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Title	An STS view on Geo IT
Authors(s)	Miscione, Gianluca
Publication date	2011-11
Publication information	Miscione, Gianluca. “An STS View on Geo IT,” 2011.
Conference details	Steps Colloquium, Faculty of Geo-information Science and Earth Observation (ITC), University of Twente, Netherlands, 30 November, 2011
Item record/more information	http://hdl.handle.net/10197/6033

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AN STS VIEW ON GEO-IT

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Steps Colloquium

November 30th, 2011

OVERVIEW

- My trajectory
- Spatial Data Infrastructures (SDI) case
- Human Sensor Web (HSW) case
- A Practice Lens
- Methodological Challenges

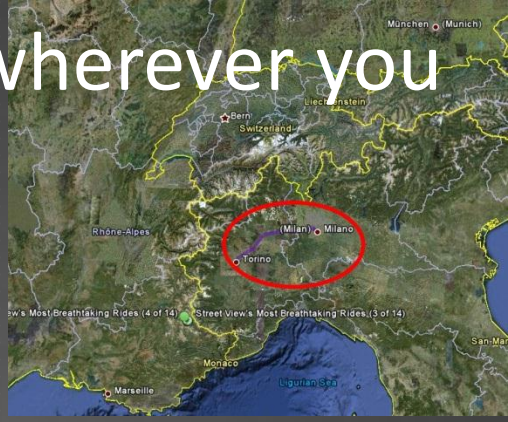
MY TRAJECTORY

I have studied the use of information systems for public goods in the global context, in three empirical domains: health, urban planning and digital environments.

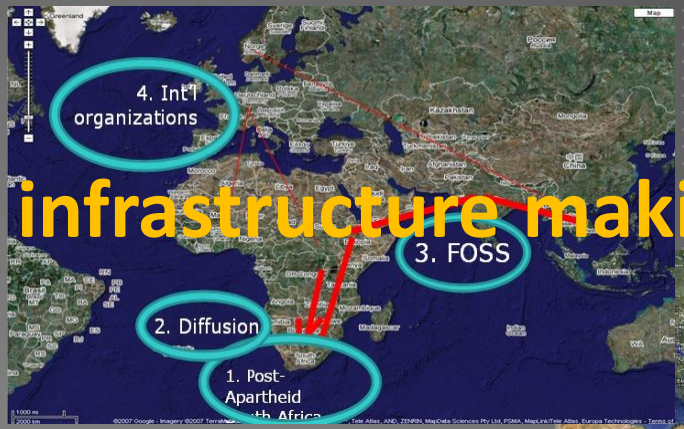
Examples:

- telemedicine in the Amazon
- urbanization and city management in India
- the consequences of open source principles on software use

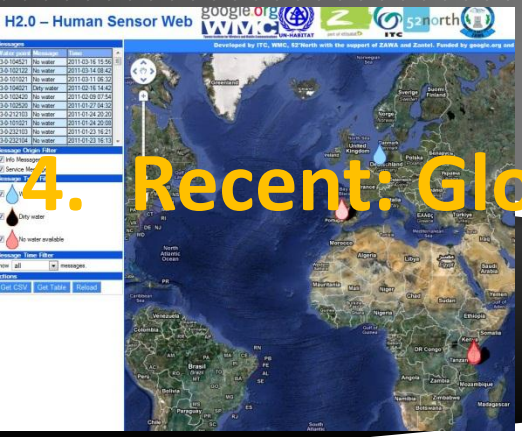
1. Late ‘90s: Internet is the same from wherever you look at it



2. Mid 2000s: Places are far only before getting there



3. Late 2000s: Waves of infrastructure making



4. Recent: Global visibility for local accountability

BACKGROUND FOR CONTEMPORARY GEO-IT

1. expensive gov't owned geoIT (sats for example) vs. widespread use of affordable GPS, image-based mapping technologies, etc.
2. Emerging role of Web 2.0, wikis, social networks
3. Growth of "open culture" and user generated content

SDI EXAMPLE

During fieldwork in different countries, finding an interviewee's office or a meeting place requires capacity to *navigate space* by asking directions and understanding *local construction of space*, often related to the use of landmarks.

The *oral maps* passers-by provide are triangulated and *evaporate* as soon as the destination is reached. But having geo-information at one's fingertips promises benefits beyond navigation…

- GeoIT federated into Spatial Data Infrastructures (SDI)
- In India since early 2000

MOTTO

"produce data once, use them many times"

Parcels, tax databases, physical infrastructures, etc.

ZOOM IN ON INDIAN CITIES

Informal settlements are a considerable proportion of Indian cities

On the boundary of:

- urbanization,
- development,
- labor division,
- services provision,
- politics,
- migrations,
- religion

MULTIPLE CLASSIFICATIONS

Surveying slums clashes with different accountability lines:

- social origin (localities, language),
- caste belonging (kinds of work allowed and emancipation),
- need of basic services (recognized by international organizations and promised by local politicians in election times),
- formal adherence to procedures (for state actors),
- informal maintenance of social networks.

Therefore, different lists and maps

SO, what into databases?

ZOOM OUT TO STATE GEOPORTAL

TRAJECTORY

1. Delays of the top-down SDI national effort
2. Move at state level (less political tensions between Ministry of S&T and Min. of Space)
3. entanglement with geographic information systems for natural resources management

BUT

Urban planning cuts across disciplines differently

➔ friction at city management level

SDI REPOSITIONING (OVER 10 YEARS)

FROM a foundational role (shaping how other organizations would have formatted and shared geospatial data – upstream)

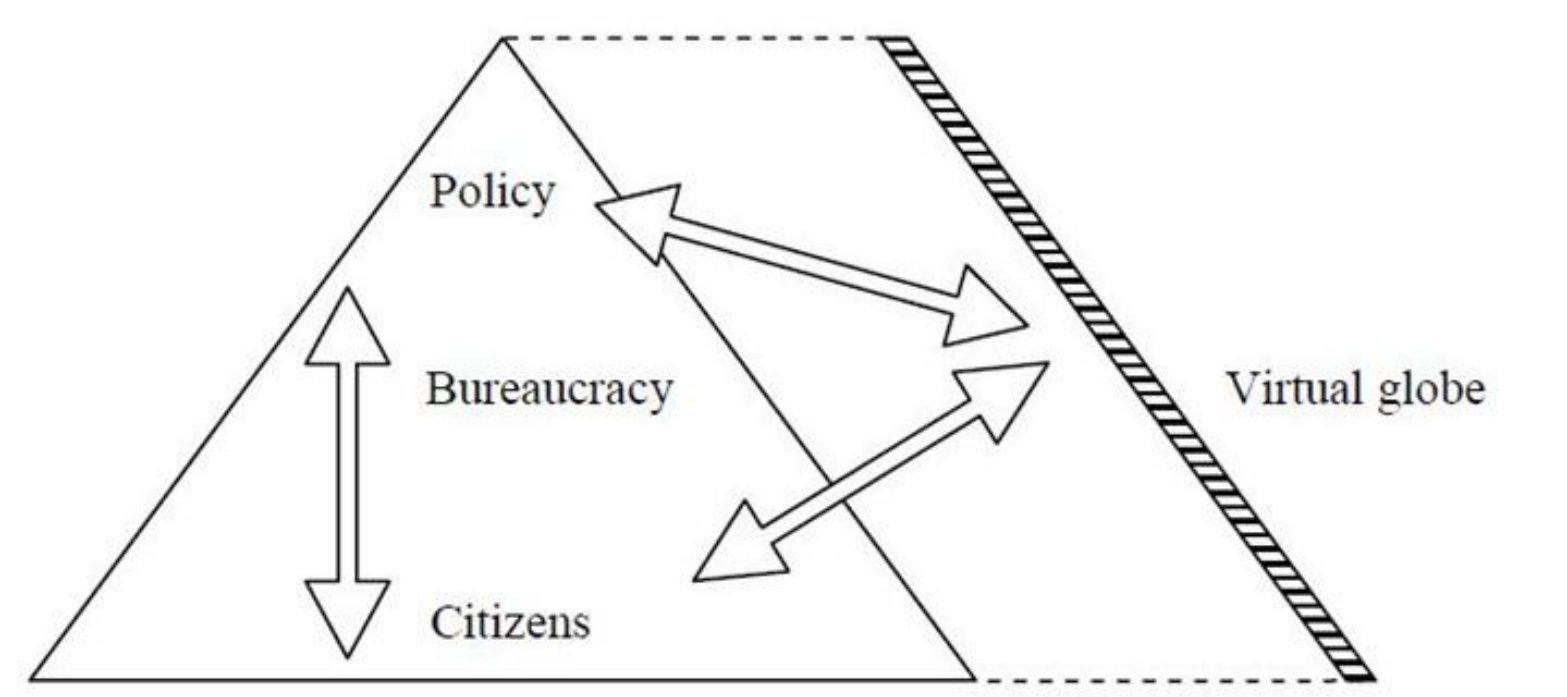
TO a post-hoc function (coping with a variety of ongoing SDI related activities – downstream)

HUMAN SENSOR WEB EXAMPLE

Simple solution: billboards and…

…A SERVER
(WITH DATA ANONYMIZED AND PUBLIC)

A MIRROR OF E-GOV



WHAT IS IT ABOUT? NOT JUST WATER

MAKING SENSE OF HUMAN SENSING

	Basis for action	Expected outcomes
Public sector	Formal legitimation and duty of service delivery	Gaining/keeping consensus
Human sensor web designers	Local and immediate people's need (lack of water here and now)	Policy changes (water management)
People and HSW users	Complex interrelated problems (work, family relations, rights...)	Local and immediate

ACCOUNTABILITIES

- In the sense of responsibility, HSW can make a difference

- In the sense of construction of normality (ethnomethodological) no signs yet

A PRACTICE LENS

- Theory is needed to identify what is relevant context for geoIT, and how it matters

- Research that spans micro-macro analytical domains in the social sciences is notoriously difficult

TWO STANCES

- from organization studies, the existence of organizations as entities is questioned as a reification (Czarniawska 2008)

- large scale, federated information systems present a qualitative shift from stand-alone, task-oriented, organizationally confined systems (Georgiadou et al. 2006; Miscione and Staring: 2009)

NOT ABOUT A NEW THING, BUT *RELATIONS*

- "Practice-based studies" analyze organizing processes of heterogeneous items
- Focus on "doings"
- Organizations as results, not prerequisite
- Infrastructures as redistributive artifacts. "When" are infrastructures? (Star 1999)

HOW?

Professional and lay practices align socio-material alliances which:

- span across local and global
- question level distinctions (local, state, national, regional, global) and professional boundaries

VIEW

Sequential selective re-positioning to identify relevant practices (Nicolini 2009)

SCALING METHODOLOGIES?

No sunset on infrastructures

➔ Global not as “add-on” AND no local vs. global

Problems:

- How to study these translocal co-constructions?
- What are the relevant contexts of reference?

HOW TO SCALE METHODOLOGIES?

- Infrastructural inversion
- Zooming IN/OUT
- Unbounded ethnography
- The end of the virtual (Rogers: 2009)

Different ways of making a point STS-OS and design-engineering research: STS-OS is witty, for the latter a good point is one whose effects scale up

PROS AND CONS

- Participant observation: accurate but it is tied to the place of residence of the researcher
- Multi-site multi-ethnographer research: translocal nature of relations may pass unseen.
- Action research can provide better access to dispersed practices and accountability lines but risks of bias and blindspots are self-evident
- Focus groups, and interviews, also 'to the double' help in tracing perceptions and meanings, but may mismatch with ‘doings’

- Documentary analyses, especially of grey literature, can depict the frontstage, but hardly the backstage
- Pilots and prototypes can be used to take artifacts in contact with users, but still scale issues are not tackled because some phenomena manifest at higher scales, only
- Log studies and diaries mostly in retrospective studies. When processes are ongoing, it is difficult to apply
- Rogers (2009) proposes to use 'the virtual' to study other social issues, basically relying on and mining data produced and available on the Internet; it is certainly a promising approach, keeping in mind that it is blind to what has not been translated onto the internet (the same applies to online ethnography)

A NOTE ON NEO-GEOGRAPHY

Definition: “usage of geographical techniques and tools used for personal and community activities or for utilization by a non-expert group of users. Application domains of neogeography are typically not formal or analytical”

SDI already challenged assumptions of space/place?= and time (‘local context’ as a unit of analysis may be misleading)

Voluntary Geographic Information (VGI) challenges expertize

FINAL REMARK

Lens and methods proposed do not assume:

- unity of place,
- co-location of action,
- formal and professional organizations,
- professional knowledge

THANK YOU

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