pembroke-Salina stretch, Marfa Ridge and Gozo's Dahlet Qorrot to Marsalforn stretch. The Sliema-Marsascula stretch increases to a slope of 2.750(1:20). Note that above stretches are all along the NE Side of the Maltese Islands. The 300m high cliffs on the SW side on both Malta and Gozo have a higher slope of 11.50 (1:5), except for the Ghar Lapsi area. Comino approximates to a slope of 50 (1:12.5) all round. Deep waters of 18-10m depth are encountered in the fjord type 5-fingered shape of the Grand Harbour.

Besides damage to residences, beach concessions and water sports facilities are at a higher risk, with Mellieħa Bay, the Sliema Front, Qawra, Marfa, Marsascula being particularly vulnerable. Yacht marinas are considered the most vulnerable as the floating pontoons and moored yachts will suffer the full brunt from a minimum intensity tsunami of Kolll.

The agricultural land most exposed to tsunami damage includes the low lying Pwales and Burmarrad valleys with a shoreline bathymetry slope of 1:100, which would be covered in debris, with ensuing soil erosion and salinity increase in the top soil layer. This gradient is also found in the Mellieħa Bay graben feature, St Thomas Bay and the Marsaxlokk/Birzebbuga facilities. In most of the inundation area larger tsunamis are likely to be erosive rather than depositional events. Even quite moderate tsunamis have been found to produce up to 2m of erosion of beaches and soils. Identification of larger tsunamis in geological record is thus more likely to be difficult to predict than smaller tsunamis that produce highly characteristic sheet sand deposits[2].

Infrastructural facilities close to the shoreline may grind Malta to a halt. The power stations at Marsaxlokk and Marsa, together with the freeport facility at Birzebbuga,



the harbour works around the Grand Harbour extending to Marsa, the reverse osmosis plant at Pembroke, and the Gozo ferry terminals are cases in point. Storage facilities and mechanical lifting equipment in the low lying port facilities must be tied down. Immersion of objects in sea-water is also a risk: for example gas turbines and compressors may remain on their foundations, but corrosion will produce a large loss and salvaging will be costly. If machinery is present, there is the certainty of heavy rusting.

RISK ASSESSMENT FOR MALTA TSUNAMI EXPOSURE[5]

As an example, consider a shed storing electronic equipment next to a quay. The height of the quay above the sea level is 1.5m. It is assumed the shed will resist the impact, but the sea water will enter and cause damage which is practically total because of overturned piles of merchandise stored up to the level of girders and due to the spray of salt water.

The damage will be calculated for waves at 4m and 7m high. Taking note of the previous various Mediterranean return periods, the Malta return periods are estimated at 600 and 1,500 years respectively. Owing to the widely varying nature and abundance of potential debris, it is not possible to make generalisations about controls on the intensity of the impact hazard, but damage is more or less coincident with the inundation zone. The damage for a 4m high wave is assumed at 50%, and 100% for 7m high.

Gross annualised damage rate for a single event $X = \sum MDR.v/R$ (5)

where MDR is the mean damage ratio as assumed above, v is the variance factor (safety factor) covering the uncertainty in the determination of the return period R/expected loss combination.

$X = 50 \times 2/600 + 100 \times 2.5/1,500 = 0.33\%$.

This alarming rate shows that sensitive goods should be stored outside tsunami reach.

CONCLUSION

The cost of the December tsunami has been estimated at \$19 billion, together with a 290,000 person death toll. The value of a human life is to be treated with caution, as it is claimed to be difficult, unethical and even

impossible to make a valuation of such. The costs in million Euros/life saved were applied in a "Swiss based regulation" project[13].

- Voluntary risk exposition, e.g. dangerous sports – no compensation
- Direct individual benefit, e.g. car driving – 2.75Euros/life saved
- Individual benefit, e.g. working conditions – 6.70 Euros/life saved
- Involuntary no direct benefit, e.g. vicinity to dangerous installation – 13.5 Euros/life saved

Considering the ratio of the Swiss GDP to that of the affected countries to average 1:7, a tentative figure of \$2million/life is being assumed. With total casualties assumed at treble the number of deaths, the societal cost of this natural disaster works out at \$600 billion, piling out the material damage at \$19 million.

A 1693 tsunami repeat scenario would be disastrous for Malta's economy. As tourist facilities and part of the Island's infrastructure are in low-lying coastal areas (less than 3-5m above sea-level), evaluations of the most important risks should be undertaken. Thus developments placed on a storey high escarpment of over 4m height, as encountered in some seaside towns or villages, are less at risk. Various options are available including tsunami barriers, evacuation paths, buildings with vertical evacuation facilities and warning systems. Finally it would be more prudent to work with nature by moving all unessential structures further inland and protecting the shoreline with suitable vegetation. As it is easy to reach high land (15m above sea-level) on foot within 20 to 30 minutes, it is important that besides ongoing tsunami hazards awareness, Malta forms part of the forthcoming European Tsunami Warning System, for casualties to be kept to a minimum in such an event. Now that global tsunami risk awareness is real, communication should be easier in the event of a similar tsunami disaster, although humans are well known for their short memories.

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