Danish Sociocultural approach to lighting design.

- an inspiration for illuminating hospital wards

PLDC November 2013
Lone Mandrup Stidsen
1. Introduction
2. On light atmosphere
3. Sociocultural aspects
4. Explorative studies
5. Pilot study
6. Conclusion and Perspectives
Lone Mandrup Stidsen

Postdoc & Project manager for research in
‘Light and Psychiatric Healthcare’

2013_ Phd, Aalborg University,
2006_ Lostdesign
2006_ Textile designer, Kolding School of Design
1999_ Primary School teacher, Silkeborg
Ph.D Project
'Light atmosphere in hospital wards'

16 hospitals 41 mill. DKKr.
Patients experiencing quality and coherence in the process

1. Introduction
Directions for Light in hospitals (DS703)  
(Dansk Standardiseringsråd, 1983)

Patients has only few visual tasks. They require pleasurable surroundings supported by the illumination. Staff however need sufficient lighting to perform work that is often highly visually demanding.

The light colour must be selected according to patients’ needs for a pleasant ‘homelike’ lighting, which in most cases is colour temperatures no higher than 3000 K and a fairly good colour rendering of Ra> 80

1. Introduction
1. Introduction
"Urban Atmosphere"
Albertsen, N. 1999

Atmospheres can not be seen - It must be experienced through other senses and an atmosphere occurs rarely through one sense alone, but in an interaction between several senses. Atmosphere affects people emotionally.*

2. On Light Atmosphere
Atmosphere is not a ‘stamp of approval’ for a good taste or a correct architectural understanding. Atmosphere is everywhere at all time, it is a momentary phenomenon.

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'The concept of Atmosphere'
Böhme, 1993

'Staging Urban Atmosphere in interaction design'
Dalsgaard, Kortbak 2008

'Socio Cultural aspect'
Stidsen, Bech 2009
3. Socio Cultural Preferences
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'Three minutes of light information'
18th of marts 2008

Overcast skies and change of weather conditions

3. Socio Cultural Preferences
3. Socio Cultural Preferences
4. Explorative studies
‘Homelike’ illumination

Patients light preferences in hospital wards - related to light atmosphere in Danish homes

Stidsen, Bjerrum 2010

15 semistructured interviews
Anthropological study
Expand own understanding of a situation
Photo album based on daily activities

Results:
Vertically and horisontal zoning

4. Explorative studies
Lighting trends
‘mapping light atmosphere.’
Stidsen, Thuesen, 2012

50 Vol BO BEDRE
1961-2010
3500 images
Room categories
Horisontal and vertical zoning
Space appearance

4. Explorative studies
### Activity

<table>
<thead>
<tr>
<th>Upstanding</th>
<th>Sitting</th>
<th>Going to sleep</th>
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<tbody>
<tr>
<td>Walking</td>
<td>Conversation/TV</td>
<td></td>
</tr>
<tr>
<td>Kitchen</td>
<td>Livingroom</td>
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</table>

### Lighting Scenario

<table>
<thead>
<tr>
<th>HIGH</th>
<th>CENTRE</th>
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<tbody>
<tr>
<td>CENTRE</td>
<td>WALL</td>
</tr>
<tr>
<td>LOW</td>
<td>WALL</td>
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### Livingroom

**Vertical zoning**
Centre zone as mainzone

1990th - new technology

<table>
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<tr>
<th>YEAR</th>
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<th>Centre</th>
<th>Low</th>
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</tbody>
</table>

4. Explorative studies
Pilot study

Odense University Hospital
Dep. Orthopaedical surgery

Patients experience of light atmosphere at the ward.

4. Explorative studies
5. Pilot study
5. Pilot study
Design concept

'High Lighting Scenario'
'Centre Lighting Scenario'
'Low Lighting Scenario'

5. Pilot study
High lighting zone

Upstanding activities
Staff lighting
Walking areas
Energi boost

5. Pilot study
Centre lighting zone

Relaxing /sitting activities
Patients lighting
Watching TV, Reading, conversation

5. Pilot study
Low lighting zone

Going to sleep
Patients lighting
Orientation light at night time

5. Pilot study
5. Pilot study

'Centre Lighting Zone'
5. Pilot study
5. Pilot study

‘Low Lighting Zone’
Patient experience

TV-light
32 patients
Winter 2011/2012
Evenings/after dark

5. Pilot study

Traditional ward lighting

Designed ward lighting
Semantic Environmental Description

SED-Method, Küller, R. 1975

Questionnaires

5. Pilot study
5. Pilot study
Semantic Environmental Description

*SED-Method, Küller, R. 1975*

- Designed Ward lighting
- Traditional Ward lighting

5. Pilot study
The study:

Display aspects light atmosphere in a danish context.

Discuss ‘traditional’ approach to lighting design and introduce a socio cultural aspect.

‘Model of Light atmosphere’ separates aspects of light atmosphere. It can be a design-tool in creating pleasurable light atmosphere.

6. Conclusion and perspectives
Light Atmosphere in Psychiatric Healthcare

Aalborg University, Department of Civil Engineering
Region of Southern Denmark
Southern Denmark Health Innovation.

Sociocultural aspects of Light Atmosphere

6. Conclusion and perspectives
Thank you!