ARCHITECTURE IN LIMBO:

The redevelopment of a Bijlmerflat
INTRODUCTION
"The business of architecture is to establish EMOTIONAL RELATIONS by means of RAW MATERIAL." - Le Corbusier
LOCATION

The Bijlmermeer was a LARGE SCALE EXPANSION plan in the Southeast of Amsterdam. It was the next ambitious step after the famous urban plans by Berlage (PLAN ZUID) and Van Eesteren (the AUP).
THE BIJLMERPLAN

The plan followed the principles formulated by the architects of CIAM (International Congress of Modern Architecture). It entailed SEPARATION of both FUNCTIONS (program) and different types of TRAFFIC...
...solitary HIGH RISE standing in large GREEN PARKS - guaranteeing enough light, air and space - reserved for recreation...
...and - because of industrial building methods and strict EGALITARIAN PRINCIPLES - strongly REPETITIVE and UNIFORM buildings.
QUOTE

“All buildings are PREDICTIONS. All predictions are WRONG!” – Steward Brand
Somewhere in the late 70s the Bijlmer gained the reputation of the first Ghetto in the country. The problems were multiple: VACANCY (and overcrowding), UNEMPLOYMENT, CRIME, DILAPIDATION, DRUG DEALING...
...and large expanses of UNMANAGEABLE and BADLY MAINTAINED public spaces.
CURRENT RENEWAL

The new buildings replacing the flats are almost INDISTINGUISHABLE FROM the standard VINEX catalogue: two or three storey row houses.
The DESIGN OF THE PUBLIC SPACE is VERY POOR.
As in the 60s there is again believed to be a DIRECT (CAUSAL) RELATION between the BUILT ENVIRONMENT and SOCIAL PROBLEMS.
In truth the current renewal is mostly a RELOCATION OF THE PROBLEMS. The central issue at hand is the concept of **MAAKBAARHEID** (Dutch) or MALLEABILITY.
RE-DEVELOPMENT

Although a little differentiation does not hurt - the DEMOLITION of the flats is NOT THE ANSWER to all the problems of the Bijlmer. The reasons for maintaining the flats are multiple: the good condition of the apartments, ECONOMIC considerations, ENVIRONMENTAL issues, HISTORICAL value, existing SOCIAL STRUCTURES and preserving the courtyards.
IN-BETWEEN SPACES

Typical for the ‘failure’ of the Bijlmer are the desolate ‘in-between spaces’ which are NOT CLEARLY DEFINED and NOT APPROPRIATED by inhabitants; a sort of no-mans-land for which no one feels responsible. This in-between condition is the source of a lot of the frequent identified problems of ANONYMITY, LACK OF LIVELINESS AND SECURITY.
A couple of the FACTORS in the emergence of these spaces are SEVERE LACK OF PROGRAM...
...the location of INTERNAL STREETS (ON THE FIRST FLOOR), the BLIND FACADES of the plinths, OBSCURED PUBLIC-PRIVATE TRANSITION and the confusing and INEFFICIENT INFRASTRUCTURAL SYSTEM.
CURRENT SITUATION

We analysed different network-systems, traced here with tape. The REGIONAL SCALE in blue, the MIDDLE SCALE in red (the Bijlmer scale) the LOCAL SCALE in yellow (neighbourhood scale) and the local scale in green (street scale).
The Bijlmer is NOT DIRECTLY CONNECTED with Amsterdam and the surrounding region. The Bijlmermeer was conceived as a satellite town of Amsterdam, as a result it is completely DETACHED from the already existing and functioning network-systems.
The Daalwijkdreef, a nondescript half-empty business park and the town of Diemen separate the Bijlmer from Amsterdam.
ISSUES

The current haphazard infrastructural layout (together with the 120 degree angles of the flats) seriously CONFUSE ORIENTATION in the Bijlmer. Furthermore the built-up plinths of the flats PREVENT A CLEAR OVERVIEW of the area.
The (pedestrian) infrastructure in the Bijlmer has no hierarchy or order whatsoever. The fact that car traffic is restricted to the elevated drives is an important factor in the emergence of badly accessible, tucked-away, desolate areas.
CONCEPT

The first step is the implementation of a RIGID GRID-SYSTEM which is bluntly superimposed on the existing situation. The grid imposes a strict order while leaving total freedom within its borders. The grid:

- increases the overall LEGIBILITY AND ACCESSIBILITY of the area
- it allows for more DIRECT MOVEMENT and concentrates flows of people on specific locations
- it DEFINES SPACES and helps people to identify and access them
The grid is 'tweaked' to take into account the existing structures (physical and social) the Bijlmer. Two DIAGONALS have been introduced based on current movement of people through the area. The grid has been adapted to accommodate THROUGH-GOING CONNECTIVE PATHWAYS on the higher scales. Extra pathways have been added, tracing the footprint of the flat in order to help ACTIVATE THE PLINTH of the flats.
The new grid offers a clearly legible framework of the area while it allows both visitors and residents to make better use of the in-between spaces. The places where grids and/or flats meet or intersect become interesting places, places where some sort of social friction occurs. These places can be used in a formal (program, entrance, square) as well as in an informal way (meeting place, market, playground).
SUGGESTIONS FOR INTERVENTIONS
3. Courtyards

3.1 Concentration of flows I

If grid-systems of high intensity convene and align with the flats a 'street zone' can be created by adding small pavilions (which can follow the contours of the flats and the grids).

These pavilions should be low (two storeys at the most) and can contain cafés, restaurants or other public functions; a two-sided orientation is important.
By designing small pavilions adjacent to the flats (and following its contours) a ‘STREET-ZONE’ can be created; the small buildings concentrate movement of people in the area between the flats and the pavilion itself, leaving the parks open for other uses.
SUGGESTIONS FOR INTERVENTIONS
3. Courtyards

3.2 Concentration of flows II

Occasionally a whole courtyard can be flooded, concentrating people near the plinth of the flats and in other courtyards.
LAKES

Flooding (or partly flooding) a courtyard reduces the area-to-be-managed and concentrates people in other places.
DESIGN
How can we INCREASE the FLEXIBILITY/ADAPTABILITY and liveability of a Bijlmerflat while retaining as much of the original structure as possible?
To the northwest of the D/F area there is the Venserpolder, to the east there are more Bijlmerflats and to the south newly built low-rise terraced housing and the Amsterdamse Poort. Its prime location along the Daalwijkdreef give this area a lot of opportunities for development. The long flat just left of the middle is DENNENRODE/FRISSENSTEIN.
The grid-system also gives INDICATIONS FOR PROGRAM and DWELLING TYPES.
GROUND FLOOR

On the Bijlmer scale: a small supermarket or other commercial activities
On the neighbourhood scale: a community centre, a front office for the housing corporation and various spaces for small shops and businesses
On the street scale: single family houses with front and back yards and collective green (for the street).

THE INTERNAL STREET IS REMOVED and the first floor is used to give various functions on the ground floor extra height or extra floor space.
SUGGESTIONS FOR INTERVENTIONS

1. Grids crossing

1.1 Bijlmer grid

When a grid on a Bijlmer scale crosses a flat:
Introduce a ‘gap’ of 6 to 7 stories high and at least 4 bays wide.
GAPS

The gaps in the flats increase the LEGIBILITY of the grid-system and enhance the GENERAL OVERVIEW and orientation of the Bijlmer.
CONSTRUCTION PRINCIPLE

Introducing gaps (arches) in a Bijlmerflat.
For instance a gap of 5 floor high and 3 bays wide.
There are several forces to take into account: vertical...
perpendicular...
and lateral.
The lateral forces are countered by the addition of more elevators shafts.
Francis Allard, Gerard Guarracino and Dominique Grolleau investigated the possibilities of making holes in the Utrillo building in La Rochelle. It was documented for the COST16 project.
New elevators increase lateral stability. A system of beams, crossbeams and columns counter the vertical forces from the floors above.
Under influence of the forces perpendicular to the facade the portals run the risk of falling backwards.
Extra I-beams make one solid construction of the five portals.
SUGGESTIONS FOR INTERVENTIONS

2. Grids passing

2.5 Backyard vs. grid

When a backyard (or backside) of a house borders on a grid system add a buffer zone:

2.5.1 Waterbody
2.5.2 Elevation
2.5.3 Vegetation
BUFFERS ZONES

The clarify the BOUNDARIES BETWEEN PUBLIC AND PRIVATE spaces buffer zones can be introduced. The buffers can help create better living environments.
SUGGESTIONS FOR INTERVENTIONS

3. Courtyards

3.3 Polders I

The original shape of the courtyards can be emphasized by hexagonal water bodies. The water will divide the courtyards in two. On the one side the streams will concentrate flows of people close to the plinth, creating a 'street-zone'. On the other side 'polders' are created which can facilitate other functions.

The courtyard can be re-connected to the 'street-zone' by means of bridges. Add program in courtyard.
WATER BOUNDARIES

The water boundaries concentrate people near the plinth and help create a ‘street zone’. PROGRAM can be added IN THE PLINTH of the flats.
This part of the flat consists of 315 APARTMENTS of approximately 100M². The first and ground floor were reserved for collective and storage facilities respectively.
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APARTMENTS

Up to this day the standard Bijlmer apartments are considered to be quite adequate. Generous proportions, a separate kitchen and a play corner. The main issue is the LACK OF DIVERSITY IN DWELLING TYPES.
DIAGRAM II

Current situation: gallery bordering on the apartments.
GALLERIES

The galleries of the BijlmerFlats are every bit as iconic as the honeycomb shape. The inherent problem with galleries is the ABRUPT PUBLIC-TO-PRIVATE TRANSITION. The lack of an intermediate space causes people to screen off their apartment, resulting in dead spaces with NO SOCIAL CONTROL. Furthermore it functions purely as transition space.
This part of Dennenrode/Frissenstein was built with only three stairwells (and six elevators). This led to long anonymous galleries.
ADDING MORE ELEVATORS the number of people per elevator and on the galleries is reduced.

DIAGRAM III
DIAGRAM IV

Introducing the MEANDER; increasing the sense of territory.
Differentiation; creating different ACCESS-SYSTEMS, potential COLLECTIVE spaces and dwelling TYPOLOGIES.
Adding BUFFER-ZONES; increasing the potential for PRIVACY REGULATION.
Different parts of the building can be ISOLATED from the (public) meander.
On different floors different compositions are possible.
In a worst-case scenario 9 DIFFERENT COMPARTMENTS can be created, keeping out intruders and increasing sense of COMMUNITY.
CONCEPT

The meandering line runs through the building and pierces it at intervals, dividing the flat in several clearly marked TERRITORIES. The meander can create different DWELLING TYPES and ACCESS-SYSTEMS that in juxtaposition with the original flat offer a multitude of spaces where some form of COLLECTIVE USE can occur. ‘BUFFER ZONES’ are introduced between the public and private spheres. The meander can be different on every floor, creating different spaces and changing the outward appearance.
MSc4 Explore Lab III
Architecture in Limbo: P5
Jouke Sieswerda
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DWELLING TYPE I (FIRST FLOOR)

Maisonneettes accessible via a collective porch.
DWELLING TYPE I (SECOND FLOOR)

Maisons accessibles via a collective porch.
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Architecture in Limbo: P5
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CONSTRUCTION PRINCIPLE

To create the porch in front of the apartments BIG HOLES need to be made in the bearing walls. The roof and floor need to be INSULATED and WATERPROOFED as they are now exposed to the elements.
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Jouke Sieswerda
Leo Verhoef et al. did some research on the adaptability of Bijlmerflats. As a case study they used the flat Hoogoord. This project was also documented for COST 16.

Fig. 2a Original plan with limited view to the outside world
Fig. 2b Proposal for extended view
DWELLING TYPE II

Flexible apartments accessible through a winter garden.
DWELLING TYPE II

Flexible apartments accessible through a winter garden.
DWELLING TYPE III

Collective dwelling unit accessible through a communal terrace.
DWELLING TYPE III

Collective dwelling unit accessible through a communal terrace.
DWELLING TYPE IV

Duplex dwellings accessible through an extended gallery.
DWELLING TYPE IV

Duplex dwellings accessible through an extended gallery.
CONSTRUCTION PRINCIPLE

The galleries, terraces and winter gardens are all variations on the same basic construction; a system of beams and crossbeams hung from new walls on the roof. The system’s different typologies are easily INTERCHANGEABLE. The floors can also be adjusted: gaps can be created by removing floor elements. The gaps create BUFFER ZONES and allow LIGHT to reach underlaying apartments.
FOUNDATION

The overall construction is strong enough to carry the extra loads. The foundation is not. This can be solved by adding extra renovation piles.

Fig 5 Drilling renovation piles through the existing structure
DWELLING TYPE V

Loft apartments accessible through a communal terrace.
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DWELLING TYPE VI (FIRST FLOOR)

Maisonettes combining working and living, accessible via a collective porch.
DWELLING TYPE VI (SECOND FLOOR)

Maisonettes combining working and living, accessible via a collective porch.
DWELLING TYPE VII (FIRST FLOOR)

Maisonettes combining working and living, accessible through an extended gallery and with additional collective and private winter garden.
DWELLING TYPE VII (SECOND FLOOR)

Maisonettes combining working and living, accessible through an extended gallery and with additional collective and private winter garden.
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Architecture in Limbo:
A short history of public, private and collective spaces in the Bijlmermeer

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