Transformation of the
National Bank of Belgium
A depiction of the office and bank, broken down into scalar themes.
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In contrast to the common practice of analysing and designing buildings from the scale of the city downwards this journal takes the desk as its starting point. An object which in its most basic form provides a flat surface at a comfortable height. Going beyond the history of the office and bank building the table has always maintained its fundamental function. However, we can even see the shifting ideologies of the office as well as technological advancements being reflected with its design.

The table as a module of an office building has been used to control its user. Its position and design defining the social interaction to others whilst reflecting social hierarchies. The computer has become a common theme across the use of the current office desks. The keyboard and mouse become take up the most central position on the table whilst papers, books, cups, and pens are scattered around it.
Office Space, Atelier Tomas Dirrix, Rotterdam, 2021

Stitching together photographs of the workspace
Four Tables with two working stations in Atelier Office Space, Atelier Tomas Dirrix, Rotterdam, 2021
Elevation - Table within atelier
Floor Plan Overview and Reflected Ceiling Plan
The reconstruction of an image. Much like a stage set the inherent perspective of the image becomes the model. The close foreground being rebuilt with detail, whilst the background becomes an abstraction of surfaces. The light within being artificially recreated and its hues manipulated with coloured paper. Like the work of Thomas Demand the model is not intended to be an exact replica but rather evoke a second look in which it reveals itself as an abstracted paper model.

By reconstructing the office its structure, dimensions materials, and objects are dissected. Within the ford foundation designed by Roche and Dinkeloo in the 1960’s, each workspace becomes is furnished with a set of leather finished tables, built-in telephone, the large shelves of book, the caret and coffee table. The executive’s office depicted evoke an image of exclusivity. The table itself almost empty apart from a single pen to make executive signatures.

The bank as a constitution will remain. However, this redesign should change its interaction with the city and its clients. More access. More transparency and more trust. The integration of public facilities and non-bank owned services is important for the reactivation of the site. By turning the courtyard into the heart of the structure the frontal facades become the backside.

A continuous room of interiors. Similar to the other route through Brussels, the courtyard forms part of the city’s circulation routes. The platforms at each end of the bank on which the statues sit can similarly become a public platform, similar to that of the church.

Thomas Demand, Copyshop, 1999
Jacques Lemercier, Engraving of Michelangelo’s sectional model for San Giovann dei Fiorentini, 1607.

Interiors Buildings Cities model collection.

Kevin Roche in Ford Foundation model. The Model as an Object (Model:Pascal Henle, Ebrina Koster, Julia Linde, Robin Weishaupt Image:Laurens de Munck, Bas Leemans)
Kevin Roche in Ford Foundation model 1963.  
(Source: Kevin Roche John Dinkeloo and Associates)

Ford Foundation - Model 1:20
Pascal Henle, Ebrina Koster, Julia Linde, Robin Weishaupt
The image as a object A set of furniture
The background as the model
Ford Foundation - original photograph
The image as a object A set of furniture
The Office

The office

The office building as we know it today, originated from the separation of commercial use from residential functions. Around the early nineteenth century office buildings were first constructed to be rented out to smaller companies as opposed to build by those companies themselves. This marks the start of generic floorspaces in which order was given through an underlying grid. Although the grid became the datum on which most future office plans were projected, we can see a linear progression of the office arrangement influenced by both external and internal factors. The External factors relating to building construction and real estate and the internal being office technology and office organisation.

The plan

Within history, the plan as a projective device can be seen as the cornerstone of architectural practice as we understand it today. The plan as a projection of a physical condition not yet in existence, in contrast to being a documentational tool by early stonemasons and builders during the construction of buildings. Unlike the Elevation and perspectives which are perceivable in real life, the plan is a horizontal cut through the built form exist only as an organisational abstraction of space - a two-dimensional construct of its built form.

Consequently, the plan gives geometric order to the daily practices of life. Using boundaries and openings, daily life is arranged into ordinary and repeatable patterns. The order and relations in which our daily practices are placed consequently defines the way in which we live and act.

By closely studying a plan (section and elevation) one can read the very specificities of architectural arrangement. The positions of elements such as walls, columns, doors, and windows reveal the underlying functional and spatial organisation. The way in which our daily practices are arranged. Often revealing inherent, social relations, power structures and underlying ideologies.

Observed through the plan

Case Study: The Ford Foundation


Kevin Roche and John Dinkeloo established their practice in 1966, after heading the firm of Eero Saarinen for several years. The Ford Foundation Headquarters is regarded as the pair’s first major success, a combination of Roche’s unique ideals and Dinkeloo’s innovative structural solutions. All of their buildings aimed to demonstrate a belief for “A unique solution for a unique problem” and in the case of the Ford Foundation, the problem was the isolated workplace. This revolutionary design introduced an office typology in which employee interaction extended beyond departments and levels, reaching even to the public through the unique arrangement and central garden.

At the time the American workplace was undergoing a shift towards “New American Middle Class” which was composed of white-collar workers. Therefore working was moving away from rural working into mass societal living. Workplaces were becoming machines for efficiency and rational work. “In an organisation, the problem of common purpose is critical. A group of people spend a working house dedicated to some purpose with the Ford Foundation we have 300 people with the similar aim. It is important in that type of community for each to be aware of one another so their common aim can be reinforced.”

Therefore this idea of a community was at the forefront of the design of the Ford Foundation and this new office typology, which promoted a new understanding for employees, supported this social vision. The result is a self-contained cube with a full-height central atrium. Senior employees are assigned glass cubicles opening into the garden so each person could see one another and the garden as they worked. The glazed perimeter atrium creates an image of a dynamic collective working towards a common goal. Functioning as a communication interface and an image to communicate.
The Ford Foundation Exterior (Source: KRJDA)
Site plan, Scale 1:2000. The Ford Foundation
New York, United States. (Drawing: Ebrina Koster,
Julia Linde)
Ground floor and 1st floor. Scale 1:600. The Ford Foundation. New York, United States. (Drawing: Ebrina Koster, Julia Linde)

(03)

Upper Floor (Source: KRJDA)

(04)

Inner Garden (Source: KRJDA)
Ground floor and 1st floor. Scale 1:600. The Ford Foundation. New York, United States. (Drawing: Ebrina Koster, Julia Linde)
(06) Physical model of Ford Foundation (Source: KRJDA)

(07) Inner Garden and reception area (Source: KRJDA)
Cross section and North elevation. Scale 1:600. The Ford Foundation. New York, United States. (Drawing: Ebrina Koster, Julia Linde)
The Smithsons were commissioned by The Economist magazine to design a new headquarters in Piccadilly in 1959. They designed an exquisitely large pedestrian plaza as a trio of highly detailed towers, each built on a different scale and covered in Roach stone, inspired by the small alleyways and courts of the old City of London. The office interiors were based on their extensive investigation into The Economist journalists’ working routines. Sir Geoffrey Crowther, the editor, remarked at the opening that the staff had felt “trepidation” upon first meeting the Smithsons, but now “leave them with awe and affection.”

Peter Dallas-Smith, managing director of the Economist, commissioned the pair to build their editorial offices as well as new spaces for their neighbors: a gentlemen’s club, a bootmaker, a pharmacy, and a bank. The Smithsons were regarded a rogue option at this stage, having just completed the Sugden House and Hunstanton School, especially in a section of the city so rooted in traditionalism.

The project resulted in the 15-story Economist Tower, five-story Bank Building, and an eight-story residential building constructed around a small plaza, one of London’s earliest infamous privately owned public spaces. Each building is a square with chamfered corners and an external frame made of Roach stone, a rougher variant of the Portland stone, which is more commonly used in this part of the city.

As could be expected from the Smithson’s, the construction was rather experimental. It was technologically innovative, as it was the first office building in London to provide air conditioning. The building can subtly be seen as egalitarian, as its narrow form allowed everyone, “be she editor or assistant,” to enjoy breathtaking vistas of the city, as the Economist described it in 2016.

(02) The Economist Building Exterior (Source: Unknown)

Technical Installations as drawn by DSDHA
The rapid reconstruction of the post war and its consequent building boom called for a new office typology. Large scale buildings were optimized to accommodate the massive amount of office workers and to maximise return on investments. The open floor plan as an organisational principle would allow for growth and flexibility which in turn encouraged larger real estate returns. The shift towards the open floor plan happened in correlation with the shift from a state-controlled market to an open one.

In the later twentieth century large cooperation’s moved from scientific management, based on rationalisation and the standardisation, towards social relations. Communication and social interactions within the workplace were seen to be more efficient than the assembly line offices of previous generations. The open floorplan allowed the flexibility to accommodate a more informal and domesticated organisational principles such as the Bürolandschaft - a flat landscape filled with a seemingly free arrangement of lightweight furniture and potted plants. However, the organisations remained subject to hierarchical ordering and constrained to the placement of electrical outlets in the floor. In other words, the Bürolandschaft can be distilled to a reordered, more attractive, arrangement of the factory. The introduction of domesticity or rather domestic elements and layouts into the workplace allowed the office to portray an image of comfort and status – strengthening the image of the white-collar worker and disassociating itself from the stale work environment of the factory.
Albert Kahn, Typical Interior, Highland Park Ford Plant, 1908-1910

Le Corbusier, Maison Dom-ino, 1914
(04)

Stylepark Quickborner Team Planungsmodell

(05)

Model - built by Laurens de Munck, Ron Barten, Aneesh Nandi, Renske Worm
Reconstructed Image of the Osram Headquaters
Quickborner’s scheme for the offices of Osram in Munich

Floor plan of the Bertelsmann Verlag in Gütersloh, 1961
The Nomad Employee

The office

With the invention and accessibility of portable digital devices and online communication systems the employee has become progressively removed from the physical office. Enhanced by the pandemic, the imposed digitalisation of many office jobs has forced employees to work from home. Thus, reducing the connection to the workplace to the computer, laptop, and mobile phone. The employee is liberated from the physical confinement of the office building. Like the Dwellings for the Tokyo Nomad Woman by Toyo Ito, there is no longer a reliance for a physical kitchen, bathroom or in this case office space – the individual can reappropriate the home or the city as a workspace. The relationship to the cooperation is reduced to the digital interface whilst the workplace is undefined.

Cooperation’s have realized the financial benefits that a flexible workplace has provided (at the cost of communication). With most of the workforce working from home profits can be further maximised as the leased office spaces have either become smaller or disappeared altogether. However, split opinions on the remote working have been expressed by both the large cooperation’s and the general workforce. By distributing their employees between the remote and physical office, large corporations can maintain their productivity whilst only partially loosing communication. With many employees wanting the flexible workspace to be optionally implement, the fundamental idea of the domestic being a retreat from the world is threatened. Should the home really become an extension of the office?

The Social plinth

The awning, as a temporary addition to the built form, acts as a demarcation of space in which informal activity¹ can take place. As opposed to the fixed attachments and cantilevers of large office and bank buildings, the shop and café act in a state of flux. Whilst active the awning along with benches, fold out chairs, planters, newspapers become elements which, arranged as a set, stimulate a social plinth.

Using a primitive construction² of an awning we arranged a series of configurations in which it becomes part of permanent, exhibition, waiting, transition or neglected space. The awning itself being defined by its minimal useful dimension; one at which it remains intimate at the scale of the individual whilst active at the larger scale of the building.

Never existent in isolation, the awning stands in direct relation to its adjacent structure.

Creating a juxtaposition between the static and temporary, heavy and light, formal and informal. As observed, the awning as an attachment to a non-utilized building front, can only minimally activate social activity but rather acts as a demarcation of space. This demarcation remains ambiguous; its ownership and use being questioned by its observers and is only given meaning by its associated furniture, signage, and activity. The space below becomes as important as the awning itself or perhaps the awning merely acts as a catalyst to the activity it frames?

By interiorizing the awning and removing it from its primary function as a shelter, these spatial implications are further enhanced. Placing it within existing, familiar spaces, we documented the ways in which the circumscribed space of the awning takes on a new meaning. Whilst never really activating space it creates an informal intimacy and the connotations of the coffee table and entrance door are altered.

How can the flexible awning as part of a set of objects successfully embed social function in the monumental existing structure of the Belgian National Bank?

1 Activity which is not destined within a certain parameter or dictated by external voices.
2 Reduced to its minimum - a white canvas stretched by a timber frame. Self-supported and flexible to enhance its portability.

An observation of demarcated space

[Pascal Henle, Bart Vos]

The half-public domain

[Pascal Henle, Bart Vos, Ron Barten]
Currency Bank, Bombay

(02)
Inauguration de la Bourse, Brussels, 1873

Heide von Beckerath, Apartmenthaus am Kurfurstendamm, 2006
The awning and its associated plinth - Amsterdam
Observations of cafes, shopfronts and entrances in Rotterdam & Amsterdam
Observations of cafes, shopfronts and entrances in Rotterdam & Amsterdam
Observations of cafes, shopfronts and entrances in Rotterdam & Amsterdam
(09) Section and Elevation
(10) The reconstructed awning as a paper model
The awning - closed state
The awning - furnished state
The awning - open state
The awning - reappropriated state
(12) Non-utilized building front

(13) Juxtaposition between the static and temporary

(14) Detailed Axonometric 1:33
White polyethylene tarp 2x3 m
Timber raw 22x50 mm 180 cm
Timber raw 22x44 mm 200 cm

Steel wire 2.5 mm x 15 m
Screw hook 40x3.8 mm
Steel wire clamp 10 mm rvs
Timber raw 22x50 mm 270 cm

Carriage bolt M6 x 80 mm
Timber raw 22x50 mm 125 cm
Sketches and Measurements

The constructed awning
Detail of canvas connection and support

Detail of adjustable anchor and hinge,
Listing / no clear connection. The author being an architecture historian from an art background. In history you have different ways of interpreting buildings. 2d Painting, 3d Sculpture. Architects design 3 dimensional spaces and 2 dimensional surfaces. Disciplinary awareness / what is his scholarly position. “Architecture as an aesthetic object” a piece of art. A very Eurocentric history of bank and trade buildings. Particular area of history he touches on. Architecture not as a social object unlike Duffy. Tries to make a chronological progress. Bank is developing. He talks about transformation of styles. Courtyard to closed halls. A set of terminologies used among historians. All these works of art have a client and a powerful banker behind them. Client-architect relationship. It creates a value system attached to capitalist society.

Historical (development of society, the merchant, exchange, architectural typology)/ architectural / researcher (what data does he use to support his argument) 
What kind of a building is it, what is the value of a banker? Image is a connection to Duffy text - social relations and flows within the bank and hierarchies. The banker has financial power. Bank of England currency. Same time it was colonising India. The money the Bank was built on was from the colonize. How does banking operate today. No more physical money.
Banking is immoral, but also has the most power. Not appreciated but the money comes with it. History of ownership/ who is the person where most trade appends. They have the power. Ownership is very defined – power. Who owns the European central bank? Architecture is a bee in a capitalist hive.
Diagram of the structure of the central bank.

- Continuation of central bank
- Power to central bank
- Personal Capital
- Power to Market
- Friedman's Capitalism
- Gold Standard
- Chicago Gold Reserve
- Economic Democracy
- Virtual Banking
- Mutual Credits
- Electronic Payments
- Ethical Banking
- Value Based
- Expanding money
- Negative Credits
- Peer to Peer
- Crowdfunding
- Crowdfunding
- Peer to Peer
- Denationalization of world currency
- Private banks issue their own currency
- Anarchy
- Permaculture
- Crypto
- Extinction of central bank
- Central Bank

What value could an alternative monetary system have?
The Future Bank

The bank building, which function has been reduced to that of an office, stands as an empty shell in the city. Its monetary system having largely shifted to the inconceivable realm – has replaced the bank teller with the ATM and digitised its communication to the public. The banker as we know him has increasingly become detached from the physical bank. Working remotely, he does not belong to a fixed workplace, but using a laptop can appropriate the home, city, or former office for commercial activity.

No longer acting as a producer and safe keeper of physical money, the bank’s fortified façade, formerly used to invoke the public’s trust, has remained as a boundary that confines the public domain to the outside. With the Belgian National Bank seeking to integrate social functions, the occupation and expression of the bank building need to be questioned and redefined.

Using the social plinth, as a set of ordinary flexible elements, the bank’s shell can be transformed into a threshold. Within this space, the awning, furniture, and associated objects act as a flexible extension in which public activity can take place. A space used to negotiate between the private and the public, between the office and the city. For example, by placing the coffee table on the sidewalk, beyond the interior of the cafe, it becomes part of the public domain. Within the interior of the bank, these cross-boundary thresholds can be reapplied, and the distinct separation of public and private can be distorted.

Consequently, the office and public activity no longer exist in seclusion but on a spectrum in which a sequence of threshold spaces defines its privacy. Each one, establishing another layer until a fully secluded space is reached. As opposed to the open floor plate, the ‘nomad employee’ is liberated to the free use of private, semi-public, or public space. Partially overlapping with the spaces occupied by the customer and re-establishing the relationship between the bank and the city.
Development of the courtyard in Section ca 1:750
BNB deconstruction and construction - the progressive remodeling of the site. The interaction between the new and old and the periodic appropriation of spaces.
Footprint of the National Bank of 1950 compared to the convents present before Beyaerts' bank.
Development of the bank over time

1860-1874  1871-1878  1900-1908  1949-1951  1965
Completion of the first phase of the Marcel Van Goethem’s Belgium National Bank in ca. 1951

The redevelopment of the inner “courtyard” in ca. 1965
Construction, main block BNB
Can this structure be reappropriated, expanded, adjusted or updated
The banking hall (Image: Dok Architects)
(08)

The bank's interior
A spatial Comparison

The shear size of the National bank of Belgium

(01)

Ford Foundation
Osram Building
Larkin Administration Building
Central Beheer
International Insurance Building
Johnson Wax
Willis Faber Dumas
Union Carbide Building
National Bank of Belgium
International Insurance Building
Sigurd Lewerentz in relation to the current Belgium National Bank 1:750

Larkin Adminstration Building, Frank Lloyd Wright, in relation to the current Belgium National Bank 1:750
Ford Foundation, Typical Floor Plan in relation to the current Belgium National Bank 1:750

Osram Building, Typical Floor Plan in relation to the current Belgium National Bank 1:750
108

Union Carbide Building
location: New York City, the United States
year: 1960
gross area: 141026 m²
architect: Gordon Bunshaft & Natalie de Bolis
interior: Gordon Bunshaft & Natalie de Bolis
structural engineer: --
contractor/builder: --
client: SOM
users: ~4000 employees

Site plan
Scale 1:1000

Ground floor plan
Scale 1:300

Typical floor plan
Scale 1:300

Central Beheer
Apeldoorn, Netherlands

Site plan
Scale 1:1000

Holland House
London, England

Site plan
Scale 1:1000

International Insurance Building
Sigurd Lewerentz in relation to the current Belgium National Bank 1:750

International Insurance Building
Sigurd Lewerentz in relation to the current Belgium National Bank 1:750
International Insurance Building
Sigurd Lewerentz in relation to the current Belgium National Bank 1:750
Johnson Wax, location: Racine, Wisconsin, USA, years: 1936/1939, gross area: 12,800 m² (2 main storeys excluding basement and office of the boss), rough office space available: 5,620 m², architect: Frank Lloyd Wright, interior: structural engineer: Mendel Glickman & Wesley Peters, client: H.F. Johnson, Jr, users: 200 (around) employees.

Site plan, Scale 1:1000

Ground floor plan, Scale 1:300

First floor plan, Scale 1:300

West Elevation, Scale 1:300

Section 1-1, Scale 1:300

Diagram, Scale 1:1500

“Otto Wagner’s (1841-1918) claim “Something impractical can never be beautiful” was the result of decades of architectural task analysis and superior skill. In every structural detail, every feature, every piece of furniture designed by Wagner, practicality and usability lead to intelligent, coherent, highly aesthetic solutions.” 1

“The cladding of the facade with aluminum-clad iron bolts - to give an example - represents on the one hand a technical necessity, a programmatic display of modernity, but on the other hand also an important symbolic message: the iron-clad treasure chest stands as an archetype for the safekeeping of the saved and invested money.” 1

“Through the main entrance the visitor ascends a flight of stairs to the grand Kassenhalle, where customer services are located. The hall is designed like an atrium, with a large glass skylight allowing natural light to enter the heart of the building at all times. Natural light is not used only for stylistic reasons, but also to reduce the cost of electric lighting. Even the floor of the main hall is constructed of glass tiles, allowing natural light to reach further down to the floor below, where the Post Office boxes and mail sorting rooms are located. Wagner kept decoration in the main hall minimal, using only glass and polished steel as materials. The decorative effect is created by the simple but elegant use of the material itself.” 2

“The building’s office space is divided according to the axis of the outside windows, again making use of natural light as much as possible. The interior walls are non-load-bearing, and can therefore be re-arranged according to need, a feature that has become standard in modern office buildings.” 2

1 www.ottowagner.com/oesterreichische-postsparkasse
Österreichische Postsparkasse, Meeting Spaces
Österreichische Postsparkasse, Otto Wagner, 1906 Vienn (Austria), East Elevation 1:750
(Drawing: Pascal Henle, Ron Barten)
National Bank of Belgium. Banking Hall
(Image: Arjen Schmitz)
(05)

Österreichische Postsparkasse, Otto Wagner, 1906 Vienne Austria. banking Hall (Image: David Schreyer)
National Bank of Belgium, Elevation Boulevard de Berlaimont 1:750
Österreichische Postsparkasse, Otto Wagner, 1906 Vienne Austria, East Elevation 1:750
(Drawing: Pascal Henle, Ron Barten)
Österreichische Postsparkasse, Banking hall, Banking Tellers, Heating System. (Image: David Schreyer)

GA Global Architecture Otto Wagner, Extract
The National Bank of Belgium consists of a series of phases to create a conglomerate structure that fills up the entire triangular plot. Whist from the exterior the bank portrays a powerful image and an impressive colonnade of columns along the boulevard, the interior courtyards of the bank are a shaped by the building restrictions of the palace and the maximum depth of an office floor plan. The courtyards or perhaps lightwells allow a minimal amount of natural light into the 8 story deep voids. Being historically under a constant mode of transformation (partially removing the historic and rebuilding) the interior courtyards remain as residual pits used for services and waste.

Through the demolition of the two central building blocks of the bank, the site can be cleaned up to make space for a new ‘building’ that would provide circulation between the existing building blocks but also on the scale of the city. A ‘shell’ that would raise the courtyards level by two stories to allow light in. A shell that would connect all the buildings, whilst being appropriated by sets and sceneries.

The bank as a constitution will remain. However, this redesign should change its interaction with the city and its clients. More access. More transparency and more trust. The integration of public facilities and non-bank owned services is important for the reactivation of the site. By turning the courtyard into the heart of the structure the frontal facades become the backside.

A continuous room of interiors. Similar to the other route through Brussels, the courtyard forms part of the city’s circulation routes. The platforms at each end of the bank on which the statues sit can similarly become a public platform, similar to that of the church.
Interior Courtyard study model. 1:2000
Removing two interior building blocks to allow more light into the space and adjacent offices.

An infill that expands the main building block allowing for more efficient use of the floor plates.

Programatic Division
Sketches of Program, and initial design ideas
Axonometric View National Bank of Belgium - Current
(09) Axonometric View National Bank of Belgium - Current
(10) Axonometric View National Bank of Belgium - Removal of building blocks
(11)
Axonometric View National Bank of Belgium - Removal of facade
Axonometric View National Bank of Belgium - Addition of Courtyard
Axonometric View National Bank of Belgium - Addition of Facade
(14)
Axonometric View National Bank of Belgium -Design Overview
The National Bank of Belgium reduced to layers and openings.
The opening of the Facade, Study Model 1:1000
The infill as a model. Acting as a central Building block.
(19) The courtyard inserted within the bank

(19) The National Bank of Belgium reduced to layers and openings.
The opening of the Facade, Study Model 1:1000
The National Bank of Belgium reduced to layers and openings.
(22) Interior Photographs of the bank
(23) Sketches relating to the office organisation
The bank's interior (Image: Bas Leemans)
Scans of Bruther 2G Magazine. An Extended corridor
Concept of the extension of the facade
Transformation of 530 dwellings, block G, H, I, by Lacaton & Vassal with Frédéric Druot and Christophe Hutin

Lacaton vassal always adds to the building giving more living space to the individual. An extension to the built form. In the case of the bank rather than adding the bank needs to condense. Give away space to the public. Subtracting rather than adding. Creating space by contracting. Opening up to the public and consensing itself to optimize its process.
Die Tabelle visualisiert verschiedene Zwielsysteme, Stilformen und Materialien für Decken im Innenraum.

<table>
<thead>
<tr>
<th>Zwielsystem</th>
<th>Stilform</th>
<th>Material</th>
<th>Deckenfläche (m²)</th>
<th>Gesamtfläche (m²)</th>
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Die Tabelle zeigt die Verwendung von Zwielsystemen, Stilformen und Materialien für Decken im Innenraum.

Die Ergebnisse wurden nach einer speziellen Methodik ermittelt und sind in der Tabelle dargestellt.

Die Grafik zeigt die Verteilung der verschiedenen Zwielsysteme und Stilformen im Innenraum.

Die Grafik zeigt die Verteilung der verschiedenen Zwielsysteme und Stilformen im Innenraum.
The expansion of the office space by stripping away layers of the office and placing these layers, consisting of partitions, ceilings and installations into a new shell. A scenographic approach to inhabit the courtyard.
Hand Drawn plans of the courtyard, depicting structure in green, installations (ventilation) in yellow, circulation in red, scenery in green.
The courtyard as inserted into the plan.
Sketches and notes relating to the courtyard, entrances, office layout and tutor feedback.
An intelligent ruin

Duffy

concerning the adaptation, reuse or redeployment of the existing building fabric

Objects of abandonment
What is the connection between a garlic distribution company, a server refurbishment company, a primary school in Gouda, and an industrial residual waste store? They all provide the circulair building components for the exhibition Private_Eye_Butler_Spy, opening on March 11, 2022 at Arcam!

Architect Hanna Rudner is responsible for the exhibition design and organised a workshop with [impromptu] – a collective of recent graduates of Architecture, Urbanism and Industrial Design at TU Delft, in the weekend of 28 and 29 January 2022.


E-waste as circulair building component for Private_Eye_Butler_Spy

Missing Ceiling Plates revealing cables, pipes and ventilation instalations. Schiphol airport, Amsterdam
Lecture on:
La Royale Belge
Bovenbouw Architectuur / Caruso St John / DDS+

Archived material as an influence on the design proposal. Drawing back on original ideas of the architect but also references of similar buildings built in the same era.

(04) Images of the Royale Belge in its original state from the exterior. Images of the typical office floor. Image of the current reconstruction. Images of the reformation of the typical office floor, through the addition of a new facade and insulation. (Source: Lecture Bovenbouw - In Progress Series)

(05) Original Construction Image (Source: Lecture Bovenbouw - In Progress Series)

(06) Opening up of the ceiling to allow light into the space (Source: Lecture Bovenbouw - In Progress Series)
The Current arrangement of furniture within the National Bank of Belgium
Collection of stored furniture currently in the National Bank of Belgium.
(09-10)
A comparrison between Thomas Demand’s, Copyshop 1964 with the interior Qualities of the NBB, (Image: Bas Leemans)
Digitalisation of the image using three dimensional digital modeling tools and render software
Sketches of double height space, lightwells and structures
A scenographic arrangement of furniture pieces within a new shell, changing the conventional office setup and furniture arrangements.
Karamuk Kuo (Image: Studio David Klemmer)
Christ & Gantenbein Roche multifunctional workspace building

Christ & Gantenbein “What is interesting, however, is the tenacity with which typological research was pursued for decades—not with the goal of moulding the courtyard as an inferior space, but of extracting spatial, functional and aesthetic qualities from this courtyard.”

“A wonderful inventiveness has spawned a full range of proposals that break open the hermetically closed form of the development in favour of a spatially rich system: entrance courtyards are created by setting the building form back from the street. Or complex connections emerge between the courtyard and the street space in places where the building form is partly broken apart.”

From typology transfer towards an urban architecture

Read Brussels typology and courtyard typology. South of site is individual blocks and north is more smaller consolidated
(21)
Kanagawa Institute of Technology, Junya Ishigami
(2G edition 78)

The relationship between the drawing, the model and the project. Depicted as stills, in which the projects become defined in its current state but expressing the same concept.
Baukunst and Bruther. UZH forum. Zurich
renders: ArtefactoryLab

Section of ventilation and the workplace
Interior Render and Cabling

Section of ventilation and the workplace inside its context
Andy Warhol's Silber Factory. 1961-68
(Drawings edited by Camilla Lemb, Oriana Nguyen, Lex Schaul)
Photography: Karl-Erik Olsson-Snogeröd

The informality of the loose object in space in comparison to the seemingly undefined layout of electrical wiring and lighting
Model of the courtyard depicting a workspace and using furniture of the Palace

Courtyard Detail 1:50
Facade Buildup in Office
- Double insulated Glass
- Louvre Ventilation System
- Textile Sunscreen
- Insulated Ventilation Pipes 400mm
- Steel Grated Mesh

Floor Buildup in Office Cubicle
- Raised Computer Floor
- Acoustic barrier
- Ribbed concrete Floor
- Cold Ceiling

Floor Buildup in Hallway
- Raised floor made of calcium sulphate
- Acoustic barrier
- Ribbed concrete Floor
- Metal suspended ceiling

Interior Walls
- Semi-Glazed acoustic wall

Technical Office Floor Detail 1:50

Exhibition Space 00 (-5.30m)
148.470 m²

Combined Entrance Floor Plan 1:750
Facade Buildup in Office
- Double insulated Glass
- Louvre Ventilation System
- Textile Sunscreen
- Insulated Ventilation Pipes 400mm
- Steel Grated Mesh

Floor Buildup in Office Cubicle
- Raised Computer Floor
- Acoustic barrier
- Ribbed concrete Floor
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Floor Buildup in Hallway
- Raised floor made of calcium sulphate
- Acoustic barrier
- Ribbed concrete Floor
- Metal suspended ceiling

Interior Walls
- Semi-Glazed acoustic walls

Technical Office Floor Detail
1:50

Exhibition Space
00 (-5.30m)
148.470 m²
Doorzon. Silversquare Central, Brussels city center.

(34) A shell of a concrete building, painted in white
(35) Sets and sceneries defining spaces
Floor plan, Doorzon.
Silversquare Central,
Brussels city center.
National Library of France - Dominique Perrault
Architecture (Images: Pascal Henle)
Storage of Panton Chair (Verner Panton, 1959/1999) within the existing office space of the NBB.
Depicted in the courtyard (Image: Pascal Henle)
(39) Facade render with updated shading

(40) Render of the courtyard on a cloudy day
Existing Courtyard condition.
Image: NBB Archive
The extended facade was progressively developed through sketches, models, 3d modeling, renders and references throughout the semester. The detailing, as well as architectural design went hand in hand and informed the resulting outcome. Not in the usual 2d detail drawing but straight from the 3 dimensional model depicted in an axonometric.

“The answer to this singular atmosphere is a glass box, able at the same time to reflect all these circulation flows on its surface and to open up to a clearly urban landscape showing the different activities that take place in the interior.

Though the site’s challenging configuration was no surprise, program specifications left the nature of future tenants’ activities wide open. This explains the office building and industrial space hybrid that emerged. The Hôtel Berlier was designed to be as adaptable as possible to the unknown business functions it would house. This strategy was developed through open plan floors and tight bundling of electrical systems, organized around the two central blocks containing the stairwells, technical and elevator shafts and lavatories.

The most apparent architectural innovation is the role given to the curtain facade. Its technically ‘dense’ organization manages the building’s ventilation and filters light (mainly through sunshades). Visually, its ‘sensitive skin’ resembles a glass block scattering variegated light onto its surroundings and distributing fluctuating light intensity within, depending on the weather and time of day. In sum, “it’s a building that changes its skin” says Perrault.”
"The bioclimatic approach to this office building turned out to be the key to a more generic approach to creating sustainable space. The underlying principle is a simple juxtaposition of a vertical spatial concept comprising three consecutive zones: an uninsulated, unconditioned outer corridor; an insulated and conditioned functional space; and a central, generous, insulated, but unconditioned court.

"The central, double-height space provides intrinsic generosity; the workplace is suddenly a site of luxury, and this space multiplies the functional potentials of the traditional office. The high, central space ensures the optimal incidence of light onto every workplace. This open space (30 per cent of the total office area) is neither heated nor cooled. Conditioned offices become the insulation of the space, which is only equipped with natural ventilation. This leads to considerable savings on consumption costs.

The conditioned office space is set on two floors and corresponds to a more traditional work environment. With a depth of 7.5 m and ceiling heights of 3.0 m, this space guarantees a hybrid configuration, easily adaptable to any use.

The corridor works as a doubly ventilated, high-performance skin, but is accessible and serves as circulation and informal meeting area around the functional core. Human presence within this space and the high single glazing will create greater transparency of the building, generating an urban attraction in both directions.

A general concept, which can be exemplary for future building principles: generic, adaptable, flexible, spacious."

(Source: https://www.51n4e.com/projects/lyon-part-dieu)
Facade Buildup in Office
- Double insulated Glass
- Louvre Ventilation System
- Textile Sunscreen
- Insulated Ventilation Pipes 400mm
- Steel Grated Mesh

Floor Buildup in Office Cubicle
- Raised Computer Floor
- Acoustic barrier
- Ribbed concrete Floor
- Cold Ceiling

Floor Buildup in Hallway
- Raised floor made of calcium sulphate
- Acoustic barrier
- Ribbed concrete Floor
- Metal suspended ceiling

Interior Walls
- Semi-Glazed acoustic wall
Exterior Facade Build-up Extension
- Bundulux Box Roller Shutter (Metalic Grey)
- Cable Guide 5mm
- Souchier Luxlame F-06 Double insulated louvre window
- Reynaers Aluminium Curtain wall system CW50 Double insulated
- Insulated Ventilation pipe 400mm
- Galvanized Steel Profile
- Metal Grate 50mm

Interior Facade Buildup Extension
- Schueco Slidign Door system ASS-39-SC

Ventilation System
- Natural Ventilation for the courtyard due to stack effect aided by CO2 controlled ventilator

Office Interior Additions
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

First Floor Entrance Situation
- Polished Natural stone 18mm
- Screed 40mm
- Seperating Layer (1mm Plastic Sheet)
- Impact Sound Insulation 40mm

Floor Build-up Extension
- Epoxy coating HS RAL7001
- Screed 60mm
- Seperating layer (1mm Plastic Sheet)
- Impact sound insulation 40mm

Courtyard exterior floor build-up
- Porcelain stoneware tiles 20mm
- Fixed or self-levelling pedestals
- Waterproofing Layer
- Thermal and impact sound insulation
- Vapour Barrier, sepperating layer
- Screed at angle for water runoff
- Loadbearing Layer

Courtyard Structural build-up
- Cast in situ reinforced Concrete Structure
- CLT Plate fill

Courtyard foundation build-up
- Epoxy coating HS RAL7001
- Screed 60mm
- Seperating layer (1mm Plastic Sheet)
- Insulation
- Damp Proof membrane
- Cast in situ reinforced Concrete Slab
- Lean Concrete
Exterior Facade Build-up Extension
- Bundulux Box Roller Shutter (Metallic Grey)
- Cable Guide 5mm
- Souchier Luxlame F-06 Double insulated louver window
- Reynaers Aluminium Curtain wall system CW50 Double insulated
- Insulated Ventilation pipe 400mm

- Galvanized Steel Profile
- Metal Grate 50mm

Interior Facade Buildup Extension
- Schueco Sliding Door system ASS-39-SC

Floor Build-up Extension
- Epoxy coating HS RAL7001
- Screed 60mm
- Separating layer (1mm Plastic Sheet)
- Impact sound insulation 40mm

Structural Buildup Extension
- Concrete Slab, prefabricated and reinforced
- Gluelam Post and beam structure

Exterior Facade Build-up Extension
- Bundulux Box Roller Shutter (Metallic Grey)
- Cable Guide 5mm
- Souchier Luxlame F-06 Double insulated louver window
- Reynaers Aluminium Curtain wall system CW50 Double insulated
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- Galvanized Steel Profile
- Metal Grate 50mm

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- Schueco Sliding Door system ASS-39-SC

Floor Build-up Extension
- Epoxy coating HS RAL7001
- Screed 60mm
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- Impact sound insulation 40mm

Structural Buildup Extension
- Concrete Slab, prefabricated and reinforced
- Gluelam Post and beam structure
Office Building Lyon Confluence. Christian Kerez

Sprinkler System Typical Arrangement Drawing

Private House in Thusis / Angela Deuber Architects

T10 bureaux, BAST
Integration of Services and a new Acoustic Layer.

By stripping away the existing ceiling, the ribbed in-situ concrete shell and services such as ventilation pipes, water and electrical wiring is exposed. Although spatial qualities are maximised, new questions of acoustic problems arise.

Looking at Lyon Confluence Office Building, an integrated system of services and acoustic insulation forms an almost seamless shell for a flexible occupation. Lighting and a water sprinkler system are run between the concrete structure and acoustic insulation.

A question of necessity. The reduction of insulation to its minimum, or the partial cladding of the building shell, limited to the height of human occupation.
Facade Additions / Shading Devices
- Bundulux Box Roller Shutter (Metallic Grey)
- Cable Guide 5mm
- Galvanized Steel Profile
- Metal Grate 50mm
- Insulated Ventilation pipe 400mm
Exterior Facade Build-up Extension
- Souchier Luxlame F-06 Double insulated louvre window
- Reynaers Aluminium Curtain wall system CW50 Double insulated
- Insulated Ventilation pipe 400mm
Floor Build-up Extension
- Epoxy coating HS RAL7001
- Screed 60mm
- Separating layer (1mm Plastic Sheet)
- Impact sound insulation 40mm

Structural Build-up Extension
- Concrete Slab, prefabricated and reinforced
  100mm bolted to structure
- Glulam Post and beam structure Pinned Connection
Structural Build-up Extension
- Concrete Slab, prefabricated and reinforced
- 100mm bolted to structure
- Glulam Post and beam structure Pinned Connection

Interior Facade Buildup Extension
- Schueco Sliding Door system ASS-39-SC

Floor Build-up Office
- Raised Computer Floor
made of calcium sulphate
- Acoustic barrier

Floor Build-up Of Office
- Raised Computer Floor
made of calcium sulphate
- Acoustic barrier
- T-Shaped Steel slotted-in glulam beam
- Embedded anchor bolt into existing ribbed cast in situ concrete structure
Connection to Existing Structure
- T-Shaped Steel slotted-in glulam beam
- Embedded anchor bolt into existing ribbed cast in situ concrete structure
Structure

The structure of the extension is made of a timber concrete hybrid structure. A timber post and beam structure is fixed to the existing concrete framework. Using epoxy anchor bolts to connect to the existing structure and a pinned connection between wooden column and beam. The flat reinforced precast concrete panels are rest on top of the timber structure and could be bolted in to further stiffen the structure.

(08) Precast Concrete Slab being lifted into place
(10) Anchor Bolts (Source: structuraldetailer.com)
(12) Precast concrete Flooring Systems
(13) Segmental PTCC floor systems (Source: Experimental and Nonlinear Analytical Studies on Prefabricated Timber-Concrete Composite Structures with Crossed Inclined Coach Screw Connections H,Tao; H,Yang; W,Liu; C,Wang; B,Shi; X,Ling.)
Louvre Windows

Allowing for ventilation and insulation and run by a centrally controlled system
**Detail Section 1:**

### Structural Build-up Extension
- Concrete Slab, prefabricated and reinforced
- Gluelam Post and beam structure

### Exterior Facade Build-up Extension
- Bundulux Box Roller Shutter (Metallic Grey)
- Cable Guide 5mm
- Souchier Luxlame F-06 Double insulated louver window
- Reynaers Aluminium Curtain wall system CW50 Double insulated
- Insulated Ventilation pipe 400mm
- Galvanized Steel Profile
- Metal Grate 50mm

### Interior Facade Build-up Extension
- Schüco Sliding Door system ASS-39-SC

### Ventilation System
- Natural Ventilation for the courtyard due to stack effect aided by CO2 controlled ventilator

### Office Interior Additions
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

### First Floor Entrance Situation
- Polished Natural stone 18mm
- Screed 40mm
- Separating Layer (1mm Plastic Sheet)
- Impact Sound Insulation 40mm

### Floor Build-up Extension
- Epoxy coating HS RAL7001
- Screed 60mm
- Separating layer (1mm Plastic Sheet)
- Impact sound insulation

### Courtyard Exterior Floor Build-up
- Porcelain stoneware tiles 20mm
- Fixed or self-levelling pedestals
- Waterproofing Layer
- Thermal and impact sound insulation
- Vapour Barrier, separating layer
- Screed at angle for water runoff
- Loadbearing Layer

### Courtyard Structural Build-up
- Cast in situ reinforced Concrete Structure
- CLT Plate in fil

### Courtyard Foundation Build-up
- Epoxy coating HS RAL7001
- Screed 60mm
- Separating layer (1mm Plastic Sheet)
- Insulation
- Damp Proof membrane
- Cast in situ reinforced Concrete Slab
- Lean Concrete

### Office Exterior Space Additions
- Curtain Rail Bolted into Structure with Polyester Curtain
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Moisture Layer
- Water Sprinkler System

### Office Interior Additions
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

### Floor Build-up Extension
- Porcelain Tiles
- Screed at angle
- Separating layer (1mm Plastic Sheet)
- Thermal and Impact sound insulation 40mm
Through the introduction of a spiral staircase inside of the banking hall the relation of the banking hall to the courtyard can be challenged. Partially stripping away the existing glazing and allowing for freer movement.

Section of Circulation and relation of the courtyard to the banking hall.
Facade Study. Black and white.
The Banking Hall remains itself, a void in which one transitions from the public realm of the city towards the private interior and interaction of the individual meeting rooms. The face of
NBB ARchive Banking hall ca 1970's
Banking Hall current state (Source: NBB Archive)
The front and the back. Almost like a stage set.
Section of Circulation and relation of the courtyard to the banking hall
**Detailed Section 1:50**

**GSPublisherVersion**: 264.190172619316593314.0.100

**GSEducationalVersion**: +4.00

**+8.00**

** Structural Buildup Extension**
- Concrete Slab, prefabricated and reinforced
- Glulam Post and beam structure

**Exterior Facade Build-up Extension**
- Bundulux Box Roller Shutter (Metalic Grey)
- Cable Guide 5mm
- Souchier Luxlame F-06 Double insulated louver window
- Reynaers Aluminium Curtain wall system CW50 Double insulated
- Insulated Ventilation pipe 400mm
- Galvanized Steel Profile
- Metal Grate 50mm

**Interior Facade Buildup Extension**
- Schueco Slidign Door system ASS-39-SC

**Ventilation System**
- Natural Ventilation for the courtyard due to stack effect aided by CO2 controlled ventilator

**Office Interior Additions**
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

**Floor Build-up Extension**
- Epoxy coating HS RAL7001
- Screed 60mm
- Seperating layer (1mm Plastic Sheet)
- Impact sound insulation 40mm

**Courtyard exterior**
- Porcelain stoneware tiles 20mm
- Fixed or self-levelling pedestals
- Waterproofing Layer
- Thermal and impact sound insulation
- Vapour Barrier, separating layer
- Screed at angle for water runoff

**Courtyard Structural build-up**
- Cast in situ reinforced Concrete Structure
- CLT Plate in fill

**Courtyard foundation build-up**
- Epoxy coating HS RAL7001
- Screed 60mm
- Seperating layer (1mm Plastic Sheet)
- Insulation
- Damp Proof membrane
- Cast in situ reinforced Concrete Slab
- Lean Concrete

**Office Exterior Space Additions**
- Curtain Rail Bolted into Structure with Polyester Curtain
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Moisture Layer
- Water Sprinkler System

**Office Interior Additions**
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

**Floor Build-up Extension**
- Porcelain Tiles
- Screed at angle
- Seperating layer (1mm Plastic Sheet)
- Thermal and Impact sound insulation 40mm
Through the introduction of a spiral staircase inside of the banking hall the relation of the banking hall to the courtyard can be challenged. Partially stripping away the existing glazing and allowing for freer movement.
The Office Space

Redevelopment of the Belgium National Bank

The office Floor Plan

What is the ideal office for the NBB? Looking through its historical archive the workspace seems rather as a manifestation to its occupants. Seemingly endless iterations, ranging from the executive office decorated with marble sculptures, hand crafted furniture and artworks, to its modern predecessor with modern designer furniture, classroom like office arrangements or even what appears to be a burolandschaft of some sorts adapted to the narrow floor plan of the bank.

Looking at the current structure of the bank and with the modern office moving towards a more open desk situation in which the employee often only comes into the office to conduct meetings (more often on zoom than in person) or to enjoy the inherent social aspects of the workplace.

By looking at the historic imagery of the banks diverse office layouts it perhaps provides links of what can happen with some of the retained furniture, spaces and installations. Not simply taking an idealistic or trending model and overlay it on the design as it often happens in the redevelopment of large institutional office buildings.
The Typical Floor Plan

(01) NBB bank employees (Source: Archief Nationale Bank)

(02) Typical floor plan of existing furniture layout (Floor 04) NBB 1:750
Structure

Construction, main block BNB
A repetitive grid of cast in-situ concrete columns and slabs. Build in five segments and hidden in layers of cladding.
Circulation

Located within the core and along the inner courtyard facade, the vertical circulation is limited. The walking routes to the workplace are relatively long.
Services

Hidden behind lazers of cladding and lowered ceilings, the service system of the bank remains mainly hidden.
Frank Duffy. Shell, services, scenery and sets

Swiss Federal Railways Training Centre, Fritz Haller.
(Source: ARCHITECTURE/MACHINE by Moritz Gleich and Laurent Stalder)
The primary aim of building’s energy systems is to ensure continuously a comfortable and healthy indoor climate. As we have seen throughout this course, it is first about temperature, having the right indoor air temperature. When an air handling unit is used, we’ll need to control the temperature of the conditioned air being supplied to the room. And we also need to ensure, the right surface temperatures, resulting in the right mean radiant temperatures. The surface temperatures are partly determined by the degree of insulation, we have no operational control on that. So, in the end we need to control air and water temperatures.

The second objective of HVAC systems is to provide enough clean air, by which we need to control the air volume flow rates.

A damper in an HVAC system, also known as Duct Damper or Volume Balancing Damper is a movable plate, situated in the ductwork that regulates the flow of air and redirects it.

Open System: Transport with Air

Mixed Transport Systems: Water and Air

Supply duct (mechanical supply)

Product: Ducting Valves
Material: Galvanized steel, stainless steel

It can be aided by CO2 control. A CO2 sensor CCO2 measures the CO2 concentration. If the CO2 increases above a certain level, CO2 set, for instance 800 [ppm], indicating too little ventilation, the ventilation will be switched on.

“The ones with mechanical supply where the air is pushed inside the building and then flows away through window openings and cracks, and fourth, the ones with mechanical supply and exhaust, generally equipped with a heat recovery heat exchanger.”
Heating of the office

There is in general a central thermostat controlling the heater and the circulation pump. The thermostat is often placed in a room and controls therefore the temperature of that room. So, the temperature in the other rooms will be different. That's why there are valves on radiators, either simple ones, with manual control of the flow, or thermostatic valves controlling the flow based on the measured air temperature close to the radiator.

Source: edX course given by Prof. Dr. Laure Itard, “Efficient HVAC Systems”

Adjusting the existing radiators to be mounted on the concrete columns to allow free movement between the extension and the existing office floor.
Ventilation, HVAC roof unit, technical space. 1:1000
(Drawing: Bas Leemans, Laurens de Munck)
Ventilation, HVAC roof unit, technical space. Cores.
1:1000 (Drawing: Bas Leemans, Laurens de Munck)
Fixture, Sewage. Middle Core. 1:100 (Drawing: Bas Leemans, Laurens de Munck)
Ventilation, HVAC, air treatment. South Core. 1:100
(Drawing: Bas Leemans, Laurens de Munck)
Diagram from a edX course given by Prof. Dr. Laure Itard, “Efficient HVAC Systems”
The relationship between relative humidity and air temperature when it comes to comfort. The inner zone is deemed to be comfortable and is followed by a zone where it is still comfortable, after what the discomfort becomes high. This diagram is in principle only valid for an air-conditioned office room. We can draw this diagram in the Mollier chart, which gives this. The aim of handling air is to bring it in the comfortable zone, by preference the inner one. This is done just by heating or cooling air at room level.

Source: edX course given by Prof. Dr. Laure Itard, “Efficient HVAC Systems”

(19)

(20)
Energy Flow Diagram based of the text and diagrams found in ‘Planning and Designing the Office Environment’ by D.Harris, A.Palmer, S. Lewis, D.Helimum, G. Meckler, R. Gerdes.

First round of comments and adjustments made by Laure Itard

Climate Diagram, Developed from scheme to refined diagram
Reduction

The bank as it currently exists, is a fully contained and controlled environment. The original windows that were able to open were replaced with a fixed window frame along the exterior facade of the bank.

The climate of the bank is controlled by large centralised climate systems. The occupant has little to no control within this system and operation costs of a fully climatised workspace has become increasingly expensive to run and maintain.

Looking for a more adaptive and sustainable system, the reintroduction of natural ventilation and additions to the facade should allow for adequate control. With the goal being a range of different climates that correlate with the function of the space inside. Office spaces thus, being most regulated for comfort whilst the banking hall and spaces of temporary occupation are less optimized.
Energy Flow Diagram adapted to design

Outside Air
Dry Bulb 35°C, Wet Bulb 24°C

New Water Pump
Non-Tempered Air Inlet

Power Input
Lighting

Supply Air Terminal
Ceiling Gain

Machines 32°C

People 37°C

24°C

Cooling Coil
Refrigeration Chiller
Cooling Tower

Air Handling Unit

Solar Gain

Radiator

Stack Effect

Heat release in Summer

Stack Effect

Atrium
Heat release in Summer

Energy Flow Diagram adapted to accomodate natural ventilation through the atrium and the addition to the facade

Second round of comments and adjustments made by Laure Itard. Replacing the boiler that is currently run on gasoline to a more sustainable heat pump.
NBB office floor 1971 (Source: Archief Nationale Bank)

Current furniture layout (Floor 04) NBB 1:750
Manipulations to the existing Partitions

The removal of the existing walls allow the manipulation of space through the lose partition itself. A lose partition used as a screen alone can successfully change the spatial configuration. Placed on a industrial pannel carrying trolley the partition becomes movable. Controlled by the inhabitants themself.

(28)

Sketches of the partitions as a series of systems to formulate diverse privacies
(29)

01 Existing Office Layout
02 Revolving Partition
03 Transportable Partition
04 Storage Room
05 Meeting Room
06 Open floor plan
“Intermediate Elements
Older office landscaping and especially American open plan offices had very few separating elements between workspaces. Gradually more and more screens, storage units, large plants, etc, have been introduced until the degree of subdivision in basically open space has become very high. Screen based furniture systems have followed this trend since this furniture has taken on many of the functions of the old fixed partition.”

Operable Doors, meeting room. Silversquare Central, Brussels city center.

Extract from “Planning Office Space” Edited by Francis Duffy, Colin Cave, John Worthington
Industrial Castor Wheel System 250mm 1:20
Maxi Plate Glass Trolley 496

Capacity: 1000kg

The high capacity Maxi Plate Glass Trolley is the widest trolley in our range and ideal for safely handling larger and deeper glazing units weighing up to 1000kg. Available to hire or buy, this expanding plate glass trolley can be used for carrying loads of different sizes thanks to its extendable and retractable frame which can be adjusted by 1550mm and 5650mm in length.

Existing partition NBB

Industrial Trolley System used as support to the existing partitions
Existing Office Layout, Model Study

Rovolving Partition

Transportable Partition
(37) Storage Room
(38) Meeting Room
(39) Open floor plan
A Comparison of space
Research into the history of the bank has revealed a series of spaces that have seen numerous alterations to the current date. Perhaps most notably are the installation of a lowered ceiling, a computer floor and the introduction of the computer.
These spaces can be compared to the precedents studies within the studio. Showing similarities in office layouting, furnishing, hierarchical systems and the lack of computer screens.

(40) Osram Building (Model: Ron Barten, Laurens de Munck, Aneesh Nandi, Renske Worm)
(41) Larkin Administration Building, Frank Lloyd Wright. (Model: Cameron Reid, Sebastian von Rosen, Bart Vos, Carmen Wientjes)
(42) International Insurance Building, Sigurd Lewerentz (Model: Mirthe Andriessen, Weiyouan He, Izabel Todorova, Rui Wei)
(43) NBB office floor 1971 (Source: Archief Nationale Bank)
The gradual opening of the pre-existing condition. Taking the layout of the existing floorplan into consideration, partitions and furniture are slightly altered to provide diverse appropriation of the ‘office’. Moving into the space, the repetitive office cubicles remain. The first alteration is the rotation of some partitions allowing rooms to open and close as a whole. The floorplan becomes more adjustable with the partitions becoming fully movable or are used to formulate meeting and storage rooms. Across the floorplan, the office is gradually stripped of its existing partitions and spaces are defined by shelves, planters, tables and chairs. This system of manipulation hopes to provide a range of conditions in which the occupant can slightly liberated to shape and chose his own working environment. Whilst the office cubicle can be seen as the most secluded space in which digital communication and concentrated work can take place. The open and semi-open floor plan provide a more interactive place of work which overlaps with the flexible mode of hot desk working, allowed through the laptop.
The office Floor Plan

Lars Tunbjork, Office (2001)

Typical floor plan of existing furniture layout (Floor 04) NBB 1:750
Brindhuber+Emde. Antivilla. Window frame attached to the interior of the existing structure.

Creating an interior balcony between the office floors creates a space of permanace. A zone, although within the buildings shell allows for exterior activities. Smoking, coffee breaks and social exchange. Removing the window and its frame allows the free movement of air from the exterior to the atrium space. Moving from one part of the office to another whilst transitioning through the interiorized balcony creates spaces of interruption to the repetitive nature of the building.

Removal of windows, addition of insulation, curtain wall, water gutters, screed, a raised floor and a railing formulate this intervention.

Andrew Power. House with a guest room. Empty room connecting two volumes under one roof.
Detailed Section of an empty room. 1:50

Office Interior Additions
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

Office Exterior Space Additions
- Curtain Rail Bolted into Structure with Polyester Curtain
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Moisture Layer
- Water Sprinkler System

Floor Build-up Extension
- Porcelain Tiles
- Screed at angle
- Seperating layer (1mm Plastic Sheet)
- Thermal and Impact sound insulation 40mm

Courtyard Exterior Floor build-up
- Porcelain stoneware tiles 20mm
- Fixed or self-levelling pedestals
- Waterproofing Layer
- Vapour Barrier, seperating layer
- Screed at angle for water runoff

Courtyard Structural build-up
- Cast in situ reinforced Concrete Structure
- CLT Plate in fill

Courtyard Foundation build-up
- Epoxy coating HS RAL7001
- Screed 60mm
- Seperating layer (1mm Plastic Sheet)
- Insulation
- Damp Proof membrane
- Cast in situ reinforced Concrete Slab
- Lean Concrete

Office Interior Additions
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

Office Exterior Space Additions
- Curtain Rail Bolted into Structure with Polyester Curtain
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Moisture Layer
- Water Sprinkler System

Floor Build-up Extension
- Porcelain Tiles
- Screed at angle
- Seperating layer (1mm Plastic Sheet)
- Thermal and Impact sound insulation 40mm
Detailed Section 1:50

Blue - New Additions
Black - Existing Structure

Structural Buildup Extension
- Concrete Slab, prefabricated and reinforced
- Gluelam Post and beam structure

Exterior Facade Build-up Extension
- Bundulux Box Roller Shutter (Metalic Grey)
- Cable Guide 5mm
- Souchier Luxlame F-06 Double insulated
- Reynaers Aluminium Curtain wall system
- CW50 Double insulated
- Insulated Ventilation pipe 400mm
- Galvanized Steel Profile
- Metal Grate 50mm

Interior Facade Buildup Extension
- Schueco Slidign Door system ASS-39-SC

Ventilation System
- Natural Ventilation for the courtyard due to stack effect aided by CO2 controlled ventilator

Office Interior Additions
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

First Floor Entrance Situation
- Polished Natural stone 18mm
- Screed 40mm
- Seperating Layer (1mm Plastic Sheet)
- Impact Sound Insulation 40mm

Floor Build-up Extension
- Epoxy coating HS RAL7001
- Screed 60mm
- Seperating layer (1mm Plastic Sheet)
- Impact sound insulation 40mm

Courtyard exterior floor build-up
- Porcelain stoneware tiles 20mm
- Fixed or self-levelling pedestals
- Waterproofing Layer
- Thermal and impact sound insulation
- Vapour Barrier, seperating layer
- Screed at angle for water runoff

Courtyard Structural build-up
- Cast in situ reinforced Concrete Structure
- CLT Plate in film

Courtyard foundation build-up
- Epoxy coating HS RAL7001
- Screed 60mm
- Seperating layer (1mm Plastic Sheet)
- Insulation
- Damp Proof membrane
- Cast in situ reinforced Concrete Slab
- Lean Concrete

Office Exterior Space Additions
- Curtain Rail Bolted into Structure with Polyester Curtain
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Moisture Layer
- Water Sprinkler System

Office Interior Additions
- Fibreglass insulation 120mm
- Wood Wool Acoustic Panel 15mm
- Water Sprinkler System

Floor Build-up Extension
- Porcelain Tiles
- Screed at angle
- Seperating layer (1mm Plastic Sheet)
- Thermal and Impact sound insulation 40mm
Reintroducing the lobby creates a central space of arrival before entering the office. A waiting space for guests and a physical point of orientation.
The current bank is a closed fortress, closed off from the public and seeming unused from the interior. Large fences wrap around the building block and entrances are closed held at a minimum. With the image of the bank changing and shifting from one of power to a more public one, the bank and the public courtyard requires new entrance. The opening of the shell, both physically and metaphorically marks these new entrances within the city. Opening itself up to the city.
Before and After exterior shell of the bank

Facade Elevation 1:750 showing new entrances, the removal of facades and addition of staircase
Before and After exterior shell of the bank

Facade Elevation 1:750 showing new entrances, the removal of facades and addition of staircase
AGWA Projects Brussels

Facade render as proposed in the design

Current Site setting -
A closed off facade, rejecting the public.
Image of the current situation

Render opening up the structure of the building
Entrance Floor Plan +1

Existing Condition Place Level 1 and 2
The Stripping away of the exiting skin. Read on gordan meta clark

Something intriguing about the way a building is assembled but also can be taken apart again. Showing and revealing the underlying structure and slowly adding layers of construction to make a space habitat again. Waterproof and insulated. But at the same time reconfiguring objects which are preexisting and are placed together in order to form something new.
Lecture by AgwA - Harold Fallon as part of Bernd Schmutz studio - TU Dresden
(20) Entrance Facade Detail 1:50
(21) Entrance Model built at scale 1:20
The interplay of the digital model and the physical model illustrates their interrelationship. Both rely on each other and formulate the resulting floor plan. But also indicate different states and uses. The refined project and the site under construction.

A new public entrance in which large guillotine doors make access to the courtyard publicly accessible. The boundary between exterior and interior is softened. The building becomes one with the sidewalk allowing the free flow of pedestrians. At night these doors can be lowered again - demarcating the bank’s boundary.
Bruther, Residence for Researchers
Image: Pascal Henle

0148 Rachel, Brandhuber+
Image: Erica Overmeer
Fist Phase Extension under construction

Current State of the vaulted Ceiling Space.

NBB Archive. Space used as offices
Current State of the Vaulted ceiling Space
The oldest part of the Bank and only remaining part of the original building is the Palace, also known as the Governors hotel. Currently, the palaces have no prescribed function, although it has formerly been used as a museum or the banks as well as office spaces within the attic of the building. In need for major reconstruction efforts, the palace could maintain its cultural and public function as an exhibiter of the extensive art collection (including modern pieces). Referring to references, a system of white walls could be used to formulate new spaces and maintain the fitting of the palace.
Section Through John Soane's house-museum at ca. 1:300
(03) Section of the Belgian National Banks's Hotel.
1:300
STOP PAINTING, Peter Fischli
Fondazione Prada Venice
St. Petersburg Studio of Arkhip Kuinji, 19th-century Georgian artist
Abandoned Palace

Thomas Demand Ruin 2017
(08) Construction Image National Bank of Belgium

(09) Demolition process of Sir John Soane's Bank of England

(10) The building as a formwork or imprint on the new structure, Brandlhuber. (Source: Accattone 2 - Bruil & van de Staaij)
Studio depicted through film camera. 2022