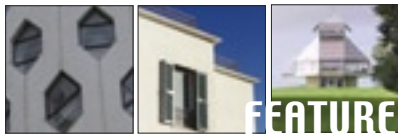
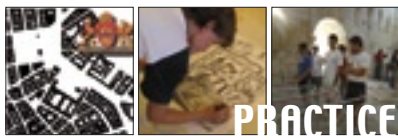


the **Architect**

The official journal of the Kamra tal-Periti



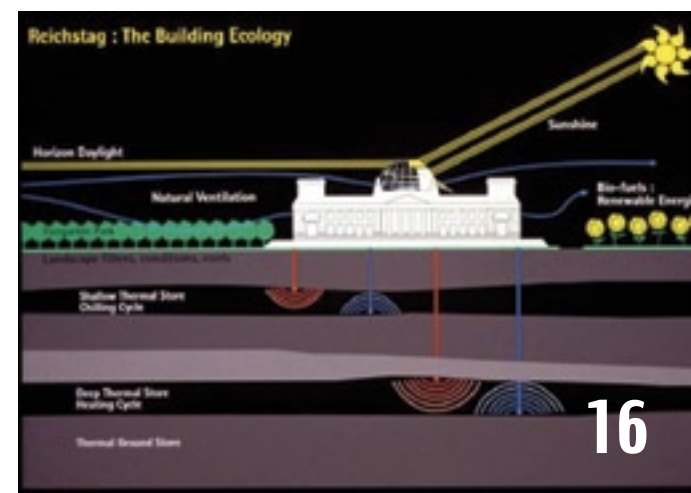
## IN EVERY ISSUE



- 4 Editorial
- 5 KTP News
- 6 People and Projects
- 8 Letters
- 9 Time for Architecture
- 10 EU Desk
- 11 SACES

- 12 Russia
- 14 Kenn Taghna
- 16 Architecture

- 18 Reviews
- 19 Heritage
- 20 Geology



contents



***"...Then we shall call it Project Lazarus." Well Lazarus did indeed 'come forth' during those hectic two weeks.***

***David Pace, president KTP***

# Bubble – Boom!

The annual conference organised by Deloitte, "Coping with Change," held on Thursday 1st December at the Intercontinental, included a much needed debate on the property market in Malta; entitled 'Boom or Bubble?' the conference brought together a range of players in this field, and the open exchange of opinions resulted in one of the healthiest discussions on the subject that one can remember.

Historically, architects have always been fascinated by the potential of ideal projects seeking the perfect living environment, often causing the confusion of perception with reality. Can this concept be applied to the property market? Is the value of property real or perceived? And do we also confuse the value of land with that of buildings. How temporary are these buildings? Do we replace buildings when our needs change?

Twenty five years ago the cost of a square metre of stone wall was approximately Lm4.50; today it is at Lm5.50; hardly any change, indeed cheaper when taking the real value of money into consideration. One square meter of stone is effectively cheaper than the cost of a visit to the cinema for two persons, and this for a material considered precious in many other countries. The cost of construction then represented approximately a quarter of the final price of property; today it is probably closer to ten per cent. Does the quality of construction have to suffer so as not to further contribute to the cost of property? How long can this go on for? Are we getting used to mediocrity in buildings?

It is evident that, apart from the cost of stone, there are several other factors that can contribute to an increase to the cost of construction; for example, the impact of worldwide increases in the cost of steel that left its impact here too. Maybe the greatest impact will be when we come to terms with new legislation and its impact on price. These are all part of the process to make the construction process more acceptable and the end product of better quality

We already have health and safety regulations and they are beginning to leave such an impact; they still have to be applied across the board for their real effect to be felt. Each project of substance now has to have a project supervisor, responsible for health and safety matters, and adherence to the requirements of the law. As from this January, the energy directive will be implemented in Malta, as in the rest of Europe. Local guidelines in this regard were released last month and comments, made by the KTP in collaboration with the Chamber of Engineers, were recently prepared and submitted. There is no clear indication as yet on how it is to be implemented. Will it form part of MEPA's terms of reference? Probably. Which buildings will it cover? Mainly residential buildings. What is it meant to do? Make us all become contributors to improving the energy performance of our buildings. Moreover, we can then expect the introduction of new, voluminous building regulations (also monitored by MEPA?).

All these are vital measures if we want to improve the only value added product that has the faith of the entire population. But it will come at a price, and it is totally unclear whether it will eat into the cost of land or simply

be another element to be added to the cost of finished property.

MEPA also has a major part to play in issues which have an impact on the property market. In 1991, we got ourselves our first Structure Plan; it was meant to be followed up by local plans for all Malta (till now we only have such approved plans, describing detailed policy for all our towns and villages, for Marsaxlokk, Birżebbuġa and the Inner Harbour Area); its 'use by' date expired in 2001, and we are now meant to be midway through the life span of our second structure plan. Instead we find ourselves grappling with a series of generic documents, not site specific, introducing additional floors to areas throughout Malta, several requests for permission for towers, without having a tall building policy, and the demolition of several hotels to make way for apartment buildings.

The real question in this regard must be whether, after fourteen years of existence, our planning regime has left a positive impact on our built and natural environment or not? A loaded question, but one which we must try to answer. Certainly one feels that a higher degree of consistency and reliability would be appreciated by many.

If what estate agents say, that it is all about 'location location location', is true, then the next question must be about the quality of the environment we live in. In Malta we speak of urban regeneration when we refer to Valletta, Mdina and the three cities. However, urban regeneration can be about much more recently developed areas that have either failed miserably or that have suffered unthinkable change. We should actually talk now of urban prevention; that is taking measures before it is too late.

There are therefore several issues that can contribute to destabilising a property market like ours; the erratic cost programme of construction, the waste of natural precious resources, the haphazard introduction of important legislation, the lack of consistency of our planning regulations, generally, a lack of focus on the overall picture. We are, however, all contributors to this market and are all too involved to allow it go wrong.

Ultimately the real issue here is, the quality of our built environment and, as a natural corollary, that of our unbuilt environment. We shape our buildings and then they shape us. Our quality of life is guided by the quality of our buildings, and this has a direct impact also on our competitiveness and our economic performance.

There must be commitment to achieve effective sustainability for the living environment – an agreement that the best way forward for the market is to achieve a new morality for the building process.

As society at large, and citizens in particular, are both the clients and users of the results of the construction process, it is imperative that public policies, at all levels, should strive to create an ethos within society that values quality in buildings and in public spaces. Moreover, it is important that awareness and the capacity to understand architectural values should be instilled as early as possible in the education process.

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 2006 consists of David Pace (President), David Felice (Vice-President), Keith Cole (Secretary), Alfred Briffa (Treasurer) and Council members Anthony Fenech Vella, William Lewis, Edgar Rossignaud, Alberto Miceli Farrugia, Danica Mifsud and Antoine Zammit

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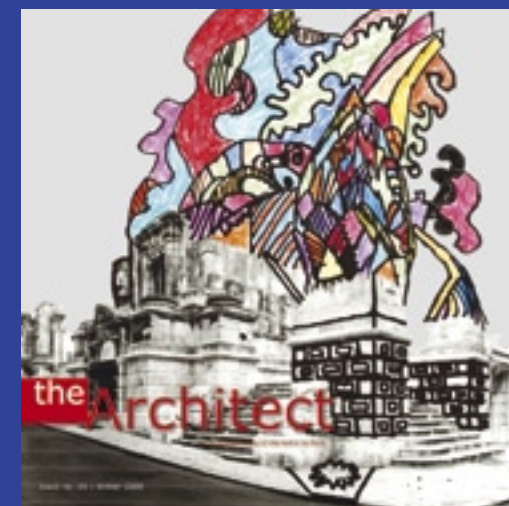
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Cover: **One of the proposals in Sitework, by Julian Sant.**  
See page 18 for details.



**T**his year's AGM was held on the 2nd of December. Though the attendance is never overwhelming, a decent number of periti turned up for this AGM. Various reports by the different Council members, Standing Committees and KTP representatives on various boards were presented. A few of them are outlined below.

### BUILT ENVIRONMENT

The Built Environment Standing Committee, chaired by Tony Fenech Vella, was concerned with matters relating to Planning Policy, MEPA Procedures, Building Regulations, Environmental Issues and Property Markets. Due to the vast range of topics on the Committee's plate, not all issues were able to be tackled to the same degree. Amongst other things, the Committee discussed issues raised at meetings with the KNPD regarding proposals to amend the Equal Opportunities Act, with Din L-Art Helwa for establishing co-operation to help each other reach common goals, with MSA regarding the introduction of the Products Directive, and with MEPA officials to preview the South Local Plan proposal, their proposal for E-applications, and the Policy For Rural Areas.

### ETHICS

The Ethics Standing Committee, chaired by David Pace, received seven new complaints this year, of which two were concluded. Overall the Committee is processing 15 cases, of which a number are pending a Court sentence or replies from the complainant.

### EDUCATION

The tasks of the Education Standing Committee, chaired by Keith Cole, include the co-ordination/organisation of CPD Courses, the organisation of training for new graduate members to facilitate their transition from academic demands to professional practice, and the continuing relationship with the University Faculty and SACES, the student body. CPDs on "Design of Medium Rise Buildings on Weak Terrain", "Court Experts' Course" and "Structural Detailing" were organised this year.

### INTERNATIONAL

Much of the International Standing Committee's work was occupied in seeking out funding methods for the KTP's



participation in regional and international fora. This has become critical in recent years particularly with the responsibilities that the KTP had to assume as a result of Malta's entry into the EU. The effects and implications of the Architects' Directive and the Services in the Internal Market Directive are considerable, and have raised much debate among the profession all over Europe.

The KTP is also affiliated with the Architects' Council of Europe (ACE), Commonwealth Architects' Association (CAA), the International Union of Architects (UIA), and the Union of Mediterranean Architects (UMAR). As a member of CAA, the KTP was the promoter of CAA's involvement in the two-day event organised by the Built Environment Professionals in the Commonwealth (BEPIC) as part of their contribution to the People's Forum during the recent CHOGM in Malta. Within UIA, the KTP took part in the Istanbul Congress and Assembly held in July, as well as in the UIA Region I Presidents' meetings held in April and October in Europe. Malta will be hosting this meeting late in 2007. With regards to UMAR, the KTP continues to participate actively and will contribute a speaker during the exhibition and conference to be held in Tunisia in January 2006.

### PROFESSIONAL PRACTICE

A revised tariff for professional fees, a proposal for the mandatory introduction of professional indemnity insurance and a standard form of engagement of periti were high on the list of the Professional

Practice Standing Committee, chaired by Edgar Rossignaud. The Committee has presented draft recommendations to the Council, and has suggested that all these issues be tackled as one whole package rather than three separate issues.

### COMMUNICATIONS

Certainly the most time-consuming item on the agenda of the Communications Standing Committee's agenda was the organisation of Time for Architecture, nineteen days of activities related to architecture, marking World Architecture Day. This event was organised in conjunction with Sacés and proved to be a big success. Other responsibilities of this committee, chaired by David Felice, included the publication of this journal, issuing the KTP's newsletter and press releases, and maintaining its main website ([www.ktpmalta.com](http://www.ktpmalta.com)) and another site set up specifically for Time for Architecture ([www.timeforarchitecture.com](http://www.timeforarchitecture.com)). A third website is in the pipeline and further information will be divulged at a later date.

### GENERAL SERVICES BOARD

The Board met five times during 2005, and here KTP was represented by Joseph Genovese. The Board considered about twenty cases. One of the items which has been discussed over the last years was the ventilation of commercial buildings such as restaurants, bars, and other catering establishments, and the need to establish "Ventilation Guidelines" for these commercial establishments. The Board received correspondence that

*The poster that formed part of the BEPIC stand during the People's Forum held as part of the CHOGM in November*

these issues would be dealt with by the Malta Standards Authority, but to date no further information was forthcoming.

### THE YEAR AHEAD

During the AGM, elections for three posts on Council were held. Danica Mifsud, Antoine Zammit and Tony Fenech Vella were elected and replace Lawrence Mintoff, Bianca Muscat and Guido Vella, who also contested the elections. Therefore the new Council is composed of the following persons: David Pace (President), David Felice, Keith Cole, Alfred Briffa, William Lewis, Alberto Miceli Farrugia, Edgar Rossignaud, Tony Fenech Vella, Danica Mifsud and Antoine Zammit. Good luck to all for a year of work ahead!

### KTP Directive on the Definition of Cost of Work for fee calculation purposes

Queries have been directed at the Council regarding the interpretation of VAT legislation in connection with the professional fees chargeable for services rendered, particularly when these are to be calculated on a percentage basis for the design and erection of buildings, as stipulated in the Code of Organisation and Civil Procedure, Chapter 12, Schedule A, Tariff K, Para. 10 and other associated paragraphs: here, it is stated that the calculation of fees is to be made on the basis of "the cost of the executed work". The query lies in whether the cost of the 'work' on which to charge fees should be inclusive or exclusive of VAT.

Council has discussed the matter and has also sought legal and professional advice to assist in the formulation of a clear and unequivocal opinion. It is now in a position to instruct as follows: *considering that the cost of executed work should also include the cost of VAT, the professional fees due to Periti for their services in the design and erection of buildings is to be based on the "cost of the executed works" as charged according to law, that is, inclusive of VAT, in all cases.* The Council shall also endeavour to incorporate the intent of this directive within the revision of the Tariff that is currently under way and make the appropriate recommendations to the Minister concerned in this regard.

## NEW KTP COUNCIL

During the AGM held on the 2nd December, Periti Anthony Fenech Vella, Danica Mifsud and Antoine Zammit were elected onto the KTP. They replace Periti Lawrence Mintoff, Bianca Muscat and Guido Vella whose term expired this year and who also contested the election.

The Editorial Board extends its congratulations to the newly elected members, with a special mention to Danica who has been a part of tA's Editorial Board for the past eighteen months. We also take this opportunity to thank Bianca, Lawrence and Guido for the work in the KTP last year.

The newly formed Council held its first meeting on the 7th of December. One of the Council's first tasks will be the constitution of the various Standing Committees for 2006.

## MALTA FEDERATION OF PROFESSIONAL BODIES

Perit Alfred Briffa has been appointed as the President of the Malta Federation of Professional Bodies. Briffa has served for a number of years as the Treasurer of the Kamra tal-Periti, and this new role within the MFPB will certainly add to his involvement in the profession. On behalf of the Council and members of the Kamra, the Editorial Board extends its congratulations to Perit Briffa and wishes him all the best in his work.

## WARRANTING BOARD

Perit Stephen Farrugia was appointed as a member on the Warranting Board last September. His was the only nomination received by the Electoral Commission for this post. Congratulations and good luck with your work!

## DIN I-ART HELWA AWARD FOR ARCHITECTURAL HERITAGE

The Din I-Art Helwa Award for Architectural Heritage went to Perit David Drago of Architecture Project for the

restoration, preservation, conservation and refurbishment project of the Valletta Waterfront at Pinto Wharf. Perit Alberto Miceli Farrugia, also of Architecture Project, was the winner of a diploma for the restoration and conservation of Casa Perellos, a private residence in Zejtun.

President Emeritus Guido de Marco presented the awards to the winners during a ceremony at Torri Mamo. The panel of judges was looking for something that sent a clear message that old buildings can be restored successfully to their former glory in a modern context, and that good contemporary architecture in its proper setting had a vital role to play. Though only four entries were received, the judges were delighted at the standard, which was of "a most meritorious level".

## BARBARA CAPPOCHIN ARCHITECTURE PRIZE

The international Barbara Cappochin architecture prize was created by the BARBARA CAPPOCHIN Foundation



and launched in association with the Order of Architects, Planners, landscape architects and Conservationists of the province of Padua in collaboration with the International Union of Architects (UIA) and the National Council of Italian Architects, Planners, landscape architects and Conservationists (CNAPPC).

The objectives of this prize are:

- to promote quality in contemporary architecture and its relationship with the city as a means of opening the debate and allowing a comparison between world-wide architecture and that of the province of Padua;

- to increase the public's taste and passion for architecture;

- to highlight the growing interest of private and public promoters, planners and builders for quality architectural landscape, so essential in our society.

Out of the 164 submissions received, the award went to "Kazenowa – The Wind Circle", an ecological habitation project designed by the young Japanese architect Igarashi Jun. This realisation is exemplary not only from an ecological point of view but also economically speaking as well as with regard to its integration into the environment.

## ICE PRESIDENT

Mr Gordon Masterton was appointed as President of the Institution of Civil Engineers on the 1st November. The role of President is the highest honour that ICE members can bestow upon another member. Those holding this esteemed office can trace a remarkable lineage back to John Smeaton, Thomas Telford and other leading figures from the history of civil engineering.

## GYEONGGI-DO JEONGOK MUSEUM

The Gyeonggi Provincial Government in Korea, has launched an international project competition, in a single stage, for the architectural design of a museum on the archaeological site of Jeongok-ri.

Considered to be one of the most important Palaeolithic sites in Korea, Jeongok-ri is of crucial importance for the interpretation of the geographic distribution and development of the Palaeolithic culture and human evolution.

In conformity with the UNESCO-UIA regulations, this competition has been approved by the International Union of Architects – UIA. The deadline for registration is the 20th January 2006. Further information can be obtained at [www.jeongokmuseum.org](http://www.jeongokmuseum.org)

## RIBA STIRLING PRIZE 2005

The new Scottish Parliament, designed by EMBT / RMJM Ltd, won this year's Stirling Prize. This building has been hailed as one of the most innovative designs in Britain today. It is an ambitious and complex building, offering the visitor a unique and rewarding architectural experience.

The presentation of the UK's premier architectural award took place at a glit-



tering award ceremony at the Royal Museum, Edinburgh on the 15th October. The Scottish Parliament beat off competition from five other shortlisted buildings, selected from this year's RIBA Award winning buildings: BMW Central Building, Leipzig, Germany (Zaha Hadid Architects), Lewis Glucksman Gallery, University College, Cork, Ireland (O'Donnell + Tuomey), McLaren Technology Centre, Woking, Surrey (Foster and Partners), Jubilee Library, Brighton, Sussex (Bennetts Associates with Lomax Cassidy & Edwards), Fawood Children's Centre, Harlesden, NW10 (Alsop Design Ltd).

The judges commented: "The Scottish Parliament Building is a remarkable architectural statement which has an enormous impact not only on the visitors to the building but also on the users who repeatedly move through a series of extraordinary spaces and their changing effects."

The RIBA Stirling Prize is run in association with The Architects' Journal and is presented to the architects of the building which has been the most significant for the evolution of architecture in the past year.

## PIANO GOING FORTE

The High Museum of Art in Atlanta, Georgia now bears the signatures of two masters: Richard Meier, who designed the original in 1983, and Renzo Piano who designed the extension to the building and which was inaugurated in November.

As he nears age 70, Piano demonstrates







the contrast at the High Museum with a temple of quiet and north light in the upper galleries, balanced by the rush and chatter of the crowd below in a modest piazza that is the heart of the new museum campus.

### IRELAND EYE

Douglas Wallace Architects have designed a new cinema for a highway-side retail park in Galway, Ireland. Views in and out of the building are key parts of the experience, and the theaters themselves are dramatic and artfully crafted, with special attention to detail.

The Eye Cinema opened earlier this year as Galway's first new cinema in nearly a decade.

Although the designers visited several well-known cinemas in the United Kingdom and continental Europe for inspiration, such as the Electric Cinema in Notting Hill, they seem to have thrown out many rules in cinema design. They incorporated only the best that cinema has to offer, trying to find a hybrid of the one-off art house cinema and the large multiscreen urban-scale building.

### HEART OF BUDAPEST

The Municipality of Budapest has announced an architectural and urban design competition with the title "Heart of Budapest." This is an open competition with the objective of revitalising the city centre of Budapest, especially through the renewal of the public realm and the



re-definition of a "good places" network. Registration and competition documents are available on [www.mek.hu/budapest-szive](http://www.mek.hu/budapest-szive). The submission deadline is the 15th February 2005.

### LIGHTING UP ST JOHN'S

The project for a new lighting installation for St John's Co-Cathedral in Valletta is currently underway. Following an international competition, the studio of Stefano Dall'Osso was selected as the designer for this project.

Dall'Osso was born in Fermo, a city in the Marche, in the province of Ascoli Piceno, on 20 November 1963. His career began in 1986 as lighting-technician consultant with FAEL Luce, of Agrate Brianza (Milan).



Since then he has established himself as an expert in the field within the leading companies in the sector of the production of light fittings. Since 2000, he has run his own studio which deals with consultancy, planning and project management of lighting projects. The projects for studio has worked on the lighting of important public and private areas, both in Italy as well as worldwide, with particular emphasis on those of historical and artistic interest.

He is a lecturer at the Centro Sperimentale di Design of Ancona, the Libera Accademia della Luce of Umbertide, Perugia, and reporter to the Accademia della Luce of Florence. He is also a member of APIL Italia (Associazione Professionisti dell'Illuminazione) and works for the promotion of the professional image of the lighting designer in Italy.

In the past years his work has extended to the design of new light fittings, giving a remarkable impulse to design in the field. In the case of St John's, in fact, new ad hoc light fittings were designed to blend in with the surroundings while

at the same time serving the purpose for which they are installed. Part of the installation at St John's Co-Cathedral was inaugurated on the 9th December, while the rest of the project will be inaugurated early in 2006.

### SQUARE OF EUROPE

The City of St Petersburg has launched a competition for young architects. This is an International Competition for the Best Project of Architectural Decor for the Square of Europe in St. Petersburg.

This city is considered the most European city in Russia. It was created by leading architects from various European countries. In the year of St. Petersburg's 300th anniversary, a square near the seaport was given the name the Square of Europe. It is the first place to welcome guests of the city arriving by sea.

St. Petersburg, included on the UNESCO World Heritage List, is one of the most beautiful cities in the world. Today there is the opportunity to open a new page in the city's history and create an impressive architectural landscape for a new urban space.

Further details on the competition can be found on <http://www.kga.neva.ru>

### GRADUATIONS

The KTP extends its congratulations to all the new graduates of the Faculty of Architecture and Civil Engineering. We wish you all the best in your career.

### SEASON'S GREETINGS

On behalf of the Council of the Kamra tal-Periti, the Editorial Board extends its greetings for this season to all members of the Kamra, all our readers and their families. May the coming year be a fruitful and successful one for all.

### PLANNING WATCH

In a press release issued early in December, the Kamra tal-Periti has expressed its concern about various cases of which it has been made aware where planning permission is being requested and obtained for the demolition of hotels or commercial establishments, especially with regards to those lying outside development zones, to make way for residential development, often with a substantial increase in height and density. In some cases these hotels occupy sites of visual importance and natural beauty, such as coastlines or cliff edges. Furthermore, due to the economic importance of hotel development and the benefits that such projects brought in generating employment and attracting foreign investment and income, planning regulations and zoning conditions had often been relaxed when the planning permission was being processed and determined.

Now that these sites are being turned changed to residential use, the KTP strongly recommends that zoning conditions, particularly those related to height limitation and density, should be strictly applied, in the interests of uniformity and achieving a harmonious urban and rural pattern. Furthermore, where the possibility of recovering areas of natural beauty or of important visual impact occurs, then the necessary decisions need to be taken in the interest of preserving these sites.

### INTERNATIONAL EVENTS

**25th February 2006 Victoria and Albert Museum, UK**

**Lecture: Architecture And ... The Moving Image**

[www.vam.ac.uk/activ\\_events/courses/lect\\_debates/architectureand/](http://www.vam.ac.uk/activ_events/courses/lect_debates/architectureand/)

**1st – 3rd March 2006 Wels, Austria**

**World Sustainable Energy Days 2006**

[www.wsed.at](http://www.wsed.at)

**April – July 2006 Victoria and Albert Museum, UK**

**Exhibition - Modernism: Designing a New World**

[www.vam.ac.uk/exhibitions/future\\_exhibs/modernism](http://www.vam.ac.uk/exhibitions/future_exhibs/modernism)

## THE PAST TWELVE MONTHS

Another year of work by the Council of the Kamra has come to an end, and I would like to make a few reflections on these past twelve months.

I would like to commence by emphasising the commitment and dedication shown by those who were elected to the past Council in covering the wide range of duties entrusted to them. If results sometimes fell below expectations it certainly was not due to inertia on their part, but to sheer limitation of time and energy they could dedicate.

I also include in my thanks all those members of the Kamra who came forward and contributed to this work through the Standing Committees. The progress registered should encourage more members to come forward and contribute.

Two meetings were held with the Parliamentary Secretary for Finance regarding the proposal of obliging Periti to submit details of clients' payments in connection with planning compliance procedures as mentioned in the Budget speech. The KTP registered its strong objection to the proposal, but although it was agreed that further meetings were to be held on the matter, there was no further contact. The latest Budget speech proposes a totally different scenario where Periti are not involved. Council is following the matter.

I am pleased to report that substantial progress has been registered on the preparation of the National Policy on Architecture. The proposal has been presented formally to the President, the Prime Minister, and the Leader of the Opposition, all of whom have expressed support.

Progress on the proposal for the setting up of registers within the profession has lagged behind, as has the finalisation of the regulations and related documents. The regulations themselves require brushing up in view of developments within the profession in recent months, particularly with regards to ethics and professional liability. The proposed new tariffs are also closely bound to these matters, and it would be unwise to finalise work on one topic independently of the others. Also, the proposal



for a client/perit form of engagement is intrinsically bound to these topics.

Further consultation by Council was carried out with various Ministries and Departments. I mention particularly the procedure for the submission of applications for upgrading of farms in collaboration with the Agriculture Department. Although the KTP has collaborated in order to make procedures easier and quicker, it has voiced its concern not only at the timeframe demanded for the preparation of submissions, but chiefly at the possible negative visual impact that the proposed new farm buildings might have on our landscape.

Another collaborative effort, this time with the Health and Safety Authority, resulted in a well-attended seminar in September. The conclusions drawn from this event should be an eye-opener to us all and we should carefully take note of the implications of the law with regards to safety-conscious design and construction sites.

Further legislation that is about to hit us in 2006 covers energy performance in buildings. Through its international affiliations the KTP was well aware of the implications and deadlines, and had collaborated fully with BCID in trying to prepare the necessary legislation and draw up a program for its phasing in. However despite our combined efforts, the matter was left pending until now. Further consultation with the Ministry

for Resources and Infrastructure took place on the warranting process, particularly in view of requests by EU professionals for obtaining a local warrant. This ties in with our work on the chapters and the general re-organisation of the profession, and again our delay in concluding is hindering the contribution we can make to register progress. On the other hand I should record the progress made by the Education Standing Committee in preparing a CPD course for graduates in their practice year. The KTP is concerned at the lack of proper training in certain subjects vital to our profession in the

present day, and has designed a course to fill the gaps.

This brings me to the subject of the course and Faculty at our University. On various occasions, Council has heard disturbing news about the internal situation, but could never discuss the matter in detail and with a level of objectivity, due to lack of hard facts and lack of direct involvement within the Faculty itself. However, this year's 'silent protest' by the students during their graduation ceremony gives cause for concern. During the past year we have developed a close working relationship with SACES and students. It is a relationship we wish to maintain, and if the situation is as worrying as indications are pointing to, the KTP will not hesitate to press for the necessary reforms to be implemented within the Faculty. Meanwhile I must mention that we are working closely together with the Dean, Perit Joe Falzon, and Perit Carm Mifsud Borg from the Ministry within the framework of the Advisory Committee on Education and Training in Architecture (ACETA), which is an advisory body to the EU Commission on the conformity of proposed new academic courses with the Architects' Directive.

This year saw the unprecedented event "Time for Architecture". This was a feat in itself and I take the opportunity to

thank the whole team (periti and students) for their extremely hard work in getting the whole thing together in a very short period. I mentioned the project to a friend of mine, and he rather pessimistically said that it was useless as architecture in Malta was dead; to which I replied "then we shall call it Project Lazarus." Well Lazarus did indeed 'come forth' during those hectic two weeks. We now need to keep him well nourished!

I almost overlooked MEPA. We tried to revive the ongoing series of meetings with officials but I regret that hardly any progress was registered. However the 'circulars to architects' system is being revived, albeit electronically.

You will have noticed that over the past months, the KTP has raised concern over the demolition - partial or total - of buildings of architectural merit which constitute the contribution of modern architecture to our nation's rich heritage. It is our duty, as the professional body representing the producers of this heritage, more so with the adoption of the KTP's mission statement at last year's AGM. This action has resulted in the temporary halting of the proposed demolition of a large part of Qala school.

It is the outgoing Council's wish that the action taken in response to the threatened destruction of our built and natural heritage will be continued and intensified by the incoming Council. It is an intrinsic element of our profession to protect important works of architecture whichever era they belong to while contributing to the enrichment of our heritage by the quality that we put into the buildings we design and build.

Yours truly,

**Perit David Pace**

President, Kamra tal-Periti

*Letters from our readership to be considered for publication are most welcome. Letters for inclusion in Issue 36 are to reach tA by the 15th February 2006. 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](mailto:thearchitect@ktpmalta.com). All contributions will be acknowledged.*





## TIME FOR ARCHITECTURE

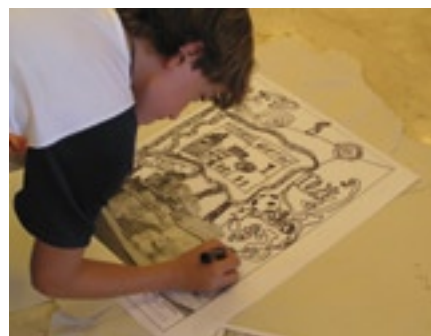
In recognition of the dire need to bring Architecture to the forefront of concerns, the Kamrat-Periti and the Society of Architecture and Civil Engineering Students organised Time for Architecture. A whole program of activities spanning nineteen days during the months of September and October was put together. This was Malta's contribution to an international appointment – World Architecture Day – held yearly on the first Monday of October since 1985. The main aim here is the recognition of the quality of architecture and urban design in the member sections of the International Union of Architects. The opening of these events was held on the 28th of September at Auberge d'Italie, where an exhibition of over seventy projects by local architects and students was also launched. One of the

aims of the Projects Exhibition was to instill amongst Maltese society the idea of the importance of quality architecture by drawing their attention to the local talent that is responsible for the creation of architectural spaces locally as well as overseas. This event was of exceptional importance as it was the first time in at least fifteen years that so many architects and firms came together in such a unique collaboration.

For four consecutive evenings, films relating, strictly or vaguely, to architecture were screened at St. James Cavalier. These included Metropolis, Life as a House, The Architect and others.

Time for Architecture drew to our shores a couple of foreign speakers from the architectural scene. Amongst them was Professor Dennis Sharp, founder of a

busy international practice in London & Hertford, who delivered a most interesting lecture during a business breakfast held at Capua Palace on the 5th of October, entitled 'Men from MARS', an exploration of the development of 20th Century architecture in England. Professor Sharp was also present during the launch of 'Malta, War and Peace – An Architectural Chronicle 1800 - 2000', co-authored by Dr. Conrad Thake and the late Professor Jimmy Quentin Hughes, for which Sharp wrote the foreword as well as an appreciation of Professor Hughes who passed away in 2004. The new book was an immediate success, and sold several copies at its launch. It has since been the subject of many positive reviews in the local press.



One of the children who participated in Sitework preparing his proposal for the Opera House site

Also in Malta for Time for Architecture was Charles Kneivitt, director of the RIBA (Royal Institute of British Architects) Trust, who delivered a lecture at the Mediterranean Conference Centre on the 3rd of October, entitled 'Sharing the City'. The lecture, followed by a reception, was well attended by architects as well as students.

Also part of these events was a conference held over three days at the Archeology museum in Valletta, entitled 'The Founding Myths of Architecture'. A total of twelve speakers, mostly foreign, addressed the public. The conference dealt with the exploration of the authentic roots of architecture in order to discover its deeper meanings.

Children were not excluded from these events, and were given a chance to propose their own architectural ideas for the somewhat controversial Opera House site in an exciting and innovative workshop entitled Sitework, held at St. James Cavalier. The twenty-strong team

was led by photographer David Pisani, art teacher Alison Zammit Endrich and architect Kenneth Zammit Endrich. The children's sketches may be viewed on [www.davidpisani.com/sw1105.html](http://www.davidpisani.com/sw1105.html). One of the proposals presented by Julian Sant is reproduced on this issue's cover.



The opening ceremony was held at the Auberge d'Italie, where the exhibition of works by Maltese periti and students was also set up.

Finally, the annual students' workshop was held at Manoel Island, a site of architectural importance. The students formed teams and together with architects, built life-size models of their projects following the theme 'Pack-It', using materials such as wood, cardboard, fabric, metal sheets and plastics.

None of these events would have been a success if it were not for the support of our sponsors: Ministry for Tourism and Culture, Ministry for Rural Affairs and the Environment, Ministry for Resources and Infrastructure, Ministry for Communications and Competitiveness, MEPA, Schembri & Sons Ltd, Vassallo Builders Group Ltd, AON Malta Ltd, Elmo Insurance Ltd, United Insurance Brokers Ltd, Viset Malta plc, Malta Maritime Authority and BICC.

In view of the success of Time for Architecture, the organising committee hopes that World Architecture Day will remain on our calendar for years to come. The agenda for next year's activities is currently under debate and we would greatly appreciate input from our readership. What were the highlights of the event? Is there scope for having a yearly Projects Exhibition or would it be more appropriate to allow for a longer time-frame between one such exhibition and another? Are there any other activities which can be of interest to Maltese periti?

**We earnestly await your comments which you can mail to:**  
[info@timeforarchitecture.com](mailto:info@timeforarchitecture.com)



One of the many reviews that the event got in the local press. This feature was published in Maltanow magazine.



# High Quality in Architectural Services

In November, the Architects' Council of Europe (ACE) issued a press release advocating high quality in architectural services through better regulation and adequate procurement procedures. This followed a Resolution against "price dumping" adopted unanimously at its second General Assembly held on the 19th November in Luxembourg.

The ACE is the representative organisation of the national registration and professional architects' organisations of the twenty-five EU Member States and most Candidate Countries, as well as Norway and Switzerland, and represents about 450,000 European architects. Architects play a major role in the quality of the built environment and have the role of designing buildings that comply with the needs of the customer and society.

construction and maintenance of buildings can be achieved while providing significant added value for the quality of the living environment and cultural heritage.

## PRICE DUMPING

The ACE has expressed itself against price dumping (abnormally low tendering) in the provision of architectural services, so as to ensure that a high quality of architectural service can be provided by the architectural profession, on an ongoing basis, to clients and users and thereby deliver the highest possible quality of output in the creation of the built environment in which all citizens live. Price dumping has a detrimental effect on the overall quality of the delivery of architectural services and hence on the quality of

would be nothing short of a disaster for the quality of the built environment as it could lead to the adoption of unfair or corrupt practices for the provision of architectural services. The principle of the most economically advantageous tender (a fair price for a fair product) must prevail in all cases so as to ensure adequate resources, and high quality can be delivered by the architectural profession to its clients.

In essence the architectural profession is calling for better, adequate, regulation of the market for professional services, which resonates with the topic of a Conference organised in Brussels on the 21st November at the initiative of the UK Presidency of the European Union in cooperation with the European Commission. A number of Member States are already

practice as they do to any commercial activity.

## THE RESOLUTION

The Resolution adopted by the ACE highlights the dangers of the purely price-based approach to the procurement of architectural services. It calls on the EU Member States to fight against this tendency by establishing legal instruments and practices to guarantee that contract award decisions for architectural services are always genuinely based on the well established principle of the most economically advantageous tender. In fact, there is increasing evidence that this is a much more appropriate basis on which to secure overall sustainability, economic returns and added value in the long term for the construction sector.

The ACE is convinced that proper resourcing of design services in the construction sector is essential for the creation and maintenance of a sustainable, quality built environment. It sees this as an essential prerequisite for the delivery of a high quality built environment to the citizens of the EU.

Considering that the costs covering the services of the architect represent only a minor part of the total cost of the building for the customer and society during the life of that building, and in seeking to ensure that clients and end-users are delivered a quality result when using architectural services, the ACE is urging its members to fight "price dumping" in the sector of architectural services, and to use all legal means to prevent "price dumping" by architects. It also warns architects against participation in negotiations on architectural contracts that do not include professional competence, the quality of the work to be carried out and that of the service proposed, as predominant criteria for selection.

**Simone Vella Lenicker**

NOTE: *The full Press Release and Resolution can be downloaded from: [www.ace-cae.org](http://www.ace-cae.org)*



A building has an impact on the environment for a very long period of time and a well designed building will make a major contribution to the realisation of the aims included in the Kyoto treaty. Furthermore a well designed building must guarantee the necessary safety for the clients and end-users, not only in terms of stability of the building but also with regard to fire safety, protection against burglary, vandalism and even terrorism. By means of the use of an optimal concept and architectural solution, major economic advantages (savings) in the

the built environment.

With the ongoing pressure of liberalisation, deregulation and increased competitiveness in the Internal Market of the EU, and the one-sided concentration by the European Commission and National Competition Authorities on the regulation for professional services, there is concern that these activities will lead to an unfair market for the purchase of architectural services in the EU. Such a market would mean that decisions on which architectural services are purchased would be based solely on the price of these services. This

strongly encouraging quality-based selection of architectural services. These include tools such as architectural competitions. The use of such tools has a very positive effect on the quality of the output from architectural offices and on the profession itself. It is a clearly understood commercial fact that any business must be adequately resourced in order to deliver the services that it is required to provide to its clients or customers. By definition it must be profitable in order to be able to create more growth and jobs.

These facts apply as much to architectural



The months of September and October saw numerous architecture-related events taking place. The highlight was a series of events organised by Kamra tal-Periti in collaboration with Saces, 'Time for Architecture': a great team effort which contributed to creating an awareness about Maltese Architecture. The events came to a successful end on the 16th of October with the annual SACES Workshop.

This year the workshop was held at Manoel Island, a site of great architectural importance, which was kindly offered to us by Midi plc. The 130 students reading architecture and civil engineering at the University of Malta formed teams and, together with architects, built life-size models of their projects following the theme 'Pack-It', using materials such as wood, cardboard, fabric, metal sheets and plastics. The idea here was to create some form of foldable, mobile structure, hence the name Pack-it. Solutions included a lightweight curved roof made out of plastic conduits; a tent-like structure having three sets of crossed wooden legs supporting a fabric roof; a set of wooden L-shaped parts revolving around a pole

to form a concentric structure similar to a snail's shell and others. The building of these projects resulted after a week of brainstorming and devising solutions, however the actual construction took place in only two days. The students lived at the old hospital at Lazaretto over the weekend, and built their projects in its large magnificent vaulted halls. The workshop, now in its fifth year, succeeds previous ones held at Ospizio in Floriana, Fort St. Angelo, the former Golden Sands Hotel site, and Valletta Waterfront. The demand by students to participate in this event is always on the increase – a promising sign for the next generation of Maltese periti. Saces would like to thank their sponsors for making this event possible, namely Go Mobile, the

Ministry for Urban Development and Roads, Midi, Attard brothers, Bonnici Brothers, Blokrete and HSBC and last but not least the University of Malta for their constant support.

November 2005 marks the first anniversary of the computer lab in our faculty; a great initiative which was pushed forward by Prof. Denis De Lucca. The lab has created a hub within the faculty, a social place where people meet to work. The computer lab provides us with the latest computer programmes which we need, internet access, as well as a printing service at excellent prices. The computer lab would not be what it is today if it wasn't for the dedication of Mr. Karmenu Galea and Mr. Aldo Chetcuti who give it their all, and are always striving to find ways to improve the facilities they have to help the students. Also in the pipeline is a yearbook featuring photos of all the students, so that our days at the faculty will never be forgotten!

Saces wishes all the best for the future to Mr. Colin Borg who, after a few years as faculty officer is leaving the faculty, and we would like to thank him for his dedication to the students during these years!! His extreme commitment towards student matters and organisation skills are going to be hard to replace!

**Seasons greetings to everyone!!  
Don't drink and drive!!**

**SACES Committee**



## Corradino Heights

### a proposal for an urban experience and a catalyst for future regeneration

In 1999, the Project for Public Space categorised four qualities which successful places ought to have: comfort and image, access and linkage; uses and activity; and sociability. The Project goes on to describe these attributes in further detail by listing criteria such as safety, readability, continuity, connectedness, accessibility and indigenoussness. Locally, it is not simple to identify districts which are practically devoid of such characteristics. One candidate however exists and is situated in the middle of the Grand Harbour conurbation: Corradino.

Measuring approximately one square kilometre, Corradino is the second largest promontory in the Grand Harbour area and is today dominated by an industrial estate. Part of the area also accommodates a variety of popular sports facilities. The Paola suburb of Ghajn Dwieli, the MCAST premises, the potentially dangerous grain terminal, sundry government department workshops, warehouses and other uses coexist, the majority in conflict with one another.

The waterfront beneath the Corradino landmass is similarly industrial in character; most of its accessibility is either controlled or inexistent. These problems are compounded by a largely unplanned infrastructure, an increasing number of obsolete edifices and large tracts of disused land. The overall result is an urban fabric which is alive only at certain periods, its users denied of almost all amenities (not even public transport) unsurprisingly resulting in Corradino becoming a veritable centre for anti-social activity.

It was only after meticulously studying the background of Corradino, consulting the relevant authorities in what was, is and might be planned for the site, that a proposal could be suggested. With such an appraisal in hand, the benefits that the site offered, the existing land uses whose retention made sense (on local, regional and national levels) and ultimately the lacking urban qualities that made this place unsuccessful were analysed.

Although this appraisal concerned the entire peninsula, in the design proposal being put

forward it was thought prudent to treat the central portion of the site. It is from this approach that the title of the thesis was conceived. Kevin Lynch's treatise on the imageability of built environments discusses a number of physical elements that define their spatial 'user-friendliness'. Paths, edges, districts, nodes and landmarks, these were all of concern in the urban design of this proposal.

A projected movement path connects the Ghajn Dwieli roundabout, through Corradino, down to Grand Harbour and a link beyond. The uses proposed are planned along a carefully designed spatial layout. These include the existing Kordin Business Incubation Centre, which is here redesigned along the lines of a university campus. A small civic centre sited opposite the historic Victorian military prison will now serve the area and moreover give Corradino an identity.

Residential accommodation is also provided in the form of units made available on a rental basis for users of the incubation centre and the nearby, ever-expanding MCAST. This will also enable round-the-clock surveillance of the district. The Ghajn Dwieli community was also catered for. Here, a newly designed housing scheme together with a much-needed retirement home, intimately embrace the church of St. Anthony and a new piazza. Surrounding these uses is a network of streets, roads, car parks and open spaces. Strategic landscaping gives identity to different locations of the



proposal. Connections, both pedestrian and vehicular, as well as funicular and ferry services at the Grand Harbour end are vital in ensuring adequate circulation.

This project is aimed at giving a new lease of life to Corradino which despite its many deficiencies is unique in its location as well as being the last underdeveloped hinterland in the Grand Harbour region.

**Ivan A. Bondin & Edward Said**  
**Thesis Project June 2005**



# SOVIET AVANT-GARD IS IN DANGER



**S**oviet avant-garde and constructivist architecture had a great influence on 20th century Russian art and culture. Nevertheless, avant-garde architecture always was and will remain marginal in this country. Currently, it is in danger and runs the risk of disappearing before

our eyes.

Russia is considered as the Mecca for professionals from the entire world, who come to see with their own eyes the icons of avant-garde culture, made famous through numerous articles in prestigious world publications. Most are shocked at the condition the monuments are in today. And this does not only apply



to the vast areas of system-built units (standardised building forms) in the towns inhabited by factory workers, and industrial estates, but also world famous masterpieces of architecture of the period that have now lost their value through neglect. Amongst these are architect K. Melnikov's workers' clubs, communal housing such as Ivan Nikolaev's student hostel, and even Melnikov's garages to mention but a few.

Most of these buildings will celebrate their 75th anniversary in a state of dilapidation and are on the brink of collapse. Many are risking physical disappearance, or are under threat of being demolished to make way for new plots for new buildings, before running the risk of collapsing due to age and neglect. One of the more tragic examples is the ex-'Narkomfin' building designed by architect M. Ginzburg (1928-1930), which in 2004 was included on the World Monuments Fund's Watch List of the 100 most threatened sites world-wide. The building is almost in the hands of private investors. It is located in one of the most

prestigious areas of the capital city and therefore attracts many visitors. However, all investment proposals included radical change of planning, increasing the area, changing function, and other changes that are not acceptable for a building of such importance. Negotiations with investors have been going on for years, federal and municipal government are not taking action, and the state of the monument is getting worse. It is becoming a ruin.

Almost all constructivist buildings have either local or regional monument status, which in practice means that they are not protected against reconstruction. 'Restoration through cremation' is a common joke among professionals, as the practice of demolishing buildings to reconstruct new ones is so widespread in Moscow and other Russian cities. As a result a lot of famous monuments lose their historical and architectural value, as well as the possibility of receiving protection from demolition and the possibility of being included on the UNESCO list of world heritage sites.

There are numerous examples. In one of K.Melnikov's masterpieces, the Burevestnik Club, plastic windows were introduced after restoration. The supermarket in Krasnaja Presnia designed by the Vesnin brothers, was taken over by a multinational clothes company and has lost all its identity when its historical glazed façade was removed. In Melnikov's house in Krivoarbatsky Pereulok, the "scientific restoration" of his famous innovative slabs resulted in replacing them with ordinary reinforced concrete. Waterproofing problems were not solved, there is a problem with rising damp and the foundations are cracking, putting the building in danger. The surrounding historical landscape



# E ARCHITECTURE



is changing drastically. The house is situated in one of the most expensive areas in central Moscow, surrounded on all sides by commercial luxury housing. Melnikov's masterpiece almost ended up as part of the excavation works for a complex of expensive apartments close by.

For many years, Russian specialists and foreign architects have voiced concern about the tragic state of Russian avant-garde architectural masterpieces. Regrettably, in

Russia itself, these monuments are not fully valued. The metaphoric reflection of destiny of soviet avant-garde and the attitude towards it in its motherland is the problem, as happened with the grave of Kazimir Malevich in Nemcinovka near Moscow. The great painter's dying wish was to be buried in an open empty field. The choice of place was not accidental: this burial place is mentioned in several of his works. After World War II the memorial disappeared, and the exact burial location was lost. The plaque was found forty years later and was reinstated with the effort and personal funding of a small group of enthusiasts. Since the original burial place was lost, the plaque was placed in an approximate location. Today Nemcinovka is 'Malevitch', an expensive cottage settlement. Houses fill the field so loved by the painter. Possibly beneath

one of them lie his remains! Malevich's name is used for increasing the price of the land, which has risen drastically. But to carry out the research and find the lost grave, as well as to reinstate the original memorial, or build a new one worthy of this world-famous artist, neither the government, nor the owners of that very valuable land are willing to provide funding.

Taking into consideration the importance of Russian architectural avant-garde for the evolution of the world architectural movement of the 20th century, one can state that we are talking not only about the protection of Russian architectural heritage, but also of part of the world's cultural heritage. Monuments like the 'Centrosojus' building by Le Corbusier, 'Narkomfin' by M. Ginzburg, the complex in Bolotnaya by Boris Iofan, almost all Konstantin Menlikov's buildings in Moscow, the ensemble in Stachek street in St Petersburg or the library by Alvaro Aalto in Vyborg, the 'Gosprom' building in Charkov and many other masterpieces of soviet architectural avant-garde, scattered around Russian cities, have the right to be recognised as a treasure trove of architecture of the "contemporary movement". Nonetheless, Russian architecture of the 20th century is, until now, not included in the UNESCO list of world heritage sites.

In an effort to prioritise the protection of architectural heritage in the political sphere and to raise awareness among the public of the problems of protecting the priceless heritage of Soviet Architectural Avant-garde, an international festival called Heritage at Risk is being organised. This will be held in Moscow between the 17th and 20th of April 2006. The Centre for Modern Architecture is organising this event together with The Russian Academy for Architecture and Building Sciences, Russia's Ministry for Culture and other main professional organisations, with the support of Russia's UNESCO Commission, ICOMOS International and DOCOMOMO International. During the festival an international conference devoted to contemporary methods of protecting monuments of the 20th century will be held.

**Irina Korobina**

(article translated by Daine Pranaityte)



Professor Irina Korobina lives in Moscow. She graduated from the Moscow Architectural Institute in 1980 and obtained a PhD in Architectural studies in 1986. Since 2001, Korobina is Professor at the International Academy of Architecture and is a Councillor of the Russian Academy of Architecture and Construction Sciences, and Member of the Moscow Union of Architects.

In 1992, Irina founded the Architectural Gallery of Moscow which became one of the principal elements of the Yakimanka Center of Contemporary Art. In 1998, when contemporary architecture became a subject of general interest in Russia, Irina Korobina became the author and presenter of a weekly TV program "Architectural Gallery". In 2000 she founded the Center Sovremennoy Architecture (CSA) which realises a number of educational and social programs for the Russian architectural community, which include lectures, exhibitions, competitions. CSA produces digital and video archives, TV films and Internet projects. The web-address for CCA is [www.archcenter.org](http://www.archcenter.org)



# Kenn Tagħna Redevelopment

## Reinventing the Courtyard House

The site, in San Pawl tat-Targa, occupies approximately 3500 square metres and originally consisted of a sprawling bungalow, being the main building, located in the centre of the site, surrounded by landscaped gardens, and a separate small house facing on to the main road which was originally used by domestic staff. tA spoke to the architect, Perit Chris Falzon, about this project.



The original idea behind the project was to redevelop the site into a cluster of high quality houses in order to make more efficient use of the land area available while at the same time retaining the reputation the site has for its beautiful gardens.

In order to achieve this objective it was decided that the project should consist of an 'internal development' surrounded by landscaped gardens, with its own access road ending in a cul-de-sac. Each of the nine houses in the development faces on to the access road or the cul-de-sac and seven of them also have a second access on to the surrounding streets. Each house is built on two floors with an underlying basement. The basements all have high-level windows providing direct sunlight. Eight of these houses are semi-detached and one is fully detached (fig. 1).

The second major project objective was to build 'minimalist' yet high quality houses that perform well in terms of architectural characteristics, structural integrity, sound building services, passive solar properties and comfort in use (natural lighting, humidity, insulation, ventilation, internal spaces and internal circulation).

The third main objective was that the project be financially viable. To achieve this without compromising on quality, rigorous project management methods, good site management, innovative building techniques that maximise off-site works and minimise on-site wet trades were employed.

At the request of the owners it was decided to adopt a modern version of the traditional courtyard house, thus exploiting the excellent qualities of this traditional form and complementing it with modern technological solu-

tions and techniques. This design eliminated the need for light and services shafts, allowed full exploitation of site area and made for good sized internal spaces allowing simple structural solutions. The absence of shafts implies that all windows open directly on to the landscaped gardens or the courtyard itself. In addition this form eliminates the need to construct entire upper floors above garages on pre-stressed concrete slabs, a practice which has become widespread locally when open garage spaces are required. Special vertical fully accessible recesses over the entire height of the building were provided in strategic places in each house for the installation of services (fig. 2). A water reservoir was provided underneath the courtyard of each house for the collection of rainwater from the roof and terraces. The courtyard house concept plus the adoption of the





'half block' unit (see below) allowed a large number of simple variations of the standard courtyard house model which retained the simplicity and modularity of the original design but gave the flexibility to 'invent' a different house to fit each of the site subdivisions and optimise on space and orientation. This concept also resulted in totally open interiors thus allowing full flexibility. The internal layouts shown here are only indicative and in fact the actual interiors were designed according to the specific tastes and needs of the owners (fig. 2).

In the habitable parts of the typical house, all external walls consist of a single blockwork external skin, a 75mm air gap and an internal skin of 25mm plaster-board on galvanised steel studs. Vents were provided in the external blockwork skin at appropriate locations to allow ventilation of the air gap. The mortar used for the blockwork was a structural cement/sand mix and blocks were laid on a continuous bed of mortar rather than the local 'three blobs' technique. Apart from ensuring consistent and reliable structural properties, this method also eliminated the need to point and finish the walls after construction as is normally the case locally. The contractor was initially very sceptical and warned of largely increased costs and construction times. After the



first couple of days, once his 'experimental' team of layers had got the hang of it, he became one of the biggest supporters of this method. Very strict control on mortar mix and laying techniques was imposed throughout. This could only be done with the full cooperation of the now convinced contractor who very quickly realised the benefits of this system. No significant additional costs or construction times were incurred by using this method. All external dimensions were determined by using the 'half block' unit. This allowed quick and efficient construction, accurately sized apertures and a clean site since no off-cuts were ever required. Another important spin-off was the possibility to 'mass produce' all doors and windows off-site since the sizes of all the openings were guaranteed.

Apart from the half block described above, special standardised building components in the usual full and half block sizes were developed in order to create construction details capable of achieving the performance characteristics aimed for at the outset. These included a

### PROJECT DATA

Project Title:	<b>Kenn Taghna</b>
Project Architect:	<b>Chris Falzon</b>
Client:	<b>Farrugia Investments Ltd</b>
M&E:	<b>Mark Pizzuto</b>
Landscaping:	<b>Shirley Buttigieg</b>
Project Mgmt:	<b>Farrugia Investments Ltd (Karl Azzopardi)</b>
Interior Design:	<b>Farrugia Investments Ltd (Marisa O'Cock)</b>
Project Duration:	<b>18 months</b>

special concrete unit to provide a 200mm 'eaves' effect at each floor. This eaves effect protects external walls and apertures from the driving rain and also serves as passive protection against the summer sun without blocking the winter sun. Another component was the L-shaped bearing block which provided the required bearing areas for the slabs whilst at the same time allowing the full isolation from moisture of the inside spaces. The 75mm overhang of the bearing block on the inside provides the required moisture proof seating for the plaster boards. These factory produced components did not add significantly to the construction cost and in any case this was offset since their use greatly simplified and accelerated works on site. In order to maximise on the use of internal spaces, special sliding windows were developed that opened directly into the 75mm air gap of the external walls.

This project demonstrates clearly that it is possible to introduce changes in the methods used by the local construction industry, at least in the housing sector, which allow significant quality improvements without adding to construction costs.



Fig. 1: Villas 2 to 9 are two storey semi-detached courtyard houses with underlying garage/basement. Villa 1 is fully detached. The original boundary wall surrounding 'Kenn Taghna' was retained in the new development. A number of trees and other features from the original development were also retained. The site slopes from East to West by about 3m, and so it was terraced in three steps at areas A, B and C to reflect this.



Fig. 2: Plans of villas 8-9

# Post-Modernism, Legitimacy and Architecture

**A**s part of the Commonwealth Heads of Government Meeting (CHOGM) held in Malta in November, the CAA participated in the Commonwealth People's Forum as part of the Built Environment Professions in the Commonwealth (BEPIC) Seminar, held on the 21st and 22nd November in Valletta. On the 24th November, Llewellyn van Wyk, President of the CAA delivered a paper at the Malta Federation of Professional Bodies, an event co-ordinated by the Kamra. Unfortunately the attendance was disappointing, with only nine attendees. Simone Vella Lenicker takes a look at van Wyk's talk and here presents a summary of it.

## POST-MODERNISM

In his seminal work "The Language of Post-Modern Architecture", Charles Jencks developed a reciprocal architectural response to pronouncements of post-Modernism in painting, sculpture, dance, film, philosophy and literature in the 1970s. This however, according to van Wyk, is not what post-Modernism is about, and he bases his statement on ten observations.

1. Globalisation has changed the way we live, the way we trade, the way we view religion, culture, poverty, ecology and gender.
2. There is a shift from industrial economies to knowledge economies, from localised manufacturer to global manufacturer: from this emerges the realisation that global economy will fail if the current production and consumption patterns do not change.
3. Enterprises are no longer inward-focused but are now seen to have social and environmental responsibilities, quite distinct from the 19th and 20th century corporations.
4. We are seeing the transition from environmental exploitation to environmental awareness and conservation.
5. We are also seeing the transition from accepting that there will always be the rich and the poor, to the realisation that there will be no lasting peace and security when so many people are excluded from the benefits of economic growth.
6. Of all the post-Modern indicators, human rights and international law have possibly the longest history, and the desire for liberty stands as one of the defining characteristics of human evolution.
7. New branches of science and technology are emerging including extensive progress in the understanding of human genetics and new technologies such as biotechnology and nanotechnology, all of which are leading to a better understanding of global issues at all levels.

8. Society is being transformed from rural to urban, with larger and larger settlements occurring in developed countries.

9. Society is moving from oil-based energy to new energy sources based mainly on renewable resources.

10. We are moving out of an era of relatively stable global temperatures into an era of global warming, which is causing significant changes to climatic conditions.

longer merely necessary to move on, but an imperative. In doing this it seeks not to dispense with everything that is Modern, nor does it seek to go back to that which existed before the Modern. It does, however, take more from the pre-Modern period than it does from the Modern period, particularly with regard to two considerations.

Firstly it recognises that the critical relationship that

A close to self-sufficient pavilion built in the grounds of a Georgian country house in Wiltshire. Here Chinese-American architect Pei gives us a pavilion with a glass entrance with sliding doors from where a staircase rises to the upper level dividing the central room into four interconnected rooms. It is geometrical: a cruciform base (the tree trunk) supporting a projecting octagonal main floor (the branches), with a roof that turns from octagonal to square near its peak. It is a house-as tree, giving as much as it takes.



All of these above factors share at least one strong characteristic: they mark a clear transition from one state of being to another. The post-Modern epoch is therefore characterised by its moving beyond present conditions, recognising the need to establish a new relationship between humanity and its supporting ecology.

## LEGITIMACY

Although various terms exist to describe the emerging epoch, including the Technology Age, the Information Age and the Urban Age, the following observation may be made: if the 19th century was about entrepreneurship, and the 20th century about management, then the 21st century will be about legitimacy.

The post-Modern era is a revolution: it is the recognition that the theories and methodologies of the Modern period have no continuing validity, and that it is not

existed between early man and his environment was almost irreparably damaged by the Modern era. The Modern period saw the environment as something to be consumed as part of the economic process, while earlier societies saw the environment as a touchstone of their existence and therefore as something to be cared for. The contemporary view of environmental stewardship captures the spirit of this notion.



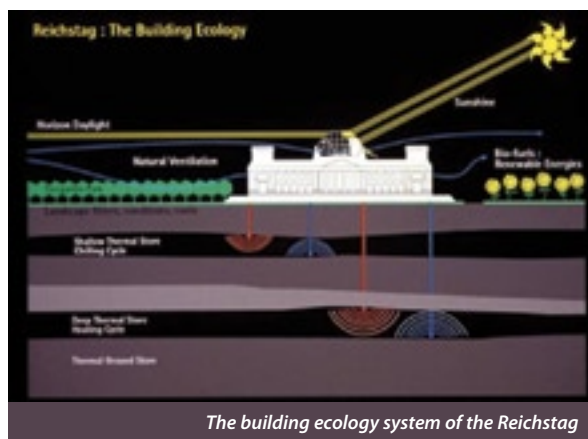


Secondly, it seeks to re-establish a collective consciousness in the global community that builds further on the historical notion of human rights while trying to construct new theories and methodologies about spirituality.

Together, these two notions can be described as restorative: people to planet and people to people. Just as new concepts of human rights are being captured in international law, so too will the environment be recognised as an interested and affected party, and be recognised as a legal entity. Legitimacy in the post-Modern era is when the action proposed is restorative in both human and environmental terms.

## ARCHITECTURE

With the above notions in mind, one can go on to assess whether current architectural theory is relevant and if not, whether our current design methodologies have any continuing value. Is architecture using economic resources in an equitable and sustainable manner? Is architecture currently contributing to social well-being in an equitable and sustainable manner? Is architec-



Clearly this cannot be equitable and sustainable, nor can such consumption indicate that the highest level of technology is being employed. Some architects and environmental designers are conscious of this, and are devising new methodologies aimed at reducing the ecological impact of construction and strengthening its social relevance.

Llewellyn van Wyk focuses on the Reichstag, Berlin, as one example of a building that brings together the components mentioned above. This building is a building with history. The challenge of its current design was to redeem a building abused by a succession of previous occupiers and to exorcise its demons from the collective mind.

The principles employed in the design are simple: let in the light; let in the people; let in nature; display its past, not hide it, along with the new and the healed.

Foster's approach to the reconstruction of the Reichstag was founded on four connected issues:

- Amplify the significance of the Bundestag as one of the world's great democratic fora;
- Make the process of governance more visually and physically accessible to the public;
- Understand history as a force that shapes buildings as well as nations; and
- Emphasise the fundamental nature of an environmentally-friendly agenda to the architecture of the future.

The Reichstag was designed as a wholly sustainable, non-polluting, publicly-responsive building, with the glazed cupola as the metaphor. The latter is a regenerative element: it is a key component in the light and energy saving strategy while simultaneously communicating the themes of lightness, transparency, permeability and public access, all issues of legitimacy. Within it, two helical ramps take the public to a viewing platform above the plenary chamber of the Bundestag, raising the public above the heads of their political representatives.

At the core of the cupola is a light sculpture, a concave, cone-like form that works like a lighthouse in reverse, using angled mirrors to reflect horizon light into the chamber, while a moveable shield tracks the path of the sun to prevent the penetration of solar heat and glare. At night the process is reversed and artificial light in the chamber is reflected outward, making the dome glow

dramatically.

The Reichstag relies extensively on daylight, solar energy and natural ventilation. The energy conservation strategy relies on the thick masonry walls with a relatively low ratio of window to wall. It also maximises the building's inherent thermal mass to provide a comfortable base temperature from which active heating and cooling can top up the system as required. Energy for the building is generated from furnaces that burn rapeseed. Additional power comes from 100 solar panel modules with photovoltaic cells that contribute toward the driving of the extract fans.

This building successfully sheds its past and looks optimistically to the future. Memories of the past are combined with current technology to create a truly post-Modern narrative, a narrative of legitimacy and restoration.

## CONCLUSION

In his conclusion, van Wyk states that post-Modern architecture needs to gain legitimacy in the communities it aims to serve. In order to do so, it must recognise the following factors:

- It must recognise that there is a growing discontent with modernism and with what it has come to represent. The suggestion that the demolition of every single building that has outlived its usefulness is absurd.
- Architecture will have to move beyond what Eisenman refers to as the "optical". Post-Modern architecture's defining characteristic will be its restorative ability.
- The disparaging attitude to traditional cultural symbols and metaphors evidenced by the Modernists has cost architecture its credibility, and hence its legitimacy. Post-Modern architecture will have to integrate knowledge from other fields concerned with human consciousness, spirituality and sacredness to re-establish this fundamental human touchstone.
- Architecture in the post-Modern epoch will use technology to reduce environmental impact, cut costs and provide better places to live and work. New technologies, systems of production and construction methods that do not rely on natural capital depletion, fossil fuels and harmful chemicals will be employed.

*Llewellyn van Wyk is the current President of the Commonwealth Association of Architects. In 2002 he joined CSIR (Council for Scientific and Industrial Research) Division of Building and Construction Technology and, amongst other research activity is project leader for "An Architect's Guide to Designing for Sustainability" commissioned by the CAA. His published papers cover architecture, the built environment professions and the constructed environment. From 1984-95 he held public office as a City Councillor of the City of Cape Town, becoming Deputy Mayor in 1993 and Deputy Chair of the Executive Committee in 1995. He was a founder board member of the 2004 Cape Town Olympic Bid Company and is also past President of the African Institute of Architects.*

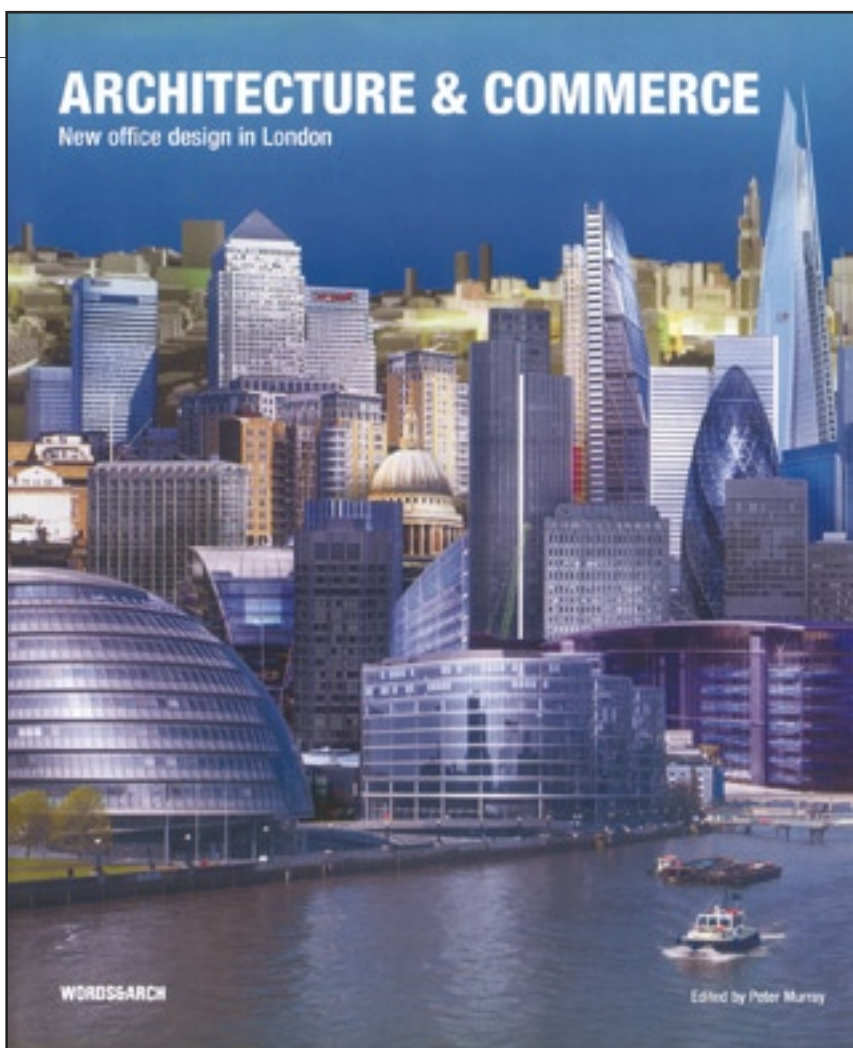
*The Reichstag, Berlin: An example of a truly post-Modern building*



ture currently exhibiting environmental stewardship by using resources in an equitable and sustainable manner? Is architecture currently implementing the highest possible levels of technology to reduce waste and achieve high-performance buildings using clean technology strategies? Is architecture actively contributing to ecological biodiversity?

The answer to these questions is found in Bryan Edward's book "Rough Guide to Sustainability, where he states that construction is responsible for:

- consuming 50% of all material resources globally;
- using 45% of all energy generated to heat, light and ventilate buildings and 5% to construct them;
- using 40% of water globally for sanitation and other uses in buildings;
- using 60% of prime agricultural land lost to farming for building purposes; and
- using 70% if global timber products.



## ARCHITECTURE AND COMMERCE - New office design in London

Edited by Peter Murray, this publication chronicles London's commercial architecture and through this analyses the consolidation of the city's role as Europe's financial centre.

The wide range of projects illustrated in this production show a growing regard for quality in architecture. Developers are employing leading architects of international repute to create cutting edge designs for commercial architecture.

While portraying an elegant and imposing face, these buildings also provide the functionality required by international companies: the flexibility, the efficiency and the communications essential for global business.

This book takes a look at a number of projects including St Mary Axe, the Paternoster development, Canary Wharf, Paddington Central, the

Millenium Bridge, the Millenium Tower and others. Through these buildings the authors seek to identify the impact of architectural design on the commercial identity of London.

The book is divided into five main sections, each investigated the impact of commercial architecture on different districts of London, with the last of these sections taking a look at the future of the city's commercial life. Each section is authored by a different writer, including former editor of World Architecture Nicola Jackson, former acting editor of the Architects' Journal David Taylor and architect Andrew Rabeneck who is a member on the editorial board of the RIBA Journal.

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ISBN: 0-9532758-6-5

### [www.comarchitect.org](http://www.comarchitect.org)

Under the umbrella of the Commonwealth, CAA (Commonwealth Association of Architects) subscribes to its core values the developmental support of its smaller and younger members. The Commonwealth network is increasingly valued as a means of accelerating improvement in the world's living conditions and ensuring a sustainable future for the planet. The built environment has a key part to play and the CAA's current programme 'Cities and Sustainability' works to ensure the maximum participation of the architectural profession at all levels.

The website offers information regarding the four programmes including the above mentioned 'Cities and Sustainability' as well as 'Architecture for all', 'Validation' and 'Continuing Professional Development'.

A number of awards are featured, particularly the Student Competition 2006 which involves the design of A Small Sustainable Sports Centre.

Other pages relating to Member Institutions, Events, Forum and CAA Conferences are still under construction.



### [www.davidpisani.com/sw1105.html](http://www.davidpisani.com/sw1105.html)

A group of school children ranging from the ages of seven to thirteen were given the chance to propose their own architectural ideas for the somewhat controversial Opera House site in an exciting and innovative workshop entitled Sitework, held at St. James Cavalier.

This activity formed part of 'Time For Architecture', a nineteen day celebration of architecture. The twenty-

strong team was led by photographer David Pisani, art teacher Alison Zammit Endrich and architect Kenneth Zammit Endrich.

This website forms part of David Pisani's official site and explains the motivation behind this project which is primarily the creation of an awareness for the use of photography to help understand the world we live in.

The children produced sketches and designs which are not conditions by the constraints of the adult world. Images of these works can be found on the website.





# St. Anne's Square, Sliema

**T**he Sliema Front is undisputedly Malta's most popular seaside promenade. Yet despite having this highly successful urban node, the large town that is Sliema today boasts very few open spaces. For instance none of the locality's four parish churches are endowed with the squares typically associated with such landmarks. The few openings referred to as *pjazes* are either merely widened streets such as Annunciation Square or crossroad junctions such as Dingli Circus. These examples are dominated by vehicular traffic with any extra allocated space dedicated for precious parking bays limiting the pedestrian to the pavement. Few realise, however, that there exists a public open space in Sliema, which, as a result of bad planning, has been encroached upon and subsequently mutilated.

**I**n the mid-nineteenth century orthogonal street planning of this new sprawling town, which retained a link to Valletta by means of the ferry service, was given special importance. The main reason for this was that, initially, many of Sliema's summer residents hailed from the capital. Thus, just across the road from what was known as the Sliema landing place, a rectangular open space was set out at the strategic pivot between The Strand and Tower Road (Bisazza Street was only opened up after World War II). This *piazza*, named St. Anne's Square after a statue put up on one of its corners, immediately became a popular rendezvous with those arriving and leaving this new seaside town. In the early years a curious diminutive arcaded building once stood at the centre of the piazza. This was later replaced by a fountain and a graceful statue of the goddess Diana, celebrating the arrival of piped water to Sliema carried out under the supervision of the highly acclaimed architect E.L. Galizia (1830-1906). The fountain was



Photo courtesy of Tony Terribile

later removed and now stands in Balluta. Over the years a number of small timber kiosks housing souvenir shops and cafeterias were erected in the piazza. Galizia also designed the neo-classical police station that stood on the shore-end of the square. This, together with the steady growth of the lofty *fichus* trees must have characterised Piazza Sant Anna with an intimate sense of enclosure. In the 1960s, with this part of Sliema already a throbbing commercial centre known as The Ferries, St. Anne's Square became a favorite meeting place especially for those frequenting the surrounding cinemas, including The Majestic, whose imposing

façade still overlooks it. The demise of this much-loved urban space came with the uncontrolled development of the permanent commercial outlets that one sees today.

**R**ecently it has been revealed that there exists the possibility that this sprawling structure may be removed. A golden opportunity has thus presented itself to the authorities to regenerate this once teeming node. St Anne's Square is rather unusual in that it is asymmetric. According to the classification made by Paul Zucker (1888-1971), an architect and city planner, of the typology of urban

squares, it ranks as an amorphous square being semi-enclosed and dominated by tall buildings and mature trees.

**R**estoring this enclosure can be done through effective landscaping and the discreet insertion of an adequately designed, downsized version of the kiosk. The reinstatement of St. Anne Square together with the recently approved pedestrianisation of Bisazza Street will turn The Ferries into an infinitely more attractive, user-friendly urban experience.

**Edward Said**

# Assessing Limestone Quality for the Construction Industry in Malta: A Geological Perspective

By Peter A. Gatt MSc (R'dg), FGS, MIQ

The construction industry requires a constant supply of good quality limestone for specific applications. Good quality limestone can be defined as that rock which has physical properties that meet and exceed the engineering requirements needed for a construction to be safe and long-lasting. The CEN standards have set European quality limits for rocks used in construction. These standards are based on the large geological resource base of continental European countries and the British Isles which include high quality limestone and do not take into account the limited geological resource base of the Maltese Islands. However, the successful use of coral aggregates in Pacific Islands proves that limits for use in construction are often related to the best material available rather than to absolute criteria (American Society for Testing and Materials, 1976). Malta has a problem of poor quality limestone used for construction. In the case of aggregates:

- Poor performance of local concrete resulting from shape and nature of aggregate. "Water demand" is also related to aggregate water absorption properties.
- Unbound aggregate used for local road construction leads to rapid wearing and decay of the aggregate which results in rutting.
- Bound aggregate shows poor durability, lack of resistance to slow crushing and lack of resistance to polishing by the action of traffic.

In the case of local dimension stone used for masonry, quality is on the decline. Recent masonry constructions are increasingly showing poor durability to weathering and poor resistance to tensile stress.

These problems are also linked to the nature of the local quarrying industry that supplies the local market with stone and aggregate. Quarrying in Malta is dominated by small family-run businesses showing limited technological and scientific input. The quarrying industry in Malta shows the following problems:

- Rudimentary prospecting methods in a restricted geological resource base (Gatt, 2002), aggravated by conflicts with other land uses.
- Many quarries are close to exhausting their resources (figure 1).
- High variability of rock quality within a single quarry (figure 2)
- Lack of a scientific rock classification scheme.

These problems are the result of a lack of quality-based selectivity of rock material at the quarry and at the construction sites. Such problems stem mainly from the rudimentary rock classification schemes presently used in the Maltese quarrying and construction industries and by the regulatory Authorities. These inadequately classify rock on a basis which is usually unrelated to rock quality and performance. This article makes a critique of presently used rock classification and proposes alternative classification schemes more pertinent to the needs of the construction industry.

the needs of the construction industry.

## ROCK CLASSIFICATION USED BY THE LOCAL CONSTRUCTION INDUSTRY

A scientific classification of limestone into a number of quality types would offer the construction industry the possibility of obtaining the best quality limestone for specific construction projects. Presently,

the classification of local limestone for construction purposes rarely goes beyond the geological Formation level (namely, franka, zonzor, qawwi). Variations in rock quality related to the nature of the limestone are designated by special local names such as soll (which implies limestone that weathers badly), ġebbla s-safra and others. However, this traditional nomenclature uses arbitrary definitions and remains unsatisfactory for modern construction needs.

The present classification of rocks has resulted in wide variations in most rock properties when tested by Civil Engineers in Malta. For example:

- Compressive strength of Lower Coralline Limestone Formation: 6.8 to 105 MPa (Bonello, 1988)

- Aggregate Crushing Value of the Upper Coralline Limestone: 59 to 22 (Mineral Resource Assessment Report, 1996).

- Compressive strength of the Globigerina Limestone Formation: 8.2 to 14.2 MPa (Mineral Resource Assessment Report, 1996)
- Other large ranges within a single quarry (figure 1) or among several quarries have been observed for porosity, sorption, aggregate crushing value and other rock parameters.

Clearly, the classification and testing of rock at the Formation level only results in a large scatter of values, making this approach inadequate for the construction industry seeking quality limestone.

## ROCK CLASSIFICATION USED BY THE REGULATORY AUTHORITIES

The Authorities (MEPA, MRA, BICC) set up in Malta to regulate and plan for quarries and quarry products presently classify local

limestone into (a) hardstone and softstone types and (b) Formations, subdivided into Members as devised by Pedley (1978). This approach, also pursued by the Minerals Subject Plan (2001) has the following problems:

- The softstone/hardstone classification is based on the method of extraction from the quarry and not rock quality.
- Pedley's (1978) classification of Maltese rocks, represented in the Geological Map of the Maltese Islands (Oil Exploration Directorate, 1993) albeit requires updating in view of recent research (Gatt, 2005) is based on particular events in the geological history that produced time lines such as a marine transgression or a depositional hiatus. These are not indicative of the nature of

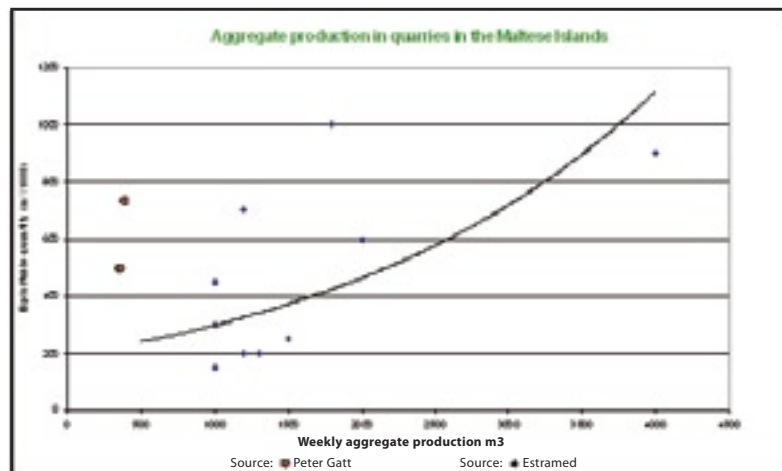


Fig. 1: Estimates of aggregate production in the Maltese Islands.

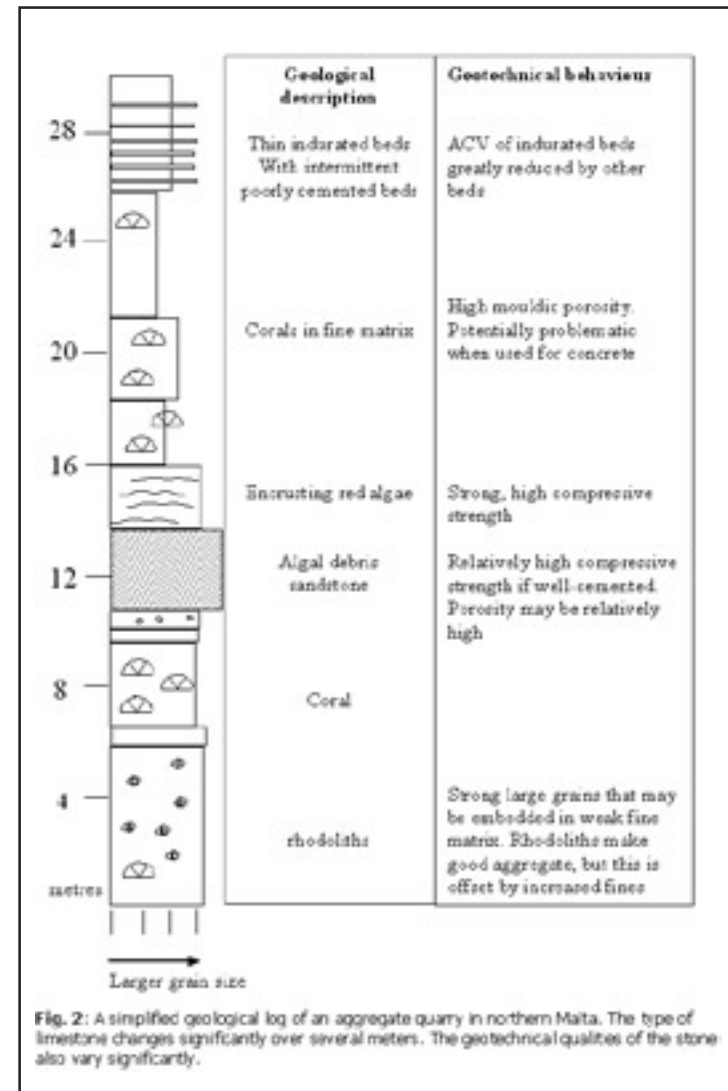
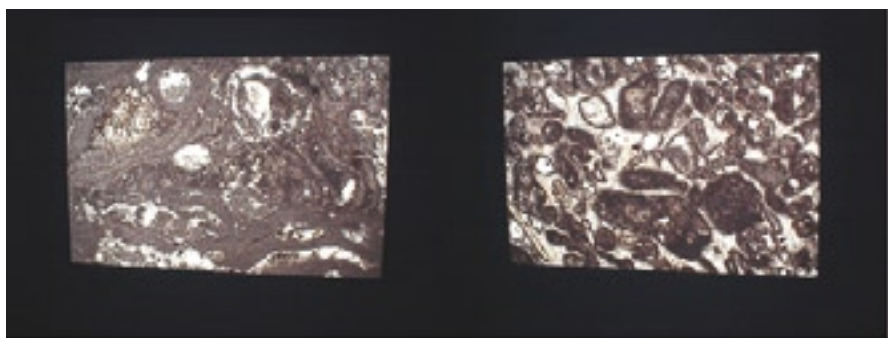


Fig. 2: A simplified geological log of an aggregate quarry in northern Malta. The type of limestone changes significantly over several meters. The geotechnical qualities of the stone also vary significantly.





**Fig. 3:** Photomicrographs (x40) of Lower Coralline Limestone showing its variable nature and texture; (a) Coralline algal constructions and (b) sand-sized algal debris limestone. (P.Gatt)

the rock or its quality.

This approach proves to be inadequate. Meanwhile, the Minerals Subject Plan (2001) has not offered solutions to the problems of rock classification and the occurrence of poor quality rock on the market.

In the past decade, tentative studies to classify the Lower Globigerina Limestone Member (from where dimension stone is won) were based on its geochemical composition (Vella et. al., 1997) and describe the anomalous non-Carbonate content (dominated by SiO<sub>2</sub>) within a number of strata. These geochemical differences have been used as a basis to differentiate franka (freestone suitable for masonry) from soll (Cassar et.al., 2003). The problems of this approach are:

- It disregards the carbonate fraction which comprises >90% of local limestone, especially its biogenic structures responsible for localised porosity variations that directly influence salt crystallisation in soll.
- Does not document how the non-carbonate fraction is responsible for the poor weathering qualities of soll.

### CLASSIFICATION SCHEME BASED ON LIMESTONE TEXTURE

There is an urgent need for practical classification schemes for limestone that would enable the architect and civil engineer to make preliminary and quick assessments of rock quality at the quarry or building site. In addition, these will enable the "finger printing" of the stone and guarantee that the limestone delivered from the quarry to the construction site is similar to the representative rock samples tested earlier in the laboratory that have fulfilled the specifications set in the tender document. This will ensure that contractual agreements on quality of aggregate are honoured and cause for litigation avoided.

Local limestone is a composite of grains of variable sizes in a matrix of fine calcite crystals. This texture is readily discernable

in the field with the naked eye or with a hand lens. Detailed rock texture and fabric can also be determined by petrographical analysis using thin sections (figure 3), which is becoming an increasingly important procedure for aggregate classification in ASTM and British Standard (Smith & Collis, 1993). A limestone classification scheme based on textural features, namely grain size, has these advantages:

- The physical properties of the limestone rock are intimately related to its texture, namely the size of the grains (figure 4).
- Durability and porosity of local stone is also related to another textural feature, the level of calcite cementation.
- Grain size and cementation are linked to the same conditions at the depositional palaeoenvironment, and consequently are generally positively correlated.

Generally, larger grain sizes tend to be correlated to higher compressive strength. In fact, grain size has been the basis for methods of extraction. Fine-grained rock (namely franka) is cut by circular saws for the production of dimension stone, while in aggregate production coarser-grained rock (zonqor and qawwi) is blasted and crushed.

### FACTORS AFFECTING LIMESTONE TEXTURE

Besides grain size, the presence of a number of other textural features may improve limestone quality. These textural features in coarse-grained rocks include:

- Large biogenic structures (namely rhodoliths) give added strength to the rock and have been targeted by the local quarry

industry for aggregate production.

- High levels of calcite cementation.
- Recrystallisation of limestone: Several cases are documented by Bennett (1980) for the Lower Coralline Limestone. This is a process which modifies the size of calcite crystals in the grain and matrix, producing a compact material that nearly always increases compressive strength in Maltese limestones and accounts for other desirable qualities in aggregate (figure 4).

In the case of fine-grained stone, namely the Lower Globigerina Limestone Member, textural features affect compressive/tensile strength and its porosity, which permits rising dampness (responsible for salt crystallisation weathering that defaces Globigerina Limestone masonry):

- Bioturbation: Localised fabric and textural differences which create variations in grain size and porosity leading to differential concentration of salt crystallisation in the rock. When bioturbation is intense, the Globigerina Limestone can be defined as soll. Bioturbation is an indicator of rock quality and reflects its depositional environment (Goldring et. al., 2002).
- Pressure-dissolution seams that tend to increase cementation along particular horizons in the rock and blocks capillarity rise.
- Higher levels of cementation (difficult to differentiate from micritic matrix) improve compressive/tensile strength.

### THE APPROACH TO ATTAINING QUALITY LIMESTONE

Selectivity of rock on the basis of textural features which can be broadly identified in specific beds should start at the quarry. Changes in the style of extraction are also required. This approach has to be supplemented by further education of Civil Engineers to assist them in identifying limestone textures. A three-tier approach to limestone quality selectivity is proposed here:

1. Rock benches in quarries should reflect vertical variations in rock quality in the quarry. Each bench can be categorised according to the quality of rock won (a function of limestone texture). This will broadly improve selectivity during the extraction

process, although it may require an increase in the number of benches. Benches are presently only associated with accessibility in the quarry.

2. A national database of limestone types, specifying texture, geotechnical properties and petrographical characteristics of each limestone type is required. The complexity of factors affecting texture and physical properties of Maltese limestone have resulted in a reasonably large variety of rock types that can be identified and included in the database. Each rock type may have physical characteristics that are optimal for only particular uses in construction. For example, a local aggregate which is competent for road construction may be less suitable for use in concrete. If exploited, such variety would be an advantage for the local construction industry.

3. A simplified version of the rock classification database, incorporating grain size and texture can be designed for use in the field by architects and civil engineers.

#### Author profile:

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Texture	Fine-Grained (<0.2mm)	Medium-Grained	Coarse-Grained (>2mm)
Diagenetic Imprint	Poorly cemented	Fine-grained recrystallised	Well-cemented
Geotechnical Properties	Increasing compressive strength, reduced porosity (absorption) →		
Uniaxial Compressive Strength	5-20MPa	20-70MPa	70-100MPa