

architecture  
urbanism  
environmental  
issues • in the  
Cambridge  
city region



J. Lander

# LEARNING CURVES

An eye-catching building on Hills Road has just been completed for the Faculty of Education. Set back slightly from the road the new faculty sits among trees next to Homerton College and now houses one of the largest groups of educational researchers and teachers of teachers in the country. It has six professors, 80 lecturers and, by 2010, it will have an annual throughput of about 1300 students; the one-year Post-Graduate Certificate in Education course (PGCE) forming the major group, the remainder being undergraduates and graduates following higher degrees or CPD courses. For years the faculty struggled with hopelessly outdated buildings, spread across three separate sites, so it was with great excitement that the Faculty moved, earlier this year, into its new building designed by Building Design Partnership.



The client user group, set up to find and brief an architect, were clearly looking for some sort of statement and they wanted a practice 'with panache' who could deliver a new building with a strong identity, celebrating the newly integrated department. In some respects BDP were a surprising choice. True, they are one of the largest firms of architect-led multi-disciplinary practices in Europe but they do not have a reputation for creating 'landmark' buildings. Perhaps it was their Hampden Gurney School in London, short-listed for the 2002 Stirling Prize, with curved glassed-in 'playdecks' stacked up like a Tokyo driving range, that impressed the group.

Four concepts for the building were put forward by BDP but in the end the one known as 'Street' was chosen as it seemed to best express how the building would be used with larger spaces needed for communal activity on one side - cafeteria and library - and more cellular spaces for teaching and offices on the other. Running between them for the full height of the building a narrow atrium or 'street' would connect everything together with glass lift and flying bridges providing the catalyst for social and academic interaction. Chance meetings are seen as vital in a large department where members leave and return in a continual dynamic process; those on teacher training spending time away on teaching practice and teaching professionals fitting studies in between full time employment.

Though there is an obvious functional connection between the new building and Homerton (presumably the college's teacher training traditions were a strong factor in the selection of this particular site) in visual, architectural or landscape terms no firm link has been established between the two. This leaves the new whale somewhat stranded on Homerton's northern beach, the site feeder road taking a big swing around it. On the other side is Trumpington House, a listed building set in a mature garden with large beech trees.

Architecturally the two halves of the building are treated quite differently. The southern, cellular part is quite conventional with buff brick cladding, flat roof and simple fenestration. The northern half is a complete contrast, a timber framed structure fabricated and clad by German subcontractor Merk. It consists of huge curved laminated timber portal frames clad in cedar boarding and capped with a zinc roof which flows organically almost down to ground level on one side, curving up over the atrium and coming to rest on top of the heavier teaching block on the other. At the Hills Road end the two halves are clearly expressed with the atrium visible between and an over-sailing roof forming the main entrance canopy. The architects clearly invested a great deal of their creative



Top: the Street  
Right: the view from Hills Road



Photos J Lander

energy in this dramatic set piece and, up to a point, it works very well, though it is a pity that the projecting stair, given such prominence on the street frontage, is just a fire escape.

Elsewhere too there is evidence that functional considerations were sacrificed to the 'Big Idea', which is essentially a self-contained - and virtually un-extendable - organism. The street is a brilliant and exciting feature in itself but doesn't really lead anywhere creating a 'back' door that subverts the grandiose front entrance. Being an atrium the street also creates some serious acoustic problems, especially for the office spaces that open directly on to it. As we go to press these problems are being tackled with absorbent panelling.

Given the proximity of Hills Road the garden is actually quite a tranquil space but nowhere is it truly integrated with the building. The cafeteria would have been improved if it had been able to break out of the envelope with a better transition to the outside than just a single punched-in doorway. This is a building where landscape is only glimpsed from the inside, as if the outside world was somehow hostile. Where the garden is seen to advantage is from the library where, sunk partially into the ground, the occupants are given a worms'-eye view of the grass and trees. The library is a truly beautiful space and the most successful in the building; a series of mezzanine levels are reached by a curving ramp that winds around the womb-like interior; the views across and beyond into the garden framed by lashings of warm pine.

There is a commitment to environmental concerns, so no air conditioning has been provided. Instead cooling is by means of water-filled chilled beams and exposed concrete is used as a thermal sink in the heavier teaching block. The chilled water was to have been provided through an innovative borehole system but, when this proved impractical, a chiller was installed; an unfortunate set-back for the building's ecological credentials. Ventilation relies on opening windows and the stack effect of the tall atrium space, though on a hot day in June this did not appear to be working very well. Natural ventilation through atria in deep plan buildings needs a tall stack to generate air flow and clerestory windows at the top may not be enough, despite the optimistic red and blue arrows on the designer's section drawing. The lack of solar shading on the south elevation must also be questioned and roller blinds are now being replaced with venetians to allow a degree of control.

Finally it is worth a note that, in the same year as the death of Ralph Erskine, architect of Clare Hall (see page 6), a homage - conscious or otherwise - has been completed to him here at the new Faculty of Education. The curving forms, the sweeping metal roof, the prolific use of timber, the tall narrow atrium with angled bridges, the multi-level library - even the brick detailing of the rather more prosaic south elevation; these are all hallmarks of the Anglo-Scandinavian master and evidence of his continuing influence on organic architecture.

Jeremy Lander



South elevation  
Site plan (below)



Library interior



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Client: Estate Management & Building Service  
Architect: BDP  
Mechanical Engineers: Connell Mott  
MacDonald  
Structural Engineers: Whitbybird  
Quantity Surveyor: Turner and Townsend  
Interior Design Consultants: Baron Design  
Contractor: AMEC

# NANOSCIENCE

The Nanoscience Centre is intriguing both for its functions and its architectural expression. An interdisciplinary science which has grown out of engineering and physics, it involves microscopic research in ultra-clean vibration free conditions and requires an environment both technically exacting and user-friendly.

Sited in the emerging research campus in West Cambridge on the Madingley Road it is tucked behind the principal red brick buildings of William Gates, Microsoft etc and almost touching the Cavendish Laboratories in a slightly cramped area towards the southern end of the site.

The main building which houses the laboratories and clean rooms is long and low with a curved roof almost growing out of the ground on the approach side. The main entrance and research offices are set back with a grassed and planted approach. The entrance link has a secondary point of entry from the south connecting to the Cavendish Labs and the Coton footpath. On this side the Laboratories and Research Offices look into a turfied court enclosed with the Cavendish building. The physical relationship with the Cavendish is odd as the buildings are so different and there is little effective landscaping to achieve a transition

The interior of the research wing provides an attractive and colourful open plan environment carefully lit with teaching and administration in individual offices on the north and east sides looking into small garden areas

A lofty glazed corridor links the office space to the Laboratories and Clean Rooms. This is planned as flexible modular space serviced by a massive plant area above within the curved roof structure and within a narrow strip along the road frontage, which also caters for deliveries and cycle storage. The Laboratories containing the electron microscopes require a vibration free environment for 'scanning and tunnelling' to a scale thousands of times smaller than a human hair. This has necessitated up to five levels of structural and acoustic separation within the floor construction, benching and microscope stands. In the Clean Rooms the users pass through an elaborate cleaning area changing into special ice blue coloured suits

Discussing the building in use it was evident that the office space is already full to capacity and the freestanding 'social pod' attached to the main circulation, is having to be adapted as a meeting room. One researcher felt that the separation of the offices, laboratories and social space resulted in more travelling between areas, when awaiting results of experiments for example, whereas a more integrated approach, perhaps with a galleried plan would have allowed an easier transition.

Beyond the small decked area it was evident that the court was not very usable, lacking shade. Trees in this space might have reduced the need for some of the elaboration in the building envelope as well as softening and screening the rather ugly Cavendish building very evident through the large areas of glazing on this side

I felt some disorientation and discomfort in the main circulation corridor and the social pod with lack of parallel walls and ceilings etc. The angled service wall at the front of the Laboratories has resulted in the sliding access doors having to be mechanised. But the building also has some very good qualities. There is a freshness in the detailing and in the use of materials and colours and a lightness and modernity to the interior generally providing a very pleasant and humane working atmosphere.

David Raven

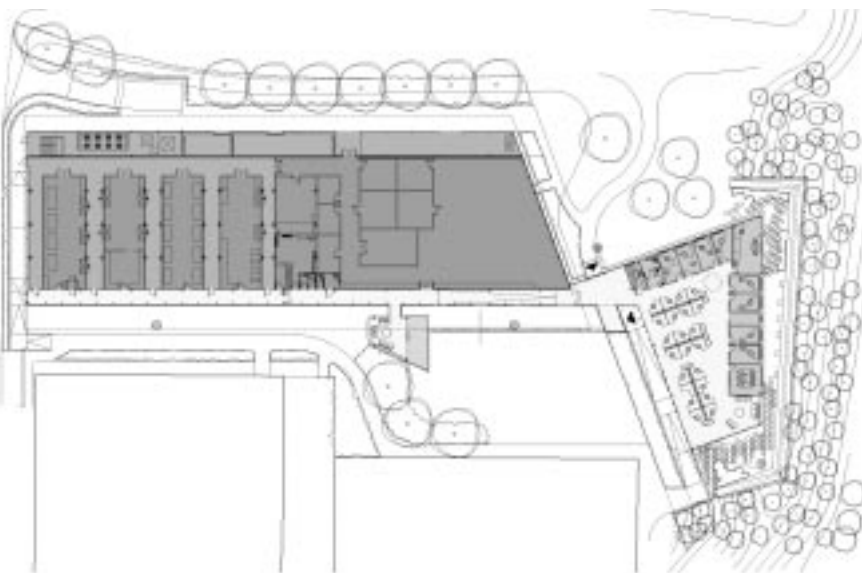


Block plan  
Section through grassed court (below)



View of laboratories with 'social pod' to left

D Raven



Floor plan



Typical clean room

© Martine Hamilton Knight/BDP



Cross section through main plant and clean rooms

# OPEN CHALLENGE

*The City's new senior planner wants a creative dialogue with architects.*

*Simon Payne is no 'ordinary' planner. He is, rather, more of a manager and enabler with a record of working at the cutting edge of social and economic change. As a manager, he will be responsible for everything from the city's planning and building control to environmental health and waste recycling policies. As an enabler, he will have to ensure that the city's planned expansion – an increase in area of 40% in 10 years – will enhance the inhabitants' quality of life. And he wants the local architectural profession to help him.*

## Regeneration and innovation

Birmingham-born Payne started work as a trainee planning technician at the age of 16. Starting with a national certificate in surveying and planning, he qualified nine years later with a post-graduate planning diploma from Birmingham Polytechnic. Later, he completed a master's degree in public sector management at Aston University.

Payne has always worked in the public sector. His first job was at Birmingham City Council where he stayed for 14 years, during a period extending from the second phase of post-war redevelopment to the early stages of the urban renewal for which that city is now famed. Along the way, he worked in the task force set up following the Handsworth riots. That innovatory cross-agency group was the prototype for the form of organisation now widely used to tackle regeneration projects. Later, he was seconded to the chief executive's office during initial discussions on the International Convention Centre and Symphony Hall – catalysts for the city's renewal and demonstrations of the importance of a clearly defined vision in urban regeneration. Another innovation was the creation of multi-disciplinary teams in area offices. Payne headed the planning input into one of these, working on area regeneration with architects, environmental and housing officers alongside residents (often from minority groups).

In 1988, Payne moved to Stratford-on-Avon, a district council covering half of Warwickshire including 250 settlements and 113 parishes. He was there for 16 years, rising to become head of planning and building control. The town has distinct parallels with Cambridge: a historic urban fabric, many tourists, strong development pressure, high property values and demanding residents. The challenge was to turn the negative energy of 'nimbyism' and resistance to change into a positive force. Strongly influenced by work in West Dorset, Payne initiated a debate on urban and rural design quality and appointed an urban designer and a statement officer. These officers worked with local communities that produced village design statements describing the special nature of a place and setting out key principles in maintaining local character and avoiding

mindless pastiche. 'Design,' he stresses, 'is something different from following inflexible standards.' The village statements were linked to the district design guide – an example of creating opportunities for architectural design within a clear framework for which, in 2002, Stratford was awarded an RTPI national award.

## Change in the Guildhall

Most of Payne's Cambridge predecessors were architect planners. However, the responsibilities of the Director of Environment and Planning have increased significantly in recent years: the Director now has five heads of service reporting to him – a reflection of a more integrated approach to running the city. In planning, his role is strategic – devolving tactical issues to Brian Human (policy and proposals) and John Summers (development and building control). Strategically, Payne must orchestrate conditions enabling growth and change to take place with public support. Tactically, Human and Summers must ensure the highest possible development standard. It seems a reasonable way of tackling the challenge and Payne is in no doubt that he has got one of the most interesting jobs on the planning scene.

Priorities for his large department are 'Performance (delivering what we promise), customers (meeting their needs whether they be the public, designers or developers) and excellence (the Cambridge factor). In all this, the planners have two particular roles – regulation and going further than that, towards excellence. We've got to deliver on the sustainable city agenda – making sensible decisions for the future now. Improving the quality of life for everyone is the key issue. Infrastructure, particularly transport, and the cost of housing are major concerns.'

Payne declines to comment on the widely criticised cattle market site: he's looking to the future. The department's new urban design team, led by Glen Richardson will, he asserts, make a big difference to the quality of future developments. 'People won't relocate into the new growth areas unless they are of a really high quality. Developers, who now understand that "life-style" is an important choice in purchase decisions, will be competing for buyers. Expectations are high and there's a role for architects and planners to raise them yet further. What matters is that the architecture should be part of the urban design – architects have to work creatively within that framework.'

## A huge opportunity for architects

Commenting on the success of the CAA's Michaelhouse exhibition, Payne said, 'There's a huge opportunity for architects to engage constructively with planners and elected members. Every member of the Council is involved in planning decisions and, following the CABA agenda, the city now has two "design champions" – Councillors Sian Reid (design) and John Hipkin (historic environment). The David Irwin awards have raised the profile of architecture but there's lots to talk about, such as MMC, and, if we undertake the debate in isolation, we won't carry the public.

'I am not cautious about my ambitions – I want people to become involved in the debate. My department is organising itself to allow this. As skilled urban designers, we are enablers - not dictating solutions, but creating the framework which architects must then exploit. Let us look at what might be possible. Architects must be given every opportunity to explain the rationale of their designs through pre-application discussions on sensitive schemes, presentations to committee and, later, looking at the outcome with members and officers. We should share information on training schemes on a multi-disciplinary basis. And we've got to find a way of ensuring that contractors understand design intentions and that owners fulfil maintenance requirements. Above all, we must adopt a holistic and sustainable approach that will develop the quality of life the people of Cambridge demand.'

So what might be the implications for the local architectural profession? Well, if it really does want to influence the city's future development, it is going to have to respond to change in the Guildhall. In so doing it might even get a larger share of the action. Setting up alternative groups and showering the City with criticism is no answer – finding common ground is. With that projected 40% growth in 10 years collaboration can't begin soon enough.

Peter Carolin



New city planning officer Simon Payne

## PROCEDURAL CENTRALISATION RULES

Government policy to create centralised procurement procedures for new development through partnerships and joint procurement strategies is moving into the university sphere. At a recent conference of university estates directors widespread backing was given to a scheme for developing a procurement model for new university development, which was presented by a group led by Cambridge University, assisted by industry improvement group Constructing Excellence in the Built Environment (CEBE). The model (Procure 21) adopted by NHS Estates for health projects, is to be examined as a potential template, notwithstanding that it has been widely criticized for slow delivery.

Although inaugurated as voluntary it is likely to have major implications on the future physical environment of Cambridge University, where the diversity and quality of modern development has attracted international attention. How long before the Colleges are drawn into this? Arguments for the new initiative anticipate significant cost savings through the streamlining of procedures. Universities have come under increasingly close governmental control following the expansion of higher education after WW2, and given the dirigiste proclivities of the present administration, and the crisis in university funding, standardisation and a lowering of design quality are inevitable. Or are they?

This question is not inseparable from wider and burgeoning issues. Is there a time when expansion and the consequent economic dependence, commercial or governmental, diminish the university as a site of independent authority to a point of insignificance to the world at large? Since the creative hiatus of the post-Robbins university expansion, interest in the morphology of the campus has lost its momentum. The reflex effect on the university of science and technology based commercial enterprise, and on related institutions like Addenbrookes with its medical school and the MRC, is a major influence on development. The scope of the expansion is such that calls into question traditional notions of the university as institution. The focus on procurement and the continuing growth of a simple aggregative nature regardless of changing function somehow seems to be looking in a different direction from the urgent need to reassess the nature of university as an institution and its physical and organisational character.

CL



D Raven

## Architect & Landscape Architect : BDP, London

Building Services Engineers: BDP, Manchester

Civil & Structural Engineering: BDP, London

Project Coordinator: BDP, London

Cost Consultant: Gardiner & Theobald, London

Contractor: Shepherd Construction Ltd, Huntingdon

Clean Room Specialist: BDP Advanced Technologies, Manchester

Clean Room Consultant & M&E Contractor: Clean Room Construction

(London) Ltd

# A CHANCE TO SHAPE CAMBRIDGE



Simon Hawles



Thirty teenagers had the unique opportunity to **shape** how Cambridge will look in the future at a series of workshops in July. The two-day Making Neighbourhoods workshop series was devised by shape Cambridge, the architecture and built environment centre for the East of England. Working in close collaboration with Cambridge City Council and heads of geography from two local secondary schools, shape Cambridge developed a dynamic way to engage young people in the planning of two key sites of major change on the city's southern fringe.

On the first day of the workshop, geography students from Parkside and Coleridge Community Colleges spent an intensive six hours brainstorming their urban design ideas for two areas earmarked for development – Trumpington Meadows and the Clay Farm/Showground site. On the second day, the enthusiastic 14 and 15-year-olds were given the chance to present their ideas in person to the Mayor, local politicians, developers and members of the city's planning team in the council chambers at the Guildhall. For the first time in Cambridge's recent planning history, these students had the chance to submit their ideas formally to the city's Area Development Framework – a document that will help guide planners in detailed matters of development over the next ten to 15 years, including design, transport, building density, open space and sustainability. Ben Koralek, director of shape Cambridge, briefing the workshop told the youngsters "this is your chance - to take on board the role of an engaged citizen you have to have an understanding of the planning process." Introducing secondary students to the principles of urban design empowers them to articulate their priorities and express their vision for better places to live.

This workshop series has been in the pipeline since November 2003, when six members of the city's environment and planning team took part in an urban design workshop hosted by **shape** Cambridge at Netherhall School. Ever since, ways of engaging young people and local authority planning officers in a collaborative process have been explored. For the city council, it was an exciting opportunity to involve teenagers in a decision-making process that often fails to capture young imaginations. According to Pen Hird, the city council's consultation officer, it's difficult to engage young people - if they get a leaflet through the door they think it is for their parents, not for them. But this development is going to have a huge impact on the lives of today's teenagers.

Many of the students who took part in the workshop realised for the first time the importance of making an impact on the future development of their city. Views of the 14 year olds were emphatic - "I used to think that expanding Cambridge was a bad idea because there were too many houses, but now I think it's good to have the facilities. I'd like to live in the area we've designed and raise my family there" - Stephanie Isle. "The point of doing this was to get our views heard, it's important that adults listen to young people because they might come up with good ideas" - Layla Sefiani.

Some of the more innovative urban design ideas that came out of the workshop included a "friendship park" featuring a mosque and a church alongside each other to encourage peace rather than enmity. And there were lively discussions about the relative merits of small corner shops over superstores, as well as the importance of green space, with solutions ranging from pocket parks sprinkled among high density housing to dedicated open spaces.

Summing-up, Glen Richardson, the city council's Urban Design Manager said he was really impressed by the students' efforts, which were very thoughtful and creative. "It's great to have been able to engage young people through **shape** Cambridge, because it's only through asking for their views that we learn what's important to them. These young people have demonstrated a particular interest in community facilities, sports uses, open spaces and recreation, amongst others, that's an indication of their priorities."

The City Council's planning team is committed to listening to some of these priorities when working out how to accommodate 4,000 new homes in the southern fringe of Cambridge over the next five to ten years. Again in the words of Glen - "it is important for the City Council to understand these interests and to work in partnership with other authorities and the developers to deliver facilities that will serve the needs of young people for years to come."

Vicky Anning



Erskine in the Michael Stoker building

## RALPH ERSKINE

*The celebrated and influential architect Ralph Erskine died earlier this year. He was born in England in 1914, went to the Quaker School in Saffron Walden and studied architecture at Regent Street Polytechnic with, among others, the 'townscape' illustrator Gordon Cullen. He travelled to Sweden in 1939 and, when war broke, his requests to return to England and join the Ambulance Corps were denied. Even though Sweden then became his home he worked on several important commissions in Britain, most famously the Byker Wall in Newcastle in the early 1970s, the 'Ark' in West London in the 80s and, of course, Clare Hall in Cambridge. Here Nicholas Ray describes what it was like to work with him.*

Ralph was that most unusual phenomenon, a modest architect. Or rather he was arrogant in the right way.

He had designed the graduate buildings at Clare Hall in Cambridge in the 1960s, introduced by Don Holister, a Fellow of Clare with whom he had been a student. Twist and Whitley were the executive architects. Some fifteen years after the original building had been completed, the college was in a position to expand, and architects were interviewed who would be prepared to act in a similar capacity for the next phase. I was a partner at Hughes and Bicknell at the time, and we were fortunate enough to be appointed for what is now the Michael Stoker Building on Herschel Road.

The original building is one of the few designs from that period that has been held in continuous high regard by its inhabitants as well as by architects. Indeed, when Clare Hall, which until then had only been an "approved institution", gained full collegiate status, its President Michael Stoker gave much of the credit for its success to its design, and its architect. I had admired the building as it was being constructed, while an undergraduate, and had photographed it at that stage. It was therefore a privilege to work with Ralph some years later. Ralph had already produced some sketches examining various different sites for a further building; they were rapid 1:200 plans and sections.

Once the site had been chosen, a narrow south-facing strip along Herschel Road, we met with Ron Lewcock, the

Clare Hall: 1960's building



For more information about **shape** Cambridge's Making Neighbourhoods workshops for secondary and primary schools in the East of England region visit [www.shape-cambridge.org.uk](http://www.shape-cambridge.org.uk). An Event Record of the southern fringe Making Neighbourhoods work-shop will also be available.

*shape* Cambridge is a member of a growing network of architecture centres throughout the UK that works closely with the Commission for Architecture and the Built Environment (CABE) to promote design quality in new buildings and to encourage community participation in planning decisions.

## DAVID URWIN DESIGN AWARDS

The David Urwin Design Awards for 2005 were presented at the Cambridge Forum for the Construction Industry's annual dinner on 7 April 2005. The awards, a partnership between Cambridge City Council, the CFCI and the Cambridge Evening News, seek to honour the finest building projects in the city. This year's awards were for the best works within the public realm and a total of 8 entries were considered. The judging panel were impressed by the 'fun' wooden sculptures in Cherry Hinton Hall Grounds, commissioned by Cambridge City Council Parks & Recreation Department and designed by Tina Carter and Peter Leadbeater. They were similarly impressed by the standard of work at the Senate House where the discreet nature of the disabled access ramp, designed by Freeland Rees Roberts architects, was felt to be 'a wonderful invisible improvement'. Freeland Rees Roberts architects were also commended for the new public toilets on Gonville Place (above left). The judging panel felt it to be a brave, striking building which has a festive spirit that matches the feel of Parker's Piece. Another Commendation was awarded to the Millennium Garden on the corner of Norfolk Street and St Matthew's Street, a joint venture between the Petersfield Area Community Trust (PACT) and Cambridge City Council. The judging panel were very impressed by the community involvement in the project and how well managed and cared for it was.

In the end however, the judges were unanimous in their final decision to honour the King's Parade – Senate House Hill streetscape improvements as the winning entry (above). The streetscape improvements were designed to improve accessibility to King's Parade and Senate House Hill, enhance the street environment and minimise intrusion by motor vehicles. The judges felt that the new streetscape had opened up the area and made it much more public-friendly by introducing objects such as the much-loved tactile models of the city centre. The works were felt to be a just response to one of the most sensitive and internationally renowned streets in England. Their one criticism of the scheme was that the temporary lighting and signage (which are the responsibility of the County Council) have yet to be resolved.

John Preston



One of Erskine's Christmas cards

architect fellow of the college, and a large bottle of whisky, and Ralph doodled a number of alternative solutions. He was prepared to examine all sorts of unlikely possibilities. Eventually we agreed on about four options, which were costed. Unsurprisingly the cheapest were deep double-sided corridor buildings that blocked views from the existing west-facing range. The best were single-banked, with galleries on the north side and all rooms facing south. I wondered whether we should offer all these possibilities: it would be very difficult to make a good building out of the most economic diagrams. "Listen", said Ralph, "there are two types of architect - arrogant architects who say: 'there is only one way to do it and that is my way', and bloody arrogant architects who say 'I am so clever I can do it any way you want'." Ralph placed himself in the latter camp. In the event the college agreed to the best, and most extravagant scheme, not only single-sided, but rising to a fourth floor of only one room and a roof terrace.

Ralph and a young Danish assistant did about five drawings, which were submitted for planning. But the Royal Fine Art Commission required more detail and we took over from then, sending Ralph copies of everything we did; the job architect was Tim Christy. Ralph was remarkably trusting, and when I showed him the final result reassured me that it was all fine. The most difficult lesson we had to learn was not to tidy up his elevations: few of Erskine's windows sit above each other since the wall is expressed as a hovering plane, not as a tectonic element.

Subsequently, for twenty years or so, my practice worked at Clare Hall on a number of projects, both on the original site and at West Court, my fellow-director Ken Caldwell being principally involved. Whenever we planned a new building for the college, we let him know. He never attempted to intervene, but occasionally rang up with a droll comment. On one occasion he had just returned from addressing a disorganised UIA conference in Barcelona, the plenary session of which had had to be moved to Isozaki's stadium. "And do you know what - I suddenly realised I was speaking in a work of architecture", he said. You could almost see the twinkle in his eye.

Nicholas Ray

Nicholas Ray is principal of Nicholas Ray Associates. His new book on Alvar Aalto, published by Yale University Press, will be available October.



Clare College: The Michael Stoker building

© Peter Cook



Gonville Place Lavatories

J Lander





*Eric Lyons' Highsett - a paradigm for housing development which has had little influence on subsequent development in Cambridge*

# affordable housing

## issues concerning provision and the nature of UK future demand

Few things are certain in life, but there are exceptions. There will continue to be an unmet demand for appropriate and affordable dwellings inspite of the predictability of demand and demographic changes is a definite. Such a prediction applies nationally, regionally and even more so locally. Another certainty is that studies concerning this issue will continue to be many and reflect a growing frustration at all levels of a failure to resolve the "problem" with an effective and long-term solution. Central government will apply the pressure for more housing starts, imposing daunting targets upon a resistant, conservative industry of enablers and providers. Yet the potential first time householder/ purchaser's needs are simply stated. This article takes a market driven approach to the issue and puts forward a number of radical ideas from which a solution could emerge.

Needs come first. Demographic changes are already having a major impact upon the demand profile of the UK Housing Market. The following facts apply. The number of people over 65 will increase from 9.4m in 2001 to 12.3m in 2021 and 16.1m in 2041. Improved healthcare and better lifestyles will encourage this group either to stay put in their own homes, downsize into more compact dwellings or move elsewhere within Europe. Preferences will be for mobility in every sense. Their needs and demand for affordable homes will be minimal. In fact they will free up larger dwellings to help the housing provision for larger families or multiple households.

The number of households in England particularly will rise from 21.0 m in 2001 to 24.0 m in 2021. Over two out of three of this 3 million increase will be for one-person households and one in five for multi person households. Both segments are new and overshadow the conventional family, married couple or single parent household.

Thus there are new customer groups with unfulfilled and unarticulated needs. Conventional housing estates therefore should not feature in future provision. Lifestyle preferences rather than population increases now determine the nature of demand. It therefore needs both imagination and new insights to determine the nature, location and infrastructure implications of the 21st century "new town". The challenge is to surprise and delight the first time buyer.

Affordable housing for rent or purchase is a major subset of the emergent one-person household. Housing for purchase and let is similarly a major subset of the multi person household. The former represents by far the greatest challenge to local authorities and developers. It is too simplistic to respond conventionally with multi storey buildings and apartments or conventional terraces with easier access, parking spaces and small gardens. New design initiatives need to take many factors into account and promote new living and better lifestyles whilst being guided by a radical but socially aware framework that sits comfortably within its environment. The context is set by the following major social factors – living with neighbours and yet securing privacy, cost effective and easy access to shops, mobility and flexible work patterns, and accessible opportunities for recreation and relaxation. The role of central government is to encourage innovative approaches to meeting these emergent needs, on the lines of the best seen across Europe and to discourage the conventional. As it is "central government's attempt to influence market behaviour through economic instruments, regulation and subsidies have combined to worsen the (housing) problem".

Better can also be cheaper, providing that authorities everywhere release land, the key factor in new dwelling prices, conditional upon such innovative approaches that both attract and satisfy the new customer – the one-person household. Such innovative approaches could also address the emergent needs of the other fast growing sector, the elderly, but is not the subject of this article.

In 2003 Dacorum Borough Council commissioned and published a Housing Needs Survey. Hemel Hempstead, Berkhamsted and Tring are the constituent commuter towns within 16 parishes, adjacent to the M1/M40 with good rail connections into London in particular. The population is projected to be just fewer than 150,000 by 2021. The key and relevant findings of the survey of nearly 10,000 households were

- 2 out of 3 households contained residents living there for over 10 years

- affordability was the major issue for newly forming households
- an ageing population with substantial evidence of significant and growing support needs
- a requirement for a more balanced housing stock with the emphasis upon smaller household formations in both the private and the affordable sectors
- an annual and immediate need for 750 more affordable dwellings, a 150% increase upon current supply.
- 20,000 households currently seeking to move home
- "concealed households" (embryo households presently living with friends or family) were identified in 7% of all households, two thirds of whom were under 30 years of age

The survey attempted to determine the housing needs and preferences but in the conventional sense of "flats, terraced houses, semi-detached". Such choices are neither imaginative nor revealing of the real needs. Nevertheless the survey demonstrates a real concern to provide a positive response to local housing needs. The insights alone should trigger off a more proactive local approach to reducing the gap between the supply and demand for first time affordable single-household homes.

The key is land release and a determination to overcome misplaced conservative and conservation minded opposition. The perfect example, making news nationally is here in Cambridge. Grantchester Meadows is a treasured beauty spot, an essential and substantial green corridor that brings the Cam river valley into the heart of the city. The proposals to use land owned predominantly by the local authorities, adjacent to both the meadows and the southern major approach road were fiercely resisted by local residents and the councillors. The debate became emotive and loaded with misinformation and the land not earmarked for development in either the County Structure Plan or Local Plan.

Yet here was the ideal opportunity for an imaginative and innovative pilot scheme designed to provide between 500 and 1500 affordable dwellings meeting the major housing need identified above. Apartments, duplexes and terraced houses, containing a maximum of two bedrooms could have been built to high ecological and environmental standards, mixed within the same building unit, set within a green landscape and yet invisible from the sight lines to the west and south west. There is a convenient 15-degree contour rising 150 metres from the road to the east that provides a shoulder upon which trees could be planted even before the construction work began. President John Kennedy said of early space exploration "some men see things as they are, others as they could be". The best of both worlds can be achieved with only a modest intervention from someone with insight that brings together the latest technology and materials with real housing needs and preferences.

The aim should be value not cost or price. In Leeds last year, 72 apartments were offered for £80,000 each - "a snip by local standards", but with only 250 sq ft they actually turn out to be the almost the most expensive in the city at £320psf.

It is the pilot proving project that is urgently needed, and a faster learning curve. Every local authority should be charged with the task of finding one – a minimum of 250 "affordable" dwellings, that attract single household key workers and not the two car conventional family with schooling needs uppermost in their minds. There may have to be a maximum figure set for each "development". Social structures and relationships need expert, professional and informed insights here. For Cambridge, safe cycle access to everywhere is the prerequisite backed up by regular and reliable transport.

Forty-five years ago Eric Lyons provided affordable housing for the emergent professionals. His modest developments on mature sites have stood the test of time and can be seen in Blackheath, Beckenham, Weybridge, Ham Common, Oxford and Cambridge. Good principles determined the type of dwelling, the range of options and the siting of units within mature woodland sites. The nature and role of residents associations has also provided a community of interests that is positive and effective in many aspects of living together. A twenty first century "Span" in every local authority is the challenge in 2005. Its success will be measured and critically appraised by its residents in 2050.

Malcolm Schofield



# HOUSING BY NUMBERS

The paucity of relevant architectural content in most new housing is a characteristic borne out of the modes of procurement and monopolisation of production by commercial enterprise privileged by government housing policy and agency, and its consequent commodification of the environment. Although house design continues to exert a fascination for architects, partly because of its elementary relationship to the basics of everyone's existence, partly also because it presents a problem for which there is no ultimate solution - only solutions, representing varied states of inclusion and exclusivity - the low level of professional solidarity towards advocacy of alternative forms of procurement is redolent of collective professional amnesia towards the social sphere.

Efforts to reintroduce a social dimension under the euphemistic political mantra of *Affordable Housing* coupled with the nostrum of *Sustainability* centre on a swathe of unspoken (unrevealed) and unverified assumptions implicit in government policy, and its applications leave many unanswered questions which it is hardly sensible to anticipate the general public ultimately finding acceptable; or future administrations, affected by the forward effects of these policies, accepting responsibility. In the rush to cut the talk and get the action, are we in danger of over-simplification and risking its consequences? For those of us older in the tooth, shades of earlier and similar expedient political intervention in the form of prefabrication and high rise tenements offer a prediction of future disappointment, albeit of a differently developed nature. We lack the cogent analysis supporting the proposed forms of new development.

The experience of most mass housing is depressing in its level of design content and layout, internal and external spatial quality, the unimaginative range of dwelling types, the illiterate archaisms and stylistic mimicry, the absence of authentic character and the poverty of cultural expression. The prospect of more of the same boosted by modern methods of construction (MMC) does not promise much in the direction of sustainability and attractive environments.

There is a need to create a better platform for interaction between the players in the environment field. In the past the Netherlands has provided a structural model that more comprehensively models the kind of framework that is necessary. A setting that provides a balance between administrative, executive, economic, social and civic interests and opinions, in partnership with suitably empowered knowledge-based, strategic planning and design expertise. Although the new environment agencies are in a fledgling state, there is cause for concern at the centralisation, the low degree of transparency and meaningful communication, the lack of balanced powers and the privileging of commercial, aka economic, interests that currently obtain.

If progress is to be made towards achieving environments of satisfactory social and cultural value, new and imaginative forms of interpretation and informed deliberative public debate are a necessary adjunct - less of the authoritarian public consultation and surveys of the models currently employed to manipulate public opinion on pre-formed projects. The promotion and building of active, participative citizenship is the route to building communities, not the deferential citizenship commanded from on high. The opportunities of the new development should be the locus for the induction of local energy and expertise on a more balanced footing; and recognition of groups as opinion forming associations representing those who are governed (civic society) as distinct from elected representatives representing those who govern (public service).

Malcolm Schofield's article highlights the argument for a market led, as opposed to a marketing led, approach to housing needs. The cost of housing is inextricably linked with availability and cost of land, forms of tenure (public policy distorts certain housing market frameworks) and marketing values are governed by location and public tastes, not by the material costs of providing housing. The Deputy PM's blinkered pursuance of the £60,000 house looks at probably the factor of lowest significance in the consideration of overall market value. Important as economic viability is, dwelling and habitat are too important to the quality of life to be derogated



*Experimental terraced housing, Copenhagen*

in such a wholesale manner, and government is remiss in its uncritical adoption of unadulterated market economics in housing provision. Treasury prudence is a clear impediment to new and imaginative ways of financing housing and community development in the public interest. The benefit of increased land value through planning should pass back through the system to social subsidy and monitored and structured research and development (commercial providers are reluctant to experiment....their concept of value restricts innovation"- Dickon Robinson AR8/05). Sponsorship of innovative policy measures that lead to added value of a social and cultural nature is needed more than questionable and bureaucratic PFI initiatives.

Returning to the subject of affordable housing, and the implications of a dual housing market, the term has become political jargon standing in for a range of concepts and points of view. It's a coded message for subsidised, as contrasted with 'open' housing; council or social housing in old currency. Lifestyle and demographic changes and not only scale and economic change have altered the constituency affected by the problem of being priced out of the housing market, and if nothing else, the social stigma attaching to subsidised housing has become an irrelevance, affecting as it does such a wide spectrum of frustrated residents.

There are more dimensions to affordability than the pure ability to purchase property, and better analysis of the problem and a more comprehensive and inclusive assessment of the issues are surely necessary now, given the ambiguity that has crept in to the debate and the spectre of unthought-through projects, and not least the current

*Rustat Road (below) Cromwell Road (bottom)*



*Experimental town houses, Copenhagen*



*Edwardian pastiche in Great Shelford - infill development which parodies and devalues the village heritage*

courtesy of Bo - | - By and Arkitektens Forlag

# SOUTHERN FRINGE



The new planning regimes in the Guildhall are taking effect and here Glenn Richardson (City Council Urban Design Manager) outlines the progress on the Southern Fringe, the most advanced of the fringe expansion projects for the City.

The formal recognition now given to the part urban design plays in the process is new to Cambridge and the first outcomes will be observed with keen interest. In the Council's report, under principal objectives and strategies, the urban design programme is clearly stated and promises a welcome and comprehensive attention to proactive design issues. At this stage it remains to be seen whether this predominantly planning-led approach will translate into design quality. Much depends on an insightful and relevant analysis of local character to inform future guidance to development.

City staff, with the assistance of County Council and South Cambridgeshire District staff, are leading in the preparation of an Area Development Framework to guide the detailed planning of the Southern Fringe. The framework will be a non-statutory planning document, in other words it will not have formal approval under the Planning Act as a "supplementary planning document", although it will represent a strong guiding statement of Council's intentions for the planning of the southern fringe. The purpose of the Area Development Framework is to provide guidance on various matters, including the physical layout of the sites (pattern of streets, open spaces, and arrangement of buildings); principal transport and movement patterns; location of supportive uses; approaches to sustainability; and planning obligations (section 106 agreements).

Significant public consultation has taken place over the past several months in regard to planning for the Southern Fringe. Consultation has included a public exhibition and meeting as well as a separate public workshop in March 2005. This consultation is in addition to a stakeholders' workshop held in October 2003, as well as significant discussions between City Council officers and individual developers and agents over the past two years.

The Area Development Framework is being drawn up in co-operation with the County Council and South Cambridgeshire District Council. The City recognizes that this is essential given the cross-jurisdictional functions that need to be considered, such as traffic planning and road design, landscape and open space planning, and planning for uses such as schools, a household waste recycling and other community facilities.

The timetable for the preparation of the Area Development Framework includes the preparation of the draft Area Development Framework, further consultation with the public, developers and authorities in September/October, and presentation of the final Area Development Framework to the City Council Environment Scrutiny Committee in November 2005.



Scolars' Court, York Street



Low energy housing, Cambourne - in denial of its heritage aping neighbours



Cambourne kitsch

(CONT. from page 9) shortfall in delivery against government targets. Analysis would provide clearer directions and open up avenues of comparison and new thought, for example:

- clarification of the implicated modes of tenure and solutions on offer - ownership partnerships/separation of land and building ownership etc
- control of market value and sustainability of affordable status beyond first ownership in a dual market
- comparison of initial costs/lifetime costs/running costs
- social and cultural costs
- land costs
- building types - shared housing/co-operative housing (effect of demographic changes on dwelling types)
- architectural concepts - typology/spatial configuration/shell housing/expandable housing etc
- construction concepts - pre-fabrication/modular units/rat-trad, energy efficiency
- procurement alternatives- self-build, innovative associations

There is primarily a need for collective and interactive R&D by all the agencies, institutions, professionals, stakeholders and procurers in house design, carried into model and experimental developments as a process in parallel with, and informing the implementation of new housing programmes. Government agencies should lead and enable, but leave the direction to the experts.

Colen Lumley

# URBAN DESIGN AGENDA

The City Council have approved an "Urban Design Agenda for Cambridge" setting out key priorities and underlining approaches to urban design for the City, as a function of the Policy and Projects Team/ Department of Environment and Planning. Areas affected include the major areas of change, major projects, and the public realm. The "Agenda" is aimed at providing positive guidance and ensuring the use of "best practice" in bringing forward urban design solutions.

In 2004 the Environmental Projects Team - with urban design officers, a landscape team, engineers and a consultation officer - was turned into an "Urban Design Team" with a strong role and urban design agenda. Major urban extensions, the need for quality of urban design in areas of major change, major development sites call for a major focus on urban design issues. Objectives set out in the Agenda include:

- articulating a "vision" of new development areas
- ensuring a high quality of life through urban design
- creating a "sense of place"
- translating planning policy into physical design
- building consensus through collaboration
- creating a proactive framework for developers

The proposed Agenda represents five key areas of focus - **areas of major change** Cambridge southern fringe / Northern Fringe East / Northwest Cambridge / the NIAB site / Cambridge East / the Station Area.

Future urban design for these areas must respond to - context; community support; character and identity; ease of movement; attractive "streetscapes"; a high quality of public realm.

**major projects** Emmanuel Street bus interchange improvements, Addenbrookes Access Road, Cambridgeshire Guided Bus scheme, town centre lighting improvements, and a street design guide. Principle urban design criteria include: high quality materials and furnishings; minimum clutter and signage; pedestrian priority; ease of maintenance; safe and accessible spaces; and respect for context.

**the public realm** outdoor public spaces, sites such as streets, greens, parks, squares, footpaths, pedestrian zones, plazas, shop forecourts, and other places used by the public on a regular basis. Design criteria include: high quality materials and furnishings; practical and affordable maintenance/replacement programme; provision for activity areas; public art; and safe and accessible spaces.

**guidance, promotion and consultation** The Agenda requires area based guidance through design briefs, development frameworks, and supplementary planning documents. It assumes the promotion of design solutions with partners like the County Council, and raising the profile of urban design in Council; together public consultation to integrate the aspirations of the local community.

**"best practice" in urban design** In the final key area of focus advocacy of higher densities adjacent to public transport routes, terraced housing, grid-iron street patterns, smacks more of a (welcome) return to proven urban typologies rather than innovation, but sustainable urban drainage, effective building insulation, grey water recycling, solar orientation etc, with the prioritisation of pedestrians, cycles, public transport before cars, qualifies for this appellation. Alongside the uncluttering of streets, these shifts in approach add up to a significant new approach.

The Agenda marks a positive step forward in attracting greater commitment to the design of the public realm. But it is a first step whilst the issues of design quality of buildings themselves are largely sidestepped; leaving a clear field for the illiterate design languages so characteristic of most recent development in Cambridge. Much will depend on how the Agenda translates into practice.

CL

# GUIDED BUS FOR CAMBRIDGE

The County Council's Guided-Bus project for Cambridge was the subject of a Public Inquiry in October 2004, and whose Inspector's report is delayed. Inventor of the Guided-Bus idea back in the early 60's, Arthur Henderson, who lives in Cambridge, describes the system and comments on why he believes that although it is still a relevant concept, it is not, however, appropriate for the Cambridge area.

The idea for a guided bus and patent for the guiding mechanism were originally developed at my offices in Charterhouse Square, London, for Airways Transport Ltd, specifically to link Paddington Basin with London Airport Heathrow. The major passenger and baggage handling was to be located at Paddington Basin on the Grand Union Canal network - the track used the Canal route from Paddington to Bull's Bridge, near the airport at Heathrow. Vehicles were connected together as a train under control of the driver, terminating 'airside' at the airport ready to be ferried direct for embarking to waiting aircraft. The bus is fitted with guide-wheels that steer by running within specially installed vertical kerbs either side of the bus-way. When off the track the bus behaves as any normal street bus.

Later applications of the system were used at Runcorn [designer Sir Hugh Wilson] and Redditch [designer Arthur Ling]. New Town Master Plans were based on the Guided-Bus design and subsequently adopted for Peterborough Expanded Town [designer Tom Hancock]. After the patent expired, Mercedes developed applications for Adelaide and at Essen. The latter is now obsolete but the Adelaide bus is thriving.

Guided-Buses were designed to combine alternately the modes of a bus with those of a train, embodying the manoeuvrability and flexibility and freedom of movement of normal bus vehicles, with a rail-like function linked to and operating on dedicated tracks segregated (unlike trams) from other forms of traffic. This provides a sequencing of transport modes to suit the varying conditions of the route. The system only suits particular locations where local facilities provide operation on and off the track unobstructed by other traffic.

The County Council proposal is based on a now dated, government sponsored, Cambridge-Huntingdon Multi-Modal Study (CHUMMS), with limited terms of reference.

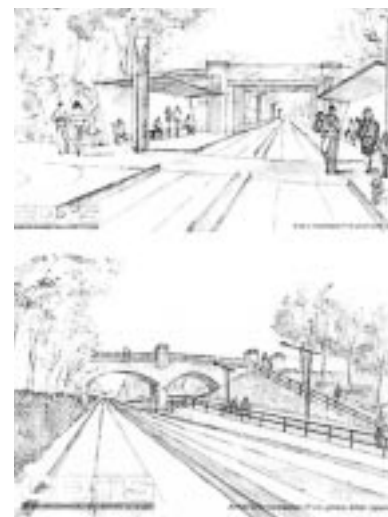


The proposed bus route is in four sections; at one end a bus mode service from Huntingdon to St Ives joins the guided track along the St Ives/Cambridge railway. After Histon it reverts to a normal bus mode through the centre of Cambridge before joining a track at Cambridge Station, using the old Cambridge/Oxford railway route (closed in 1967) to terminate at the Trumpington Park & Ride. A branch of the track from Trumpington is planned to link with the Addenbrookes site in the Southern Fringe.

The CHUMMS study is in need of updating and greater comprehensiveness and coordination with the London/Stansted/Cambridge/Peterborough corridor growth concept; and freight terminals proposed at Alconbury, March, Ely for rail and air traffic need to be examined along with other changes. These schemes will induce substantial new and additional traffic to existing movements. Rail links with the main London-Edinburgh rail line at Huntingdon will benefit St Ives and Cambridge. New routes to the East from the Midlands can provide relief to the overloaded roads traffic network on the A14 Cambridge Bypass route.

Use of the railway from Chesterton to St Ives for a Guided-Bus track is a wasteful deployment of an asset, damaging the local environment and transport infrastructure. Huntingdon, Godmanchester, St Ives and Cambridge are all based on medieval villages that were designed for horse and cart manoeuvres in streets that exist today. None of these communities wish to have the Guided-Bus scheme imposed on them as intended by the Cambridgeshire County Council. The proposal would cost around £200 million pa from taxes, which is out of scale with any possible benefit.

The initial work undertaken by Cambridgeshire County Council contains important information for future testing alternative solutions. At the Public Inquiry, the Council insisted that a Guided-Bus system in Leeds provided evidence that such a system would be perceived as



comparable to a rail system. An unpublished report prepared in April 2003 for the Department for Transport by the Transport Research Laboratory, at Crowthorne, Bracknell, states that the Leeds guided-bus scheme is essentially a system which bears no comparison with the proposed Cambridge scheme. A further unpublished report by the TRL confirms that the perception of Guided-Bus is likely to be similar to conventional buses. This is incredibly important, because it means that the services can be equally well provided by a 'Quality Partnership' of road buses - including express services - plus the planned Park and Ride sites. This in turn means the whole case for compulsory purchase of the railway line is defeated, since none of the claimed benefits of the scheme arise from the Guideway itself. Not only that, it would leave the way clear for the reopening of the railway. There would be a huge improvement in Cambridge's local and regional transport infrastructure instead of the half-baked, ill thought-out, politically-motivated and hugely unpopular guided bus scheme.

Where should we go now? The proposed scheme does not resolve local and regional problems. We need to redo the homework - settle priorities - set the agenda - sort the solutions for road and rail - time the implementation to include immediate remedial measures from a demand-led, not a system-led plan of action. Selecting a system like the guided-bus and expecting it to solve any overall transport problems is lazy thinking. A proper answer is more likely to arise from an amalgam of solutions using different transport elements and methods for various routes determined for future plans.

Arthur Henderson



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### CAg51 ERRATA:

Apologies to Ashwell Property Group for omission of credit for aerial photograph of Station Road. Comparative cost of the English and Criminology Faculties were £15.2 and £13.2m respectively

### CPD EVENTS

Tel 01223 566285 or email jayne.ransom@inst.riba.org  
New Hall, Huntingdon Road,  
1.15pm - 5.00pm

### 2nd November

Building Regulations Update & Review of Part L1

### 17th November

Home Condition Reports - pathway to new career as a Home Inspector,

### 1st December

Achieving Airtightness in New Buildings - designing tight and building right

### CFCI EVENTS

e-mail: Secretary@cfci.org.uk

### 29th October

10.00am CFCI site visit new CAPE Building, University West  
Cambridge site, Madingley Road.

### 7th November

6.30pm CFCI 'Traffic in Cambridge' at Fitzwilliam College, Storey's Way.

### 8th November

RTPI East of England 'Branch Planning Law Update'  
Downing College. 01359 252366  
eastofengland@rtpi.org.uk

### 28th November

6.30pm CFCI 'Bradwell's Court' at Fitzwilliam College, Storey's Way.

### 4th December

5.00pm CFCI Annual Carol Concert at the Chapel, Robinson College.

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