



Lifelong  
Learning  
Programme



<http://www.geothnk.eu/>

## Educational object

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**GEO THNK**

Semantic pathways for building  
a spatially-thinking society

Project Number - 543451-LLP-1-2013-1-GR-KA3-KA3MP

**Title of educational object**

**Basic concepts of perceptual image of  
urban environment**

## Clarification of basic terms

### What is the urban space?

*Urban Space* (Oikonomou D.,2012)

The space which is occupied by the cities (based on the geographical term ). However, sometimes the terms "urban" space is used in a broader term, as equivalent of the residential area.

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### What is the perception?

Basic topic of numerous studies

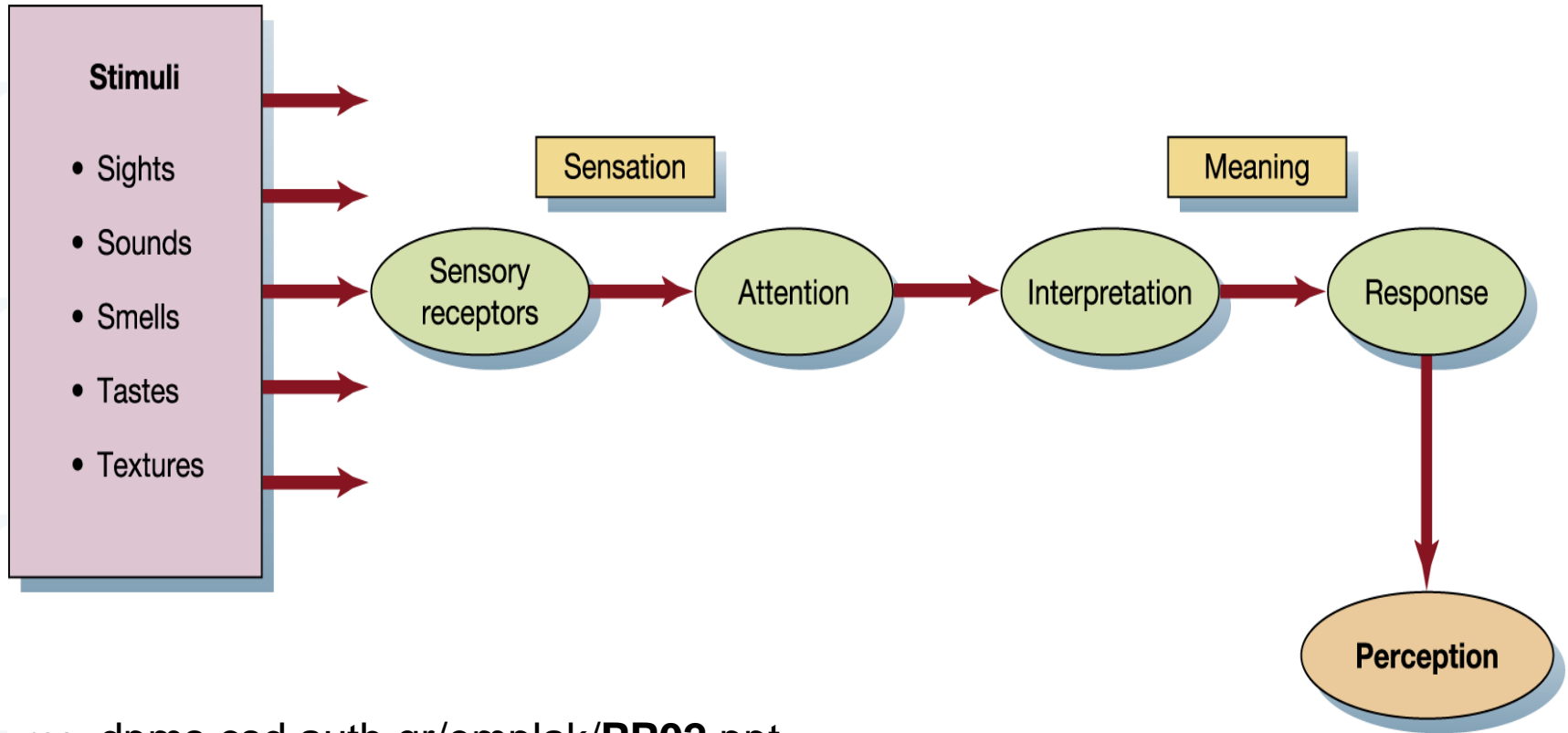
According to T. Reid (1785), the perception is all those **experiences** connected to **external environmental stimuli**.

On the contrary, the sensation is an internal experience of human system which is not linked to an external stimuli. The perception is the product of a cognitive process that connects the experience with the external world.

For example: A bright spot on the horizon is a sensation. But when we "understand" that it is a star or a firefly then it concerns an example of perception.

# How we perceive the world?

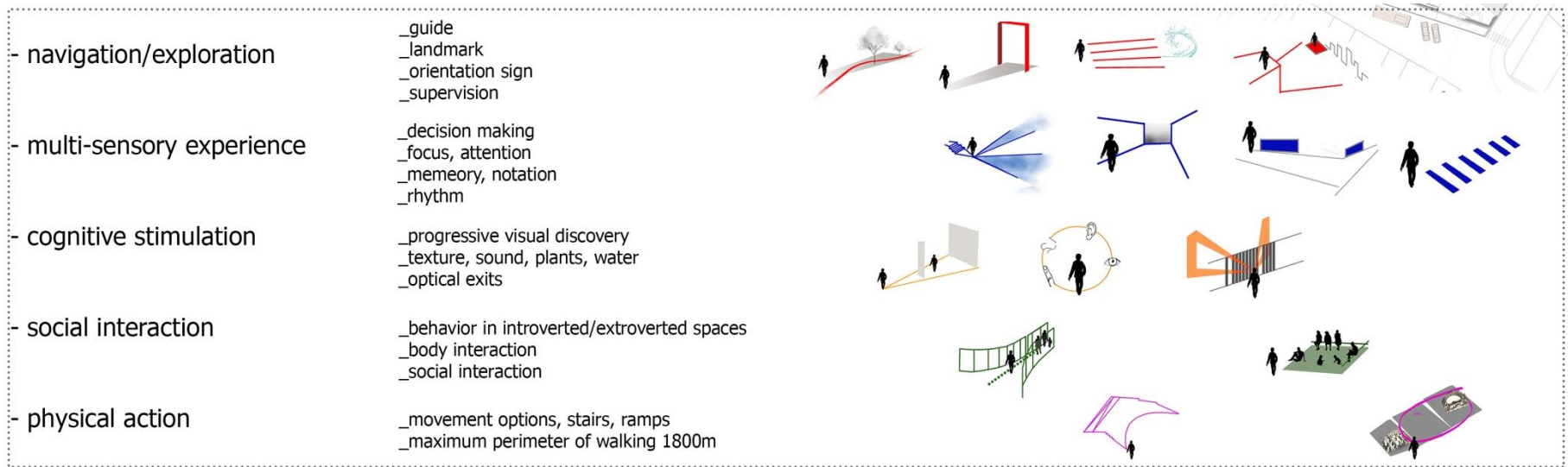
Diagram which illustrates the perception process



Source: [dpms.csd.auth.gr/emplak/PP02.ppt](http://dpms.csd.auth.gr/emplak/PP02.ppt)

# How do you experience the urban environment;

Sketches which illustrates the key elements of the way that users experience an urban space



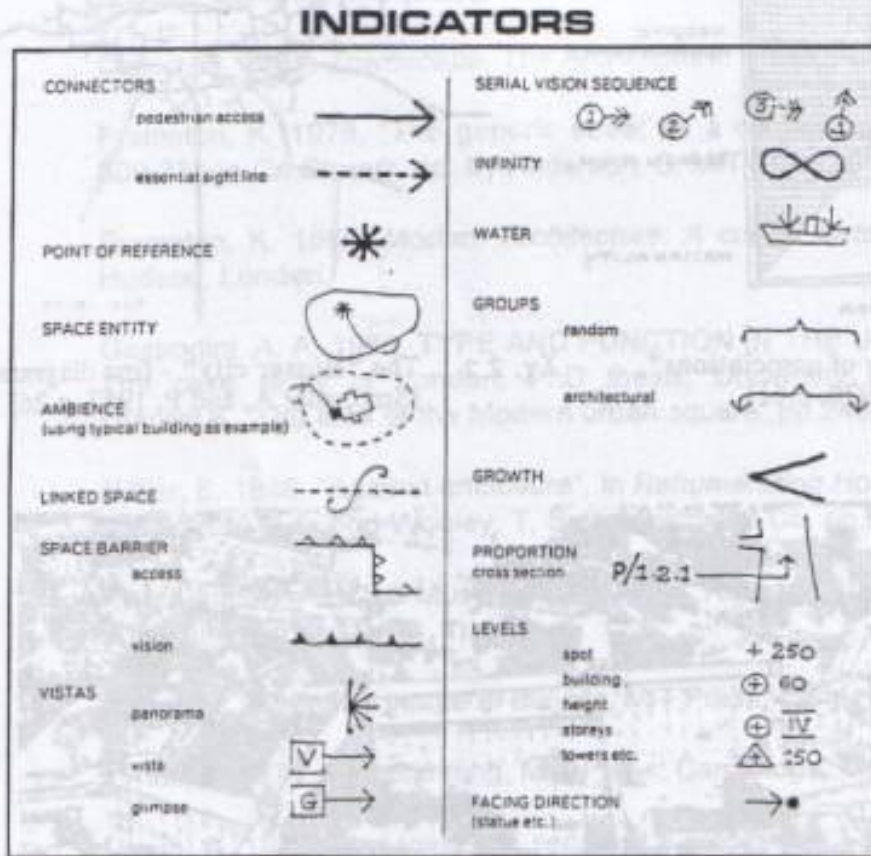
Source: Kondyli V.,2014

## For further investigation search for....

- Gregory, Richard (1987), Perception , Zangwill, pp. 598– 601
- John H. Krantz(2000), Experiencing Sensation and Perception, Ph.D. Hanover College
- Protopapas A.(2004), The construction of the experiences from the brain, ILSP (In Greek)
- Rodaway P., (1994), Sensuous geography, London and New York Poutledge, (pp. 10)
- Eberhard J., (2009). Brain Landscape: The Coexistence of Neuroscience and Architecture, Oxford University Press, New York.
- O'Keefe J. & Nadel L., (1978). The Hippocampus as a Cognitive Map, Oxford University Press. Retrieved from <http://www.cognitivemap.net/HCMpdf/HCMComplete.pdf>
- Damasio A., (1999). The Feeling of What Happens: Body, Emotion and the Making of Consciousness,Heinemann, London.
- Kondyli V., et al (2014). The design of an urban park in the city of Patras, Greece: Towards the development of an enriched environment, Academy of Neuroscience for Architecture: ANFA, San Diego

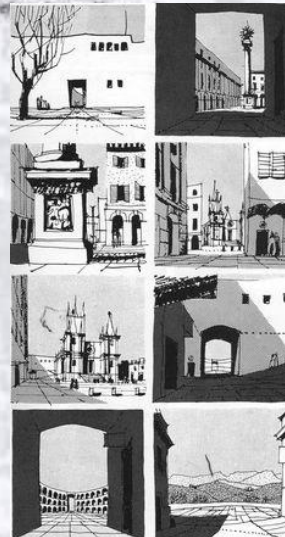
# Perceptual Systematic Analysis of urban space decades 60, 70

## Environmental Psychology



*Gordon Cullen: Visual Survey of urban space 1961*

Gordon Cullen, final study carried out for Alton in an attempt to create his own system of urban analysis which he referred to as the 'Visual Survey'.



Serial perception  
View from and towards a point

Vista stopper  
The sensation of 'here-there'  
The diversity  
The abruptness etc.

*Kevin Lynch: The image of the city 1960*

**Footnotes**

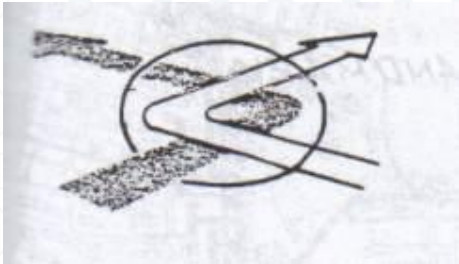
- 1 Scales and indicators are only to be used where the interpretation of a plan could reasonably be in doubt. This obviously depends to some extent on the type of person who is going to read the plan.
- 2 The notation assumes the continued existence of standard parking symbols and that is why they are not duplicated.
- 3 The author reserves the right to add, after reading any Notations or pattern of Notations as the series progresses.
- 4 It is to be said that all this information could be gained more simply by a photograph or a visit. But the purpose of the Code is mainly to explain what is not built - what is intended.



# Perceptual Systematic Analysis of urban space decades 60, 70



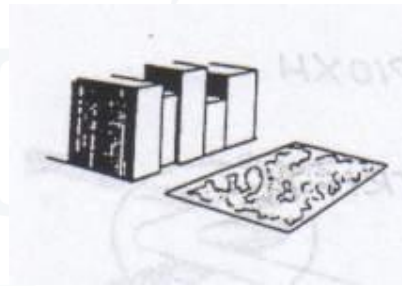
**a. Paths**



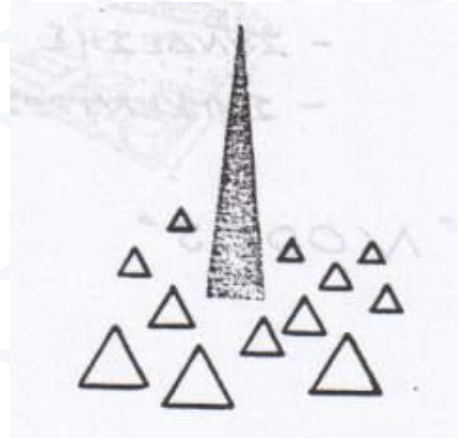
**c. Nodes**



**d. districts**



**b. edges**



**e. Landmarks**

**Environmental Psychology**

**Kevin Lynch: Visual perception and organization of urban space 1960-1970**

**Environmental Images**

## Perceptual experience of the environment

*1960 + : The concern about quality and ultimately the aesthetic value of modern cities directs research towards the relationship 'human and environment'*

**Wanted:** *The character of perceptual experience*

- Stimulus – response
- The concept of mental schemata
- Assimilation and accommodation of experience, an approach of behavioral psychology (J. Piaget)



### **Architectural and urban approaches**

- the need for legibility (K. Lynch)
- the need for interest and variety (G. Cullen)
- the need to adapt to humans (A. Rapoport)
- the need for balance between tranquility and tension (P. Smith)
- the need for complex (C. Rowe)

### **Planning Purpose :**

- The detection of the key environmental features
- The purity environmental forms
- The Tools of investigation: interviews, cognitive maps (mental maps)

## Examples based on the theory of Cullen

Serial perception



Munich



Bremen



Copenhagen

Vista stopper



Munich

Source: Personal file

# Examples based on the theory of Cullen

enclosed space



texture



The sensation of 'here and there'



Munich

Keramidi, Pilon

Copenhagen

Repeat and flare



Intensity of use



abruptness



Atlanta

Paris

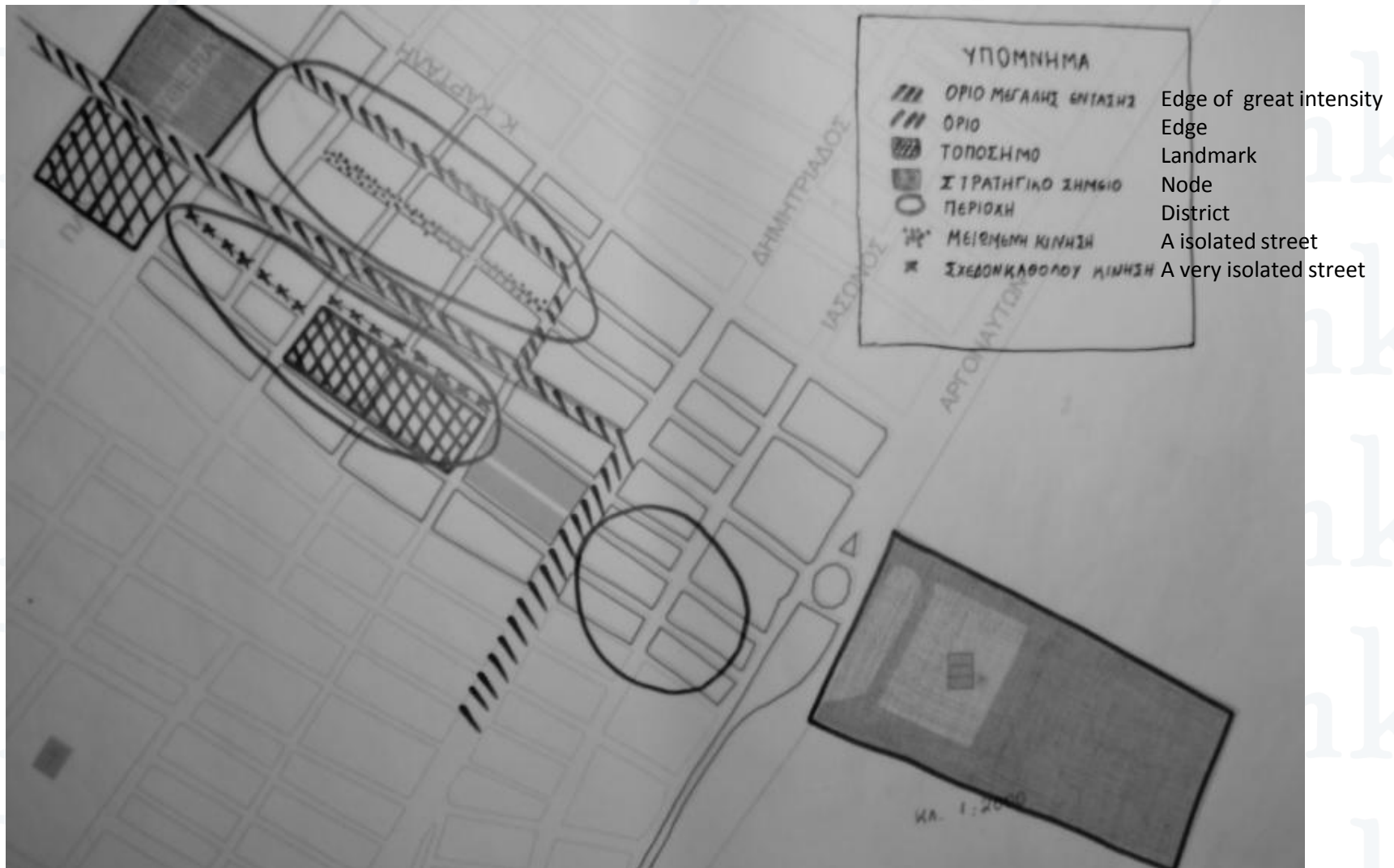
Source: Personal file

For further investigation search for....

- [http://www.laboratoriorapu.it/LPU\\_sito/download/Materiali\\_Papers/02b\\_08.03.26\\_Lynch-anthology.pdf](http://www.laboratoriorapu.it/LPU_sito/download/Materiali_Papers/02b_08.03.26_Lynch-anthology.pdf)
- [http://interactive.usc.edu/blog-old/wp-content/uploads/2010/08/Image\\_of\\_the\\_City.pdf](http://interactive.usc.edu/blog-old/wp-content/uploads/2010/08/Image_of_the_City.pdf)
- <http://www.csiss.org/classics/content/62>
- <http://www.rudi.net/books/13105#>
- An example  
[http://www.heritagecouncil.ie/fileadmin/user\\_upload/Presentations/Planning/LCA\\_Training\\_09-09/Grainne\\_Shaffrey\\_LCA\\_Presentation\\_09-09.pdf](http://www.heritagecouncil.ie/fileadmin/user_upload/Presentations/Planning/LCA_Training_09-09/Grainne_Shaffrey_LCA_Presentation_09-09.pdf)
- [https://www.heraklion.gr/files/404/10498/sapounakis\\_taftotita\\_polewn\\_+\\_sxe\\_diasmos.pdf?rnd=1258701472](https://www.heraklion.gr/files/404/10498/sapounakis_taftotita_polewn_+_sxe_diasmos.pdf?rnd=1258701472) (in Greek)

# Examples of mental maps

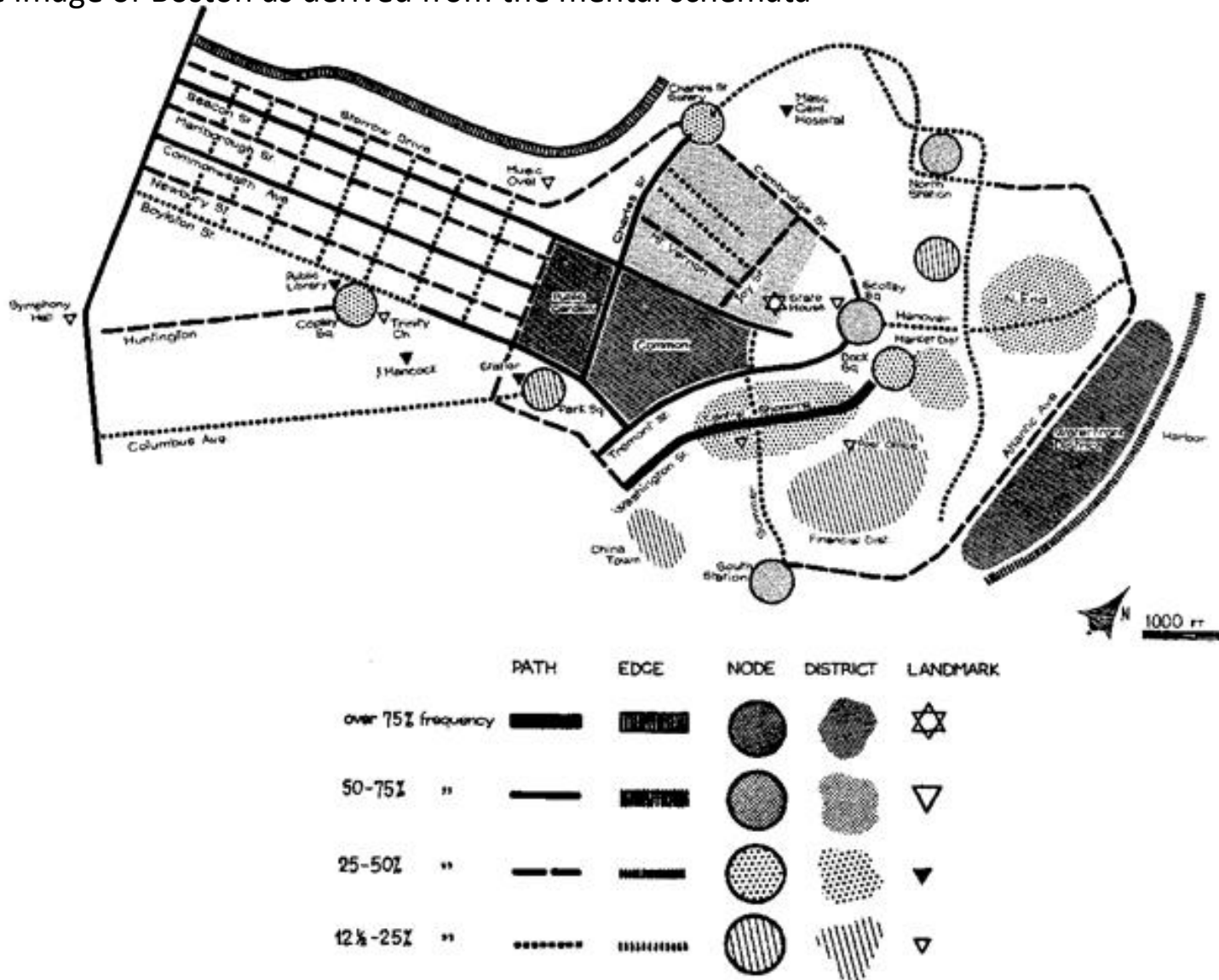
The image of the region of Volos port, Greece as derived from the mental schemata



Source: Author's mental map

# Examples of mental maps

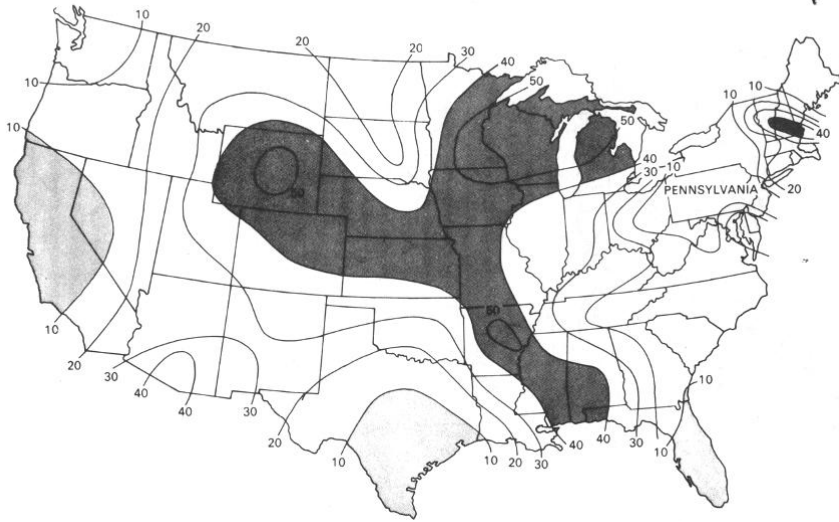
The image of Boston as derived from the mental schemata



Source: Lynch, 1960.

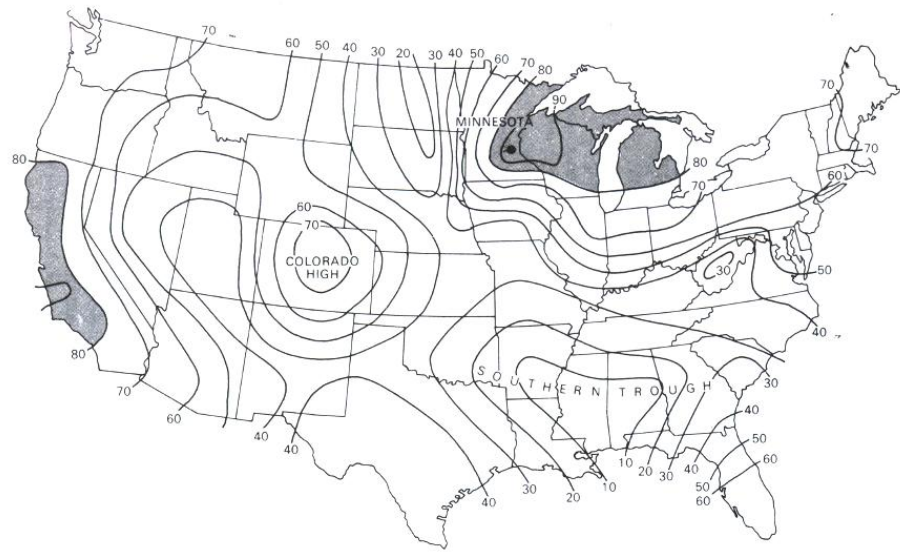
# Examples of mental maps

Ignorance Surface from Pennsylvania



Source: Gould and White 1986

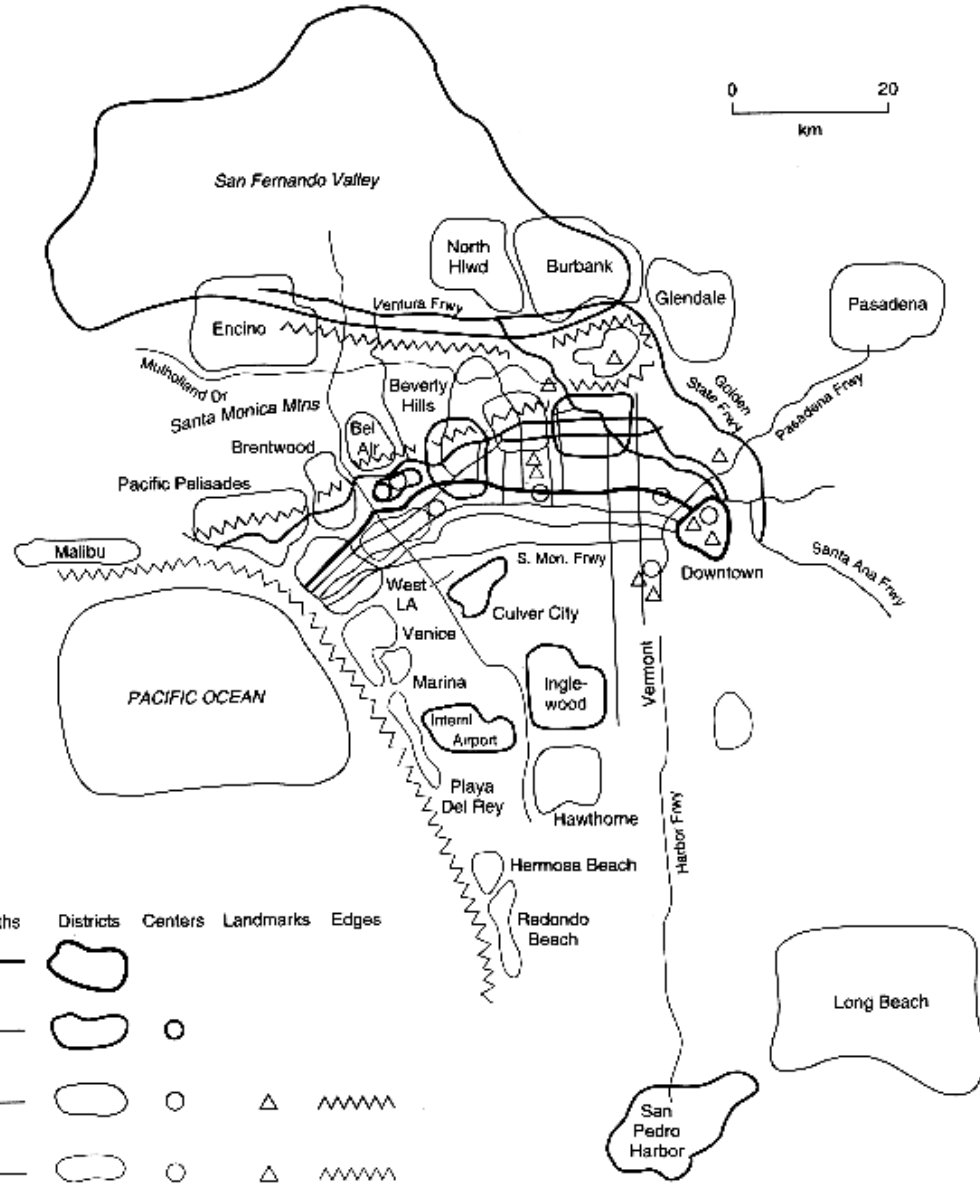
Preference Surface from Minnesota



Source: Gould and White 1986

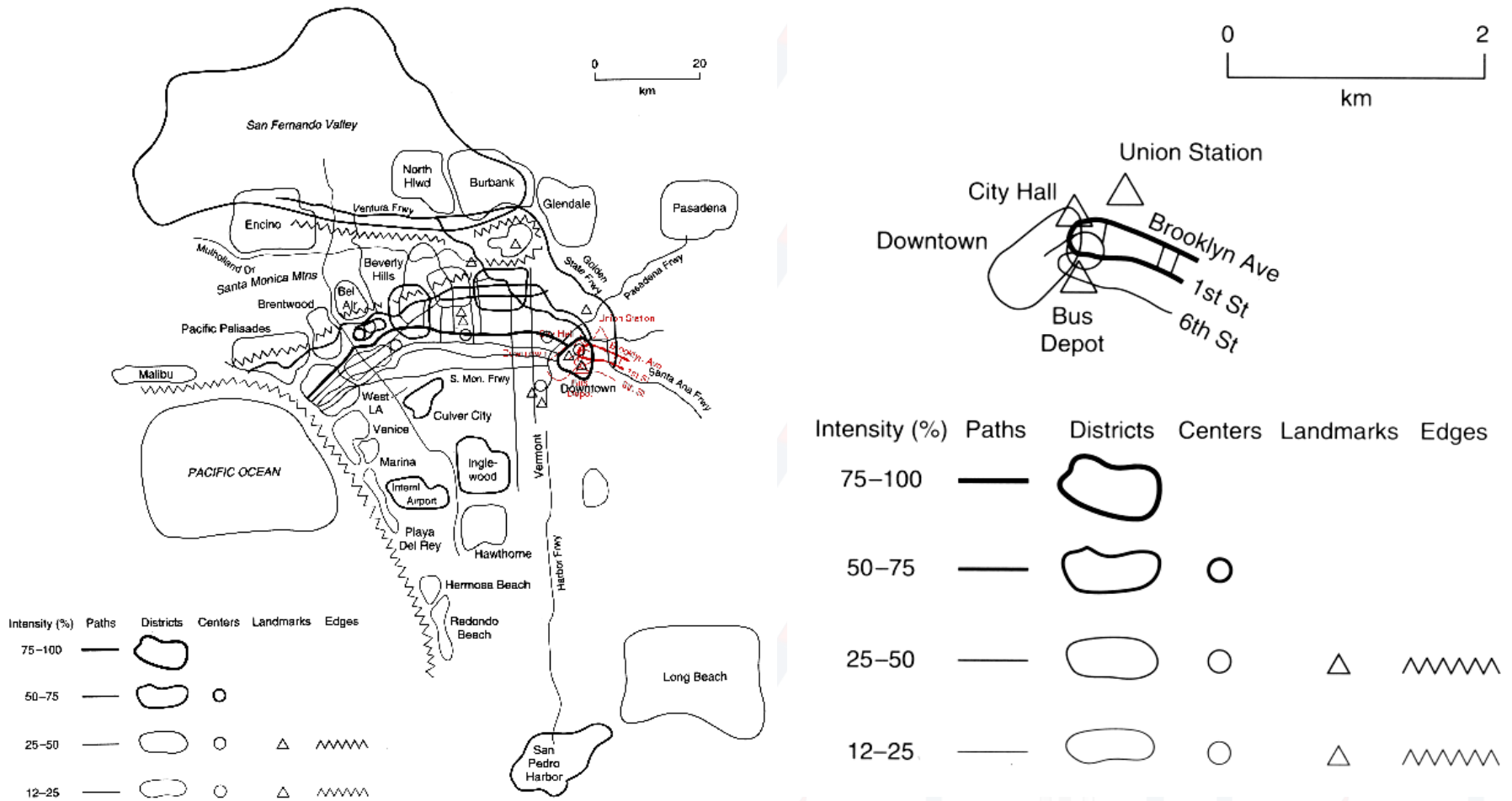
# Examples of mental maps

The image of Los Angeles as derived from the mental schemata



# Examples of mental maps

The image of Los Angeles as derived from the mental schemata – different scale



For further investigation search for....

❑ Willem A. Sulsters, Mental mapping, Viewing the urban landscapes of the mind, <http://www.wsa.nl/wp-content/uploads/Willem-Sulsters-essay-Mental-Mapping.pdf>

❑ Matt Rosenberg, Mental Maps , How we see the world? <http://geography.about.com/cs/culturalgeography/a/mentalmaps.htm>

❑ A. Oliva, S. Park and T. Konkle, Representing, perceiving and remembering the shape of visual space, [http://web.mit.edu/tkonkle/www/PAPERS/Oliva\\_2010\\_SpaceChapter.pdf](http://web.mit.edu/tkonkle/www/PAPERS/Oliva_2010_SpaceChapter.pdf)

What purpose does your image of the city serve?

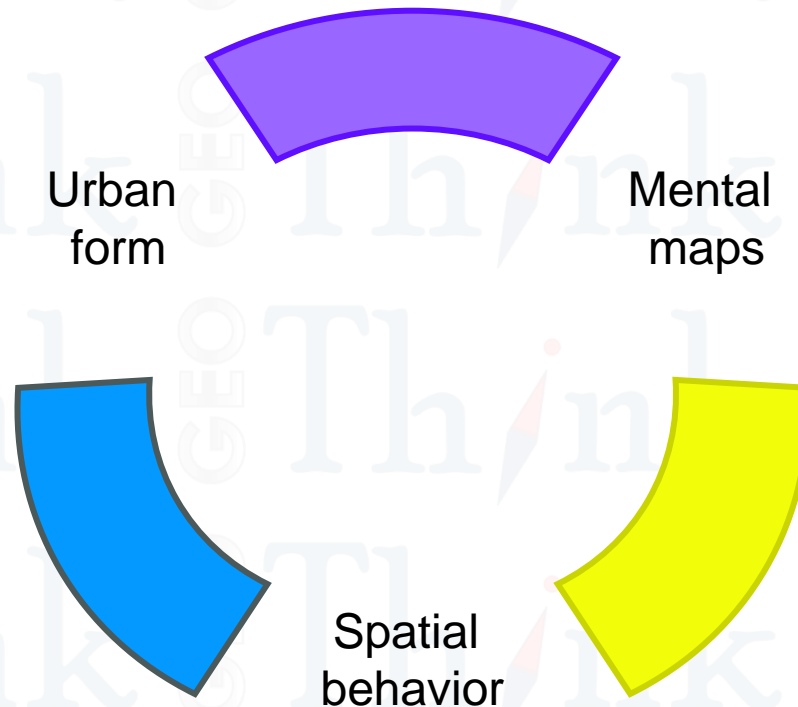
- Contributes to navigation- orientation
- Is Motivated by the effort of social interaction
- Prevents the feeling of being lost
- Creates the feeling of safety
- Contribute to the familiarization of the urban environment



## Feelings from the experience of using the urban space

- Fear-isolated districts
- Serenity – viewpoints
- Happiness- meeting places of friends/relatives etc.
- Safety- nodes

# Why does the perceptual image of the city matter?



It affects :

- our spatial behavior
  - our daily paths within the urban environment
  - our spatial interactions
  - our proposals for urban design

The end.....!!!