This paper’s point of departure is a critique of the Hong Kong government’s somewhat rigid approach to regulating the public spaces of its parks. As an antidote to a rule-bound and somewhat restrictive set of policies, four groups of architecture students at the University of Hong Kong have designed various interventions for a public park in Hong Kong. The projects, entitled Pixel Wall, Fence Off, Border Mender, and Rocky present alternative ways of activating public space through architectural design.

Hong Kong is a city composed of a variety of ethnic and social groups with multiple cultural identities. The various cultures that have developed Hong Kong as a city over time have also had an impact on the creation, design, and use of public spaces within the city. Ranging from the colonial-era Statue Square in Central to the late-twentieth-century parks in Hong Kong’s New Territories, near the Chinese border, the political, social, and economic forces acting on public spaces have an effect on their respective use and regulation. Based on a series of architectural-scale projects that reconsider the regulation and control of specific public spaces, this paper reviews the politics and use of public parks in Hong Kong through the design and performance of the installations.

Hong Kong has a highly comprehensive set of land use guidelines and regulations for use and planning of open space within the Territory. Under Hong Kong’s rules and guidelines for planning for ‘Recreation, Open Space and Greening’, the HKSAR government makes a distinction between different types of public open space. Among the various types of open space dedicated to recreation, the following are listed:

1.9.1 (c) Green Space
The prime function of this type of open space is for conservation of the natural environment and for amenity and visual purposes.

1.9.1 (e) Active Open Space
Recreation open space which contains outdoor recreation facilities, mainly for the core activities including games facilities.

1.9.1 (f) Passive Open Space
Recreation open space which is landscaped as parks, gardens, sitting-out areas, waterfront promenades, paved areas for informal games, children’s playgrounds, jogging and fitness circuits etc., where people can enjoy the surroundings in a leisurely manner. Games facilities are normally not provided.

According to population density or level of urbanization in Hong Kong, there are specific guidelines for ratios of Passive Open Space use to Active Open Space use in public parks and open spaces.

In the provision of land for public open space, a distinction should be made between areas for active and passive recreational uses. As a general guide, a 3:2 active to passive ratio should be applied in District Open Space to provide space for outdoor core activities as well as for passive recreation.
The key aspect of the definition of various types of public space is not the ratio of one type to another, but the distinction of one type from another in planning and in physical form.

With strict regulatory control over the design of public spaces and ratios between types of space, boundaries between different kinds of space are often created. Boundaries may be physical impediments, or subtle changes in material or texture to divide space for public use. Physical boundaries like walls, flooring patterns, fences and barriers are used by design, or through post-planning, as ad hoc management devices to define Active Open Space from Passive Open Space or Passive Open Space from Green Space. Over time, layers of adjacent spaces in public parks have built up layers of barriers that have tended to restrict and control public activities.

Park Management offices further restrict movement and activities within public parks to promote easy maintenance of facilities and public safety. Through prescribing exactly what a public space may be used for, overly prescribed or programmed space becomes naturally restrictive. Spaces become over-programmed in terms of what can be done there to the point that anything else done in those spaces becomes forbidden.

Four installations carried out by architecture students and teachers from the University of Hong Kong were conceived to investigate and challenge the use and perception of public spaces in the city. The works also explore the nature of materials and construction, new modes of fabrication, and digital design media as related to architectural design.

The projects were sponsored by the Hong Kong Leisure and Cultural Services Department [LCSD]. The LCSD has a dual role as the government agency responsible for providing cultural and leisure activities for the people of Hong Kong as well as managing most parks, beaches, and recreational facilities. The use of public open space under the LCSD is governed by the Pleasure Grounds Regulation [PGR] under Chapter 132 of the Hong Kong Public Health and Municipal Services. The PGR provides guidelines and rules pertaining to the use of public open space by the public that may be perceived as overly restrictive. In particular, the PGR provides that in any pleasure ground the following should apply:

(a) No person shall walk, run, stand, sit or lie on any grass, turf or other places where notice to keep off such grass, turf or other places is exhibited (section 9(a));
(b) Flying of kites, model aircraft, balloons or other device may be restricted or prohibited by the Director of Leisure and Cultural Services ('DLCS') by notice conspicuously displayed (section 17);
(c) Melting or burning wax or sprinkling or pouring liquid onto hot wax in such a manner as to cause or be likely to cause a risk of injury to any person or damage to any property is prohibited (section 23A); and
(d) No person shall play any musical instrument, operate any radio or gramophone, or sing to the annoyance of any other person, unless the playing of the instrument, the operation of the radio or gramophone, or the singing of any song is in accordance with a written permission granted by DLCS (section 25).³

With a common theme of understanding and transforming boundaries and regulations in public open space, each project team focused specifically on rethinking boundaries, walls, and barriers. Teams considered how boundaries can be reinforced or transgressed in specific ways to deal with topography, to provide or limit visual and physical access, and to create new types of interactions between park visitors. Through their physical and theoretical positioning, the installation works sought to make public space less regulated and more flexible. Students used the projects to form a critique of the
Pleasure Grounds Regulations and therefore the management of the sponsoring agency, the Hong Kong LCSD.

The project teams took different approaches towards designing their interventions within the public open space. Some project teams analysed existing objects in the park that act as spatial dividers and redesigned them to connect, rather than separate the spaces they adjoin. Other teams created new boundaries or walls within the space that encouraged visitors to actively participate in a public space or circulate through it in a different way. As installations, the projects should be considered as temporary works of architecture as well as thoughtful and interactive works of public art. They encouraged park visitors to walk, sit, play, rest, and think. They also challenge our preconceptions about spatial boundaries and the control of public spaces in Hong Kong.

The second theme of the four projects was to formulate a specific set of materials and construction techniques that in some way connects the design of these installations to the appreciation of the tactile and tectonic quality of architecture. The materials used include intricately stacked wooden 'bricks', machine-curved metal pipes, precisely folded sheet metal panels, and CNC-cut, recycled plastic sheets. Each project developed specific methods of connection and all of the projects were designed with advanced digital modelling tools. Though most projects made use of digitally driven processes of manufacture, they also relied on manual labour for assembly and fabrication and installation.

**Pixel Wall**
The **Pixel Wall** project uses a series of stacked wooden blocks to form an undulating wall in a public plaza of Tuen Mun Park. [fig. 1] The blocks are mirrored on one side so that some surfaces reflect the surrounding context. Some of the mirrored surfaces tilt slightly upward so that the reflected image is of the sky, instead of the viewer. This effect dematerializes parts of the wall and changes the viewer’s perception of the installation as he or she moves around it. Spaces between the blocks vary in width to change the porosity of the wall. This variation is gradual from one section to another and allows the viewer to see through the wall at times. The combination of reflective surfaces, areas of opaque blocks and variable openings in the wall allow for a variety of visual experiences as one moves around and through the work.

When multiple visitors are walking through and around the wall at the same time there is an ambiguity between the reflection of the viewer and the shadow or glimpse of someone moving on the other side of the wall. This ambiguity of public and private spaces within the park is a commentary on the way the park’s spaces are places to view others and be viewed by others.

**Pixel Wall** is similar in visual affect to several public art installations by artists such as Dan Graham and Anish Kapoor. When installed in a public place, the various works of these artists toy with themes of reflection, refraction, opacity, and distortion of space. The glass-and-mirror sculptures of conceptual artist Dan Graham distort and disorient the viewer by creating multilayered, non-parallel planes of reflective or semi-reflective glass.

**Cloud Gate**, Kapoor’s mirrored stainless steel sculpture in Chicago’s Millennium Park, reflects and distorts the surroundings and the viewer’s self image from every angle. Like the **Pixel Wall**, the piece not only reflects and distorts space, but creates space through form. The **Pixel Wall** creates a series of spaces to walk through, while the **Cloud Gate** allows visitors to walk around and underneath where it lifts to create a gate.

The **Pixel Wall** also uses a technique from Kapoor’s **Sky Mirror**, installed in 2001 in Kensington Gardens, London. **Sky Mirror** is a mirrored dish
that reflects and condenses the image of the sky onto a parabolic surface mounted on the ground, at eye level, within the public space of the park. The slight inclination of the mirrors on the *Pixel Wall* play a similar role in offering the visitor a distorted and animated view of the sky, even while looking straight ahead.

The overall geometry of the *Pixel Wall* is site specific by design. The public plaza in which the work is installed is an open paved area with an array of planted trees. The trees are planted on a polar grid, at the axes of straight lines and a series of concentric circles. The plan of the installation uses a new series of circles that inscribe several trees and wind in a serpentine fashion from tree to tree. The geometric organization of the wall creates a series of new circular spaces that wrap the trees.

The wall functions not only to divide space, but to invite passers-by to linger and sit. Sections of the wall dip from its full height at 1.8 m to 0.4 m to transform the wall into a bench. Visitors sitting on the bench can sit on either side and view inward to a confined space, or sit facing outward into the surrounding park. The placement of the benches orients the visitor’s view in a new direction and in a sense transforms the plaza into a place to look out of, rather than to look across.

In respect of the categories of Public Open Space as defined by the Hong Kong Planning Standards and Guidelines, *Pixel Wall* transforms Passive Open Space into a public space that is more complex and ambiguous. Instead of providing a space for leisurely enjoyment, *Pixel Wall* disorients the visitor and dematerializes one’s context. It creates new relationships between park visitors on either side of the wall and, at its best, asks visitors to play a visual game with their surroundings, thus activating a space officially defined as ‘passive’.

**Fence Off**

*Fence Off* is a playful installation based on the ubiquitous security fences found throughout the public spaces of Hong Kong. [fig. 2] Security fences are unanticipated objects of the public realm that are not placed or designed by urban planners, architects, or landscape designers. Instead they are unconsidered instruments of municipal management agencies. They are deployed worldwide, throughout cities in the name of public safety or crowd control. They line the edges of construction sites, herd crowds of festival goers, and form ad hoc barriers to keep the public from falling into potholes.

In Hong Kong’s Tuen Mun Park, where there is a local tradition of daily public singing performances, security fences are used to identify and contain sites for spontaneous recitals. Instead of allowing performances to take place anywhere in the open space of the park, the fences are put in place by the park management and cordon off areas for the singer and accompanying musicians. Crowds of onlookers are relegated to stand behind the fences creating awkward arrangements of performers and audiences scattered across the park space.

The *Fence Off* designers saw this arrangement of public performance and barricade as a problem for Tuen Mun’s public open space and set out to redesign the boundary between the singer and the audience. *Fence Off* took the typical Hong Kong security fence as a starting point and modified it by twisting the metal bars into a bench. The deformation was designed by modelling a typical fence with digital 3D software and twisting the top and bottom rails of the model into a horizontal arrangement. A controlled geometry of arcs and lines was used so that a local metal fabricator, using analogue tools, could measure, cut, and bend the pieces into the new form. The piece uses the same stock material as the typical fence as well as the same connection details. A surface for seating is created between the bars by replicating and multiplying the typical metal
Fig. 1: Pixel Wall. Thomas Cheng, Jeff Guo, Tiffany Leung, Tim Mao, Abdul Yeung, 2010, Wood blocks and adhesive mirrored panels, 11 x 5 x 1.7 m.

Fig. 2: Fence Off. Derk To, Stephen Chan, 2010, Welded steel pipes and plates, 8 x 0.8 x 1 m.
signage that usually adorns the fence. The designers mirrored the piece to create two fence/benches.

The result is a twisted bench that connects conventionally to a line of standard security fences. The rails twist elegantly down to form a seating surface and a slight gap is left between the two benches. The gap creates a gateway in the fence to allow people to pass between the benches to transcend the boundary and enter the space of the impromptu stage. The project makes the boundary between two categories of public open space less defined and more ambiguous. By using the formal and material language of the existing security fence, Fence Off forms a direct critique of the restrictive practices of park management offices in Hong Kong.

**Border Mender**

The Border Mender project is a linear series of folded metal surfaces that transform a typical park retaining wall into a staircase, a ramp, and a place for sitting. [fig. 3] The project is an attempt to integrate two areas of public open space: the typical park walkway and the grassy area on the other side. As it is forbidden to sit or even walk on many of the grass lawns in Hong Kong parks, this project encourages park visitors to sit on or climb over the wall to reach the other side.

Border Mender is a direct critique of the categorization of public open spaces into less flexible spaces with restricted programmes. The retaining walls in Hong Kong’s Tuen Mun Park act as devices that separate Passive Open Space, where visitors may walk, stroll, and ‘enjoy the surroundings in a leisurely manner’4 from the manicured ‘Green Space’ of the lawn. By providing a new pathway from a type of public space that can be occupied to one that is off limits, creates a linkage and blurring of space where before there was only a division. In addition to using the boundary to bridge the two spaces, the project uses the space of the boundary itself to create an in-between space with multiple, flexible uses. Visitors who stop to sit on the Border Mender face forward into the Passive Open Space of the park walkway. If users of the project can be considered as audience members witnessing an informal parade of passers-by, the Passive Open Space of the walkway is transformed into an Active Open Space for performance.

Architecturally, the project is a study of surface. It explores ways in which the vertical surface of an existing wall can be manipulated into a three-dimensional stepped surface for other activities. By expanding the surface of the wall through folding, Border Mender makes it possible to occupy the space of the retaining wall. The project is constructed from thin, folded-metal sheets. The folding creates space to sit and also becomes a structural system, eliminating the requirement of a secondary frame. Through its intervention in Tuen Mun Park, Border Mender invites a voyeuristic audience to sit within the space of the retaining wall and transforms the adjacent walkway into an ‘active’ public performance space.

**Rocky**

The Rocky project is another installation that was created in response to the regulation of occupation of public lawns in Hong Kong parks. [fig. 4] Rocky is a series of artificial outcroppings scattered around a grassy area in Tuen Mun Park. The project was conceived as a synthetic extension of the ‘natural’ landscape that would invite park-goers to actively occupy the otherwise forbidden grass lawn. The forms of the outcroppings are loosely modelled on profiles of the human body in repose. They are designed so that visitors can sit, recline, or lounge on the top or against the sides.

Designers closely surveyed the landscape around the project site and built a precise digital model of the lawn surface. Forms were digitally extruded from the virtual ground-scape with the use of modelling software. Two-dimensional drawings
Fig. 3: Border Mender. Calvin Chan, Gillson Chan, Eunice Fan, Elsie Tang, Norman Ung, 2010, Folded stainless steel plates, 6 x 0.8 x 1 m.

Fig. 4: Rocky. Gordon Chak, Jacqui Cheung, Toby Cheung, Lawson Lai, 2010, CNC-cut medium-density fibreboard with artificial grass, 2.5 x 1 x 0.5 m (three pieces).
of the forms were created by taking multiple cross sections through the final forms. The works were constructed with the help of a local fabricator with horizontally layered, CNC-cut sections of medium density fibreboard (MDF). The MDF bases are covered in a layer of artificial, plastic grass that conceptually extends the surface of the lawn onto the outcroppings.

Aside from inviting visitors to trespass on the prohibited space of the lawn, the landforms created in the Rocky project offer a commentary on the relationship of the artificial and the natural elements of the public realm. Though the pieces imitate natural landforms in their massing, colour, and texture, their precise design, computer-aided construction, and synthetic materiality are overtly man-made. They remind the visitor that the entire urban park in which they are sited is a designed and highly formulated environment, subject to constant maintenance, management, and regulation.

Conclusion
As an academic exercise for architecture students, the [RE]Forming Public Space projects were an opportunity to intervene in a specific public space. The projects are platforms for design experimentation in that they test materials, propose innovative construction systems, and utilize advanced technologies. Through their exhibition and use in Tuen Mun Park, they subtly reveal and critique specific aspects of the design and regulation of Hong Kong’s entire park system.

Through the projects’ re-forming of public spaces they actively provoke new programmes and perhaps, at their best, encourage ‘misuse’ of the public environment in a socially constructive manner. The projects should encourage planners and designers of public space to reconsider the categorization of public spaces, the division of one space from another, and specificity of use. By offering spaces with a degree of ambiguity in terms of their use, planners may afford the public more freedom to use spaces flexibly and interchangeably.

Notes
2. Ibid.
3. Hong Kong Legislative Council, Panel on Home Affairs, Information note prepared by the Legislative Council Secretariat for the meeting on 13 January 2012, Use of public open space by members of the public to conduct leisure and recreational activities, LC Paper No. CB(2)772/11-12(02) (Hong Kong SAR, 2012) <http://www.legco.gov.hk/yr11-12/english/panels/ha/papers/ha0113cb2-772-2-e.pdf> [accessed 28 June 2012].
4. Planning Department, The Government of the Hong Kong Special Administrative Region, Hong Kong Planning Standards and Guidelines, Chapter 4: Recreation, Open Space and Greening (Section 1.6.1).

Biography
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