

Visualization

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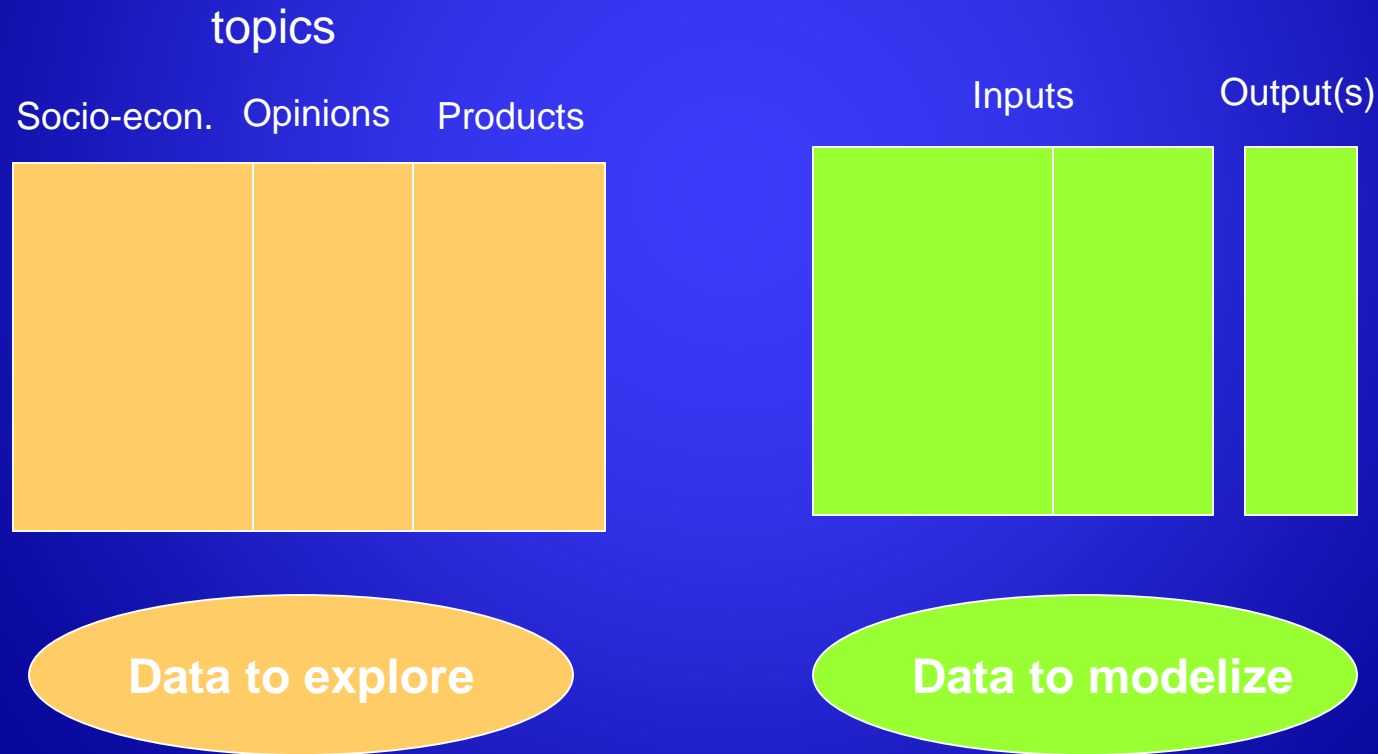
Knowledge Engineering and Machine Learning group

Universitat Politècnica de Catalunya, Barcelona

Two types of datasets to analyze

Data in *Data Mining*:

massive, secondary, not random, with errors and missing values



Carte Figurative des pertes successives en hommes de l'Armée Française dans la campagne de Russie 1812-1813.

Dressée par M. Minard, Inspecteur Général des Ponts et Chaussées en retraite.

Paris, le 20 Novembre 1869.

Les nombres d'hommes présents sont représentés par les largeurs des zones colorées à raison d'un millimètre pour dix mille hommes; ils sont de plus écrits en travers des zones. Le rouge désigne les hommes qui entrent en Russie, le noir ceux qui en sortent. — Les renseignements qui ont servi à dresser la carte ont été puisés dans les ouvrages de M. M. Thiers, de Ségur, de Fozensac, de Chambray et le journal inédit de Jacob, pharmacien de l'Armée depuis le 28 Octobre.

Pour mieux faire juger à l'œil la diminution de l'armée, j'ai supposé que les corps du Prince Jérôme et du Maréchal Davout qui avaient été détachés sur Minsk et Mohilow et ont rejoint vers Orscha et Witebsk, avaient toujours marché avec l'armée.

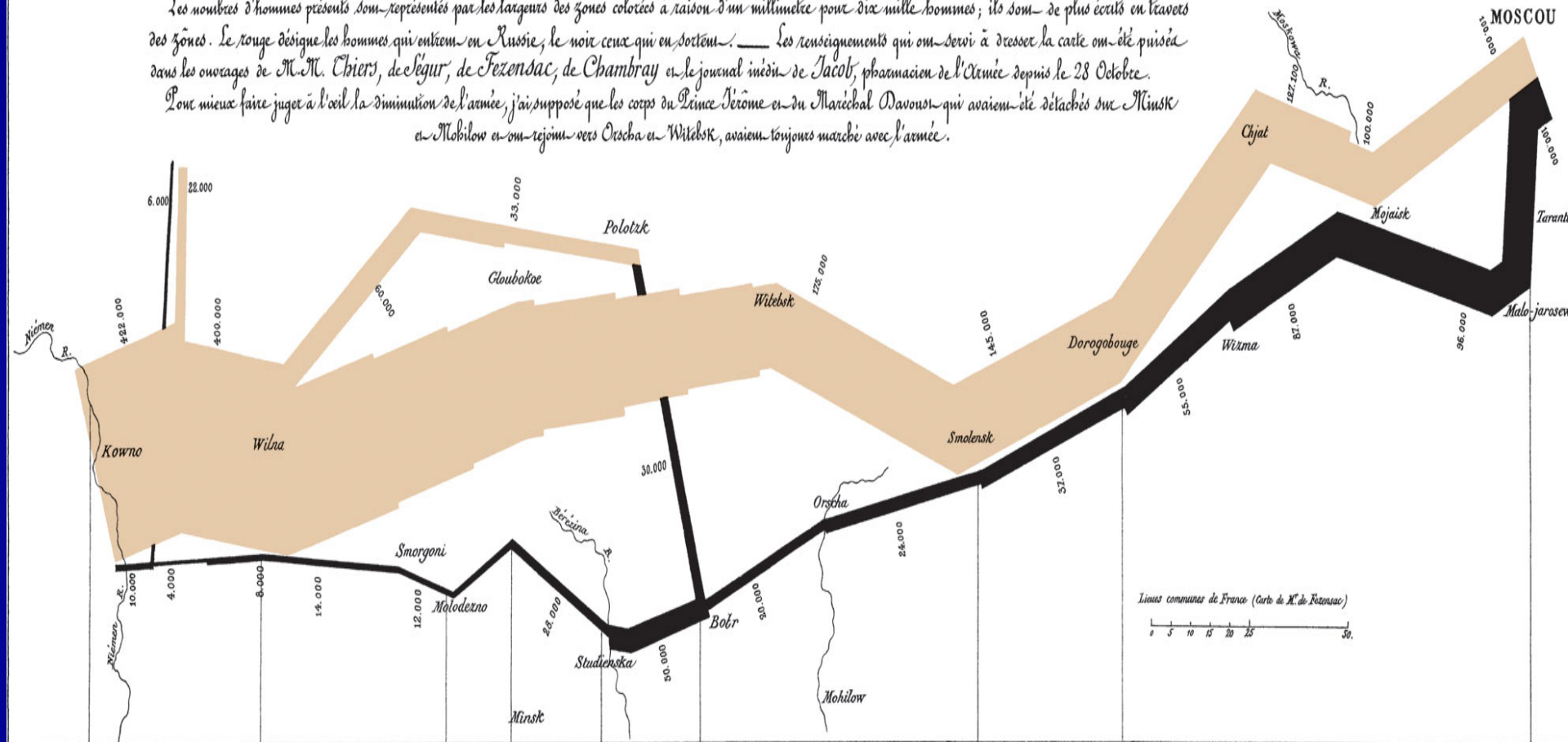
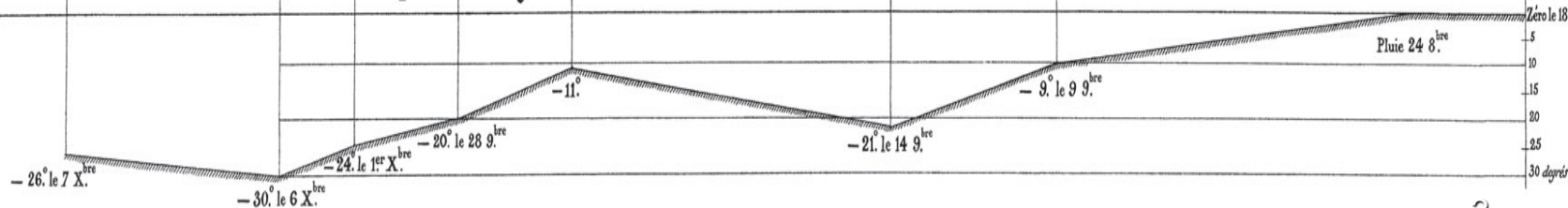


TABLEAU GRAPHIQUE de la température en degrés du thermomètre de Réaumur au dessous de zéro.

Les Cosaques passent au galop le Niemen gelé.



☼ Deaths from cholera



■ Pump sites

••• Deaths from cholera



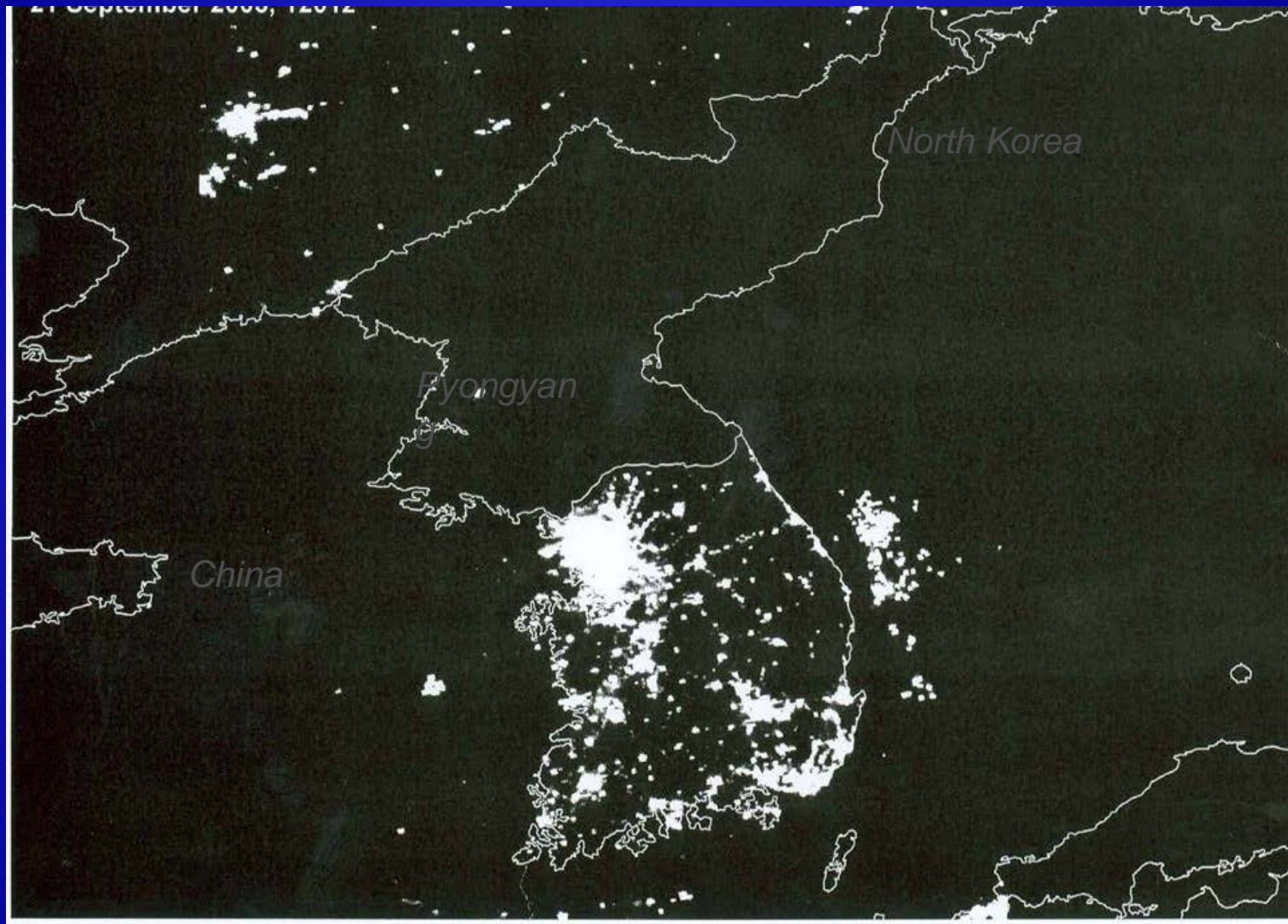
South and North Korea at night

Where is North Korea?

South Korea,
Guess where is Seoul?

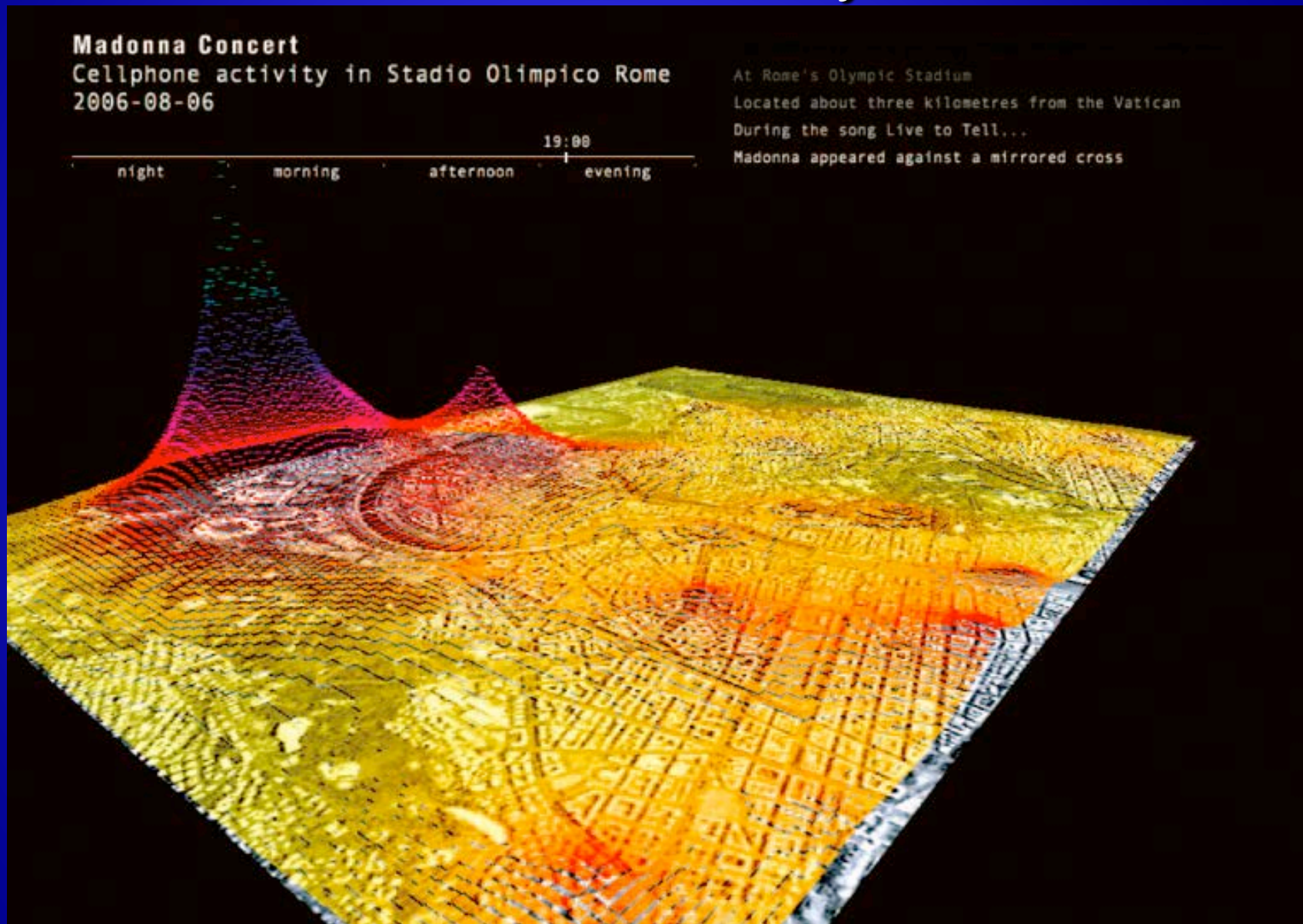


South and North Korea at night

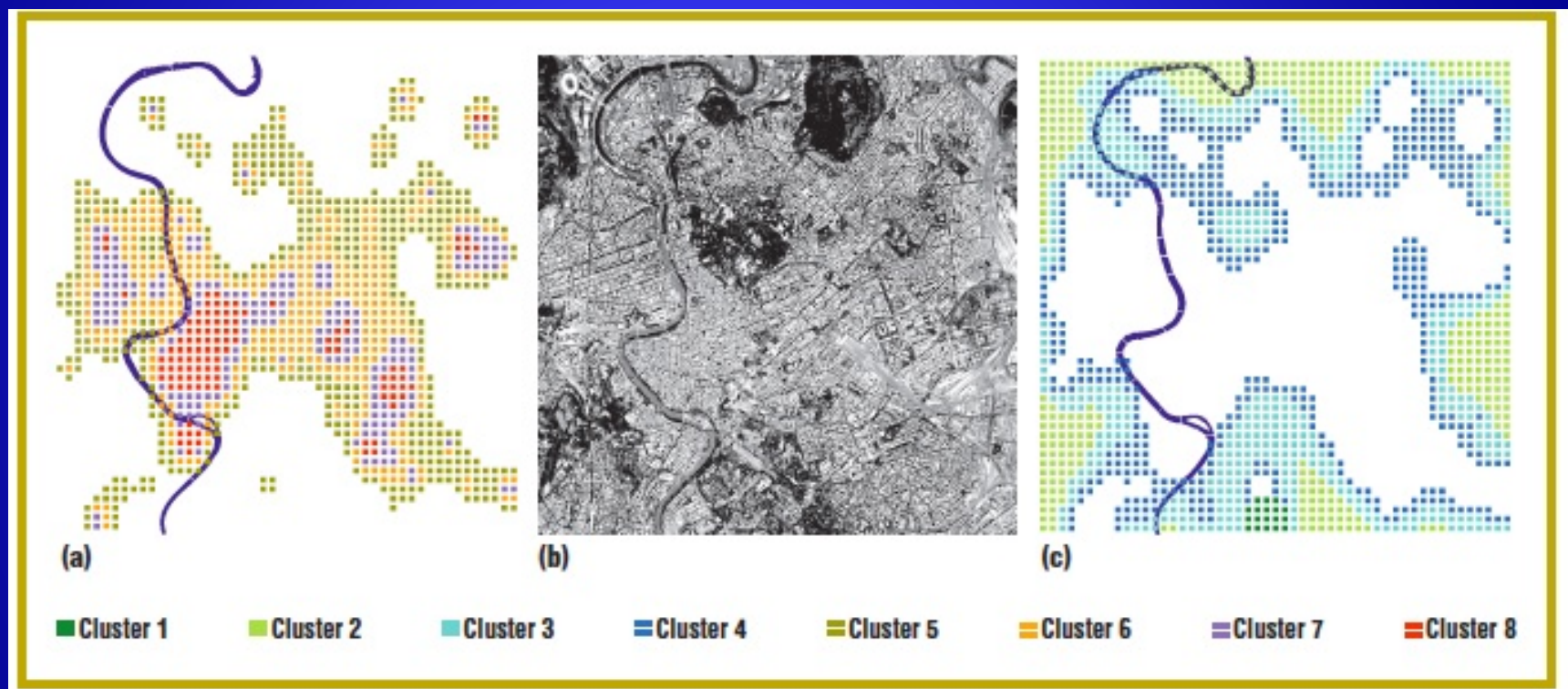


Some examples: exploration and discovery

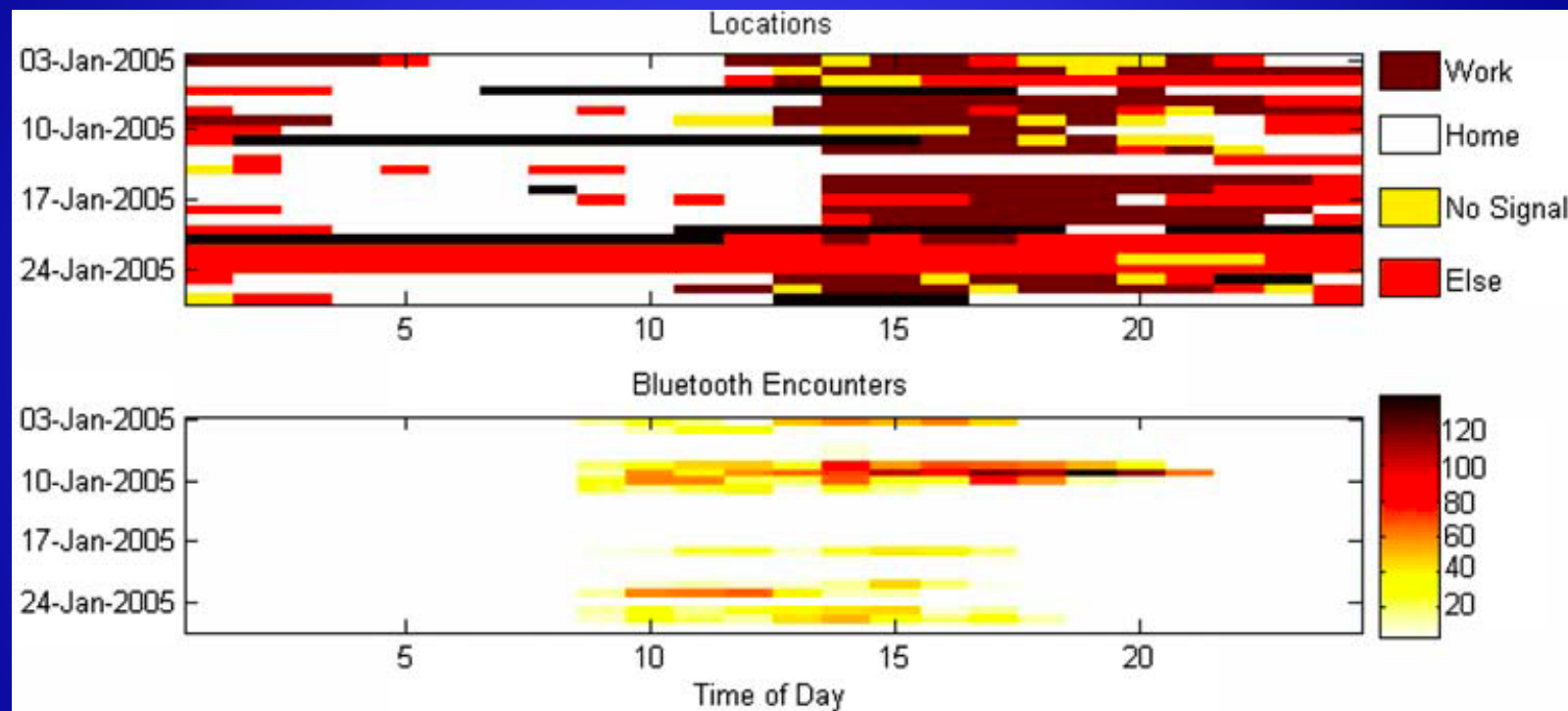
The “life” of a city



Chronotypes: clustering

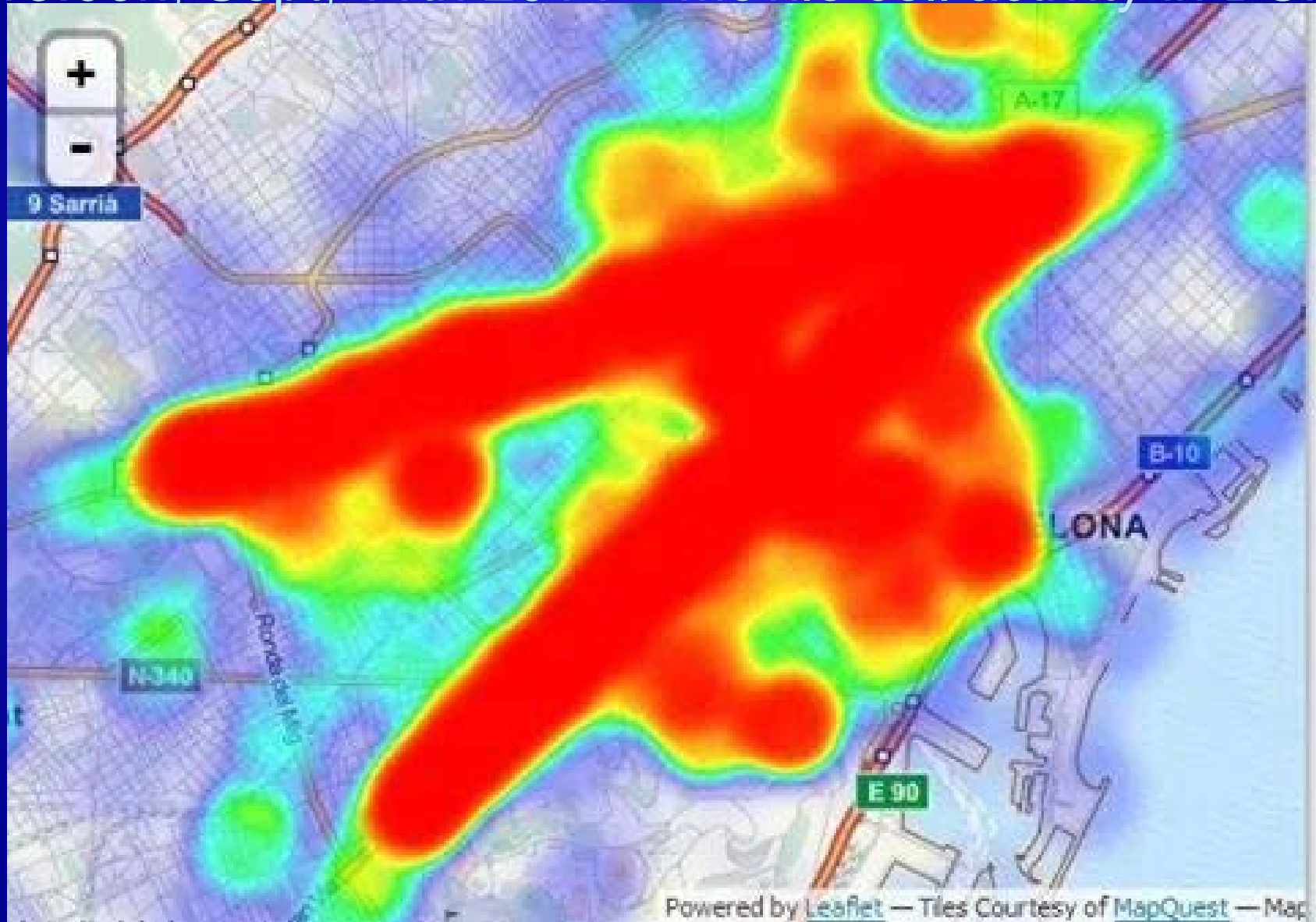


Reality Mining

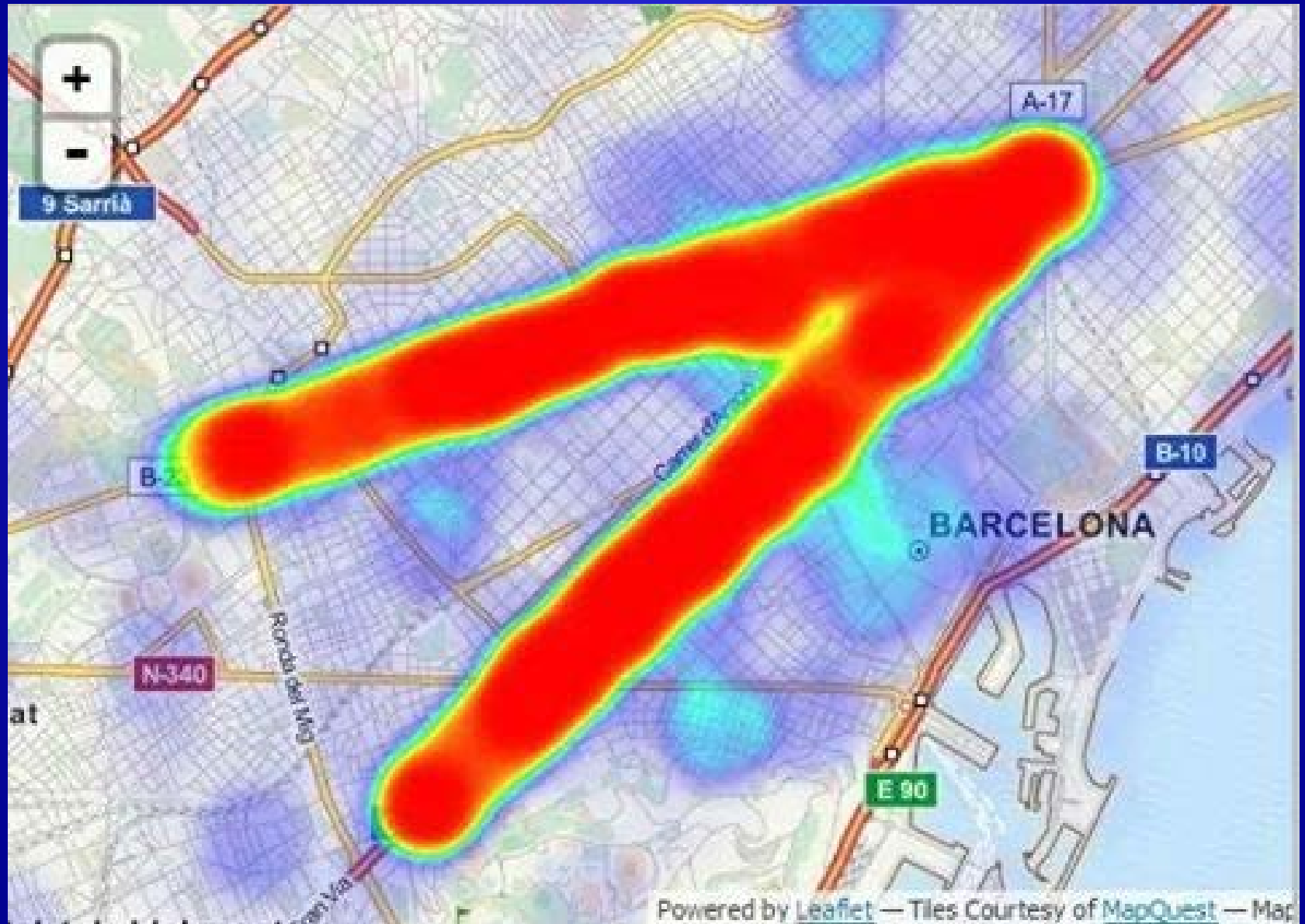


BigData

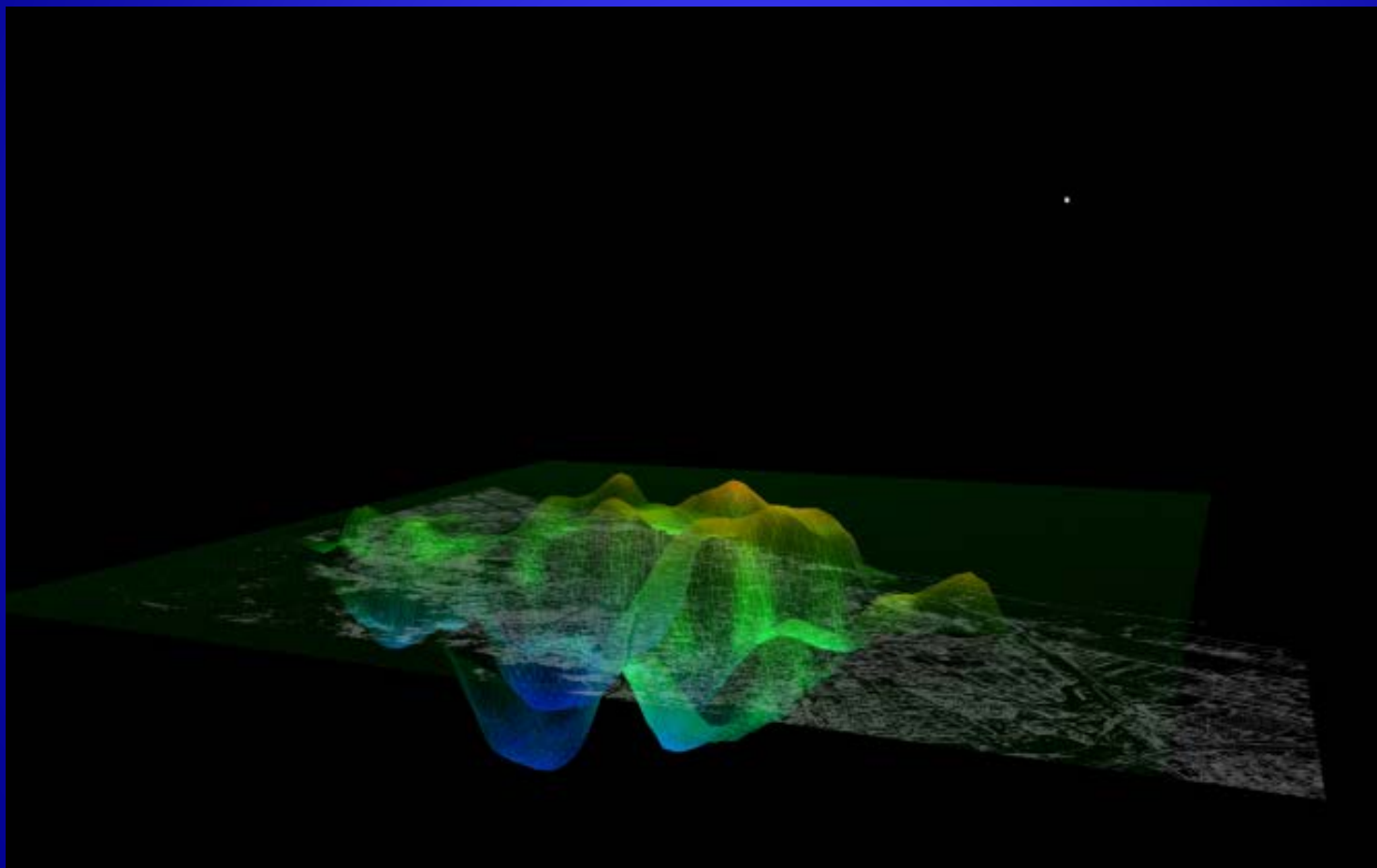
13:00h, Sept, 11th 2014 mobile cell activity in BCN



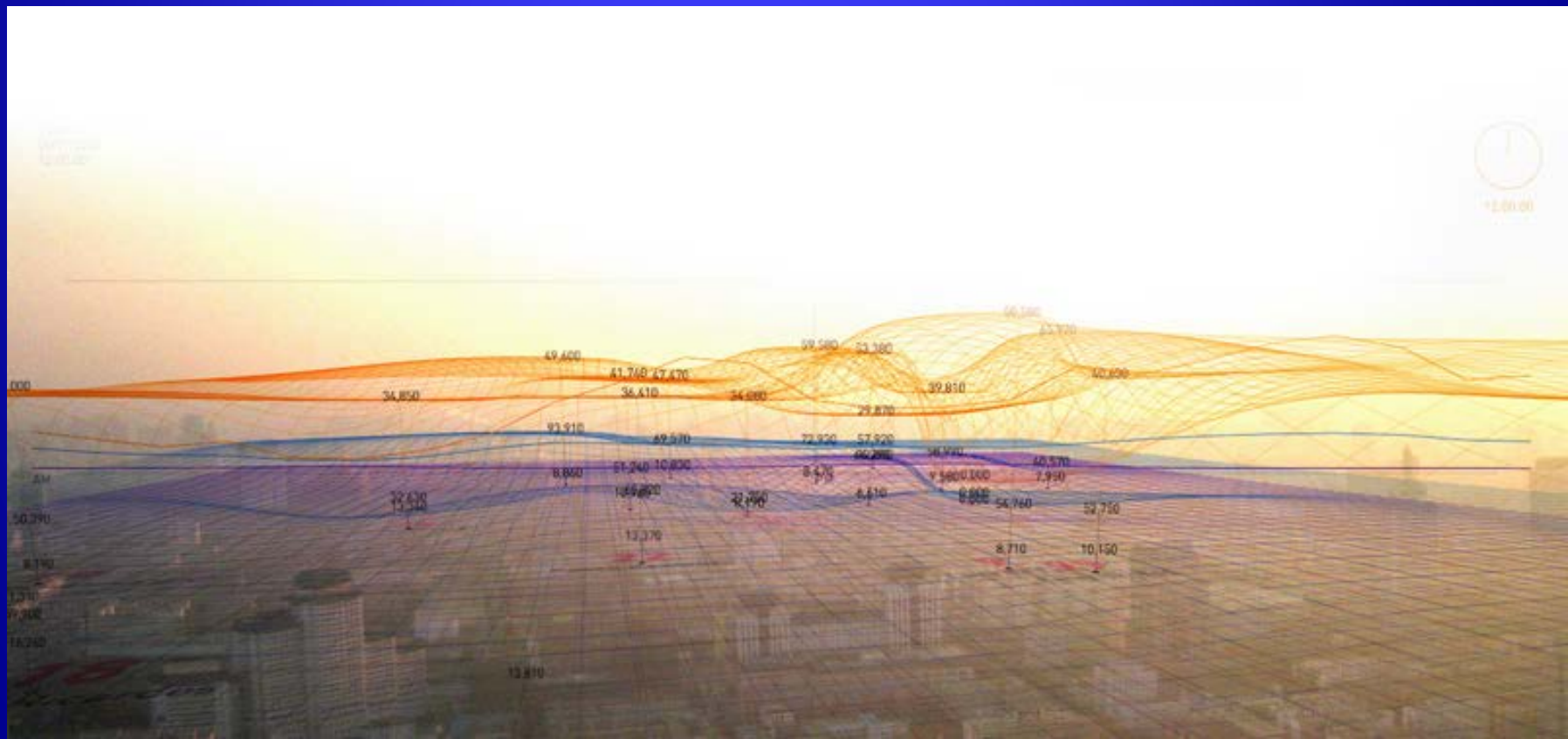
17:14h, Sept, 11th 2014



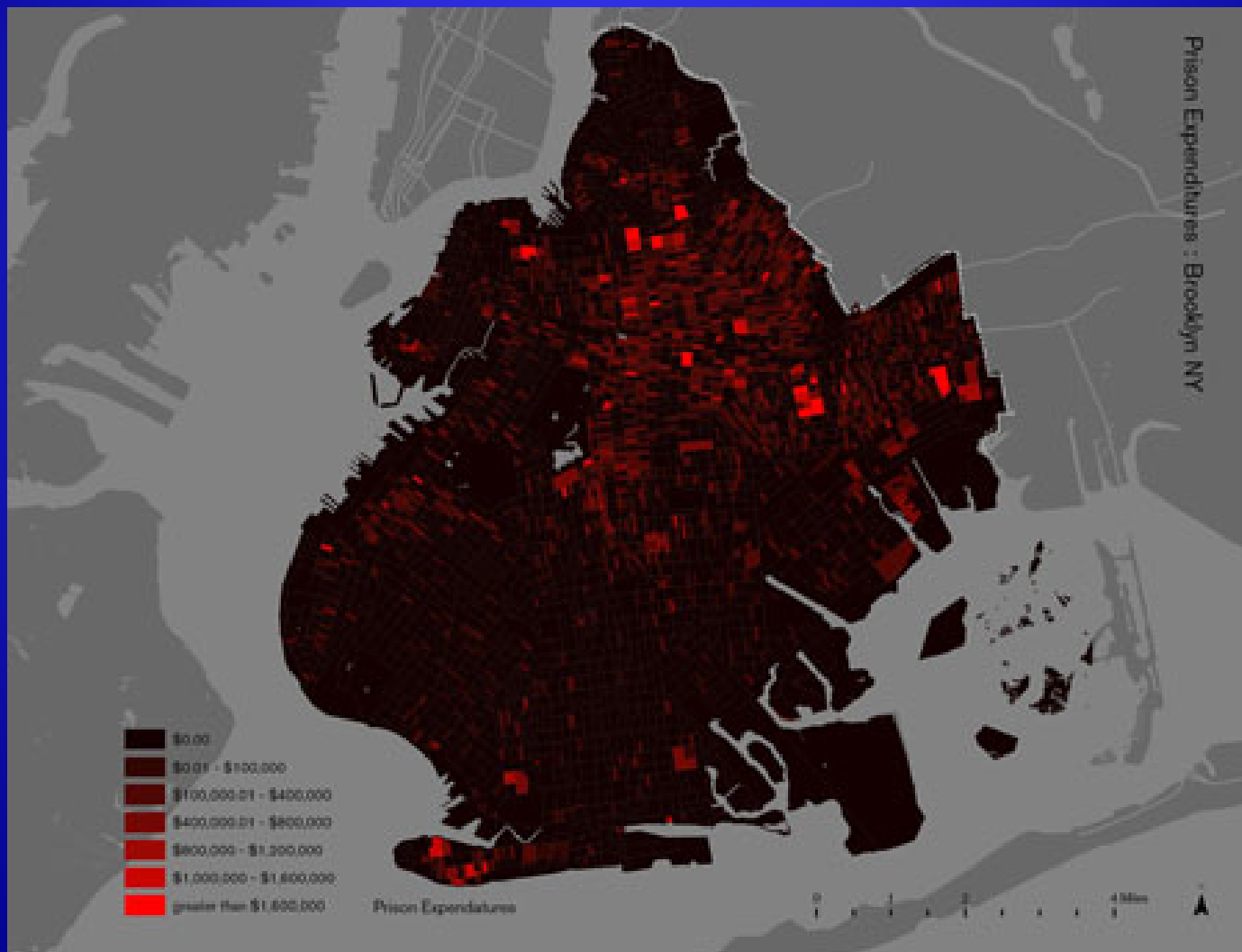
Discovery: transport



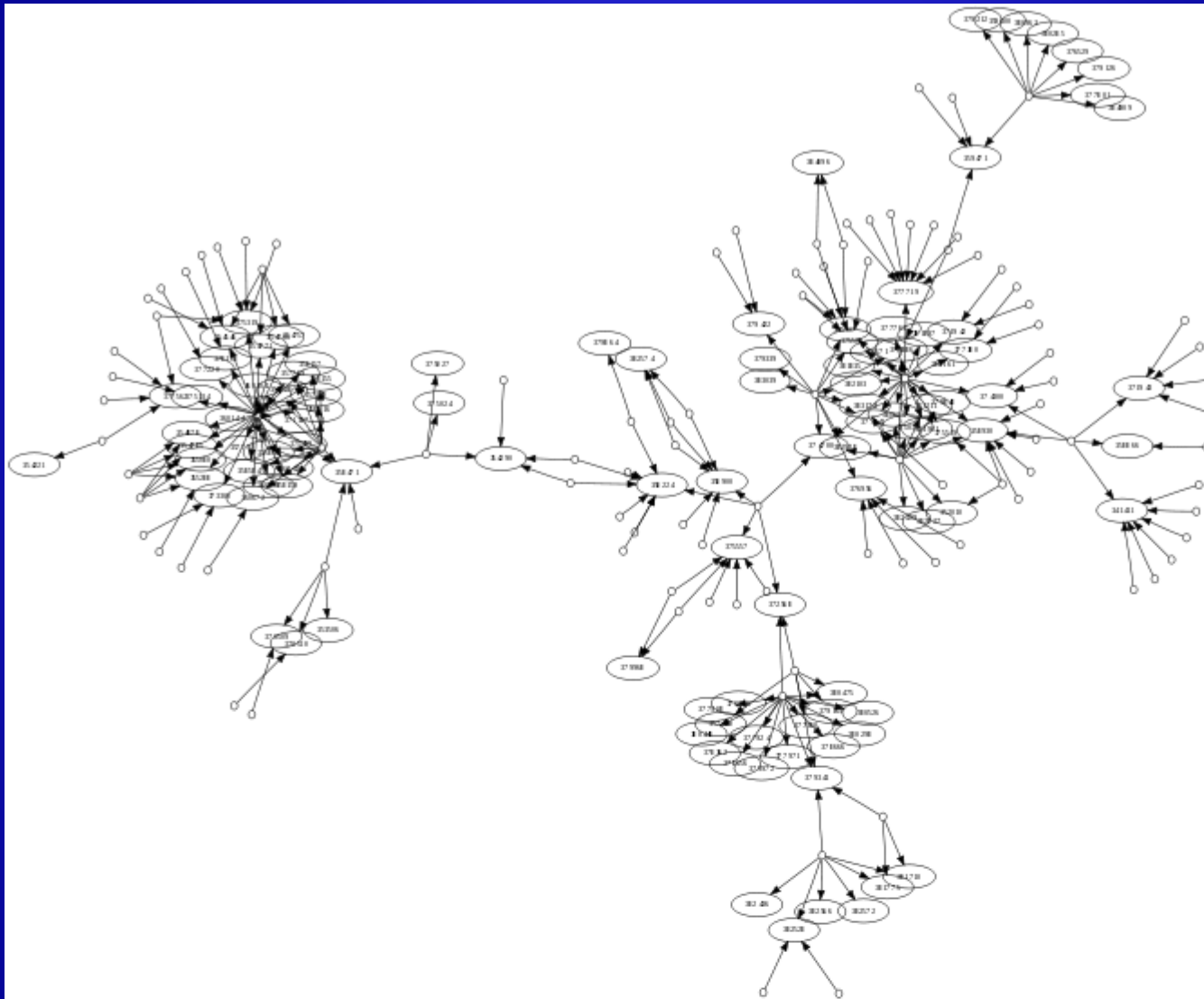
Discovery: the quality of the city



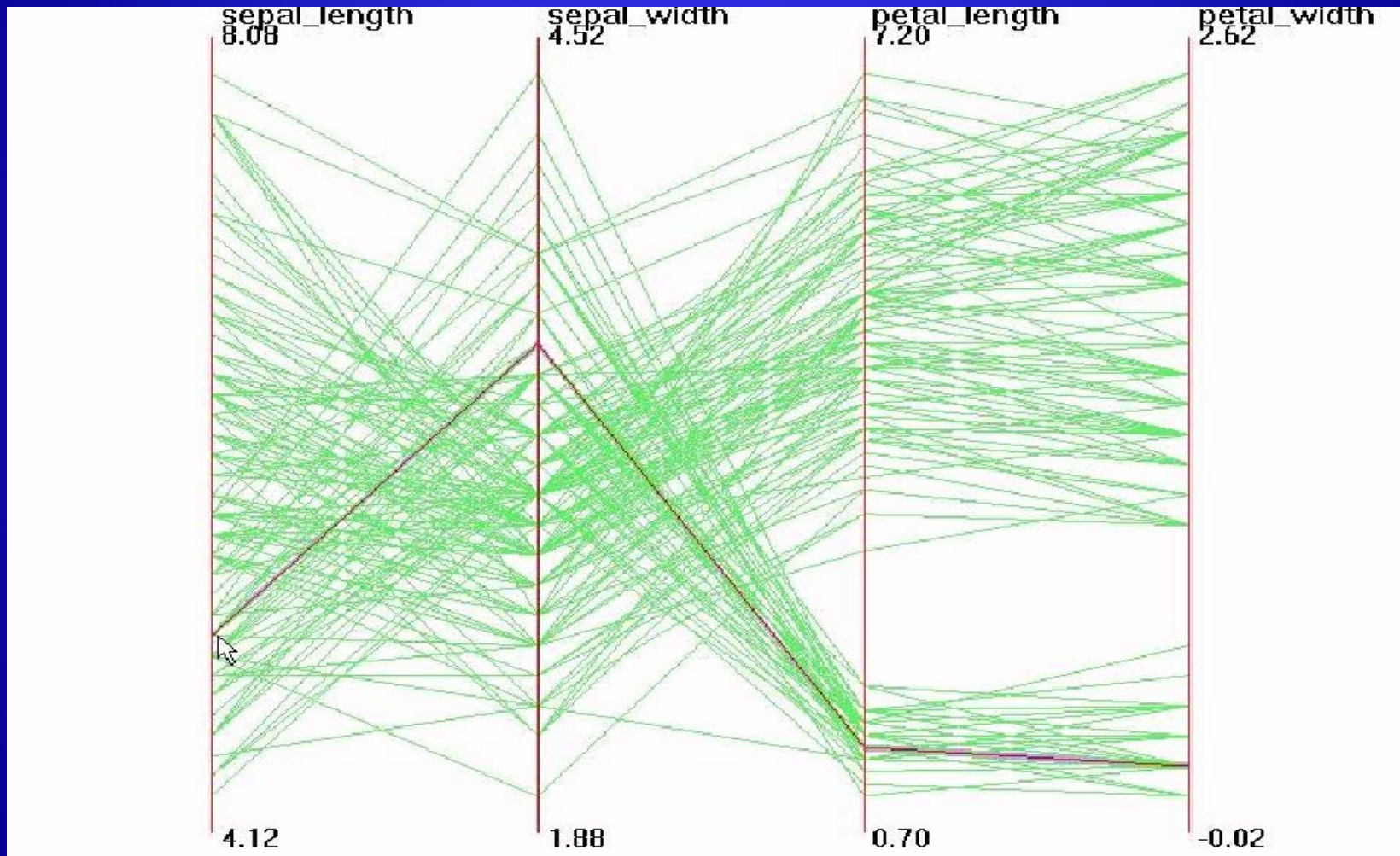
Discovery: the “cost” of the city



Graph visualisation



Parallel coordinates of IRIS data





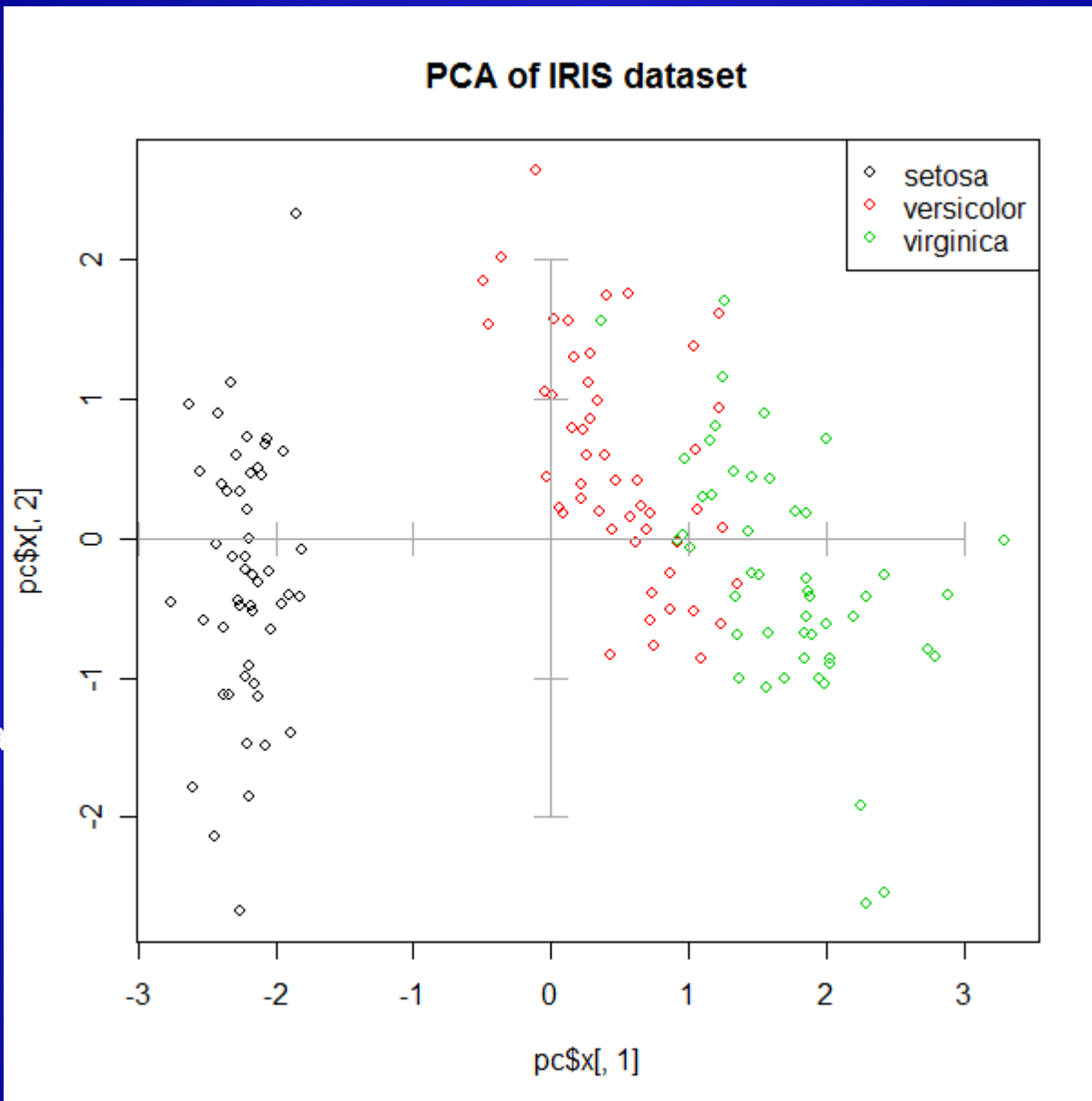
Iris setosa



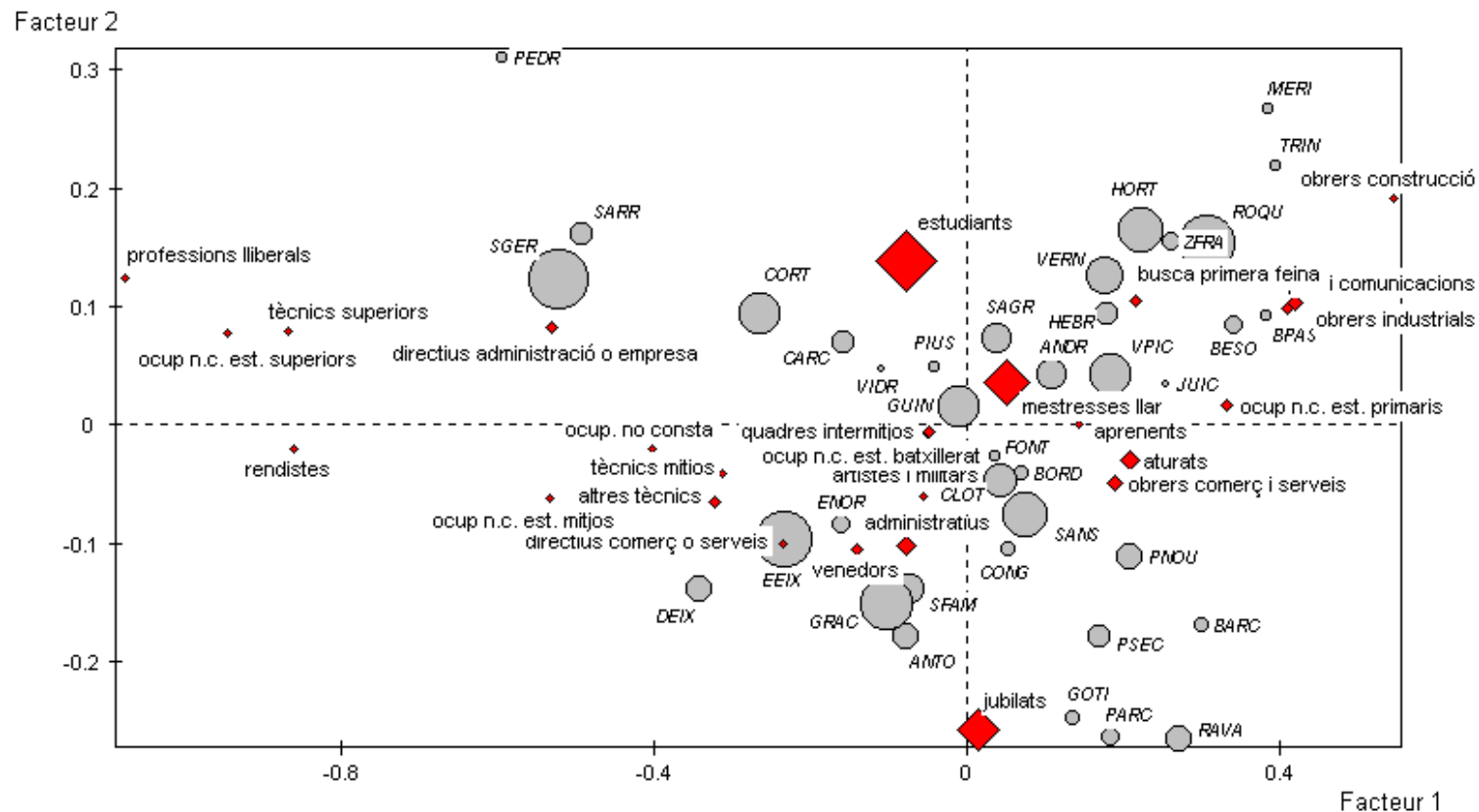
Iris versicolor



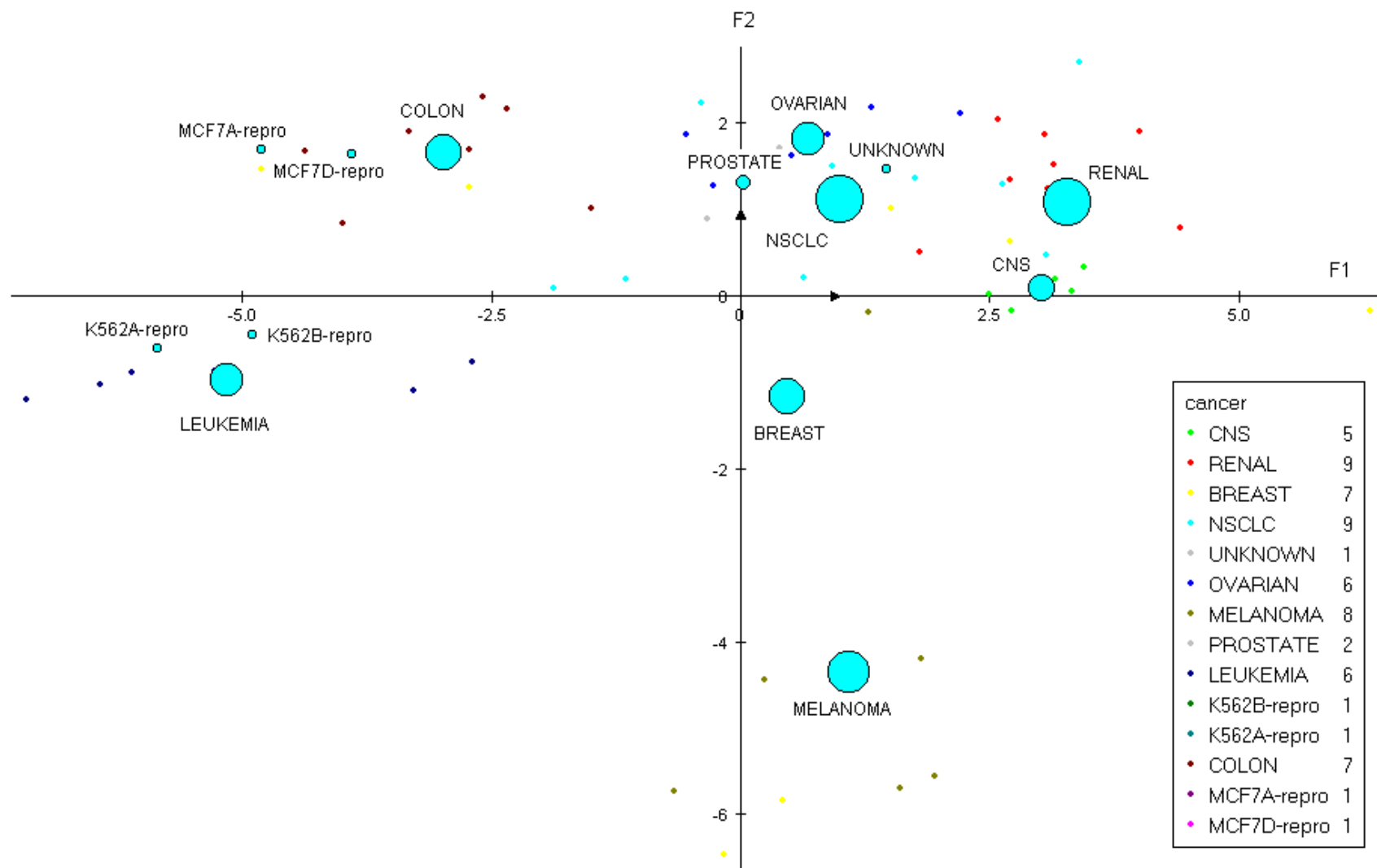
Iris virginica



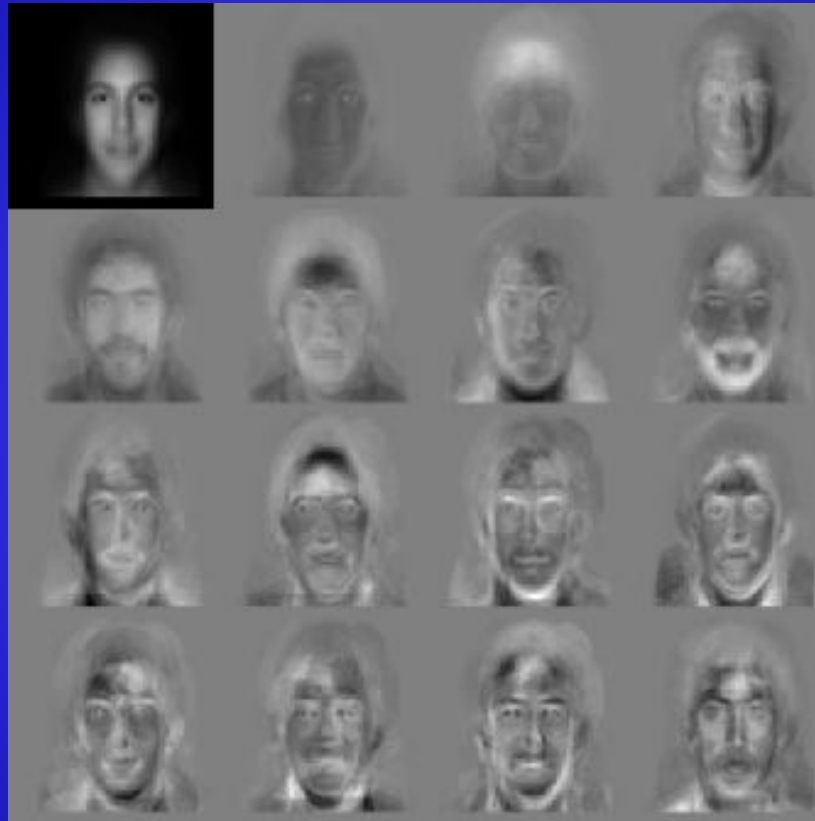
Visualization of the table *BCN Quarters x Profession of inhabitants*



Microarray data: 64 cancers 6830 genes

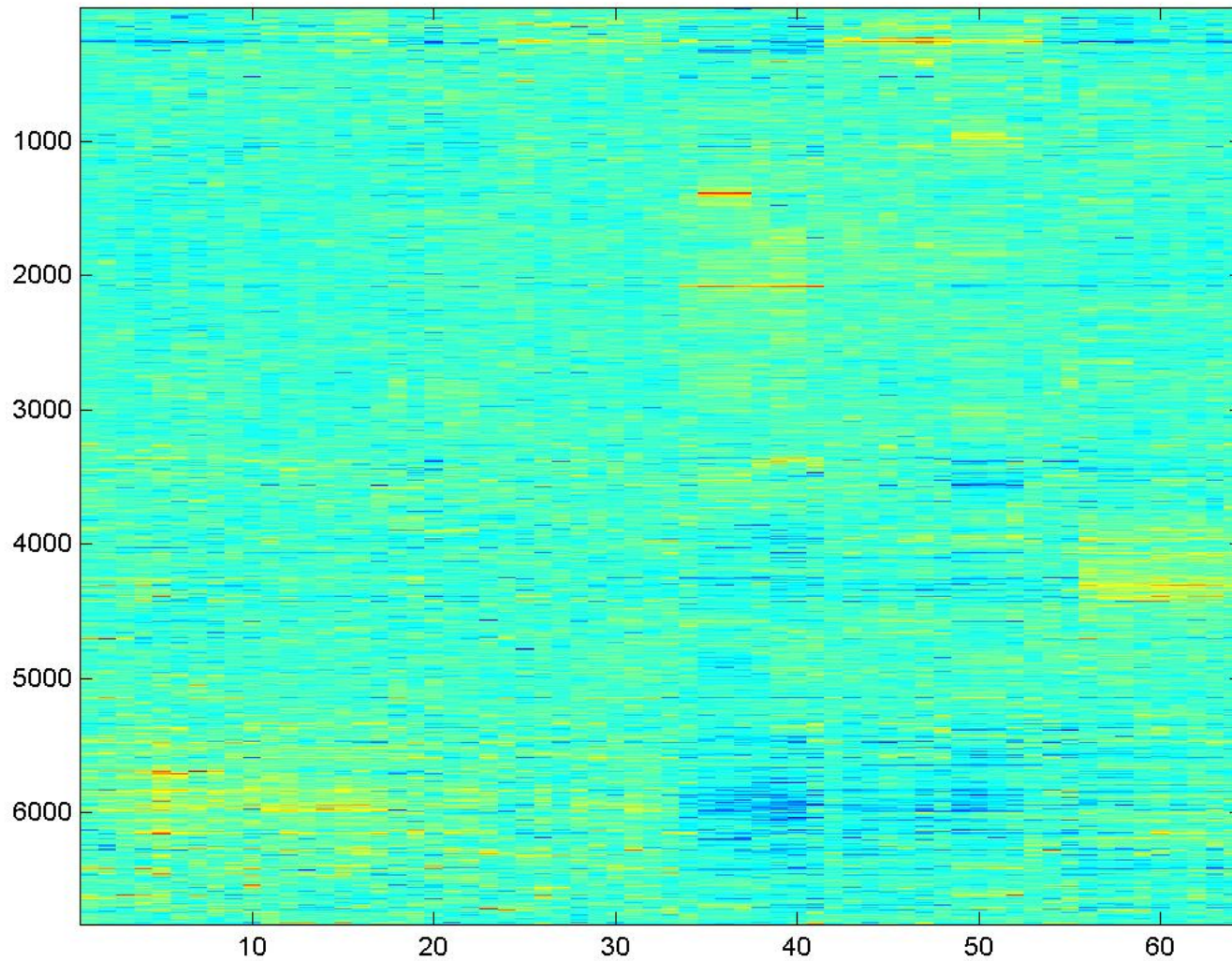


Reconstitution of images

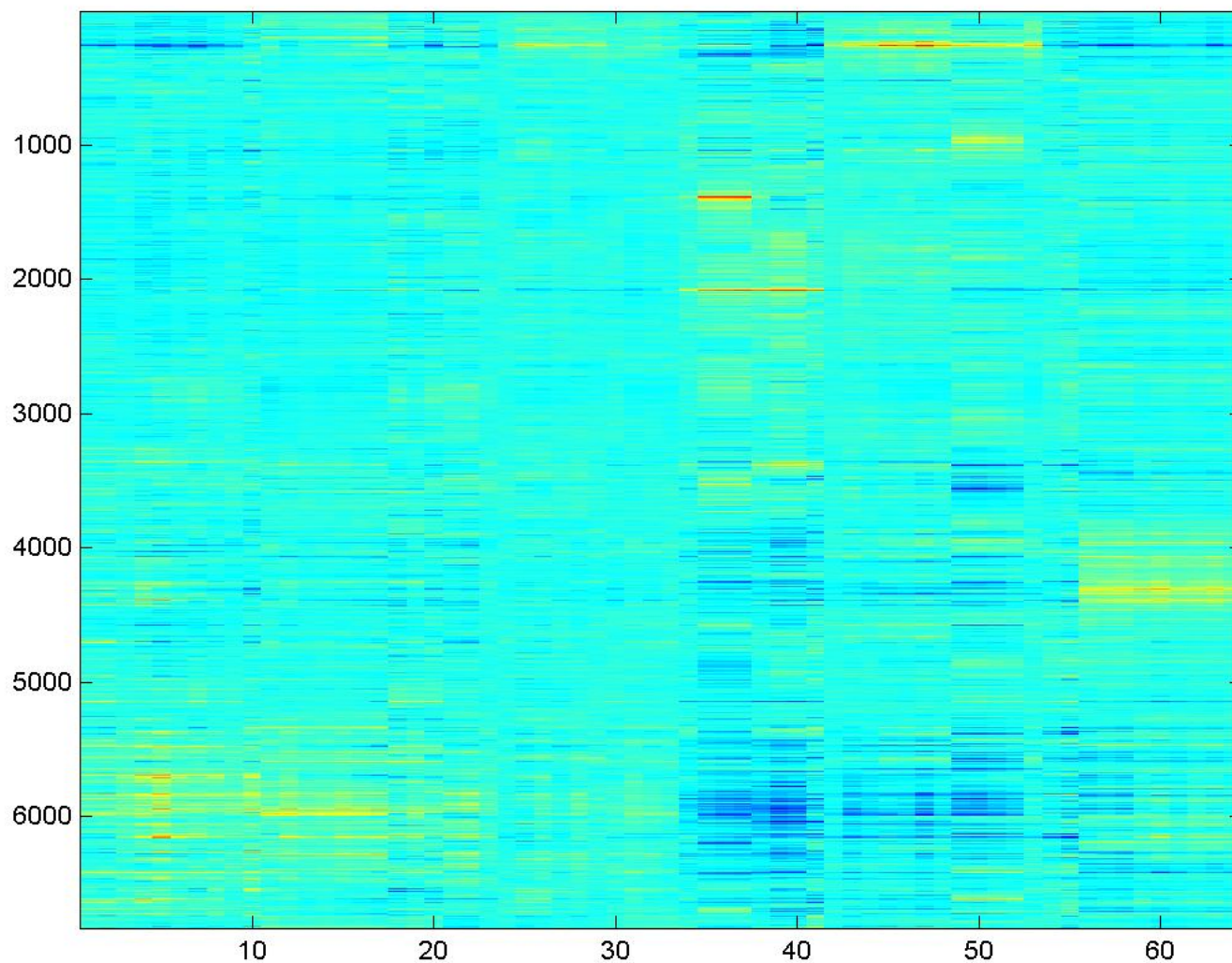


M.Turk and A.Pentland. Eigen Faces for Recognition. Journal of Cognitive Neuroscience, 3(1), 1991.

Actual image



Reconstituted image



Fondation Cartier, Exit was created by Diller Scofidio + Renfro, Mark Hansen, Laura Kurgan and Ben Rubin, in collaboration with Stewart Smith and Robert Gerard Pietrusko, based on an idea of philosopher and urbanist Paul Virilio for the exhibition Native Land, Stop Eject (shown in Paris in 2008, in Copenhagen during the 2009 COP15 conference on climate change organized by the UN,

<https://www.youtube.com/watch?v=cvQ-FZK9jic>

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