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Islands of possibility

The Architecture Research Unit's proposal for South Korea's enormous new city of Saemangeum leaps off the drawing board and into vibrant, convincing life, says **Ellis Woodman**

Alvaro Siza once speculated on the possibility of building in the Sahara desert, a site just about as close to tabula rasa as can be imagined. He acknowledged the lure of the idea but conceded — or should that perhaps be hoped? — that "probably, when the foundations were dug, something would appear, delaying the proof of the Great Freedom: pottery shards, a gold coin, the turban of a nomad, indecipherable drawings etched on stone."

These mixed emotions are doubtless familiar to the seven architectural teams that entered the invited competition to masterplan the new South Korean city of Saemangeum earlier this year. In terms of scale alone, the undertaking was fantastically daunting: when it is completed, Saemangeum will occupy an area of 396sq km — about two-thirds the size of Singapore. However, if that were not challenge enough, the feat of imagination required of the competitors was made infinitely greater by the nature of the site. At present, the vast bulk of the land on which Saemangeum will be built lies underwater.

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The project has been in development since the late eighties, when the South Korean government proposed the estuarine landscape at the convergence of the Dongjin and Mangyeong rivers as the site for one of the largest land reclamation projects ever undertaken. The intention was for the land to support a mix of agriculture and industry, and for a newly constructed port to enable the city to forge trade links, particularly with China's north-east coast just across the Yellow Sea. In 1991, work began on containing the site by means of a sea wall spanning 33km between the headlands that lie to the north and south.

From the start, the project attracted a huge amount of controversy, particularly in relation to its anticipated environmental impact. Campaigners were concerned about the loss of mudflats on the site, which have always been an important feeding ground for the 400,000 shore birds which migrate annually from south-east Asia to Russia and Alaska. Arguing that the project's construction would contribute to the decline of several endangered species, they succeeded in halting construction using supreme court challenges in both 1999 and 2005. Ultimately, that campaign proved unsuccessful, and work on the wall was completed in April 2006.

As a consequence, the land behind the wall has been transformed into a vast freshwater lake. Work is now under way to lower its level by 1.5m, a process that requires fresh water to be discharged daily into the sea via a series of sluice gates when the tide is low. Eventually, this will make 67sq km of currently submerged land available for use. The larger part of the new city — a further 270sq km — will be built on ground created by adding landfill to the lake bed.

In the years since the project was initiated, the mix of anticipated uses has shifted repeatedly. At first, as much as 70% of the reclaimed land was going to be given over to agriculture, while more recently, industry has been assigned the dominant role. The emergence of an increasingly affluent Chinese middle class has also opened up the possibility that Saemangeum might have a future as a major tourist centre. These changes have focused attention on the question of what kind of environment the new city will be able to offer.

A masterplan exists, but its aspirations don't extend much beyond those of a zoning diagram. So at the end of last year, the local authorities launched a competition which would allow the proposals to be looked at from scratch. It was an unusual competition in two key respects. For one thing, its intended outcome was left very ▶

Plan showing the proposed city constructed on a series of artificial islands within a newly established freshwater lake.

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WORKS: ARU

Island in the stream To see Neutral's animation of ARU's Saemangeum project, visit www.bdonline.co.uk/saemangeum

The scheme envisages the co-existence of agriculture and tourism within the city.

Courtyard in an ensemble of agricultural buildings at Farm City.

open-ended, making no commitment to select an outright winner whose scheme would go on to be implemented. The profile of the invited competitors was also unconventional in that they were not commercial practices but rather teams drawn from academic institutions in Asia, Europe and the US.

Among them was the Architecture Research Unit based at London Metropolitan University, headed by Florian Beigel and Philip Christou. In September, its proposal — along with those from teams based at MIT and Columbia — was declared one of three deemed worthy of progressing further. It has subsequently been revised in response to the jury's comments, and will be presented this month to representatives of the central government.

Whether or not the ARU scheme proves a blueprint that the South Korean authorities choose to adopt, it remains a truly astounding piece of design. Central to that achievement has been the practice's insistence that even this seemingly most vacant of sites should not be treated as terra vacua. The current scheme envisages a landfill strategy that blindly extends the shoreline on all sides of the lake, thus creating a city configured around a central body of water.

By contrast, ARU began its work with an investigation of the lake bed's topography. From this study it identified the areas of higher ground that could most economically be built up to provide land where buildings could be sited. This revealed a complex pattern of potential building plots — some of which would form extensions of the shoreline, while others would be islands set within the lake.

With landfill costing £10 per cu m, the impulse to minimise the scope of ground adjustments lends the strategy a compelling economic logic. Nonetheless, one might ask whether it is really practical to envisage a 21st century metropolis as a latterday Venice. Ultimately, that judgement must

The origins of many of its individual panels are far from obscure

turn on the dimensions of the proposed land forms and the efficacy of the infrastructure that links them. In this respect, it is significant that the project illustrated here is the scheme's second iteration, produced in response to the jury's feedback. Its key request was that 10% more land should be reclaimed. Consequently, the islands have grown larger and the distance between them has been reduced. Beigel sees the change as an improvement, offering a more intimate visual connection between the city's dispersed parts.

"All our water shapes and island bodies are checked against precedents in places like Venice, Cadiz and Stockholm," he explains. "We have tried to judge what, standing on one island, you can see of its neighbour."

Crucially, the expansion of the ground has not been so great as to diminish the sense of Saemangeum as an island city. "The important question is how long it should take to cross an island," he says. "We have tried to ensure that a pedestrian will encounter water at least every 40 minutes."

The strategy can also claim a qualitative benefit over the current scheme which can be expected to provide major financial dividends: the expanded length of waterfront will surely prove attractive in real estate terms. A comparison with the grotesque residential schemes being built off the coast of Dubai — The World and The Palm — is one that ARU might justifiably resist, but its project's capacity to lure tourists and an affluent citizenship is rooted in a not dissimilar set of spatial relationships. That said, the morphology of the islands is lumbered with none of the emblematic inanity of those schemes. While their shape derives from the lie of the land under the lake, each has been formalised to some extent.

The 33km seawall.

A central aim has been to reassert a reading of the course of the two rivers. Accordingly, the landforms in the centre of the plan are quite tightly packed, paraphrasing the peninsular that formerly divided the twin water courses. Those further out are more widely spaced, their siting having been gauged in response to the beautiful Gogunsan archipelago which lies immediately beyond the sea wall. A road runs along the wall itself and connects to each of these islands by way of a bridge-like "threshold city". These areas are conceived as points of particularly high density and are designated as entertainment and financial districts.

They are among the few points in the plan for which a particular use has been assigned. As with all of Beigel and Christou's urban scale projects, the Saemangeum scheme is informed by their suspicion of programmatic determinism, and of zoning in particular.

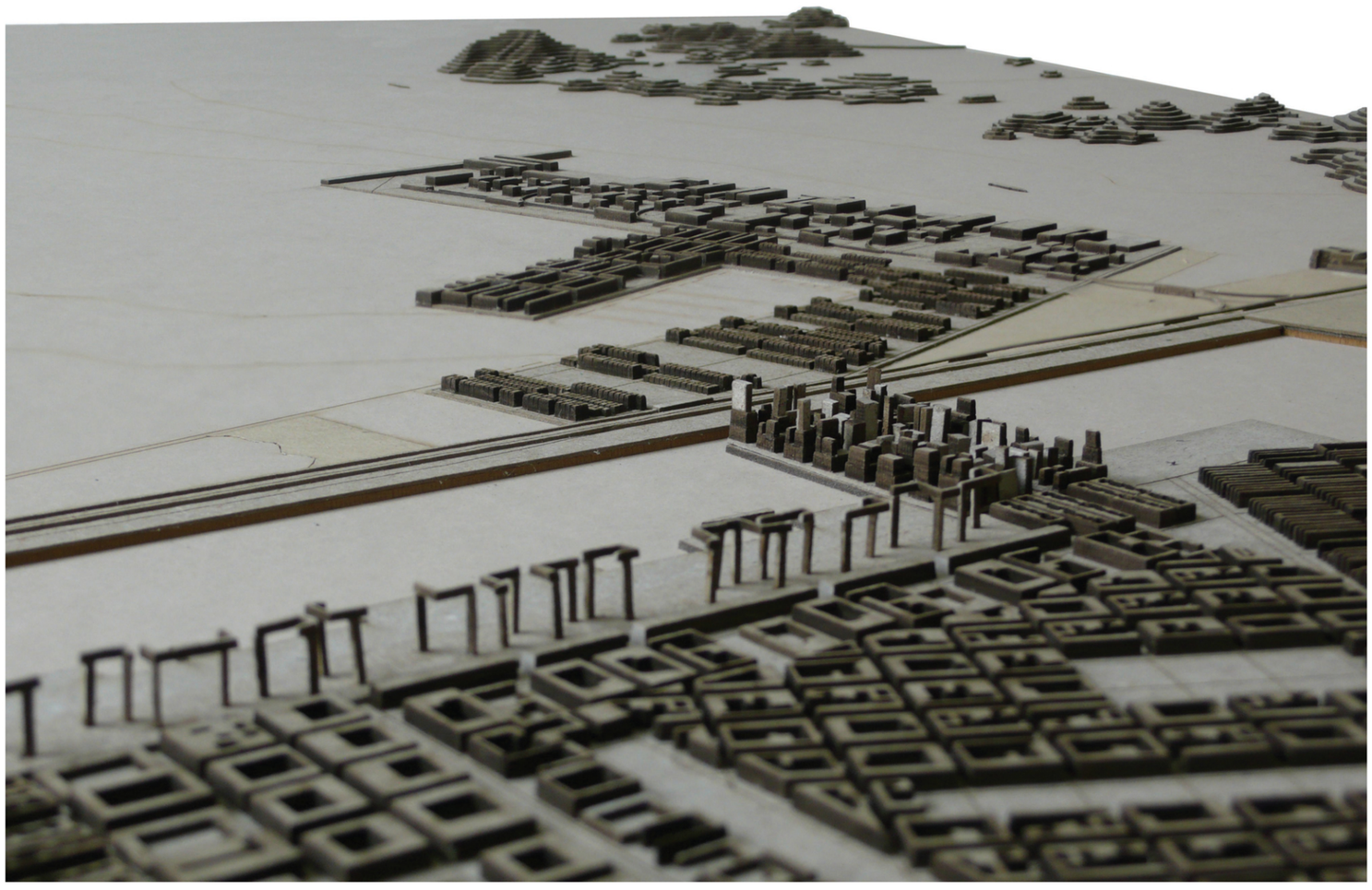
"We design the rug, not the picnic," Beigel once said of the ARU masterplan for Paju Book City, the large publishing district now under construction north of Seoul, and that maxim feels equally applicable to this scheme.

The Saemangeum rug is a patchwork affair, and while its overall composition is of a highly innovative design, the origins of many of its individual panels are far from obscure. The comb-like layout of Barcelona's Barceloneta neighbourhood, the "kilometre style" perimeter developments of Kay Fisker's Copenhagen, the network of streets and mews that lies to the west of London's Portland Place — these are just some of the distinctive "city structures" that ARU has found and redeployed in its Saemangeum plan.

The practice's interest in these models lies not in any historical or regional association they may carry — one expects the buildings realised within them ultimately to reflect their own time and place — but rather in the fact that they have each proved capable of accommodating a range of continually shifting uses. So while each district within the plan has been allocated its own spatial matrix, none has been selected with the aim of determining a particular programme.

Of course, this strategy also has a significant benefit in that it makes tangible a project of such dimension that might otherwise defy comprehension. The current Saemangeum scheme singularly fails to rise above the level of diagrammatic abstraction. As strange and wondrous as ARU's project surely is, its key triumph lies in the fact that it conjures a vision that remains close to life.

Model showing the connection of one of the islands to the seawall by way of the high-density threshold city. On the far side of the wall lies the port and the Gogunsan peninsula.

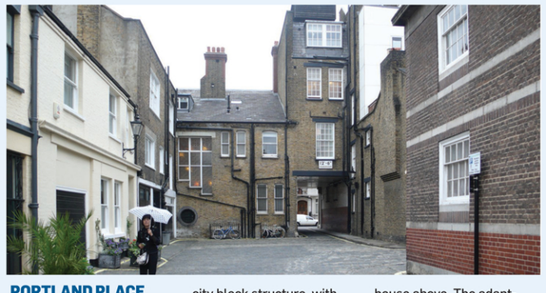


Tried and tested templates

The Saemangeum plan is modelled on a number of existing city structures. Here ARU describes the qualities of four of them

LA BARCELONETA, BARCELONA, SPAIN
CITY BLOCK STRUCTURES

Six- to eight-storey terraces of 8m-deep apartment buildings line extremely narrow streets that run parallel to each other, giving this city structure an unusual and distinctive character. The regimental nature of the rectangular grid of long, narrow blocks is relieved by a series of well defined, open public spaces such as the market square. The location of the district, immediately next to the coast, allows glimpses of the sea horizon to be seen at the end of each street.



PORTLAND PLACE, CENTRAL LONDON
CITY BLOCKS WITH STREETS AND MEWS

Weymouth Mews, off Portland Place, was built between 1715 and 1720. It is a typical London mews city block structure, with large terraces of four- and five-storey houses facing the main streets and two-storey mews houses inside the city block. The mews houses were originally built as stables for horses and carts, with a small servant house above. The adaptability of function that has occurred during the past 250 years is evidence of a city structure that offers spatial variety, intimacy and privacy, as well as useful urban public spaces within a dense city centre.

HORNBÆKHUS, COPENHAGEN
CITY BLOCK STRUCTURE

Designed by Kay Fisker in 1923, the large internal landscaped courtyard of the Hornbækhus city block structure, with its long, repetitive facades facing the streets between blocks, mark this as a unique urban design proposal.

A more careful look at the articulation of the facade, the slight inflection of the shape of the block as it adjusts itself to the irregular grid of streets and the spatial planning of the apartment interiors reveal Fisker's interest in making a city block type that was both robust and lasting, and an elegant piece of the city.

HAMBURG CANAL
CITY BLOCK STRUCTURE

These warehouses and office buildings are in the old city centre between the Jungfernsteig and the Stadhausbrucke S Bahn stations. Their close proximity to the heart of the city makes their rehabilitation and reuse viable. This is reaffirmed by the architectural vocabulary and materiality of the built fabric, and the unusual canalside position: street access is sometimes from one side only, with building facades fronting the canal directly on the other.

When conceived in the early 19th century, these structures were designed to sit harmoniously against the backdrop of the city by borrowing the architectural language and materiality of its building facades. The coexistence of the many programmes one finds here and the care taken with the language and materiality of the modern buildings that have replaced older blocks have allowed this city quarter to reinvent itself.