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Researching and designing GREAT; the extremely condensed hybrid urban block

Abstract:

The fact that the hybrid building is an extremely condensed urban block which increases the city's density and contributes to the public realm of the city – horizontally as well vertically - forms one of the key interests of this documentation, research and master studio work.

The “ground scraper” is not only public because of the character of its plinth facing surrounding streets, but also in regard to its interior space that is partly accessible to public. As such the European hybrid building potentially extends the city's public domain horizontally and vertically into the building's interior and links the public domain inside and outside. Notwithstanding, the hybrid building due to its specific and unconventional character represents a truly urban architecture that was unfortunately often rejected in the name of 'purity' of form and function during the twentieth century. Or with other words, its rejection demonstrates the domination of the building's plan opposed to the section.

Today, new frameworks for the city, like the “compact city,” ask for innovative interpretations and designs of building types, worthy to be investigated and

proposed. The architectural type of the hybrid building, (re)defines and expresses the relation between architecture and the city in a specific manner.

To begin with, the city of Rotterdam forms the first test-case of the Hybrid's project to document and discuss statements, such as "the hybrid building has a long-standing tradition within this 'modern city'", "it is a machine for urbanity," "it enlarges the city," "it innovates because of its ambitiousness but also because of necessity," "it combines to activate," "it asks for extraordinary design intelligence and craftsmanship."

A special way of drawing is developed to document, analyse and compare historical and contemporary representatives of the species. The method includes panoply of scales ranging from the morphological arrangement on the scale of the city, the typologies of stacking diverse programs to the architectural features that establish the mutual relationship between the public space of the city and the interior of the building. Basically the features analysed within the series of drawings are also constitutional for (the success of) every future hybrid building.

Introduction

The fact that the hybrid building is an extremely condensed urban block, which increases the city's density and contributes to the public realm of the city -horizontally as well vertically- forms one of the key interests of this research, master studio work and documentation (Floris et al 2011).

The "ground scraper" is not only public because of the character of its plinth facing surrounding streets, but also in regard to its interior space that is partly accessible to public. As such the European hybrid building potentially extends the city's public domain horizontally and vertically into the building's interior and links the public domain inside and outside. Basically it acts as a city within the city by hosting everyday life, work and leisure for a diversity of city inhabitants and visitors, and often holding even large-scale, at first glance contradictory programs like apartments in combination with a public swimming pool.

Hybrid block and Modern Movement

Because of their relation with commerce and unexpected combinations of functions, their often 'unclear', because mixed bearing structures and where necessary, applied ornament, hybrid buildings were generally excluded from the canon of Modern Architecture. Notwithstanding, the hybrid building due to its specific and unconventional character represents a truly urban architecture. Within the 'Revision of the Modern' (Klotz 1986) Rem Koolhaas' was one of the first architects-theorists that drew attention to this lost tradition. With his study 'Delirious New York, A retroactive manifesto for Manhattan' (Koolhaas 1978) studying the architecture from 1900-1935 Koolhaas pleaded for reconsideration. His original thinking in regard to extremely condensed buildings and blocks - as developed within the framework of Delirious New York - can be traced throughout his realized architectural oeuvre, for example the Seattle Library of 2004. The section of the library, the way in which the functions, closed and open spaces are stacked and the diffuse and hybrid construction are unthinkable without knowing the Downtown Athletic Club¹, with its idiosyncratic stacking of hotel rooms on top of an indoor golf course and beams that are as high as entire floors.

This kind of architecture from New York but also the Chilehaus (1920) in Hamburg or the great buildings along Gran Vía ('Spanish Broadway' 1909) in Madrid was unfortu-

¹ Downtown Athletic Club, New York, Starett & Van Vleck architects 1931.

nately rejected by the Modern Movement during the twentieth century in the name of 'purity' of form and function. Or to be more precise, the rejection demonstrates the Modern movement's domination and obsession with the building's 'plan', which had to be composed clearly and elegantly. Basically the victory of the plan opposes the 'section' which tends to be fussy by combining and showing the incongruence of functions and complexity of the structure, if you think for example of Sullivan's & Adler's Auditorium Building in Chicago (1889).

However, large buildings within the city remain fascinating also today. They vary from untouchable 'Großform aus einem Guß' to endless super structures, but could also be a friendly 'grafted' city block that combines multiple building forms. Hybrid buildings, including their technical findings form the continuous stage of exchange of knowledge and architectural ambition not only within Europe, but also between the United States and Europe. Because of their size (or better scale) and unconventional character they reflect hope and awe at the same time. Do they absorb city life into their interior while sucking life from the surrounding streets or do they contribute to and extend the city's public domain? Already at the end of the nineteenth century, John Wellboorn Root stated: 'In America we are free of artistic traditions.... we produce works of architecture irredeemably bad, we try experiments that result in disaster. Yet somehow in this mass of ungoverned energies lies the principle of life.'

Today's necessities

Today, new frameworks for the city like the "compact city" ask for innovative interpretations and designs of building types, worthy to be investigated and proposed. Realizing that we have to deal with limited energy sources the necessity to develop a sophisticated low energy public transport system becomes evident. In regard to economic development conditions for the creative industries and as a consequence, the wish to increase the city's liveability ask for densification of the existing fabric and stacking of functions often in combination with infrastructure, at least in the Netherlands. Considering the needs and necessities of the contemporary European city the architectural type of the hybrid building deserves reconsideration because it (re)defines and expresses the relation between architecture and the city in a very specific manner. Additionally, the concept of the 'city aloft' as a new way of introducing green into the condensed city is worthwhile investigating. Within this line of thought it is interesting to reconsider Rockefeller Center as the "Garden City aloft".

'Rockefeller Centre is the epitome of what Koolhaas regards as the fundamental principle of New York City: Manhattanism. Koolhaas points out that New York architects and city planners have never really been serious about reducing congestion. In fact, "the real enterprise of Manhattan's architects" is a "culture of congestion....' (Prouty, 2007).

Hybrid Typology

In regard to the hybrid's typology Joseph Fenton (1985) distinguishes three basic types: the fabric hybrid, which is directly derived from structure and the measurements of the surrounding urban fabric. The outer performance and composition of the fabric hybrid within the city tissue can vary from being as distinguishable part of the urban block or expressing and composing a whole block as urban unit.

The graft hybrid consists of a combination of different building forms within an urban block. It can also present itself as a unity that articulates the different functions of the building in the exterior.

The monolith hybrid is usually a high-rise structure. The monolith hybrid carries a unifying skin and stresses even more than the fabric hybrid the block's unity.

All kinds of combinations between these three are thinkable. The Rotterdam Building (OMA 2010) combines the fabric hybrid of its 'basement' with high-rise 'monoliths' that are grafted on top of it.

Furthermore, Joseph Fenton remarks referring to the American context "...The combination of multiple functions within a single structure is a strategy which has been repeated throughout history...However, it is crucial to stress that hybrid buildings stand differentiated from other multiple function building by scale and form. The scale is determined by the dimension of a city block within the orthogonal grid. The form is a direct result of the late Nineteenth Century technological innovations such as structural framing, the elevator, the telephone, electrical wiring, central heating and ventilating systems...The hybrid type was a response to the metropolitan pressures of escalating land values and the constraint of the urban grid...". (Fenton 1985, 5)

Technical innovations

From their very beginning hybrid buildings make use of advanced technical findings. Often without these findings they couldn't even have come into existence. Especially during the second half of nineteenth century and the beginning of the twentieth century the need for a new public domain of the middle class and technical innovations went hand in hand.

New techniques and comforts like central heating and air conditioning allowed buildings with large interior spaces and a 'well tempered environment' for bigger crowds of visitors and spectators. Even today advanced systems of inner climate control and information technology are essential features for the condensed urban hybrid.

Elevators made high-rise buildings possible and the comfortable 'lift' in for example department stores made sure people would find their destination in this city within the city. I still remember the liftman of my youth who asked every single traveller for his destination like 'kids' cloths', foods, women wear et cetera. Elevator stairs still symbolize the vertical extension of a horizontal public realm. Neutelings and Riedijk architects used them (again) just recently in their design for the tower of the Transport College in Rotterdam. Students travel slowly upstairs while chatting and watching each other.

New constructions and especially, steel frames and concrete structures made much larger spans and spaces possible. Because they were cheaper and easier to execute these kinds of spaces could be created also within commercial and utilitarian architecture. Steel structures in combination with glass offered transparent walls and especially roofs that could led the light into the interior of the condensed urban block. Jean Castex (2009) points in his research on the 'Chicago Hybrid' to another aspect of steel these innovative structures. These structures allowed the combination of big and small spans above one another, sometimes applying beams that cover more than three stories. This offered the possibility to realize even 'off balance' hybrid combinations of different bearing structures within one complex of building.

New ways of transport and combinations of infrastructure like trains and cars, for example a train station underneath a hybrid building, for example the Merchandise Mart in Chicago, a parking garage or the building for the Amsterdam Stock exchanges (1609) that bridges the water of the Rokin and connects different types of transport and trade.

Precedents in the Netherlands

Already in the seventeenth century the building for the First Stock Exchange in Amsterdam (1609), which was located right in the middle of the city centre, stacked a diverse program consisting of infrastructure and commerce. The inner court, where the goods were actually traded, supplied the city with a completely new public realm where citizens could meet, (ex)change goods and ideas, participate in VOC (United East India Companies) undertakings by buying stocks and by doing so, sharing the risk of such dangerous undertakings as sailing to the East. The fact that Amsterdam was considered 'the cradle of news' of the world at that time was not only due to an extended printed press at hand but basically also because of the provision of such an condensed and centred public realm as a locus that was physically able to bring together the global and the local, people from high and low culture, rich and poor, trade and leisure.

At the end of the 19th century and the beginning of the twentieth, for example in Rotterdam, the new urban hybrid buildings like the shopping arcade at the Coolsingel and the Hofplein Station represented the embellished civil engineers' city that rendered the urban and architectural designs for the new middle-class public sphere in the great Dutch cities. The shopping arcade opened up the interior of a perimeter block and hosted dwellings, a shopping gallery and spaces for an underground market, which were later transformed into a public steam bath.

The Hofplein station was the very heart of the city's entertainment area that located on one hand all kinds of new theatres and venues along the Coolsingel, and on the other hand the station, which brought together a hotel, the famous Café Loos and the train that, connected all the Rotterdam venues with the inhabitants of the hinterland. Again panoply of disparate functions were, as in the case of the Hofplein Station, infrastructure was integrated.

During the nineteen twenties The Atlantic House (1928) as the 'head' of a perimeter block facing the Veerhaven in the Scheepvaartskwartier (Shipping quarter) represents American ideas of Louis Sullivan and George Wyman/Lewis Bradbury for a new 'architecture of the city' and commercial buildings in the Netherlands. The building introduces an innovative arrangement of commercial and office spaces that are accessed from beautifully designed galleries at the inner court of the block.

Rotterdam

To begin with, the city of Rotterdam formed the first test-case of the Hybrid's project to document and discuss statements, such as "the hybrid building has a long-standing tradition within this 'modern city'", "it is a machine for urbanity," "it enlarges the city," "it innovates because of its ambitiousness but also because of necessity," "it combines to activate," "it asks for extraordinary design intelligence and craftsmanship."

In order to do so and to understand the specific and local nature of hybrid buildings within the city of Rotterdam a series of the city's 'great buildings' from different periods, ranging from the nineteenth century till today, were selected that proved their relevance for the city's public realm and grandeur during the past. Moreover, in order to place these 'local' buildings back into their international - i.e. European and American design traditions and context - their historical ancestors are analysed too.

The shopping arcade Passage Coolvest (1879) is set against the Galerie Vivienne in Paris (1823). In essence the shopping gallery probably establishes the most prominent hybrid building typology: the thick skin of an 'orca' or 'whale' which surrounds a large public interior. Given the nature of a shopping gallery within the section of an urban block, the skin houses almost automatically the small spaces and the tummy the big ones. This typology is often repeated and renders an array of variants like Henry Sauvage's urban block 'La Sportive' in Paris (1925), the Neutelings Riedijk apartmentblock with swimming pool as a hybrid 'readymade' on the Müllerpier (2003) or MVRDV's market hall for Rotterdam (2011).

The train station ' Hofpleinstation' (1906) is compared to St. Pancras Station in London (1864). Both buildings as 'head stations' integrate the infrastructure of trains into a building together with other functions, like a hotel, shops and a Grand Café.

The Atlantic Huis (1928) in Rotterdam follows the typological example of the Bradbury Building (1893). Both buildings extend the public realm of the street into the buildings' interior by internal galleries, which give access to office spaces.

Also the Groothandelsgebouw (1953) and the Merchandise Mart in Chicago (1930) belong to this species. In this typology the access system becomes independent from the galleries that surround light courts. In fact, they were transformed into inner streets. These streets are artificially lighted and in the case of the Merchandise Mart richly decorated with natural stone in 'art deco' style flanked by 'real shop windows' allowing lingering through the building from one floor to the other. One floor even allows access from the 'air' because it is connected to Chicago's public transport sys-

tem of the El(evated Metro). The interior streets of the Groothandelsgebouw are not as fashionable and less detailed as the Mart's, but still today they function as 'streets' leading to the office- and trading spaces of the different firms that the building hosts.

Conclusion

A special way of drawing is developed to document, analyse and compare historical and contemporary representatives of the species. The method includes panoply of scales ranging from the morphological arrangement on the scale of the city and the surrounding urban tissue, a comparison in size of the facades and also footprints, and axonometric drawings that show the way in which volumes and functions are stacked.

As stated above, main typologies can be detected. They transform slowly but never really disappear from history. Especially Dutch architectural firms, like OMA, MVRDV and Neutelings Riedijk architecten, seem to be masters in reusing, transforming and readjusting existing typologies to today's urban context.

Additionally the architectural features that establish and articulate the mutual relationship between the public space of the city and the interior of the building including the use of materials and ornament (or the lack of it) are shown, as well the volume and architectural articulation of the public interior within the building volume as a whole.

Finally detailed sections document the way of stacking diverse programs and spaces, and therefore the buildings typology or combinations of typologies.

Basically the features analysed within the series of drawings are also the categories to be taken into account for (the success or failure of) every future hybrid building. The drawings allow detecting the models and rules that are constitutional for the hybrid urban block. At the same time the research marks the possible moment of innovation, because exactly between research and design new ideals can be formulated that guide a design practice that results from a research of typology, morphology and the everyday use and that define once again the relationship between architecture and the city.

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