Passage Compositions

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DEGREE PROJECT IN ARCHITECTURE SPRING 2019 by Sandra Al-Neyazi
KTH STUDIO 3 SUPERVISORS: Karin Matz, Rutger Sjögrim, Helen Runting
The field between Stockholm University Frescati campus and the student housing area of Lappkärrsberget, commonly known as Lappis, is today used as a passage – otherwise it is completely empty. This passage is a naturally created shortcut by thousands of students living there, because it is simply a faster way home than the constructed pathway beside it.

My proposal is to add a structure along this passage, to activate this walk home from the metro station and University. An open ground level with space for rest and leisure, available for everyone passing by. A study lounge, silent study, cafeteria, terrace and rental space for exhibitions and gatherings. One can simply decide to only use the shortcut, which is partly under roof, or stop by to read a book and socialize over a coffee. There is also an evident lack of student housing in Stockholm, so a number of student apartments will be added above. In this way the passage is not only a walk home, but it also becomes a home itself. Naturally, this type of housing should be space efficient, so I wanted to maintain the idea of sharing. Sharing common spaces also encourages social interaction and bonding between students, who in this area are often international with a desire of getting to know new people. Instead of the typical corridor plan (that can be found in Lappis, for instance) where a long row of rooms lead up to a common space at the end, this common kitchen and living room has another shape within same distance to every apartment.

In parallel with this, my focus has lied on architectural representation. How is architecture represented? Is it only through the traditional way, with a full set of drawing documents that only some can read? Should it be both two- and three-dimensional, or can they be combined? The Composite Drawing is a representation technique where several different projections are combined into one drawing. It can even include notations, parts of a process or be of varying scale. Is this way of displaying architecture complicating things, or could its unconventional look attract a wider audience or even be seen as art or graphic design? Maybe it can expose atmospheric qualities of a project in a way that a traditional drawing can’t?

As the term progressed, the project became driven by geometry and symmetry. My focus shifted – I realized that all design decisions were a result of the angle of the passage. Parallel lines, intersections, and of course, the 90 degree angle of the triangle. I looked at work by architects associated with geometries, and concluded by making an axonometric, like John Hejduk did representing Diamond House. Maybe this would strengthen these shapes instead of striving for a complex drawing. Also, there is a huge difference between making representations of a final product, and using a drawing tool to drive a project forward. What started with footsteps on a snowy field in January, resulted in a constructed path. A path that concludes my 5 years at architecture school, a process of constantly challenging myself with new drawing tools and seeking for graphic and programmatic inspiration from sites and references. It does not take away the qualities of the original shortcut, instead it strengthens it in a subtle way and allows for new spaces needed, while the rest of this huge open field remains in it’s calmness, quietly awaiting future challenges.

**PROGRAM**

<table>
<thead>
<tr>
<th>Room Type</th>
<th>Size (m²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>72 x Student room</td>
<td>18 m²</td>
</tr>
<tr>
<td>12 x Common kitchen/living room</td>
<td>76 m²</td>
</tr>
<tr>
<td>Study lounge</td>
<td>195 m²</td>
</tr>
<tr>
<td>Silent study</td>
<td>50 m²</td>
</tr>
<tr>
<td>Cafeteria</td>
<td>195 m²</td>
</tr>
<tr>
<td>Outdoor terrace-park</td>
<td>120 m²</td>
</tr>
<tr>
<td>Rental space (exhibitions etc.)</td>
<td>195 m²</td>
</tr>
</tbody>
</table>

≈ 3100 m² (+ circulation)
PUBLIC  SEMIPRIVATE  PRIVATE

LEVEL 1-2

LEVEL 0

“TRIANGULAR”

“SQUARED”

“SCATTERED”

DIFFERENT SHAPES + PROGRAM DISTRIBUTION
TWO PACES OF THE PASSAGE: “FAST & SLOW”
FLOWS IN DIFFERENT PLAN VARIATIONS
"ROOF GEOMETRIES": 3 VARIATIONS OF A ROOF CONNECTING THE TWO UNITS
FACADE REFERENCE: Extension Swiss Embassy by Diener & Diener Architekten (Berlin, 2000) (2 upper images)

CONCRETE STRUCTURE (400MM WALLS) VISIBLE IN EXTERIOR AND INTERIOR OF ALL SPACES EXCEPT STUDENT ROOMS (LIGHT WHITE FLOOR COVERING)

Casa de’ll Accademia by Jahen Könz, Ludovica Molo, Carola Barchi (Mendrisio, 2006) (right)

STEEL FRAMED GABLE ROOF WITH METAL ROOF COVERING 5° PITCH, MEETS IN 2 POINTS

LIGHT/WHITE LINOLEUM FLOOR COVERING

PASSAGE: HEXAGON SHAPED STONE PAVING

CONSTRUCTION AND MATERIALS PALETTE + REFERENCES
EXPLODED AXONOMETRIC DRAWING
COMPOSITION OF: PUBLIC GROUND LEVEL
PASSAGE WALK
STUDENT ACCOMODATION
CONNECTING ROOF
OUTFOLDED FACADE
PROCESS PLANS/GEOMETRIES

ORIGINIAL SCALE 1:50 (paper size 1066x1800mm)
I started off by finding some books to give me inspiration on architectural drawings. I also read many articles on the “post-digital drawing” that I found really interesting. Offices/websites that were mentioned a lot: Fala Atelier, KooZArch, KGDSV, Superstudio, Archigram...

An article Bildanalysens återupptäckande (by Josefinna Lexin, published in Skalan #5 Liv och död, November 2018) discussed the fact that the swedish architectural education went from being a part of Konstakademien, an art institute in Stockholm, to now be at a technical university (KTH). Why does it have to be only one thing? Can’t architecture consist both of art and construction? This is a change that can be seen in the way we make drawings (hand-drawn vs. 3D renderings etc.)

Another reference I looked at: Disappear here, an exhibition on perspective by Sam Jacob. It was a bit hard to get a full understanding of the exhibition (not being able to physically visit it), but I found some articles that gave reviews/reflections on it. Some explanations/quotes from the website of Sam Jacob Studio:

“Drawings are hung according to the logic of their vanishing points, so that the vanishing point of one drawing determines the position of another. This forms a huge meta drawing connecting each of the originals into a large spatial arrangement.”

“By placing this historical material within an unconventional contemporary space, the relationship between art, architecture and mathematics is exposed.”

“For me it seems like what Sam Jacob wants to show, is that the perspective is not just a representation technique but also an organizing principle. It also showcases many “classics” when it comes to architectural drawings, made by Palladio, Superstudio, Boullee etc.”

For Jonathan Hill (2006) Drawing Research, The Journal of Architecture, 11:3, 329-333 an article I read that focuses on the meaning of the drawing from a historical view (mainly Italian Renaissance). Drawing, writing and building are all equally important to architectural research (not everything drawn is built etc.). Disegno (Italian) = design = drawing of a line on paper AND the drawing forth of an idea.

Some sketch-ideas on a structure around the path.

I started studying this reference to get an idea of a program for my project. I liked the idea of sharing some common spaces (kitchen and livingroom), but with not as many as in a “traditional” student corridor.

Their program (from what I could read from the website and drawings):
18x Studentlägenheter 90kvm: 4 rum, 2 WC, 1 kök, 1 vardagsrum
1x Tvättstuga
1x gemensam lokal (“fritidslokal”? 88kvm
1x Cykelrum 88kvm?
1x “inner”gård
16x parkeringsplatser utomhus
1 hiss, 2 trappor
I wanted to find some shortcuts/paths in the city to get an idea of scale. How do different dimensions affect the atmosphere and feeling of walking in that passage? One example: Brunkebergstunneln in the central Stockholm. 231m long, 4m wide and 3.9m high. It is a tunnel for pedestrians and bikes, a shortcut that passes under Regeringsgatan and Malmohusgatan, used by many. It can feel a bit claustrophobic because of the length and depth, but is very useful (especially during winter and heavy traffic).

I asked a group of friends who currently live/have lived in Lappis what they thought was missing in the area (as a public space/service). Some answers I got:

‘Lappis has a sauna and gym. What was missing in my opinion when I was there was a good place to study. I was going to the KTH library and a coffee or some cosy place to hang out (professorn is not really nice), and Café Pica is only open a few times a year. Maybe a common area that people can rent for art projects (I wanted to make a photo exhibition but didn’t find a place to do it)”
- Youssef Boulkaid, 5.2.2019

‘I always felt myself like living in a ghetto in Lappis as it is very isolated from the rest of the world by the water, forest, highway and the field from all four sides. The area that you are looking at I think shall be serving as a bridge to brake this isolation feeling. Some nice common areas like park with benches, swings, cosy hipster things and some kiosks with cafe and food. These little areas in Lappis are very close to the leaving space – that both is annoying as it’s getting a mostly getting very noisy and ppl just drink there... plus creates this ghetto feeling like one is never getting out of the hood. Some common space under the roof is good too, so students can book it for the events and have possibly to sit and study there”
- Anna Vasilevskaya, 5.2.2019

In my site plan I mapped out these services that already are provided in the area, to get another view on what’s missing.

→ Exhibition space, Study area/library (not only SU students!), Café/dining area?

Sergelgången - another shortcut/path (indoors) in central Stockholm. Wider than Brunkebergstunneln but lower ceiling height.

A walk that passes by glassed storefrons, a concept I could follow except the stores would be replaced with non-commercial public spaces (not shopping).
Developed the plan and tested to separate the two triangles, to place them more "along" the path rather than a large unit in the middle of it.

- possibility for an outdoor seating area/park (something that was lacking in the area) connected to a café
- shorter walk under roof on the groundfloor
- more light to the facing facades (the common kitchen spaces)

Working in 3D (Rhino) in order to all the time see the structure as a whole and get all different projections to test out in representation.

How to display all projections I see in the program on one single drawing?

Idea: axonometric on one side and plan on the other, with unfolded facades?

Sketch model 1:200: meeting of two glass walls, the triangular common kitchen.

Composite test 1: unfolded section & facade from the plan, where one side shows the groundlevel and the other levels 1> (because everything is mirrored anyway).

Left to right: Forum (near KTH), Fyrtalet (Gärdet), Jerum (Gärdet), Lappis (near SU)
in all of these the rooms are 17-18m², common kitchen/livingroom is around 40m².
From 8 to up to 15 studentrooms share one. In relation to my proposal (shared room around 80m²) it is almost half the size, but if you would count in the area the corridor takes the difference would not be as big. From my own experience the shared space was not the nicest to spend time in, only when I had to because of kitchen utilities, maybe this new common room could become something else?

Newly built Strix in Västra Skogen. Shared corridors are not being built anymore. Instead "studentettor" that look like normal 1 room apartments.

Looked at existing student housing in Stockholm, both old and newer projects. How big is one corridor “unit” in relation to mine? How big is the common room/kitchen?

Developed the plan and tested to separate the two triangles, to place them more "along" the path rather than a large unit in the middle of it.

- possibility for an outdoor seating area/park (something that was lacking in the area) connected to a café
- shorter walk under roof on the groundfloor
- more light to the facing facades (the common kitchen spaces)
A closer look from the central “corridor” into the common room/kitchen. What is this big space with a long wall and a row of doors? To look into the neighbouring one on the facing facade - without being able to “touch” it because of the “pulled apart” plan.

> Groundlevel with a double ceiling height + 3 floors of studentapartments?

WROTE A “PROJECT STATEMENT” - a text to use as an introduction when presenting my project, that summarizes the main ideas, method, site and program. First title idea: “Passage Compositions”?

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In parallel with this, my focus has lied on architectural representation. How is architecture represented? Is it only through the traditional way, with a full set of drawing documents that only some can read? Does it have to be both two- and three-dimensional? Maybe this endless set of projections can be minimized? The Composite Drawing is a representation technique where several different projections are combined into one drawing, instead of displaying all separate drawing documents. It can even include notations, parts of a process or be of varying scale. Is it possible to fully represent a building in this way, or will some information be missed or hard to grasp? Is this way of displaying architecture complicating things, or could its unconventional look attract a wider audience and even work as a piece of art? Maybe it can expose atmospheric qualities of a project in a way that a traditional drawing can’t?
MID-CRIT SEMINAR! 14-15 MARCH, Studio 3 + 8
Critics: Hélène Frichot, Adria Carbonell, Helen Runting, Rutger Sjögren

Personal notes from feedback:
- Storytelling doesn’t “match” what I’m displaying?
- Hard to grasp/connect everything? For example, how does the student housing relate to the representation?
- Choose what is most important, choose one way to proceed with the program (and the drawing)?
- Focus on geometries! See a lot of that in the project (angles etc.)
- References: Valerio Olgiati, Smiljan Radic
- Is the place really “gaining” anything from my addition? (Does the path get more natural/pleasant as I described?) Or will it just make people go another way? Maybe the addition just slows them down?
- Windows in the elevation look “weird” in relation to each other
- Dark spaces in the middle right now...

- BIRGER JARLSPASSAGEN – another passage in central Stockholm, under housing.
- A look at references from Mid Crit, architects who work with angles and geometries.

A look at references from Mid Crit, architects who work with angles and geometries.

House for the Poem of the Right Angle by Smiljan Radic (Chile, 2010-2012)
Plan drawing with notations and lines/angles

Source: https://www.archdaily.com/901267/celine-flagship-store-valerio-olgiati?ad_medium=gallery
Céline Flagship Store by Valerio Olgiati (Miami, 2018) with “pyramidal” forms. One of his many projects with interesting shapes and representations.

National Park Centre (Olgiati, Switzerland, 2008) is a building that from the outside seems extremely regular, while the inner spaces reveal both regularity & irregularity.

New site model 1:500 (only passage - road - path "triangle" included)
Sketch model tests along the passage, to make changes in the plan in order to get in more light. Totally separated triangle units? -> will lose the roof over the shortcut. Facing units, but with an “atrium” inside? “Push inside” the common room/kitchen? -> slightly smaller room, but more space in between the buildings.
John Hejduk, another architect working a lot with geometries and form. Left: Plans and axonometrics from Project A, Diamond House (1969)
Down: The Kreuzberg Tower (Berlin, 1988) (roof!)

Worked on the plan and made several different variations.
Left: two totally separated units. This would strengthen the idea of building along the passage, rather than just in the middle of it. More light into common room/kitchen.
Will loose the roof?
Switch locations of laundry & storage with exhibition space (closer to residents of the other building)?
Replace corner rooms with common kitchen? Smaller but more light. Creates a corridor-structure (which I actually didn’t want...) Or pushed-inside kitchens to get more light?
More circulation. Stairs along the sides instead of “blocking” the center? “Bridge” between the units?

Further plan-tests: Elevators + stairs in the meeting point of the two units, can walk from one to another. Pushing commons spaces inwards with a smaller triangle.
- > creates opportunity for nice outdoor terrace-spaces in the groundlevel passage.
- > frees up the facade facing the passage.

Sketch models: breaking up the linear geometry with something “circular”? Testing different connecting points of a pitched roof...

A circular elevator + stairs instead of the square, placed more inwards.
- > breaks up the linear geometry
- > frees up the facade facing the passage.

Connect two units through the roof? 3 different “roof geometries” – a pitched roof that connect in two points. Enables a part of the passage-walk to be covered by it.
Several tests for final facades. How to combine the apartment floors (lower ceiling height & smaller windows) with a 4 meter high groundlevel that should be light and open? Should these large windows go all the way down? Or maybe some can start higher up to be able to sit in them? Made the decision to place windows repeatedly all the way round the facade - if there is a need for a darker exhibits space, for instance, windows can always be covered. Art will be hung up on flexible screens.

Consultation by engineer at Tyréns Office 10.4.2019

We discussed my large rooms (30m long walls) and the need of pillars. A 6-8 m grid in combination with the bearing wall in the middle seemed ok. I was recommended to make the walls a bit thicker in order to support my 4 storey high building. 400mm to have room for isolation. What material? wood? isotimber? concrete?

Then we discussed my idea for the roof, and was told that the 4,6 m space between the two building units will work perfectly fine. Apparently a steel frame would work better with my desired low slope (wooden roof needs a larger slope). 5 degree angle?

The look I am going for with the facade, how to work with combining large & small windows. Also inspiration for exterior (and maybe interior) materials... Extension Swiss Embassy in Berlin (1995-2000) by Diener & Diener Architekten.

Image source: https://archello.com/project/extension-swiss-embassy-berlin-germany

Made final decisions regarding the whole building design: facades, switched places between exhibition space and the side with laundry, storage & study lounge (facilities that people living in the other unit also use - closer access to everyone).

Image/collage of a student room (Rhino Model). Lappis is visible from the window.
Model scale 1:100 of the final building in the making: grey cardboard, interior walls included, laser-cut facades. Aim is to be able to lift up the “shell” (roof + facades) to open up the model and look inside the spaces.

“Exploded” axonometric 1:50. This scale required detailing: furniture, bikes and other small objects...
Divided into 4 parts:
1. Public ground level
2. Passage
3. Student apartments
4. Roof
+ Facades that can’t be seen in the axo?
+ Will add colouring, textures and people!

Detailing of gable roof in physical model: the meeting in 2 points.