Erbil - A school in the kurdish capital
Thesis Booklet, spring Semester 2014, Havar Cemal
Studio 5, KTH School of Architecture
Design Technique/Thesis Question
Introduction - introduction to Kurdistan
Introduction - The carpet as a reference object
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Thesis:
How can one create a contemporary architecture that is tied to the context in terms of culture and history?

For my thesis, I want to explore cultural and historical objects. Rug and kilims have historically been a form of expression of different cultures, each rug is unique and there are many clues to discern where it is from and what tribe the carpet has been created by.

By distinguishing qualities in terms of weaving techniques and designs that can be defined as Kurdish, I think it may be a starting point for the project. The goal is to find some of the typical qualities that originate in Kurdistan.

The carpet could provide many opportunities to develop a design technique that can help me develop patterns, which I can develop into three-dimensional geometries. The weaving could help me find new patterns but also to explore how to weave through knots that can generate more than patterns. Some examples are how the fabric can vary in intensity, transparency, density but also reflections through the use of glossy textile.


Lena Bergner-Meyer
(Coburg, Germany 1906 - 1981
Baden Soden, Germany)
Weaving Technique: K (Six Weaving Designs), 1943
Drawing
German, 20th century
Black ink, partly over graphite, on cream laid paper.
21 x 29.7 cm (8 1/4 x 11 11/16 in.)

http://unibrow.scientificsciences.com
http://nazmiyalantiquerugs.com

Kazutaka Fuji, Layered Membranes
Versatility and Vicissitude: Performance in Morpho-Ecological Design

A large number of tests were conducted to catalogue the relationship between the definition of tying patterns and the related shadow cast.

A field of differentiated membrane components constructed within a grid framework.
The performative capacity of the membrane field to modulate the transmission of light tested with a full-scale prototype.
Introduction background

Kurdistan is divided between Iraq, Turkey, Syria, Iran, Armenia and Azerbaijan. The total area is about 390 000 km² and the Iraqi part is approximately 40000 km². Almost the entire region is covered of mountains, of nine major mountain ranges; the most prominent is Mt Ararat and Mt Judi. Many rivers flow through the mountain ranges, which results into a fertile soil. The mountains in the Iraqi part has an average height of about 2400 meters to 3300 meters, the highest, Halgurd located near the border to Iran and has an altitude of 3600 meters. The mountainous typology contributes to the extreme differences in temperature. During the summer months between June and September, the temperature can remain at about 40 degrees and the warmest approaching 50 degrees. During winter it is cold and humid with temperatures between 2-13 degrees.

The main language is Kurdish, which is akin to Persian, which is different from semantic Arabic and Turkish Altaic. The modern Kurdish language is divided into two groups where, Kurmanji and Dimili-Gurani are the largest. These groups are subdivided into other groups differing in dialects. There are many different religions in which the majority of the population are Sunni Muslims, but there is also a large part of the population who are Catholic Christians, Orthodox Christians and Jewish. Besides the major religions, there are some smaller religions that exist only in Kurdistan; a few examples are Yazidism (sun culture) and kaka ‘I.

Much of the history suggests that the Kurds have assimilated with many civilisations and cultures that have existed in today’s Kurdistan in history. There are archaeological finds that are some of mankind’s earliest steps towards agriculture. And also domestication of many common farm animals, record keeping (token system), development of domestic technologies, metallurgy and development took place. The earliest evidence of a distinct and unified culture by people inhabiting Kurdish mountains dates back to the Halaf culture of 8000-7400 years ago.

The oldest city that remains is the citadel in Erbil; it is one of the oldest cities in the world, having been occupied continuously for 6000 years. When entering the old city, one can experience the patterns and imprints of the old inhabitants through the streetscape of the city. It reflects the occupant’s behaviour, in present day and in history. Branchlike Street patterns creates weaved movement and encouraging social interaction trough the city. A main street divides the city for gathering the inhabitants for celebration, in particular the most important one, the Kurdish Newroz (beginning on March 21st). This central part of the city resembles the courtyard style homes, where the gathering occurs in a small green part of the courtyard.
Introduction background

Much of the historical architectural remaining has been reduced by the destruction of wars and much of what is left is in need of restoration. There are many architectural examples that exist in the country that has been inhabited by Kurds far back in history, but to define any of these examples as "Kurdish" is difficult. Maybe it has to do with Turkish nationalism? Or has to do with the fact that architecture of the Ottoman Empire, Roman Empire and the Persian Empire was centrally controlled? According to various sources the political situation of the Kurds, both in history and in the present day, meant fewer rights to express themselves freely. In all of the surrounding countries, the Kurds have been and are second-class citizens. Kurds in Syria were deprived of their citizenship in 1961 and in Turkey; it has been illegal to speak Kurdish even privately to as late as 1991. In Iran it is illegal to have Kurdish names. This enables it to successively erase the identity of an ethnic group by limiting their right to express themselves. (1)

The Iraqi Kurdistan is the only autonomous region of Kurdistan. The economy has flourished since the invasion of Iraq in 2003. The region's economic success has given momentum to the construction of a new infrastructure, but the economic momentum has however resulted in imitating western architecture. I believe that the architectural direction that has been taken in the Iraqi part of Kurdistan do not reflect the Kurdish culture. The political situation the Kurds in Iraq are in, gives an opportunity to build a Kurdish identity. I hope they can do it within the architecture. So that one can more easily define what Kurdish architecture can be.

The Carpet as a reference object

By finding references that have an origin in the Kurdish culture, the aims is to distinguish and investigates the qualities of the object, and then create my interpretation of patterns and geometry. Kurdish carpets have in history been unknown. They were often mistaken to be from the surrounding cultures. Awareness of Kurdish rugs has improved and it is possible to distinguish the Kurdish weaving technique from the Turkish, Caucasian and the northwest Persian carpets. As it is made clear in the book "an introduction to Kurdish rugs and other weavings" by William Eagleton. Still, there are tendencies to look at the Kurdish carpet tradition as another variation of a Persian or Turkish rug, and it may have to do with the Kurdish people have been scatterred and divided among the country's borders. As a result, they have implemented the design from both the Turkish and Persian style, but the rugs manufactured by Kurds in Kurdistan link them to one another and distinguish them from the larger context which They were made. These qualities are consistent and distinguishable, and it is this that sets them apart as antique Kurdish rugs. One of the most distinguishable qualities of Kurdish weave tradition is rich use of colour. Which might not be unique in the Middle East but the use of deeply saturated colors appears to be typical characteristics of a Kurdish mat. Other distinct qualities are glossy wool, curvilinear shrubs, herati motifs and Memling Gul. Among the most famous carpets are Kolyai, Bidjar and Senneh.

The name Bidjar is also the name of the town where the carpet comes from. The Kurdish carpets are usually durable, the knots are knocked down with a heavy iron comb for increased density. The rhombus consists of Herati pattern and earthy colors.

On Koliala carpets are the typical pattern of roses usually red and brown color and large geometric patterns. A pattern of small diagonal covered boxes are also common. The material is made of wool warp.
Symbols and Geometries

Each rug has a unique design with links to the Indigenous culture, and weaving technique can be traced to the nomadic tribe or geographical areas. Some features that can be seen on rugs are the more floral patterns and formal patterns, the more likely that it was created in an urban area. But the use of the more geometric patterns usually means that it is from a tribe. An interesting aspect of the manufacture of carpets is how e.g. symbols, colours and geometry are used to record history.

Some examples of meaning of symbols:

**Plants**
- Bamboo - wealth & honor
- Chrysanthemum - long life
- Pomegranate - fertility
- Iris - liberty
- Cyprus Tree - immortality
- Lily - purity
- Weeping Willow - meditation
- Carnation - wisdom
- Tree of Life - heaven or eternal paradise
- Lotus - purity
- Peony - rank & wealth

**Colours**
- Red - happiness, joy
- Orange - devotion, piety
- Yellow - power, glory
- Green - paradise, sacred, "Prophet's color"
- Blue - solitude, truth
- Black - destruction
- Brown - fertility
- White - purity, peace, grief

The difference between a Kilim and a rug weaving technique is, where the interweaving of different coloured wefts and warps creates kilim. A Rug is woven from individual short wires of different colours, usually of wool, and held together by pressing the weft tight. In this case the entire design made by these separately knotted strands, which form the pile, and patterns become clear after some excessive lengths of the knotted materials cut to create a flat surface. The Kilim rugs are light and flexible, making it easy to use in different ways, such as prayer rug, bags, hanging it on walls, divan and bench covering and so on. The wide use of a flat weave is an advantage of a Kilim, but the most interesting aspect of it is to investigate the interweaving technique.
The district Ankawa is located 4 km north of Erbil city centre. This neighbourhood that has a Christian majority has in recent years enjoyed a large number of Christians who have emigrated there because of religious persecution in their communities. Between Erbil city centre (Qalat), Ankawa and Saladin there are good transport connections. Adjacent Ankawa and Saladin, there are plans to expand the existing airport, building a new business district and construction of a new residential area of Saladin. This makes the area attractive to new settlers and investors. Adjacent to the site is a green area that I wish keep as part of the school program.

Climate (northern Iraq)
Ankawa
Erbil International Airport
Saladin
Qalat
Potential site for a school
The Regional Government of Kurdistan stated the need for new schools across Kurdistan, and in early 2013 it was decided that 2000 schools would be built and renovated in Erbil, Slemani, Duhok and Garmian. My suggestion is a school for junior high and middle school students.


PROGRAM
Foyer/ General spaces
Café/ Restaurant - public and dining area for students
Library
Sports hall (changeroom, gymstorage)

CORTYARD

EDUCATIONAL
Auditorium
Lecture/ Seminar rooms
Studyrooms and Laboratories
Classrooms

SERVICES/ STAFF MANAGEMENT
Offices (staff area)
Meeting Room
Support
Storage
I have chosen two madrasas from the Mamluk period as references. The Mamluk dynasty had Cairo as their capital city. This period lasted from 1250-1517 was a significant period in Islamic architecture. During this period, many mosques and madrasas (schools) were built, the two inter-related functions (worship and teaching) of mosques eventually diverged. The separation resulted in a distinguished sacred mosque and a madrassa.

One of the interest I have is to work with patterns and investigate how they could filter geometries through the sunlight.

The facade is covered with luminous skin, which transforms with movement, giving it an effectual variation visible when walking or driving by. It is of interest to me how the appearance of the stainless steel curtain differing in expression by the shape it is given.
Deliverables

Diagrams
Plans 1:200 (including site)
Sections 1:200
Axonometrics 1:200 / 1:400
Construction detail drawing 1:10

Exterior renderings
Interior renderings (Courtyard)

Site model context 1:25 000
Sitemodel 1:200 - 1:400
Site plan 1:25 000
Siteplan 1:100 000
Siteplan 1:400 000

Final building model 1:200
Massing models 1:400
Technique studies
Detail model 1:20 / 1:10
## Schedule

| W2 | Pattern Investigations  
Research, Sitemodel digital and Initial formal investigations  
- Analogue models: Drawing and Weaving |
| W3 | Pattern and formal Investigations  
Weaving, drawing and transforming it into 3D geometries.  
- Analogue and digital modelling |
| W4 | Pattern and formal Investigations  
Analogue and digital modelling  
Writing: formulating the project |
| W5 | Pattern and formal Investigations  
Massing - Analogue and digital modelling |
| W6 | Research of school typologies of Kurdistan and Program  
(Madrasas of Aleppo and Bagdad)  
Plans and Site analysis  
Writing: formulating the project |
| W7 | Massing - Analogue and digital modelling |
| W8 | Digital modelling  
Drawings - Diagrams, Axos, Plans |
| W9 | Digital modelling  
Drawings - Plans and Sections |
| W10 | Drawings  
Preparations for Midreview |
| W11 | MID-REVIEW |
| W12 | Changes after feedback from mid-review |
| W13 | Material research  
Construction research |
| W14 | Drawings  
Perspective Images |
| W15 | Drawings  
Layout Dummy |
| W16 | Drawings  
Perspective images  
Layout  
Digital modelling for physical model |
| W17 | Physical models |
| W18 | Final Seminar |
| W19 | Finalizing drawings  
Finalizing models and drawings  
Finalizing presentations |
| W20 | Finalizing models and drawings  
Finalizing presentations |
Bibliography

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Oriental carpet design: a guide to traditional motifs, patterns and symbols, P.R.J. Ford
Islamic patterns: an analytical and cosmological approach, Keith Critchlow

Links

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