SWEDISH 100 GRACE

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A search for long lasting architectural qualities

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Supervisor: Kaj Granath
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THANKS TO

Ashour
for your tiring efforts and endless guidance

Linneá
for your supportive conversations and guidance

Fredrik
for your ever so strong support

Friends and family
for being there

Abstract

The construction industry, including architects, face a big challenge when it comes to sustainability. A part of the challenge is to build long-lasting architecture, that can stand the test of time and offer a high level of architectural qualities. The thesis aims to increase knowledge about long-lasting architecture through a case study of the now one hundred year old style of Swedish Grace.

The following research questions will be in focus:
1. What are the architectural qualities of the older housing stock in Sweden, focusing on the 1920's?
2. In what way can the architectural qualities of the 1920's building stock in Sweden be interpreted into a contemporary project?

The project will commence using research on design as a method to discover and study the qualities of older housing. The second part will focus on research by design to create a design proposal by interpreting the found qualities into a multi-family housing building.

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Purpose & Aim

According to Boverket (2019) the Swedish construction industry emitted 12,2 million CO_2 equivalents 2017, or 19% of the total yearly domestic greenhouse gas emissions the same year. The imported goods within the same sector emit an extra 5,9 million during production and transportation. This demonstrates that the construction industry is facing a big two-fold challenge. Firstly, to do everything it can to lower the emissions and secondly, justifying the unavoidable emissions by building long-lasting architecture.

In an effort to learn more about long-lasting architecture this thesis will include a case study of housing projects. In accordance with the 100 year anniversary of Swedish Grace, this case study will focus on finding lasting qualities from 1920's housing. The found qualities will then be interpreted into a contemporary project, to investigate how these qualities can be combined with current housing needs and preferences. From 1920's to 2020's.

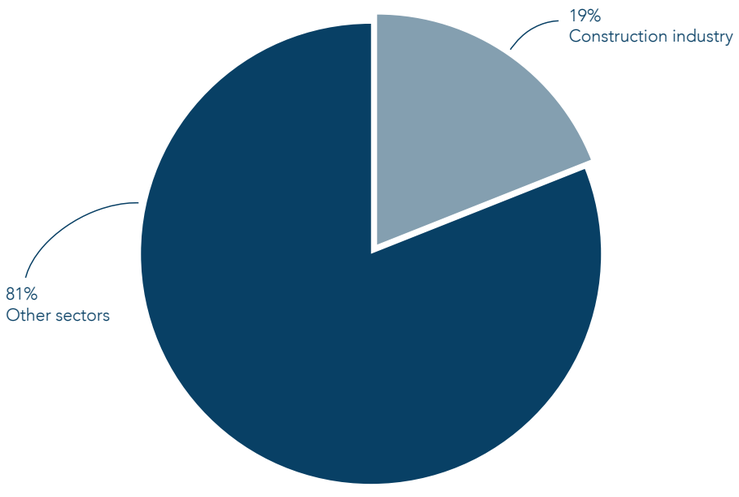


Fig. 0.1. Sweden's domestic greenhouse gas emissions 2017.

Research questions & Method

Methods

The first part consists of research on design by studying the qualities of the older housing stock through examples of floor plans, details and material choices. The continuation is characterized as research by design, interpreting the identified qualities into a contemporary housing project.

Delimitations

The studying of architectural qualities will focus on objects built between 1920-1930 in Stockholm and will not consider their location within the city as a quality. The object selection should mostly comprise of dwellings with at least two rooms plus kitchen to ensure some sort of spatial sequence. The product of the thesis will contain a design proposal for a part of a multi-family housing building, concentrated around one shared stairwell.

Research questions

1. What are the architectural qualities of the older housing stock in Sweden, focusing on the 1920's?

2. How can the architectural qualities of the 1920's building stock in Sweden be interpreted into a contemporary project?

Reading instructions

The thesis starts with presenting a brief introduction to Swedish housing history and current housing research. The following part introduces the reader to the analysis model and object selection. This selection is presented through a map in combination with developer category. Due to the size of the case study most of its content will be found in the appendix, with only ten selected analyses featured in the booklet.

Author background & Definitions

Background

Past: Bachelor's degree in Architecture and Engineering, Chalmers University of Technology
Relevant courses: Byggnad och klimat, housing course (year 2)

Internship: Koncept, Stockholm based architecture and interior design firm.

Current: Master program Architecture and Urban Design, Chalmers University of Technology

Exchange year at Universitat Politécnica de Catalunya, Barcelona.

Definitions

Quality
Here referring to architectural quality.

Space syntax
A method used to create an abstraction of a floor plan to understand it as a system, to easier compare different plans.

Axiality
Referring to how movement and light can be seen as axes through a dwelling.

Objects
The analyzed apartments.

Architectural backdrop (=fondmotiv)
A designed sightline within a city, where axes end and the pedestrian is met with an intentional view of architecture.

Limit of territory
The border between public and private for residents. Can also be referred to as the gradient of coming home.

Adaptability
Adaptable dwellings where rooms can switch functions easily.

SKB
Stockholms Kooperativa Bostadsförening

HSB
Hyresgästernas Sparkasse- och Byggnadsförening

History

Ola Nylander writes in his book *Svensk bostadsarkitektur 1800-2000* (2018) that during the 1910's, and WWI, construction costs rose and new housing production haltered in Sweden. Rents increased and more people lived through a tougher economic time and many Swedish cities built so called emergency dwellings. The general housing quality during this decade was low, and most dwellings lacked running water, let alone toilets, and many had vermin problems.

Part of the emigration wave to the US during approximately 1840-1920 was linked to the bad housing situation in Sweden. Trying to decrease the emigration of good professionals, the state started 1908 to lend money, up to 90% of the cost, to people with lower income to build their own small house. Most of these houses were prefabricated and ready to be assembled. A little over 13 000 homes were built during 1913-1938 through this policy. (2018)

Since there was no other state policy regarding housing production, the market was expected to solve the problem of housing shortage in the cities. Instead, the cooperative movement rose and people built multi-family housing buildings collaboratively. Stockholms Kooperativa Bostadsförening, SKB, was founded in 1916 and worked to improve the housing situation for the working class. They built simple buildings to keep production cost down for their members but were still able to develop housing quality. SKB introduced the communal laundry room amongst other things. (2018)

Another cooperative establishment HSB, Hyresgästernas Sparkasse- och Byggnadsförening, was founded in 1923. Their view on housing was rather to meet the need than demand. HSB built larger apartments with their own bathroom and a then well-equipped kitchen for the working class. The well-known garbage chute was an HSB invention that freed up space in the courtyards, creating space for greenery and areas for children to play. (2018)

Despite the crisis both SKB and HSB built well-functioning dwellings with big rooms and with better daylight conditions than before. These buildings have aged well and are still appreciated homes, one hundred years later. (2018)

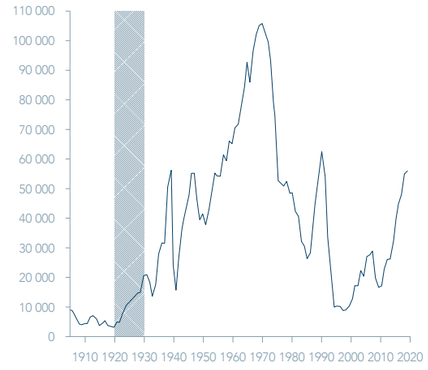
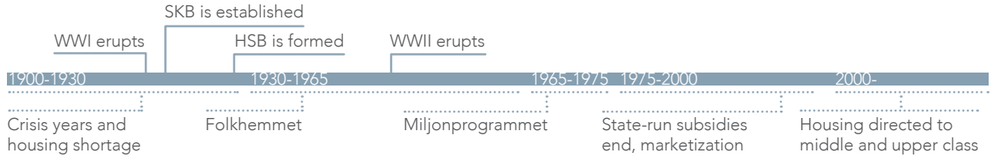


Fig. 0.2. Number of newly constructed dwellings in Sweden. (2019)



DEFINING QUALITY

The term quality within the field of architecture is blurry and not fully defined. Some qualities are measurable and concrete such as what material is used, what the ceiling height is and if there is a balcony. A significant part of the term consist of vague and more abstract qualities such as the sensation of space, daylight conditions and room configuration. Hence, there is a need to further try to define this term so that architects not only can describe and talk about qualities amongst themselves, but also to clients, contractors and developers to name a few.

Academic framework

What is in fact quality in terms of architecture? This question has fascinated multiple researchers within the field, and several of them have come up with different terms and definitions.

Nordwall writes in *Architectural Qualities in Housing* (2012) about quality in three quite general terms:

- Properties and characteristics of the surroundings (exterior)
- Usage flexibility within the dwelling
- Patina and mellowness of building components (materiality etc.)

Morichetto seeks to find if there is a link between architectural quality and well-being in her dissertation *Bostadens arkitektur och berikad miljö* (2019). She writes about qualities in terms of:

Restorative properties such as:

- Diverse
- Sheltered
- Natural
- Serene
- Cohesive

Stimulating properties such as:

- Diverse
- Social
- Cultural
- Open
- Cohesive

Nylander (*Bostadens Gestaltning, Att Återvända till tre Projekt*, 1997, 1999) has through his long running research gone deeper into trying to define quality which he describes in the following terms:

- Usage (flexibility)
- Axiality (movement and light/sight)
- Geometry (proportions in floor plan, wall composition and readability of space)
- Representative movement sequence
- Daylight conditions (the directed use of daylight in different parts of dwelling)
- Level of overview of the dwelling
- Sightlines to exterior either directly or via other rooms
- Encloseness vs openness
- Division/transition between public and private
- Division/transition between activities categorized into work, social and rest
- Materiality, materials chosen to age well, create patina, let users enjoy by multiple senses such as vision, touch, smell and hearing (acoustical properties)
- Details, level of architectural care in design solutions
- Level of craftsmanship execution (exactness, solutions, material meetings)
- Limits of territory, transition from public to private when coming home
- Efficient living space (ELS)

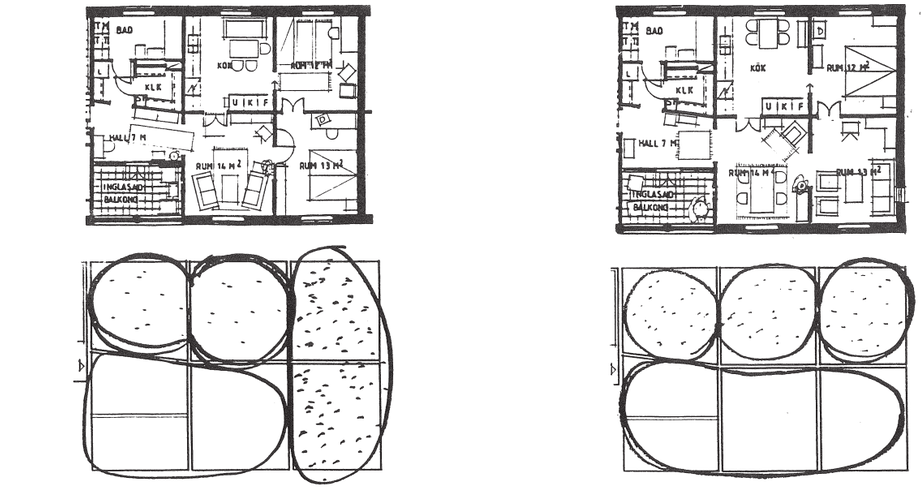
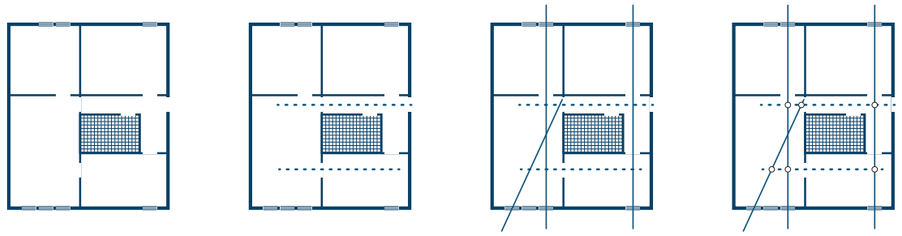


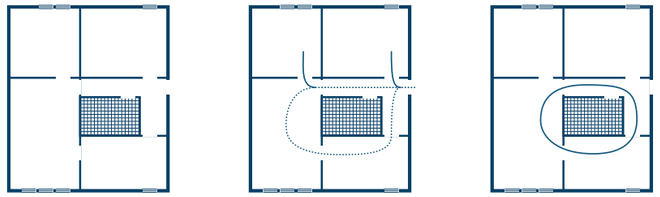
Fig 1.1. Privacy analyses of a dwelling furnished two different ways, from Nylander's *Bostadens Gestalning (1997).*

Methodology plan analysis

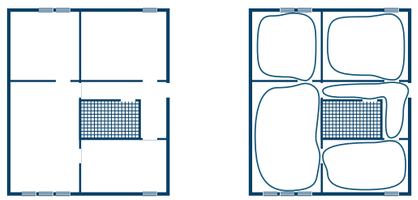
Axiality - Movement and Light & Sight
Diagram showing axes of light and movement in a dwelling, and where they intersect.



Private movement vs Public movement
Scheme showing representative and private movement within a dwelling, and if there are possibilities for circulation.

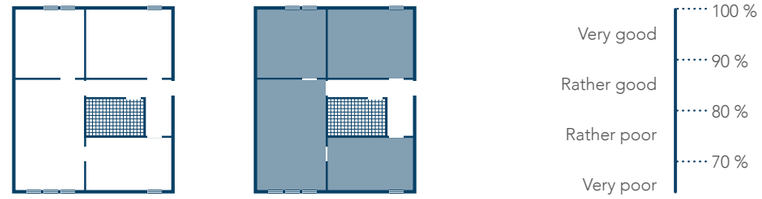


Impression of space (space bubbles)
Diagram showing space bubbles and how the space in the room is experienced depending on i.e. where doors and windows are placed. The space bubbles drawn in the plan indicate which parts of the rooms that are considered as active versus passive.

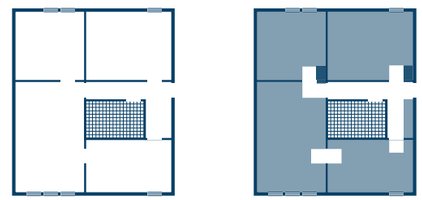


Private vs Public space
Scheme showing gradients of public vs private space within a dwelling.

Efficient living space - ELS
Mathematical formula calculating percentage of efficient living space within a dwelling. Calculated as total area minus hallways and passages divided by whole dwelling size.



Furnishable space - FS
Mathematical formula calculating percentage of furnishable space within a dwelling. Calculated as total area minus passages, area around doorways and fixed interiors such as kitchen fixtures and bathroom.



FS rules:

- 1 meter in front of and behind a door, as wide as the opening
- A left over area must be at least 1 m^2 and 0,6 m wide in each direction
- Passage dimensions without door opening is considered to be 0,6 m wide
- All kitchen fixtures are removed and 1 m in front of counter
- No bathrooms included
- No built-in closets included

Division between activities (social, work and rest)

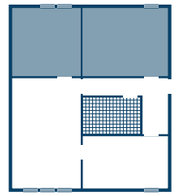
Diagram showing where different activities are placed and how they are connected within a dwelling.

Adaptable rooms

Diagram showing which rooms that are general enough to change function over time.

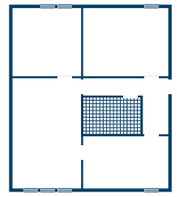
Room functions - orientation to courtyard/street

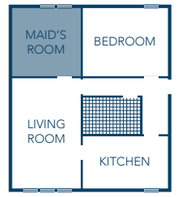
Diagram showing which functions are placed to the different sides of the plan.



Room functions - outdated functions

What kind of rooms were designed back then and how would they be translated to today?





Object selection

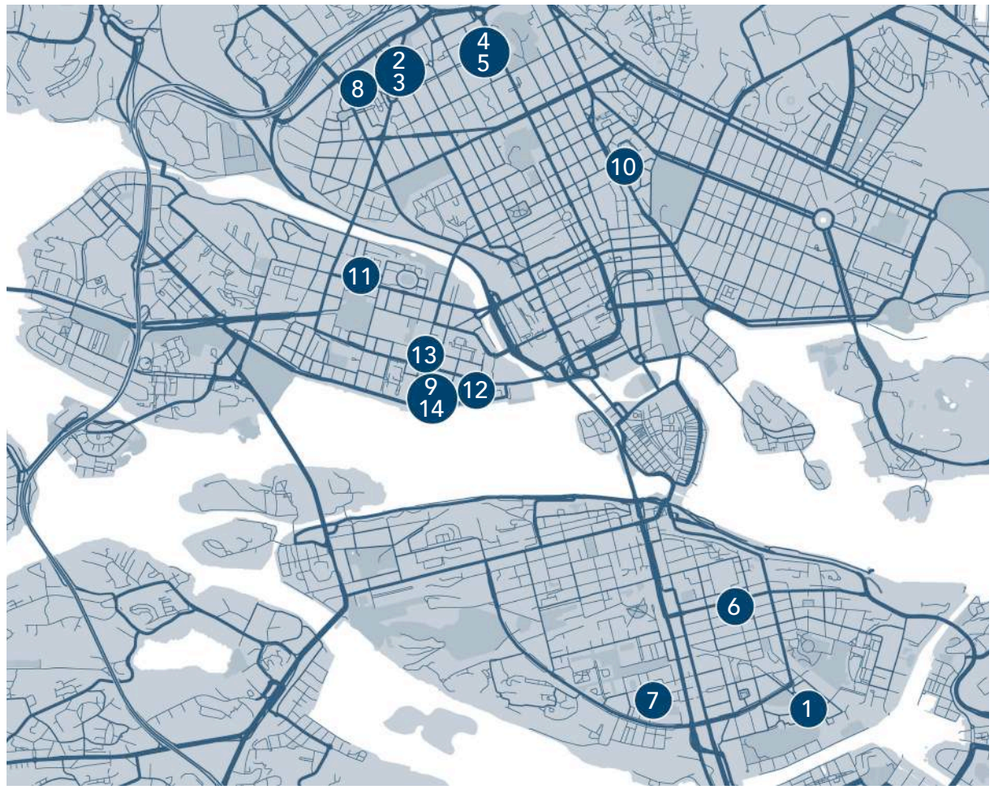


Fig 1.3. Map of analyzed objects.

The selection of objects analyzed is based on creating a diverse portfolio of dwellings in regards to:

- Location
- Social class
- Developer
- Size
- Location within building (corner, one- and double-sided)

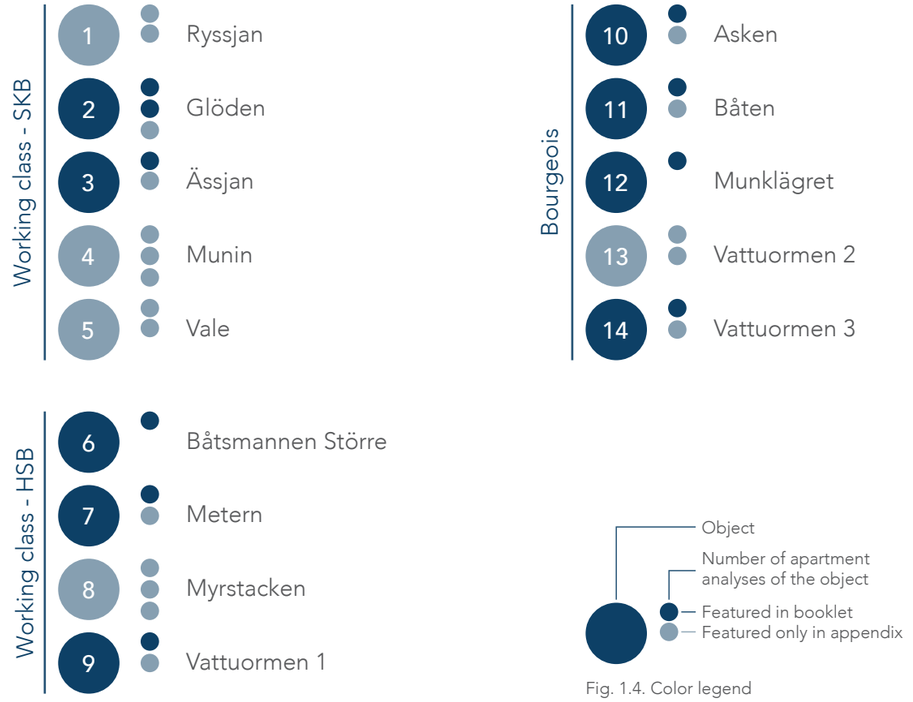


Fig. 1.4. Color legend

II ANALYSIS

The upcoming chapter starts with general examples of architectural qualities from the 1920s and continues with ten selected object analyses. The full collection of objects and their analysis can be found in the appendix.

General examples

The architecture of Swedish Grace is characterized by clean and simple facades combined with a relatively high level of detail and materiality. Buildings from this time period is rather easy to identify, usually given away by their warm-hued plaster exteriors and six-parted windows. The facade rhythm is usually strict with few examples of asymmetrical door and window placements. The entrance is most often highlighted with contrasting framing and elongated for easy orientation, also adding a level of complexity.

The facade is usually divided into four parts; base, intermediary, top and roof. The base is often similar in color as the intermediate and top stories but with a coarser finish. Other examples have stone bases in grey or beige tones. The top floor generally feature ornaments if there are any, or can be indented to create a so called king's story (kungsvåning). These floors have rooftop balconies along the whole facade. The roof is usually hipped, sometimes equipped with dormer windows making the attic habitable.

With approximately 70-80% unperforated wall area in 1920's facades, these buildings strongly define the exterior space, creating definitive urban spaces. The absence of balconies toward the street adds to this by keeping the volume free from protruding elements that would otherwise make the volume less defined. It also adds to the feeling of safety for pedestrians by increasing the visual contact with the residents.

Fig. 2.1. Example of a residential Swedish Grace neighborhood.

Fig. 2.2. Example of a 1920's facade.

Fig. 2.3. Example of a 1920's facade.

The limit of territory for residents is generally well directed as a gradient from public to private. Small courtyards (förgårdar) are not uncommon to see in front of entrances to Swedish Grace buildings. These prolong the gradient and make residents start feeling at home even before entering the building. The courtyard is usually comprised of a small grass lawn with a surrounding low metal fence. Some buildings have other ways of offering a smooth gradient, like the one in figure 2.4. where the circular room becomes like a second entrance.

Warmer colors, such as the ones used in 1920's facades, are well-appreciated by laymen and even described as a positive quality that should be striven for. (Granström & Wahlström, 2017) The same study concluded that people prefer diversified and detailed facades, with visible roofs and some level of originality. All of the above match rather well with the qualities of Swedish Grace.

The interiors of 1920's dwellings follow the same theme as the exterior and are also quite simplistic. The room geometries are strong and clear, with openings focused to the center part of the walls. This defines the space and makes it easy to read. The, at the time, relatively unornamented interiors were compensated with long-lasting materials and simple but well-crafted details.

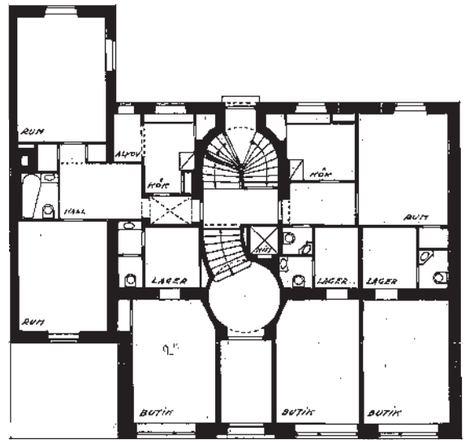


Fig. 2.4. A circular room between the entrance and stairwell adds an extra step in the gradient of coming home.

Fig. 2.5. Examples of facade colors used in 1920's buildings.

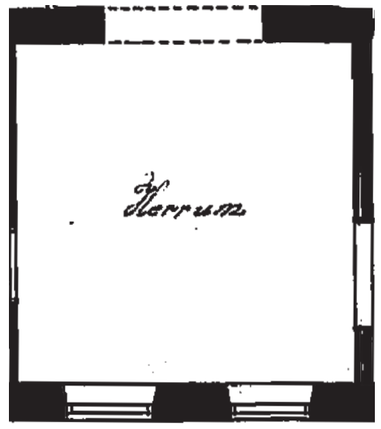


Fig. 2.6. Example of a room with distinct contours making it easy for the user to read the space.

Most apartments from this time came with solid wooden floors, usually arranged in a herringbone pattern. The boundary of the rooms were accentuated by a frieze, strengthening its readability further. Many of these apartments maintain the original floor only with added patina, a strong testament to their long-lasting quality.

Other details include door and window handles in solid metal, usually brass, lending a feeling of genuineness. The latter one often features a visible analog mechanism. This compels users to connect the two senses of touch and sight in the process, making the act of opening a window more of an experience.

Due to the ongoing crisis after WWI and the increase of construction costs windows were standardized, with a design scheme that guided architects. This made mass production possible and therefore cheaper. The windows were not all that simple in their design despite this. The majority of the windows feature profiled frames and mullions with concave, convex and orthogonal shapes. These reflect the light in various degrees and directions, creating an intricate gradient of light.

Fig. 2.7. Example of solid oak floor in a herringbone pattern with a contrasting frieze.

Fig. 2.8. Example of a Swedish Grace door handle.

Fig. 2.9. Example of a typical Swedish Grace window handle.

Window openings were also very cohesively designed amongst the majority of projects from the time. Most have a beveled connection to the wall, letting as much light in as possible. Another common feature was a built-in space beneath the window sill for the radiator. Sometime a wooden cover could partly hide this even more. This creates the impression that the window is a coherent, well though-out module.

The ceiling height spanned between 2,7 to 3,3 meters generally depending on social class. The cornice otherwise covering the wall to ceiling meeting was often lowered a couple decimeters to let the edge be smoothed with plaster instead. This blur the line between verticality and horizontality and also creates a smooth gradient of light which seems to have been a strong theme during the Swedish Grace period.

The conscious design regarding daylight was not limited to apartments. The vast majority of residential buildings from this time have day-lit stairwells. These usually come with ventilation balconies (vädringsbalkong) as part of the natural ventilation system, seeing that there were no mechanical ventilations systems in place at the time. The bourgeois buildings also feature double stairwells, or elevators, to separate the workers' and residents' movement.

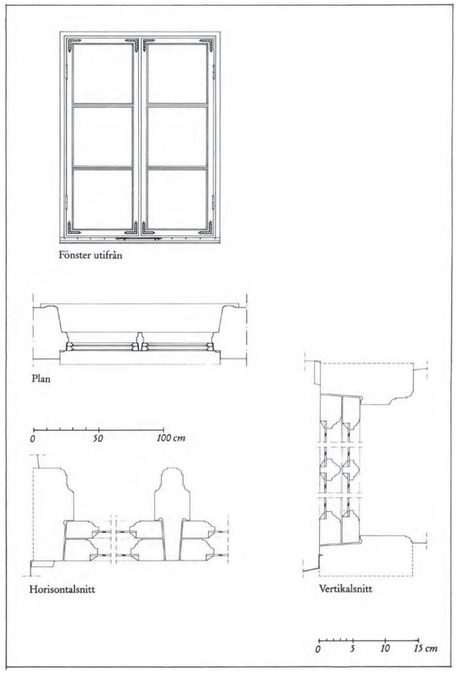


Fig. 2.10. Detail drawing of a typical 1920's window.

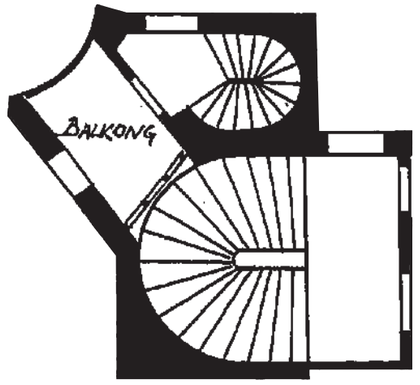


Fig. 2.11. Example of a double stairwell with balcony.

10 Asken · 1

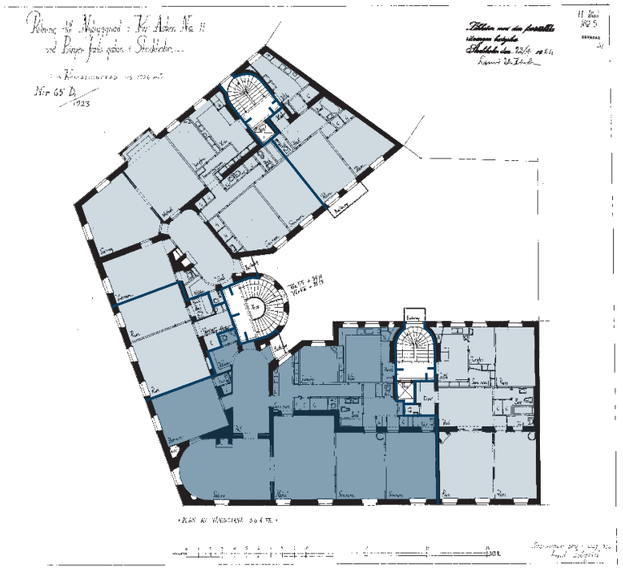


Fig. 2.12. Original floor plan of analyzed object.

Property name: Asken 11
Building year: 1926
Number of apts. per floor: 5
Square meters: 258 m²
Number of rooms: 7 + kitchen
Category: Bourgeois

The analyzed dwelling consists of seven rooms plus kitchen over a total of 257 square meters. It was built in 1926 and is situated in between the two districts of Norrmalm and Östermalm in Stockholm. This apartment is unsurprisingly designed for a wealthy family with at least one live-in maid. It features a room named "jungfrukammare" meaning maiden's chamber and a total of five baths. Each of the two big apartments have two entrances which also points to this fact.

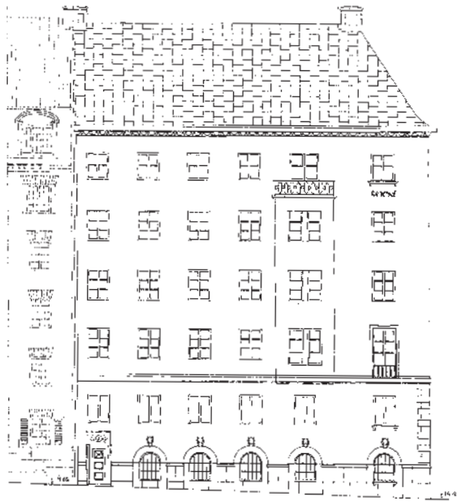


Fig. 2.13. Street elevation of analyzed object.

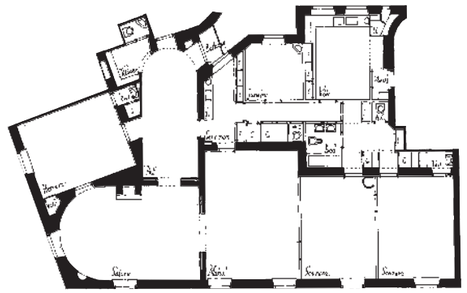


Fig. 2.14. Original plan.

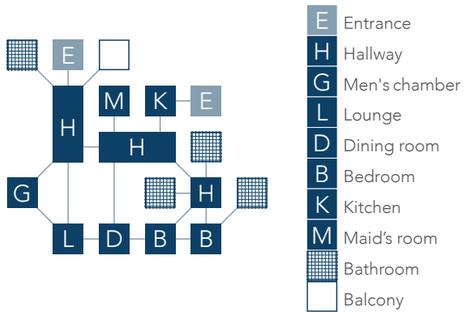


Fig. 2.15. Space syntax of the analyzed dwelling.

Fig. 2.16. Analysis of rooms facing the street.

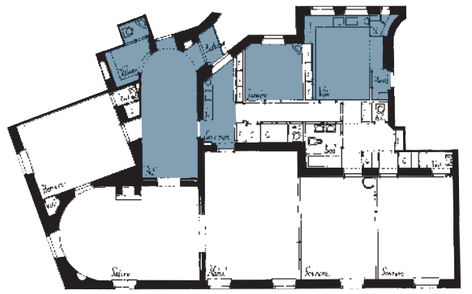


Fig. 2.17. Analysis of rooms facing the courtyard.

Functions facing the street

As a corner apartment, there is naturally more facade area to be used towards the street rather than the courtyard. With this said, there is a clear division between the big and grand rooms towards the street and the smaller and more hidden rooms towards the courtyard. The ones facing the street are clearly designed to represent the residents' status and wealth, whereas the kitchen and one of the bedrooms are hidden on the other side of the central corridor towards the courtyard.

Functions facing the courtyard

Seeing that this is a corner apartment, there is naturally less daylight flowing to the rooms facing the courtyard. It was a clear choice of the architect to put the less representative rooms on this side to let the social rooms get the most use of the daylight. One interesting function on this side of the apartment is the balcony, giving guests a glimpse to the exterior when leaving. This sightline gives the grand hallway an added feature of direct daylight.

11 Båten · 1

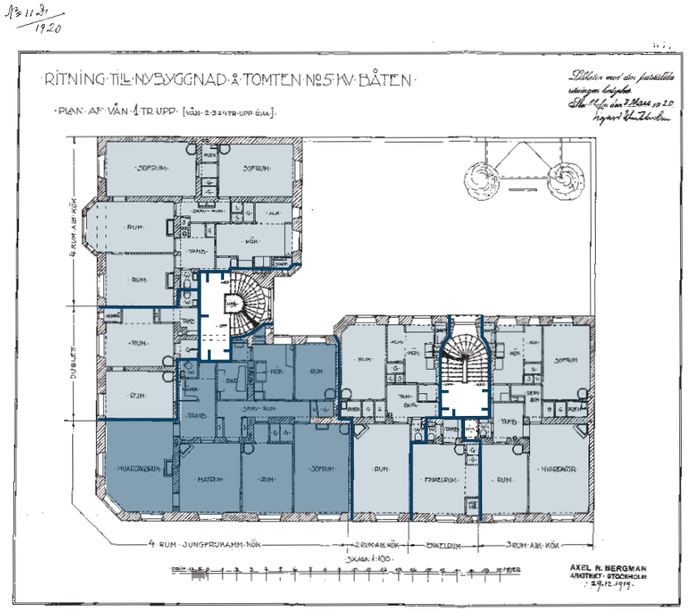


Fig. 2.18. Original floor plan of analyzed object.

Property name: Båten 5
Building year: 1920
Number of apts. per floor: 6
Square meters: 155 m²
Number of rooms: 5 + kitchen
Category: Bourgeois

This object is situated on Kungsholmen in the western inner city of Stockholm. The analyzed dwelling feature 5 rooms plus kitchen and falls under the bourgeois category. This is a corner apartment, with one room enjoying daylight from two orthogonal directions. The rooms toward the street are clearly more generous in size, stating that this was the representative side. The upper right room belonged to the live-in maid close to the kitchen.

Fig. 2.19. Street elevation of analyzed object.

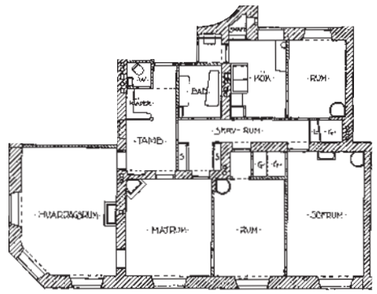


Fig. 2.20. Original plan.

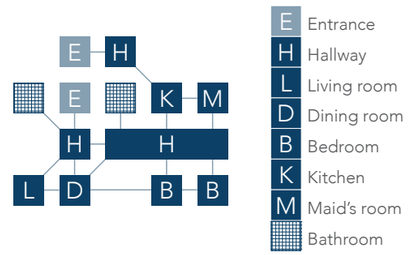


Fig. 2.21. Space syntax of the analyzed dwelling.

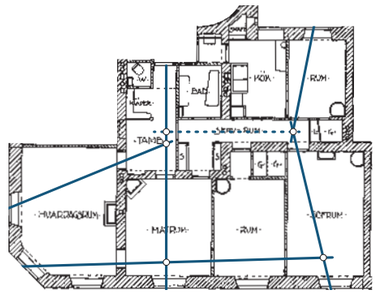


Fig. 2.22. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

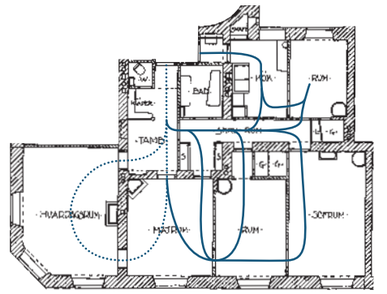


Fig. 2.23. Analysis of representative and private movement within the dwelling. Dotted line shows representative and full line shows private movement.

Axiality

The movement axes within the dwelling cover the inner darker central corridor. The lighter parts of the apartment feature a few light axes, one reaching all the way to the entrance. This creates a line of sight to the exterior directly when entering. Two other light axes intersect this central one at the different ends of the axis. The most important one here is the east-west axis reaching all the way from the inner bedroom to the living room and to the exterior. This is a classic concept making the residents and guests move close to the daylight.

Movement

The movement patterns are divided within the dwelling according to public versus private. The dotted line in the left part of the apartment highlights the representative sequence from the entrance through the hallway, dining room and living room. The regular lines show that there are multiple choices to when walking between the rooms, but most of them are private. There is an extra entrance used by the maid back in the day, which probably is not used that much today.

6 Båtsmannen Större ·1

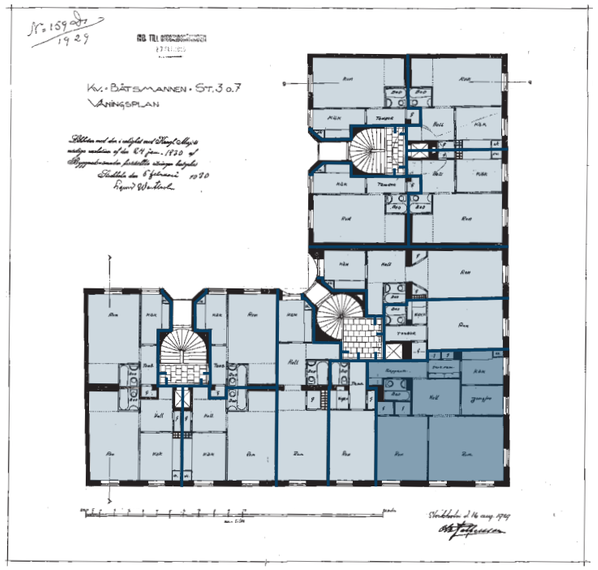


Fig. 2.24. Original floor plan of analyzed object.

Property name: Båtsmannen Större 3
Building year: 1929
Number of apts. per floor: 13
Square meters: 78 m²
Number of rooms: 3 + kitchen
Category: HSB

This object is located on Södermalm, in the southern part of the inner city of Stockholm. The five story building houses 13 apartments per floor, with either four or five apartments sharing one stairwell. It is one of the last Swedish Grace buildings that HSB developed before functionalism was the new ideal. This corner apartment is spacious and even features a maid's room, which was very uncommon for HSB's projects.

Fig. 2.25. Street elevation of analyzed object.

Fig. 2.26. Original plan.

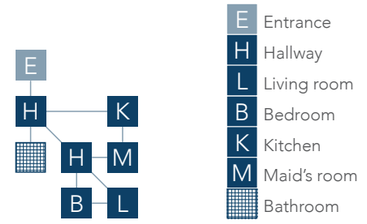


Fig. 2.27. Space syntax of the analyzed dwelling.

Fig. 2.28. Analysis of social and private space. The darker the color the more private character of space.

Fig. 2.29. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

Privacy

There is a sort of social diagonal in this dwelling, engaging the hallways and the living room. The southwestern room becomes the most private, which works well in the outer corner of the apartment. There is an interesting separation between the two more private rooms, a short distance but divided by the more neutral living room. If this room instead has altered function to serve as i.e. dining room the social part takes over the majority of the space.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

2 Glöden · 1

Fig. 2.30. Original floor plan of analyzed object.

Property name: Glöden 4
Building year: 1927
Number of apts. per floor: 15
Square meters: 73 m²
Number of rooms: 2 + kitchen
Category: SKB

This building is divided into four parts, each represented by separated facades. They all follow the same rhythm and ornaments but are slightly offset from each other. This creates a dynamic view from the street even though they are very similar. The top floor is almost hidden in the company of ornaments, disguising the classic six-parted windows on the sixth floor. The building resides in Norrmalm, in the northern part of inner city Stockholm.

Fig. 2.31. Street elevation of analyzed object.

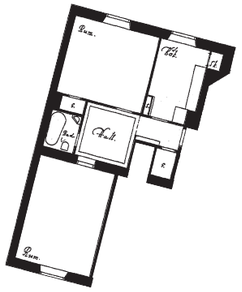


Fig. 2.32. Original plan.

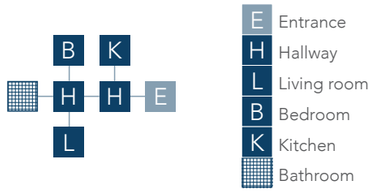


Fig. 2.33. Space syntax of the analyzed dwelling.

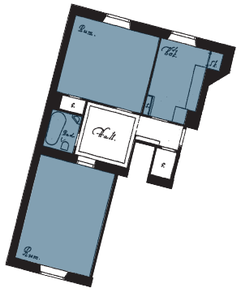


Fig. 2.34. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

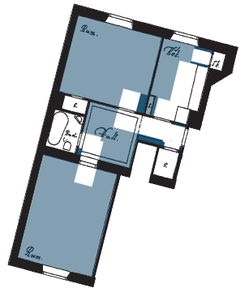


Fig. 2.35. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Efficient Living Space

The coefficient found for the object's ELS is 78% which is considered rather poor, but comes close to rather good. The long entrance and the central hallway take up approximately 20% of the living area of this apartment. The central hallway is rather important to this plan however, acting as a neutral space to enter all the rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

Furnishable Space

This object features a very smart plan where doorways are meticulously placed enhancing furnishability. The FS of this apartment is 68% and is the highest amongst all analyzed objects. Both doors to the bathroom and living room are positioned to one space, decreasing necessary communication area. The door placements enables a rather high furnishability in the central hallway, to be used for i.e. seating or storage.

2 Glöden · 2

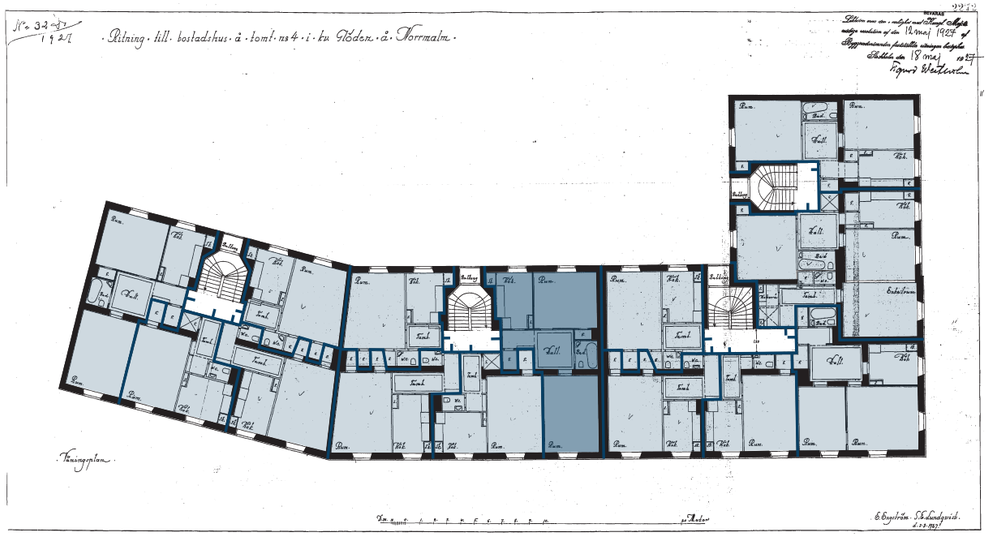


Fig. 2.36. Original floor plan of analyzed object.

Property name: Glöden 4
Building year: 1927
Number of apts. per floor: 15
Square meters: 73 m²
Number of rooms: 2 + kitchen
Category: SKB

This building is divided into four parts, each represented by separated facades. They all follow the same rhythm and ornaments but are slightly offset from each other. This creates a dynamic view from the street even though they are very similar. The top floor is almost hidden in the company of ornaments, disguising the classic six-parted windows on the sixth floor. The building resides in Norrmalm, in the northern part of inner city Stockholm.

Fig. 43. Street elevation of analyzed object.

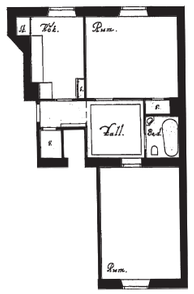


Fig. 2.37. Redrawn original plan.

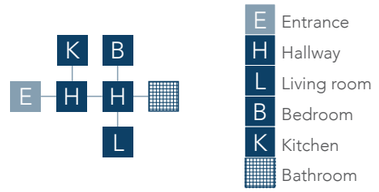


Fig. 2.38. Space syntax of the analyzed dwelling.

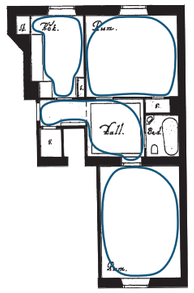


Fig. 2.39. Analysis of encloseness and openness with the method of space bubbles.

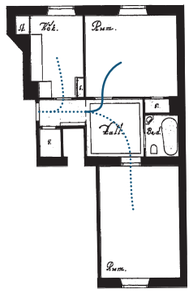


Fig. 2.40. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Impression of space

All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive corner though, creating a calm space for a piece of furniture. The tip of the bubble almost enters the living room, due to the reveal of the door-frame. This guides guests to enter this room rather than the others.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible. The kitchen is marked as part of the social movement sequence, but was originally a more private room seen as a work space.

7 Metern · 1

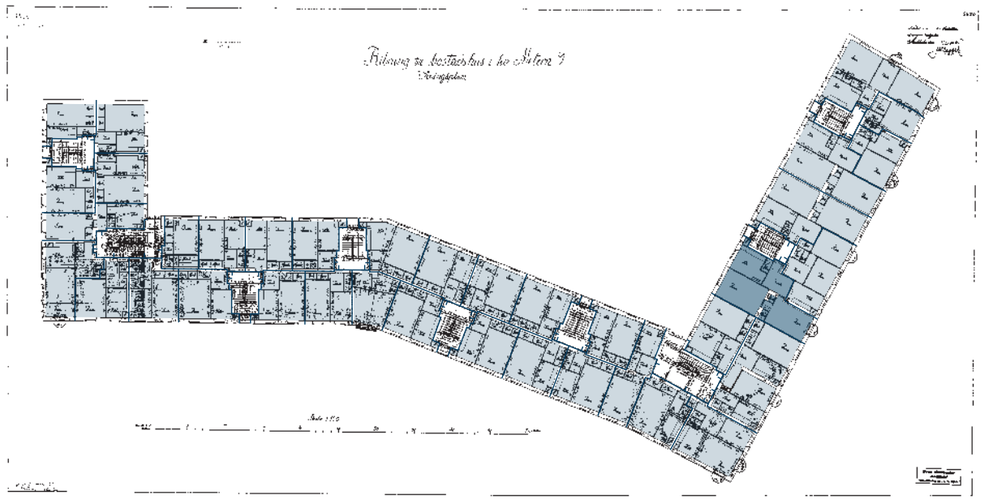


Fig. 2.41. Original floor plan of analyzed object.

Property name: Metern 9
Building year: 1925
Number of apts. per floor: 38
Square meters: 80 m²
Number of rooms: 2 + kitchen
Category: HSB

Helgalunden is a neighborhood in Södermalm known for its many buildings from the Swedish Grace period. The large size of the building probably made it cheaper to construct, but also made it possible to create a large and bright courtyard. A large open portico frames the courtyard for residents and visitors when entering.

Fig. 2.42. Street elevation of analyzed object.

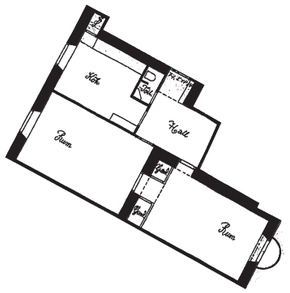


Fig. 2.43. Original plan.

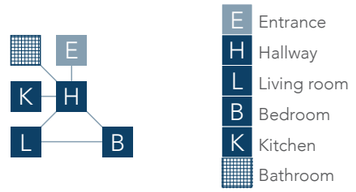


Fig. 2.44. Space syntax of the analyzed dwelling.

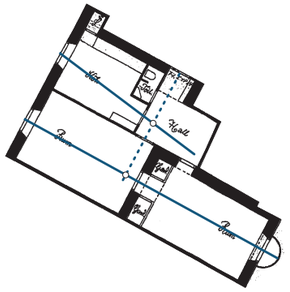


Fig. 2.45. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

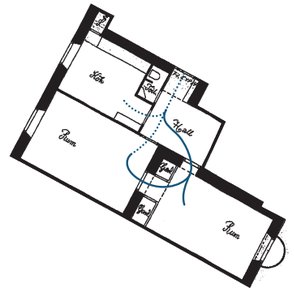


Fig. 2.46. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

The only movement axis in this dwelling flows from the entrance, through the central hallway and into the living room. This axis is intersected two times by light axes. The first from the window in the kitchen and the second from an uninterrupted axis crossing the whole plan. The axis passing all the way through becomes the strongest one, and most important. This axis lets light flow into the apartment from two directions and gives the darker movement axis two sightlines when intersecting it.

Movement

Though a simple and quite small apartment it still houses a possibility for circulation. This possibility is to be used by the resident(s) as it flows through the bedroom. The central hallway makes this possible by acting as a neutral "feeder" to the other rooms. The small bathroom invading on the kitchen space might have been placed in the center of the circulation and take the closet's space. This would have made the kitchen geometry simpler.

12 Munklägret · 1

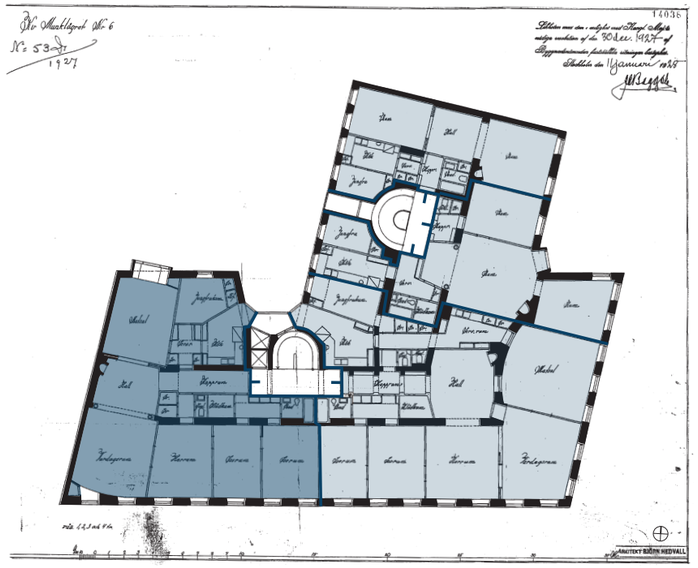


Fig. 2.47. Original floor plan of analyzed object.

Property name: Munklägret 6
Building year: 1929
Number of apts. per floor: 4
Square meters: 191 m²
Number of rooms: 6 + kitchen
Category: Bourgeois

The analyzed dwelling in this building features six rooms plus kitchen. This is a typical bourgeois apartment from the 1920's with its own gentlemen's room and maid's room. The facade is ornamented with evenly placed balconies, where those to the right follows around the corner to face two directions. The base features an array of arches, making the inspiration from earlier classicism obvious.

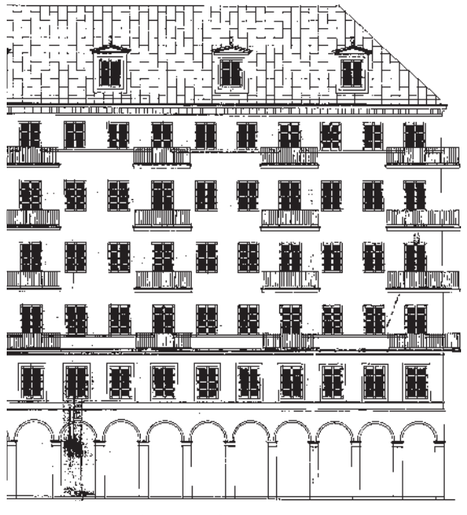


Fig. 2.48. Street elevation of analyzed object.

Fig. 2.49. Redrawn original plan.

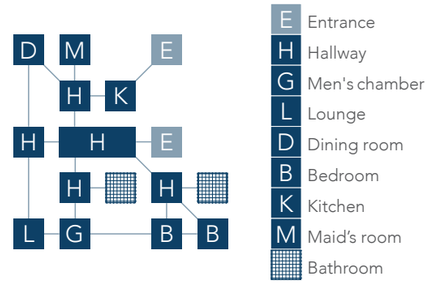


Fig. 2.50. Space syntax as an abstraction of the analyzed dwelling.

Fig. 2.51. Analysis of social and private space. The darker the color the more private character of space.

Fig. 2.52. Analysis of rooms with outdated functions.

Privacy

There is a distinct separation between social and private space in this dwelling. The big hallway, dining room, living room and old gentlemen's chamber act as the social part of the apartment. The kitchen and old service room are marked as more private since they are quite small compared to the other social rooms making it difficult to house guests in there. There are three bedrooms, all tucked away neatly in two ends of the apartment.

Outdated functions

The old gentlemen's chamber has become outdated and has probably become a tv-room or an extra bedroom. The old maid's room might still be used as a bedroom or been joined with the kitchen. The secondary entrance is probably not in use as of today and the service room (serveringsrum) might have been added to the kitchen as well, or kept the same but just referred to as a corridor.

9 Vattuormen 1 · 1

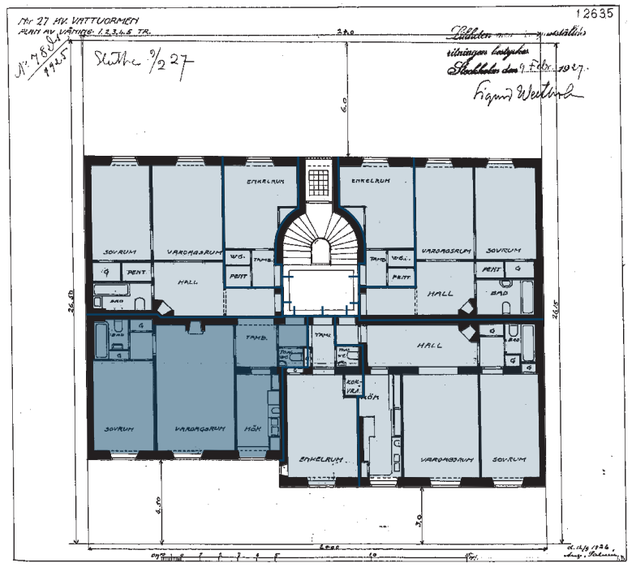


Fig. 2.53. Original floor plan of analyzed object.

Property name: Vattuormen 28
Building year: 1923
Number of apts. per floor: 7
Square meters: 70 m²
Number of rooms: 2 + kitchen
Category: HSB

This building is placed close to Norr Mälarstrand, which is one of the most expensive areas in Stockholm today. It is therefore quite interesting that HSB built one of their projects here. These apartments are bigger than the average HSB apartment at the time, indicating that they might have focused on a slightly more well-paid target group.

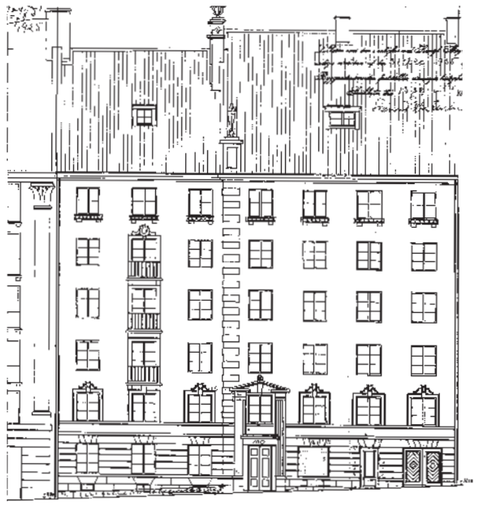


Fig. 2.54. Street elevation of analyzed object.

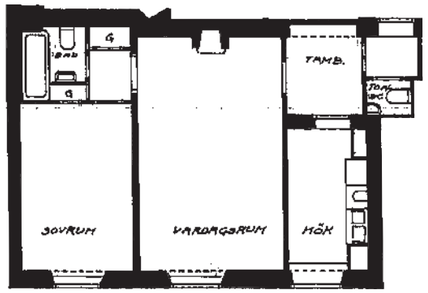


Fig. 2.55. Original plan.

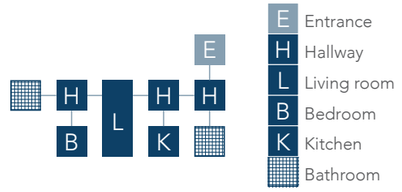


Fig. 2.56. Space syntax of the analyzed dwelling.

Fig. 2.57. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Fig. 2.58. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Efficient Living Space

The efficiency rate of this object is 80%, which is considered rather good. This is one of the highest rate of all the analyzed objects. There is not an excess of unused space, and the hallway is reasonably sized compared to the other rooms. The kitchen could have been a little prolonged to create more work space, but is still a relatively well-sized kitchen.

Furnishable Space

The furnishability rate of this object is 57%, a little below the average of all analyzed objects. The entrance hallway is not designed to be anything else than a communication space. There is a small corner able to house a small furniture piece for i.e. seating or storage. The placement of doorways in the living room is clearly stating that the upper part of the room is meant for communication whereas the lower part is more passive and a good space for furniture.

14 Vattuormen 3 · 1

Fig. 2.59. Original floor plan of analyzed object.

Property name: Vattuormen 33
Building year: 1923
Number of apts. per floor: 4
Square meters: 177 m²
Number of rooms: 6 + kitchen
Category: Bourgeois

This building is situated on Norr Mälarstrand and acts as an architectural backdrop from the southern side of Riddarfjärden. The facade is well-ornamented for the time and is characterized by the crown motif as part of the ornamental gable meeting the street. There are multiple balconies stirring up the otherwise orderly composition. A negative quality of this facade is the small and almost hidden entrance making it seem that it can become difficult to find it.

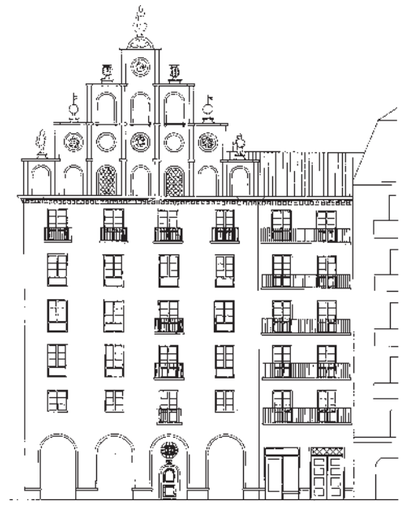


Fig. 2.60. Street elevation of analyzed object.

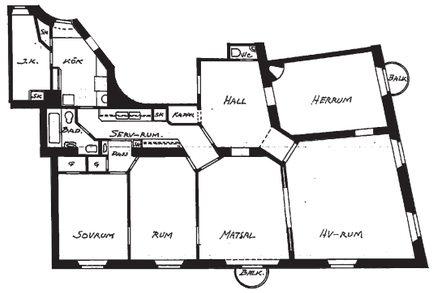


Fig. 2.61. Original plan.

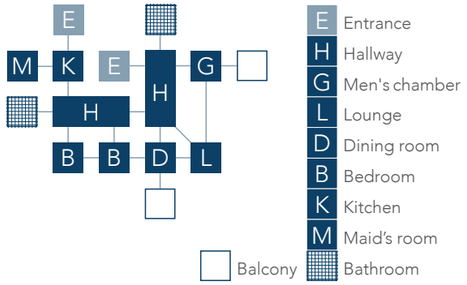


Fig. 2.62. Space syntax of the analyzed dwelling.

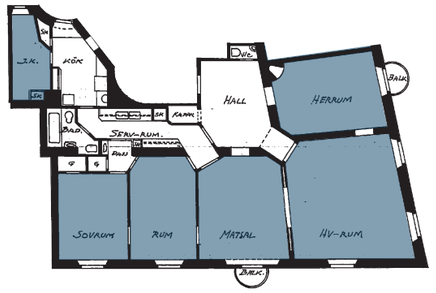


Fig. 2.63. Analysis of adaptable rooms, that may be used for different function over time.

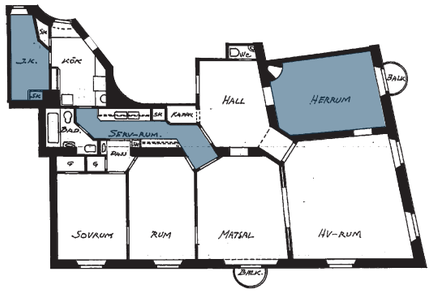


Fig. 2.64. Analysis of rooms with outdated functions.

Adaptability

The majority of the rooms in the analyzed dwelling are adaptable. This means that most of the rooms can change function easily, often using only furniture. However, the floor plan is not equally flexible. Most rooms feature one window which makes it impossible to split into two. The only room with more windows is the living room where a dividing wall would demand a change in the connection between the dining room.

Outdated functions

Firstly, the gentlemen's chamber is either still used as a social room but called something else, or it might have been changed into a bedroom. The old maid's room has probably either been kept as a bedroom or joined the kitchen to create a larger work space. The secondary entrance is probably not in use as of today and the part of the plan marked service room (serveringsrum) is probably still kept the same but just referred to as a corridor.

3 Ässjan · 1

Fig. 2.65. Original floor plan of analyzed object.

Property name: Ässjan 11
Building year: 1925
Number of apts. per floor: 10
Square meters: 78 m²
Number of rooms: 2 + kitchen
Category: SKB

This SKB-object is located in the northern part of Stockholm's inner city. The facade has a very low level of perforation, creating a slow rhythm for observers. The top floor is accentuated by a cornice, but the small distance to the roof almost makes it disappear. This is probably a conscious design choice, making the volume more connected to the human scale.

Fig. 2.66. Street elevation of analyzed object.

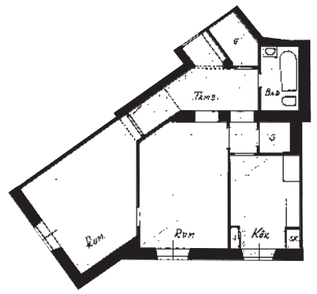


Fig. 2.67. Original plan.

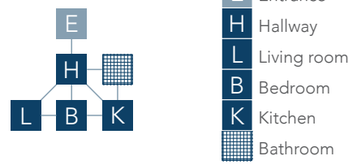


Fig. 2.68. Space syntax of the analyzed dwelling.

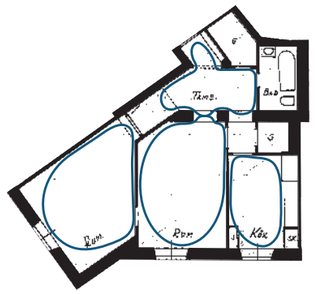


Fig. 2.69. Analysis of encloseness and openness with the method of space bubbles.

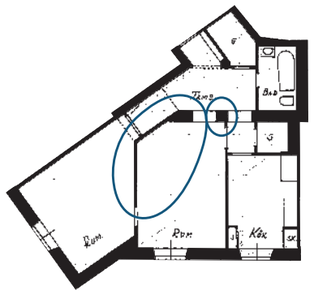


Fig. 2.70. Analysis of possibilities of circulation within the dwelling.

Impression of space

The kitchen and the bedroom have separated space bubbles indicating that they feel enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive part though, leading to the bedroom, creating an odd geometry. This space seem inefficient, but does add a possibility for circulation. The hallway bubble is almost merging with the living room bubble, indicating an open connection between the two.

Circulation

In a relatively small apartment like this it is rare to find multiple possibilities for circulation as in this one. It adds to the sensation of a spacious dwelling, but does cost in efficiency. Well enough, the openings to the rooms are well placed so that the furnishability does not take harm.

Conclusion

The goal of the object portfolio was to create a diverse selection, to give a wide understanding of the qualities from the 1920's. The analyses are however in many ways similar to each other as a consequence of how conforming the dwellings were built during the period. The vast majority of the two-room apartments analyzed are almost exact copies of each other, with only small differences. The larger apartments, belonging to the bourgeois category, naturally differ more from each other.

There are still a large number of creative solutions. It is truly inspiring how the society was able to build dwellings of good quality in a time when the economy was rough. The first and most prominent quality visible in almost all apartments is the neutral central hallway. This room creates variety in movement patterns, adds to the other rooms' adaptability but are in some cases oversized, decreasing efficiency.

Creating a movement axis close to the facade is a clever way to, in a wide apartment, direct residents to move close to the daylight. These axes also make apartments seem spacious and bright offering sightlines to the exterior whilst moving along them. The disadvantage of this could however be a decreased level of furnishability.

The adaptability is a great feature in most of the analyzed dwellings, demanding a room size larger than today's average. These rooms are flexible to house different functions such as a bedroom to be used

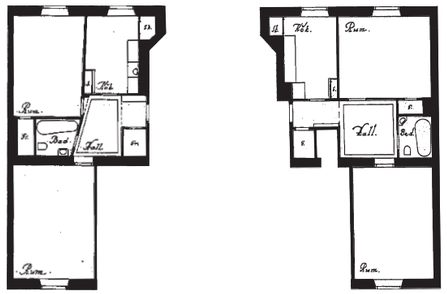


Fig. 2.71. Example of two similar analyzed apartments, although from two different buildings.

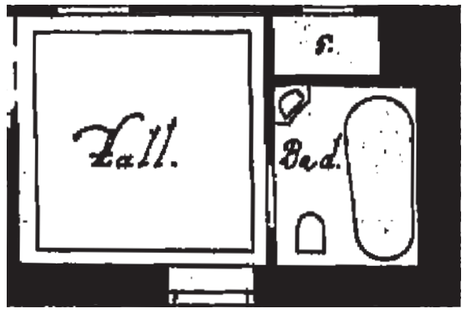


Fig. 2.72. Example of a central hallway as a neutral connection to the other rooms.

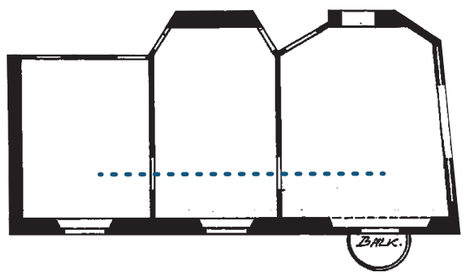


Fig. 2.73. Example of a sequence of rooms connected by doorways close to the facade.

as an office, or the dining room to be used as a library. The advantage of this quality spans over a long time, requiring all parts to think long term to be possible to implement. This quality might however add value to the apartment due to the higher number of possible clients in a sale. It is also, of course, a quality to be utilized by the resident(s) to enable them to use their dwelling in different ways.

Unlike our contemporary view of the kitchen, this room was mostly seen as a more private part of the apartment and a work place in the 1920's. They were however remarkably developed during this period, as a beginning of standardization and raised quality for everyday residents. These kitchens were always equipped with a naturally ventilated pantry and a sufficient counter top.

The average size of the two-room plus kitchen apartments that were analyzed is 70m^2, which would be considered large in today's context. The apartments of today undeniably have smaller rooms, decreasing adaptability. The size of the 1920's apartments, combined with the wider use of central hallways provide more possibilities for circulation. This makes the apartments appear more spacious and offer diverse movement sequences through the dwelling.

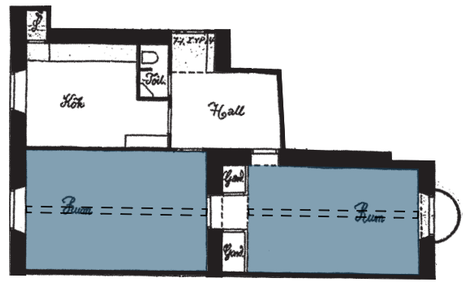


Fig. 2.74. Example of adaptable rooms thanks to their size, but not split-able into multiple geometries.

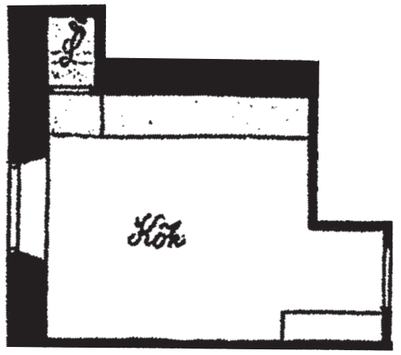


Fig. 2.75. Example of a kitchen with its own source of direct daylight.

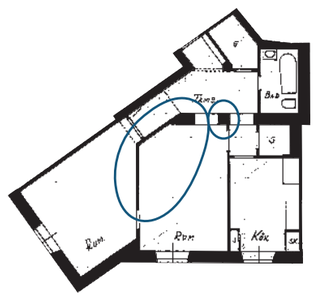


Fig. 2.76. Possibilities of circulation within a two-room plus kitchen apartment.

Quality selection

The symmetry, clean lines and level of detail in facades of the 1920's are features that will be implemented in the design proposal. The clear separation of base, intermediate and top floors are also important features to create a calm and composed impression. Balconies toward the street will mostly be considered ornamental and function will have a lower priority. Instead, balconies may be larger and more functional for everyday use toward the courtyard. The perforation level should be well-balanced, maintaining the integrity of the volume to define the urban space. A gentle level of plasticity in the facade is deemed as positive to increase complexity and therefore stimulating for passers-by.

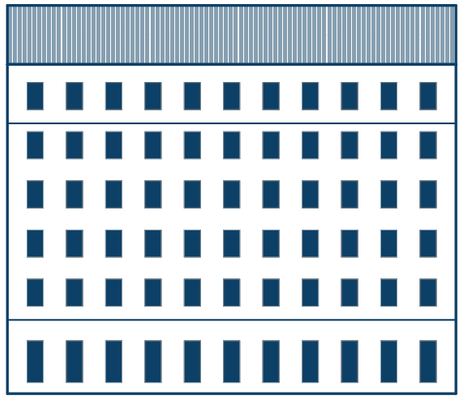


Fig. 2.77. Example of a facade with even rhythm and separated base, intermediate and top segments.

The floor plans will be strongly inspired by the analyzed objects, with updated functions and sequences according to contemporary views of housing. An investigation of how to resurrect the central hallway of 1920's will take place, and the quality of a central, neutral distribution room with it. There will however need to be a proper balancing between its size and what it contributes to the general plan when designing the project. The same applies if implementing a movement axis close to the facade, where the axis itself is not the goal but the quality it adds. Lower furnishability might become an issue that will need to be observed.

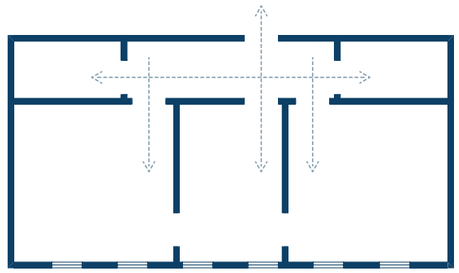


Fig. 2.78. Central hallway

Fig. 2.79. Movement axis close to the facade

Adaptability will be strongly sought-after as a long-term quality. Creating adaptable rooms mostly means designing large rooms with simple geometries that can suit as bedrooms, living rooms, libraries, dining rooms etc. Another way to add adaptability is creating flexible floor plans. Rooms with multiple windows that can be split into two if needed, without disturbing the rest of the plan is a great advantage. Such a quality could add a long time to the building's life-cycle. This feature might on the contrary be difficult to persuade to developers and, even more, clients. They will need to pay for expensive space they might not currently need, but space that will be flexible for them and future residents.

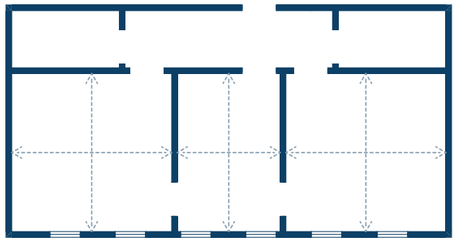


Fig. 2.80. Adaptability as in generously sized rooms.

Fig. 2.81. Adaptability as in splittable rooms.

The kitchen has changed into a social function rather than just a work place and is therefore often joined with the living room nowadays. The contemporary open floor plan creates an open connection between the two most social rooms. This is however sometimes exploited by developers by placing the kitchen in a darker location and connecting it to light through the living room. The project will therefore feature stand-alone kitchens with direct daylight, and in a social location within the apartments. They will be placed in connection to the (adaptable) living or dining rooms with the obvious option of removing the wall to create an open floor plan.

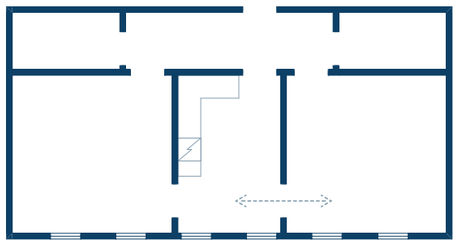


Fig. 2.82. Kitchen in connection to living room but with a separating wall.

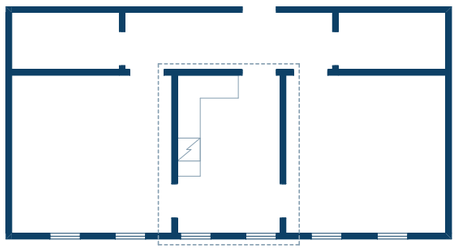


Fig. 2.83. Kitchen as a stand-alone room with direct daylight.

III DESIGN PROCESS

The following chapter showcases the process of the design process. Early sketches and different kinds of studies tells the story from idea to proposal.

Early stage

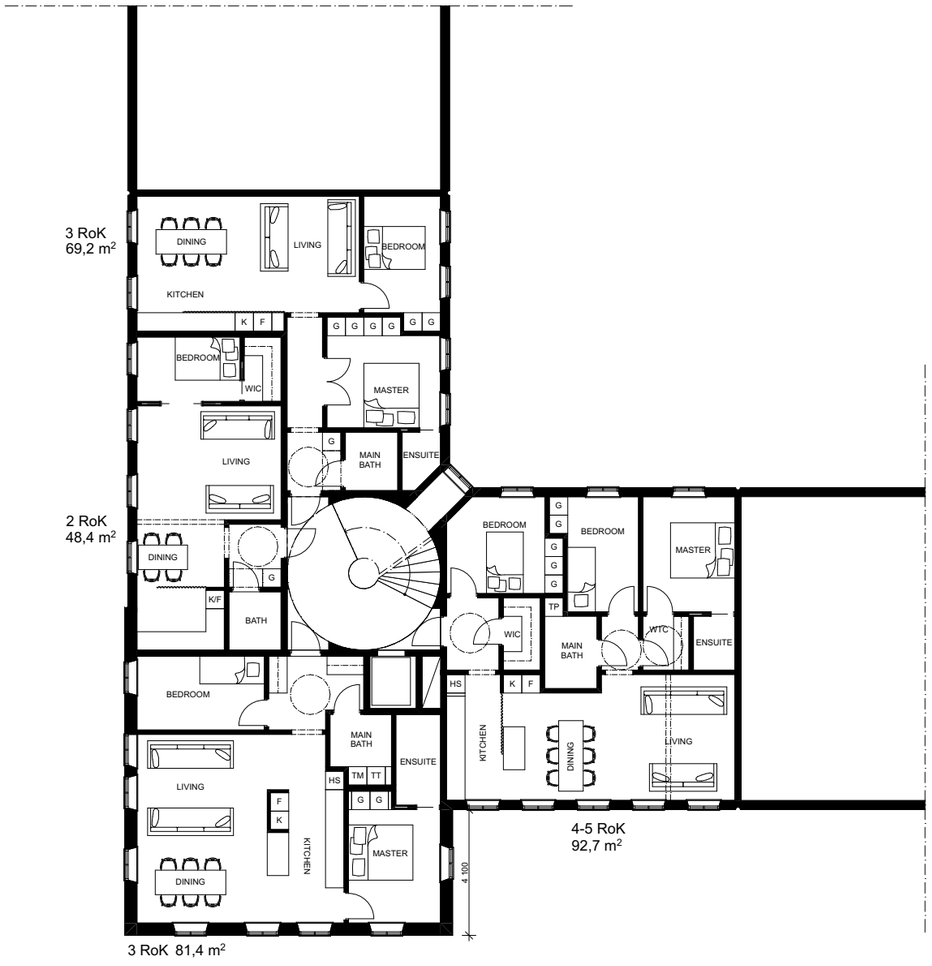


Fig. 3.1. First iteration of floor plans, before the analyses were concluded.

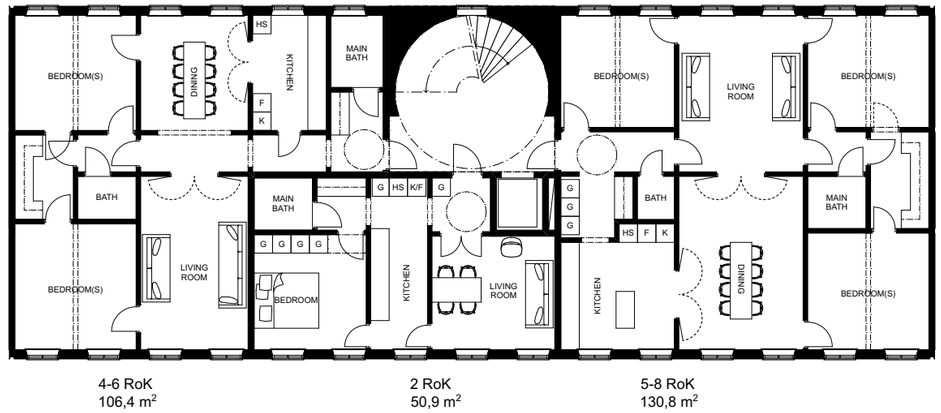


Fig. 3.2. First sketches of the apartments in the center of the southern part of the building.

The evolution of the floor plan is rather exponential. The drawing to the left represents the first sketch of the apartments in the southwestern corner, before the analyses were concluded. The processes were planned to work slightly intertwined but the analyses needed to be finished to really inspire the current floor plans. The drawing on top represents the first sketch for the center apartments, as a different approach. This part of the building was more limber and easy to test ideas out on, making the process smoother.

When the design principles were determined, the process continued with the apartments connected to the corner stairwell again. The most difficult plan to solve sufficiently was definitely the outmost corner apartment. The dark core in the upper right part of the apartment added a level of difficulty which meant that far more ideas had to be tested. The many iterations did however lead to a concept of a central hallway connecting to all the other rooms, and becoming spacious enough to act as a library or lounge.

Plan development

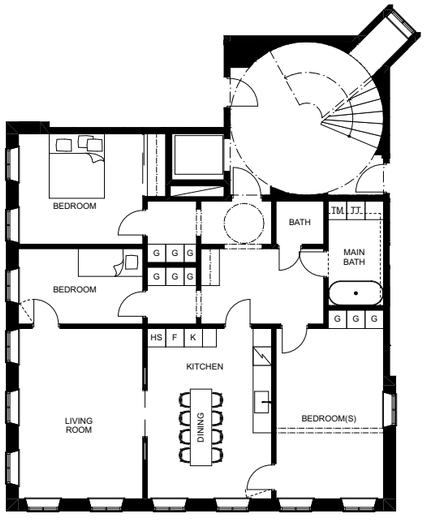


Fig. 3.3. Floor plan iteration of the corner apartment.

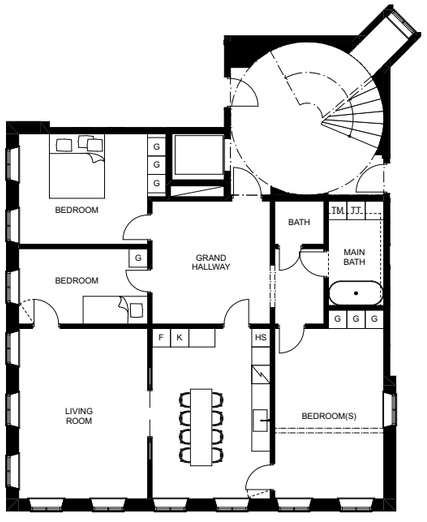


Fig. 3.4. Floor plan iteration of the corner apartment.

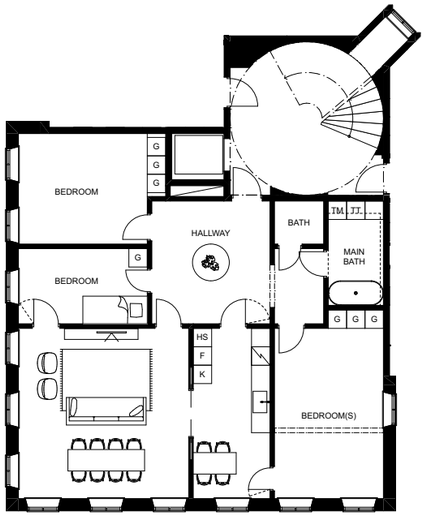


Fig. 3.5. Floor plan iteration of the corner apartment.

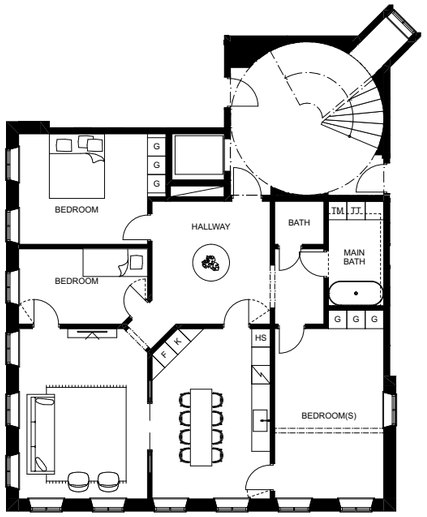


Fig. 3.6. Floor plan iteration of the corner apartment.

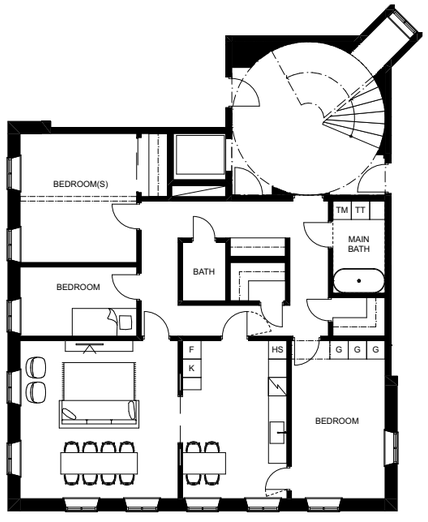


Fig. 3.7. Floor plan iteration of the corner apartment.

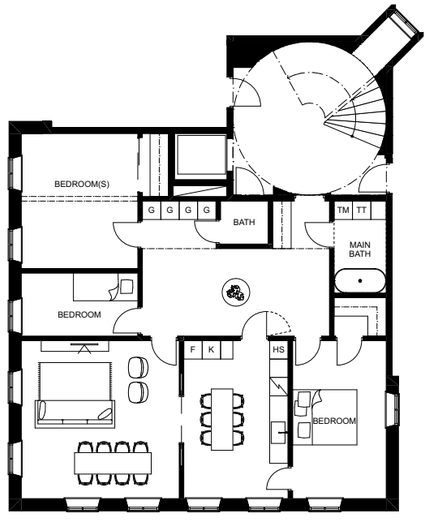


Fig. 3.8. Floor plan iteration of the corner apartment.

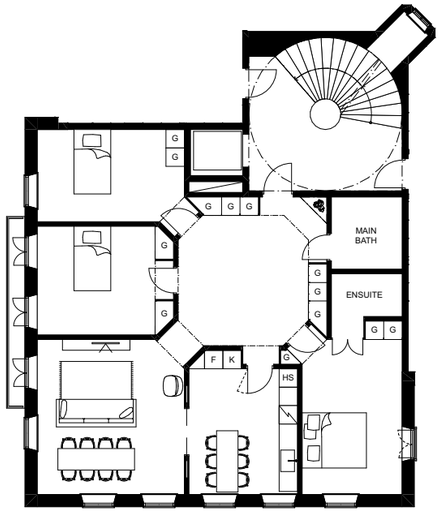


Fig. 3.9. Floor plan iteration of the corner apartment.

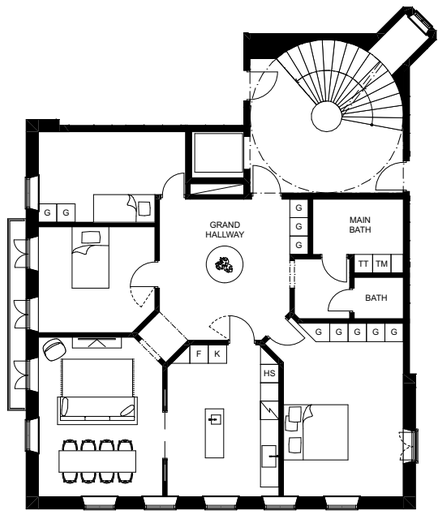


Fig. 3.10. Floor plan iteration of the corner apartment, lacking adequate window placements.

Facade studies

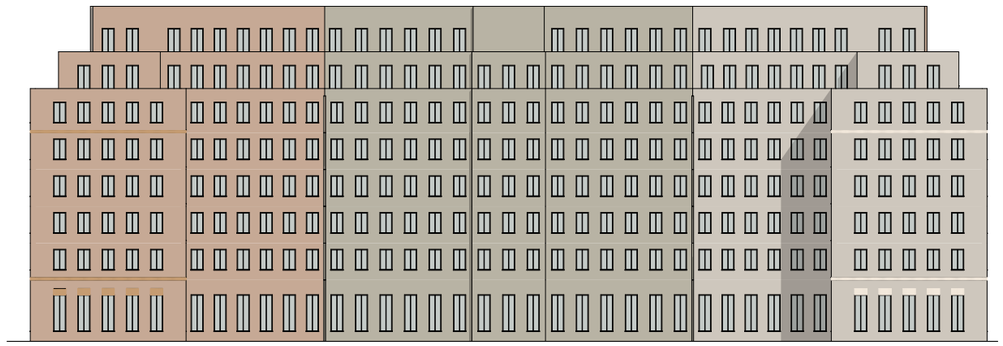


Fig. 3.11. Early iteration of the street elevation A1 towards Fleminggatan.

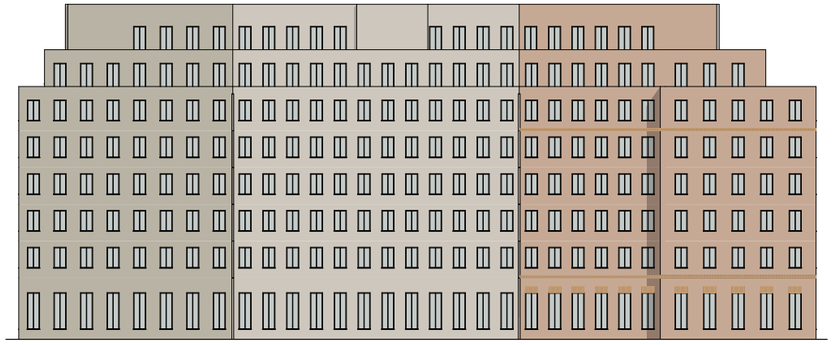


Fig. 3.12. Early iteration of the street elevation A2 towards Polhemsgatan.

Color was an important part and already implemented in the early stages. The surrounding palette was analyzed and complementing colors were chosen. The orange is picked up from the nearby buildings while the green gives the project its own identity. The white complements them both and soothes the otherwise slightly bold colors.

The drawings on the right page represent studies roof concepts of dormer windows, and their rhythm. The top one shows an evenly placed rhythm of slim dormer windows and the middle one with the same rhythm but larger modules. The third one is a combination of the two with an irregular rhythm, making the whole composition more dynamic.

Fig. 3.13. Early iteration of the street elevation A1 towards Fleminggatan.

Fig. 3.14. Early iteration of the street elevation A1 towards Fleminggatan.

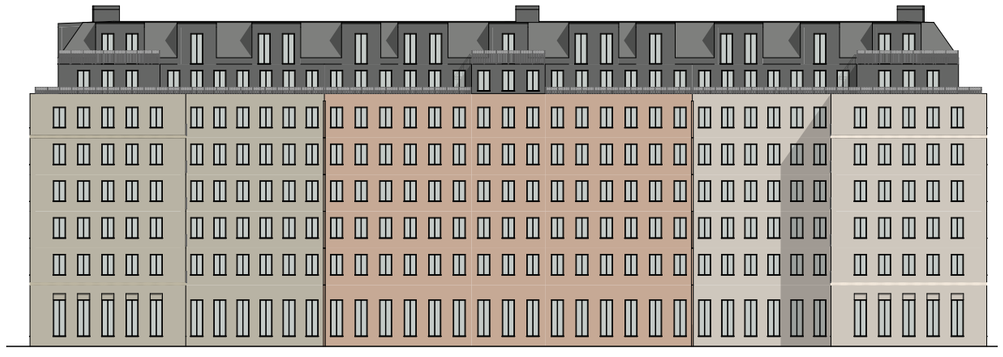


Fig. 3.15. Early iteration of the street elevation A1 towards Fleminggatan.

IV DESIGN PROPOSAL

The chosen qualities stated in chapter two have consciously been integrated into the design proposal. The proposal consists of drawings such as plans, sections, elevations and details combined with illustrations of exterior designs.

Site

Fig. 4.1. Map of Stockholm inner city, site area circled.

Fig. 4.2. Map of lower Kungsholmen, site area circled.

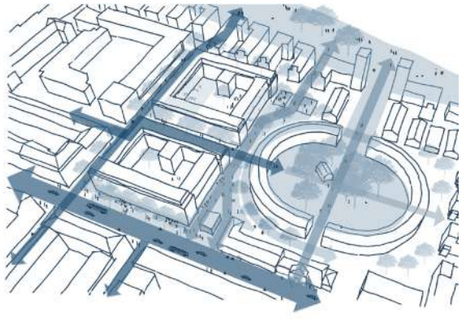


Fig. 4.3. Sketch of new proposal from Tengbom with important axes highlighted.

The area of St. Eriksområdet is situated on Kungsholmen in the western inner city of Stockholm. The current use of the site is a hospital but this will move to the newly built Karolinska in Solna which means that the site is up for transformation. The hospital, designed by Anders Tengbom was built in 1972.

The municipality of Stockholm has decided to transform the area into residential use. Tengbom has been appointed to create a quality program, to accompany the upcoming detail plan. In the quality program, they suggest two new blocks with big courtyards with a central axis between the high school of St. Eriksgymnasiet, and the elliptical central block of Grubbensringen. Already existing passages through Grubbensringen are prolonged from east to west with this new street, whilst creating an architectural backdrop by framing one of the St. Eriks High School corners.

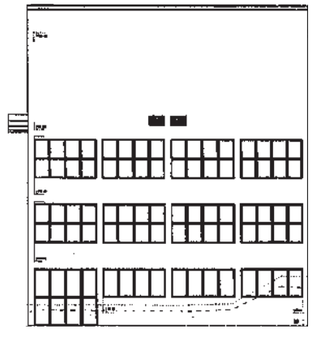


Fig. 4.4. The architectural backdrop viewed from the new central street, looking west.

Fig. 4.5. Perspective view of the site area.

Even though the proposal includes approximately 350 new dwellings, a general delimitation to focus on the southwestern corner of the southern block is set. One important part of this site is to create a coherent bigger block consisting of the postmodernist buildings, with the elliptical volumes as the center. This can be done in multiple ways, but the most important part in any design proposal is to define the outer corner of the whole block and to support the inner street-scape. The new proposal will act as a link between the postmodernist and the genuine 1920's blocks.

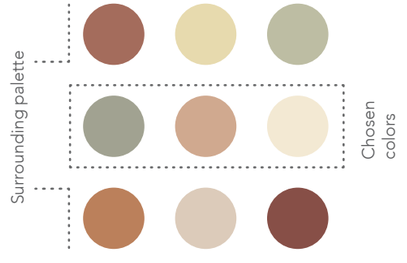


Fig. 4.6. Color analysis of the area, with chosen colors in the center

Volume

Fig. 4.7. Site plan, upcoming development highlighted.

The proposal acts as a continuation of the general proposal from the quality program. Small changes have however been made such as the southern volume in focus is characterized by a simple basic geometry but with extended corners to the south. These corners are important both for the building and also for the urban space as they create a sub-space on Fleminggatan that is more calm. This square can favorably be used for outdoor seating areas for the businesses and can offer passers-by a pause on the otherwise busy street.

The bottom floor will fully be used for businesses that will attract people during more hours of the day. This creates a stronger impression of safety and liveliness for the residents. The residential entrances are mainly placed towards the side streets to enable more space towards Fleminggatan to be used by the businesses.

The volume itself consists of five regular stories with one to two additional indented top stories. The top floors are clad in metal roofing, differentiating it from the rest of the volume. This will create the impression the building is slightly lower than the actual case. It also connects to the surrounding roof-scape, especially communicating with the original 1920's buildings to the west.

The sixth floor is a so called King's story (Kungsvåning) with rooftop balconies spanning around the whole floor. This characteristic is common in the area and connects the building to its context further.

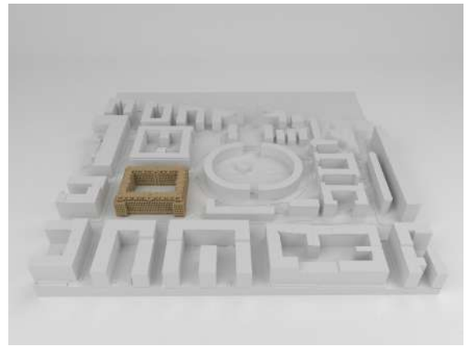


Fig. 4.8. Landscape model, view from south.

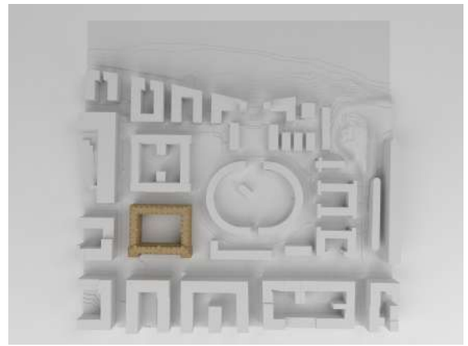


Fig. 4.9. Landscape model, top view.

Fig. 4.10. Landscape model, view from southwest.

Plans

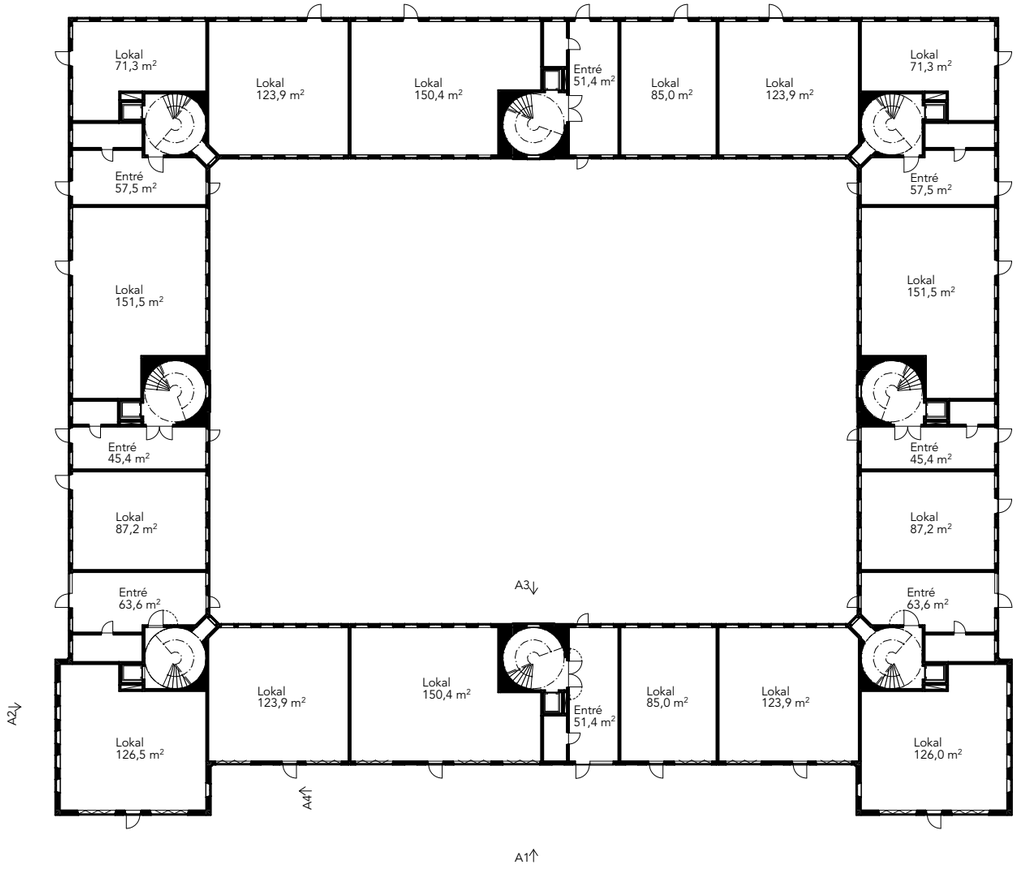


Fig. 4.11. Bottom floor plan.

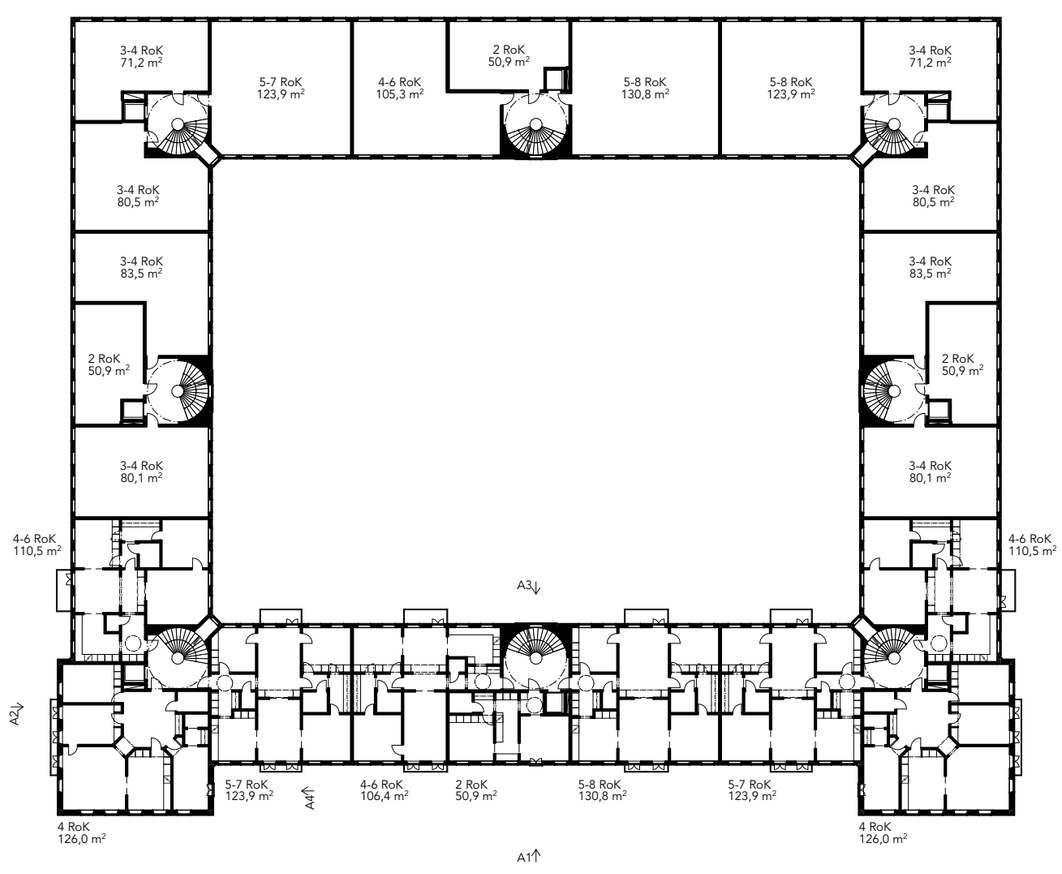


Fig. 4.12. Floor plan of levels 2-5.

Plans

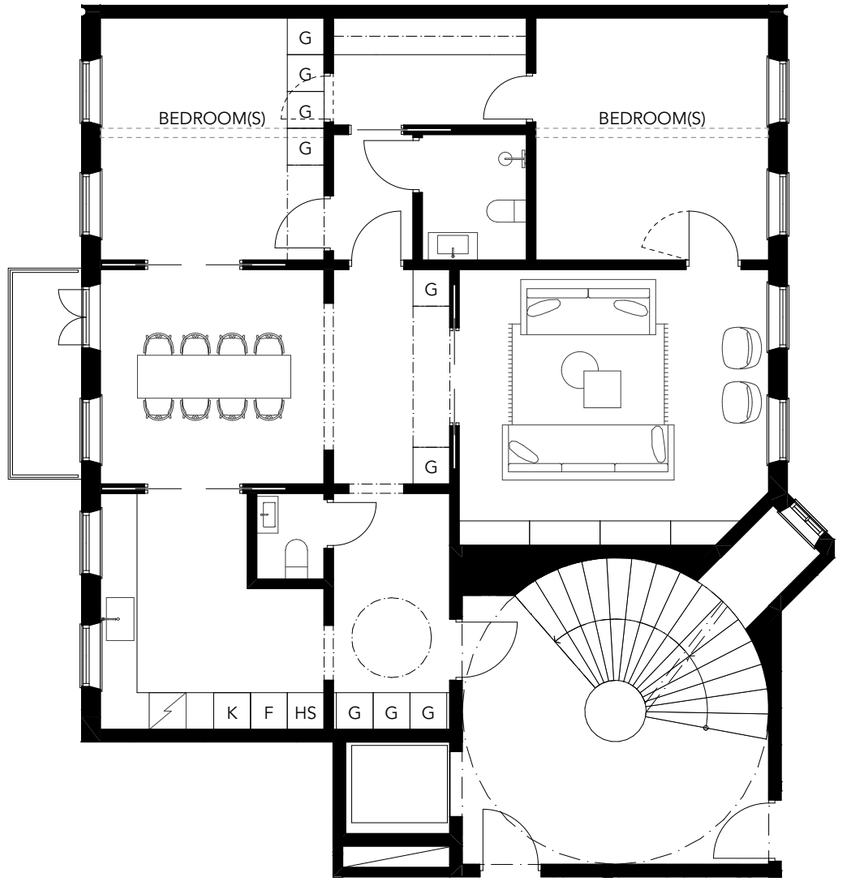


Fig. 4.13. Floor plan of the 110,5 m² 4-6 room apartment.

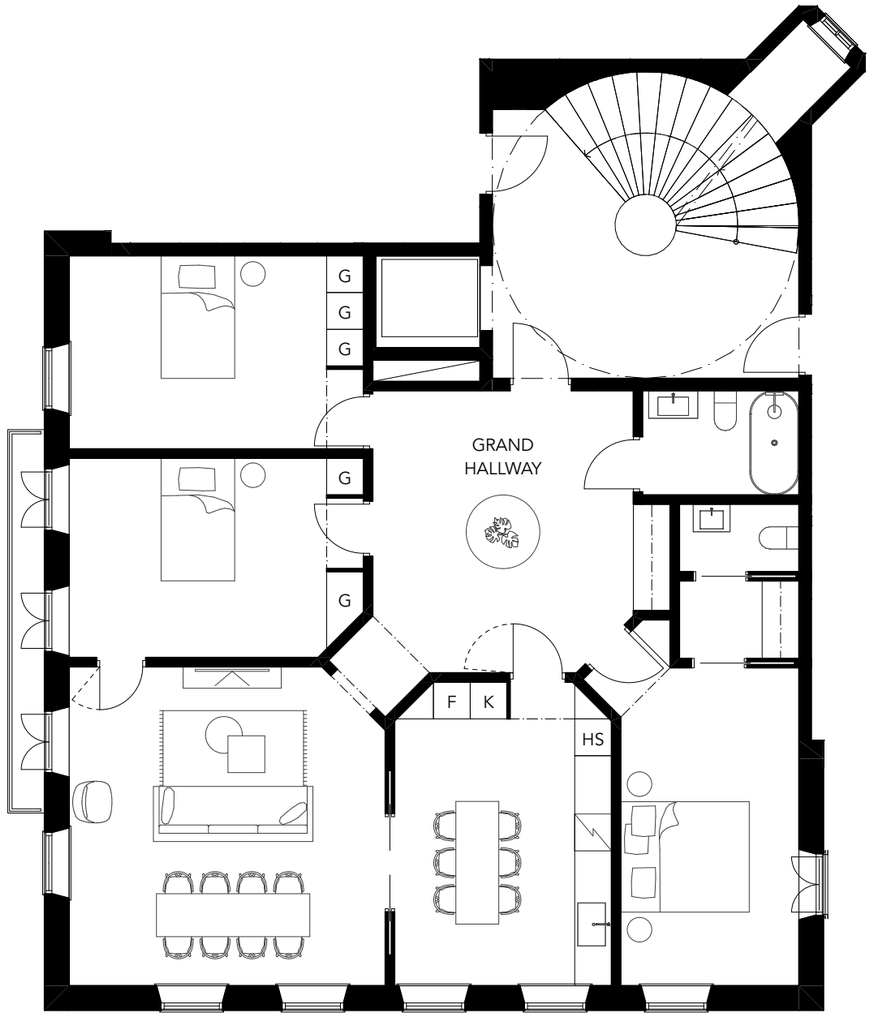


Fig. 4.14. Floor plan of the 126 m² 4 room corner apartment.

Plans

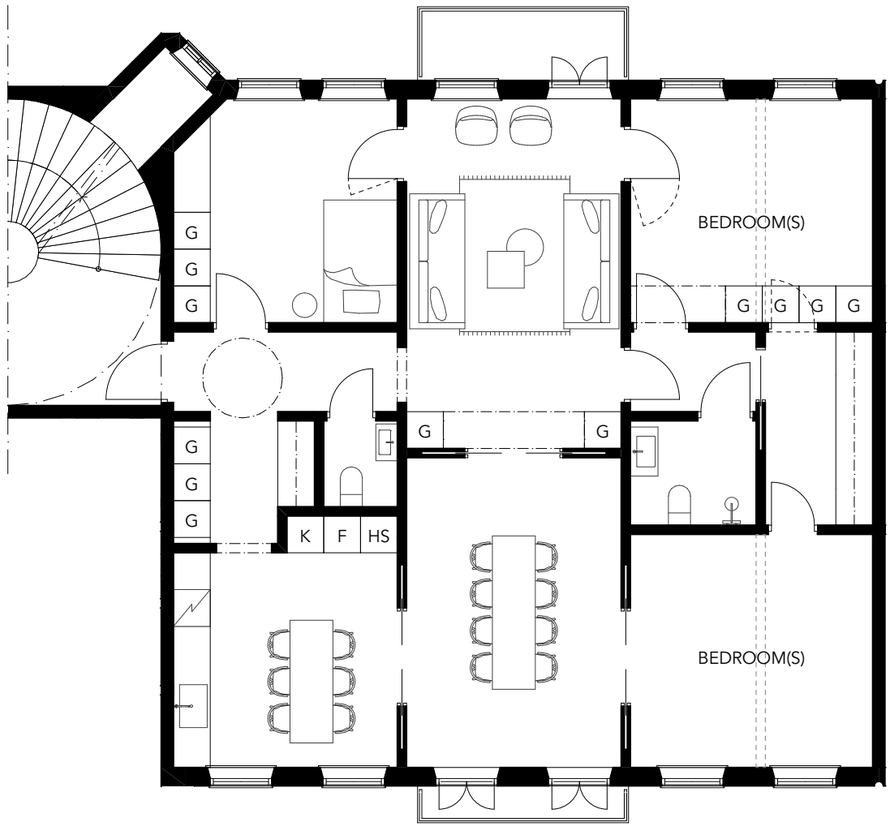


Fig. 4.15. Floor plan of the 123,9 m² 5-7 room apartment.

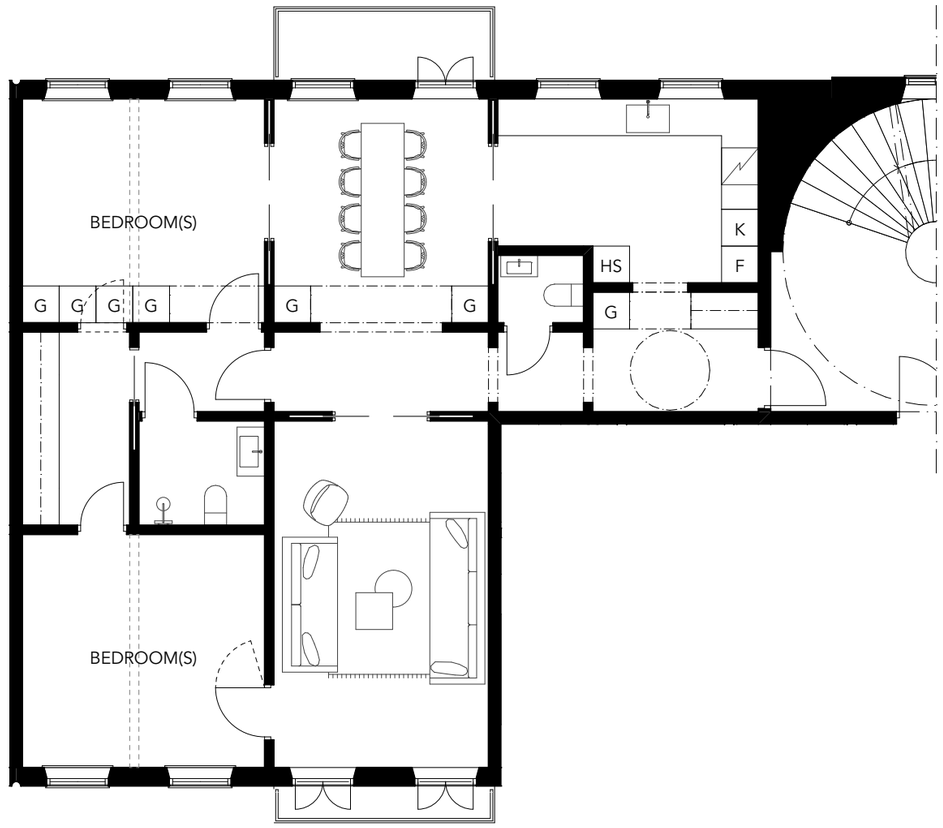


Fig. 4.16. Floor plan of the 106,4 m² 4-6 room apartment.

Plans

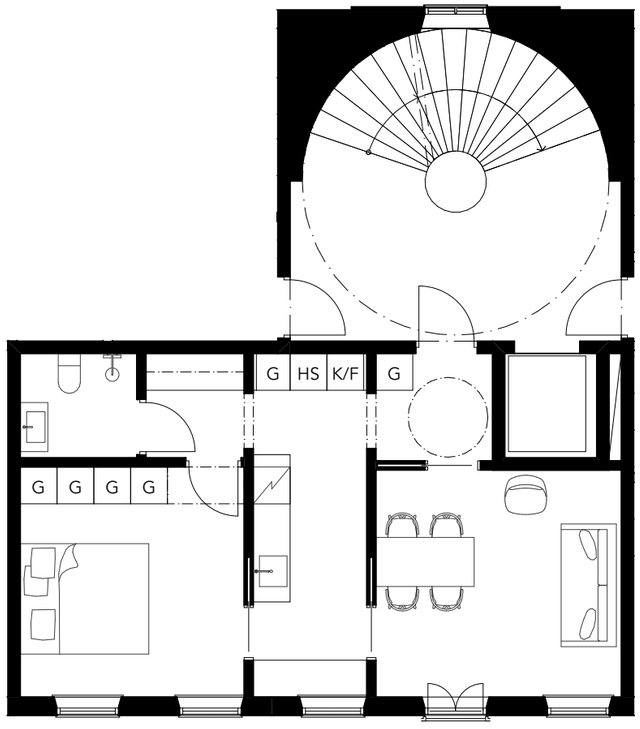


Fig. 4.17. Floor plan of the 50,9 m² 2 room apartment.

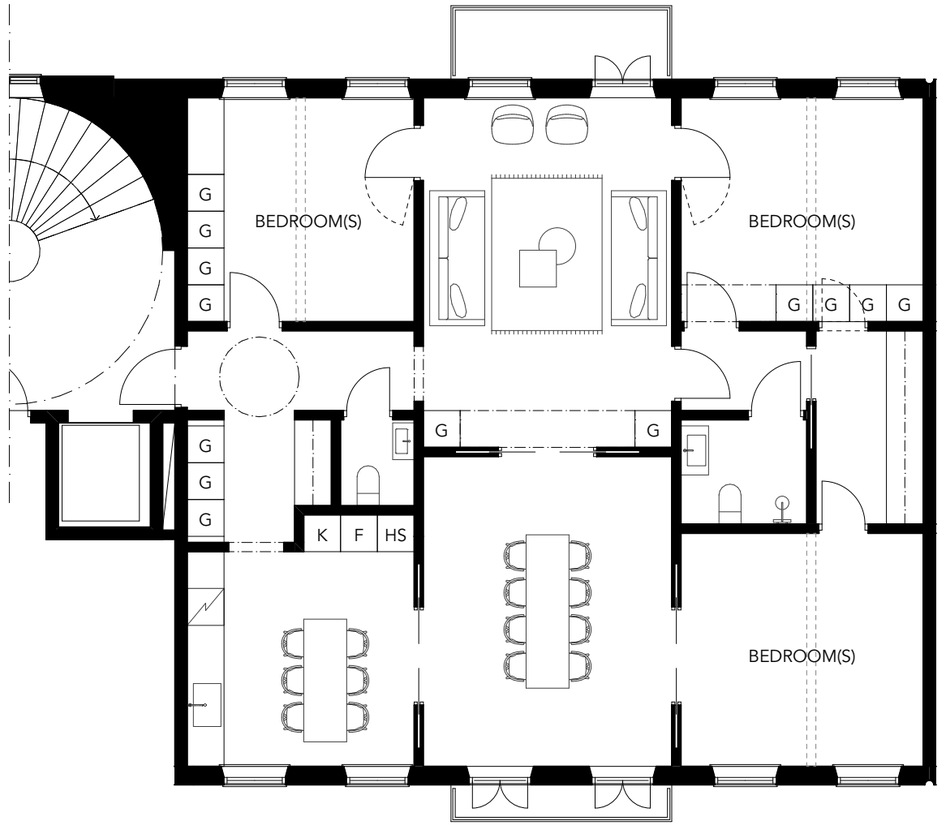


Fig. 4.18. Floor plan of the 130,8 m² 5-8 room apartment.

Elevations

Fig. 4.19. Street elevation A1 towards the south and Fleminggatan.

Elevations

Fig. 4.20. Street elevation A2 towards the west and Polhemsgatan.

Fig. 4.21. Street elevation A4 towards the east with a section through the south part of the building.

Elevations

Fig. 4.22. Street elevation A3 towards the north and the courtyard.

Materiality

Fig. 4.23. Visualization of the corner facade towards the south.

Details

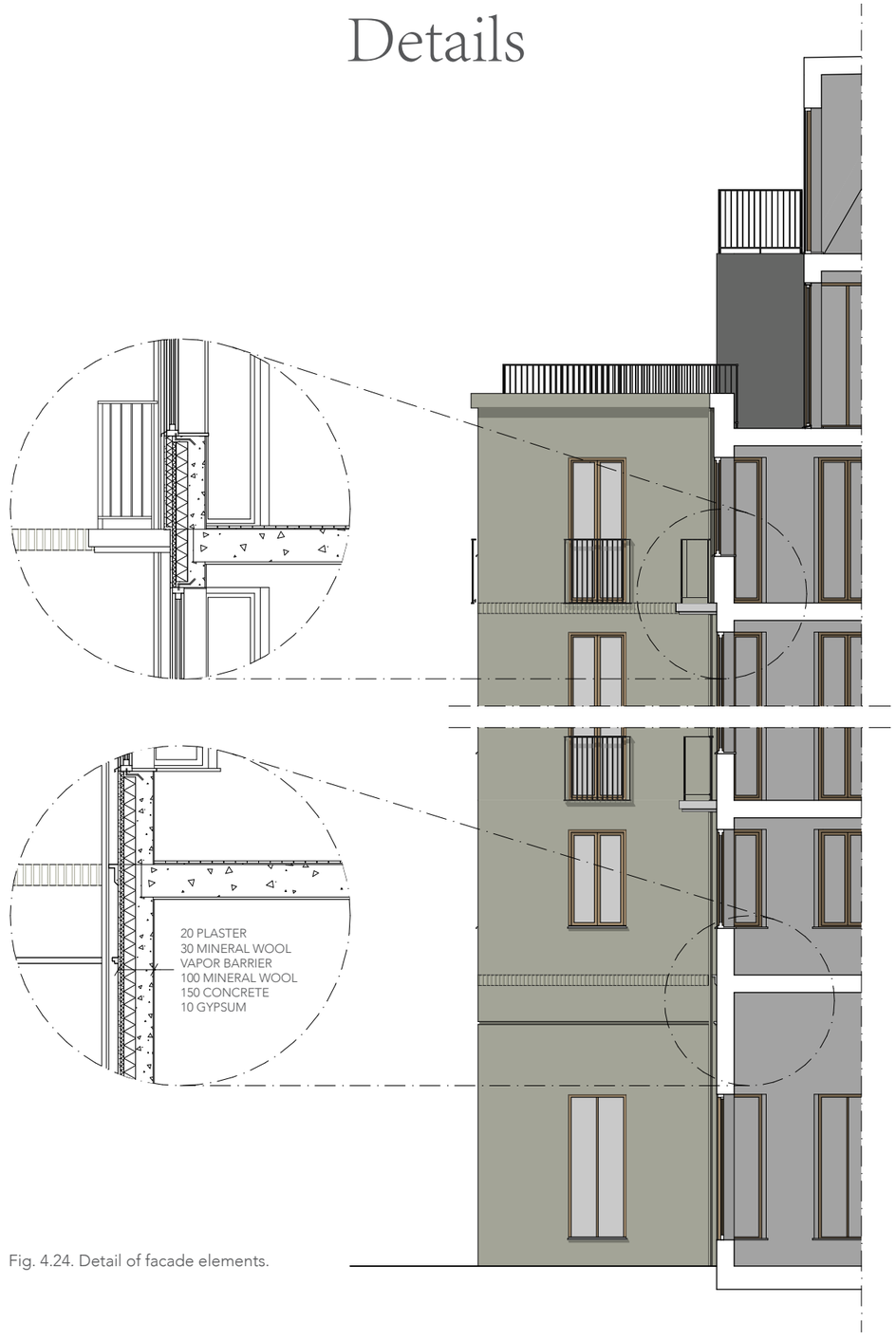


Fig. 4.24. Detail of facade elements.

V CONCLUSION

This final chapter includes a conclusion and reflection of the thesis.

Conclusion

The analyses of these long-lived apartments from one hundred years ago really put housing in another perspective. Newly constructed apartments have generally been designed far too precise to fit the target groups' needs and demands. They might work impeccably for the first number of residents to later not fit many at all. New trends in both how we live and what it should look like might have changed the way we as a society perceive these buildings.

The final proposal features a new residential building with rather large apartments. These will serve as a complement to the otherwise smaller-sized dwellings on eastern Kungsholmen. The most prominent quality of the project is adaptability through the flexible floor plans that enable residents to chose how to use their dwelling more easily. It will also make the apartments more flexible in who can live there, diversifying the area with different age groups etc. The quality of adaptability will make the building less of a victim for trends in society and therefore stand stronger over time.

The current housing market will force the apartments in this building to be sold at an expensive price. However, part of the focus of the project has been to create a long-lasting exterior as well. Both regarding material and design. If it is indeed as long-lasting as its predecessors it can be part of the public cityscape for at least 100 years to come. Maybe will it then be analyzed and interpreted as an iteration and revival of Swedish Grace, into a new one, 2120.

Reflection

When reflecting upon the thesis work the first thing that comes to mind is the time plan. The project plan stated that one third of the time were to be spent on analysis and two thirds on a design proposal. The actual time for the analyses has exceeded two thirds, consequently reducing time for the design process to merely three weeks. The focal point of the thesis shifted to the analyses organically, but did make the design process more streamlined. The clear concepts that came out of the case study helped guiding the process with strict but creative rules.

It was a difficult and trying task to analyze the 29 chosen objects but some of them were mistakably similar, simplifying the process slightly. The outcome is a profoundly increased level of knowledge regarding housing qualities. However, most importantly it supplied a substantial amount of examples to be added to the ever-growing reference bank that each architect possesses.

The methodology used in this thesis was quite general and can rather easily be transferred to another time period and/or style. It would therefore be interesting to see a similar study with another set of objects, either all within the same style or even different objects spanning multiple time periods and architectural ideals.

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SWEDISH GRACE 100

SWEDISH GRACE 100 YEARS

A search for long lasting architectural qualities

APPENDIX

The appendix contains the remainder of the analyses and can be seen as a handbook of 1920's floor plan solutions. A summary of the efficiency and furnishability can also be found in the back of the appendix.

10 Asken · 1

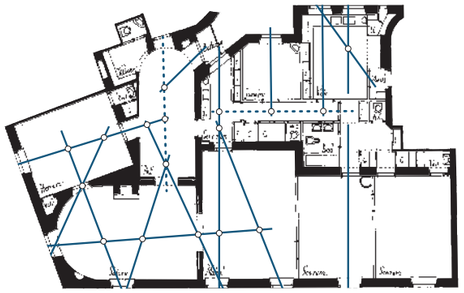

Fig. A.1. Analysis of axes, dashed lines represent movement and full lines light.

Axes

The main movement axes of the dwelling as seen in fig A.1. are represented by one that also could be seen as the grand hallway's symmetry axis, and the other one almost hidden away in the central corridor. The many light and sight lines are focused on the representative part. There is a possibility to create a classic day lit axis running all the way from the inner bedroom to the right and the lounge. This possible axis has been cut short and is instead a shorter axis running from the dining room instead.

Movement

Fig. A.2. shows the representative and private movement patterns within the dwelling, advertising the multiple circulation opportunities and the clear division between private and social space. The south rooms are meant to represent the family in a sequence from the grand hallway, into the lounge, to then enter the dining room. A second entrance through the kitchen acts as a reminder of the segregation of social classes in the 1920's.

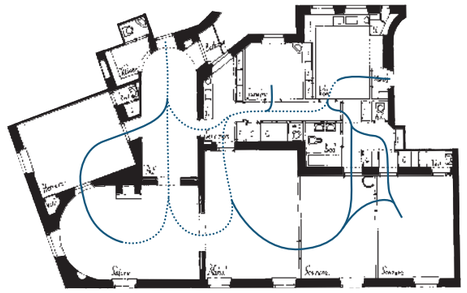

Fig. A.2. Analysis of representative (dashed) and private (regular) movement within the dwelling.

Fig. A.3. Analysis of social and private space. The darker the color the more private character of space.

Privacy

The grand hallway, lounge and dining room act as a distinct social part of the apartment. The old gentlemen's chamber would presumably be used as an extra bedroom today with its own small WC. It would also be the reasonable room to sublet with its proximity to the left entrance and the distance to the other private rooms.

Efficient Living Space

The coefficient found for the object's ELS is 71% which is considered poor. The grand hallway is clearly using a lot of space, but with an apartment this size, a lower ELS does not have the same significance. The other rooms have not been given lower priority, rather showing that the hallway was an equally important room.

Fig. A.4. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

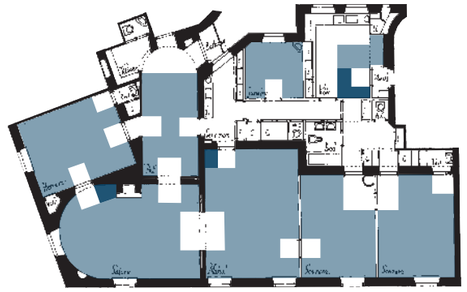

Fig. A.5. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Furnishable Space

This object offers a furnishability of 56% which is close to the average of all the analyzed objects. The grand hallway is quite furnishable and can house i.e. seating possibilities or different kinds of storage. A large part of this apartment consists of communication area and (five) bathrooms, two functions that decrease the percentage of furnishable space.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.6. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

10 Asken · 1

Outdated functions

Firstly, the gentlemen's chamber is probably turned into an extra bedroom due to the adjacent WC. Another room that has become outdated is the maid's room. This has probably either been kept as a bedroom or joined the kitchen to host a dining space closer to it. The secondary entrance is probably not in use as of today and the service room (serveringsrum) is probably still kept the same but just referred to as a corridor.

Fig. A.7. Analysis of rooms with outdated functions.

Fig A.8. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

The majority of the rooms in the analyzed dwelling are adaptable. This means that most of the rooms can change function easily, most often using only furniture. However, the floor plan is not equally adaptable. The few rooms that has more than one window could potentially be split into two but would feature peculiar geometries.

Circulation

An apartment of this size and number of rooms is bound to hold at least a couple possibilities for circulation of movement. However, this particular plan hosts no less than four individual circulation points. This means that this dwelling offers a large number of movement sequences which lets mostly residents, but also guests, enjoy choices of how to move through it.

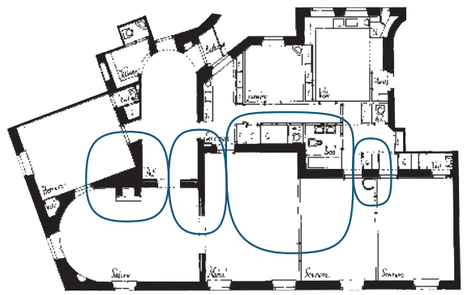

Fig. A.9. Analysis of possibilities of circulation within the dwelling.

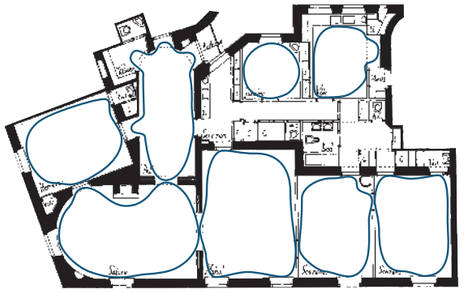

Fig. A.10. Analysis of encloseness and openness with the method of space bubbles.

Impression of space

The bubbles in the three social rooms, grand hallway, lounge and dining room, all connect in the doorways between them. The bubbles want to connect more but are prevented by the door frames and even if they are distinctive rooms, they can almost can be considered as one if the sliding doors are open. This makes the social movement sequence smooth and indicates which rooms are social and which are private.

10 Asken · 2

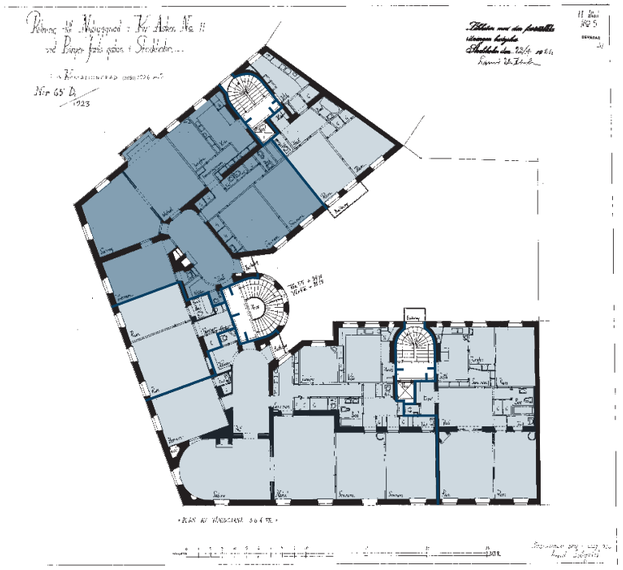

Fig. A.11. Original floor plan of analyzed object.

Property name: Asken 11
Building year: 1926
Number of apts. per floor: 5
Square meters: 193 m²
Number of rooms: 7 + kitchen
Category: Bourgeois

The analyzed dwelling consists of seven rooms plus kitchen over a total of 257 square meters. It was built in 1926 and is situated in between the two districts of Norrmalm and Östermalm in Stockholm. This apartment is unsurprisingly designed for a wealthy family with at least one live-in maid. It features a room named "jungfrukammare" meaning maiden's chamber and a total of five baths. Each of the two big apartments have two entrances which also points to this fact.

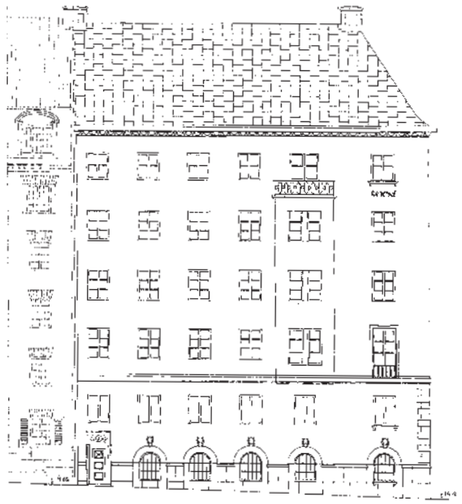

Fig. A.12. Street elevation of analyzed object.

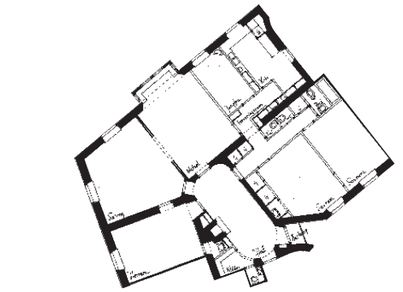

Fig. A.13. Original plan.

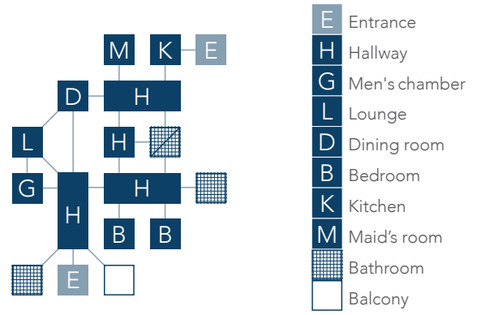

Fig. A.14. Space syntax of the analyzed dwelling.

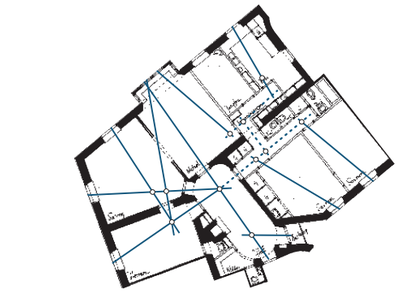

Fig. A.15. Analysis of axes, movement (dashed) and light (regular).

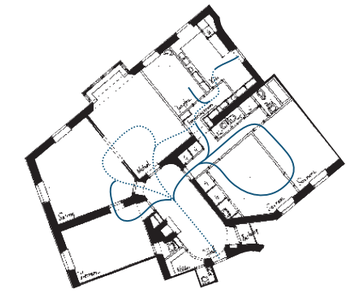

Fig. A.16. Analysis of representative (dashed) and private (regular) movement within the dwelling.

Axiality

The movement axes within the dwelling cover the inner darker corridors. The lighter parts of the apartment feature multiple light axes, one reaching all the way to the entrance. This creates a line of sight to the exterior directly when entering this extensive apartment. A total of four other light axes intersect this central one making this path light and varied to experience.

Movement

The diagram above highlights that this dwelling is fairly social with most movement sequences marked as public. The most prominent social movement sequence leads the guests from the entrance, through the grand hallway, to the lounge and dining room. Since the kitchen has become much more of a social room nowadays, the movement sequence between the dining room and the kitchen has been marked as public. The sequence from the grand hallway also leading to the kitchen is however deemed to stay private.

10 Asken · 2

Fig. A.17. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 72 % which is considered poor. This object's low efficiency rate is not as significant due to the overall size of the apartment. The big hallway uses approximately 15% of the total space but also serves as an extra furnishable room with some daylight from the courtyard. The communication area for this kind of apartment is not overwhelming but rather quite reasonable.

Furnishable Space

This object offers a furnishability of 55% which is close to the average of all the analyzed objects. The grand hallway is quite furnishable and can house i.e. seating possibilities or different kinds of storage. A large part of this apartment consists of communication area such as passages and multiple openings to each room, decreasing the overall furnishability.

Fig. A.18. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.19. Analysis of social and private space. The darker the color the more private character of space.

Privacy

The grand hallway, lounge and dining room act as a distinct social part of the apartment. The old gentlemen's chamber would presumably be used as an extra bedroom today with its own small WC. It would also be the reasonable room to sublet with its proximity to the south entrance and the distance to the other private rooms.

Outdated functions

Firstly, the gentlemen's chamber is probably turned into an extra bedroom in today's use due to the adjacent WC. Another room that has become outdated is the maid's room. This has probably either been kept as a bedroom or joined the kitchen to create a larger work space. The secondary entrance is probably not in use as of today and the part of the plan marked service room (serveringsrum) is probably still kept the same but just referred to as a corridor.

Fig. A.20. Analysis of rooms with outdated functions.

Fig. A.21. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

The majority of the rooms in this dwelling are adaptable and they can change function easily, often only using furniture. However, the floor plan is not equally flexible. All but one of the rooms feature one window which makes it impossible to split them into two. The only room with two windows would create two peculiar geometries if split.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.22. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

10 Asken · 2

Functions facing the street

As a corner apartment, there is naturally more facade area to be used towards the street rather than the courtyard. This dwelling does not have a clear show-off side and hide-away side. Three big, grand rooms are placed on the northwestern side designed to represent the residents' status. A smaller bedroom close to the kitchen might be used as a kid's room or added to the kitchen for a more spacious experience.

Fig. A.23. Analysis of rooms facing the street.

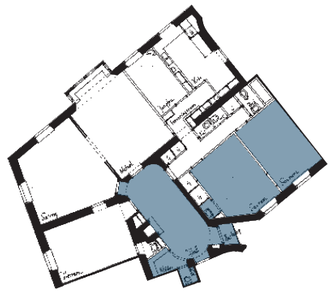

Fig. A.24. Analysis of rooms facing the courtyard.

Functions facing the courtyard

In this apartment there is no clear show-off side and hide-away side. Instead the social rooms are on the northwestern side towards the street, and two big bedrooms are placed towards the courtyard. There is far less noise on this side which makes sense for bedroom placement. Both of them have easy access to bathroom utilities and the kitchen without passing the social part. The grand hallway also features a balcony which would mostly let light into the space, and not for everyday use due to its corner position.

Circulation

An apartment of this size and number of rooms is bound to hold at least a couple possibilities for circulation of movement. However, this particular plan hosts no less than four individual circulation points. This means that this dwelling offers a large number of movement sequences which lets mostly residents, but also guests, enjoy choices of how to move through it.

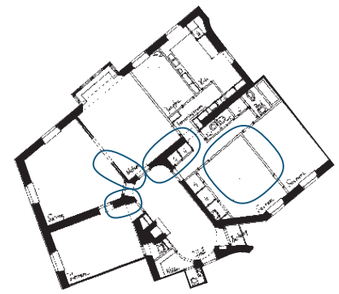

Fig. A.25. Analysis of possibilities of circulation within the dwelling.

Fig. A.26. Analysis of encloseness and openness with the method of space bubbles.

Impression of space

The bubbles in the two social rooms, lounge and dining room, connect in the doorways between them. This means that even if they are distinctive rooms, they can almost can be considered as one if the sliding doors are open. This makes the social movement sequence smooth and indicates which rooms are social and which are private. An interesting aspect of the space bubble in the grand hallway is the northwestern tip pointing towards the lounge. This indicates that the guest is invited to the lounge to then enter the dining room from there.

11 Båten · 1

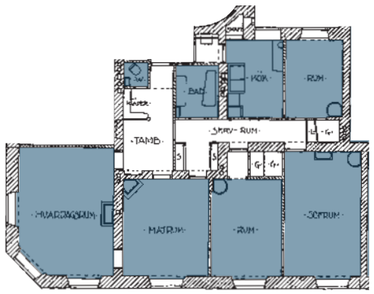

Fig. A.27. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The ELS for this object is 73% which is considered rather poor. A large, dark hallway acts together with the service passage as a central communication core taking up around 25% of the total space. Even though quite furnishable, since the hallway does not offer any direct daylight, it is difficult to see it being used for anything else than as an entrance only.

Furnishable Space

In an apartment like this it is clear that communication and axiality came before furnishability. The FS rate of this apartment is with 54% amongst the lowest of all analyzed objects. The most prominent reason for this is the core, with a large service passage and the kitchen, which also serves as a second hallway. This in turn requires space for communication. The large amount of door openings to each room, placed far from each other, eats up generally 3 square meters of otherwise furnishable space.

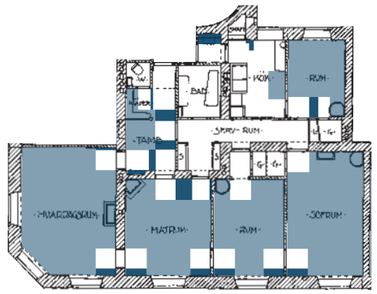

Fig. A.28. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.29. Analysis of social and private space. The darker the color the more private character of space.

Privacy

The big hallway, dining room and living room act as a distinct social part of the apartment. A semi-private room between the innermost master bedroom and the dining room is probably used as another bedroom but could also serve as tv-room or library.

Outdated functions

The secondary entrance is probably not in use as of today. Another part of the plan marked service room (serveringsrum) is probably still kept the same but just referred to as a corridor.

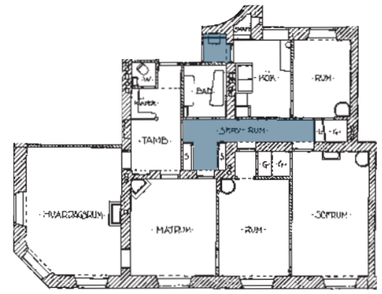

Fig. A.30. Analysis of rooms with outdated functions.

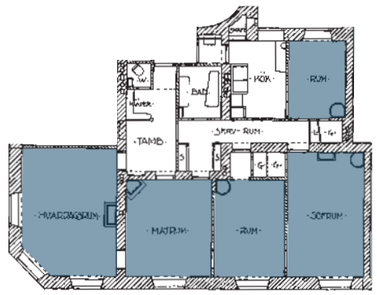

Fig. A.31. Analysis of adaptable rooms, that may be used for different function over time.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.32. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

Adaptability

The majority of the rooms in this dwelling are adaptable and they can change function easily, often only using furniture. However, the floor plan is not equally flexible. Most rooms feature one window which makes it impossible to split into two. The only room with more windows is the corner one and would create a very small south room if split.

11 Båten · 1

Functions facing the courtyard

In this apartment there is a clear distinction of representative versus private rooms. The two rooms facing the courtyard, the kitchen and a smaller bedroom are approximately two thirds the size of the rooms facing the street. The rooms facing this side are not designed to represent the residents as the rooms on the opposite side are.

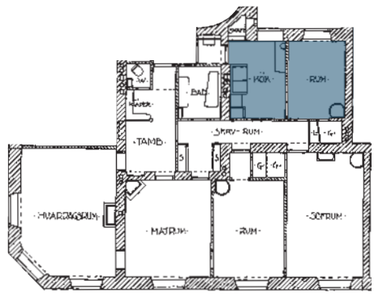

Fig. A.33. Analysis of rooms facing the courtyard.

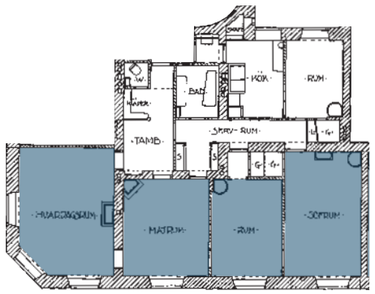

Fig. A.34. Analysis of rooms facing the street.

Functions facing the street

As a corner apartment, there is naturally more facade area to be used towards the street rather than the courtyard. This dwelling does not have a clear nice and less nice side. The representative rooms from 1920's are placed toward the street and enjoys the most daylight. Today, the kitchen could be switched with one of them due to its new social status. The old kitchen could serve as a bedroom or a library/office. The master bedroom is placed towards the street, prioritizing daylight rather than noise levels.

Circulation

An apartment of this size and number of rooms is bound to hold at least a couple possibilities for circulation of movement. However, this particular plan hosts no less than five individual circulation points. This means that this dwelling offers a large number of movement sequences which lets mostly residents, but also guests, enjoy choices of how to move through it.

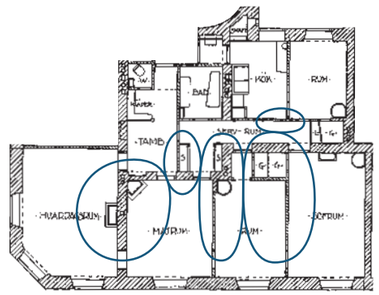

Fig. A.35. Analysis of possibilities of circulation within the dwelling.

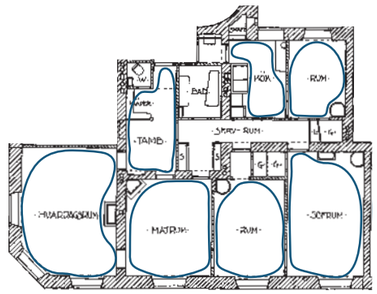

Fig. A.36. Analysis of encloseness and openness with the method of space bubbles.

Impression of space

In this analysis none of the space bubbles connect with each other, which indicate strong room geometries. Each room stands for itself with clear divisions making the experience less fluid, and might make it feel less spacious than other examples.

11 Båten · 2

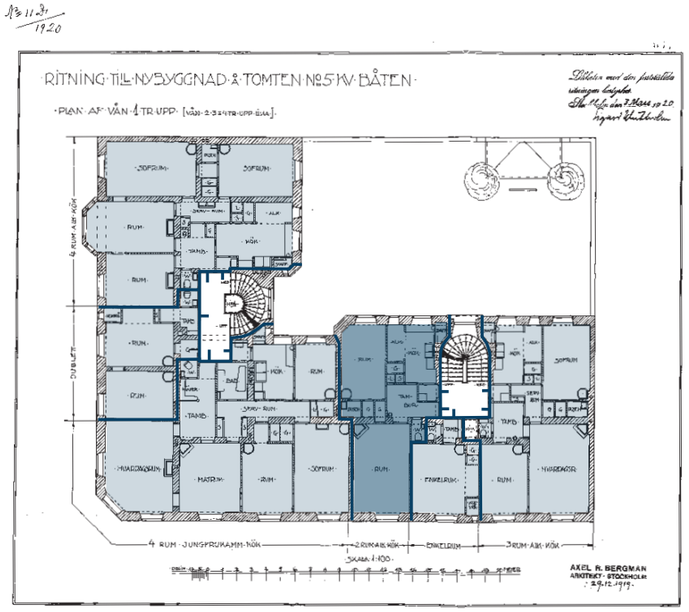

Fig. A.37. Original floor plan of analyzed object.

Property name: Båten 5
Building year: 1920
Number of apts. per floor: XX
Square meters: 68 m²
Number of rooms: 2 + kitchen
Category: Bourgeois

This object is situated on Kungsholmen in the western inner city of Stockholm. The analyzed dwelling feature 2 rooms plus kitchen and falls under the bourgeois category. Comparing to the other bourgeois this apartment is relatively small, but the two entrances and the kitchen alcove give a hint that the residents here had live-in help. The apartment is double-sided and enjoys daylight from two directions.

Fig. A.38. Street elevation of analyzed object.

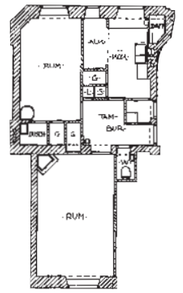

Fig. A.39. Redrawn original plan.

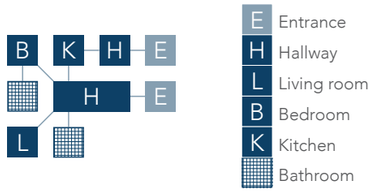

Fig. A.40. Space syntax of the analyzed dwelling.

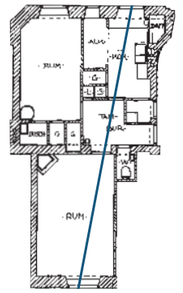

Fig. A.41. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

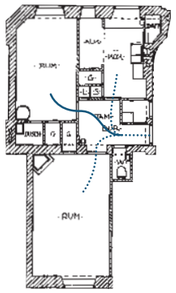

Fig. A.42. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

The only clear axis of any kind in this dwelling goes from one side to the other, through the hallway. This is both the central movement axis and the most prominent light axis. It lights up the central hallway from two directions, guiding the user to the two more social rooms. The possibility to look through the whole apartment from either side creates a spacious experience even for a two-room apartment.

Movement

Movement through this smaller apartment is very simple. An interesting feature in such a small apartment is the added entrance door, probably put there for the maid. This makes the kitchen the perfect room to sublet if this function were to be moved somewhere else. Today this smaller secondary entrance is probably not in use and the whole rectangular room functions as the only hallway.

11 Båten · 2

Fig. A.43. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

This object's ELS is 78 % which is considered rather poor, but comes close to rather good. This is one of the highest ranked apartments amongst all the analyzed objects when it comes to efficiency. It is difficult to think of an alternative solution to this plan, since it is rather necessary to keep the hallway as it is for communication reasons. The depth of the building cause for a central room to shorten the other rooms, in order to create reasonable room geometries.

Furnishable Space

Close to the average, this object offers a 55% furnishability rate. The FS is somewhat unnecessarily decreased by the placement of the closet doors. If the closets were to be combined and accessed from the central hallway, the furnishability would increase. The hallway does not offer any possibilities for seating or storage, but can be arranged if the second entrance were to be put out of use.

Fig. A.44. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.45. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is an obvious social part with the south room featuring a fireplace and facing the street. The kitchen is definitely a part of the social use of the apartment whereas the bedroom is much more private and in the corner of the plan.

Outdated functions

The secondary entrance is probably not in use today. It could either have been joined with the entrance hallway or with the geometry kept to be used for storage close to the kitchen.

Fig. A.46. Analysis of rooms with outdated functions.

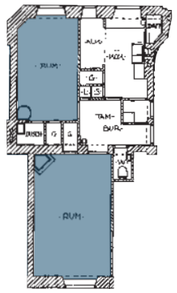

Fig. A.47. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable to fit different needs for different users and over time. For example, both rooms could serve as bedrooms for a smaller family or a couple of friends. The north room could be a dining room and the south could be used as a bedroom instead. The size of the rooms and placement of doorways improve furnishability and therefore also adaptability.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The room within the work category, the kitchen, has become more social over the years and can be seen as similarly public as the living room.

Fig. A.48. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

11 Båten · 2

Functions facing the street
As the only room facing the street, the most reasonable function would be living room. Depending on the neighborhood and what kind of roads there are close-by this could also feature as a bedroom without a problem.

Fig. A.49. Analysis of rooms facing the street.

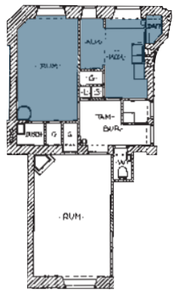

Fig. A.50. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As the smaller of the two regular rooms and facing towards the courtyard, the northwest room is most probably used as a bedroom. This room has an adjacent bathroom and closet. It is also situated most privately within the dwelling, making it the perfect candidate for the most private activity, resting. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom.

Circulation
No possibilities for circulation within this dwelling.

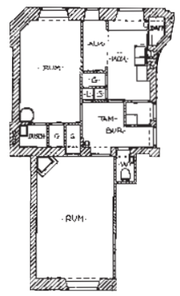

Fig. A.51. Analysis of possibilities of circulation within the dwelling.

Fig. A.52. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles meaning that each room feels enclosed. Each room stands for itself with clear divisions making the experience less fluid, and might make it feel less spacious than other examples. This is supplemented with the clear light axis flowing through from one side to the other.

6 Båtsmannen Större ·1

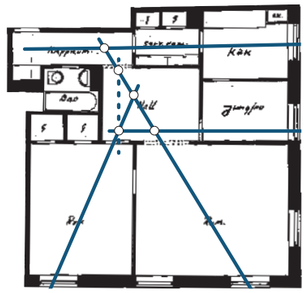

Fig. A.53. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

Movement

The social movement flows through the central hallway to the living room as the apparent goal. There is a small branch leading to the kitchen as well, continued by a private part into the second bedroom and out to the central hallway again. If this bedroom has become a part of the kitchen or functions as a dining room, the social sequence continues through this room instead.

Axiality

The only movement axis goes from the inner hallway through the central furnishable hallway to the bedroom. Other than this, all movement is connected to light axes, which means that this dwelling offers sightlines and daylight when walking between the rooms. The large central hallway enjoys secondary daylight from most of all the living room but also the bedroom. The innermost hallway closest to the entrance is very dark, but gets a direct sightline to the exterior through the kitchen.

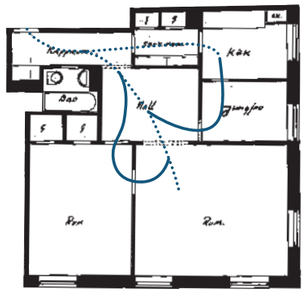

Fig. A.54. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Fig. A.55. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

All of the regular rooms are adaptable to fit different needs for different users and over time. The old maid's room could be a dining room or be joined with the kitchen to create more work space. The size of the rooms and the central hallway enables this kind of easy adaptability where most rooms can alter function.

Efficient Living Space

The coefficient found for the object's ELS is 70% which is considered very poor. The clear cause for this low efficiency is the fact that this apartment has three hallways. An entrance hallway, service hallway and a central hallway all decrease the efficiency according to this model. The central hallway could have managed to serve the same function with less square meters, but with secondary light from the three corner rooms it might function nicely as a secondary space for dining or working.

Fig. A.56. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

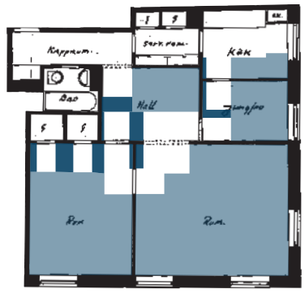

Fig. A.57. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Furnishable Space

The FS rate of this apartment is 53%, which is one of the lowest of all the analyzed objects. Due to its corner placement, the central hallway is needed to reach all the rooms, but also becomes quite furnishable in the upper right corner. The amount of doorways to each room decreases furnishability and force residents to place furniture closer to the facade. Some doorways seem overrated, such as the one between the bedroom and living room.

Outdated functions

The old maid's room is outdated and probably used as an extra bedroom for a family member or as an adjoining space to the kitchen. Either as a dining room or joined to enlarge it. The old service room is probably kept the same but referred to as a simple corridor.

Fig. A.58. Analysis of rooms with outdated functions.

6 Båtsmannen Större ·1

Functions facing the street
As this is a one-sided corner apartment, all functions face the street. This means that the noise level during night time will affect the bedrooms. The corner aspect gives the apartment chance for daylight during a longer time span than regular one-sided apartments.

Fig. A.59. Analysis of rooms facing the street.

Fig. A.60. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As this is a one-sided corner apartment none of the functions are placed towards the courtyard.

Circulation
In a rather small, three room apartment, one possibility for circulation is a plus. This apartment features two separate possibilities letting users choose themselves how to get to the other rooms. Thus making the apartment varied in its experiences and raising the overall housing quality.

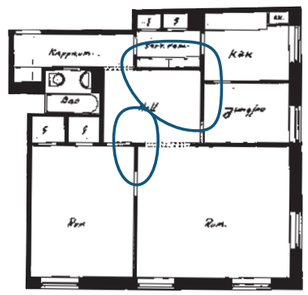

Fig. A.61. Analysis of possibilities of circulation within the dwelling.

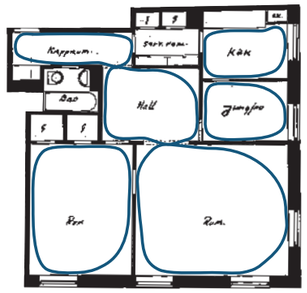

Fig. A.62. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
The three space bubbles of the hallways and living room all connect slightly in the openings between them. This means that it is easy to understand what parts are public and accessible for guests. The sequence flows easily through each doorway, compared to the more private rooms where full frames and doors block the bubbles from connecting.

2 Glöden · 1

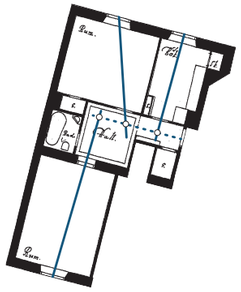

Fig. A.63. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

Axiality
The only movement axis flows from the entrance to the central hallway. This is then intersected by the three light axes entering the apartment from two sides. This makes the entrance and hallway somewhat day-lit and offers multiple sightlines when entering the different parts of the apartment. The usual feature when designing two-sided apartments, letting a light axis cross the whole dwelling, is absent in this plan. Instead the light axis is broken due to the door placement to the bedroom door.

Movement
In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

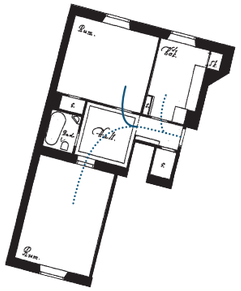

Fig. A.64. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

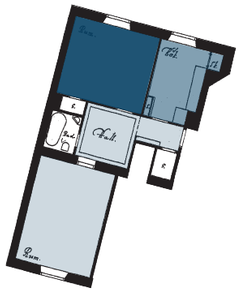

Fig. A.65. Analysis of social and private space. The darker the color the more private character of space.

Privacy
There is a sort of social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The southwestern room becomes the most private, which works well in the outer corner of the apartment. However, the bedroom is a slightly oversized which decreases the space efficiency.

Outdated functions
No outdated functions.

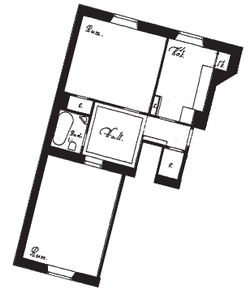

Fig. A.66. Analysis of rooms with outdated functions.

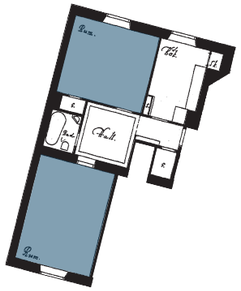

Fig. A.67. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability
Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences.

Activities
The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.68. Analysis of activities arranged in order from lighter to darker hue: social, rest and work.

2 Glöden · 1

Functions facing the street
The only function facing the street is the living room, which makes sense considering noise levels. The direction of the room is facing east, meaning the morning sun enters here. Usually a living room is mostly used during evenings which is a bit unfortunate due to the sun direction.

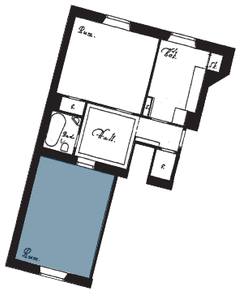

Fig. A.69. Analysis of rooms facing the street.

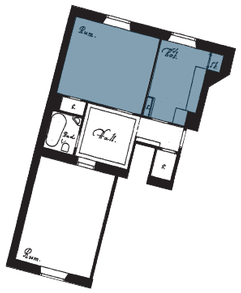

Fig. A.70. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As the smaller of the two regular rooms and facing towards the courtyard, the southwestern room is most probably used as a bedroom. This room has an adjacent closet also indicating that this is to be used as a bedroom. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom. It is placed close to the entrance, making it easy to fill up with groceries after shopping.

Circulation
No possibilities for circulation.

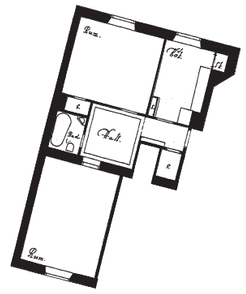

Fig. A.71. Analysis of possibilities of circulation within the dwelling.

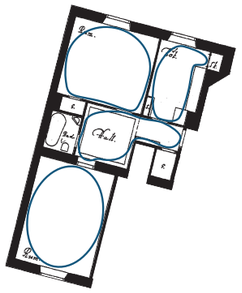

Fig. A.72. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive corner though, creating a calm space for a piece of furniture. The living room features an almost fully elliptical space bubble, due to its symmetrical placement of the door and window.

2 Glöden · 1

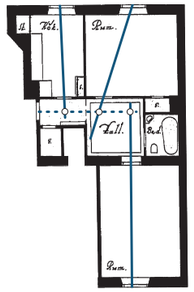

Fig. A.73. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

Axiality

There is a central movement axis from the entrance of the apartment to the central hallway. This axis is intersected at three different points by light axes from the windows in the apartment. There is a possible light axis that could flow from one side all the way to the other, but is cut short in the central hallway. This seems to be a conscious choice to make the central axis more interesting and varied in its experience.

Efficient Living Space

The coefficient found for the object's ELS is 78% which is considered rather poor but comes close to rather good. The long entrance and the central hallway take up approximately 20% of the living area of this apartment. The central hallway is rather important to this plan however, acting as a neutral space to enter all the rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

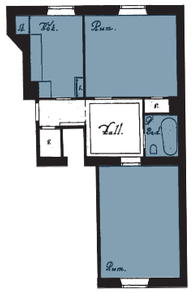

Fig. A.74. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Fig. A.75. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Furnishable Space

This object features a very smart plan where doorways are meticulously placed enhancing furnishability. The FS of this apartment is 62% and is one of the highest amongst all analyzed objects. Both doors to the bathroom and living room are positioned to one space, decreasing necessary communication area. The door placements enables a rather high furnishability in the central hallway, to be used for i.e. seating or storage.

Privacy

There is a sort of social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The northwestern room becomes the most private, which works well in the outer corner of the apartment. However, the bedroom is a slightly oversized which decreases the space efficiency.

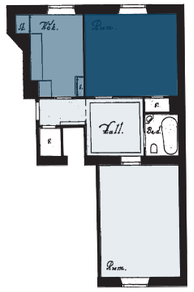

Fig. A.76. Analysis of social and private space. The darker the color the more private character of space.

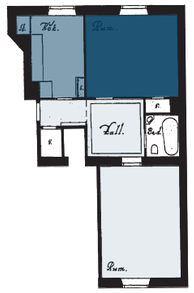

Fig. A.77. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences.

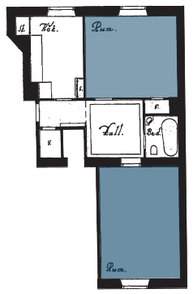

Fig. A.78. Analysis of adaptable rooms, that may be used for different function over time.

2 Glöden · 2

Functions facing the street
The only function facing the street is the living room, which makes sense considering noise levels. The direction of the room is facing southeast, meaning the morning sun enters here. Usually a living room is mostly used during evenings which is a bit unfortunate due to the sun direction.

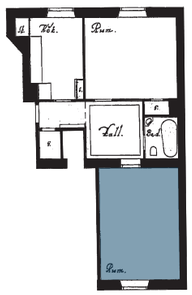

Fig. A.79. Analysis of rooms facing the street.

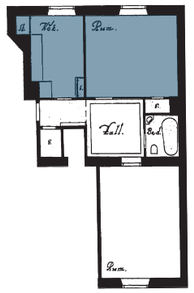

Fig. A.80. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As the smaller of the two regular rooms and facing towards the courtyard, the northwestern room is most probably used as a bedroom. This room has an adjacent closet also indicating that this is to be used as a bedroom. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom. It is placed close to the entrance, making it easy to fill up with groceries after shopping.

Circulation
No possibilities for circulation.

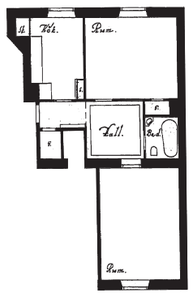

Fig. A.81. Analysis of possibilities of circulation within the dwelling.

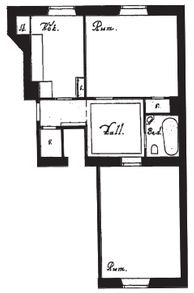

Fig. A.82. Analysis of rooms with outdated functions.

Outdated functions
No outdated functions.

2 Glöden · 3

Fig. A.83. Original floor plan of analyzed object.

Property name: Glöden 4
Building year: 1927
Number of apts. per floor: 15
Square meters: 73 m²
Number of rooms: 2 + kitchen
Category: SKB

This building is divided into four parts, each represented by separated facades. They all follow the same rhythm and ornaments but are slightly offset from each other. This creates a dynamic view from the street even though they are very similar. The top floor is almost hidden in the company of ornaments, disguising the classic six-parted windows on the sixth floor. The building resides in Norrmalm, in the northern part of inner city Stockholm.

Fig. A.84. Street elevation of analyzed object.

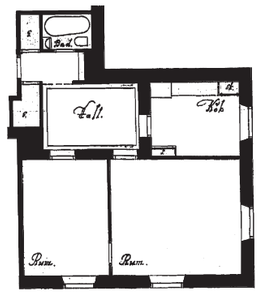

Fig. A.85. Redrawn original plan.

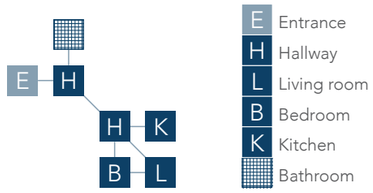

Fig. A.86. Space syntax of the analyzed dwelling.

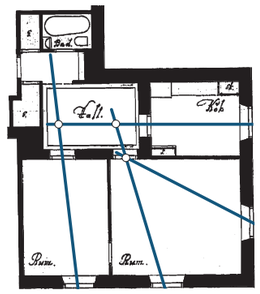

Fig. A.87. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

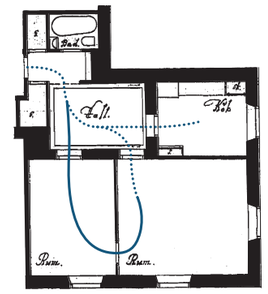

Fig. A.88. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

No apparent pure movement axes are created in this plan, except for the ones also characterized by light. This means that there is a lot of daylight entering and all movement within this dwelling happens close to a sightline to the exterior.

Movement

Though a simple and quite small apartment it still houses a possibility for circulation. This possibility is to be used by the resident(s) as it flows through the bedroom. The social movement is concentrated to the northwestern side of the apartment, with the center in the corner living room.

2 Glöden · 3

Fig. A.89. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 74% which is considered rather poor. The clear cause for this low efficiency is the central hallway. The entrance hallway is merely a coat room, implying that the central hallway acts as the real entrance room. The central hallway could have managed to serve the same function with less square meters, but with secondary light from the three corner rooms it might function nicely as a secondary space for dining or working.

Privacy

This dwelling mostly consist of social space. The center of the social space, the living room, is located in the outer corner of the apartment, enjoying daylight from two directions. The southeastern room becomes the most private, which works well as it is situated in its own corner of the plan. The rooms are reasonably sized in relation to each other and for their function.

Fig. A.90. Analysis of social and private space. The darker the color the more private character of space.

Fig. A.91. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Furnishable Space

The FS rate of this apartment is 61%, which is above average of all the analyzed objects. The corner placement has in this case not contributed to a lower furnishability, most probably due to its narrow size. The central hallway is needed to reach all the rooms, but also becomes quite furnishable in the upper right corner. The amount of doorways to each room do not decrease furnishability significantly, indicating conscious placements of openings.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.92. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

Fig. A.93. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the central hallway creating a neutral space to enter each room from. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences. There is also a possibility to split the living room into two rooms, where the northern room would be entered from the kitchen. This would however create two rather unsatisfying geometries.

Outdated functions

No outdated functions.

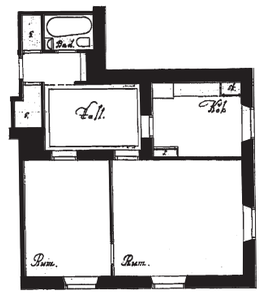

Fig. A.94. Analysis of rooms with outdated functions.

2 Glöden · 3

Functions facing the street
As this is a one-sided corner apartment, all functions face the street. This means that the noise level during night time will affect the bedroom. The corner aspect gives the apartment chance for daylight during a longer time span than regular one-sided apartments.

Fig. A.95. Analysis of rooms facing the street.

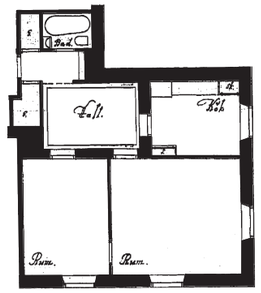

Fig. A.96. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As this is a one-sided corner apartment, no functions face the courtyard.

Circulation
Thanks to the central hallway there is a possibility for circulation in this rather small two-room apartment. This makes the apartment seem more spacious and it is not at the expense of low furnishability.

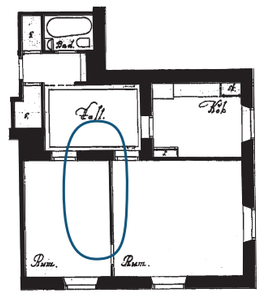

Fig. A.97. Analysis of possibilities of circulation within the dwelling.

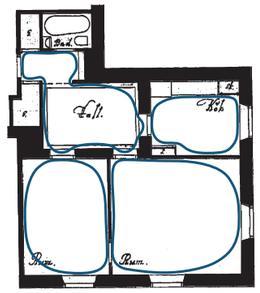

Fig. A.98. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. The bedroom features an almost symmetrical space bubble, but is a bit pulled towards the door to the living room. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive corner though, creating a calm space for a piece of furniture. This bubble is almost connecting with the others thanks to the reveal of the door frames.

7 Metern · 1

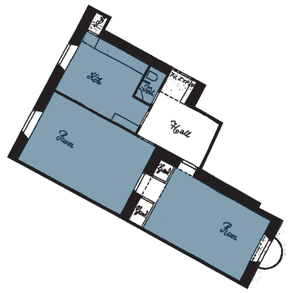

Fig. A.99. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 76% which is considered rather poor but comes close to rather good. The long entrance and the central hallway take up approximately 20% of the living area of this apartment. The central hallway is rather important to this plan however, acting as a neutral space to enter all the rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

Furnishable Space

This object features a very smart plan where doorways are meticulously placed enhancing furnishability. The FS of this apartment is 65% and is one of the highest amongst all analyzed objects. The communication in this apartment is varied but does not decrease the furnishability significantly, thanks to the placements of doorways. These placements enable a rather high furnishability in all rooms.

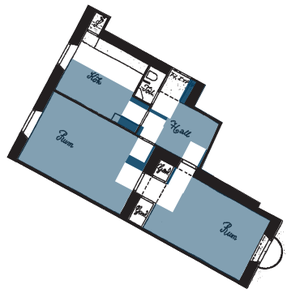

Fig. A.100. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

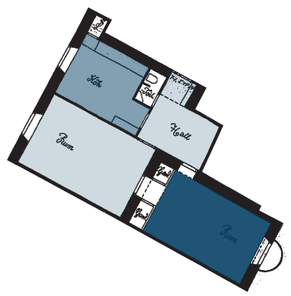

Fig. A.101. Analysis of social and private space. The darker the color the more private character of space.

Privacy

This dwelling mostly consists of social space, with the center in the living room. This is located in the northwest corner of the apartment adjacent to the kitchen. The south room becomes the most private, which works well as it is situated in its own side of the plan. The rooms are reasonably sized in relation to each other and for their function even if the bedroom might be a bit oversized.

Functions facing the street

The only function facing the street is the bedroom, which might make it difficult due to noise levels. The direction of the room is facing south, meaning the sun enters during most of the day here. This is a quite unfortunate placement of the bedroom and a switch with the living room would probably be more optimal.

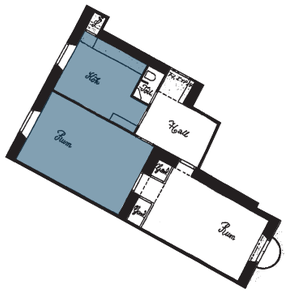

Fig. A.103. Analysis of rooms facing the courtyard.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

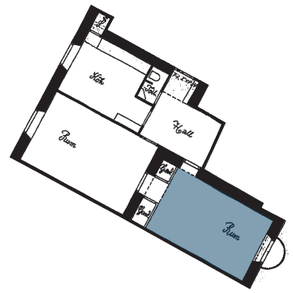

Fig. A.102. Analysis of rooms facing the street.

Functions facing the courtyard

The northwestern room is most probably used as a living room due to the fact that it does not have access to the closets. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom. It is placed close to the entrance, making it easy to fill up with groceries after shopping. It makes good sense to put these two rooms close together so that the social space becomes well connected.

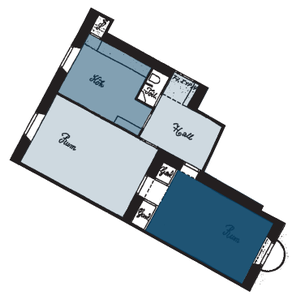

Fig. A.104. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

7 Metern · 1

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive corner though, creating a calm space for a piece of furniture. The bubble in the bedroom shows that the reveal of the door frames make the room flow out a little in these places, but is stopped when closing up on the door.

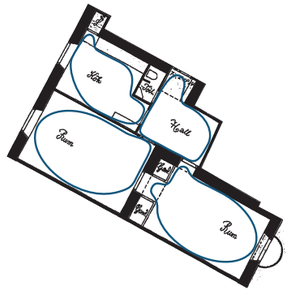

Fig. A.105. Analysis of encloseness and openness with the method of space bubbles.

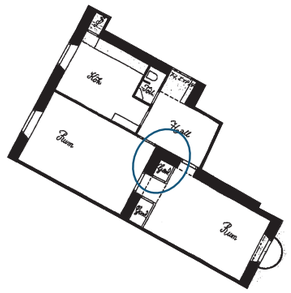

Fig. A.106. Analysis of possibilities of circulation within the dwelling.

Circulation
Thanks to the central hallway and the big sized rooms there is a possibility for circulation in this two-room apartment. This makes the apartment seem more spacious and it is not at the expense of low furnishability.

Adaptability
Both of the regular rooms are adaptable in this apartment, due to their sizes and the central hallway creating a neutral space to enter each room from. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences. There is no possibility to split any of the rooms into two, since there is a limited amount of windows.

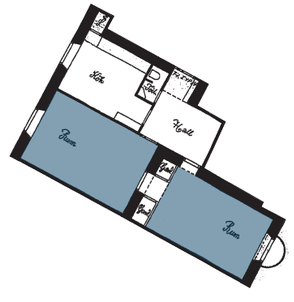

Fig. A.107. Analysis of adaptable rooms, that may be used for different function over time.

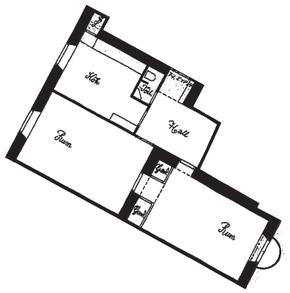

Fig. A.108. Analysis of rooms with outdated functions.

Outdated functions
No outdated functions.

7 Metern · 2

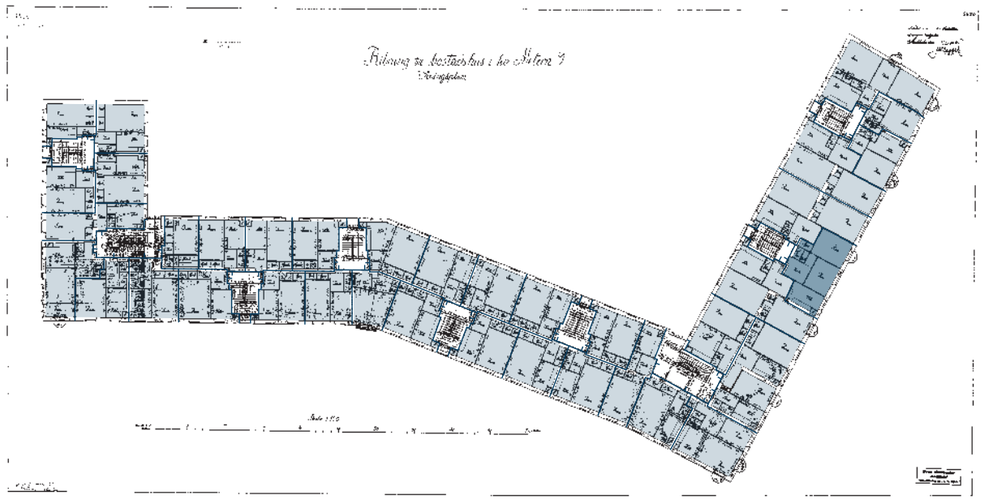

Fig. A.109. Original floor plan of analyzed object.

Property name: Metern 9
Building year: 1925
Number of apts. per floor: 56
Square meters: 56 m²
Number of rooms: 2 + kitchen
Category: HSB

Helgalunden is a neighborhood in Södermalm known for its many buildings from the Swedish Grace period. The large size of the building probably made it cheaper to construct, but also made it possible to create a large and bright courtyard. A large open portico frames the courtyard for residents and visitors when entering.

Fig. A.110. Street elevation of analyzed object.

Fig. A.111. Redrawn original plan.

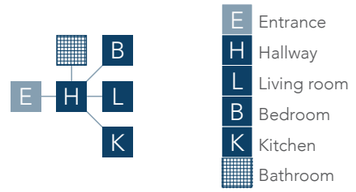

Fig. A.112. Space syntax of the analyzed dwelling.

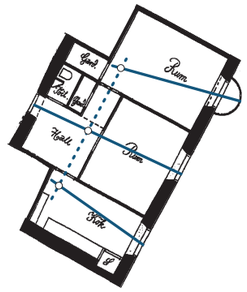

Fig. A.113. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

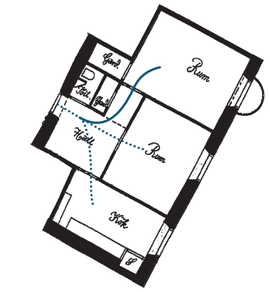

Fig. A.114. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

This dwelling features a long movement axis flowing through the majority of rooms. It is intersected by three light axes, one in each room. The central light axis reaches all the way to the entrance, making a sightline to the exterior the first thing you experience. The movement axis then feeds the two side rooms, the kitchen and the opposite room. There is not a lot of intersections happening, meaning that it is not a varied experience but more a simple one moving through this apartment.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

7 Metern · 2

Fig. A.115. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

This object's ELS is 75% which is considered rather poor, but spans around the average for all analyzed objects. The entrance hallway and the passage to the bedroom decrease efficiency, but is a quite necessary quality in this one-sided apartment. It creates a neutral distribution to all rooms which increases adaptability.

Furnishable Space

The furnishability rate of this object is 61% which comes a little over the average of all the analyzed objects. The quite spacious entrance hallway is furnishable, mostly in the left corner which could house i.e. seating or storage furniture. The low amount of entrances to each rooms mean more furnishable space, but decreases variability in movement sequences.

Fig. A.116. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.117. Analysis of social and private space. The darker the color the more private character of space.

Privacy

This dwelling consists of two rooms plus a kitchen. There is no telling which of the regular rooms are used as a bedroom and living room. The eastern room does have access to an adjacent closet, but due to its size it might easily be used as a living room. This analysis assume that the central room functions as a social room. It is the most public room thanks to the open connection to the hallway and entrance, making it more sensible to use it as a living room.

Outdated functions

No outdated functions.

Fig. A.118. Analysis of rooms with outdated functions.

Fig. A.119. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the central hallway creating a neutral space to enter each room from. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences. The rooms are adaptable but there is no possibility to split any of the rooms into two, since there is a limited amount of windows.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.120. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

7 Metern · 2

Functions facing the street
All functions in this one-sided apartment are facing the street. This means that the noise level during night time will affect the bedroom, and there is only possibility for daylight during a shorter time span than the two-sided or corner ones.

Fig. A.121. Analysis of rooms facing the street.

Fig. A.122. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As this is a one-sided apartment none of the functions are placed towards the courtyard.

Circulation
No possibilities for circulation.

Fig. A.123. Analysis of possibilities of circulation within the dwelling.

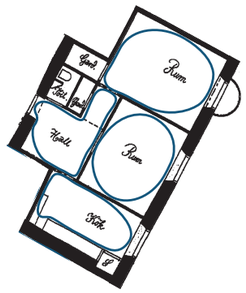

Fig. A.124. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive corner though, creating a calm space for a piece of furniture. The bubble in the central room is almost fully symmetrical due to the window and door placements. The corners are passive and make great spaces for living room furniture like couches or armchairs.

12 Munklägret · 1

Fig. A.125. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

Movement

There are multiple ways to move around this big six-room apartment. The representative movement feature one possibility for circulation, through the gentlemen's chamber, living room and hallways. Even though the kitchen has become more of a social room over the years, in this plan the kitchen is marked as characterized by private movement. This is due to the fact that there are several other social rooms featured in this plan, making the kitchen less needed for social interactions.

Fig. A.127. Analysis of adaptable rooms, that may be used for different function over time.

Axiality

There are three movement axes within this bourgeois apartment. The first, and strongest one, ranges from the entrance through the first hallway into a second one. From here the user can experience a flow of light from two directions through the two adjacent and openly connected rooms. There is also two smaller movement axes, one engaging two of the bedrooms and the old gentlemen's chamber. The other one starts in the kitchen leading through the old service room (serveringsgång), to then end in the dining room.

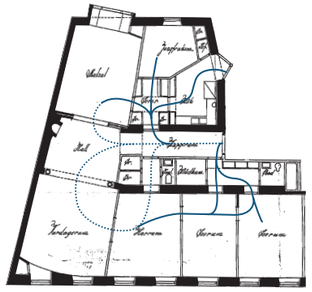

Fig. A.126. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Adaptability

The majority of the rooms in this apartment are adaptable. This means that most of the rooms can change function easily, most often using only furniture. There is also a possibility to remove the walls between the old maid's room, kitchen and service room to create one big kitchen with adjoining dining area. The old gentlemen's chamber could then act as another bedroom to create a three-bedroom file as a definitive private part of the apartment.

Fig. A.128. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Furnishable Space

The large number of movement choices decreases this object's furnishability rate to 56%, but is at the same time close to the average of the analyzed dwellings. The large room sizes decrease the significance of the low FS since there is plenty of space left to furnish each room.

Fig. A.130. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

Efficient Living Space

The coefficient found for the object's ELS is 72% which is considered rather poor and is below the average of the analyzed dwellings. The central communication package significantly decreases efficiency. The depth of the building has added to the need for this central package, in the search for more harmonious geometries in the outer rooms.

Fig. A.129. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

12 Munklägret · 1

Functions facing the street

Most of the rooms in this apartment face the street, and more importantly south. This side has an unobstructed view towards Riddarfjärden and Södermalm. Both of the old residents' bedrooms are placed here stating clearly that daylight was prioritized over lower noise levels. The representative rooms from 1920's are placed toward the street and enjoys the most daylight. Today, the kitchen could be switched with one of them due to its new social status.

Fig. A.131. Analysis of rooms facing the street.

Fig. A.132. Analysis of rooms facing the courtyard.

Functions facing the courtyard

There are three rooms facing the courtyard, namely the dining room, old maid's room and kitchen. They are facing north and can only enjoy secondary daylight from nearby surfaces. That is probably why there is such a strong connection between the dining room and living room. Because of this the dining room can enjoy the light from the south quite a bit as well.

Circulation

An apartment of this size and number of rooms is bound to hold at least a couple possibilities for circulation of movement. However, this particular plan hosts no less than four individual circulation points. This means that this dwelling offers a large number of movement sequences which lets mostly residents, but also guests, enjoy choices of how to move through it.

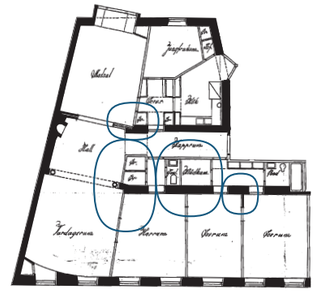

Fig. A.133. Analysis of possibilities of circulation within the dwelling.

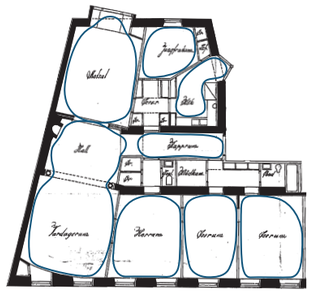

Fig. A.134. Analysis of encloseness and openness with the method of space bubbles.

Impression of space

There are multiple interesting space bubbles featured in this apartment. The biggest one spanning over two rooms, the living room and central hallway. Each bubble of these rooms have connected into one thanks to the large opening in between them. This bubble also connects slightly with the one in the dining room. This can be disconnected when the sliding doors are closed, but a very big bubble is formed when they are open.

4 Munin · 1

Fig. A.135. Original floor plan of analyzed object.

Property name: Munin 19
Building year: 1925
Number of apts. per floor: 12
Square meters: 67 m²
Number of rooms: 2 + kitchen
Category: SKB

This object was built for the regular worker family which is indicated by the fewer amount of rooms and added number of apartments per stairwell. The architect was despite this able to design mostly continuous apartments and all of them were equipped with a decent kitchen. Seeing that this is a smaller sized apartment the number of sequences and amount of qualities drop but there are still some interesting parts incorporated in the chosen plan.

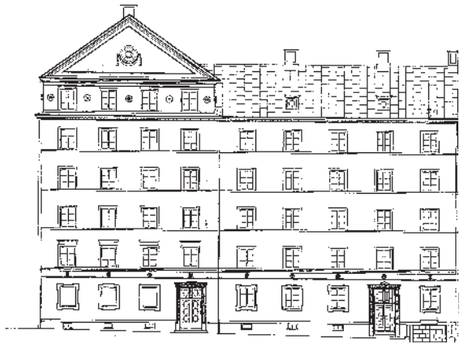

Fig. A.136. Street elevation of analyzed object.

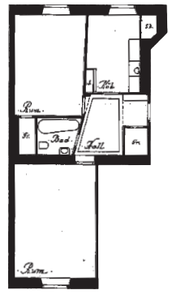

Fig. A.137. Original plan.

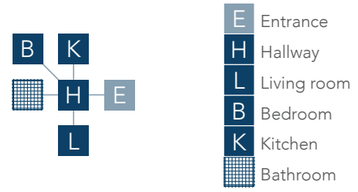

Fig. A.138. Space syntax of the analyzed dwelling.

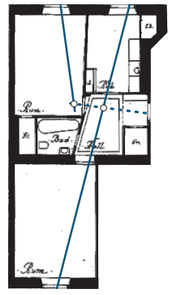

Fig. A.139. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

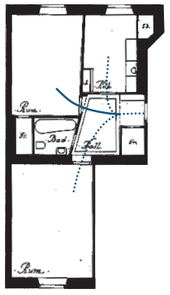

Fig. A.140. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

The only movement axis flows from the entrance through the central hallway to the bedroom. This is intersected by a light axis spanning the two sides of the apartment, offering double sightlines at the same point. It is also crossed by a light axis from the bedroom window. These light axes are well placed to let users enjoy sightlines to the exterior in most places in this small apartment. The axis spanning the whole dwelling stipulate the bathroom wall strengthening its effect.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

4 Munin · 1

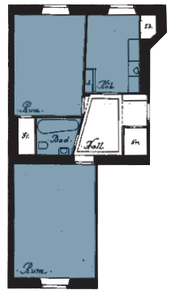

Fig. A.141. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 79% landing between rather poor and rather good. It is not without surprise since the dwelling features a relatively big central hallway as a connection between all the rooms. This solution enables the residents to first enter a "dirty hallway" to then continue to a "dry hallway" keeping most of the dirt away from the everyday walk between the rooms.

Furnishable Space

The amount of furnishable space of this object is 64% and is above average of the analyzed dwellings. The amount of entrances to each room is minimized, increasing furnishability. The doors are placed close to the corners, keeping as much continuous space as possible free in each room.

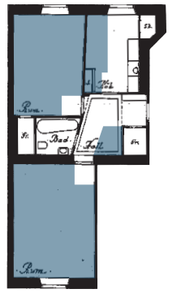

Fig. A.142. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.143. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is a social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The northern room becomes the most private, which works well in the outer corner of the apartment. However, the bedroom is a slightly oversized which decreases the space efficiency.

Outdated functions

No outdated functions.

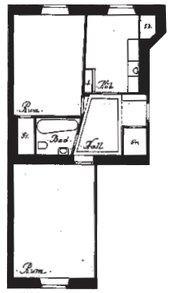

Fig. A.144. Analysis of rooms with outdated functions.

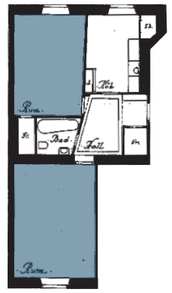

Fig. A.145. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.146. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

4 Munin · 1

Functions facing the street
The only function facing the street is the living room, which makes sense considering noise levels. The room is directed toward southwest, making the evening sun enter here. This is well in coordination of when the room will be used most.

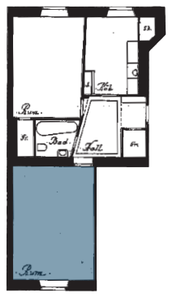

Fig. A.147. Analysis of rooms facing the street.

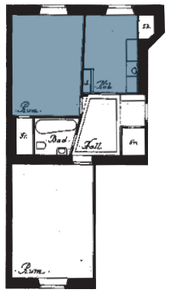

Fig. A.148. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As the smaller of the two regular rooms and facing towards the courtyard, the northern room is most probably used as a bedroom. This room has an adjacent closet, also indicating that this is to be used as a bedroom. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom. It is placed close to the entrance, making it easy to fill up with groceries after shopping.

Circulation
No possibilities for circulation.

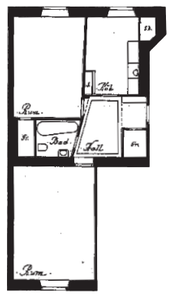

Fig. A.149. Analysis of possibilities of circulation within the dwelling.

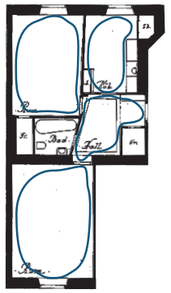

Fig. A.150. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive corner though, creating a calm space for a piece of furniture. This bubble is invited towards the living room thanks to the reveal of the door frame, but is blocked by the door. This guides guests to enter this room rather than the others.

4 Munin · 2

Fig. A.151. Original floor plan of analyzed object.

Property name: Munin 19
Building year: 1925
Number of apts. per floor: 12
Square meters: 71 m^2
Number of rooms: 2 + kitchen
Category: SKB

This object was built for the regular worker family which is indicated by the fewer amount of rooms and added number of apartments per stairwell. The architect was despite this able to design mostly continuous apartments and all of them were equipped with a decent kitchen. Seeing that this is a smaller sized apartment the number of sequences and amount of qualities drop but there are still some interesting parts incorporated in the chosen plan.

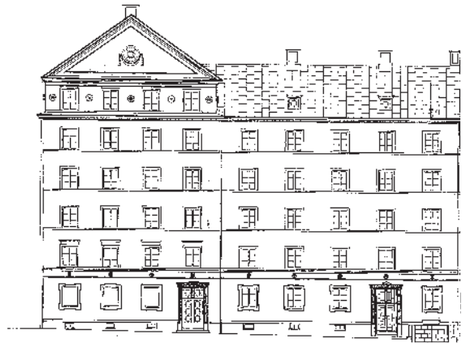

Fig. A.152. Street elevation of analyzed object.

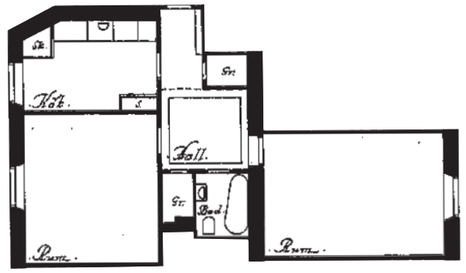

Fig. A.153. Redrawn original plan.

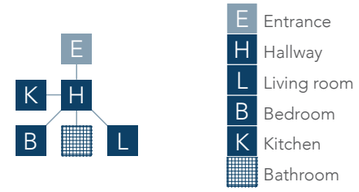

Fig. A.154. Space syntax of the analyzed dwelling.

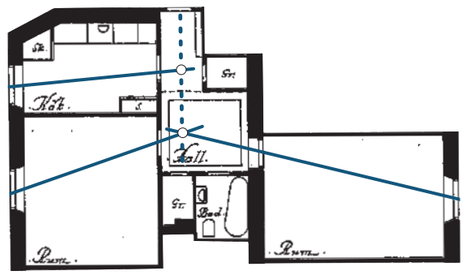

Fig. A.155. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

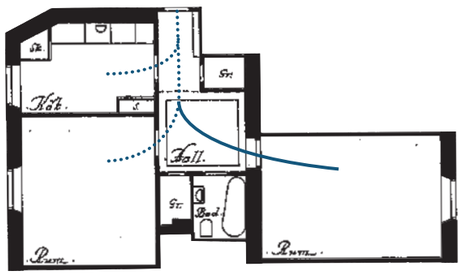

Fig. A.156. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

There is a central movement axis from the entrance of the apartment to the central hallway. This axis is intersected at two different points by light axes from the windows in the apartment. The lower point is intersected by two different axes from each side of the apartment. It might be a somewhat dark hallway, but these two axes create sightlines to the exterior, which add to the quality of the room.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

4 Munin · 2

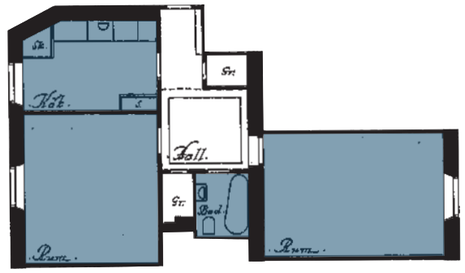

Fig. A.157. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The ELS for this object is 78%, landing between rather poor and rather good. The long entrance and the central hallway take up approximately 20% of the living area of this apartment. The central hallway is rather important to this plan however, acting as a neutral space to enter all the rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

Furnishable Space

The FS of this apartment is 63% and is a little over the average of all the analyzed objects. The fact that part of the hallway is free from communication means that it can house furniture for i.e. seating or storage. The doors to the bedroom and living room are placed close to the corner of the room freeing up as much continuous space as possible.

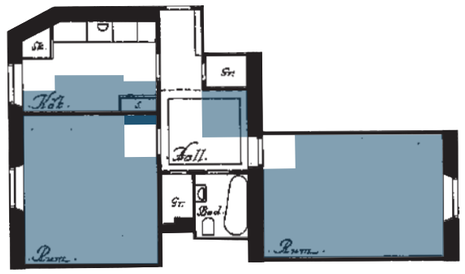

Fig. A.158. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.159. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is a sort of social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The northwestern room becomes the most private, which works well in the outer corner of the apartment. However, the oversized bedroom is decreasing the space efficiency.

Outdated functions

No outdated functions.

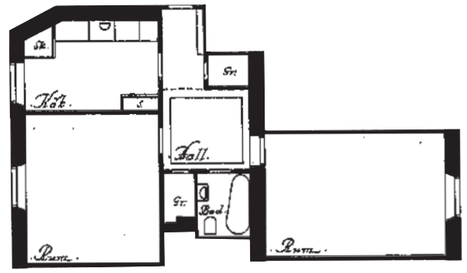

Fig. A.160. Analysis of rooms with outdated functions.

Fig. A.161. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.162. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

4 Munin · 2

Functions facing the street
The only function facing the street is the living room, which makes sense considering noise levels. The direction of the room is facing east, meaning the morning sun enters here. Usually a living room is mostly used during evenings which makes this placement a bit unfortunate.

Fig. A.163. Analysis of rooms facing the street.

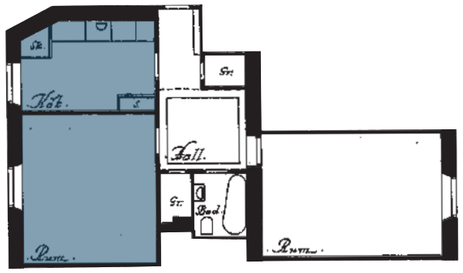

Fig. A.164. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The southwestern of the two regular rooms is facing towards the courtyard and is probably used as a bedroom due to this. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom. It is placed close to the entrance, making it easy to fill up with groceries after shopping.

Circulation
No possibilities for circulation.

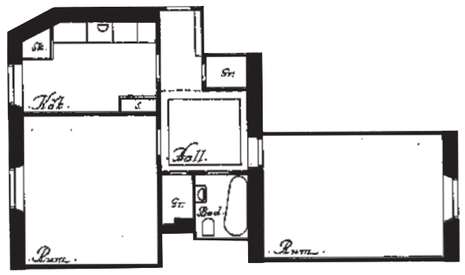

Fig. A.165. Analysis of possibilities of circulation within the dwelling.

Fig. A.166. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive corner though, creating a calm space for a piece of furniture. The tip of the bubble almost enters the living room, due to the reveal of the door frame. This guides guests to enter this room rather than the others.

4 Munin · 3

Fig. A.167. Original floor plan of analyzed object.

Property name: Munin 19
Building year: 1925
Number of apts. per floor: 12
Square meters: 57 m²
Number of rooms: 1 + kitchen
Category: SKB

This object was built for the regular worker family which is indicated by the fewer amount of rooms and added number of apartments per stairwell. The architect was despite this able to design mostly continuous apartments and all of them were equipped with a decent kitchen. Seeing that this is a smaller sized apartment the number of sequences and amount of qualities drop but there are still some interesting parts incorporated in the chosen plan.

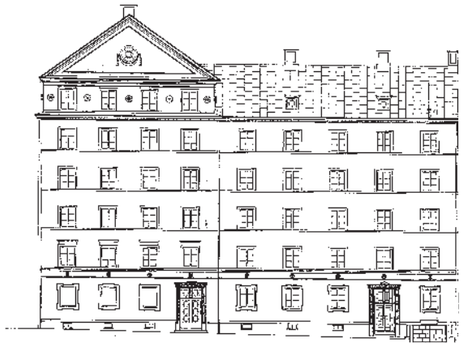

Fig. A.168. Street elevation of analyzed object.

Fig. A.169. Redrawn original plan.

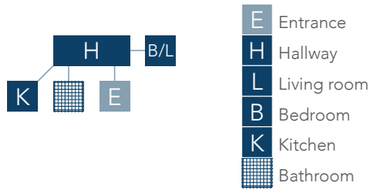

Fig. A.170. Space syntax of the analyzed dwelling.

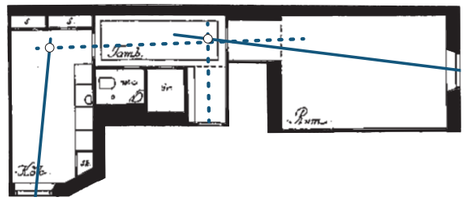

Fig. A.171. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

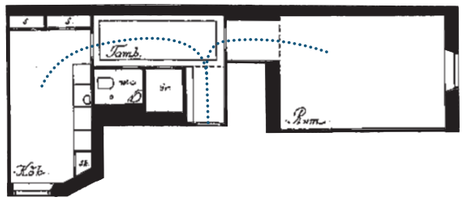

Fig. A.172. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

The fact that this apartment, with its small size, still has two movement axes means that most movement is done without connection to the exterior. Either it be with sightlines or daylight. There are however two light axes entering the apartment from two different directions adding to the variety of experiences.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible. All of the movement is considered public since there is no separate bedroom. Instead, the regular room to the south acts as both living room and bedroom.

4 Munin · 3

Fig. A.173. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 69% which is considered very poor. This object's efficient living space is the lowest amongst all analyzed objects due to its difficult position in the building. The plan seems forced and does not work well as a two-sided apartment. It would definitely benefit from being designed as one-sided considering its size.

Furnishable Space

This object's FS is also the lowest of all the analyzed objects, with only 46% of the area being furnishable. This number is almost unimaginably low, but is thankfully compensated by the big living / bedroom, where most of the room is furnishable.

Fig. A.174. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.175. Analysis of social and private space. The darker the color the more private character of space.

Privacy

As a one-room apartment there is no definitive private space. When guests come over they are probably entertained in all rooms. Back in the day, the kitchen was more of a work room, which was a clear private room, but has nowadays become a social room.

Outdated functions

No outdated functions.

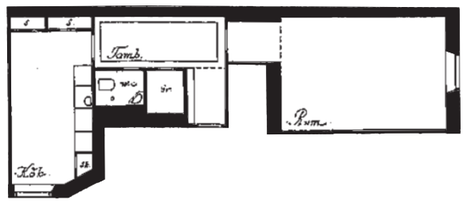

Fig. A.176. Analysis of rooms with outdated functions.

Fig. A.177. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

The regular room is adaptable in this apartment, due to its size. However, the lack of other rooms make it impossible to swap functions with others. The room is adaptable but there is no possibility to split it into two, since there is a limited amount of windows.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.178. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

4 Munin · 3

Functions facing the street
The living-/ bedroom is facing the street in this small one-room apartment. That means that there is no escape from the noise from nearby roads if they are heavily trafficked. The direction of the room is south, meaning that the sun warms up the room during most of the day. This can make it a quite unpleasant experience to live here during hot summer days.

Fig. A.179. Analysis of rooms facing the street.

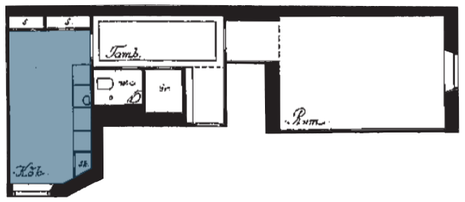

Fig. A.180. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The only function facing the courtyard in this dwelling is the kitchen. It is placed closely to the inner corner of the building making it difficult for the light to enter. The room is spacious but probably a bit oversized since this is only a one-room apartment.

Circulation
No possibilities for circulation.

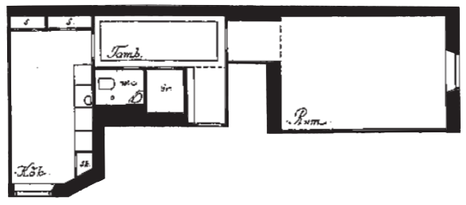

Fig. A.181. Analysis of possibilities of circulation within the dwelling.

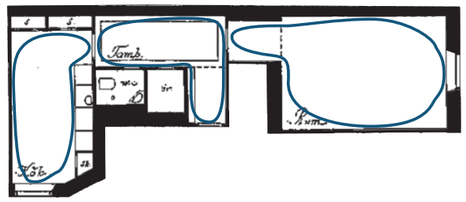

Fig. A.182. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space since it is a room connecting to the others. The bubble in the living-/bedroom room is almost connecting with the one in the hallway due to the heavy reveal of the door frame. The corners in this room are passive and make great spaces for furniture such as a bed and a couch.

8 Myrstacken · 1

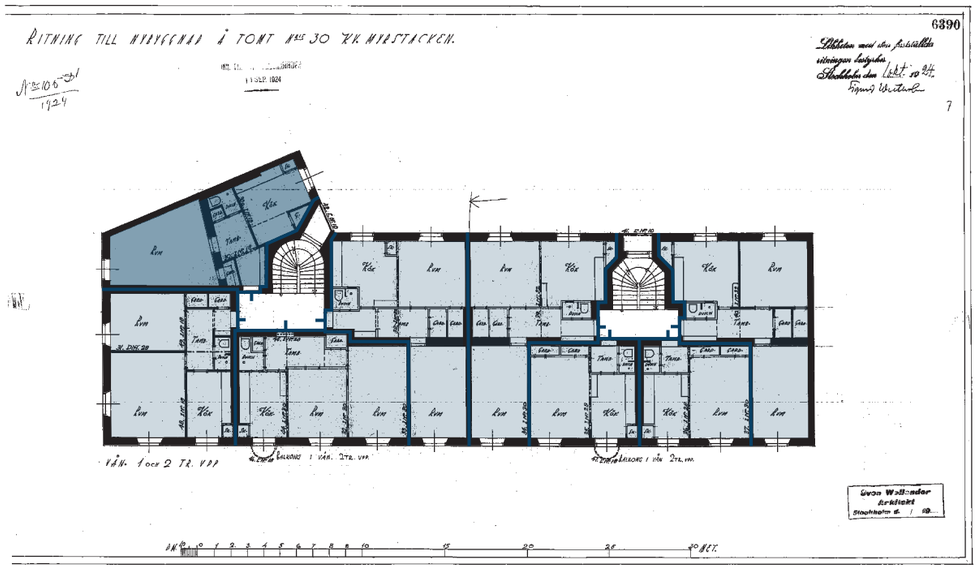

Fig. A.183. Original floor plan of analyzed object.

Property name: Myrstacken 30
Building year: 1924
Number of apts. per floor: 8
Square meters: 56 m²
Number of rooms: 1 + kitchen
Category: HSB

This object is located in the northern part of Stockholm's inner city, in Vasastan. It is part of the vast number of 1920's buildings in the area, originally built for the working class but now home to middle-class residents. The street is winding and picturesque in a slightly hilly topography. The west facade is designed as an ornamental gable, serving as an architectural backdrop for neighboring streets.

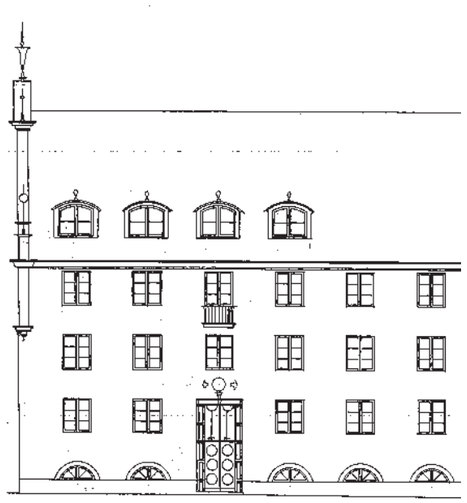

Fig. A.184. Street elevation of analyzed object.

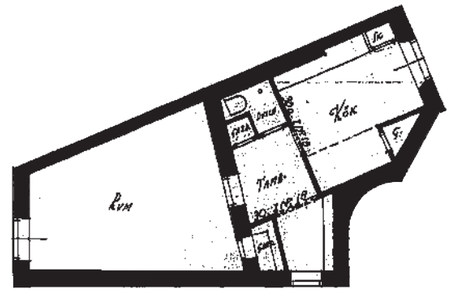

Fig. A.185. Redrawn original plan.

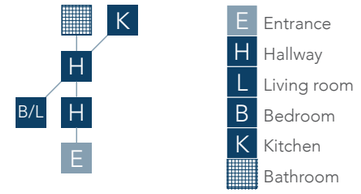

Fig. A.186. Space syntax of the analyzed dwelling.

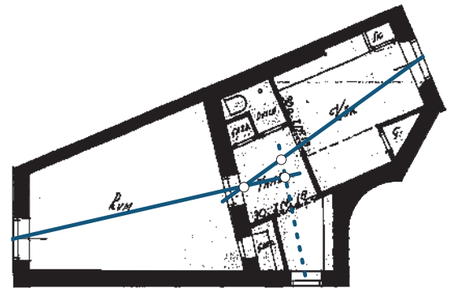

Fig. A.187. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

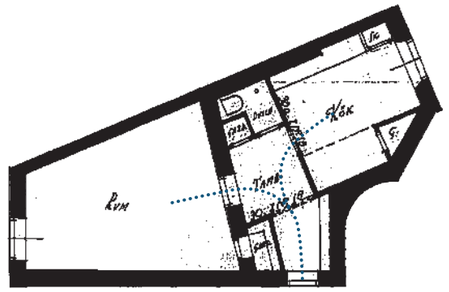

Fig. A.188. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

There is a central movement axis from the entrance of the apartment to the central hallway. This axis is intersected at two different points by light axes from the two windows in the apartment. It might be a somewhat dark hallway, but these two axes create sightlines to the exterior, which add to the quality of the room.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible. All of the movement is considered public since there is no separate bedroom. Instead, the regular room to the south acts as both living room and bedroom.

8 Myrstacken · 1

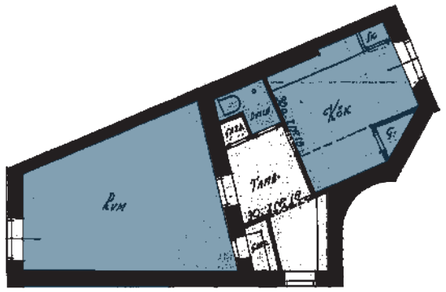

Fig. A.189. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 75% which is considered rather poor. The fact that this small apartment features not one, but two hallways decrease the efficiency.

Furnishable Space

This object features one of the lowest furnishability rates at 52%. The hallways are not furnishable due to the placements of doorway. If the entrance from the hallway to the living / bedroom would have been placed closer to the closet door, the lower corner would have become more furnishable. This corner could have housed i.e. more storage or a smaller seating furniture piece.

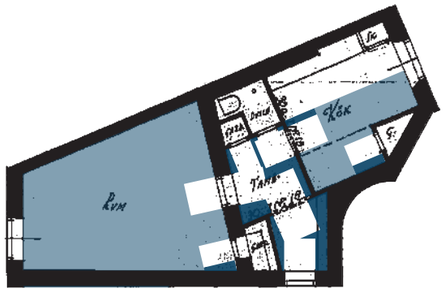

Fig. A.190. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

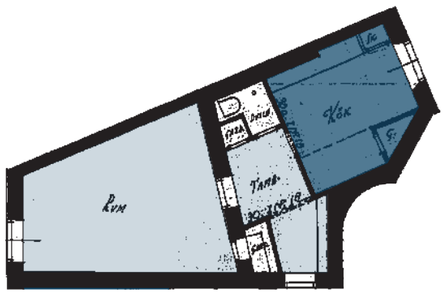

Fig. A.191. Analysis of social and private space. The darker the color the more private character of space.

Privacy

As a one-room apartment there is no definitive private space. When guests come over they are probably entertained in all rooms. The big room serves as both living room and bedroom. Back in the day, the kitchen was more of a work room, which was a clear private room, but has nowadays become a social room.

Outdated functions

No outdated functions.

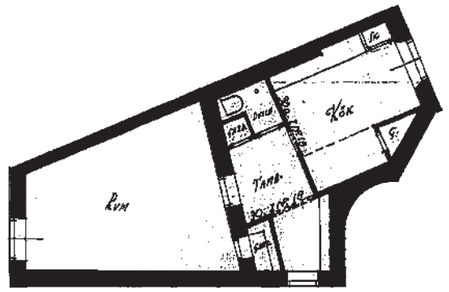

Fig. A.192 Analysis of rooms with outdated functions.

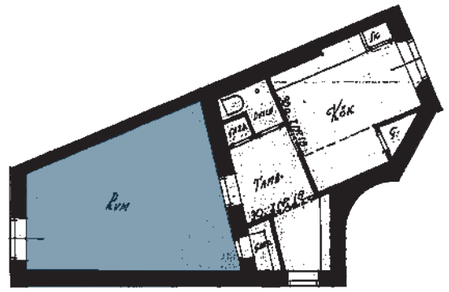

Fig. A.193. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

The regular room is adaptable in this apartment, due to its size. However, the lack of other rooms make it impossible to swap functions with others. The room is adaptable but there is no possibility to split it into two, since there is a limited amount of windows.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

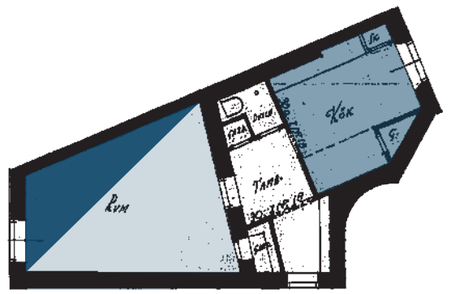

Fig. A.194. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

8 Myrstacken · 1

Functions facing the street
The living-/bedroom is facing the street in this small one-room apartment. That means that there is no escape from the noise from nearby roads if they are heavily trafficked. The direction of the room is northwest, meaning that the sun does not light up this room very much.

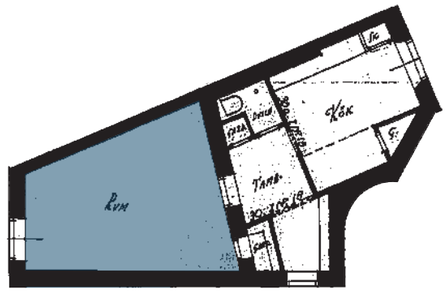

Fig. A.195. Analysis of rooms facing the street.

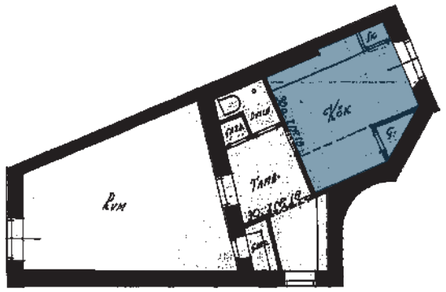

Fig. A.196. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The only function facing the courtyard in this dwelling is the kitchen. It is placed closely to the inner corner of the building and to the northeast making it difficult for much daylight to enter. The room is spacious but probably a bit oversized since this is only a one-room apartment.

Circulation
No possibilities for circulation.

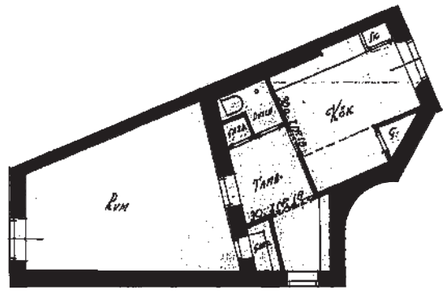

Fig. A.197. Analysis of possibilities of circulation within the dwelling.

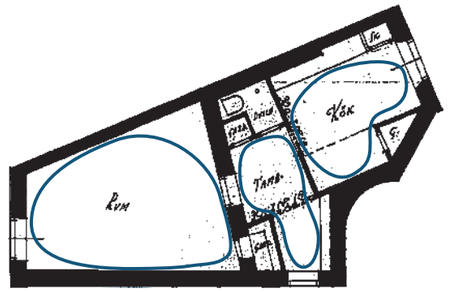

Fig. A.198. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space since it is a room connecting to the others. The bubble in the living-/bedroom room is almost connecting with the one in the hallway due to the heavy reveal of the door frame. The corners in this room are passive and make great spaces for furniture such as a bed and a couch.

8 Myrstacken · 2

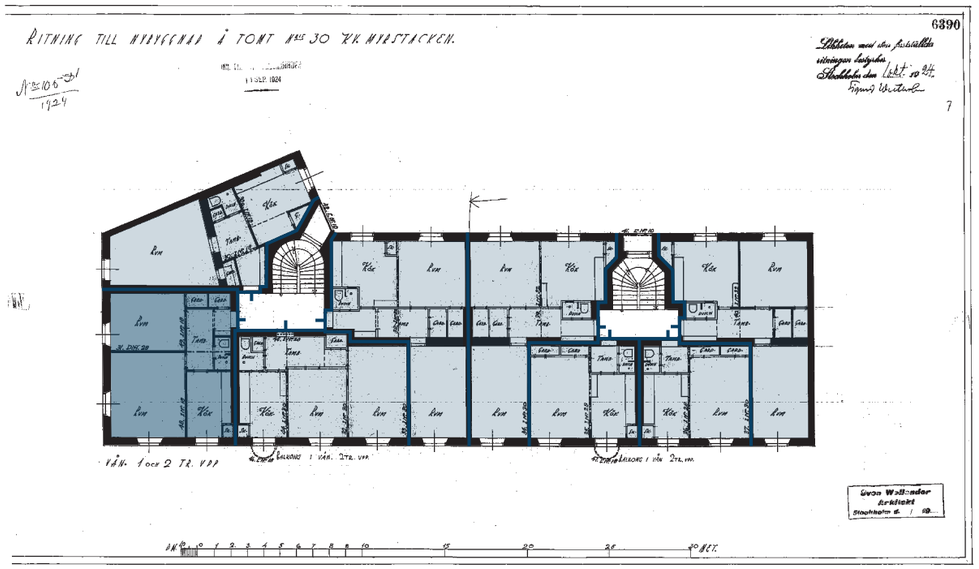

Fig. A.199. Original floor plan of analyzed object.

Property name: Myrstacken 30
Building year: 1924
Number of apts. per floor: 8
Square meters: 64 m²
Number of rooms: 2 + kitchen
Category: HSB

This object is located in the northern part of Stockholm's inner city, in Vasastan. It is part of the vast number of 1920's buildings in the area, originally built for the working class but now home to middle-class residents. The street is winding and picturesque in a slightly hilly topography. The west facade is designed as an ornamental gable, serving as an architectural backdrop for neighboring streets.

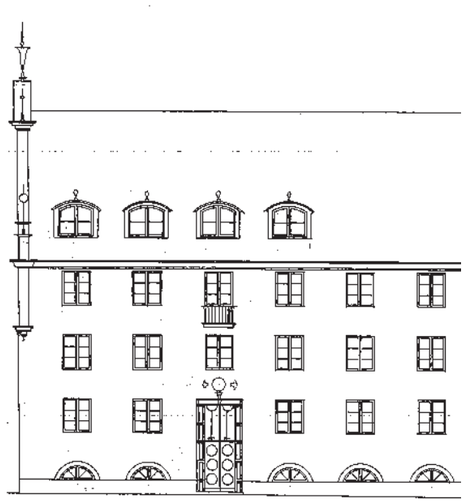

Fig. A.200. Street elevation of analyzed object.

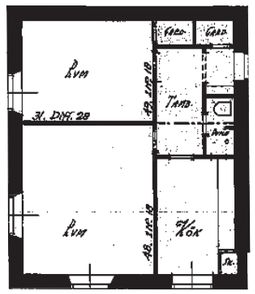

Fig. A.201. Redrawn original plan.

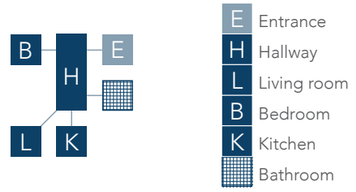

Fig. A.202. Space syntax of the analyzed dwelling.

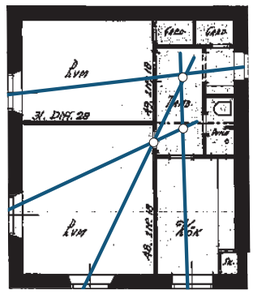

Fig. A.203. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

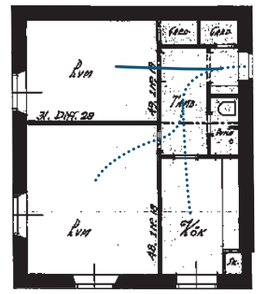

Fig. A.204. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

No apparent movement axes are created in this plan, except for the ones also characterized by light. This means that there is a lot of daylight entering and all movement within this dwelling happens close to a sightline to the exterior. This is quite common in corner apartments, making them filled with daylight from two directions. There is also a direct sightline to the exterior reaching the entrance, making the first impression light and spacious.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

8 Myrstacken · 2

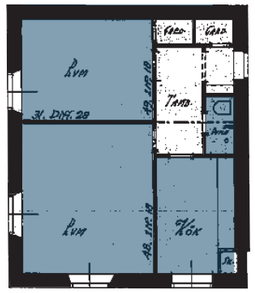

Fig. A.205. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 80% which is considered rather good. This object's efficient living space is the highest amongst all analyzed objects, with a compact hallway lending more space to the outer rooms. In this case the rooms with direct daylight are prioritized and the hallway is reduced to a simple communication space. It does however offer multiple sightlines to the exterior, adding to the movement sequence through this space.

Furnishable Space

The furnishability rate of this object is 66%, and well above average of all the analyzed objects. The door placements to the bedroom and living room keep as much continuous space free to furnish. Part of the hallway is also furnishable, making it possible to place a smaller piece for i.e. seating or storage.

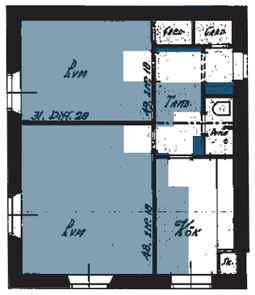

Fig. A.206. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

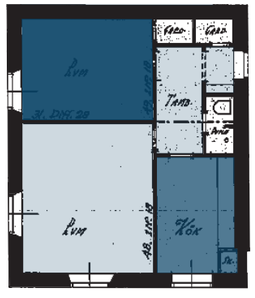

Fig. A.207. Analysis of social and private space. The darker the color the more private character of space.

Privacy

This dwelling mostly consists of social space. The center of the social space, the living room, is located in the outer corner of the apartment, enjoying daylight from two directions. The northwestern room becomes the most private, which works well as it is situated in its own corner of the plan. The rooms are reasonably sized in relation to each other and for their function.

Outdated functions

No outdated functions.

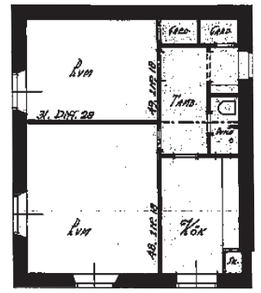

Fig. A.208. Analysis of rooms with outdated functions.

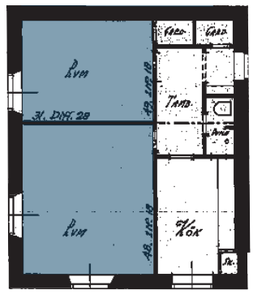

Fig. A.209. Analysis of adaptable rooms, that may be used for different function over time.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.210. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the central hallway creating a neutral space to enter each room from. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences. However adaptable rooms, there is no possibility to split any of them into two due to window placements.

8 Myrstacken · 2

Functions facing the street
As this is a one-sided corner apartment, all functions face the street. This means that the noise level during night time will affect the bedroom. The corner aspect gives the apartment chance for daylight during a longer time span than regular one-sided apartments.

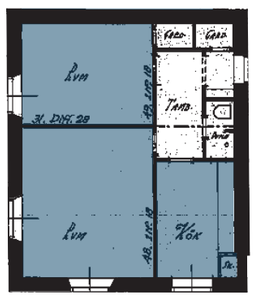

Fig. A.211. Analysis of rooms facing the street.

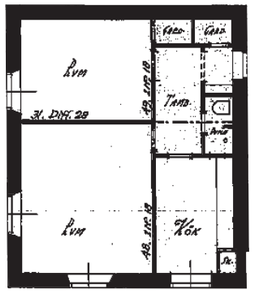

Fig. A.212. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As this is a one-sided corner apartment, no functions face the courtyard.

Circulation
There is no possibility for circulation in this dwelling. As a corner apartment the rooms are more closely linked to each other than other two-room apartments. A possibility for circulation should not be too difficult to implement, but would not add that much extra quality movement-wise.

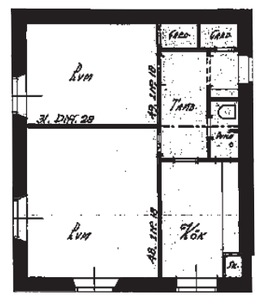

Fig. A.213. Analysis of possibilities of circulation within the dwelling.

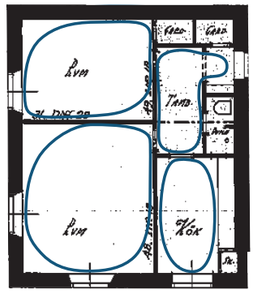

Fig. A.214. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. This bubble is pulled towards the entrance door, but does not reach all the way because of the door frame in its way. Thanks to the window and door placement in the living room, there are plenty of passive are perfect for furniture such as a couch, armchair, tv etc.

8 Myrstacken · 3

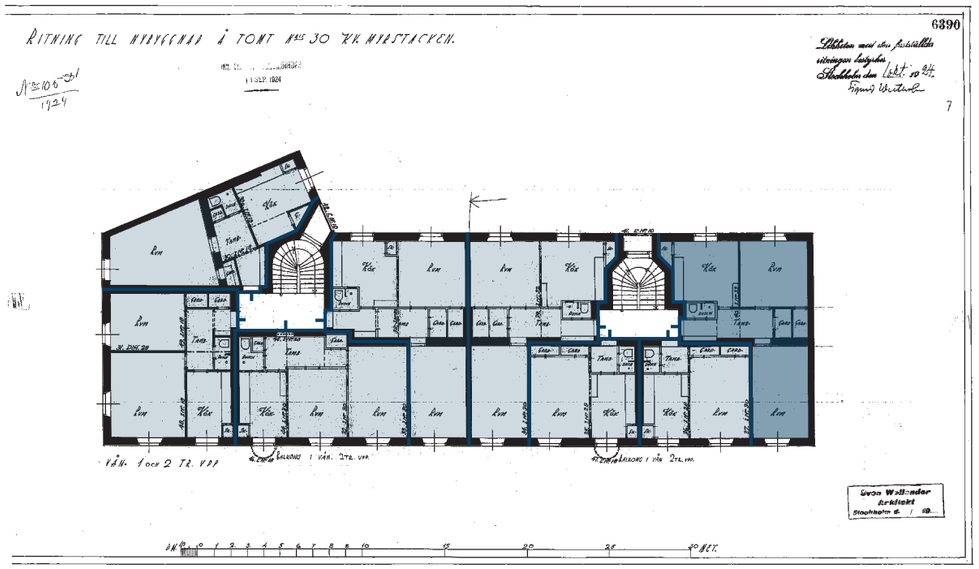

Fig. A.215. Original floor plan of analyzed object.

Property name: Myrstacken 30
Building year: 1924
Number of apts. per floor: 8
Square meters: 63 m^2
Number of rooms: 2 + kitchen
Category: HSB

This object is located in the northern part of Stockholm's inner city, in Vasastan. It is part of the vast number of 1920's buildings in the area, originally built for the working class but now home to middle-class residents. The street is winding and picturesque in a slightly hilly topography. The west facade is designed as an ornamental gable, serving as an architectural backdrop for neighboring streets.

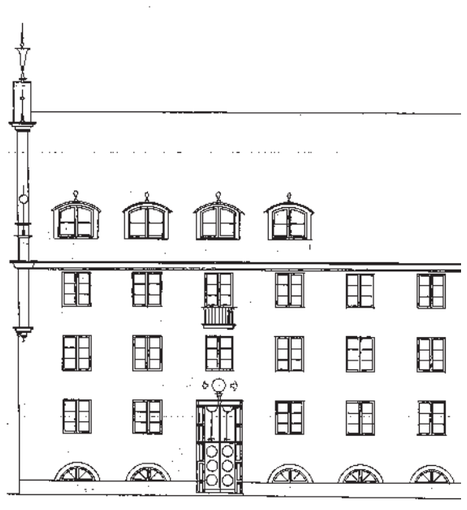

Fig. A.216. Street elevation of analyzed object.

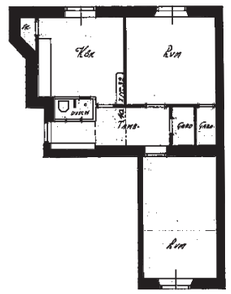

Fig. A.217. Redrawn original plan.

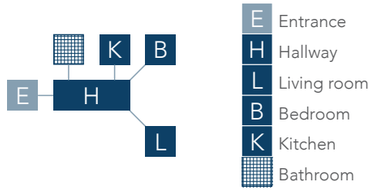

Fig. A.218. Space syntax of the analyzed dwelling.

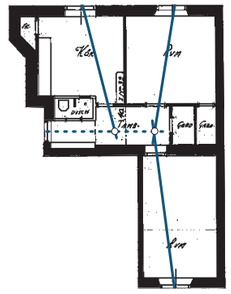

Fig. A.219. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

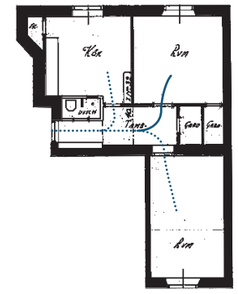

Fig. A.220. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

There is a central movement axis from the entrance of the apartment to the central hallway. This axis is intersected at two different points by light axes from the windows in the apartment. The second point is intersected by two different axes from each side of the apartment. The usual feature when designing two-sided apartments, letting a light axis cross the whole dwelling, is absent in this plan. Instead the light axis is broken due to the door placement to the closets.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

8 Myrstacken · 3

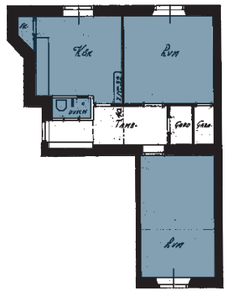

Fig. A.221. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 77% which is considered rather poor, but is a little above average for all the analyzed objects. The long entrance and the central hallway take up approximately 20% of the living area of this apartment. The central hallway is rather important to this plan however, acting as a neutral space to enter all the rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

Furnishable Space

The FS of this apartment is 59% and is a little over the average of all the analyzed objects. The fact that part of the hallway is free from communication means that it can house furniture for i.e. seating or storage. The door to the living room is placed close to the corner of the room freeing up as much continuous space as possible.

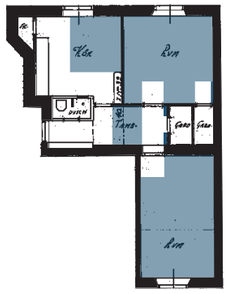

Fig. A.222. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

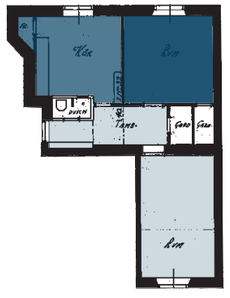

Fig. A.223. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is a sort of social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The northeastern room becomes the most private, which works well in one of the corners of the apartment. If the bedroom and living room were swapped, a social and a private side would have been created. However, in that case the noise from the street might become an issue.

Outdated functions

No outdated functions.

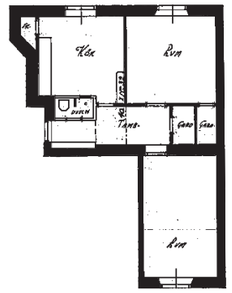

Fig. A.224. Analysis of rooms with outdated functions.

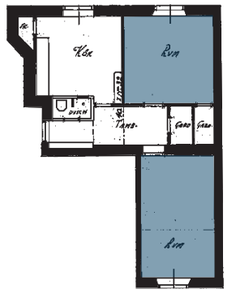

Fig. A.225. Analysis of adaptable rooms, that may be used for different function over time.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences.

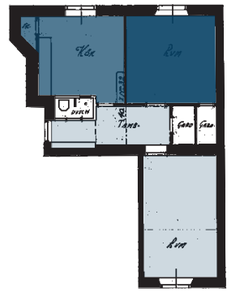

Fig. A.226. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

8 Myrstacken · 3

Functions facing the street
The only function facing the street is the living room, which makes sense considering noise levels. The direction of the room is facing south, giving the room daylight most of the day.

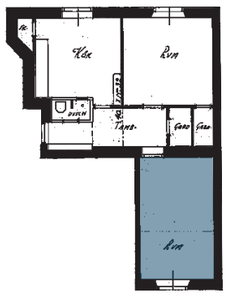

Fig. A.227. Analysis of rooms facing the street.

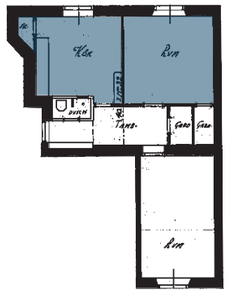

Fig. A.228. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The northeastern of the two regular rooms is facing towards the courtyard and is probably used as a bedroom due to this. There is also an adjacent closet indicating strengthening this. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom. It is placed close to the entrance, making it easy to fill up with groceries after shopping.

Circulation
No possibilities for circulation.

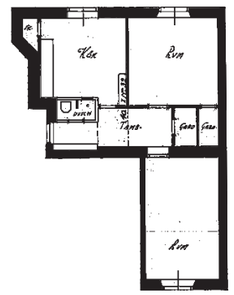

Fig. A.229. Analysis of possibilities of circulation within the dwelling.

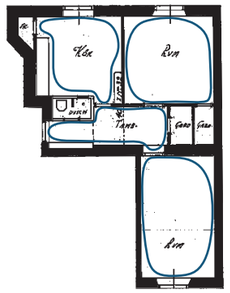

Fig. A.230. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. The tip of the bubble almost enters the living room, due to the reveal of the door frame. This guides guests to enter this room rather than the others.

1 Ryssjan · 1

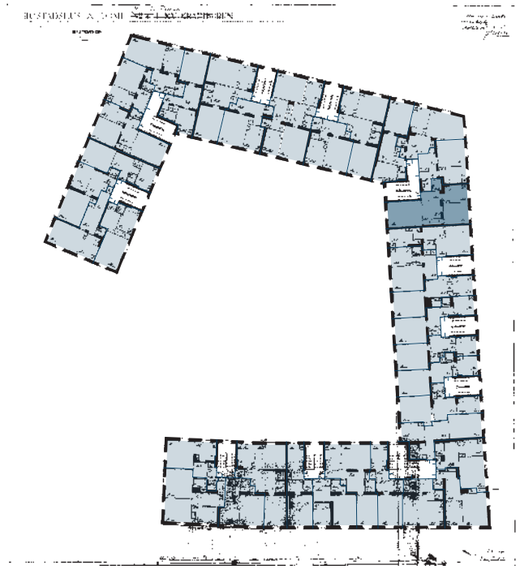

Fig. A.231. Original floor plan of analyzed object.

Property name: Ryssjan 15
Building year: 1929
Number of apts. per floor: 36
Square meters: 67 m²
Number of rooms: 2 + kitchen
Category: SKB

This large complex is situated on Södermalm, in the southern part of Stockholm City. SKB developed this project in 1929 with most apartments comprising of one room plus kitchen. Even though the apartments are small most of them offer daylight from two directions. The volume is fairly low with generally four to five levels depending on the topography.

Fig. A.232. Street elevation of analyzed object.

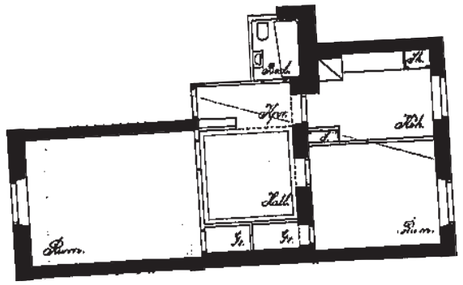

Fig. A.233. Original plan.

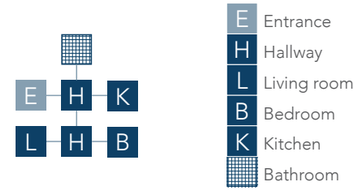

Fig. A.234. Space syntax of the analyzed dwelling.

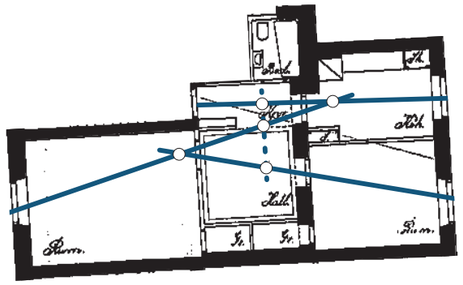

Fig. A.234. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

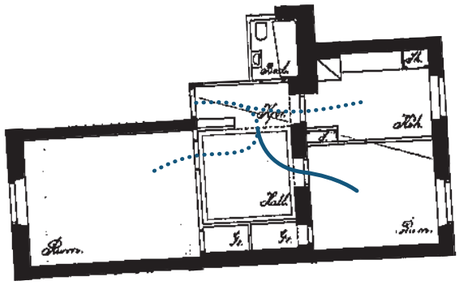

Fig. A.236. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

There is a central movement axis in the hallways. This axis is intersected at three different points by light axes from the windows in the apartment. It might be a somewhat dark hallway, but these axes create sightlines to the exterior, which add to the quality of the room. The number of intersections between the axes is large for a small apartment. This indicates that the experience when moving around is varied and almost always connected to the outdoor through sightlines.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

1 Ryssjan · 1

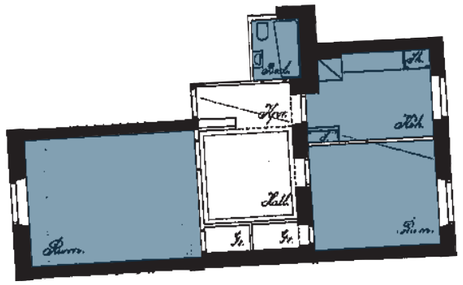

Fig. A.237. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 71% which is considered rather poor and is a little below average of all analyzed objects. The entrance and central hallway takes up approximately 30% of the living area of this apartment. The central hallway acts as a neutral space to enter all the rooms from but could have been smaller to increase efficiency.

Furnishable Space

The FS of this apartment is 58% which equals the average of all the analyzed objects. The fact that part of the central hallway is free from communication means that it can house furniture for i.e. seating or storage. The doors to the bedroom and living room are placed close to the corner of the rooms but these could have been placed either more centrally or towards the corner. This would free up more continuous space increasing furnishability.

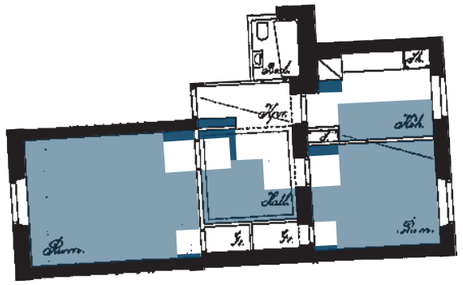

Fig. A.238. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

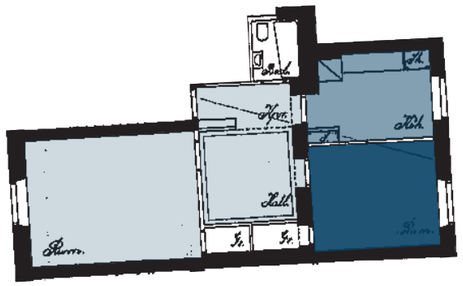

Fig. A. 239. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is a social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The northeastern room becomes the most private, which works well in one of the corners of the apartment.

Outdated functions

No outdated functions.

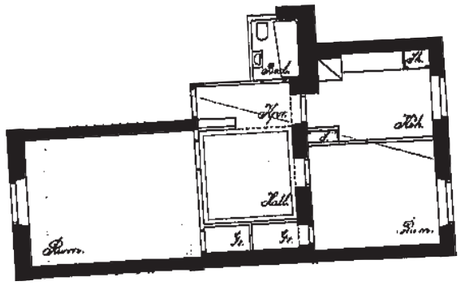

Fig. A.240. Analysis of rooms with outdated functions.

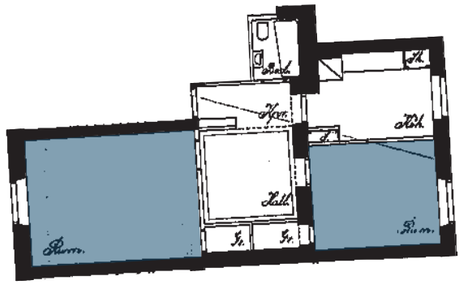

Fig. A.241. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

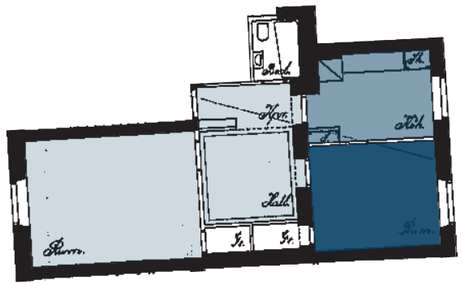

Fig. A.242. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

1 Ryssjan · 1

Functions facing the street
As the smaller of the two regular rooms and the northeastern room is most probably used as a bedroom. Both rooms have an adjacent closet, making both possible to be used as a bedroom. There is however, a possible problem with this disposition depending on noise levels from the nearby street. The kitchen is also placed towards the street but most importantly close to the entrance, making it easy to fill up with groceries after shopping.

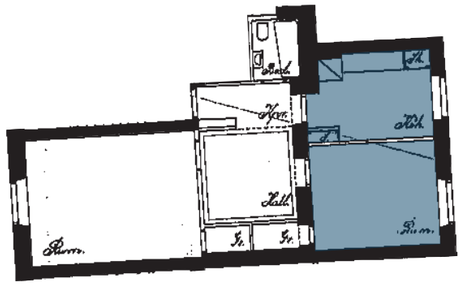

Fig. A.243. Analysis of rooms facing the street.

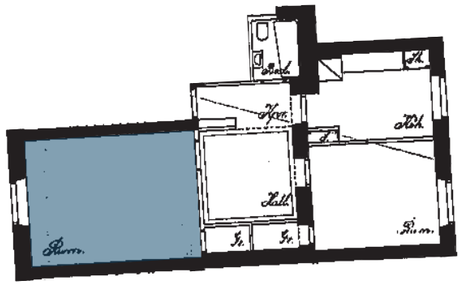

Fig. A.244. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The only function facing the courtyard is the living room. It is directed toward southeast, meaning the sunlight enters here most of the day.

Circulation
No possibilities for circulation.

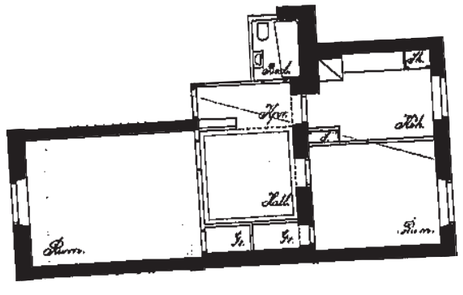

Fig. A.245. Analysis of possibilities of circulation within the dwelling.

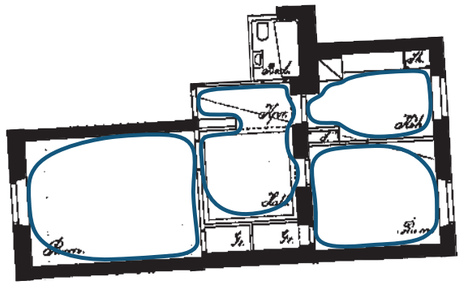

Fig. A.246. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. A lot of the hallway is active space, seeing that this room connects to all others. There is however a more passive side, creating a calm space for a piece of furniture. This bubble is invited towards the bedroom and the kitchen thanks to the reveal of the door frames, but is blocked by the doors.

1 Ryssjan · 2

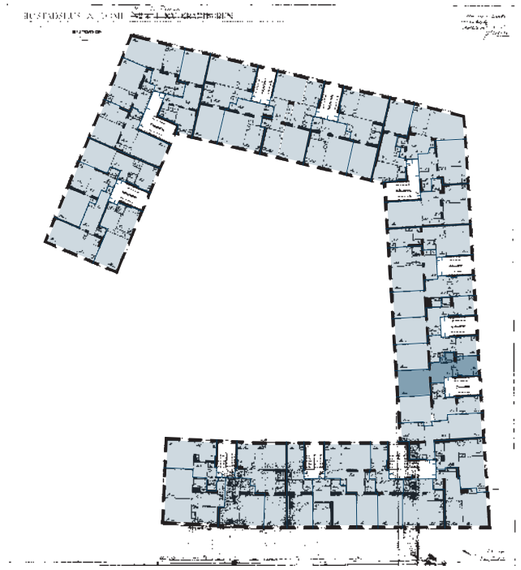

Fig. A.247. Original floor plan of analyzed object.

Property name: Ryssjan 15
Building year: 1929
Number of apts. per floor: 36
Square meters: 44 m²
Number of rooms: 1 + kitchen
Category: SKB

This large complex is situated on Södermalm, in the southern part of Stockholm City. SKB developed this project in 1929 with most apartments comprising of one room plus kitchen. Even though the apartments are small most of them offer daylight from two directions. The volume is fairly low with generally four to five levels depending on the topography.

Fig. A.248. Street elevation of analyzed object.

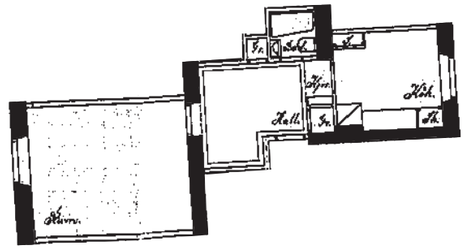

Fig. A.249. Original plan.

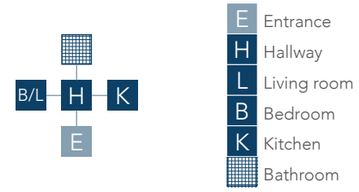

Fig. A.250. Space syntax of the analyzed dwelling.

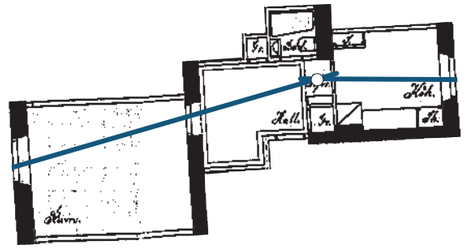

Fig. A.251. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

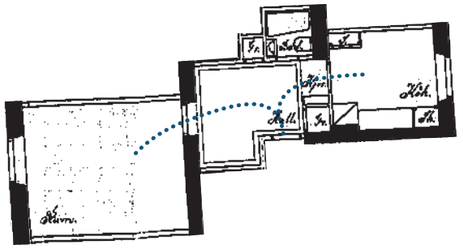

Fig. A.252. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

There is no clear movement axis within this dwelling, except for the ones combined with light. Two axes of light meet in the coat room (kapprum) between the kitchen and hallway. At this point, one can look out to the exterior through the other rooms in two directions. This possibility lends a feeling of a spacious dwelling even if it is just a one-room apartment.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible. All of the movement is considered public since there is no separate bedroom. Instead, the regular room to the southwest acts as both living room and bedroom.

1 Ryssjan · 2

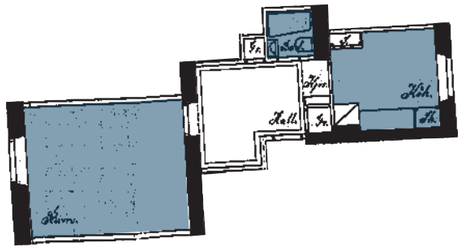

Fig. A.253. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The coefficient found for the object's ELS is 71%. The apartment's efficiency is considered rather poor and is a little below average of all analyzed objects. The entrance and central hallway takes up approximately 30% of the living area of this apartment. The central hallway acts as a neutral space to enter all the rooms from but could have been smaller to increase efficiency.

Furnishable Space

The FS of this apartment is 61% which is a little above average of all the analyzed objects. The fact that part of the central hallway is free from communication means that it can house furniture for i.e. seating or storage. The door to the living / bedroom is placed close to the corner of the room, keeping as much continuous space free and furnishable.

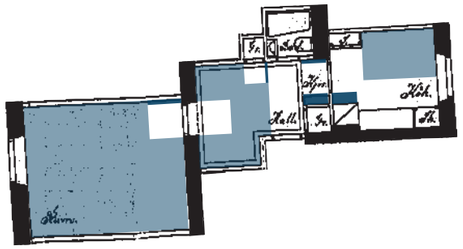

Fig. A.254. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

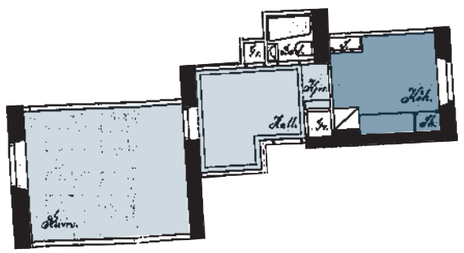

Fig. A.255. Analysis of social and private space. The darker the color the more private character of space.

Privacy

As a one-room apartment there is no definitive private space. When guests come over they are probably entertained in all rooms. The big room serves as both living room and bedroom. Back in the day, the kitchen was more of a work room, which was a clear private room, but has nowadays become a social room.

Outdated functions

No outdated functions.

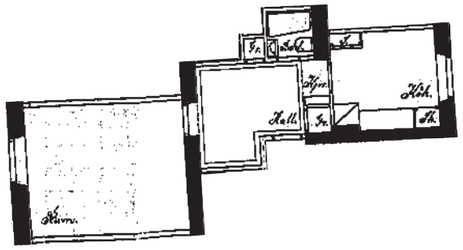

Fig. A.256. Analysis of rooms with outdated functions.

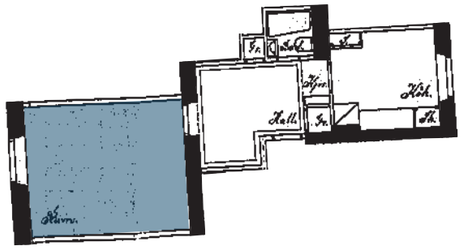

Fig. A.257. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

The regular room is adaptable in this apartment, due to its size. However, the lack of other rooms make it impossible to swap functions with others. The room is adaptable but there is no possibility to split it into two, since there is a limited amount of windows.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

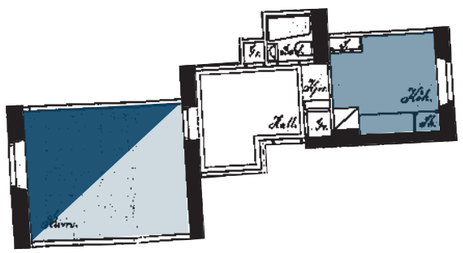

Fig. A.258. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

1 Ryssjan · 2

Functions facing the street
The function facing the street in this dwelling is the kitchen. The direction of the room is northeast making it difficult for much daylight to enter. The room is proportionately sized compared to the others.

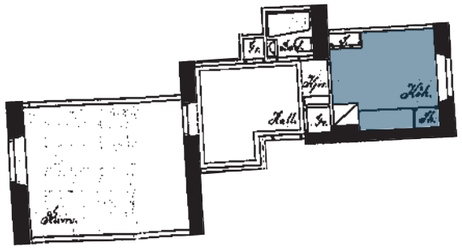

Fig. A.259. Analysis of rooms facing the street.

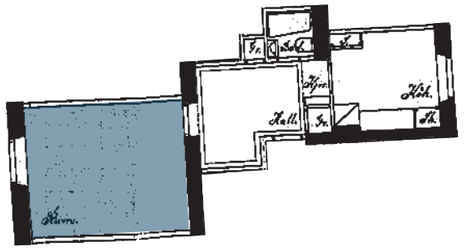

Fig. A.260. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The living-/bedroom is facing the courtyard making it a quiet room good for resting and social activity. The direction of the room is southwest, meaning that the sun lights up this room during most of the day.

Circulation
No possibilities for circulation.

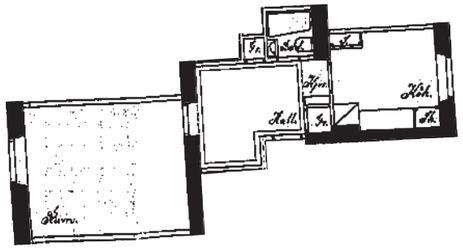

Fig. A.261. Analysis of possibilities of circulation within the dwelling.

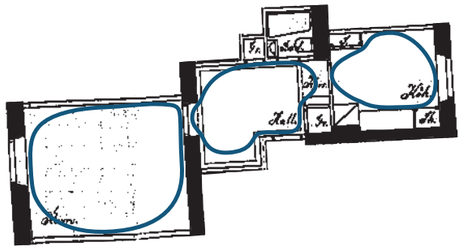

Fig. A.262. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space since it is a room connecting to the others, but there is a part that is clearly passive. This area makes a great space for a piece of furniture such as a bench or storage. The bubble is invited both to the kitchen and the living room due to the coat room and the reveal of the door to the living room.

5 Vale · 1

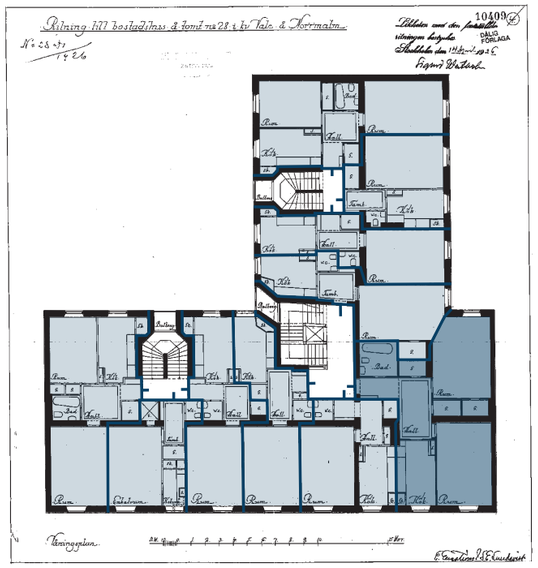

Fig. A.263. Original floor plan of analyzed object.

Property name: Vale 28
Building year: 1926
Number of apts. per floor: 10
Square meters: 89 m²
Number of rooms: 2 + kitchen
Category: SKB

This object resides in Norrmalm, in the northern part of Stockholm City. There are multiple buildings from the same time period in the neighborhood making it fit in well in its context. The facade gives a strict impression with evenly placed windows and the added cornice for each level. This might be a conscious design choice made to elongate the building horizontally, making it appear less tall and overwhelming.

Fig. A.264. Street elevation of analyzed object.

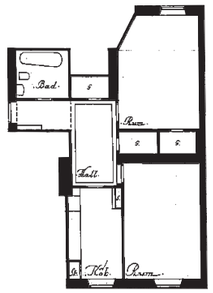

Fig. A.265. Original plan.

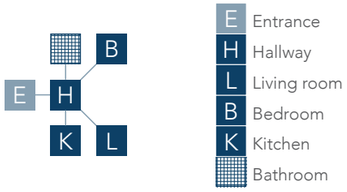

Fig. A.266. Space syntax of the analyzed dwelling.

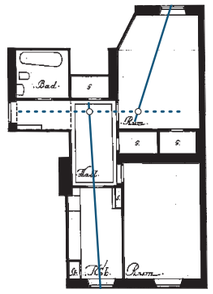

Fig. A.267. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

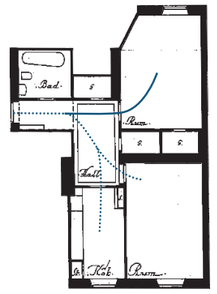

Fig. A.268. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

The only clear movement axis in this dwelling flows from the entrance, through the central hallway and into the bedroom. This axis is intersected two times by light axes. The first from the window in the kitchen and the second from one in the bedroom. The axis from the kitchen window pulls the user towards it, to then discover the living room besides it. This axis is also the only one shedding some secondary light to the inner hallway, which is a quite dark room.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

5 Vale · 1

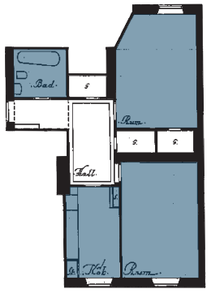

Fig. A.269. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

With 73% efficient space, this object's ELS is a little below the average for all analyzed objects. The entrance and central hallway takes up approximately 25% of the living area of this apartment. The central hallway acts as a neutral space to enter all the rooms from, and would be difficult to reduce in size in order to reach all the rooms.

Furnishable Space

The FS of this apartment is 56% which is a little below the average of all the analyzed objects. The fact that part of the central hallway is free from communication means that it can house furniture for i.e. seating or storage. The door to the living room is placed in the corner of the room keeping as much continuous space free for furnishing. In the bedroom, the combination of the door placement and closet door slightly decreases furnishability.

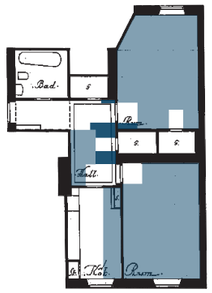

Fig. A.270. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

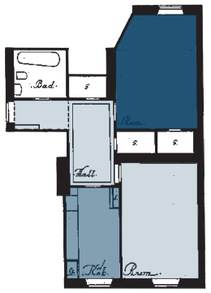

Fig. A.271. Analysis of social and private space. The darker the color the more private character of space.

Privacy

The living room and kitchen are closely linked, constituting the social part in this dwelling with the central hallway as a movement hub. The eastern room becomes the most private, which works well in one of the corners of the apartment. The bathroom is neatly tucked away far from all the other rooms, without any awkward connections.

Outdated functions

No outdated functions.

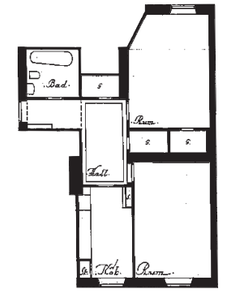

Fig. A.272. Analysis of rooms with outdated functions.

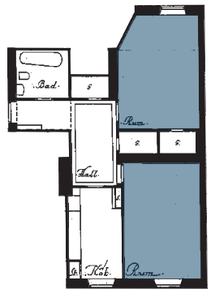

Fig. A.273. Analysis of adaptable rooms, that may be used for different function over time.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

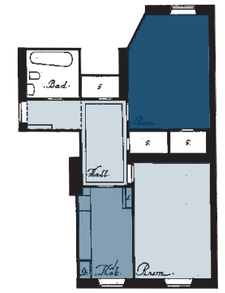

Fig. A.274. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences. The eastern room does however have an adjoining closet, indicating that this room would work best as a bedroom.

5 Vale · 1

Functions facing the street
The two functions facing the street are the kitchen and living room. These are not as sensitive to noise as the bedroom, so this solution does make good sense. The direction of the rooms is southwest, lending them daylight through most of the day.

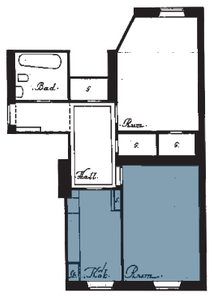

Fig. A.275. Analysis of rooms facing the street.

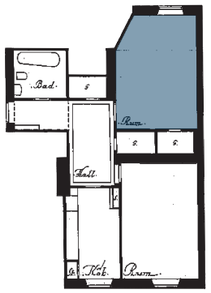

Fig. A.276. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The southeastern of the two regular rooms is facing the courtyard and a more quiet side. It is probably used as a bedroom due to this, and the fact that it has an adjoining closet.

Circulation
No possibilities for circulation.

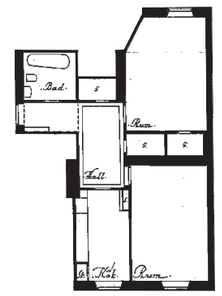

Fig. A.277. Analysis of possibilities of circulation within the dwelling.

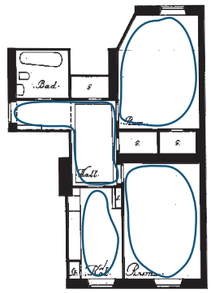

Fig. A.278. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is however a more passive side, across the living room door, creating a calmer space for a piece of furniture. This bubble is invited towards the living room thanks to the reveal of the door frame, but is blocked by the door. This guides guests to enter this room rather than the others.

5 Vale · 2

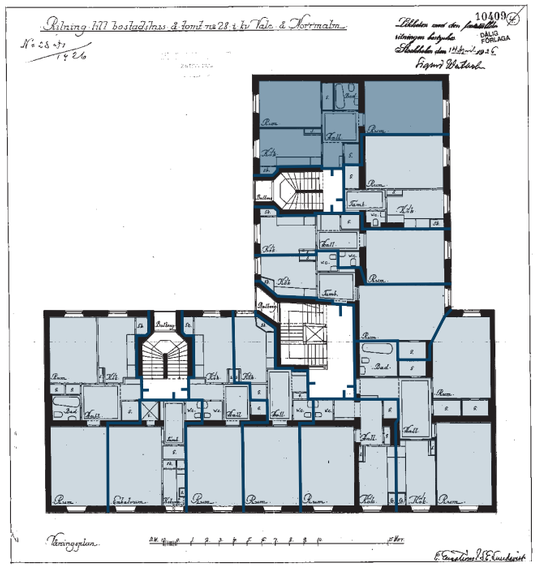

Fig. A.279. Original floor plan of analyzed object.

Property name: Vale 28
Building year: 1926
Number of apts. per floor: 10
Square meters: 65 m²
Number of rooms: 2 + kitchen
Category: SKB

This object resides in Norrmalm, in the northern part of Stockholm City. There are multiple buildings from the same time period in the neighborhood making it fit in well in its context. The facade gives a strict impression with evenly placed windows and the added cornice for each level. This might be a conscious design choice made to elongate the building horizontally, making it appear less tall and overwhelming.

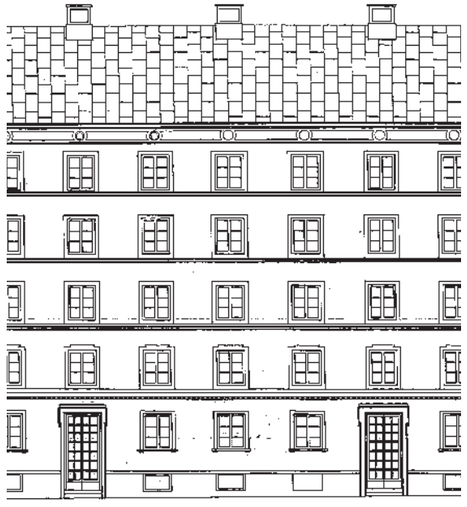

Fig. A.280. Street elevation of analyzed object.

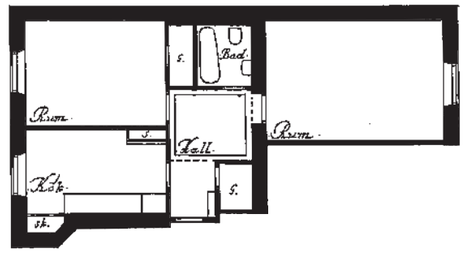

Fig. A.281. Original plan.

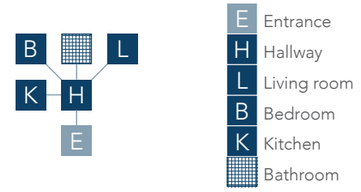

Fig. A.282. Space syntax of the analyzed dwelling.

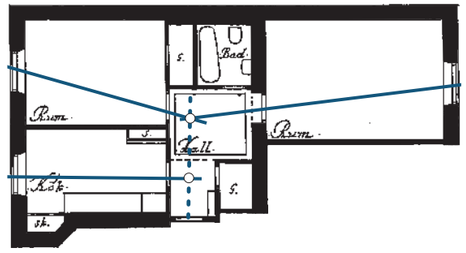

Fig. A.283. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

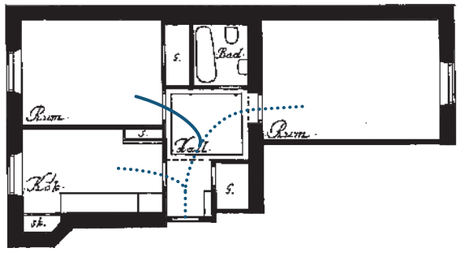

Fig. A.284. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

There is a central movement axis from the entrance of the apartment through the hallway. This axis is intersected at two different points by light axes from the windows in the apartment. The second point is intersected by two different axes from each side of the apartment. The usual feature when designing two-sided apartments, letting a light axis cross the whole dwelling, is absent in this plan. Instead the light axis is broken due to the door placement to the bathroom.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

5 Vale · 2

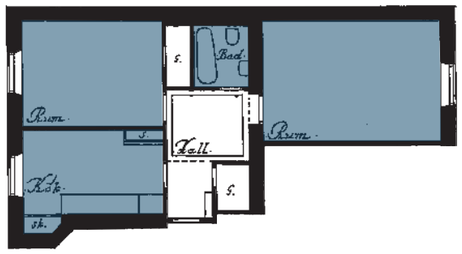

Fig. A.285. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The efficiency rate of this apartment is 79% which is considered rather poor, but close to rather good. The entrance and central hallway takes up approximately 30% of the living area of this apartment. The central hallway is rather important to this plan however, acting as a neutral space to enter all the rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

Furnishable Space

The FS of this apartment is 61% which is a little above the average of all the analyzed objects. The fact that part of the central hallway is free from communication means that it can house furniture for i.e. seating or storage. The doors to the bedroom and living room are placed close to the corner of the rooms but these could have been placed even more towards the corner. This would free up more continuous space increasing furnishability.

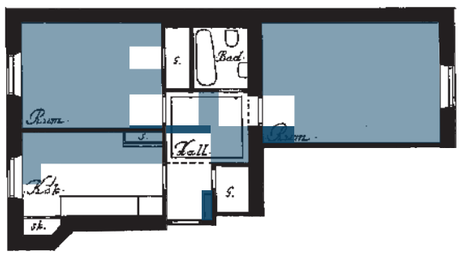

Fig. A.286. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.287. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is a sort of social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The northeastern room becomes the most private, which works well in one of the corners of the apartment. If the bedroom and living room were swapped, a social and a private side would have been created. Since both sides face courtyards, noise levels on either side do not pose an issue.

Outdated functions

No outdated functions.

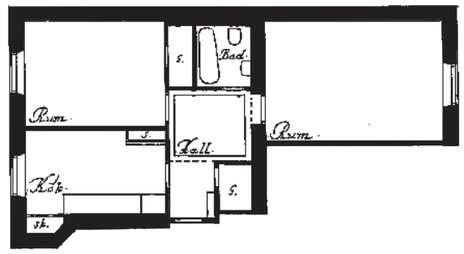

Fig. A.288. Analysis of rooms with outdated functions.

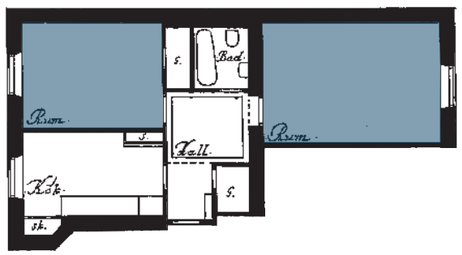

Fig. A.289. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences. The northeastern room does however have an adjoining closet, indicating that this room would work best as a bedroom.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.290. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

5 Vale · 2

Functions facing the street
Since this part of the building is situated on the courtyard, there are no functions facing the street.

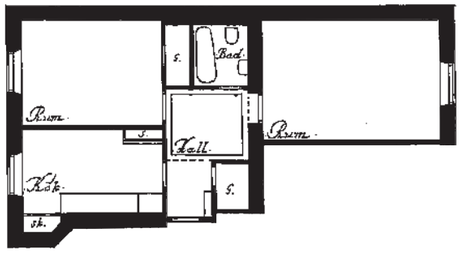

Fig. A.291. Analysis of rooms facing the street.

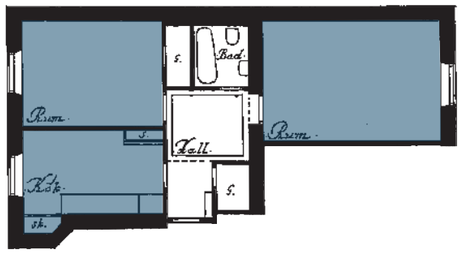

Fig. A.292. Analysis of rooms facing the courtyard.

Functions facing the courtyard
All functions in this part of the building are facing a courtyard, making the whole dwelling quiet and tranquil. It might however offer less interesting views than those with street-facing windows.

Circulation
No possibilities for circulation.

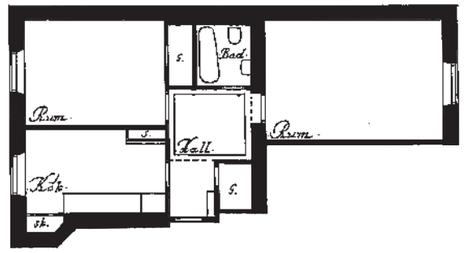

Fig. A.293. Analysis of possibilities of circulation within the dwelling.

Fig. A.294. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is however a more passive corner, creating a calmer space for a piece of furniture. The tip of the bubble almost enters the living room, due to the reveal of the door frame. This guides guests to enter this room rather than the others.

9 Vattuormen 1 · 1

Axiality
This one-sided, two-room apartment features one main movement axis reaching all the way from the entrance to the hallway connecting to the bedroom. This axis is intersected at three points by the light axes from the windows in the different rooms. The simplicity in the disposition of this dwelling makes it easy to understand its layout, but does not offer a varied and interesting experience.

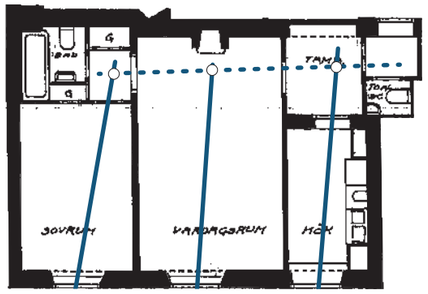

Fig. A.295. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

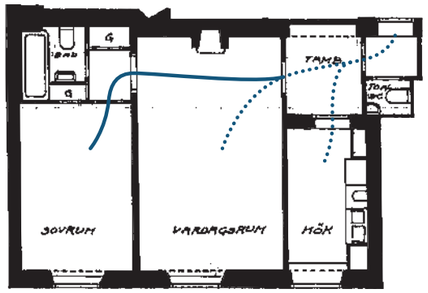

Fig. A.296. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Movement
Most of the movement is public, letting guests use the kitchen and living room. The more private movement leads one step further from the living room through a small inner hallway, connected to a big bathroom, and in to the bedroom. This solution is rather unusual for this period. Most other like-sized apartments are two-sided and let a hallway be used as a neutral way of entering all other rooms. In this plan the user has to cross the living room to enter the private bedroom zone.

Privacy
This dwelling has a firm plan with a social center in the big living room. The kitchen is easily accessed from the inner hallway as an extra partially social room. Added to the social zone is a guest WC, placed close to the entrance without any awkward connections to the other rooms. The private zone containing the big bathroom and bedroom is placed as far away from the entrance as possible. This creates a sense that the bedroom is a safe space for resting.

Fig. A.297. Analysis of social and private space. The darker the color the more private character of space.

Activities
The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.298. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

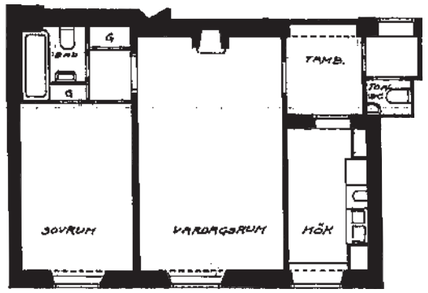

Fig. A.299. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability
None of the rooms in this dwelling is adaptable to be swapped with each other or so. The bedroom is closely linked to the big bathroom and a closet, strongly suggesting to act as the more private area of the dwelling. The living room is a cross-over room, making it difficult to act as a bedroom or any other more private function. The sizes also advocate for the functions to stay as they were designed originally.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is a more passive side though, creating a calmer space for a piece of furniture. The bubble in the central room is almost fully symmetrical due to the window and door placements. The lower corners are passive and make great spaces to furnish.

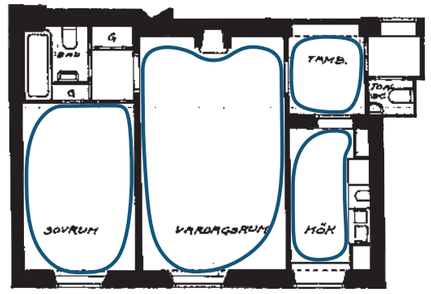

Fig. A.300. Analysis of encloseness and openness with the method of space bubbles.

9 Vattuormen 1 · 1

Functions facing the street
All functions in this one-sided apartment are facing the street. This means that the noise level during night time will affect the bedroom, and there is only possibility for daylight during a shorter time span than the two-sided or corner ones.

Fig. A.301. Analysis of rooms facing the street.

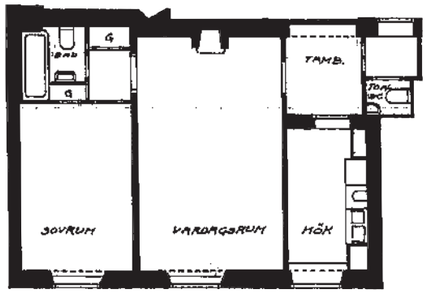

Fig. A.302. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As this is a one-sided apartment none of the functions are placed towards the courtyard.

Circulation
No possibilities for circulation.

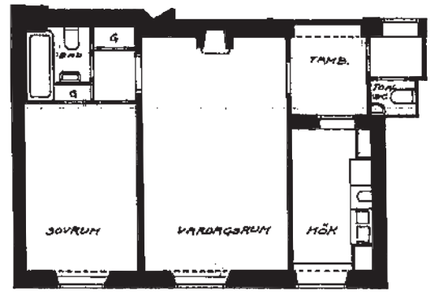

Fig. A.303. Analysis of possibilities of circulation within the dwelling.

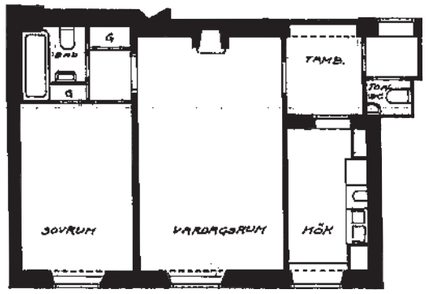

Fig. A.304. Analysis of rooms with outdated functions.

Outdated functions
No outdated functions.

9 Vattuormen 1 · 2

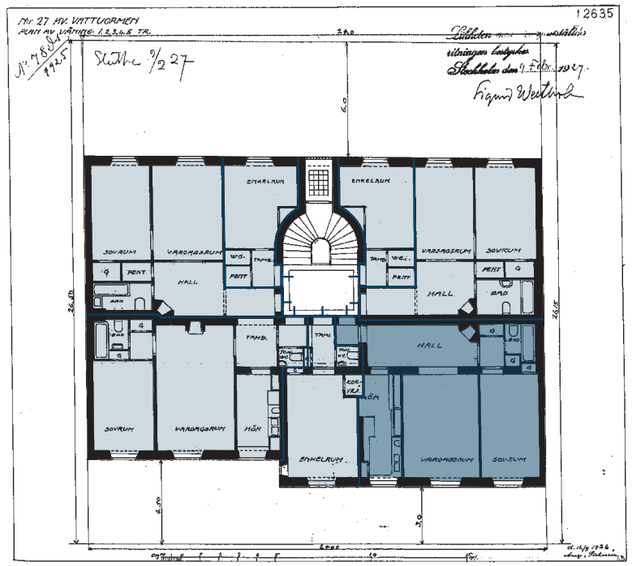

Fig. A.305. Original floor plan of analyzed object.

Property name: Vattuormen 28
Building year: 1923
Number of apts. per floor: 7
Square meters: 75 m²
Number of rooms: 2 + kitchen
Category: HSB

This building is placed close to Norr Mälarstrand, which is one of the most expensive areas in Stockholm today. It is therefore quite interesting that HSB built one of their projects here. These apartments are bigger than the average HSB apartment at the time, indicating that they might have focused on a slightly more well-paid target group.

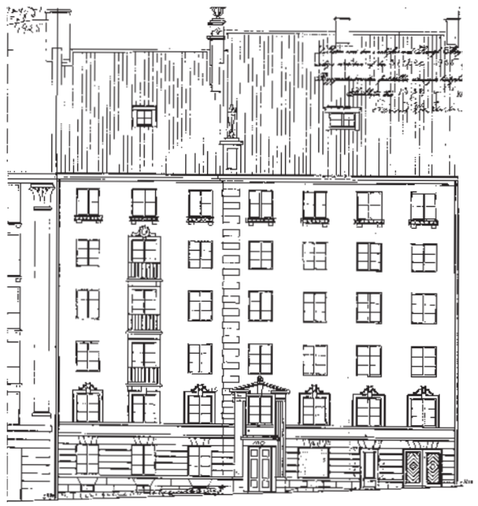

Fig. A.306. Street elevation of analyzed object.

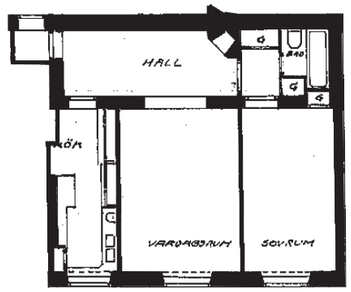

Fig. A.307. Original plan.

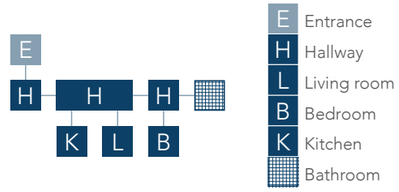

Fig. A.308. Space syntax of the analyzed dwelling.

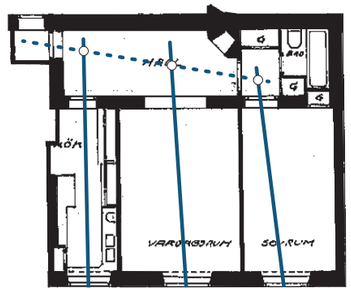

Fig. A.309. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

Axiality

This one-sided, two-room apartment features one main movement axis reaching all the way from the entrance trough the hallway. This axis is intersected at three points by the light axes from the windows in the different rooms. The simplicity in the disposition of this dwelling makes it easy to understand its layout, but does not offer a varied and interesting experience.

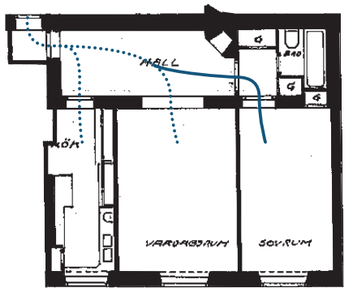

Fig. A.310. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Movement

Most of the movement is public, letting guests use the kitchen and living room. The more private movement leads straight forward into another inner hallway, into the private zone. This plan applies the more common characteristic of a neutral hallway connecting to the other rooms. Why its neighboring apartment was designed differently is difficult to deduce.

9 Vattuormen 1 · 2

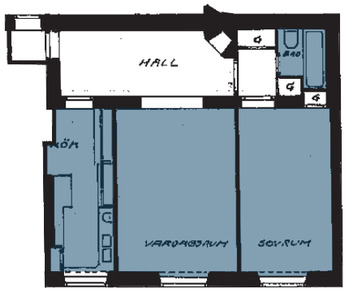

Fig. A.311. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The large hallway significantly decreases this object's efficiency rating to 70%, which is on the break mark of very poor and rather poor. The hallway does however almost function as its own room, with the fireplace that can lend natural light to an otherwise dark space.

Furnishable Space

This object's furnishability rate is with 54% a little below the average of all the analyzed objects. The large hallway does decrease efficiency, but is rather functional with over six square meters of furnishable space. This room can house i.e. a relatively spacious seating furniture close to the fireplace. The kitchen is with its narrow geometry simply a work place, and not furnishable in the least.

Fig. A.312. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

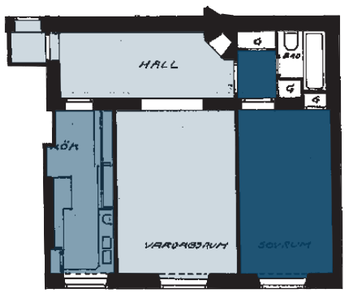

Fig. A.313. Analysis of social and private space. The darker the color the more private character of space.

Privacy

This dwelling has a firm plan with a social center in the big living room. The kitchen is easily accessed from the inner hallway as an extra partially social room. The private zone containing the big bathroom and bedroom is placed as far away from the entrance as possible. This creates a sense that the bedroom is a safe space for resting.

Outdated functions

No outdated functions.

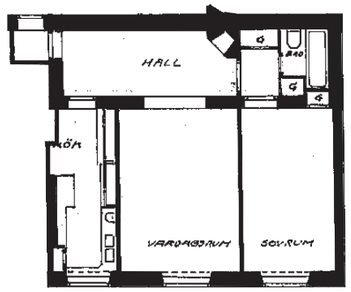

Fig. A.314. Analysis of rooms with outdated functions.

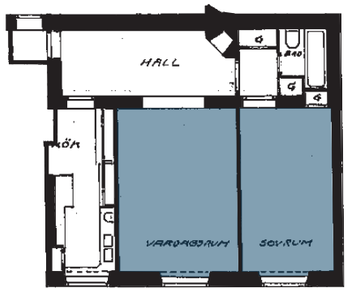

Fig. A.315. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms in this dwelling are adaptable to be swapped with each other, or switch function if needed. The bedroom is however closely linked to the big bathroom and a closet, strongly suggesting to act as the more private area of the dwelling. The very open connection to the hallway from the living room and the bigger size advocate for the functions to stay as they were designed originally.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

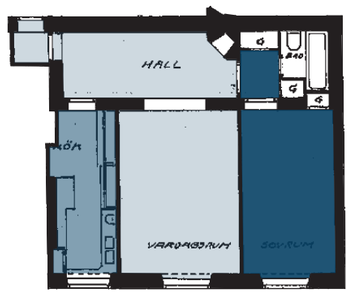

Fig. A.316. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

9 Vattuormen 1 · 2

Functions facing the street
All functions in this one-sided apartment are facing the street. This means that the noise level during night time will affect the bedroom, and there is only possibility for daylight during a shorter time span than the two-sided or corner ones.

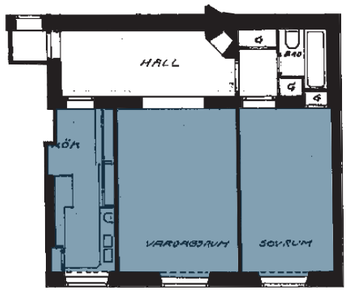

Fig. A.317. Analysis of rooms facing the street.

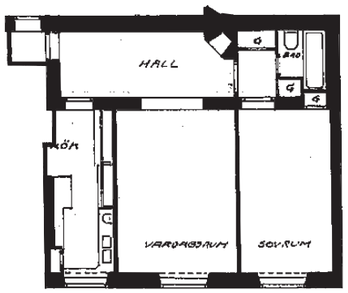

Fig. A.318. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As this is a one-sided apartment none of the functions are placed towards the courtyard.

Circulation
No possibilities for circulation.

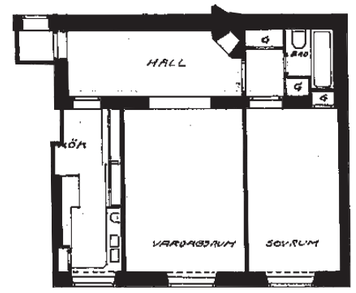

Fig. A.319. Analysis of possibilities of circulation within the dwelling.

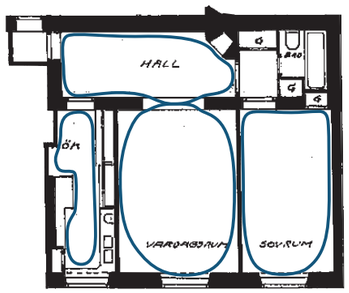

Fig. A.320. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
The space bubble in the bedroom indicate an enclosed expression. The one in the living room is connecting with the one in the hallway, exposing the openness between these spaces. Most of the hallway is active space, seeing that this room connects to all others. There is however a more passive side, creating a calmer space that can be used for a piece of furniture. The lower corners in the bedroom and living room are passive and make great spaces to furnish.

9 Vattuormen 2 · 1

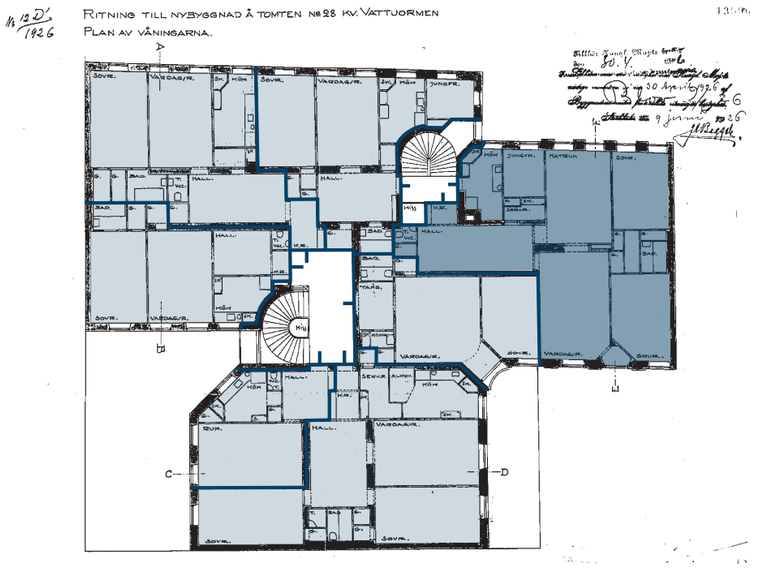

Fig. A.321. Original floor plan of analyzed object.

Property name: Vattuormen 28
Building year: 1923
Number of apts. per floor: 8
Square meters: 130 m²
Number of rooms: 5 + kitchen
Category: Bourgeois

This building features a rather odd plan as it acts as a node for the three surrounding volumes. The right east part creates an arch with the connecting building, framing the street and the block. The facade is simple with few ornaments and a steady rhythm of windows. The entrance is highlighted by classical ornaments and the windows above it differentiate from the others to further strengthen its expression.

Fig. A.322. Street elevation of analyzed object.

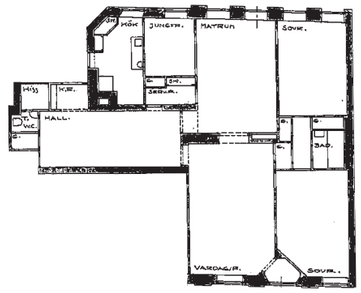

Fig. A.323. Original plan.

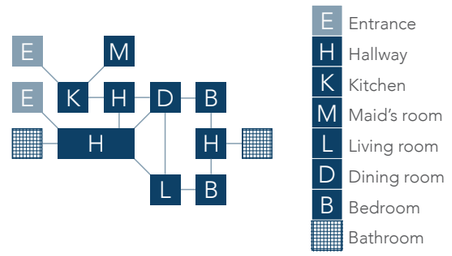

Fig. A.324. Space syntax of the analyzed dwelling.

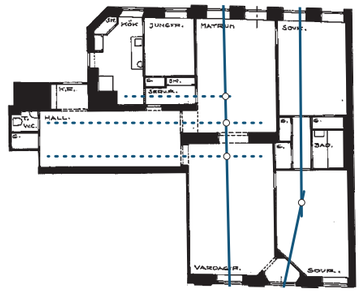

Fig. A.325. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

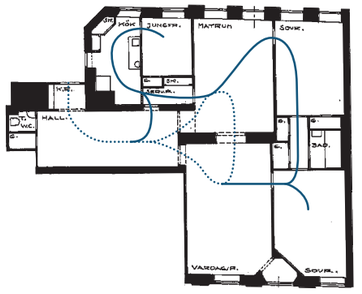

Fig. A.326. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

Three parallel axes define the movement within this dwelling. The two main ones are equal and start in the long hallway, to end up in the dining room and the living room, respectively. There is also one flowing from the kitchen to the dining room. These axes are intersected by a light axis crossing between the two sides making these rooms a powerful sequence. There are two side-axes of light flowing between the bedrooms, but cutting in the lower one due to the window placement.

Movement

The social movement in this bourgeois apartment is focused to the center of the plan, to the dining and living room. The kitchen is partially social as well meaning that guests casually move through the old service room and into this room too. If the old maid's room is kept as a bedroom the movement in here is highly private and not for guests. The social movement from the living and dining room continues as private to form a circulation pattern engaging the two bigger bedrooms.

9 Vattuormen 2 · 1

Fig. A.327. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The efficiency rate of this object is 70%, and on the break mark between rather poor and very poor. The oversized hallway significantly decreases efficiency and even though furnishable, without any source of even secondary daylight. The bathroom and communication package between the two bedrooms is more justified as a functional space.

Furnishable Space

At 58% furnishability rate, this object equals the average of all the analyzed objects. The large hallway might be dark and oversized, but rather furnishable. This room can house multiple storage possibilities and/or seating furniture. The overall size of the apartment does however indicate that the excess space in the hallway is not needed elsewhere.

Fig. A.328. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.329. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is a clear division of the space in this dwelling, ranging from social to private. The big hallway, dining room and living room act as the distinct social part of the apartment. Beside this social area, the private zone comprises of two big bedrooms and a bathroom package with adjoining closets. There is however another private room, the old maid's chamber, if still used as a bedroom. It might have been joined with the relatively small kitchen to join the semi-private part of this dwelling.

Outdated functions

The old maid's room might still be used as a bedroom or been joined with the kitchen. The secondary entrance is probably not in use as of today and the service room (serveringsrum) might be added to the kitchen as well, or kept the same but just referred to as a corridor.

Fig. A.330. Analysis of rooms with outdated functions.

Fig. A.331. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

The majority of the rooms in this dwelling are adaptable and they can change function easily, often only using furniture. However, the floor plan is not equally flexible. Most rooms feature one window which makes it impossible to split into two. The only two rooms with more windows would feature peculiar geometries if split.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.332. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

13 Vattuormen 2 · 1

Functions facing the street

This part of the building links two other, with streets on both sides, all the functions face a street. This means that the bedrooms might be exposed to annoying levels of noise, which can not be escaped. This area is mostly comprised of residential buildings and does not have a big road nearby, so this is probably not an issue in this example.

Fig. A.333. Analysis of rooms facing the street.

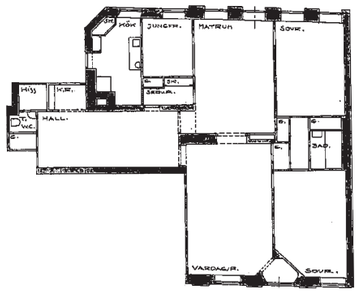

Fig. A.334. Analysis of rooms facing the courtyard.

Functions facing the courtyard

As this is part of the building link two others, with streets on both sides, no functions face a courtyard.

Circulation

An apartment of this size and number of rooms is bound to hold at least a couple possibilities for circulation of movement. This particular plan hosts three individual circulation points. This means that this dwelling offers a large number of movement sequences which lets mostly residents, but also guests, enjoy choices of how to move through it.

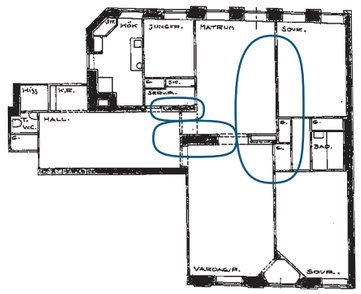

Fig. A.335. Analysis of possibilities of circulation within the dwelling.

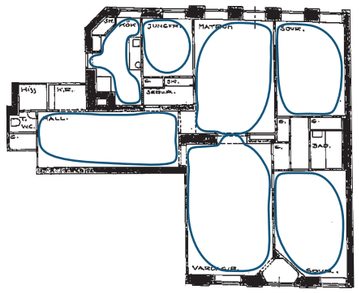

Fig. A.336. Analysis of encloseness and openness with the method of space bubbles.

Impression of space

This analysis shows that the living and dining rooms are strongly connected as the space bubbles touch slightly in the opening between the functions. The other space bubbles are separate from others indicating that those rooms feel enclosed and have stronger borders. The extremely big hallway feature some passive space, making sure it is fully furnishable. The lack of light in here does demand a lot from the interior to create a pleasant room.

13 Vattuormen 2 · 2

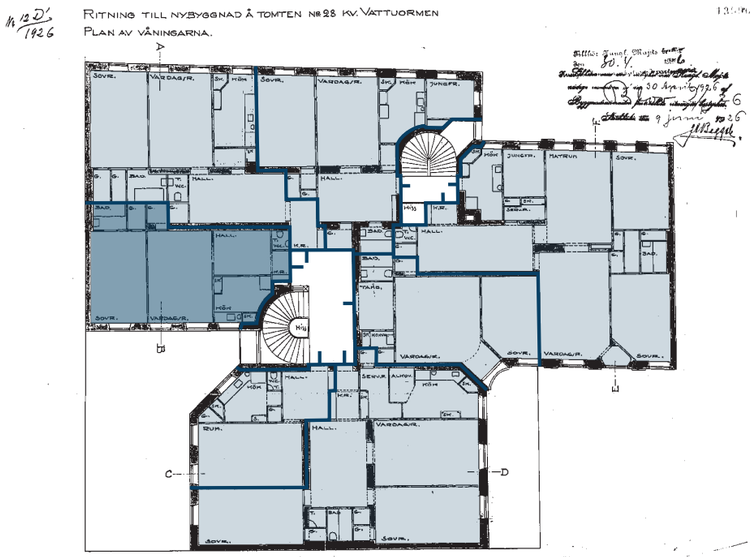

Fig. A.337. Original floor plan of analyzed object.

Property name: Vattuormen 28
Building year: 1923
Number of apts. per floor: 8
Square meters: 63 m²
Number of rooms: 2 + kitchen
Category: Bourgeois

This building features a rather odd plan as it acts as a node for the three surrounding volumes. The right east part creates an arch with the connecting building, framing the street and the block. The facade is simple with few ornaments and a steady rhythm of windows. The entrance is highlighted by classical ornaments and the windows above it differentiate from the others to further strengthen its expression.

Fig. A.338. Street elevation of analyzed object.

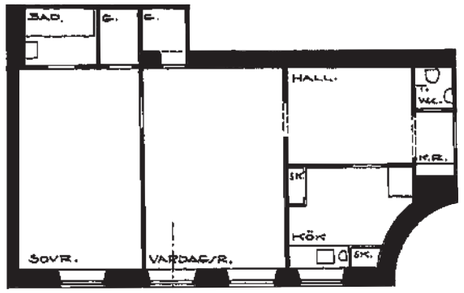

Fig. A.339. Original plan.

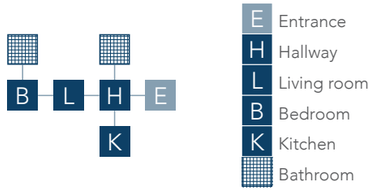

Fig. A.340. Space syntax of the analyzed dwelling.

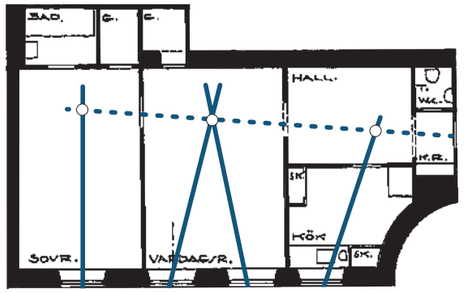

Fig. A.341. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

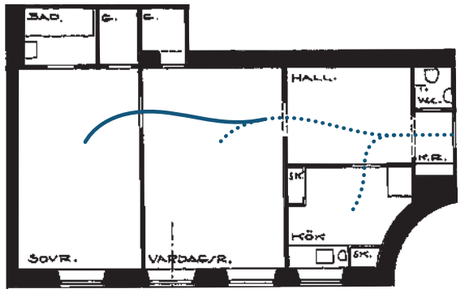

Fig. A.342. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

This one-sided, two-room apartment features one main movement axis reaching all the way from the entrance to the bedroom. This axis is intersected at three points by the light axes from the windows in the different rooms. The simplicity in the disposition of this dwelling makes it easy to understand its layout, but does not offer a varied and interesting experience.

Movement

Most of the movement is public, letting guests use the living room and kitchen. The more private movement leads one step further from the living room to the bedroom. This solution is rather unusual for this period. Most other like-sized apartments are two-sided and let a hallway be used as a neutral way of entering all other rooms. In this plan the user has to cross the living room to enter the private bedroom zone.

13 Vattuormen 2 · 2

Fig. A.343. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The ELS of this object is 76% which is considered rather poor, but is still one of the highest rates of all analyzed objects. The entrance and central hallway take up approximately 20% of the living area. In this case the hallway does not serve as a neutral distribution room to the others, only to the living room. The guest WC and entrance could have been swapped, to be able to enlarge the kitchen and reduce the size of the hallway.

Furnishable Space

This object's FS rate of 58% equals the average of all the analyzed objects. A majority of the hallway is free from communication which means that it can house furniture for i.e. seating or storage. The door from the hallway to the living room is placed approximately one meter from the edge of the room, creating a furnishable corner. The doorway to the bedroom in combination with the closet doors create an efficient communication hub, decreasing the furnishability as little as possible.

Fig. A.344. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.345. Analysis of social and private space. The darker the color the more private character of space.

Privacy

This dwelling has a firm plan with a social center in the big living room. The kitchen is easily accessed from the inner hallway as an extra partially social room. Added to the social zone is a guest WC, placed close to the entrance without any awkward connections to the other rooms. The private zone containing bedroom and en-suite bathroom is placed as far away from the entrance as possible. This creates a sense that the bedroom is a safe space for resting.

Outdated functions

No outdated functions.

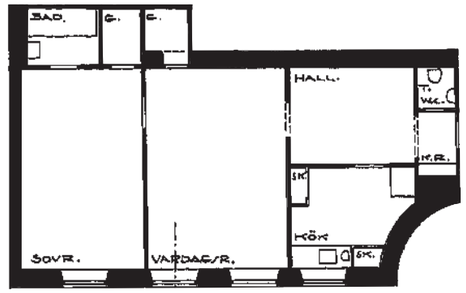

Fig. A.346. Analysis of rooms with outdated functions.

Fig. A.347. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Only the living room in this plan is adaptable. It is not possible to switch function with another room, but it is possible to split it into two. The living room is a cross-over room making it crucial to prolong the inner hallway to house neutral access to the new left room. A smaller room spanning from prolonged hallway and the facade could serve as a smaller bedroom.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Fig. A.348. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

13 Vattuormen 2 · 2

Functions facing the street
No functions in this one-sided apartment are facing the street.

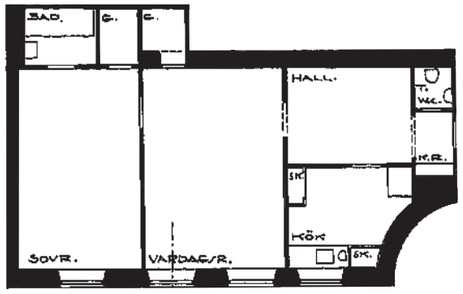

Fig. A.349. Analysis of rooms facing the street.

Fig. A.350. Analysis of rooms facing the courtyard.

Functions facing the courtyard
All functions in this one-sided apartment are facing the courtyard, making the whole dwelling quiet and tranquil. It might however offer less interesting views than those with street-facing windows.

Circulation
No possibilities for circulation.

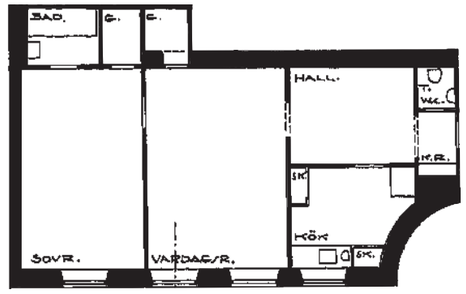

Fig. A.351. Analysis of possibilities of circulation within the dwelling.

Fig. A.352. Analysis of encloseness and openness with the method of space bubbles.

Impression of space
All of the rooms have separate space bubbles indicating that each room feels enclosed. The analysis shows that there is a lot of passive space in the hallway, indicating low space efficiency. These square meters could of course be furnished but without direct light it will not be a pleasant room. The bubble in the central room is almost fully symmetrical due to the window and door placements. The lower corners in both the bedroom and living room are passive and make great spaces to furnish.

14 Vattuormen 3 · 1

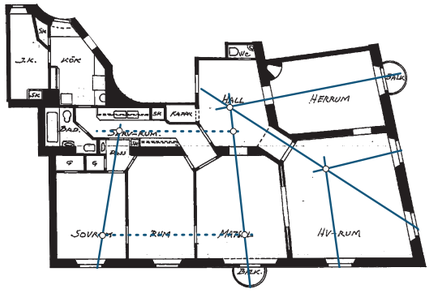

Fig. A.353. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

Axiality

This bourgeois apartment features two main movement axes. The first is defined by the old service passage. The other spans from through the two bedrooms to the dining room, placed close to the facade and the daylight. A prominent light axis reaches from the southwestern corner of the apartment all the way to the entrance where it is intersected by axes from the old gentlemen's chamber and dining room. The entrance hallway generously offers three sightlines through the other rooms.

Movement

There is a clear division of public and private movement. The dining room, living room and old gentlemen's chamber constitutes the social sequences. The more private movement leads through a small inner hallway, connecting to the bedrooms, bathroom and the kitchen. The kitchen is partially social as well meaning that guests casually move through the old service room and in here too. If the old maid's room is kept as a bedroom the movement in here is highly private and not for guests.

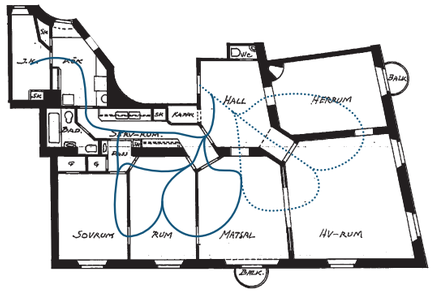

Fig. A.354. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

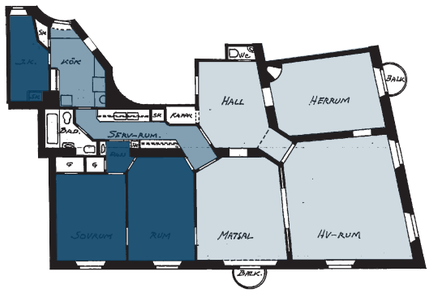

Fig. A.355. Analysis of social and private space. The darker the color the more private character of space.

Privacy

The hallway, old gentlemen's chamber, lounge and dining room act as a distinct social part of the apartment. The old gentlemen's chamber might be used as a library or extra bedroom, in the latter scenario this room becomes private. It would also be the reasonable room to sublet with its proximity to the entrance and the distance to the other private rooms.

Furnishable Space

This object's FS rate of 58% equals the average of all the analyzed objects. Thanks to its size, the hallway is somewhat furnishable despite the seven doors that intrude on its furnishable space. The most prominent space to be used for furniture is in the upper left corner. The large amount of entrances to each room enhances the variability in movement but reduces furnishability. The large size of the rooms compensate for this and create enough space for furniture despite this.

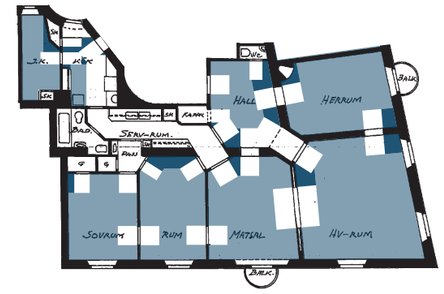

Fig. A.356. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

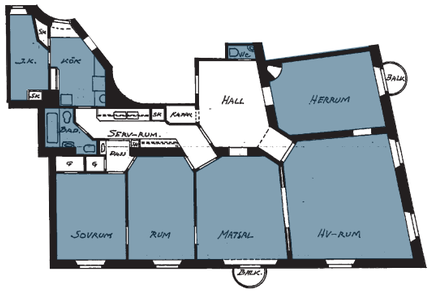

Fig. A.357. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The ELS rate for this object is 74%, which is considered rather poor and is a little below average of all analyzed objects. The hallway takes up approximately 15% of the living area of this apartment. This hallway acts as a neutral space to enter the corner rooms from but could have been smaller to increase efficiency.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

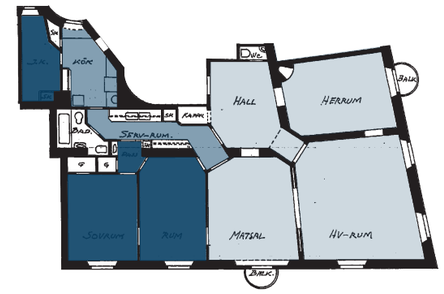

Fig. A.358. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

14 Vattuormen 3 · 1

Functions facing the street

As a corner apartment, there is naturally more facade area to be used towards the street rather than the courtyard. The representative rooms from 1920's are placed toward the street and enjoys the most daylight. Today, the kitchen could be switched with one of them due to its new social status. The kitchen and old maid's room could then be combined to form a new bigger room to be used as a bedroom or serve a social function.

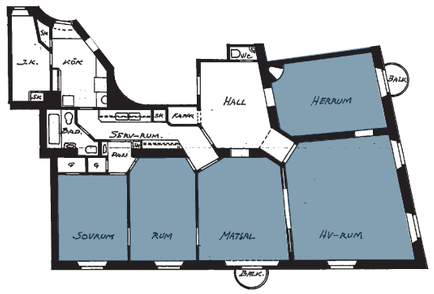

Fig. A.359. Analysis of rooms facing the street.

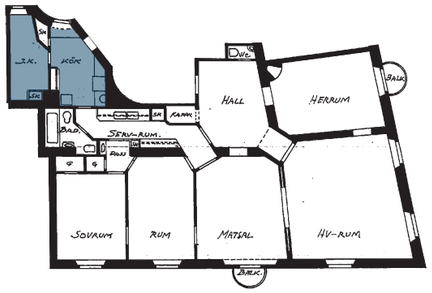

Fig. A.360. Analysis of rooms facing the courtyard.

Functions facing the courtyard

In this apartment there is a clear distinction of representative versus private rooms. The two rooms facing the courtyard, the kitchen and a smaller bedroom are approximately much smaller than the rooms facing the street. The functions facing this side are not designed to represent the residents as the rooms on the opposite side are.

Circulation

An apartment of this size and number of rooms is bound to hold at least a couple possibilities for circulation of movement. However, this particular plan hosts no less than six individual circulation points. This means that this dwelling offers a large number of movement sequences which lets mostly residents, but also guests, enjoy choices of how to move through it.

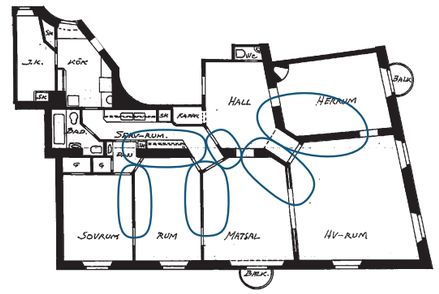

Fig. A.361. Analysis of possibilities of circulation within the dwelling.

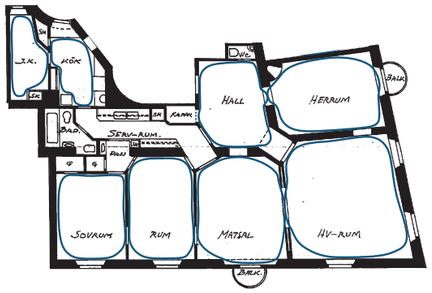

Fig. A.362. Analysis of encloseness and openness with the method of space bubbles.

Impression of space

The bubbles in the living room and dining room, and the one in the hallway and gentlemen's chamber connect in the doorways between them. This means that even if they are distinctive rooms, they can almost can be considered as one because of the open connections. This makes the social movement sequence understandable and indicates which rooms function as social. An interesting aspect of the space bubble in the hallway is the southwestern tip pointing towards the living room. Guests are drawn into the living room thanks to this reveal of the door frame.

14 Vattuormen 3 · 2

Fig. A.363. Original floor plan of analyzed object.

Property name: Vattuormen 33
Building year: 1923
Number of apts. per floor: 4
Square meters: 117 m²
Number of rooms: 5 + kitchen
Category: Bourgeois

This building is situated on Norr Mälarstrand and acts as an architectural backdrop from the southern side of Riddarfjärden. The facade is well-ornamented for the time and is characterized by the crown motif as part of the ornamental gable meeting the street. There are multiple balconies stirring up the otherwise orderly composition. A negative quality of this facade is the small and almost hidden entrance making it seem that it can become difficult to find it.

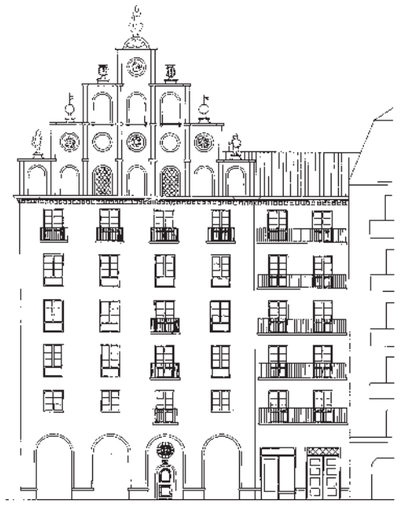

Fig. A.364. Street elevation of analyzed object.

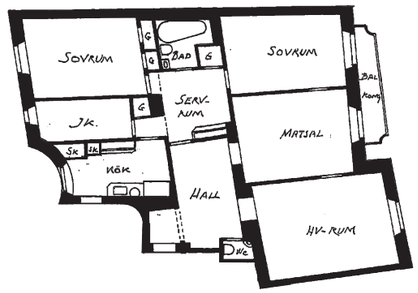

Fig. A.365. Original plan.

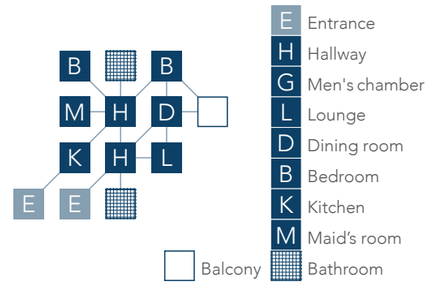

Fig. A.366. Space syntax of the analyzed dwelling.

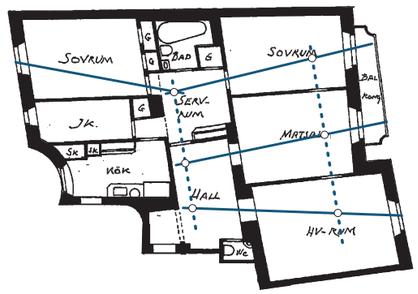

Fig. A.367. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

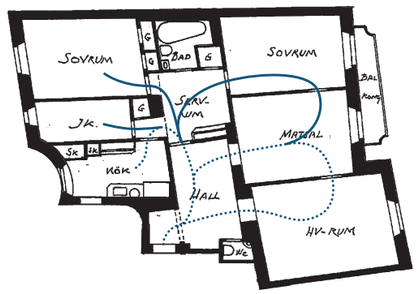

Fig. A.368. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

Two parallel movement axes define the main sequences within this bourgeois apartment. The central one ranges between the two central hallways, feeding to the other rooms. The side axis engages the social rooms and one of the bedrooms through a file close to the facade. The first hallway offers two sightlines to the exterior through the dining and living room, giving the user a spacious impression. This is a quite simple plan, with a dark neutral center feeding the other rooms and it does not offer anything out of the ordinary concerning axes.

Movement

There are multiple ways to move around this fairly big five-room apartment. The social movement feature one possibility for circulation, through the living room, dining room and hallway. Even though the kitchen has become more of a social room over the years, in this plan the kitchen is marked as characterized by private movement. This is due to the fact that there are several other social rooms featured in this plan, making the kitchen less needed for social interactions.

14 Vattuormen 3 · 2

Fig. A.369. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The ELS rate for this object is 74%, which is considered rather poor and is a little below average of all analyzed objects. The two hallways takes up approximately 20% of the living area of this apartment. These hallways are rather important to the plan however, acting as neutral spaces to enter the other rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

Furnishable Space

This object's FS rate of 58% equals the average of all the analyzed objects. Thanks to their sizes, the hallways are somewhat furnishable despite the many doors that intrude on their furnishable space. The large amount of entrances to each room enhances the variability in movement but reduces furnishability. The large size of the rooms compensate for this and create enough space for furniture despite this.

Fig. A.370. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Fig. A.371. Analysis of social and private space. The darker the color the more private character of space.

Privacy

The hallway, living and dining room act as a distinct social part of the apartment. The bedrooms constitute the private part of the dwelling, with the semi-private kitchen and hallway dividing the spaces. The kitchen is marked semi-private due to the number of other social rooms featured in this apartment. There is a sound proportion of area used between the different activities, with almost a third for each.

Outdated functions

The old maid's room and the service room belong to the outdated functions of this dwelling. The maid's room might still be used as a bedroom or been joined with the kitchen. The service room (serveringsrum) is most likely kept the same but just referred to as a corridor. The secondary entrance is probably not in use as of today.

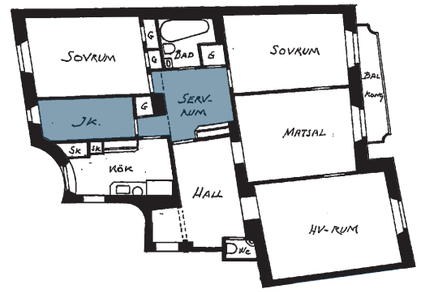

Fig. A.372. Analysis of rooms with outdated functions.

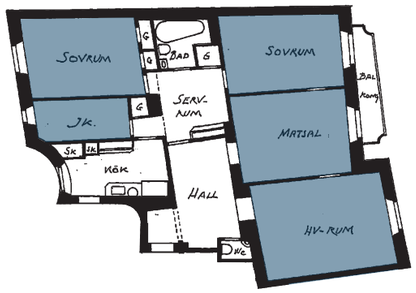

Fig. A.373. Analysis of adaptable rooms, that may be used for different function over time.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Adaptability

The majority of the rooms in the analyzed dwelling are adaptable. This means that most of the rooms can change function easily, most often using only furniture. Even if the rooms could be considered adaptable, the floor plan is not equally so. Most rooms feature one window which makes it impossible to split into two. The only room with two windows is the corner one which would create two peculiar geometries if split.

Fig. A.374. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

14 Vattuormen 3 · 2

Functions facing the street

The living room, dining room and one of the bedrooms are placed toward the street. It makes good sense to let social functions enjoy a lot of the daylight but at the same time be exposed to the noise from the street. This might make the bedroom on this side a bit uncomfortable if it is heavily trafficked.

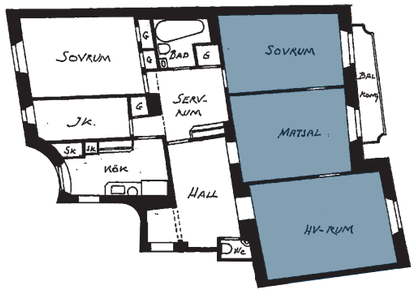

Fig. A.375. Analysis of rooms facing the street.

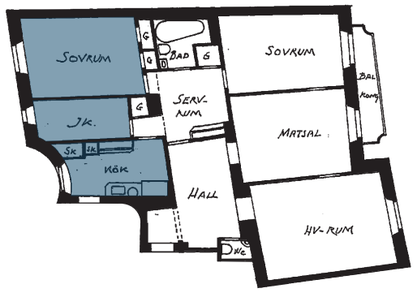

Fig. A.376. Analysis of rooms facing the courtyard.

Functions facing the courtyard

The biggest bedroom, old maid's room and kitchen are placed towards the courtyard and therefore are less exposed to noise. The kitchen has probably been placed toward this side as it was not a representable room when built. The kitchen has changed status over the years and can easily be placed in tighter connection to the social rooms towards the street instead. This would make it possible to create a more quiet second bedroom on the courtyard side.

Circulation

An apartment of this size and number of rooms is bound to hold at least a couple possibilities for circulation of movement. This particular plan hosts two individual circulation points. This means that this dwelling offers some choices of movement sequences, adding to a spacious impression.

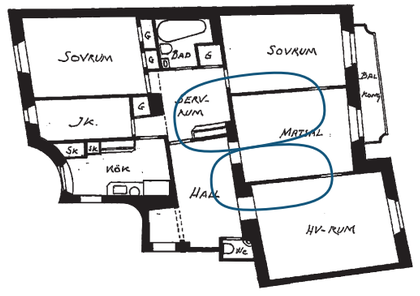

Fig. A.377. Analysis of possibilities of circulation within the dwelling.

Fig. A.378. Analysis of encloseness and openness with the method of space bubbles.

Impression of space

This analysis shows that the living and dining rooms are strongly connected as the space bubbles touch slightly in the opening between the functions. The other space bubbles are separate from others indicating that those rooms feel enclosed and have stronger borders. The extremely big hallway feature some passive space, making sure it is fully furnishable. The lack of light in here does demand a lot from the interior to create a pleasant room.

3 Ässjan · 1

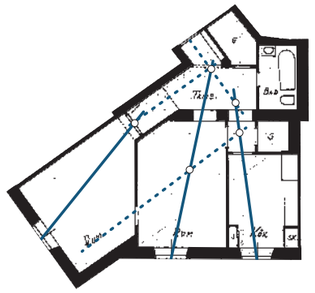

Fig. A.379. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

Movement

There are multiple ways to move around this fairly small two-room apartment. The social movement is focused to the kitchen and living room, with one possibility for circulation around a small piece of a load bearing wall. The private movement adds a path through the bedroom. It is accessible from two sides creating another possibility for circulation.

Axiality

There are a rather large number of axes relative to this object's size. Two of the three main movement axes are defined by the hallway geometry. The third is defined by the exterior wall and spans from the bedroom, through the living room to the small hallway connecting to the kitchen. One of the light axes reaches a point in the hallway also crossed by two of the movement axes. From this point the user can enjoy a sightline to the exterior, through the living room and choose one of three ways to move.

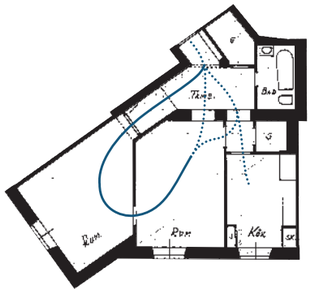

Fig. A.380. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Fig. A.381. Analysis of social and private space. The darker the color the more private character of space.

Privacy

This dwelling consists of two rooms plus a kitchen, where both of the regular rooms are adaptable. The main cause to classify the central room as social, and therefore the living room, is the connection to the hallway. There seems to be an opening in the wall, without a complementary door. It is also closer to the kitchen, creating a distinct social part of the apartment, while the private bedroom is placed on one of the sides.

Efficient Living Space

The ELS rate for this object is 72%, which is considered rather poor and is a little below average of all analyzed objects. The hallways take up approximately 20% of the living area of this apartment. These hallways act as neutral spaces to enter the other rooms from, but the connection to the left room costs quite a lot in efficiency. This situation could be interesting to investigate how to improve design-wise.

Fig. A.382. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Fig. A.383. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

Furnishable Space

The FS of this apartment is 51% which is one of the lowest of all the analyzed objects. The hallways all serve purely communicative purposes and no furnishable space is left untouched. The doors between the living room, kitchen and hallway are concentrated to a communication hub in the upper right corner, decreasing furnishability as little as possible while adding movement variability.

Fig. A.384. Analysis of activities arranged in order from lighter to darker hue: social, rest and work.

3 Ässjan · 1

Functions facing the street
All functions in this one-sided apartment are facing the street. This means that the noise level during night time will affect the bedroom, and there is only possibility for daylight during a shorter time span than the two-sided or corner ones.

Fig. A.385. Analysis of rooms facing the street.

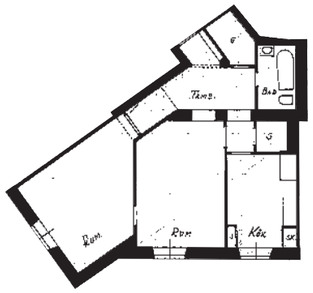

Fig. A.386. Analysis of rooms facing the courtyard.

Functions facing the courtyard
As this is a one-sided apartment none of the functions are placed towards the courtyard.

Adaptability
Both of the regular rooms are adaptable in this apartment, due to their sizes and the central hallway creating a neutral space to enter each room from. However, it does seem that there is an open connection from the living room to the hallway, making this room less fit to function as a bedroom. There is no possibility to split any of the rooms into two, since there is a limited amount of windows.

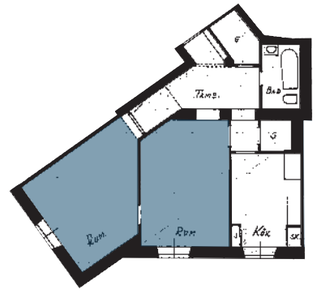

Fig. A.387. Analysis of adaptable rooms, that may be used for different function over time.

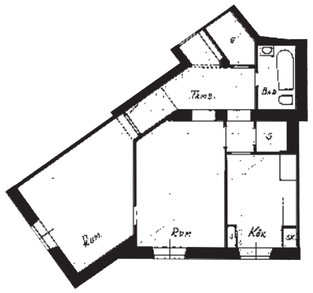

Fig. A.388. Analysis of rooms with outdated functions.

Outdated functions
No outdated functions.

3 Ässjan · 2

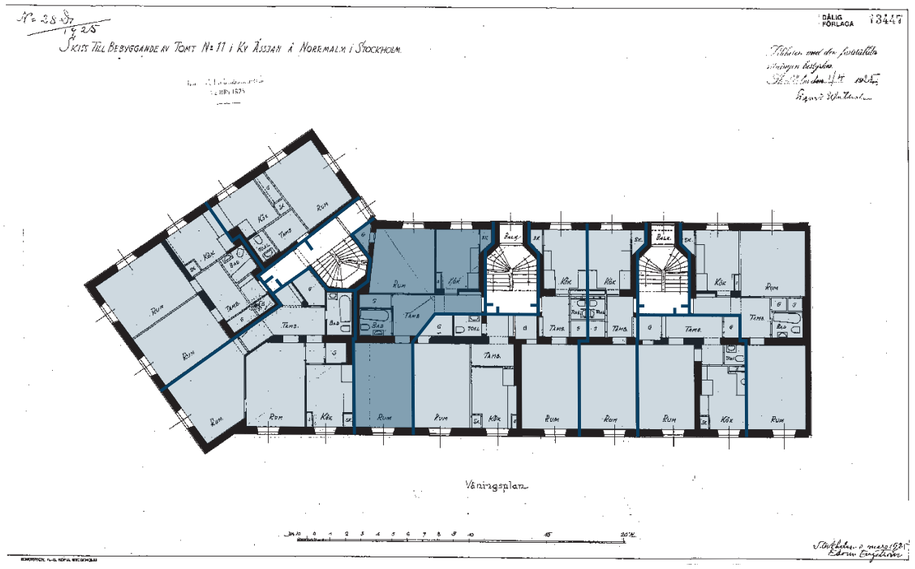

Fig. A.389. Original floor plan of analyzed object.

Property name: Ässjan 11
Building year: 1925
Number of apts. per floor: 9
Square meters: 68 m^2
Number of rooms: 2 + kitchen
Category: SKB

This SKB-object is located in the northern part of Stockholm's inner city. The facade has a very low level of perforation, creating a slow rhythm for observers. The top floor is accentuated by a cornice, but the small distance to the roof almost makes it disappear. This is probably a conscious design choice, making the volume more connected to the human scale.

Fig. A.390. Street elevation of analyzed object.

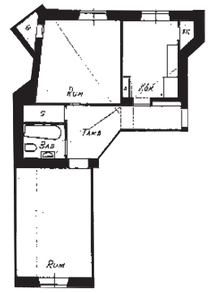

Fig. A.391. Original plan.

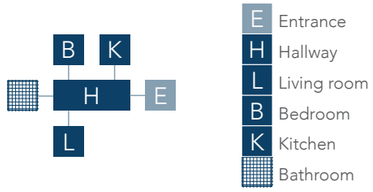

Fig. A.392. Space syntax of the analyzed dwelling.

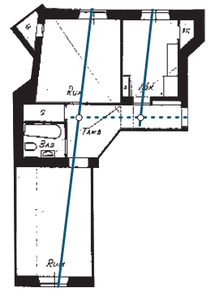

Fig. A.393. Analysis of axes, dashed lines represent movement and full lines light. Intersections between the axes highlights important points within the dwelling.

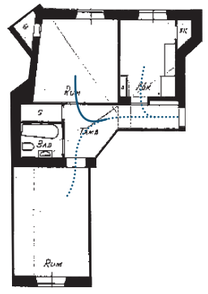

Fig. A.394. Analysis of representative and private movement within the dwelling. Dashed line shows representative and full line shows private movement.

Axiality

The only movement axis flows from the entrance through the central hallway. This is intersected by a light axis spanning the two sides of the apartment, offering double sightlines at the same point. It is also crossed by a light axis from the kitchen window. These light axes are well placed to let users enjoy sightlines to the exterior in most places in this small apartment. The axis spanning the whole dwelling makes this small apartment seem more spacious and offer light from two directions.

Movement

In a small-sized apartment like this, there is not many different possibilities to move around. Instead a simple movement sequence takes place and lets the rooms be as spacious as possible.

3 Ässjan · 2

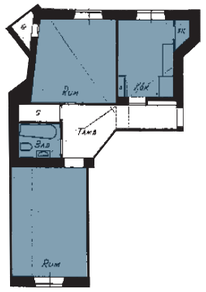

Fig. A.395. Analysis of efficient living space ELS. The covered area describes the efficient space, in this case XX percent of the total dwelling size.

Efficient Living Space

The ELS rate for this object is 76%, which is considered rather poor but is a little above average of all analyzed objects. The hallway takes up approximately 20% of the living area. This hallway is rather important to this plan however, acting as a neutral space to enter all the rooms from. It also makes the other room geometries more reasonable as they would otherwise be quite elongated and less efficient in themselves.

Furnishable Space

The FS of this apartment is 62% which is above average of all the analyzed objects. The fact that part of the central hallway is free from communication means that it can house furniture for i.e. seating or storage. The doors to the bedroom and living room are placed close to the corner or center of the rooms. This keeps as much continuous space free and increases furnishability.

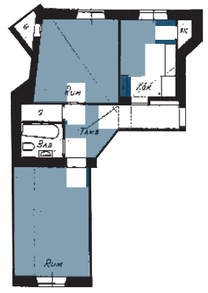

Fig. A.396. Analysis of furnishable space FS. The lighter hue describes furnishable space and the darker represents space that is indirectly not furnishable due to its size.

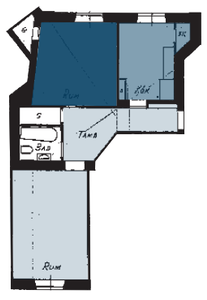

Fig. A.397. Analysis of social and private space. The darker the color the more private character of space.

Privacy

There is a social diagonal in this dwelling, engaging the living room, central hallway and kitchen. The northeastern room becomes the most private, which works well in the outer corner of the apartment. However, the bedroom is a slightly oversized which decreases the space efficiency.

Outdated functions

No outdated functions.

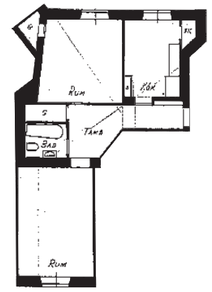

Fig. A.398. Analysis of rooms with outdated functions.

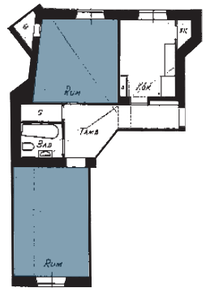

Fig. A.399. Analysis of adaptable rooms, that may be used for different function over time.

Adaptability

Both of the regular rooms are adaptable in this apartment, due to their sizes and the neutral central hallway. The bedroom and living room can switch functions in between themselves or change fully depending on the resident's needs and preferences. The northeastern room does however have an adjoining closet, indicating that this room would work best as a bedroom.

Activities

The activity diagram is closely linked to the privacy diagram as the rooms that function as social are more public, work rooms are a bit more private and the rooms for rest are most private. The most prominent room within the work category, the kitchen, has become more social over the years and can be seen as a part of the social movement sequence.

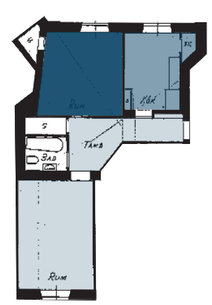

Fig. A.400. Analysis of activities arranged in order from lighter to darker hue: social, work and rest.

3 Ässjan · 2

Functions facing the street
The only function facing the street is the living room, which makes sense considering noise levels. The room is directed toward west, making the evening sun enter here. This is well in coordination of when the room will be used most.

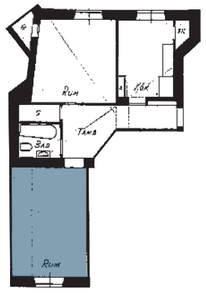

Fig. A.401. Analysis of rooms facing the street.

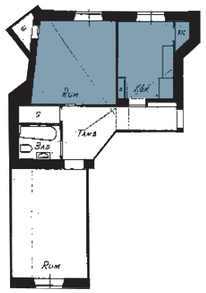

Fig. A.402. Analysis of rooms facing the courtyard.

Functions facing the courtyard
The northeastern room is most probably used as a bedroom due to the lower noise levels from the courtyard as well as the adjacent closet. The kitchen is also placed towards the courtyard, but could as easily be facing the street as it does not require the same low noise level as the bedroom. It is placed close to the entrance, making it easy to fill up with groceries after shopping.

Circulation
No possibilities for circulation.

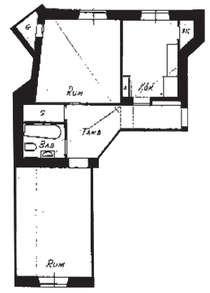

Fig. A.403. Analysis of possibilities of circulation within the dwelling.

Impression of space
The kitchen and the bedroom have separated space bubbles indicating that they feel enclosed. Most of the hallway is active space, seeing that this room connects to all others. There is however a more passive area, opposite the bathroom, making space for a piece of furniture. The hallway bubble is almost merging with the living room bubble, indicating an open connection between the two.

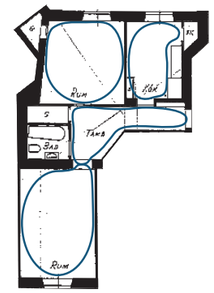

Fig. A.404. Analysis of encloseness and openness with the method of space bubbles.

Summary ELS and FS

Highest efficiency: 80%

Fig. A.405. Object 9.1 with the highest rated efficiency.

Highest furnishability: 68%

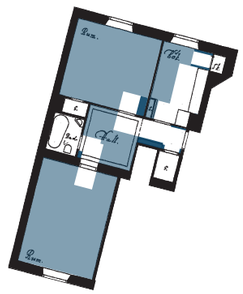

Fig. A.406. Object 2.1 with the highest rated furnishability.

Lowest efficiency: 69%

Fig. A.407. Object 4.3 with the lowest efficiency rate.

Lowest furnishability: 46%

Fig. A.408. Object 4.3 with the lowest furnishability rate.

%	Efficiency rate	Furnishability rate	%
71	1 · 1		58
71	1 · 2		61
78	2 · 1		68
78	2 · 2		62
74	2 · 3		61
72	3 · 1		51
76	3 · 2		62
79	4 · 1		64
78	4 · 2		63
69	4 · 3		46
73	5 · 1		56
79	5 · 2		61
70	6 · 1		53
76	7 · 1		65
75	7 · 2		61
75	8 · 1		52
80	8 · 2		66
77	8 · 3		59
80	9 · 1		57
70	9 · 2		54
71	10 · 1		56
72	10 · 2		55
73	11 · 1		54
78	11 · 2		55
72	12 · 1		56
70	13 · 1		58
76	13 · 2		58
74	14 · 1		58
74	14 · 2		58

Fig. A.409. Summary of each object's ELS and FS rate.

SWEDISH GRACE 100

CHALMERS

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