Cork and the Future

Inspired by Cork’s designation as European Capital of Culture in 2005, the editorial board of Architecture Ireland developed during the summer of 2004 the idea of a Cork Special Issue. Following an enthusiastic response from Cork architectural practices and the organisers of Cork 2005, it was decided to time this issue with the official opening in January of a year-long festival of art, literature, music, dance, community activities and, of course, architecture. Several participating venues in Cork 2005, including the Glucksman and Crawford galleries and the Vision Centre, will stock this issue of Architecture Ireland, and it is hoped that this magazine will give Cork citizens and visitors a taste of Cork architecture.

In fact, the objectives of this Cork 2005 Special Issue are threefold: to feature outstanding projects that have been completed in time for the city’s celebrations as European Capital of Culture; to present imaginative new work and current development plans by Cork architects; and to explore the future of the city through a series of specially commissioned articles.

The Lewis Glucksman Gallery by O’Donnell + Tuomey, a major new cultural venue for the city, takes naturally a main role among the features on recent Cork projects. Described by our reviewers, artist Vivienne Roche, as a “ship in a storm of trees”, the sensitive sitedness of this landmark building within the existing university grounds is explored in this feature, as are technical issues relating to the complex structural design and the undiluted integration of services. New urban and infrastructural projects include an elegant new bridge by McGarry Ní Aonraigh Architects, which links the historic Cornmarket area with Shandy on the north bank, and Beth Gall’s inventive designs for Patrick Street and Oliver Plunkett Street. Cork architectural practices present new work ranging in scale from Vanier Morehead’s proposals for the regeneration of Knocknaheeny, an existing urban neighbourhood with over 3000 residents, to an intimately-scaled family resource centre for the local community in Mahon by Magee Creighton Architects. Cork is undergoing major changes at present, which is reflected in two important urban projects: an integrated development plan for the historic inner city site of the South Presentation Convent and a new civic gateway development – including a 17-storey landmark tower – by Wilson Architecture for Eglington Street.

Cork’s historic city centre is enclosed by the River Lee’s north and south channels, limiting development opportunities on the island itself. The issues concerning our contributors – Cork City Architect, Jack Healy; Tom Hegarty, a director with Reddy O’Korostie Staehli; and Sean Kearns of Murray O’Learcan Architects’ Cork office – therefore deal with the possibilities for higher densities and high rise. What these contributors have in common is their unspoken belief that the city lies in the much neglected and under-appreciated Cork Docklands.

While our objective has been to give as complete an overview as possible, there are undoubtedly themes and buildings that, for space reasons, we hope to explore in future issues. In addition, there are also many important projects that are currently just on site – from Reddy O’Korostie Staehli’s St. John’s College and de Blacam and Meagher’s campus buildings for Cork Institute of Technology to Shary Cleary’s Cork County Hall and ARK’s new offices for Cork City Hall – and we look forward to the realisation of these projects.

Finally, we would like to thank all contributors and collaborators, who so enthusiastically responded to our call to make this the 2005 Cork Special Issue.

Sandra O’Connell

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Lewis Glucksman Gallery, University College Cork

Architectural Focus:
The new Lewis Glucksman Gallery provides a cultural and artistic center on the University campus, located at University College Cork. From the entrance gates, the building includes gallery spaces, lecture theaters, a riverside cafe, and a gallery shop. The gallery works in collaboration with the wider community, becoming an important resource for Cork. Central to the building is the provision of changing exhibition galleries for exhibitions from the UCC Modern Art Collection and to serve for a wide range of functions and special exhibitions. In addition, the building was conceived as an educational institution that promotes the scientific, creative, and enjoyment of the visual arts.

Podium:
The podium is the point of access up to the gallery level and down to the café. The entrance hall opens onto the podium, which intersects with the route of pedestrian approach from the main avenue and the riverside path. The podium is clad in limestone, which relates the new building to the architectural language of the campus. It emerges from the limestone landscape like a meander winding through the natural landscape. Acting as a portal between the main avenue and riverfront, the Lewis Glucksman Gallery is both landscape and building: plan and pathway.
Gallery

The gallery is inserted among the trees in an interlocking suite of spaces with scaled views up and down the river, into the trees and towards the campus. The timber-clad gallery is intended to be understood as a wooden vessel, which resonates with its woodlands site. Gallery spaces are interconnected in plan and section to create a variety of scale and lighting conditions, appropriate to the exhibition of a wide range of artworks and artifacts.

Café

The café opens towards the west into the parkland between the river and the limestone escarpment, providing views from the lower ground to the college above.

Landscape

Sir Thomas Dakear's 1854 design for a neo-gothic quadrangle, dramatically sited on a wooded esplanade above the water meadows of the river Lee, is an important resource for picturesque architecture in Ireland. The grazing meadows, originally used by shepherds and a mill race, were reclad and churned at the end of the 19th century. The new building occupies a minimal footprint between mature trees which previously enclosed two disused tennis courts. By building tall, at the height of the trees, the bulk of the building is reduced and the parkland setting of the University is conserved.

Construction

The base of the building is a limestone-clad concrete structure with galvanised steel windows cut into the solid plinth. The timber-clad gallery spaces are supported on a concrete 'table' structure cantilevered from columns to protect the root structure of the surrounding trees. Stained aggregate concrete was trowel-bladed to reveal reflective mica in surface of the structure. Angiolo de Campogrosso, a sustainable hardwood, is trestled around the external envelope of the gallery structure with galvanised steel bay windows punched-out from the wall surface. Soffits are routed in the thickness of the walls and floors to minimise continuous visual intrusion in the gallery spaces. The intention is that the natural finish materials, sarsens, brickwork, galvanised steel and untreated timber should age and weather into the landscape.

Photography: Dennis Gilbert / VIEW
Connections and Coincidences - The Lewis Glucksman Gallery  
By Alexander M. White

"Largest: John Bernarr's 'panorama of the Mississippi' completed in 1946 showing the river scene for 1,200 miles in a strip 15 thousand feet in length and 12 feet wide was the largest painting in the world with an area of over 4 acres. The painting is believed to have been destroyed when the oil on canvas, stored in a barn at Coldspring, New York, caught fire shortly before Baran's death in 1894." 

The above quotation has been silk-screened onto an unprimed canvas (36 x 34 inches) by the American artist John Anthony Baldessari (1931-1997), a gift from Paul Bechtel and Armin Siepmann to New York University's art collection. It is part of the inaugural exhibition of existing art works from this collection in Ireland's most exciting new art space, the Lewis Glucksman Gallery at University College Cork. Placed to the right of it was Robert Baechler's 'Collage with Multr' (1963), a gift to New York University from architect Philip Johnson. Other works were by Jim Dine, Willem de Kooning, Allen Rine, Niki de Saint-Phalle, Robert Indiana - a fitting collection with which to open the new gallery and one that looks back to New York, where many of these artists first exhibited in Ireland. 

Recalling the old Irish proverb: 'A poet in verse is worth a hundred painters,' the poet of vision, John Baran, is remembered in this collection with the work of the nearby Cork City Courthouse to be completed by 1891. The two small canvases with even smaller letters were four historic events in time - a touchstone that expresses the site's cultural significance of the Glucksman Gallery. This Irish neo-urbanist building rises out of its formal 19th century setting, a magnificent epic vision of architectural form rising upwards, spreading outwards, encompassing turrets, trees, footpaths and the dark deep flowing reflective river. To refer to the building as a splash of color is to describe the creation, which challenges us all and which will grow with time and use as it is absorbed into the rich fabric of the cultural life of the University City of Cork.

Recall - the Poetry of Vision: the Glucksman Gallery is about space, art, architecture, people and connections.

Connections: On 6 January 1968, William S. Burroughs, the author of The Naked Lunch, described West Cork-based John Minihan as 'a painter, photographer' when John photographed him with Francis Bacon for his exhibition 'Bacon Beckets Burroughs' in London. On Saturday, 4 December 2004, I paid my first visit to the Glucksman Gallery and met the young attendant Paul Barry who is a great admirer of the works of Francis Bacon and who as a teenager had worked for the same William S. Burroughs in Lawrence, Kansas. An unexpected moment, a connection between the two generations of Pyrro blocs of Burroughs, Ginsberg and Beckett, and 20th century Europe and Cork through Bacon, Beckett and Minihan. This cultural connection was made in a building that will continue to connect and to explore the sublime spirit of the University and the city as we enter into this most important year of European Capital of Culture 2005.
"Like a Ship in a Storm of Trees"

Review by Vivienne Floche, Artist

Not since I came upon the Carpenter Center for the Visual Arts in Harvard, as a young student on summer work, have I been so excited by a new cultural building. The discovery of architecture as a medium that could move me was part of my response to Le Corbusier’s building in Harvard. O’Donnell + Tuomey’s stunning new Lewis Glucksman Gallery is set along the main avenue of University College Cork, where it rises like a ship in a storm of trees. Dramatic in form and setting, the building is not itself an exhibit but a wonderful vessel for experiencing art.

As an artist I love this building. It is immensely satisfying to experience a gallery where all the requirements for installing and showing work have been handled with such imagination and restraint. The scale and variety of gallery spaces are sympathetic to their purpose and this has been achieved by careful analysis of light and site.

The high aesthetic standard set by O’Donnell + Tuomey Architects should elicit quality responses from artists and curators alike. This is real development in a country that now has a large and demanding public for art, and a mature body of professionals in the field.

The architects made an inspired choice in creating a pavilion building with a minimum footprint, yet set at the same height as the surrounding trees. The material, colour and textural exchange between building and landscape is an ongoing conversation, where time of day and season set the tone.

The selection and use of materials is one of the strengths of the design. Cast concrete, Carlow limestone, clear and opaque glass, two types of timber (Angelim used externally and oak internally) and galvanised steel have all been used to great effect. The concrete is sand-blasted so that its granite aggregate sparkles. The way in which pattern has been employed to give mass to the other materials is a visual delight and keeps the building human in scale. The quality of build is evident throughout and it is this, allied with design detail, which is noticeable on entry. Wide limestone stairs and a large galvanised lift have equal appeal to bring the visitor to the galleries above.

Art looks great in the Lewis Glucksman Gallery, as is apparent in the opening show. The temperature-controlled, light-sensitive middle gallery presents prints by Albrecht Durer, with contemporary shown work above and below. The flow through individual exhibitions is a natural progression, maintaining a sense of unity about the space.

The gallery space has been well described elsewhere but for me it is the unusual aspect of transparency at the central core that is most remarkable. While one progresses through the galleries there is simultaneously the option of returning to view what has already been seen. This makes it easier to see the relationship between various works on exhibition and keeps the viewer in control of the gallery experience.

The use of curved corners in the design is also intriguing. The walls of the first gallery curve at the edges while the main gallery curves at the centre. One would assume that the use of curves in a gallery limits the walls for hanging art but in this case, mainly because of the scale of the rooms, curves also create areas perfect for placing sculpture and for making separate installations. The untreated, sawn-cut oak floors are finely detailed, while remaining neutral to the display of art.

Light in a gallery is always of interest to an artist. Huge galvanised-framed windows, which separate the openings from the gallery walls, are very sculptural but do not intrude on the art on show. The views into and through trees keep one scored to the world outside. The Framing of St. Finbarre’s Cathedral (to the side of the main gallery) almost makes a new work of art for Cork. Sits in the ceilings, which house the lighting system, serve a dual purpose in going onward direction.

Holes have been inserted into beams over a void in the foyer and elsewhere in the gallery. These can be used to suspend works of great weight, which makes the whole building sculpture-friendly.

A sleek restaurant is located below the galleries andoyer at garden level. A glass wall opens to allow the paved area outside to become part of it.

The space around the Lewis Glucksman Gallery has potential to be developed as a sculpture garden. The woodland setting and riverside walk, which have been opened to the public as part of the development, give added value to this idea.

The opening of new public gallery is a major cultural event. It is ten years since the publication of the first Arts Plan for Ireland, when Cork was designated “a centre of excellence for the visual arts”. As President of UCC, Gerry Wilson has shown imaginative leadership in seizing the opportunity to fund and deliver a fantastic new gallery to the city of Cork just before the opening of its designated year as European Capital of Culture.
"The Realisation of an Exceptional Architectural Vision"
The Structural Engineering Perspective

By Peter Anthony, Horgan\ Cyril

The structure of the Lewis Glucksman Gallery consists of two significant masses: a solid conventional block, to podium level with a larger plan mass hovering above. Both forms are separated by a minimum of supporting columns, located inboard of the edges of the upper mass. The image of the upper mass and its supporting columnar structure is of a waiter elegantly and skillfully balancing a loaded silver platter aloft on outstretched fingers. The requirement for a relatively column free zone at podium level and the existence of a large cantilevered structure above this level posed the main challenges. These challenges were amplified by the asymmetric nature of the plan form.

Preliminary approximate hand calculations readily established the primary structural sizes. Due to the asymmetric nature of the structure, a 3-dimensional model was required to assess load paths and help establish a full understanding of the relationships between floor plate and wall structure.

The lack of balance in the cantilever structure above podium level resulted in the requirement to rely partially on the internal core wall construction to provide the required restraint. This restraint was not always available on the axis of the cantilever construction, which necessitated stress analysis for some elements of the structure.

It is normal practice to model elements or sections of a building in the course of design. However, in this project it was deemed necessary to model the entire building structure including all floor, column, beam and wall elements to mobilise all possible support and stiffness of the structure. A finite element structural model was produced using the practice's commercial structural design software (Figures 2 and 3). This model was honed and refined on many occasions as more was learned about the structural nature and action of the building.

The main structural materials of construction are reinforced concrete and rolled steel structural beam and column sections. The construction to podium level is conventional with a piled reinforced concrete basement slab, loadbearing reinforced concrete walls and reinforced concrete podium level slab. The mass of this section of the building acts as a physical counterbalance to the upper cantilever section.

The underside of the slab over podium level presents a flat concrete soffit. However, this masks the structural orthogonal grillage of upstand beams, with beams cantilevering up to 12-metres. A timber joist structure is laid on top of the concrete beam grillage to support the oak gallery floor boarding. This concrete slab and beam floor plate acts as an in-filling structure to support the building over.

The structure above the entablature level over the podium consists of a reinforced concrete core wall and floor structure and perimeter structural steel column and floor beam grillage. The central core structure contributes to the overall building stability and helps balance the asymmetric cantilever loading.

The external steel frame envelope supports the lightweight external cladding and upper floors and roof. The overall structure of the gallery is illustrated in the progress photograph shown in Figure 1.

The structural glazing forming the central entrance and display area consists of both hanging and floor-bearing glazing panels, which are restrained horizontally by three ply-laminated glass fins to which they are structurally bonded with silicone. The height of the glass fins exceeds the available glass sizes and as the architects did not wish to use steel splice plates, which is the conventional splicing method for such use, it was initially proposed to use a glass glued mortise joint between fin sections. However, as validated procedures were not available for such techniques and the budget for testing was restricted, it was decided to cantilever the fins both from the ceiling and from the floor.

The quality of exposed concrete finish achieved in the columns, walls and particularly the soffit of the cantilevering slab over podium level is excellent and a credit to the PJ Hegarty construction team.

The story of the structural engineering of the gallery is not one of employing unique, classical or singular structural devices in an overt or obvious manner but is one of using advanced analytical techniques to maximise the structural capability of conventional materials used in a conventional manner to assist in the realisation of what is an exceptional architectural vision. It was a challenging and very rewarding journey for all concerned.
"A Building for Paintings not Pipes"
The Role of the Building Services Engineer

By John Burgess, Arup Consulting Engineers

Art galleries demand a highly controlled environment for the preservation and safe keeping of their collections as well as loans from home and abroad. Lighting systems, control of air temperature, humidity and cleanliness, sound/PA systems, security systems, fire protection, amenities for staff and public, all play important roles in the successful operation of a gallery. To deliver these services within tight fiscal limits, and in a manner that minimises the environmental footprint of the building, places 'Houdini-like' constraints on the building services engineer.

Heating, Ventilation and Air Conditioning (HVAC) Systems

The HVAC systems have been selected from a palette of innovative technologies, carefully adapted to match the requirements of each space while optimising the benefits of energy-efficient solutions. The main source of heating and cooling is provided by the Ground Energy Thermal Transfer System (GETTS). Two water-cooled chillers generate both chilled water at 7°C and heating water at 55°C at the same time. The heat of rejection from the cooling process is fed directly into the heating circuits. Excess heat or coolant is transferred to ground water through a plate heat exchanger. This ground water is sourced from two 12-metre deep wells and is discharged to a holding tank for use in toilet flushing and landscape irrigation. Excess water is discharged into the river. The chilled and heating water is distributed throughout the gallery to fixed air handling units located in mezzanine plantrooms within each gallery.

Ventilation is supplied to the galleries at low level using discrete building elements such as the lower steps on stairs, window floor boxes and locker cabinet pedestals. Overhead grilles or wall nozzles diffusers were excluded to keep ceilings and walls free from intrusion.

The entrance foyer to the gallery introduces us to the undercroft of the gallery spaces. Use of glazing allows passers-by to view in and up to the galleries. Trench heating and lighting located at the base of the storefront glazing complements the effect in an inconspicuous manner, with under-floor heating in the foyer and public toilets.

All systems have been designed to minimise noise intrusion to the gallery space. This results in larger, low velocity duct distribution systems and acoustic attenuation on all plant, including the use of specially lined drainage systems. Services have been threaded through the building fabric, using normally out-of-bounds zones such as the space between floor, wall and ceiling joints. This provided a challenge to all who worked on the installation of the systems, requiring a very close team effort in the coordination of both spatial and programme issues.

The HVAC systems are controlled by a Building Management System (BMS). Triple redundancy temperature and humidity control is provided for each of the gallery spaces. The BMS also monitors energy consumption information which will provide feedback and verification of design study results undertaken early in the conceptual stages of the project.

Lighting

Daylight is permitted in the wrap-around galleries that surround a windowless room for special collections sensitive to natural light. Glazed areas in the galleries are fitted with motorised blinds to control daylight penetration.

Bespoke lighting for all internal and external elements of the building provides for user-control of the lighting themes in the galleries, while accentuating the architectural features in a sympathetic manner. Wall washers are arranged in a linear array along perimeter gallery walls to provide a uniform light background. Internal gallery walls are illuminated using tungsten halogen spotlights, fitted with a UV filter lens and sculptural lens, adjustable to provide flexibility to suit the particular exhibits on show.

All luminaires in the gallery areas are fully dimmable. A programmable automatic analogue lighting control system is used to provide a number of scene settings to suit various occasions. The system can also be used to provide security lighting and is linked to the building intruder alarm system.

The Building in Use

The Glucksman Gallery, a prestigious cultural resource for the Cork area, demonstrates the successful implementation of energy-efficient technologies. Energy use and carbon dioxide emissions have been reduced to 25% of that of conventional systems, from 252 to 95 tonnes of CO₂ per annum, an important and tangible benefit in helping Ireland to meet its commitments under the Kyoto protocol. The role of the building services engineer is crucial in assessing economic and environmental impact of the innovative technologies and in ensuring the safe and efficient implementation and operation of these systems.

The external appearance of the building has not been affected by the services installations. Passers-by will not be able to see or hear the systems that are working away to provide a high spec controlled environment for the galleries, restaurant and kitchens. Visitors will not appreciate the vast array of systems that have been installed to permit this gallery to operate at the demanding requirements of the international stage. But it would be out of place to expect anything else - the whole point is to see paintings not pipes.