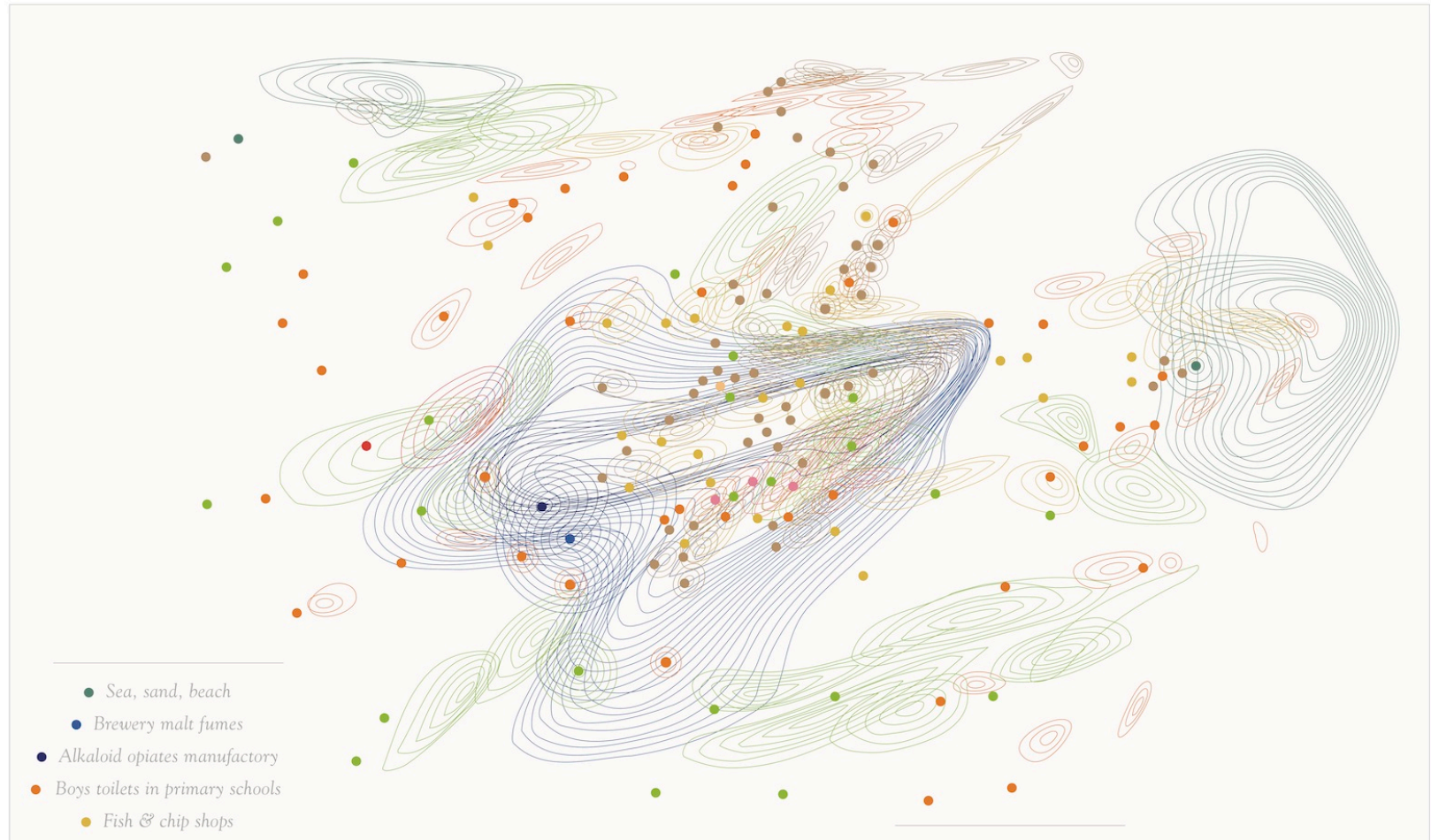


Smells of Auld Reekie on a particularly breezy day circa 2011



Auld Reekie emits a plethora of scents and smells; some particular to Edinburgh, some ubiquitous city aromas. It is the smell combination, and how they are distributed by the prevailing south-westerly winds that make them city-specific. Coloured dots indicate the source of the smells, the contour lines show where they blow to in the wind.

Lecture 5 Smelly Maps



Humans Can Discriminate More than 1 Trillion Olfactory Stimuli
Science, March 2014



Yet, city planning can discriminate only a few bad odors

nasal ranger



SMELL MAP OF HASSELT

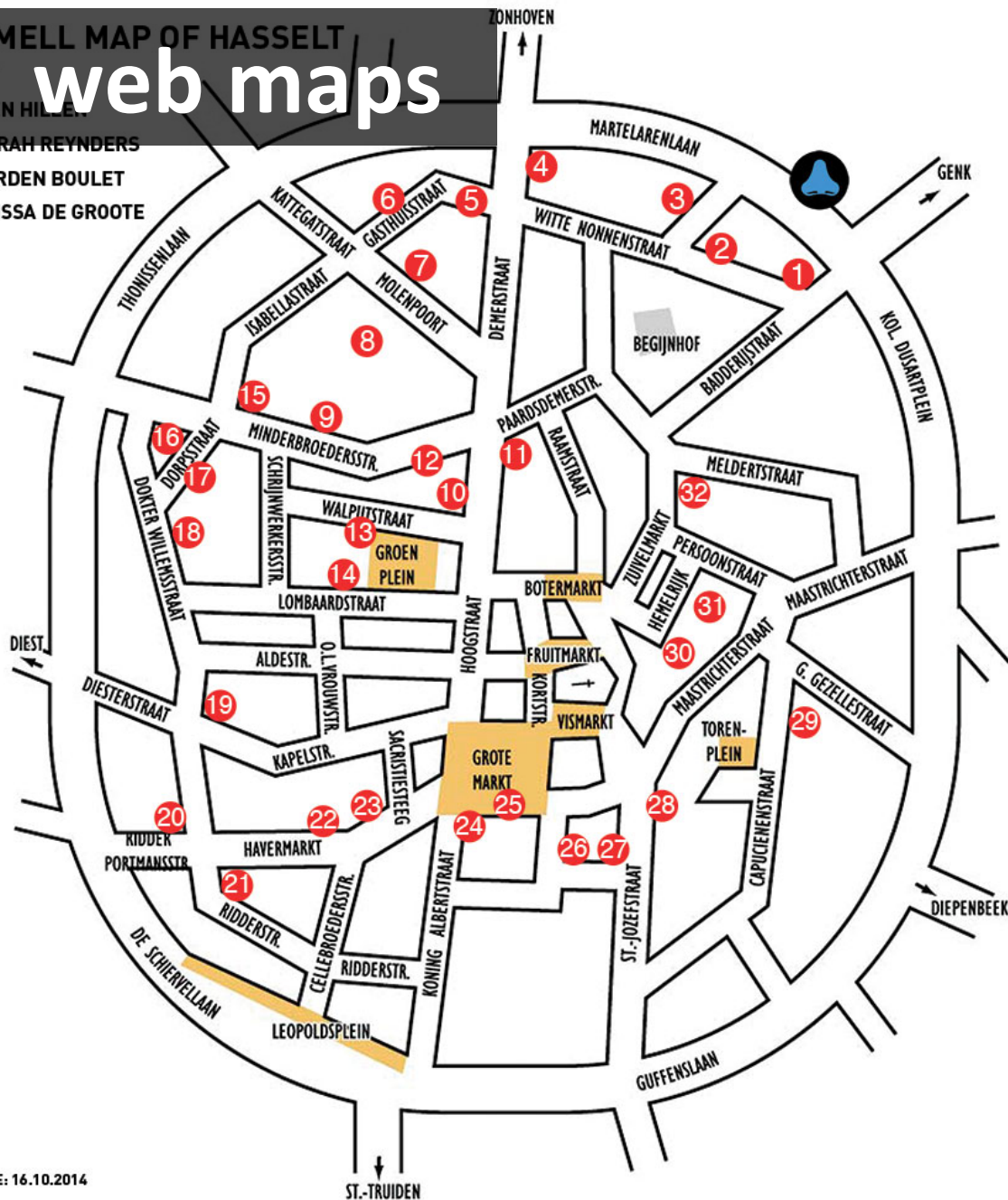
BY **web maps**

LIEN HILLEN

SARAH REYNERS

JORDEN BOULET

ELISSA DE GROOTE



- 1 Trashy
- 2 Temporary ass smell mixed with wood
- 3 Floral explosion
- 4 Ash of a saint
- 5 Dirty dishes
- 6 Putteke
- 7 Molenpoortse uitlaat
- 8 Summer
- 9 Smell of carrot
- 10 Let's go nuts
- 11 Worstenbroodje
- 12 Compost gallery
- 13 Buxus
- 14 Kelderke
- 15 Waving flags
- 16 Wierrook
- 17 Iets oud maar ook iets nieuw
- 18 Bruin Café
- 19 Ruikt naar decadentie
- 20 Papi
- 21 Under construction
- 22 ça roule ma poule
- 23 Vitamientjes
- 24 Belgian specialties
- 25 Coffee and cigarettes
- 26 Candystore
- 27 Versgebakken
- 28 Vrouwelijke schoonheid
- 29 Schoenmaker
- 30 Boekenbak
- 31 Sunday afternoon in the parc
- 32 Schlagerfestival

smell walks



Analyze Implicit Social Media Data

1 Building a smell dictionary

2 Capturing the smell notes from social media



smell walks
Amsterdam,
Pamplona, Glasgow,
Edinburgh, Newport,
Paris, New York.

[illegible]

Refining collected words

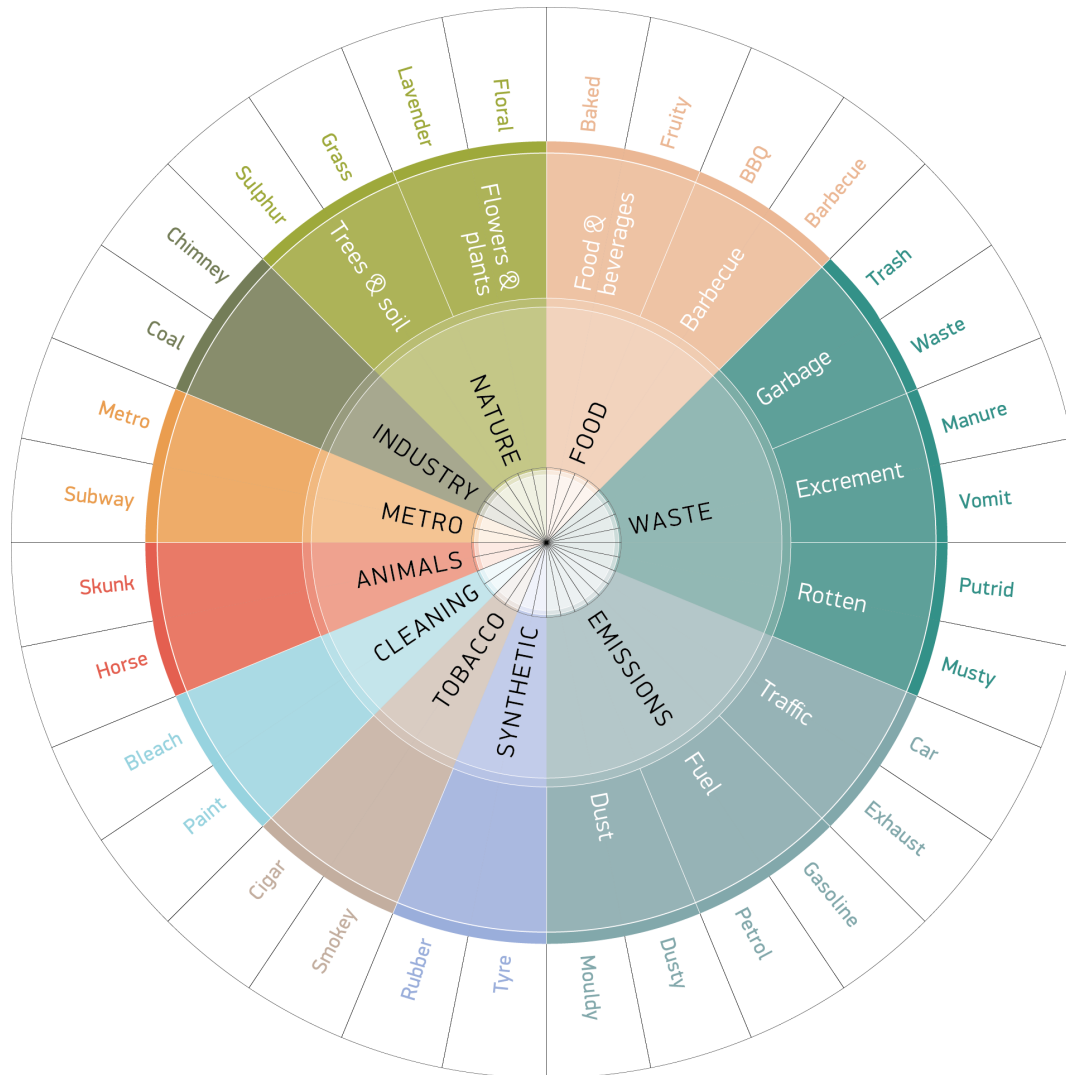
London & Barcelona

17M Flickr photos

436K Instagram photos

1.7M geo-referenced tweets

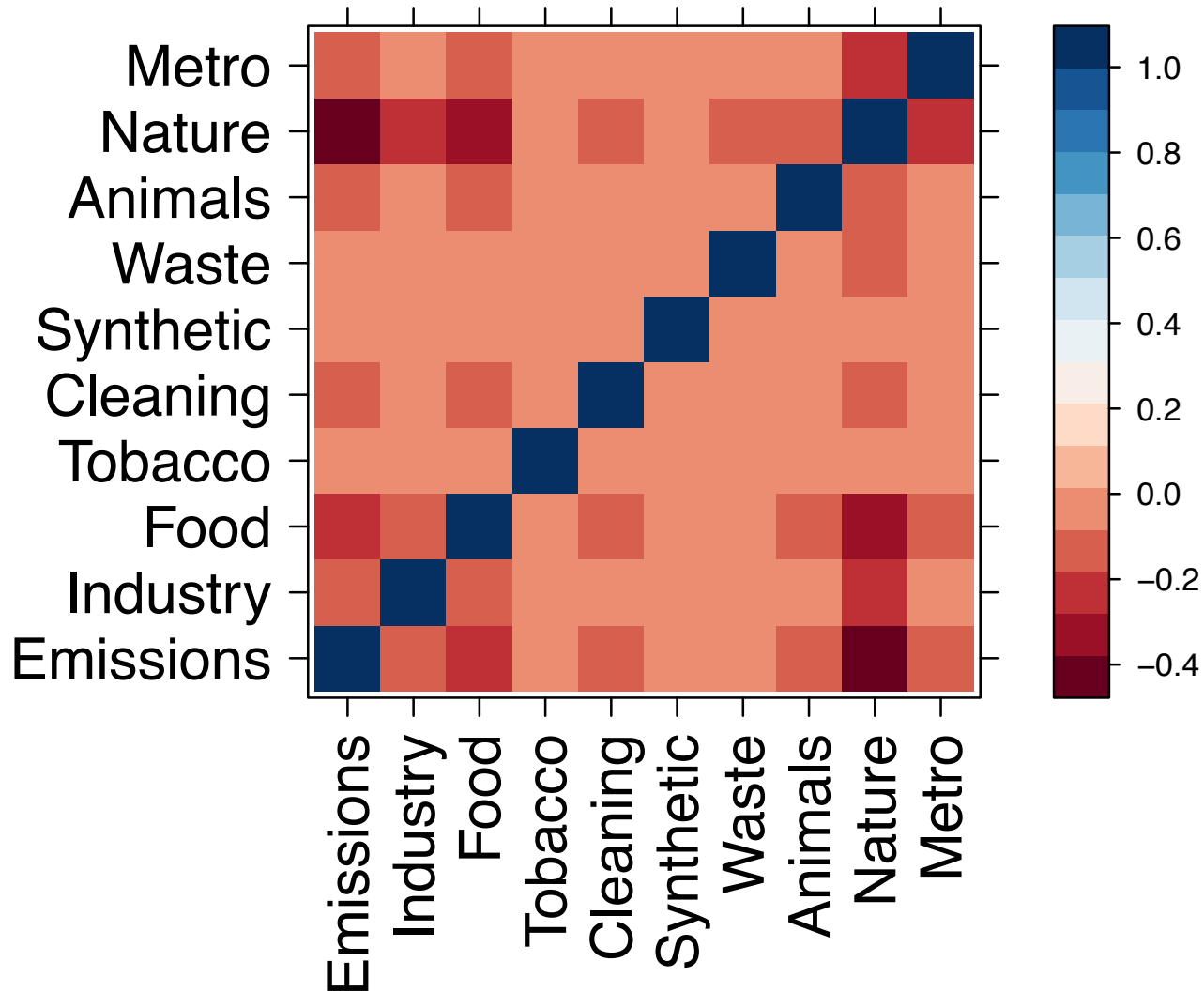
data-driven classification ~ classification in the literature



Urban Smellscape Aroma Wheel

(depicting background and episodic aromas only)
Aiello, L., McLean, K., Quercia, D., Schifanella, R. 2015

classification is ecologically valid



The first urban smell dictionary

researchswinger.org/smellymaps

2 Capturing *smell notes* from social media

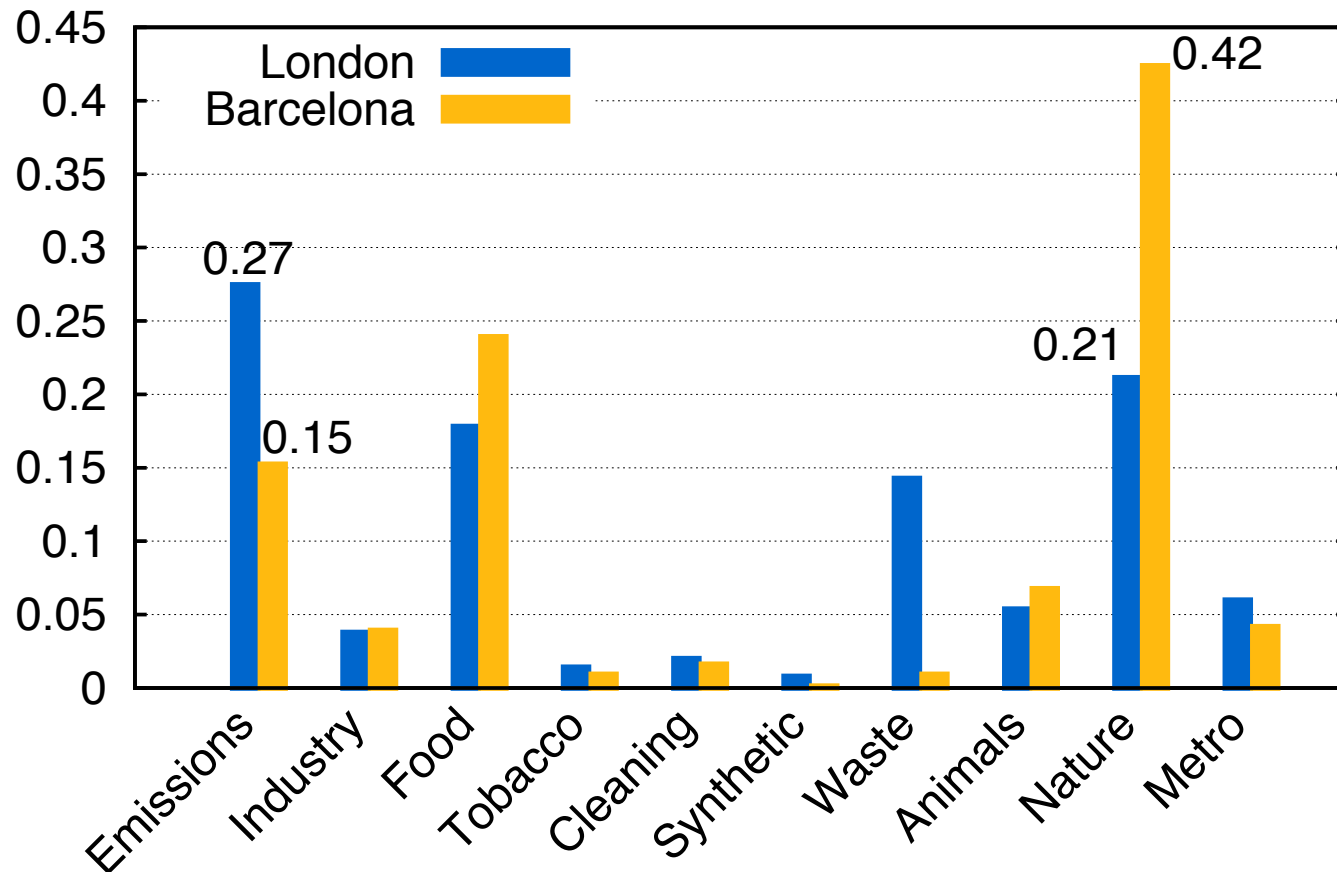
A conceptual diagram illustrating three levels of smellscape. The background features a dark silhouette of a city skyline with several tall buildings and a factory with three smokestacks emitting clouds of smoke. A large, dark, semi-circular shape dominates the upper half of the image. Within this shape, a smaller, lighter semi-circle is positioned in the upper right. A dashed line originates from the center of the city skyline and points upwards towards the smaller semi-circle. The smaller semi-circle contains a detailed illustration of a street scene with trees, a street lamp, and two cars. The text 'MICRO-LEVEL SMELLSCAPE' and 'THE IMMEDIATE SITE-BASED TOP NOTE' is written inside this smaller semi-circle. The text 'MIDI-LEVEL SMELLSCAPE' and 'THE NEIGHBOURHOOD/AREA MIDDLE NOTE' is written within a dashed rectangular box that encompasses the city skyline. The text 'MACRO-LEVEL SMELLSCAPE' and 'THE CITY-WIDE BASE NOTE' is written at the bottom of the diagram.

MICRO-LEVEL SMELLSCAPE
THE IMMEDIATE SITE-BASED TOP NOTE

MIDI-LEVEL SMELLSCAPE
THE NEIGHBOURHOOD/AREA MIDDLE NOTE

MACRO-LEVEL SMELLSCAPE
THE CITY-WIDE BASE NOTE

Base Notes of London & Barcelona

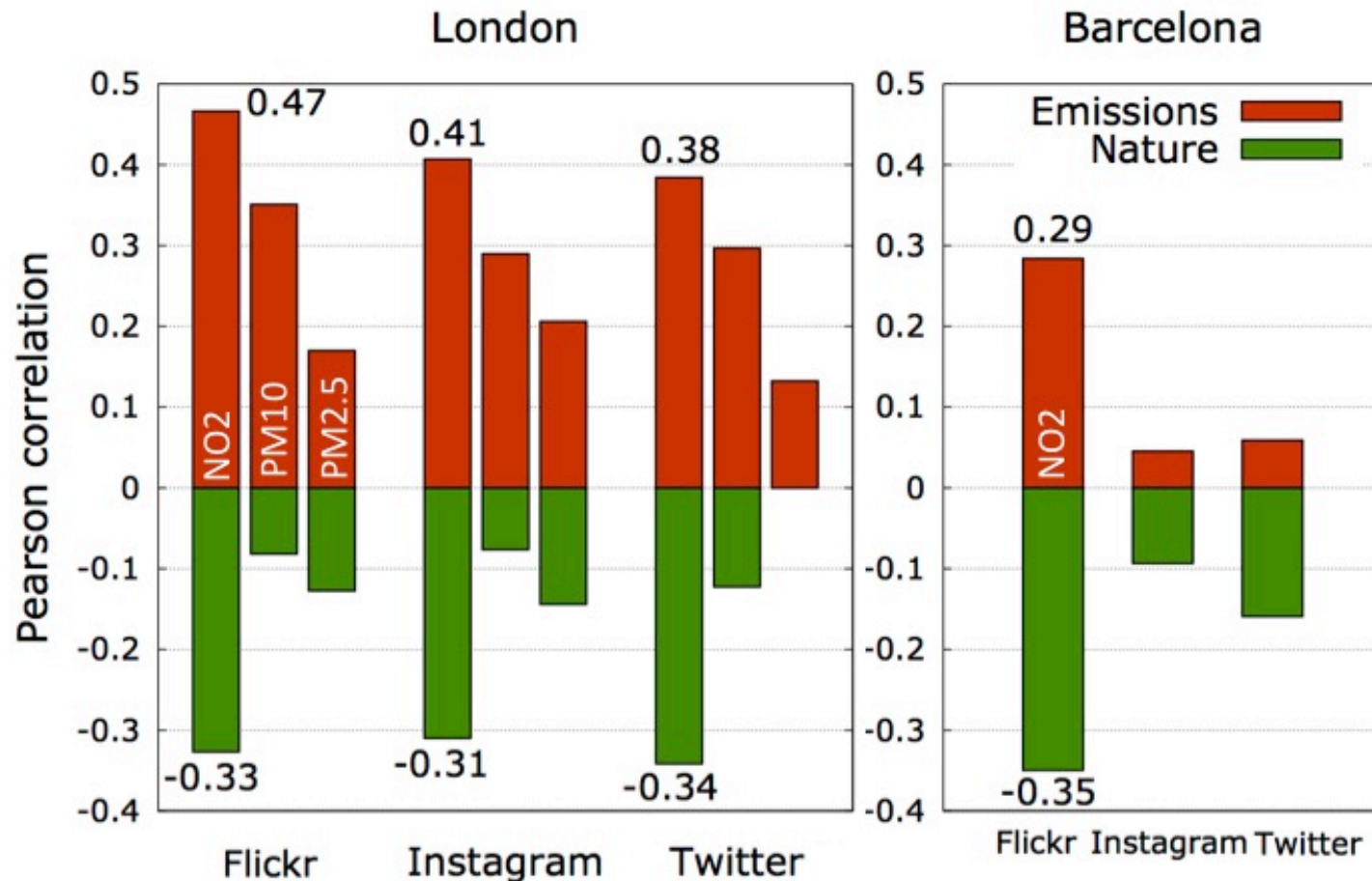


air quality & smell categories

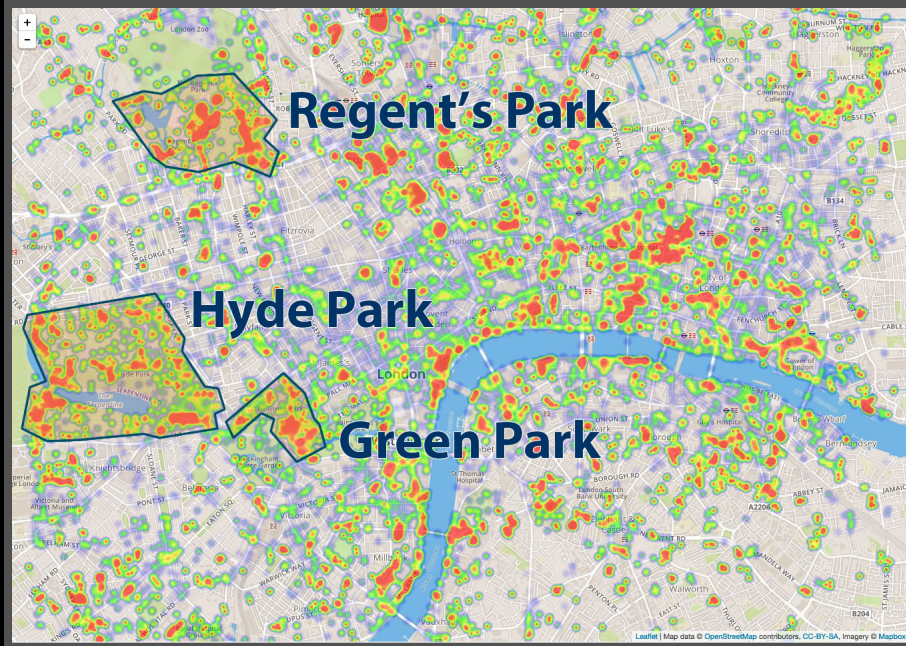
$r(\text{NO}_2, \text{"traffic"}) = 0.47$ in London
0.29 in Barcelona

$r(\text{NO}_2, \text{"nature"}) = -0.33$ in London
-0.35 in Barcelona

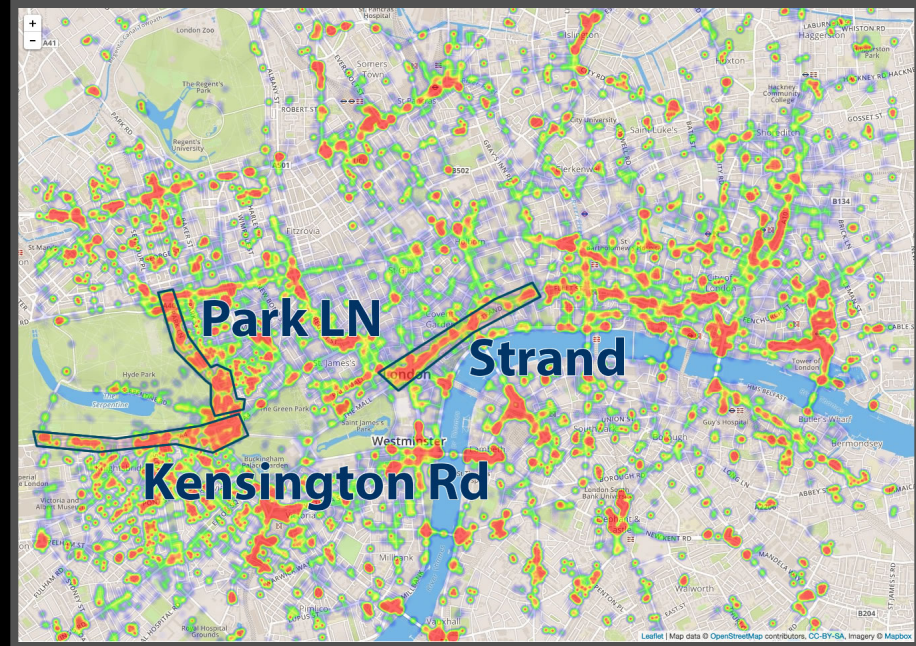
Results do not change across social media



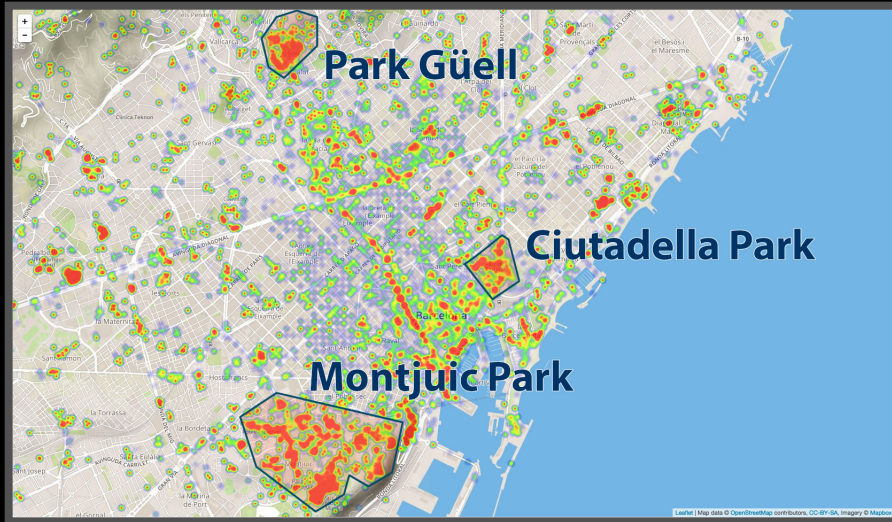
nature



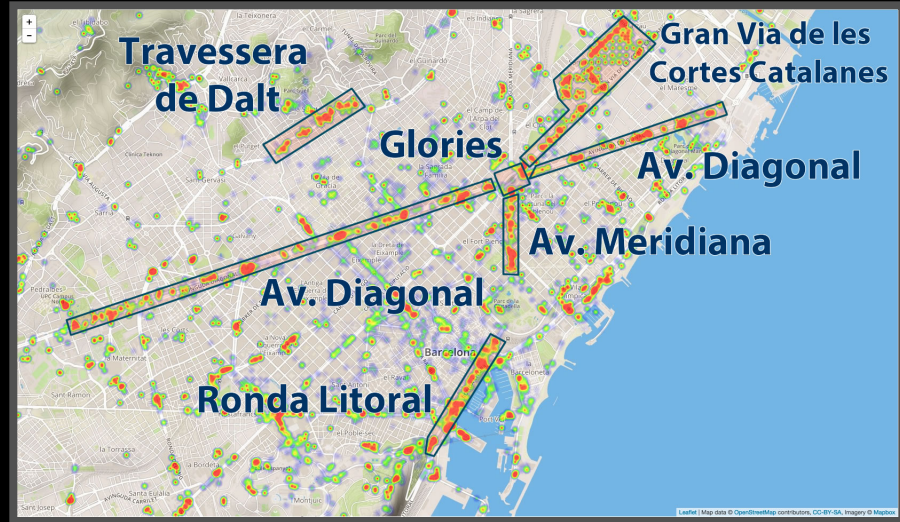
emissions



nature



emissions





A detailed heatmap of London, England, showing areas of high activity or density. The map is overlaid with a grid of streets and labeled with various districts and landmarks. Two specific areas are highlighted with black boxes and zoomed in: Regent's Park in the northwest and Vauxhall in the south. The heatmap uses a color scale from purple (low density) to red (high density). A black rectangular box is superimposed over the center-right of the map, containing the text 'London: mid-level notes'. The River Thames flows through the center of the city. Major roads like the A41, A501, A40, and A4 are visible. Landmarks such as Regent's Park, Hyde Park, St. James's Park, and the Tower of London are labeled. The text 'London Zoo' is prominently displayed in the top left, and 'Vauxhall City Farm' is in the bottom right.

London Zoo

London: mid-level notes

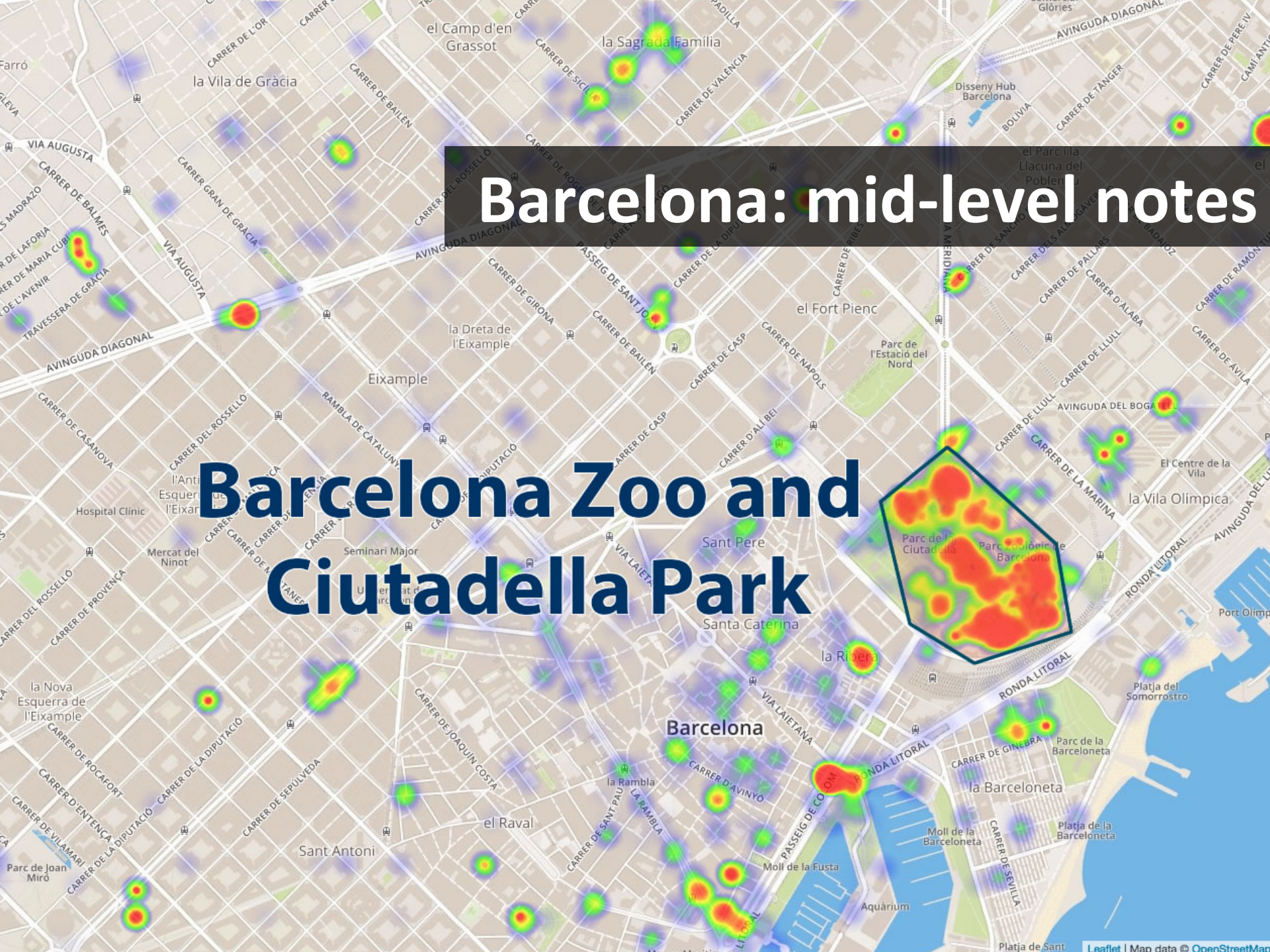
Vauxhall City Farm



London: mid-level notes

Barcelona: mid-level notes

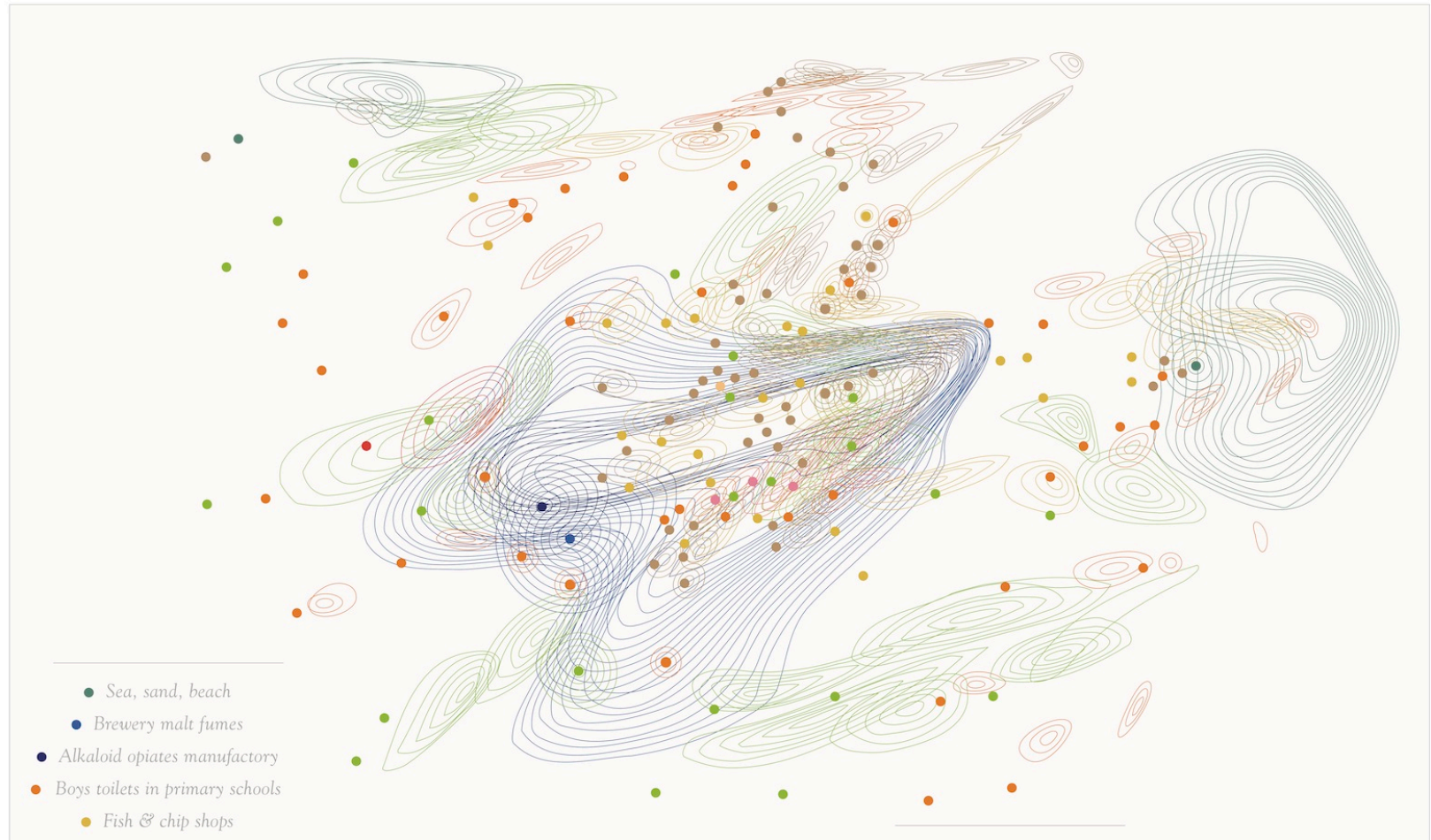
Barcelona Zoo and Ciutadella Park





Barcelona: mid-level notes

Smells of Auld Reekie on a particularly breezy day circa 2011



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Reading Smelly Maps: The Digital Life of Urban Smellscapes

**THANK
YOU!**

