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Cement Concrete and Aggregates Australia

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issue 21 Children's Centre

Children's Centre Hokkaido Japan Sou Fujimoto Architects





Sou Fujimoto came to prominence internationally in 2008 with the completion of Final Wooden House, a tiny 4.0m cube house in Kumamoto, on Kyushu, Japan's third largest island.

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> Resembling an elaborate woodblock puzzle, the house is assembled from massive 350mm square cedar beams, stacked and piled endlessly to make not only walls and roof but an entire interior landscape; creating, in the process, a series of flexible, interlocking, multi-level spaces.

"I wanted to see if I could make, simultaneously, a primitive yet new architecture," Fujimoto says. "If lumber is so versatile, why not create an architecture by one rule that fulfils all the functions - columns, beams, foundations, exterior walls, interior walls, ceilings, flooring, insulation, furnishings, stairs, window frames."

His House N (2009) in Oita, also on Kyushu Island, comprises three white concrete cubes, one inside the other inside the other, with large openings cut out of the concrete fabric of each to let in light and air. The outermost shell is all-enveloping, creating a covered semi-indoor garden. The second shell encloses a limited indoor space. The third sits deep within the outer two, creating a small, secure interior space. Designed for a retired couple who cold-called him, Fujimoto has described life within the house as like "living among clouds...a distinct boundary is nowhere to be found, except for a gradual change in the domain. You could say that an ideal architecture is an outdoor space that feels like the indoors and an indoor space that feels like the outdoors. In a nested structure, the inside is invariably the outside and vice versa."

House O, in Tateyama, in the Chiba prefecture near Tokyo (C+A Issue 12, July 2009) is yet another of Fujimoto's plays on the manipulation of composition and space. Set on a rocky outcrop at the edge of the Pacific Ocean, the house is conceived as a continuous single space. Seen in plan it resembles the branch of a tree, leading the visitor on a seamless journey, uninterrupted by walls or doors. In this concrete bunker, his deft manipulation of spaces affords its inhabitants long and near views and grand panoramic vistas over the Pacific Ocean. The house is remarkable for distinct exterior and interior surface treatments of the concrete. The outside is coarsely finished, achieved by using planks of rough timber formwork. The interiors, by contrast, are defined by more precise and pristine cast surfaces; made by casting the concrete against 45mm cedar planks.

Last year, at age 41, Fujimoto became the youngest designer to accept the invitation to create the annual temporary pavilion outside the Serpentine Gallery in London's Kensington Gardens, joining such illustrious names as Herzog & de Meuron, Peter Zumthor, Frank Gehry, the late Oscar Niemeyer, Toyo Ito and Kazuyo Sejima & Ryue Nishizawa of SAANA. His response was a design for a great, transparent latticework "cloud" that resembles part garden trellis, part gigantic climbing frame. Constructed from 20mm steel rods and structural glass in an intricate latticework pattern that seemed to rise out of the ground like a shimmering matrix. It was intended as a free-flowing social space which Fujimoto described as "a transparent terrain that encourages people to interact with and explore the site in different ways." "Sometimes one simple idea can change the world of architecture completely...this is architecture for me - not to design buildings in a very cool way or very precisely, but to change the fundamentals underlying the concepts of space and place" Fujimoto says. The Children's Centre for Psychiatric Rehabilitation in Hokkaido, forms the basis for Fujimoto's ongoing exploration between repeated units. A live-in therapeutic and rehabilitation facility for children with psychiatric problems, the centre is a collection of 24 two-storey white cubes – walls and roofs cast as one of insitu concrete - scattered seemingly at random, as if a bowl of sugar cubes had been spilled over the site. The buildings mix order and disorder to finely calibrate the relationship between the individual and the group, while developing formal languages to explore themes of ambiguity and what Fujimoto describes as "in-betweenness" (sic).

From a distance, the complex appears as a jumble of concrete boxes atop a grassy slope, adorned with simple square and rectangular openings for windows and doors, and gives no clue of their function. At first, the buildings appear separate and independent cubes, but on closer inspection, the space between them is enclosed within glass walls; the glass keeping out cold winter air and offering views to nature as its residents move about the complex. The complex makes no formal connection to traditional Japanese architecture but instead forges new territory with its jumble of concrete boxes and connecting spaces. The design creates free-form spaces from a random grouping of blocks, while cleverly defining multiple centres of activity at diverse scales. The lower levels comprise sleeping, treatment, cooking, staff living and working spaces and rooms for sleeping, counselling, staff living and outdoor play occupy the upper levels. Views from the ridges between the upper spaces into the in-between space emphasize the two-storey height of the boxes. This interstitial space houses functions such as dining and living, and a multi-purpose area. Joe Rollo

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Sou Fujimoto will deliver the C+A Talks 2014 series in Brisbane, July 14; Sydney, July 15; Melbourne, July 17. www.ccaa.com.au



08 dining room 09 dining area 10 study room 12 living area 13 storage

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a collection of 24 two-storey white cubes – walls and roofs cast as one of insitu concrete – scattered at random as if a bowl of sugar cubes had spilled over the site



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01 machine 02 machine (outside) 03 outside 04 void 05 mental healing room 06 playroom 07 training room 08 counselling room 09 meeting room 10 workshop 11 court 12 study room 13 staff room 14 washing space 15 living area 16 dressing room 17 bath 18 bedroom 19 storage 20 rest room 21 kitchen 22 lounge 23 multipurpose space 24 director's room 25 doctor's room 26 staff and outpatient entrance 27 waiting room 28 library 29 children's entrance 30 office 31 dining area 32 pantry 33 lounge 34 dietitian's room 35 medical office 36 washing area

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first floor plan



ground floor plan













Project Statement

This is a treatment centre for mentally disturbed children where they live together to regain their mental health. It may be thought of as a very special building, but it is truly a rich life space that required being both like a large house and also like a small city, with the intimacy of a house and the variety of a city. Precise planning/Accidental landscape. I wanted to make a building of many parts appear to be something that was scattered. But to achieve this, surprisingly precise planning is required. The space created is the result of an infinite, strict design process. It stands as a place that appears to have not been planned at all or which has been made automatically with no intention. A place which is vague, unpredictable, filled with unlikelihood. Something that is not meant is produced as a result of an intentional and strict design act.

Selectivity and contingency/Freedom and inconvenience. Irregular alcove spaces are produced between the boxes placed at random. These are spaces designed at a small scale, where the children can play and hide while still being connected to the living areas. Although these are spaces which seem to have no function, which can be avoided, they are in simple form places where the children can play and move about freely, like the primitive man who interprets his landscape freely and lives well within it. In these spaces the children can hide, reveal themselves, relax or run about. Separation and connection are compatible here. It can be said that there is nothing of a "centre" in this building but conversely, it can be said that this is a never ending "centre". All the spaces can be regarded as "relative centres", which change with the individual users or the condition of light. For those working here, a staff room can be seen as a functional centre. For the children, a living room, a single room or an alcove becomes a centre. Sou Fujimoto

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Summer House Sweden Tham & Videgard Arkitekter





For over 15 years, architects Bolle Tham and Martin Videgard have sought to redefine traditional Swedish building typologies by stripping them to their core; which is precisely what they have done here with this summer house in Lagno, looking out across the Stockholm archipelago. The house stands on a granite bedrock, between forest and sea,

flanked on all sides by large stands of spruce, pine and birch trees. In a departure from the typical rustic timber houses and boat sheds found along this part of the Swedish coast, Tham and Videgard chose to explore a different sensibility. "We wanted to search for a way to design the house as an integral part of the landscape, in which the weight and colour of the material could be seen to rise from the archipelago's natural granite bedrock," says Bolle Tham.

In a contrast-filled reinterpretation of classic Swedish coastal cabins, they placed a linear multi-gabled form containing a main house and guest house facing the sea, the two connected by a glazed single gabled pavilion which serves as open shelter, entry sequence and the clear divider between the two dwellings. But, while the house's multi-gabled roof line might appear familiar and intelligible at a distance, closer inspection reveals a new typology altogether: instead of the typical wooden structure you'd expect, the house is in fact constructed of cast insitu concrete. It was a first for the pair, who saw it as a challenge, given the Scandinavian climate. The house is divided into two volumes set side by side as a linear bar in the landscape where the forest opens out into the bay. Approached from the north, the entrance presents itself as an opening between the larger and smaller volumes, drawing the visitor towards light and water. From the south, facing the sea, the house reads as a series of roofs, of varying heights, pleated and folded as a silhouette against its backdrop of forest and sky.

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north facade

From a distance the gables could easily be mistaken for a row of boat houses lining the edge of the coast. The pleated profile of the roofs is reflected inside the main house with a series of pitched ceilings of varying heights which help establish living and dining areas without need of intrusive dividing walls. "The roofs are the key architectural feature that hold together the character of both interior and exterior space," Bolle Tham says. "In contrast to the typical timber boat house, the concrete, which was cast insitu against plywood boards, adds a soft grain and worn quality to the exposed surfaces," he says.

Where the south is open to sunshine and views – it opens onto a terrace and pool, via a series of large sliding glazed doors – the northern side, facing the forest inland, reads as a near-impenetrable wall of folded concrete panels, save for a solitary square window inserted into one of the gabled facades. This side of the house contains cell-like bedrooms, which are largely lit by operable skylights inserted into the folds of the roofline. The lack of windows here also draws the eye to the entry space beneath the glazed gable. Sliding panels of ash wood separate the sleeping quarters from the living zones.

As you travel through to the large living area that runs the length of the main house, the archipelago, the sea and the spectacular landscape virtually explode before you through the large glazed openings facing south. Martin Videgard has described the movement through the house "as a sequence of layers gradually opening towards the archipelago and the sun."

The guesthouse comprises a living zone and loft bedroom. Floors throughout are of polished concrete, counterpointed by white walls and ash wood fittings. A detached sauna block, also of insitu concrete, is located close to the beach and pier.

This is a deceptively simple house, finely tuned and crisply detailed to appear as if to grow from the natural bedrock on which it stands. Summerhouse Lagno won the World Architecture News House of the Year in 2013. **Joe Rollo**



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Project Statement

The setting is the Stockholm archipelago, natural ground sloping gently down to the sea in the south, mostly open with a few trees and bushes. Unlike other projects we have worked on, located on more isolated islands in the archipelago without car access from the mainland, this site was relatively easy to reach, even for heavy transport vehicles. This, together with our client's desire for a maintenance-free house, inspired us to search for a way to design the house as an integral part of nature, where the material's weight and colour could connect with the archipelago's granite bedrock, rather than a light wooden cottage.

The two building volumes are placed side by side and form a line that clarifies their position in the landscape, just as the border where the forest opens out onto the bay. Approached from the north, the entrance presents itself as an opening between two buildings, leading towards light and water. It is an outdoor space protected from rain by a pitched canopy of glass.

The exterior character of the house is derived from a number of transverse gable roofs which connect to each other and, like boathouses in a line, form a pleated long facade. This provides a sequence of varied room heights for the interior and creates places in the otherwise completely open living room that stretches the entire length of the main building. With a relatively shallow room depth and a continuous sliding glass partition out to the terrace, the pace can be described as a niche in relation to the landscape outside. The small rooms are located along the north facade, with access through a wall of sliding doors. They are lit by openable skylights and form smaller pitched ceiling spaces within the main roof volume.

Terrace, interior floors and facades are made of exposed natural coloured insitu concrete, with plywood formwork. A sauna, a detached block of insite concrete with a wooden interior, offers a secluded place near the beach and pier. Bolle Tham & Martin Videgard





the concrete, cast insitu against plywood boards, adds a soft grain and worn quality to the exposed surfaces

cross section b

ross section

01 entré 02 wc/dusch 03 kök 04 sovrum 05 allrum/matplats 06 terrass 07 pool 08 gäst/ateljé 09 pentry 10 teknikrum/frd







Project Summer House Location Lagno, Sweden Architects Tham & Videgard Arkitekter Project Team Bolle Tham, Martin Videgard, Principal Architects; Anna Jacobsen, Project Architect Interiors Tham & Videgard Arkitekter Landscape Design Tham & Videgard Arkitekt Structural Engineer Sweco, Mathias Karlson Photographer Ake E:son Lindman







Abedian School of Architecture Bond University Gold Coast

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CRAB Studio



Urban planners would do well to look at our more handsome colleges and universities as microcosms of the potential to achieve a fabric for unity, order and the sense of rich, vibrant and diverse cultural expression that cities have, by and large, lost.



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For it is on the campus, in a controlled environment, that architectural permanence, rational organisation of diverse activities, generous provision of open space and, perhaps most significant of all, freedom from cars and advertising, can be seen working together to provide an organic milieu for society. In this sense, the finest passages of cityscapes in Australia are probably the campuses at the University of Melbourne and the University of Sydney. I'm not advocating that in the twenty first century we literally replicate such urban environments in downtown Melbourne or Sydney. It would never work. I am merely pointing out that the campus at its finest embodies principles of design which may be fruitfully employed in our society, particularly in areas of redevelopment – the Docklands in Melbourne, and Darling Harbour and Barangaroo in Sydney – where entire new cityscapes are proposed.

Which brings me to Bond University on Queensland's Gold Coast, established in 1987 as Australia's first private university. The campus was master planned by Daryl Jackson, and save for a lake and a signature building by the Japanese architect Arata Isozaki, impressive for a triple vault arch, clad in Toowoomba sandstone, replete with a bell tower and colonnaded wings, it is unremarkable in almost every respect.

Into this milieu comes a new building, the Abedian School of Architecture, designed by British architects Sir Peter Cook and Gavin Rowbotham of Cook Rowbotham Architectural Bureau, known generally as CRAB Studio. It is a little building, but it is writ large. Constructed of insitu concrete, plywood panels and glass, this is the kind of place that demonstrates the value of investing in the power of buildings as an expression of an institution's identity.

Sheltered and determined to the north, the building is airy, effortless and free to the south, where it looks out across the campus, under an overhanging steel roof lifted in part by a "forest" of pine-clad steel columns, referencing a remnant pine plantation cut down to make way for the new building. It looks out over a grassy mound to a small copse of remaining pines. It is when you walk inside, however, that the real drama of the building unfolds. For here, within a three-storeys-tall space, a series of four sculptural concrete elements referred to by their designers as "scoops", fold and unfurl in majestic procession

for the length of the building; enclosing, at ground level, intimate meeting areas, while at their uppermost unfolding wildly as they reach for the sky. Carrying out a variety of programmatic roles, the scoops support the roof, act as a buttress for lateral loads, accommodate vertical circulation along their perimeters, function as ventilation chimneys, create venues for design critiques, and help carry light down into the central recesses of the building. They are the most compelling aspect of this project. There is an overpowering, totemic quality to each of these concrete towers that on first entering the building the feeling is distinctly one of entering a cathedral. Your eye is immediately carried up and then kept constantly moving, racing along, as it takes in the scoops which curve in plan, splay in multitude directions in section, are punctuated with multiple voids and structural connections and, in two instances, support cantilevered, curving concrete stairways. The plan of the building is straightforward enough. An internal "street" running east to west divides the building into two clearly defined parts: administration, meeting rooms, service spaces, bathrooms, storage and more are located on the more sombre northern side, all set over three levels; while on the other side of the street the plan accommodates design studios for first year, undergraduate and postgraduate students, spread across two spacious floating floors, enclosed by and arranged about the concrete scoops. The two parts are connected by floating bridges, stairs and ramps. A 200-seat lecture hall is located at street level. The sense of airy transparency is palpable as you move about, with multiple views and glimpses not only out towards the campus but into and through the building itself, allowing for people-watching and snooping on neighbours working at studio tables, gathered in small groups or assembling model displays in one of the scoops lining the street.

The supple, plastic quality of the scoops belies the complexity of design required to achieve the curved and raking surfaces of each form. Each scoop in the project required four to five separate continuous pours of concrete, with each pour as high as 3.3 metres. In total, some 400 separate pieces of formwork ply were required to create the four scoops. A team of 35 formwork carpenters and labourers was required for onsite construction of the scoops and other concrete elements. The concrete work was greatly aided by the supply of two-way gridded plywood formwork that was inherently self-jigging.

The design for a school of architecture should reflect the art of architecture-making. The Abedian School of Architecture speaks of architecture like few buildings I know. This is heroic, impressive, space-making indeed. **Joe Rollo**





east elevation

south elevatior

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this is the kind of place that demonstrates the value of investing in the power of buildings as an expression of an institution's identity





there is a majestic, totemic quality here that on first entering the building the feeling is distinctly one of entering a cathedral

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Project Statement

Bond University's new Abedian School of Architecture might be experienced as a varied and episodic journey. Sheltered and determined to the north, the building is airy, effortless and free to the south. The curvature of it spinal interior route established a new soft core for the North West Quadrant of the Campus – a core populated by the life of the school, by student experimentation, social gatherings, lectures, crits and weird happenings...

Leaving the existing spine pathway, the broad internal path dives underneath the nose of the quiet-study strip and proceeds past a series of "scoops". Via its meandering internal "hill", the rise and fall of the building gently echoes the topography of its surroundings. From this "street" the faculty's studios and large gathering spaces spread out onto a terrace, which itself melts into a re-vegetated hillside garden.

These "tectonic rafts" together with the central spine, quieter study areas and dramatic scoops define the building's rocky core. In welcome contrast, a majority of the filtering "wraps" and "insertions" are of a softer, more translucent character.

We created a very ambient building, where the individual can really identify with the nature of his or her activity - thus the studio pads, scoops, decks and corners - though based on a clear hierarchy and system, have significant shifts of direction and variations of size. These elements particularise, we hope, in a subtle and enjoyable way. We wished to manipulate the surface of the building, sheltering it from direct northern light and filtering the southern light into the interior; avoiding glare and overheating without homogenising one's experience of the interior. We created instead, an idiosyncratic series of "lit places" and darker, more elemental pockets. Both the roof and facade systems anticipate the potential strength and direction of the Queensland summer sun. Together the orientation of the building's openings, with the sunhoods and column system of the facades succeed in mitigating a majority of the sun's potentially excessive effects. The building's orientation reduces the potential exposure of the north, east and west facing walls and windows. On the largest, west elevation external vertical columns and overhanging roof protect the studio areas from the harshest indirect summer sun. Additional solar protection has been applied to all north facing windows.

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Internally, the main circulation areas act as a thermal buffer and encourage the natural movement of air along the length of the building. The thermal mass of the concrete scoops absorbs heat when the surroundings are hotter than the mass, returning that warmth to the environment during the evening and at night when the surroundings are generally cooler. **CRAB Studio**, London







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second floor plan



first floor plan



ground floor plan

01 street/linear gallery 02 'crit' space within scoop 03/04 masters studio 1 05 foundation masters studio 1 06/07 undergraduate studio 1 08/09 undergraduate studio 2 10 post grad space 11 closed office 12 open plan office 13 meeting room 14 staff withdrawal 15 'black box' lecture space 16 department storage 17 furniture storage 18 toilet 19 faculty cafe/bar 20 atelier 21 meeting room 22 reception suite kitchen 23 reception suite

24 student tea/coffee point 25 forum 26 student resource room 27 staff resource room 28 reading room 29 utility room 30 environmental sciences labs 31 plant room 32 entrance ramp 33 external concrete hardstand

0 1 5 10m

inside this three-storeys tall space, a series of sculptural concrete scoops fold and unfurl for the entire length of the building, while at their uppermost unfold wildly as they reach for the sky

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Project Abedian School of Architecture Location Bond University, Gold Coast, Australia Architects CRAB Studio, London Project Team Sir Peter Cook and Gavin Rowbotham, Mark Bagguley, Jenna Al-Ali, Ting-Na Chen, Lorene Faure, Yang Yu, Tim Culverhouse General Contractor ADCO, Gold Coast Structural & Environmental Engineers Arup, Brisbane Photography Peter Bennetts



Office extension and apartment 1989 Milsons Point, Sydney. Harry Seidler & Associates

EARVIEW Sixteen years after he built his offices in Milsons Point, overlooking Sydney

Harbour, Harry Seidler built this addition on an irregularly shaped allotment next door. The old and new are the same height and were designed to form a cohesive a dramatic curving stair leadin bedroom. Whereas the first bu vertical concrete louvres, light harbour side, is a procession of to-ceiling glazing and flowing I Photograph: Max Dupain

whole when viewed from the street. The plan, forms and construction, however, are vastly different. Whereas the first building is rectilinear, with repetitive precast T-beam floors, the addition is an irregular curvilinear form of pre-stressed concrete poured into flowing curve and counter curve elements. As studies in formalism and abstraction, the two buildings are amongst Seidler's most assured works. The addition has a central core on the street side and continuous sun shading terraces facing the harbour. The two top floors contain a penthouse apartment remarkable for a tall double storey reception space and to the upper floor lounge, study and master ing from 1973 is a study in strong formal lines, d shadow, the addition, particularly on the urvilinear concrete balconies, frameless floorustrades that enrich the spacious open interior.

