FONDAZIONE BRUNO KESSLER
MAGAZINE

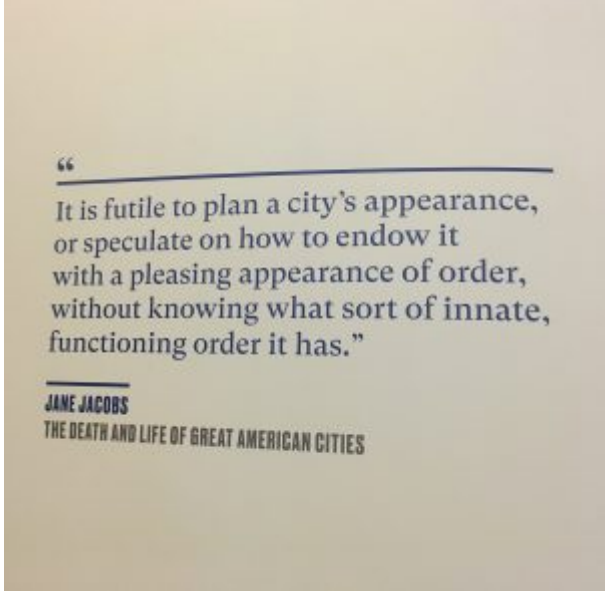
The Data and Life of Great Future Cities

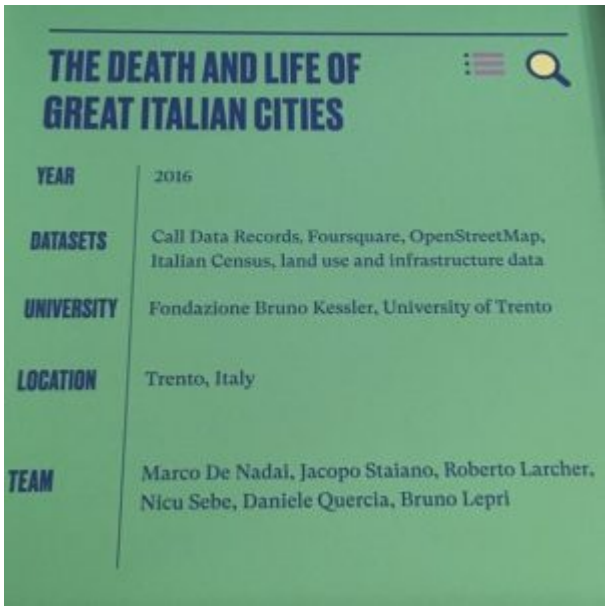
November 7, 2018

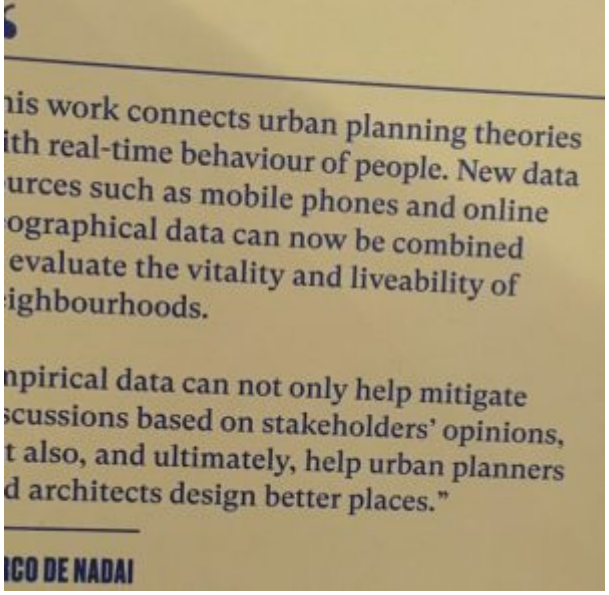
The Roca London Gallery is hosting an exhibition, based on Marco De Nadai and MOBS @ FBK research activities. It proposes that, used responsibly, personal data could be the key to better urban design

The **Roca London Gallery** is a space designed by **Zaha Hadid Architects**, an evolving experience related to design, innovation, sustainability and wellbeing values. It hosts social and cultural events, exhibitions and installations.

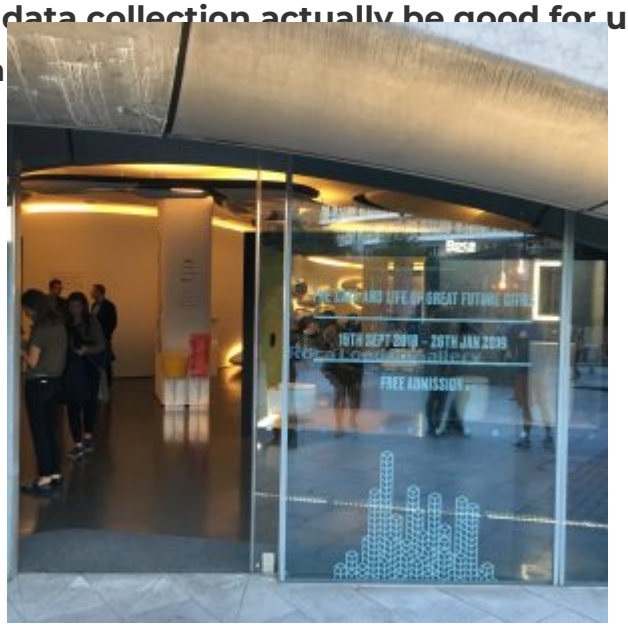
From 15 September 2018 to 26 January 2019, it hosts a free exhibition entitled ”THE DATA AND LIFE OF GREAT FUTURE CITIES”. It is inspired by the iconic 1961 book “**The Death and Life of Great American Cities**“, by pioneering urbanist, activist and writer **Jane Jacobs**. In it, controversially without extensive evidence gathering, Jacobs managed to identify the four conditions required for successful city planning or the “four generators of diversity”. Her theories have now been proved uncannily accurate by a team of researchers at the University of Trento, led by Marco De Nadai, whose work will be part of the Roca London Gallery show. De Nadai’s development of a much cheaper and quicker alternative to the lengthy and costly collection of survey data, or studies of pedestrian activity, uses a new generation of city databases – such as OpenStreetMap and Foursquare – combined with mobile-phone records, showing the number and frequency of calls in an area, to identify a city’s most vibrant areas. This new methodology is groundbreaking for city planning as it offers an evidence-based, objective toolkit for assessing aspects such as quality, vitality and diversity of city life. Rather than relying on a satellite-style view, we’re now able to understand how a city works from street level up, providing an empirical way into what Jacobs called “the adventure of probing the real world.


“
It is futile to plan a city’s appearance, or speculate on how to endow it with a pleasing appearance of order, without knowing what sort of innate, functioning order it has.”
JANE JACOBS
THE DEATH AND LIFE OF GREAT AMERICAN CITIES


THE DEATH AND LIFE OF GREAT ITALIAN CITIES
YEAR
2016
DATASETS
Call Data Records, Foursquare, OpenStreetMap, Italian Census, land use and infrastructure data
UNIVERSITY
Fondazione Bruno Kessler, University of Trento
LOCATION
Trento, Italy
TEAM
Marco De Nadai, Jacopo Staiano, Roberto Larcher, Nicu Sebe, Daniele Quercia, Bruno Lepri



Can data collection actually be good for us? Does the future of human-centred urba



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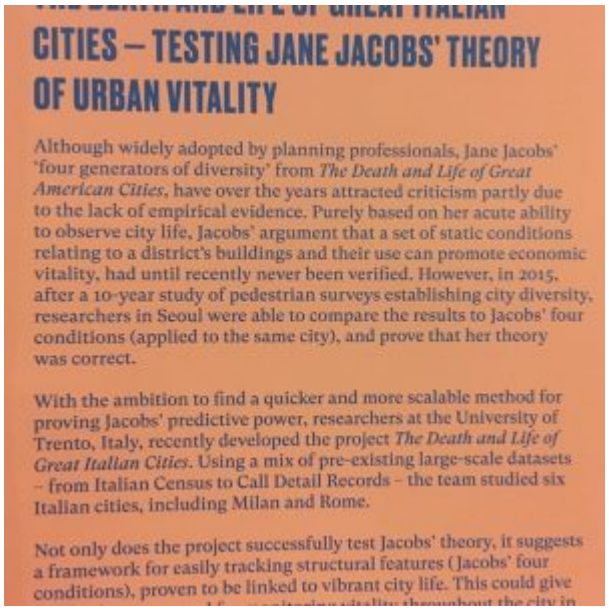

CITIES – TESTING JANE JACOBS' THEORY OF URBAN VITALITY

Although widely adopted by planning professionals, Jane Jacobs' 'four generators of diversity' from *The Death and Life of Great American Cities*, have over the years attracted criticism partly due to the lack of empirical evidence. Purely based on her acute ability to observe city life, Jacobs' argument that a set of static conditions relating to a district's buildings and their use can promote economic vitality, had until recently never been verified. However, in 2015, after a 10-year study of pedestrian surveys establishing city diversity, researchers in Seoul were able to compare the results to Jacobs' four conditions (applied to the same city), and prove that her theory was correct.

With the ambition to find a quicker and more scalable method for proving Jacobs' predictive power, researchers at the University of Trento, Italy, recently developed the project *The Death and Life of Great Italian Cities*. Using a mix of pre-existing large-scale datasets – from Italian Census to Call Detail Records – the team studied six Italian cities, including Milan and Rome.

Not only does the project successfully test Jacobs' theory, it suggests a framework for easily tracking structural features (Jacobs' four conditions), proven to be linked to vibrant city life. This could give

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THE DATA
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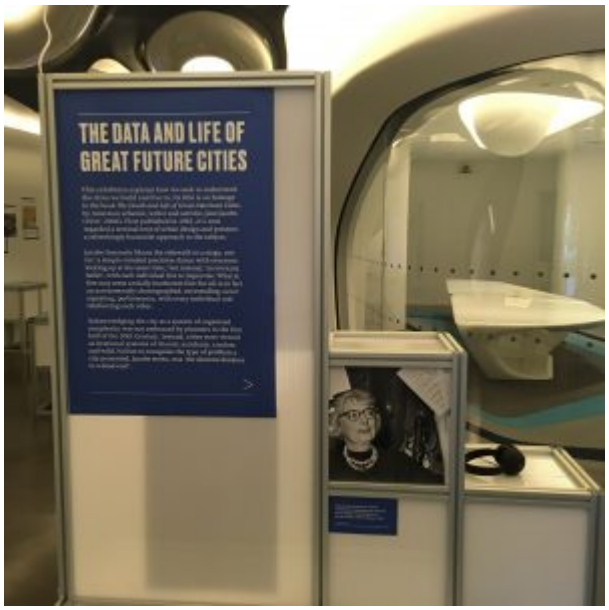

THE DATA AND LIFE OF
GREAT FUTURE CITIES

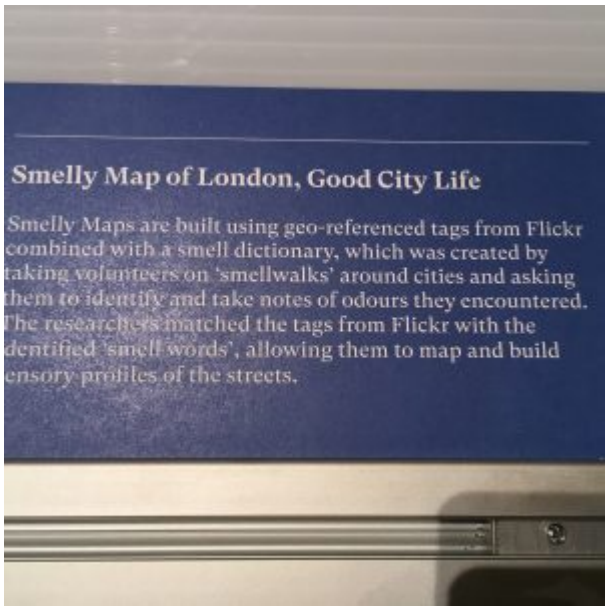

1811
1833
1853

What can be learned about cities from the social media generated by its residents? City dwellers capture a vast amount of information about their movements and perceptions through location-based applications on their smartphones. From check-ins on Facebook to geo-tagged pictures uploaded to Instagram and Flickr, we leave an endless trail of digital footprints behind us on social media. Researchers are increasingly realising that these footprints can give an on-the-ground snapshot of how people actually use and experience cities.

Here we present two projects utilising social media data to map the dynamics and character, and the sensorial and emotional layers, of cities. *Livehoods*, developed by researchers at Carnegie Mellon University, uses Foursquare check-in patterns together with clustering algorithms to map the places people use in a city, combined with the patterns of people using them. This creates an alternative to a traditional map of units such as neighbourhoods, as it takes into consideration city dwellers and their activity patterns.

The researchers behind the initiative *Good City Life* have used social media data matched with crowdsourced dictionaries to map (words relating to) the odours and sounds of cities. The resulting *Smelly Maps* and *Chatty Maps* include both positive and negative sounds and smells – as opposed to traditional mapping of noise and pollution – highlighting that olfactory and audible experiences can have positive effects on city dwellers.


Tottenham Court Road
WSG
SOHO
Leicester Square
Piccadilly Circus
National Portrait Gallery
Piccadilly
Charing Cross
Underground


Smelly Map of London, Good City Life
Smelly Maps are built using geo-referenced tags from Flickr combined with a smell dictionary, which was created by taking volunteers on 'smellwalks' around cities and asking them to identify and take notes of odours they encountered. The researchers matched the tags from Flickr with the dentified 'smell words', allowing them to map and build ensory profiles of the streets.

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Smelly Map and Chatty Map showing
the smells and sounds of London
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THE DEATH AND LIFE OF GREAT ITALIAN CITIES
THE ANSWER
THE TOOL
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lay, we are collecting a staggering
ount of visual information (photos,
eos, etc.) about our cities. Using new
systems we can analyze it - and better
derstand the places we live in: anything
m traffic congestion, to the quality of
building stock, to the presence of trees
d green areas.
is like borrowing the eyes of millions of
ateur photographers and using them to
tter understand our urban habitat."
LO RATTI
CTOR, MIT SENSEABLE CITY LAB
KEY TO DATASETS

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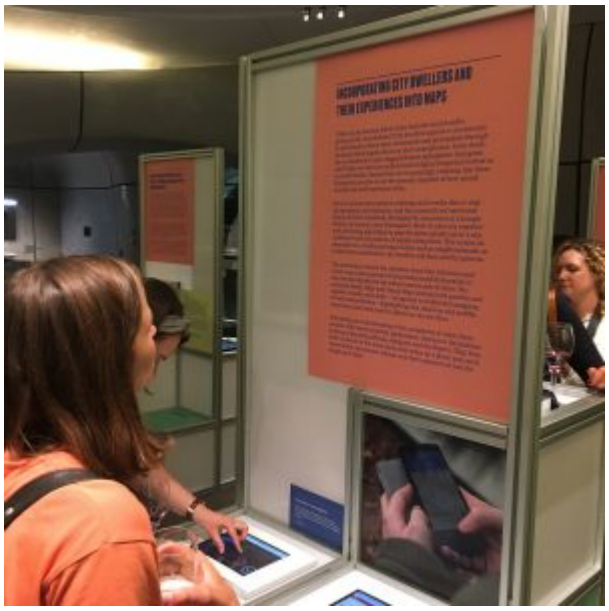
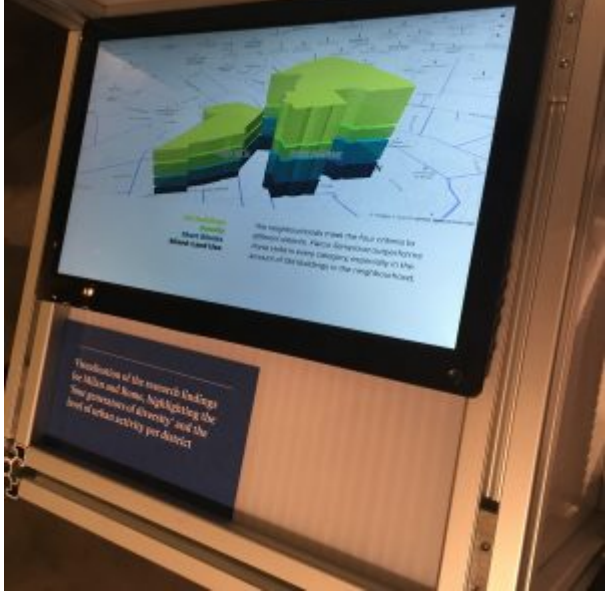
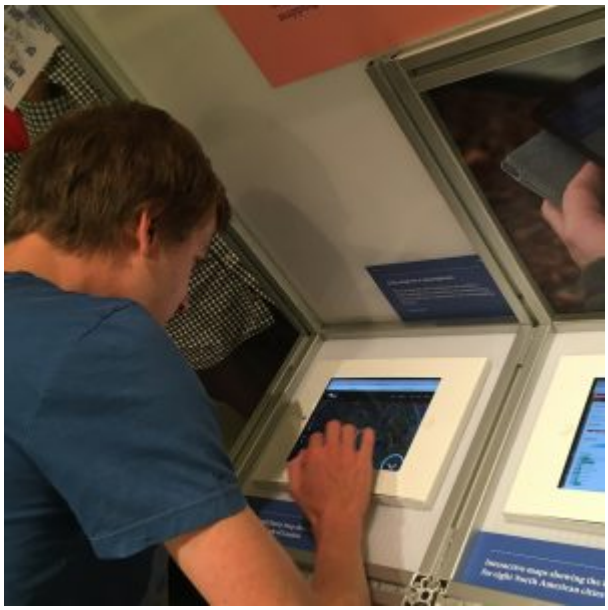
“
The moment you start to get the people visible and city life documented, then you can start to plan and make policies... That's what the politicians always have done with car traffic. Now we have tools to be just as systematic in caring for the people.”
JAN GEHL
GEHL ARCHITECTS


INCORPORATING CITY DWELLERS AND THEIR EXPERIENCES INTO MAPS

- 
Translation of the research findings for Milan and Rome, highlighting the "five generators of diversity" and the level of urban activity per district
- 

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Visualisation of the research findings
for Milan and Rome, highlighting the
'four generations of diversity' and the
level of urban activity per district
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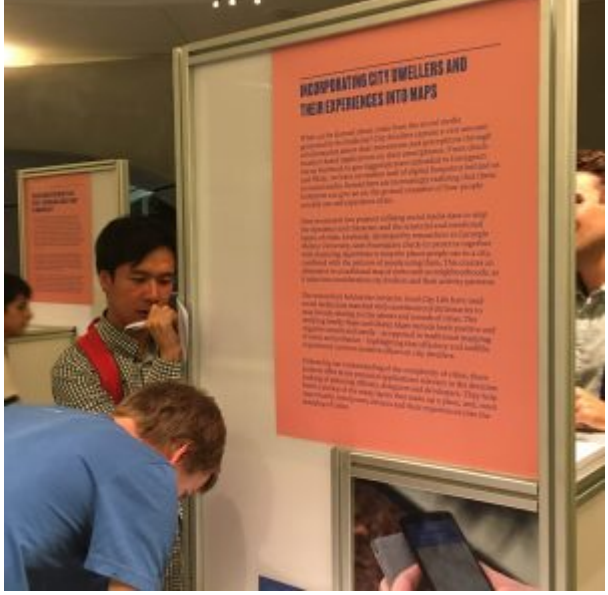
GREAT
ITALIAN
CITIES

- 
INCORPORATING CITY DWELLERS AND
THEIR EXPERIENCES INTO MAPS
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A number of evening events, open to the public, will be organized to coincide with the exhibition.

Enjoy London and visit the exhibition!

PERMALINK

https://magazine.fbk.eu/en/news/the-data-and-life-of-great-future-cities/

TAGS

- #big data
- #DataLifeFutureCities
- #Digital Cities
- #future
- #life

RELATED MEDIA

- Roca London Gallery: http://www.rocalondongallery.com/en/activities/detail/199
- PAPER "The Death and Life of Great Italian Cities: A Mobile Phone Data Perspective": https://arxiv.org/abs/1603.04012
- Mobile and Social Computing Lab @ FBK: https://ict.fbk.eu/units/mobs/

AUTHORS

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