

Dror

in

Tall Buildings Russia

Fall 2015

Highrise concepts

ВЫСОТНЫЕ ЭЛЕМЕНТЫ ЗДАНИЙ СТРУКТУРОЙ

**BIM:
ОТ ТЕОРИИ
К ПРАКТИКЕ**

**BIM:
From Theory
to Practice**

**ВОЖДЬ
ВУРУНДЖЕРИ
The Chieftain
of Wurundjeri**

трайт, возглавляющий одноименную
цептальные проекты трех жилых зданий
работает студия Дрор исследует новые
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иены **STUDIO DROR**

100 VARICK

Проект элегантного здания, основанный на игре четких геометрических форм, теней и света, был создан в результате закрытого конкурса, организованного одним из нью-йоркских девелоперов Майклом Шво. Те, кому знакома архитектура Нормана Фостера, безусловно отметят некоторое сходство проекта с офисным зданием Hearst Tower, построенным еще в 2006 году. Дизайн 100 Varick, как и у фостеровского Hearst Tower, основан на диагонально-решетчатой конструкции. Дрор решает вопрос распределения веса здания, используя экзоскелет QuaDror, где стеклянные объемы вставляются в решетчатую раму. В результате размещения опорной базы здания на внешнем периметре становится возможным организовать свободное внутреннее пространство помещений без несущих колонн, что позволяет создать любой интерьер. 25-этажное здание разделено на независимые пятиэтажные блоки; вес здания равномерно распределен по всей структуре.

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ЭКСПЕРИМЕНТЫ СО СТРУКТУРОЙ

Архитектор Дрор Бенцетрайт, возглавляющий одноименную студию, представил концептуальные проекты трех жилых зданий в Нью-Йорке. В своих работах студия Дрор исследует новые способы по улучшению условий жизни жителей мегаполиса в результате экспериментов со структурой зданий. Два из этих проектов, 100 Varick и 350 Bowery, уже готовятся к реализации, а третий, наиболее неординарный, проект 281 5th Avenue представлен в виде концепции с пока неясным будущим.

Материалы предоставлены: **STUDIO DROR**

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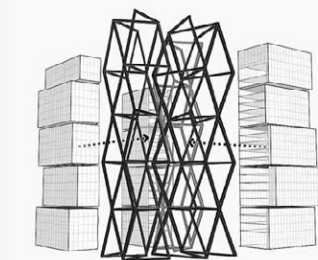
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Fall 2015

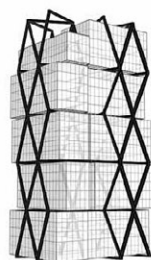
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100 Varick



Конструктивная схема 100 Varick



350 Bowery

350 BOWERY

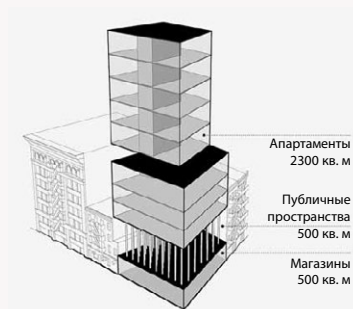
Самым распространенным прозвищем мегаполисов давным-давно уже стало выражение «каменные джунгли», и это не просто так: плотность застройки и численность населения в современных городах только увеличивается. В связи с этим неизбежно возникают вопросы реконструкции и реновации городских пространств. Обычно девелоперы застраивают участки исходя из собственных предпочтений. Студия Dror в своем проекте 350 Bowery представила свое видение того, как можно вписать новое здание в уже существующую городскую архитектурную ткань, не создавая диссонанса с окружающей застройкой. Для создания проекта застройки пустыря в центре Манхэттена студию Dror пригласил девелопер Сонни Безбаз.

350 Bowery состоит из трех сложенных гигантских стеклянных «кубов», каждый из которых подобран по высоте таким образом, чтобы выровнять горизонтальные здания с соседствующими сооружениями. Для достижения этой цели жилые элементы поднимаются лесом колонн, сквозь который проглядывает окружающий городской пейзаж.

Торговые помещения, расположенные в здании 350 Bowery, также спроектированы таким образом, чтобы гармонизировать с местным стрит-ритейлом.

281 5TH AVENUE

В типичном высотном здании, где этажи делятся на четыре секции, для жителей доступен обзор максимум с двух сторон. В своем проекте 281 5th Avenue архитектурная студия Дрора предложила остроумный вариант, позволяющий обеспечить в каждом жилом помещении обзор на все стороны. Башня выполнена в виде вертушки. Жилые секции вынесены от центрального ядра конструкции на определенное расстояние. Все инженерные коммуникации размещены по одной стороне помещений, в стене, сопряженной с центральным ядром. Внутри каждой квартиры на этой стене находится большой медиаэкран, куда в реальном времени проецируется вид на город, открыва-



Конструктивная схема 350 Bowery

Обзор 360°



Три полностью
стеклянные
стены

Проецирующий
экран



Конструктивная схема 281 5th Avenue



281 5th Avenue



Нью-йоркская архитектурная студия Дрор – это архитектурные и дизайнерские идеи на основе практики, которая нарушает привычные связи между искусством, архитектурой и дизайном. Смелыми, экспериментальными проектами студия стремится оказать влияние на общество и окружающую среду во всем мире.

Студию возглавляет Дрор Беншетрит – дизайнер, мыслитель, мечтатель и футурист, чей целостный подход подкупает поразительным диапазоном творчества и нестандартностью работ. Дрор отличается поразительным многообразием своей деятельности в области архитектуры, сотрудничая со всеми, кто разделяет ее стремление к совершенству дизайна. С момента своего основания в 2002 году студия успешно реализовала множество проектов с известными компаниями мира, среди которых итальянский производитель современной кухонной посуды Alessi, автоконцерн Bentley, производитель мебели для дома Carpanelli, курьеры Yigal Azrouel, девелопер SHVO, сеть магазинов Target, производитель модных аксессуаров для путешествий TUMI. Уникальный опыт реализации проектов, разнообразных по своим масштабам и предназначению, подчеркивает безграничную любознательность сотрудников студии Дрор, их любовь к прекрасному, иллюстрирует творческий дух и склонность к смелым нестандартным решениям.

Дрор Беншетрит (Dror Ben-Shetrit) родился в Израиле, окончил Академию дизайна в Эйндховене. В его творчестве отражаются геометрия, физика и... поэзия, он выводит своим творчеством дизайн за рамки сугубо функционального приложения, создавая с его помощью экстраординарную экспериментальную атмосферу. Будучи интересным рассказчиком, Дрор Беншетрит читает увлекательные лекции о дизайне в нескольких университетах США.

Дрор Беншетрит – обладатель нескольких престижных премий в мире архитектуры и дизайна, среди которых – Good Design Award (2008 и 2010), Decoration and Design Building's Stars of Design Award (2012), Red Dot Award (2013), Landmark Miami Competition (первое место, 2013). Его дизайнерские работы представлены в постоянных коллекциях крупнейших музеев в Северной Америке, Европе и на Ближнем Востоке. В настоящее время он является членом попечительского совета музея искусства и дизайна в Нью-Йорке.

ющийся непосредственно за ней. Иначе его из этого помещения увидеть невозможно. Остальные три стены полностью стеклянные. Такое решение позволяет достичь потрясающего эффекта: городской пейзаж, который видно за стеклом, продолжается панорамой, проецируемой в онлайн-режиме на экран, и тем самым обеспечивается полный обзор – на 360 градусов. Медиаэкран может также использоваться для просмотра телетрансляций, кабельных каналов и т.п., а при желании его можно просто выключить.

В концепциях трех представленных зданий ярко отражены идеи для создания антропогенной среды, которые не устают предлагать Studio Dror, инновационные, отличающиеся целостностью способы переосмысления архитектурной ткани Нью-Йорка и других городов. ■

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with these magnificent past of the city. The ambitious project was originated on a plan of the Chinese developer - CapitalLand, one of Asia's largest real estate companies, in consortium with Singapore company Singbridge. The cluster is composed of six slender towers that sit atop a five story retail podium, featuring residential and office space, retail facilities, a serviced residence, a hotel, restaurants and clubs. The project also integrates a public park and gardens, and will be a major hub for land and water transportation, housing a car park, metro station, bus interchange, ferry terminal, and cruise center. A major element of the design is a quarter-mile long, glass-enclosed structure, or 'conservatory,' perched at the 60-story level, accessible by four of the towers and providing a grand, common area for public activities.

As the city's initial dock area on the Yangtze, Chao Tian Men Plaza represents the great tradition of the shipping highway, which has fueled Chongqing's development as one of China's largest and most important modern cities. In designing the site, inspiration was drawn from historic images of great Chinese sailing vessels on the river, and the complex is intended to serve as a symbol of Chongqing's noble past as a trading center. Gently arcing toward the water, the six towers of the complex form the 'apex' to the city's peninsula, like the great masts of a ship, with its sails pulling the city forward.

Bridging the four interior towers at the 60-story level is the conservatory, which brings amenities and green spaces into the sky. The conservatory houses the hotel lobby, restaurants, pool, ballroom, spas, and clubhouse and gymnasium type facilities for the residential apartments. It also links the towers to one another high above the skyline, affording uninterrupted views of both rivers and of downtown Chongqing. Because Chongqing's climate can fluctuate drastically, the glass enclosure will ensure year-round enjoyment of the indoor gardens.

At the ground level, the project includes an expansive, nearly one-acre park featuring gardens and landscape features that will serve as one of the city's largest public amenities. The park gently slopes to the north, such that its entirety can be seen from the city, offering dramatic framed views to the water through the towers.

Beneath the park level, the podium offers five levels of retail galleries, generously endowed with natural light and extensive views to both rivers. This ground level extends over the road, thereby providing pedestrian access to Chao Tian Men plaza and reconnecting the city to the water. Also included in the podium is a major public transportation interface - housing terminals for subway, train, and ferry.

Thus, the long tradition of the city, which played communication facilities between remote from each other settlements, gradually moved into the present day: the project of the Chongqing Chaotianmen complex,

resembling in its form magnificent sailboat put together the past, present and future.

Chongqing Chaotianmen complex
Location: Chongqing, PRC
Architect: Moshe Safdie
Client: CapitalLand, CapitalMalls Asia, and Singbridge Ltd.
Area: 817,000 sq m (8,800,000 sq ft)
Status: in design ■

HABITAT
Experimenting with Structure
(p. 42)
MATERIALS PROVIDED BY STUDIO DROR

Dror Benshetrit who leads the eponymous firm Dror, has recently unveiled conceptual designs for three residential buildings in New York that explore new ways to improve the living experience of urban dwellers through experiments in structure. Two of the projects, 100 Varick and 350 Bowery, have been commissioned by developers. The third one and more adventure - some of the three, 281 5th Avenue, comes from the imagination with no plans at present to be realized.

100 VARICK
Those familiar with Norman Foster's Hearst building will certainly note a kinship between it and Dror's proposal for 100 Varick. Dror's design, which like Foster's is based on the diagrid, was created for developer Michael Shvo. It explores the issue of weight distribution using a QuaDror exoskeleton, where glass volumes are inserted into apertures formed by the frame. The result is column free interior space and 25 floors that are effectively five, five-storey independent units, disseminating weight in smaller, lighter increments throughout the structure.

350 BOWERY
Cities are synonymous with densely populated concrete jungles. Renovation and re-building is imminent, but descends upon a plot of land according to its own timeline. When an empty lot appeared in downtown Manhattan, we wondered what kind of structure would both enhance and respect its surroundings—healthy, historic parts of the urban fabric. 350 Bowery, commissioned by developer Sonny Bazbaz, is created for an empty lot in downtown Manhattan. 350 Bowery consists of three curiously stacked glass volumes, each thoughtfully sized to align with its neighbors: the base of the top and middle units follow horizontal planes formed by the roofs of adjacent build-

ings, kissing each structure's northeast edge in a gesture of respect. A forest of columns elevates the residential units to achieve this connection, creating an outdoor sculpture garden that offers glimpses of the surrounding environment. Anchored by a retail space at street level, 350 Bowery is a new typology of building that lets the existing locale determine its distinctive shape.

281 FIFTH AVENUE
In a typical residential tower where floors are divided into four units, views from no more than two sides of the building are possible at a time. The architect started thinking about ways to incorporate a third view, supplying every tenant with the luxury of a vast, uninterrupted perspective. The concept for 281 Fifth Avenue achieves this feat by orienting its core structure into the shape of a pinwheel. A residence protrudes from each of the pinwheel's four arms on every floor, centralizing the unit's wet wall and support system on a single side. At the building's base, each arm fans out into a subtly curved V-shaped foot to form a strong, sculptural anchor. Informed by a pinwheel-shaped frame, the unique orientation of units envisioned for 281 Fifth Avenue yields sweeping views. Of the remaining three glass walls, one faces the adjacent unit's wet wall, which doubles as a projector screen: real-time imagery of the environment directly behind the wall can be projected there, seamlessly connecting with existing views to provide an increased perspective. The wall can also be used as a surface to view other media, or switched off completely. The imagined towers highlight the studio's ever-evolving ideas for the built environment, where we seek pioneering, holistic ways to rethink the architectural fabric in New York City and beyond.

ABOUT DROR
Dror is an ideas-driven design practice that disrupts conventions of art, architecture, and design. Their audacious, experimental projects strive to profoundly impact communities and environments around the globe.

The New York studio is led by Dror Benshetrit, a designer, thinker, dreamer, and futurist whose holistic approach informs a striking range of affecting, unconventional work. Together, they tackle visionary pursuits that result in increased brand equity for their partners.

Studio Dror collaborates with top-tier companies, developers, and institutions that share commitment to design excellence. Since launching in 2002, Studio Dror have partnered with Alessi, Bentley, Cappellini, Yogi, Azrouel, SHVO, Target, and TUMI, among others, through which the practice acquired unique expertise in projects that vary in nature and size. Fueled by Benshetrit's boundless curiosity, the practice's international work illustrates creative spirit of the team and their penchant for challenge.

Dror Benshetrit graduated from the Design Academy Eindhoven.

Fascinated by geometry, physics, and poetry, his work pushes design beyond its functional application to create extraordinary atmospheric experiences. He has won GE Plastics' Merging Boundaries design competition (2001) and has received an IF Product Design Award (2006), Good Design Award (2008 and 2010), and Red Dot Award (2012). His work is included in the permanent collections of major museums in North America, Europe, and the Middle East. An engaging storyteller, Benshetrit has lectured at the University of Pennsylvania's School of Design, University of Nebraska, and the Wolfsonian—Florida International University museum and research center. He currently serves on the board of the Museum of Arts and Design in New York. ■

VISION
Sea Dragon in the Pearl Sea
(p. 46)
MATERIALS PROVIDED BY AEDAS

What can link contemporary architectural intent and the painting, which is separated from us with the more than seven centuries? The inspiration for the new tower of Hengqin International Financial Center is the well-known Southern Sung Dynasty painting, Nine Dragons, in which the dragons rise strong and commanding from a stormy sea. Designed by Keith Griffiths and Andy Wen at Aedas, the building takes the form of a flood dragon busting from the sea.

During the Southern Song Dynasty, when lived a Chinese painter, the dragon images were the most popular themes in art.

The image of dragon in China can be found almost everywhere - in temples, palaces, obelisks, and even on the walls of peasant houses (in the form of pictures or paper clippings). In ancient Chinese literature the flood dragons are magical creatures capable of invoking storms and floods and is often used to describe a newborn power - an apt symbol for a new building devoted to the development of an experimental financial zone.

This building, designed by Aedas, is a pioneer development in the Shizimen central business district on Hengqin Island in Zhuhai. Part of the Pearl River Delta, it is in the process of developing into a key financial centre. Zhuhai is also one of China's premier tourist destinations, being called the Chinese Riviera. Zhuhai borders the Macau Special Administrative Region (north and west), and 140 kilometres (87 miles)

southwest of Guangzhou. Its territory includes 146 islands. Heavy traffic between Zhuhai and Macau has led to the construction of a new cross-border corridor, the Lotus Bridge, built in November 1999 to divert traffic away from the congested Gongbei Port of Entry. As part of the Pearl River Delta integration, a Hong Kong - Zhuhai-Macau Bridge is scheduled to be commissioned in 2016. Zhuhai (the only city which will connect Hong Kong and Macau) has become significantly prominent within the Pearl Delta region.

This project on a site overlooking the water is a 334-metre high office and apartment tower which segues into a ground level retail podium with conference, commercial and exhibition facilities.

The four components of the tower shoot up out of the lateral mass of the podium like the dragon of Hengqin Island has four heads symbolizing the convergence of talents from Zhuhai, Macau, Hong Kong and Shenzhen.

The elevations are clad in glass and metal panels. At the base the canopy over the entrance to the tower reads as a huge curtain swept aside and twisted in the cosmic wind ending in a flurry of horizontal creased material surrounding a tall exhibition space. Here is a fresh way of dealing with the mixed-use combination of tower or towers raising either side of a retail podium. The potentially awkward junction of high and narrow with expansive and relatively low height is resolved by simply dragging the vertical elements around the corner and turning tower wall into podium roof.

Aedas planned the shape and orientation of the tower to maximize views. The windmill shape of the upper part of the building also responds to the regional climate and ecological living style.

Completion of the building is planned for 2017. The Hengqin International Financial Center apparently will become not only the hot spot of business activity of Guangdong Province, but also one of the local landmarks.

Hengqin International Financial Center
Location: Zhuhai, China
Architect: Aedas
Project Design Directors: Andy Wen and Keith Griffiths
Client: Zhuhai Shizimen Central Business District Development Holdings Co., Ltd.
Gross floor area: 218,955 sq m (above ground: 133,158 sq m; below ground: 80,797 sq m)
Completion year: 2017

KEITH GRIFFITHS
Chairman, Global Executive Director (Hong Kong)
Keith Griffiths is a design leader and founder of Aedas. He, as an internationally respected architect and planner, has a deep understanding of the growth of major cities and their chang-

ing markets, society and culture. He is passionate to create unique and timeless architecture which appropriately responds to its location and culture and meets the requirements of change and growth.

Keith has designed award-winning, successful projects for most of the leading developers in Asia and his experience includes high-rise, mixed commercial, retail and masterplanning as well as airport and civic buildings.

His passion for design extends into his many lectures, publications and academic work upon the appropriate directions for urbanization and cultural identity.

ANDY WEN
Global Board Director, Global Executive Director (Beijing)
Born in Taiwan, Andy Wen migrated to the United States with his family, where he later received his Master of Architecture degree from the University of Pennsylvania. In the 1990s, Andy went to China and obtained a Doctoral degree from Beijing Tsinghua University before returning to Taiwan to teach in Ming Chuan University and later became the Head of Architecture Department. Andy continued to develop his design philosophy during the teaching process. Through a few renovation and expansion projects of the campus' buildings, he further refined his design theories in the practice. Andy joined Aedas in 2008 and is currently a Global Board Director. Aedas has provided him a comprehensive platform and given his team abundant support to meet various design challenges and create excellent architecture. ■

IDEA
Slum Quarters of Steel
(p. 48)
MATERIALS PROVIDED BY CRG ARCHITECTS

Modern cities are facing unprecedented demographic, environmental, economic, social and spatial challenges. There has been a phenomenal shift towards urbanization, with 6 out of every 10 people in the world expected to reside in urban areas by 2030. In the absence of effective urban planning, the consequences of this rapid urbanization will be dramatic. In many places around the world, the effects can already be felt: lack of proper housing and growth of slums, inadequate and outdated infrastructure

- be it roads, public transport, water, sanitation, or electricity - escalating poverty and unemployment, safety and crime problems, pollution and health issues, as well as poorly managed natural or man-made disasters and other catastrophes due to the effects of climate change. In order to resolve this global problem are created non-standard architectural designs.

Design company CRG Architects presented the original solution to the problem, seeking to explore and investigate the possibility of a temporary adequate housing solution for dwellers of the densely populated Dharavi Slum in Mumbai, India. The project was presented in the framework of "Steel City - Container skyscraper" competition, organized by the website www.superskyscrapers.com.

As a basic building element in the design is used 20-, 40- and 45-foot containers.

"Recycling used shipping container modules which are cheap and fairly available in a port city like Mumbai, gave us the chance to revitalize such a socially deprived area and contribute to a housing solution, providing a visual focal point, reinforcing and enhancing the presentation of an urban housing," - said Carlos R. Gomez, Principal Architect of the project.

The contribution of this project to the sense of place and community at the chosen location, encourage its use, and has a direct relationship with idea of such a vertical development, maximizing the new development potential with attention to sustainability and ecology.

CONCEPT
The irregular shape of the site allowed total freedom of design and expression when to provide better living conditions for the inhabitants of Dharavi.

The whole site was pushed to a height of 100 meters to play with the maximum volume. Two towers were chosen to be designed after analyzing the shape of the site, which dictated how to split the volume and where should to place them both. To maximize the views in any direction was decided to use a cylindrical shape for the base of the towers, having advantage of the great far away views around. Taking the mass that doesn't belong to the cylinders, the architects overlapped them to grow up the tower's height.

The tower's shape is continuing changing in height, nourished by surroundings' characteristics and future streets alignments, and giving it the geometry optimization with the one was designed the container's positions.

The skyline of Mumbai will be severely modified after receiving the

"Containerscraper" on its dense urban grid. With a maximum height of 400 meters for the tallest tower and 200 for the small one, both together will be the new challenge of height to beat in the city. The position of both towers is the answer to the irregular shape of the site, giving to this area the opportunity of being the new landmark of the city with a striking new visual presence.

CONTAINERS
After analyzing as ships and ports of loading and unloading of containers store these elements, the architects realized that the classical and standard container's storage position allowed to have only one direction of views, consequently the gap for opening windows is coming from the shortest side of the container.

By rotating 90 degrees the position of the containers, was achieved more facade surface coming from the longest side of them, and greater possibility for opening windows, although still only one direction of views.

Changing the position of the containers by following a cylindrical shape, was obtained possibility of multiple views around the site.

Alternating them around the cylinder, was made the wind flow through the containers, helping them to remove and decrease the amount of heat.

With this proposal, under the parameters of a circular floor plan on the bottom of the tower, was emphasized the old method of circular positions for self-defense, allowing its inhabitants to feel the security that a building of these characteristics allows.

The core of both towers is also made with containers in a vertical position, allowing to house every elevator unit in one of each of the containers in an upright position.

INTERIOR
The position of the "boxes" containing a couple of containers seems to be random, but it is not. It follows a programmed mathematical pattern according to the characteristics of the environment, to provide the maximum flexibility to distribute the units in height. To provide a greater randomization to these positions, the modules of water tanks and empty structures alternate to ensure a regular arrangement in height, and that all users enjoy the vertical gardens, and all dwellings may have availability of smooth water distribution.

The detailed 3D drawing of the minimum container unit, shows how is distributed the services facilities about clean water, gray water and black water, providing each unit with a recirculation reuse water system.

PUBLIC AREAS
The distribution in height of vertical gardens, together with the separation side by side of every container unit, helps the whole system to remove