



Faculty of Design

2016

## Visualising project actor-networks with oral histories

Tompson, Tim

---

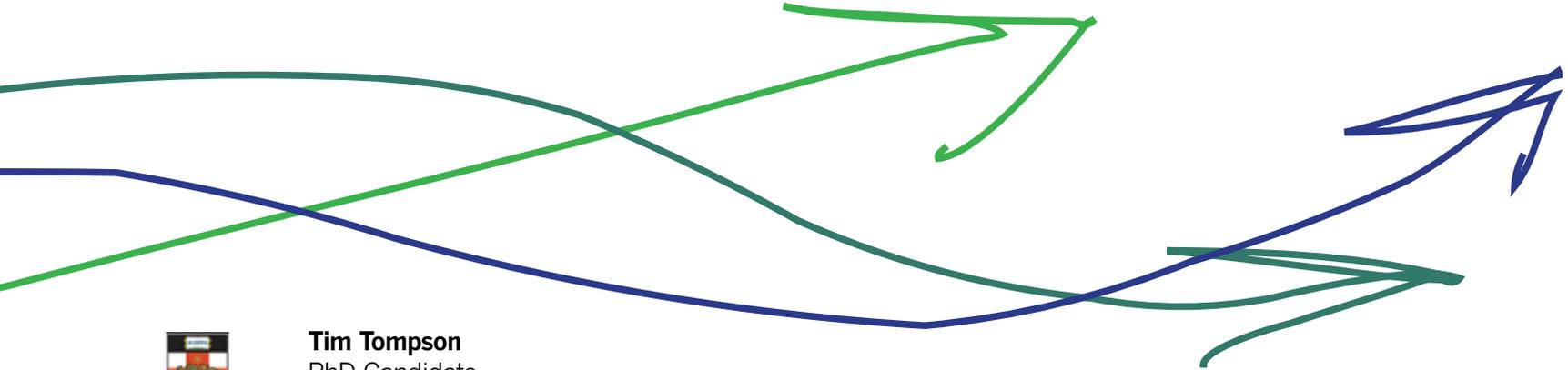
### Suggested citation:

Tompson, Tim (2016) Visualising project actor-networks with oral histories. In: Relating Systems Thinking and Design Symposium (RSD), 13-15 Oct 2016, Toronto, Canada. Available at <http://openresearch.ocadu.ca/id/eprint/1933/>

*Open Research is a publicly accessible, curated repository for the preservation and dissemination of scholarly and creative output of the OCAD University community. Material in Open Research is open access and made available via the consent of the author and/or rights holder on a non-exclusive basis.*

*The OCAD University Library is committed to accessibility as outlined in the [Ontario Human Rights Code](#) and the [Accessibility for Ontarians with Disabilities Act \(AODA\)](#) and is working to improve accessibility of the Open Research Repository collection. If you require an accessible version of a repository item contact us at [repository@ocadu.ca](mailto:repository@ocadu.ca).*

# Visualising project Actor-networks with oral histories

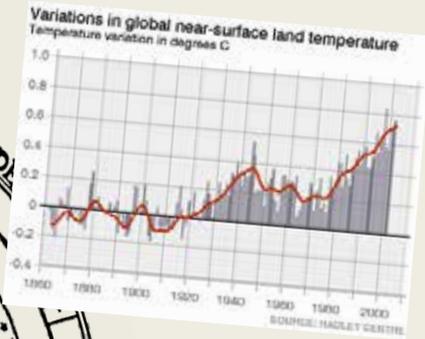


**Tim Tompson**  
PhD Candidate  
Twitter @timtompson

Planning and Urban Development  
Faculty of the Built Environment  
University of NSW

We use symbolic representations to give us a sense of things we cannot tangibly experience

eg, things too large or too small, outside our sense range, back in time, in the future.



## Nobody sees the whole picture

“There is no single institution able to cover, oversee, dominate, manage, handle, or simply trace [...] issues of large shape and scope. **Many issues are too intractable and too enmeshed in contradictory interests.** We have problems, but we don't have the publics that go with them. How could we imagine agreements amid so many entangled interests?”

Latour, B., 2012, Waiting for Gaia.  
Composing the common world through arts  
and politics, *Equilibri*, 16(3), pp. 515-38

**We need new forms of maps that fit with context**

“...older forms of cartography are no longer so useful, but what are the alternatives?”



2016, *Reset Modernity*, Latour, B., & Weibel, P. eds. MIT Press,

## Addressing issues within the smart city discourse

- › **Disciplinary** driven and conceptualized
- › Dominated by **technical** explanations
- › **Apolitical**
- › Lacking contextualised genealogies
- › **Ideological & Utopian** orientation impedes pragmatic perspective
- › **Modernist** dependent on categorizations and dualisms, the 'taming of the world'
- › Seen as silver-bullet in dealing with complexity - false dawn



Marvin, S., Luque-Ayala, A. & McFarlane, C., 2015, Smart Urbanism: Utopian Vision Or False Dawn? Routledge.

## Smart City projects are indicative of contemporary problems

- › Transdisciplinary, beyond disciplines
- › Socio-technical
- › Complex
- › Emergent
- › Contested & Political
- › Constrained
- › Multiple realities within, not plural
- › Wicked problems (Rittel & Webber)
- › Post-normal science - facts uncertain, values in dispute, stakes high and decisions urgent (Funtowicz)

Rittel, H.W.J. & Webber, M.M., 1973, Dilemmas in a general theory of planning, *Policy Sciences*, 4(2), pp. 155-69

Funtowicz, S. & Ravetz, J., 2003, Post-normal science, *International Society for Ecological Economics* (ed.),

## Propositions

- › Understand smart city governance as **emergent socio-technical practice**
- › Observe **transformation** and **conservation** of urban governance institutions
- › Investigate contribution of smart cities as **both economic** and **other public values**
- › Analyse the **politics** of smart city governance
- › Present genealogies of actors and action

Kitchin, R., 2016, Reframing, reimagining and remaking smart cities. The Programmable City Working Paper 20,

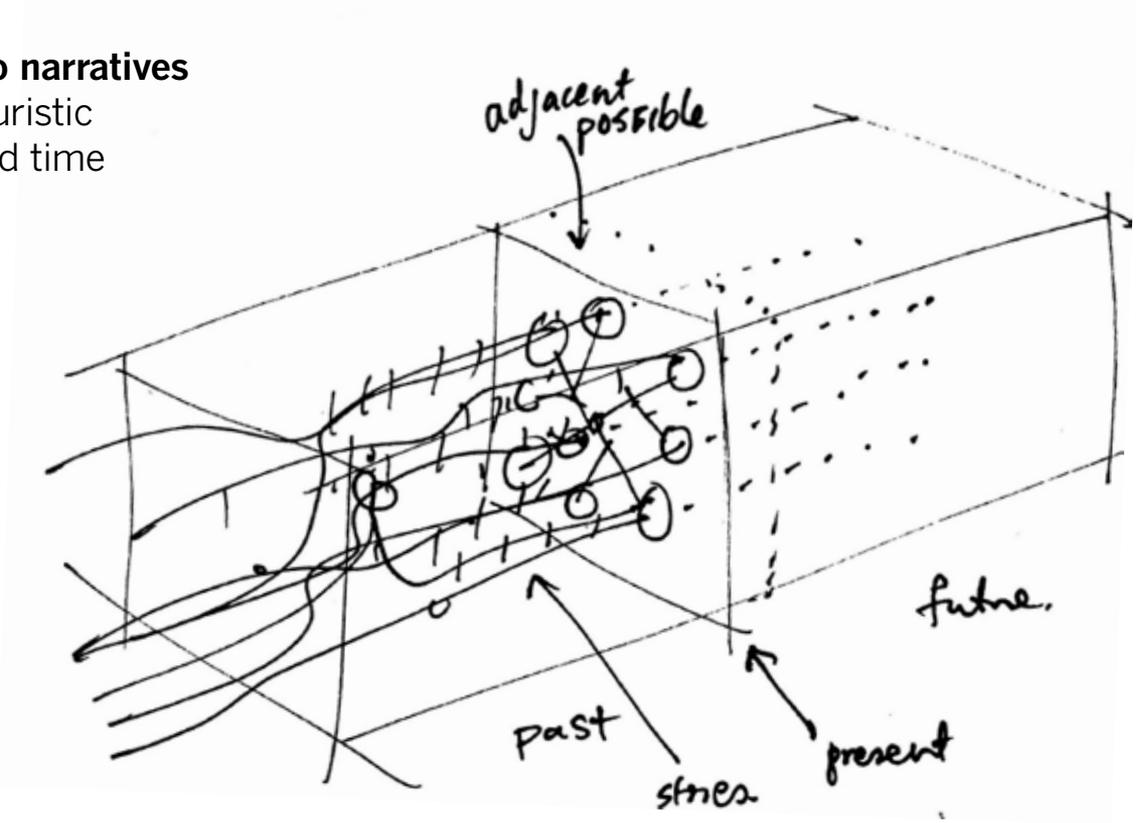
Meijer, A. & Bolívar, M.P.R., 2016, Governing the smart city: a review of the literature on smart urban governance, International Review of Administrative Sciences, 82(2), pp. 392-408

Research Question:

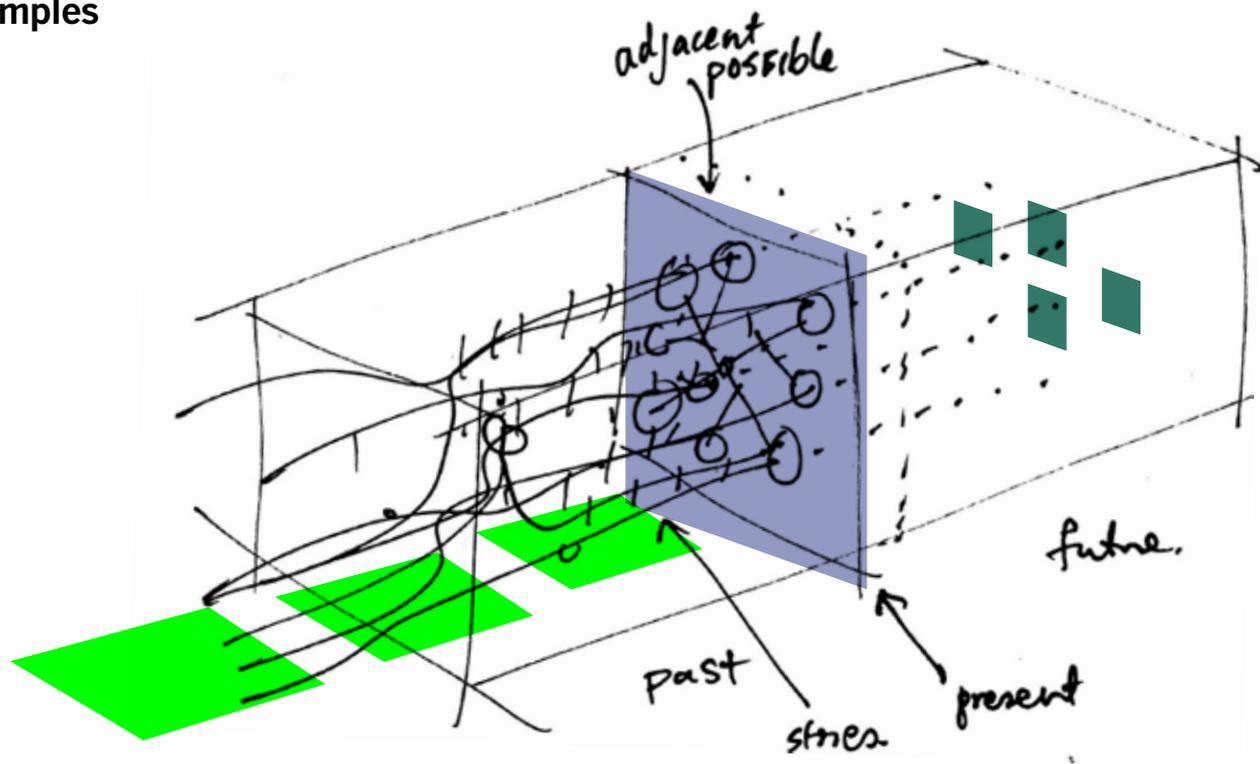
# **How are Smart City initiatives legitimised in practice?**

# Orienting to narratives

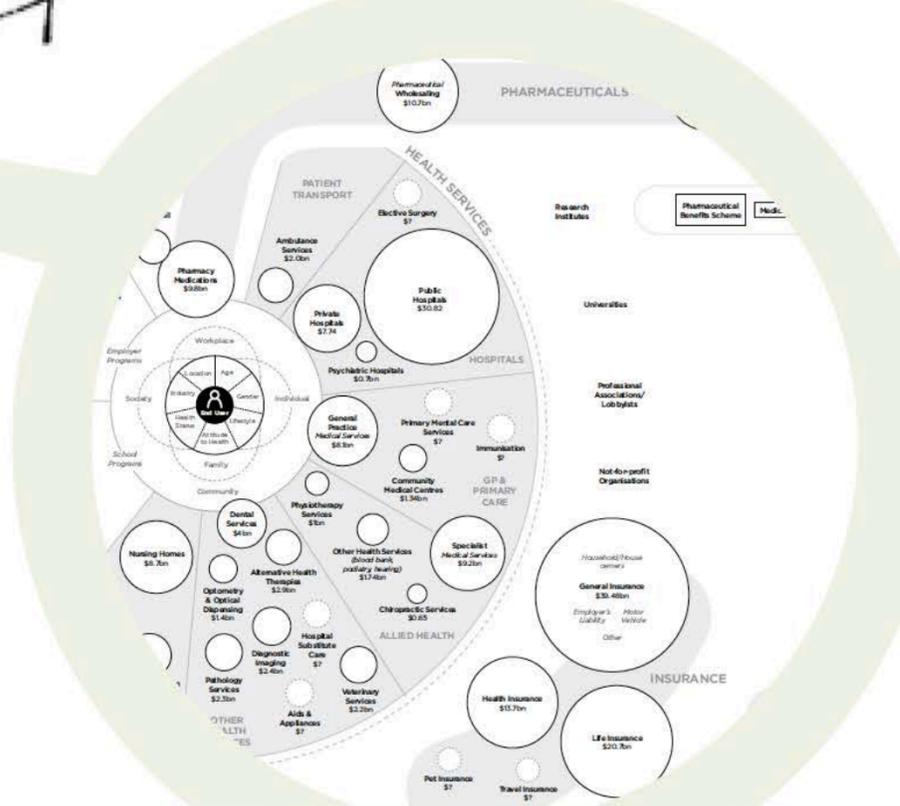
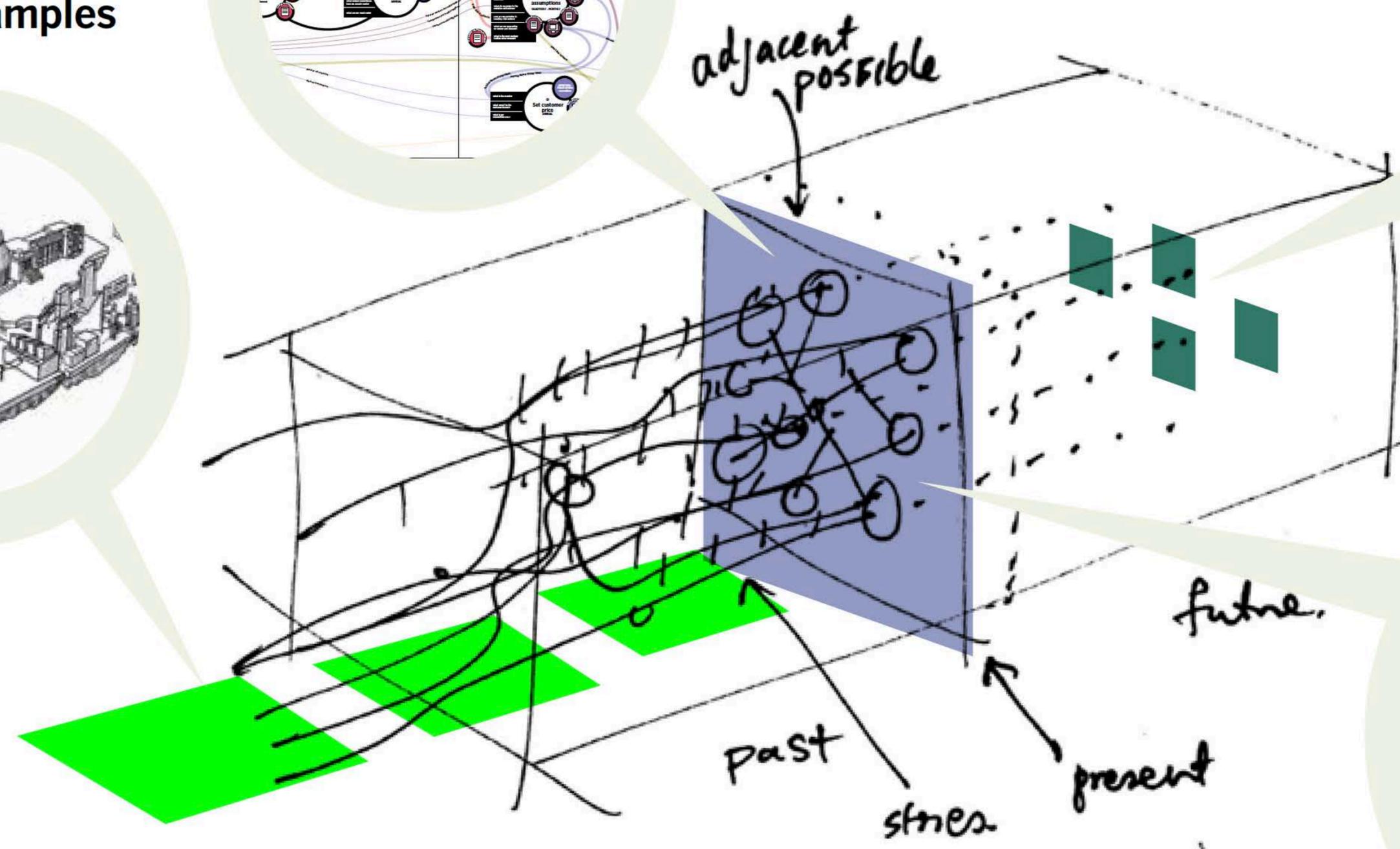
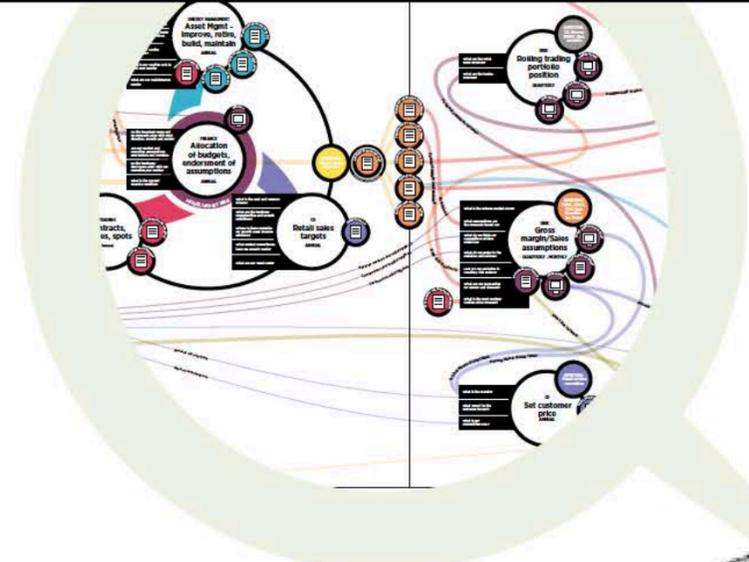
A visual heuristic of space and time



## Examples



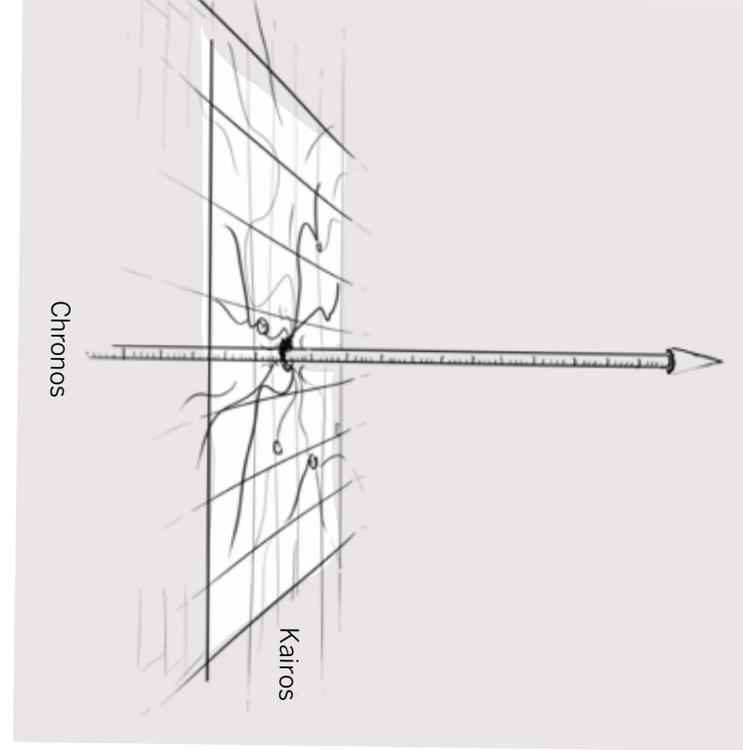
# Examples



Timelines lack spatial arrangements  
spatial maps lack a the sense of time

## What is Kairos?

- A deity that personified time (with Chronos)
- Combines expression of contingency in relation to context and, of judgement (it's timeliness and appropriateness)



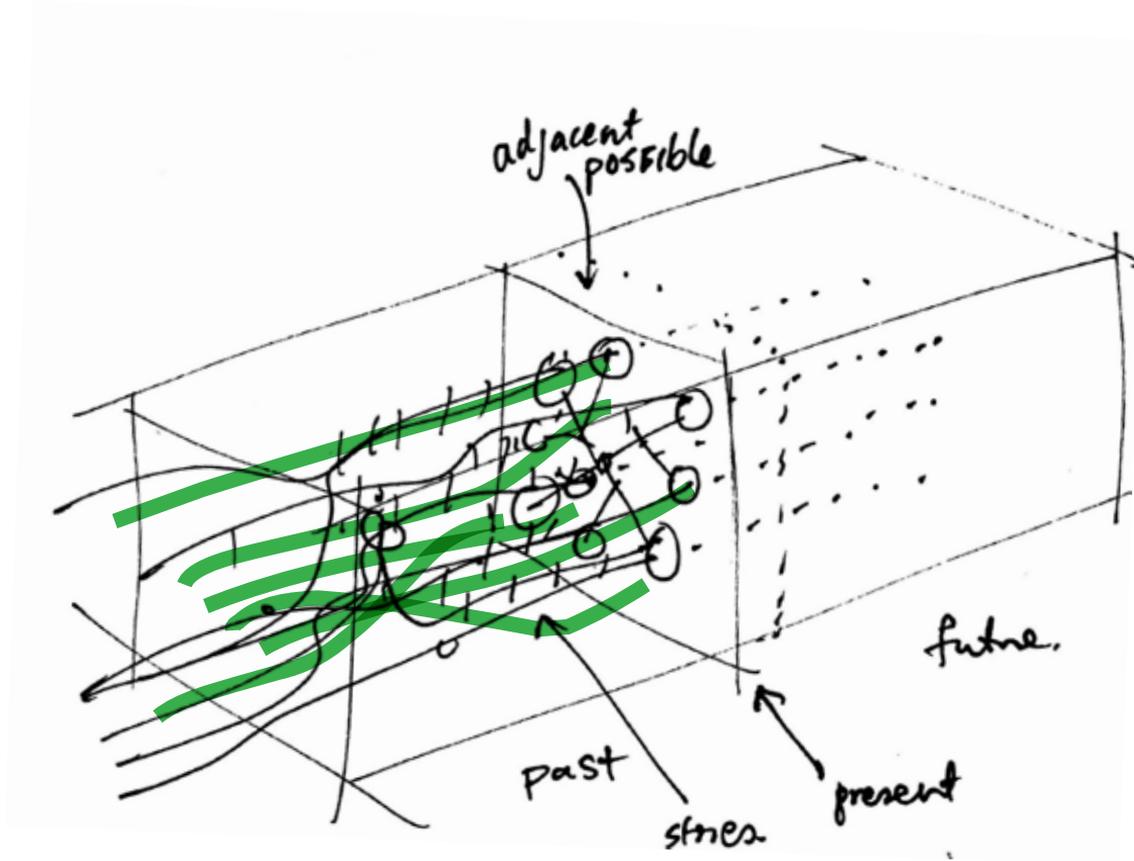
Andersen, T, Gatti, L, Tompson, T, 2015, Kairos; and the spatio-temporal quality of strategic leadership, Proceedings from APROS EGOS, Sydney, December 7-8.

**“Social factors” are an insufficient explanation for urban problems**

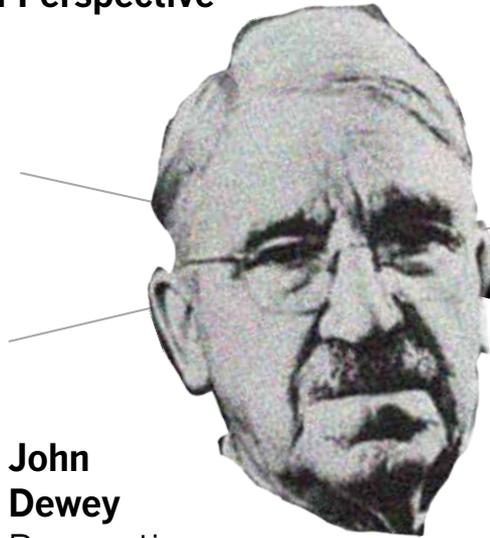
“How can controversy mapping enable us to follow and better understand urban dynamics and design concepts rather than quickly explaining them with social factors?”

Yaneva, A. & Heaphy, L., 2012, Urban controversies and the making of the social, *Architectural Research Quarterly*, 16(01), pp. 29-36

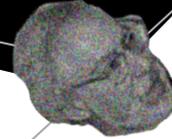
## Examples



## Research Perspective



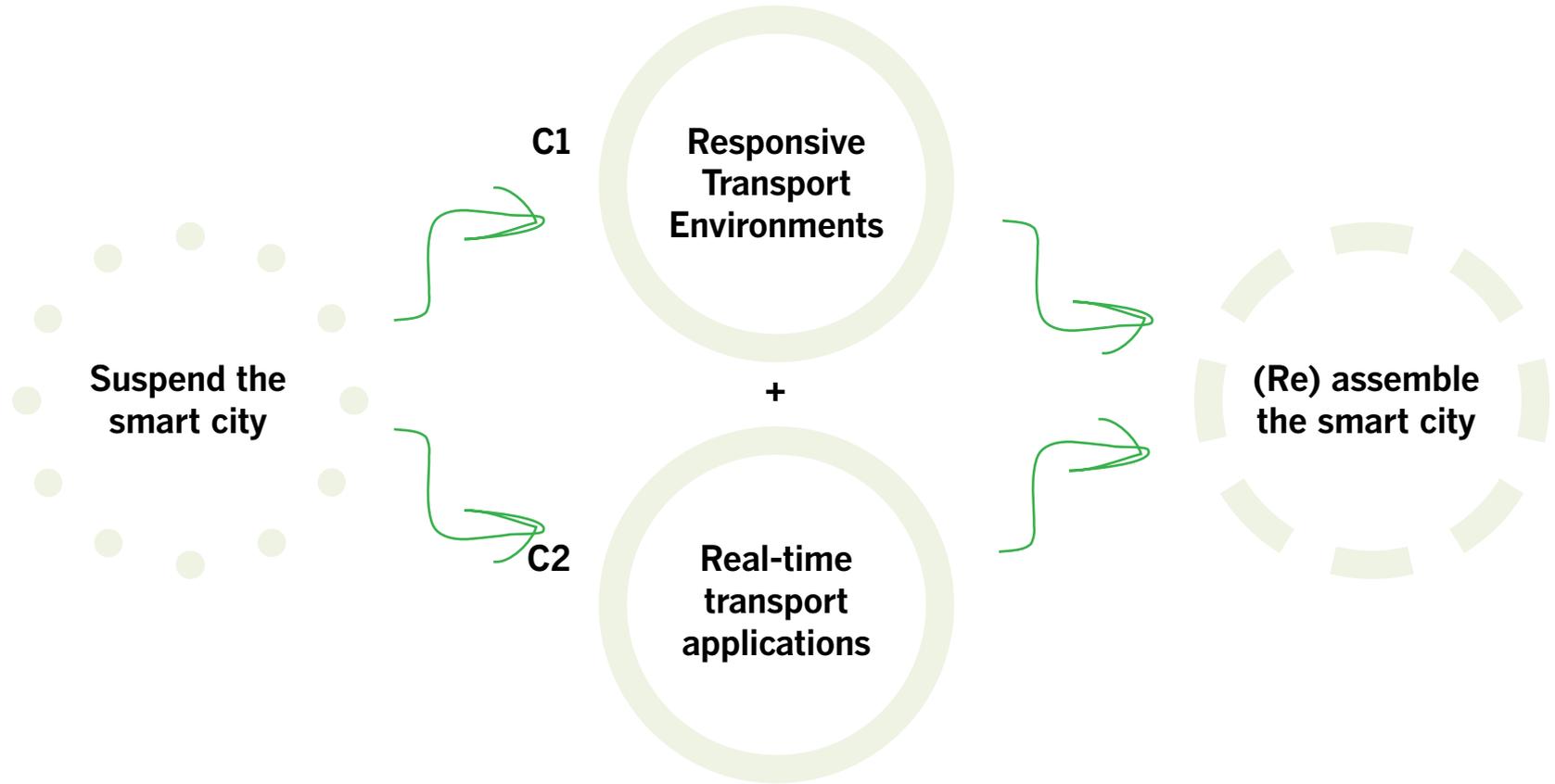
**John Dewey**  
Pragmatism



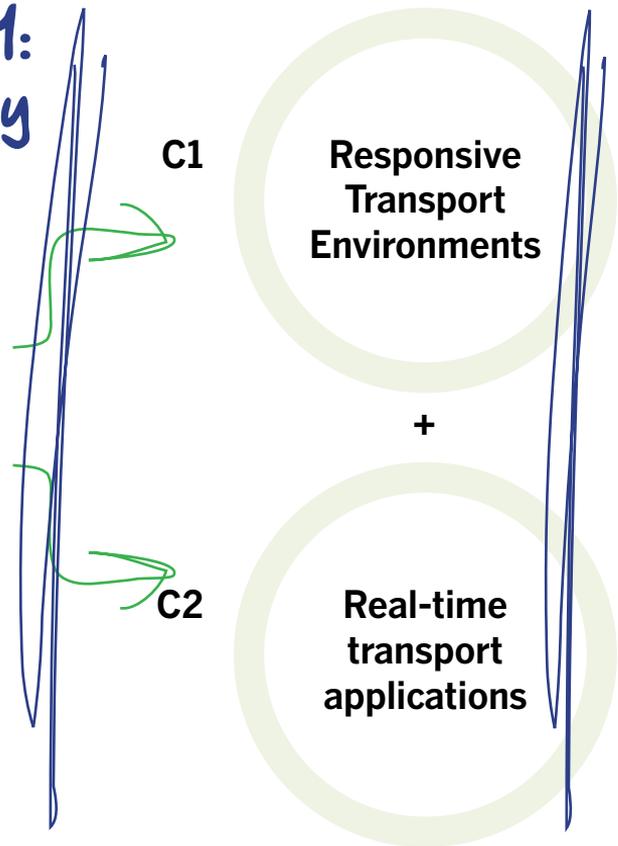
**Donald Schon**  
Design as  
Reflective  
practice  
“design worlds”



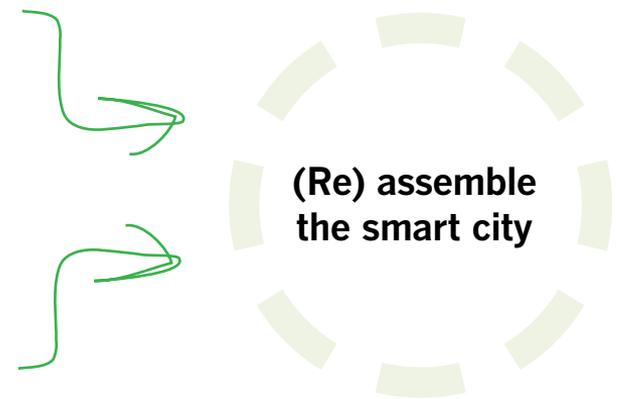
**Bruno Latour**  
Actor-network theory  
“Amodern” perspective

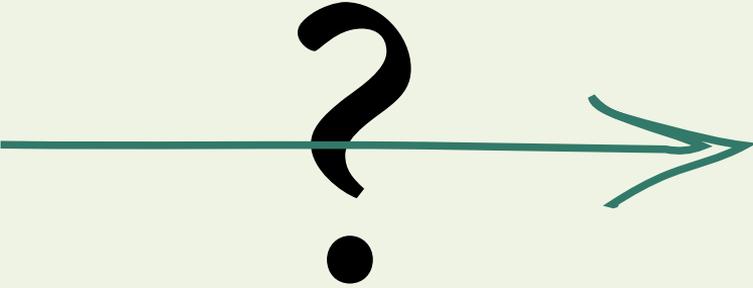


# Part1: Inquiry



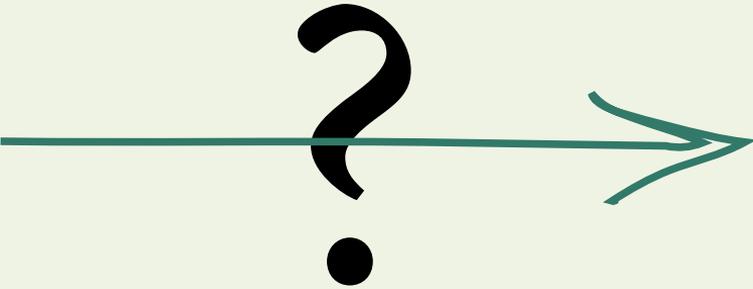
# Part2: Representation





?

**Responsive  
Transport  
Environments**



?

**Real-time  
transport  
applications**

## Morality

### Researchers dilemma:

- › Infinite things to research
- › Infinite ways of conceptualising them
- › Infinite ways of representing them

But the key question for [individuals] is not about their own authorship; I can only answer the question **‘What am I to do?’** if I can answer the prior question **‘Of what story or stories do I find myself a part?’**

**Alisdair MacIntyre**

Moral philosopher

MacIntyre, A. (2007). *After virtue* (3 ed.). A&C Black. (Original work published 1981) pp 216

## Reflecting on Design approach

- › Giving **aesthetic sense** to intangible matters
- › Understand design as a **rhetorical** argument (Buchanan)
- › **Speculative** design, design to provoke thought (Dunne & Raby)
- › Situations as **determinate** in constituent parts (Dewey)
- › **Democratising** tacit bureaucratic knowledge, create access to structural change
- › Pragmatically **support people** to more closely experience and understand their contexts
- › **Suspend**/Re-constitute categories (Sassen)

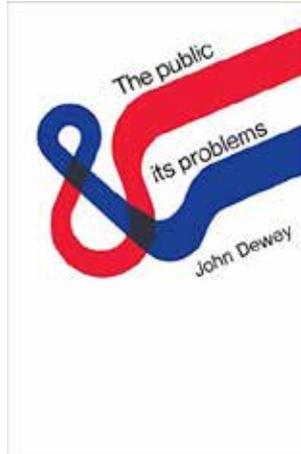
Buchanan, R., 2001, Design and the new rhetoric: Productive arts in the philosophy of culture, *Philosophy and Rhetoric*, 34(3), pp. 183-206

Dunne, A. & Raby, F., 2013, *Speculative everything: design, fiction, and social dreaming*, MIT Press,

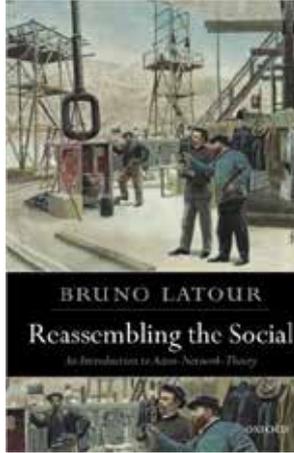
Dewey, J., 1938, *Logic: The theory of inquiry*, New York: Holt, Rinehart & Wiston

Sassen, S., 2013, Before Method: Analytic Tactics to Decipher the Global--An Argument and Its Responses, Part I, *Pluralist*, 8(3), pp. 79-82

## Background



**The public and its problems**  
John Dewey, 1927



**Reassembling the social**  
Bruno Latour, 2005

Public/Political

Socio-material



**Making things public:  
Atmospheres of democracy**  
Bruno Latour and  
Peter Weibel (eds) 2005

## Making Things Public

- › **Realpolitik** (government forum) to **Dingpolitik** (issue politics) (Latour)
- › Object-oriented democracy
- › Matters of fact to matters of concern
- › Notion of **'Things' as socio-material-political assemblages**

Latour, B. 2005, From Realpolitik to Dingpolitik, in B Latour & P Weibel (eds), Making things public: Atmospheres of democracy, MIT Press: Cambridge MA, pp. 4-31

Ehn, P., 2008, Proceedings of the tenth anniversary conference on participatory design 2008, Participation in design things. pp. 92-101

## Part 1: Inquiry

### Actor-network theory

- › Polarizing and challenging research approach to social theory (not a methodology - more dispositional)
- › Descriptive process of **tracing associations between actors**
- › Symmetrical treatment of **human and nonhuman actors**
- › **Rejects a priori categorisations** such as dualisms (eg nature/culture mind/body), and reifications such as organisation, policy, government etc.
- › Core tenet is **translation**, how things can stand for another
- › Power is demonstrated by ability to **enroll** network of human and nonhuman actors
- › Emphasises description of **stabilisation of hybrid assemblages** in emergent contexts
- › **Performative**; Actors script the performances of other actors

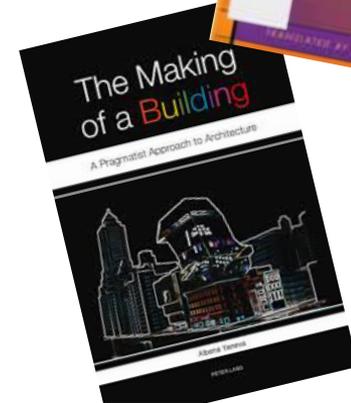
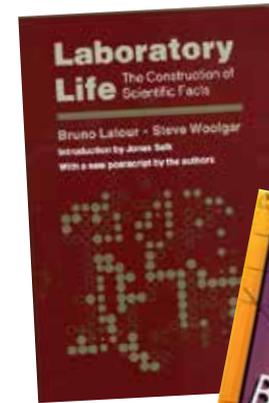
Research Question:

**How are Smart City initiatives  
legitimised in practice?  
or stabilised**

## Part1: Inquiry (Cont.)

Actor-network theory; example accounts

- › Particularly useful for description of **emergent unknown situations**.
- › Based on **detailed description** of ethnographic, anthropological description of practices.
- › Tries to **retain** accurate translation of **realities of actors**. Eg. same words, context well explained, avoid using meta-analysis.
- › Emphasis on **relations**, not entities themselves.
  
- › Science in-the-making - Laboratory Life (Latour 1978)
- › Urban technology in-the-making - Aramis (Latour 1993)
- › Architecture in-the-making - The Making of a Building (Yaneva 2009)



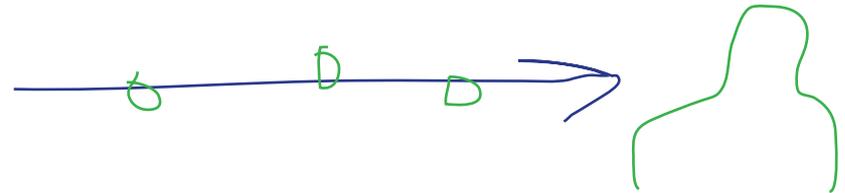
## Major “Moments of Translation” (Callon 1986)

- 
- › **Problematization** - focal stakeholder identities and entities that align with their framing of problem
  - › **Interressement** - negotiating with actors to accept their definition
  - › **Enrolment** - Accept or get aligned to definition of focal actor
  - › **Mobilisation** - Stabilised network through aligned interests, spokespersons mobilise passive actants

Callon, M., 1986. Some elements of a sociology of translation: domestication of the scallops and the fishermen of St. Brieuc Bay, Power, action, and belief: A new sociology of knowledge, 32, pp. 196-223

## Accessing the interpreted past; oral histories

- › Personal narrative as valid articulation of individual and collective experience
- › Could not access many events directly (in past)
- › ANTi-history, reconstitute the past, decentralise the narrative of government departments (Durepos & Mills)
- › Oldest form of human communication
- › Allows access to reality of participant
- › Relation between biography, context and action.
- › Mediated by the nature of memory



Durepos, G. & Mills, A.J., 2012, Anti-history: theorizing the past, history, and historiography in management and organization studies, IAP,

## Part2: Representation

### The medium is the message

- › Any medium the artist intentionally chooses to use in additional form of communication
- › Media is an extension of man
- › Content is not irrelevant, but not as important as the form or medium of communication
- › Media manipulate how we perceive ourselves, others, society and the world

### Marshall McLuhan

Media and Culture Philosopher

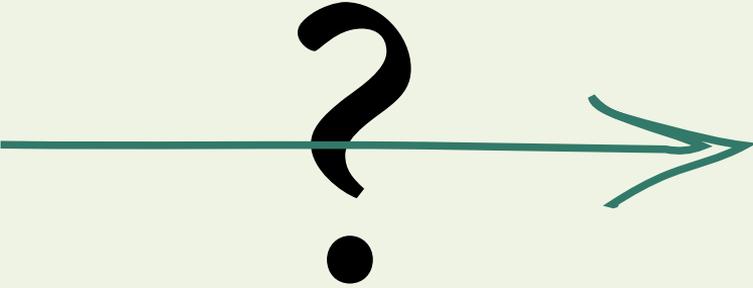
McLuhan, Q. & Fiore, M., 1967, The medium is the message, Penguin,

## The challenge of representation

- › Temporal
- › Spatial
- › Contextual
- › Conflicting
- › Multi-voiced
- › Socio-technical
- › Partial/inconclusive
- › Actors drift in and out of relevance

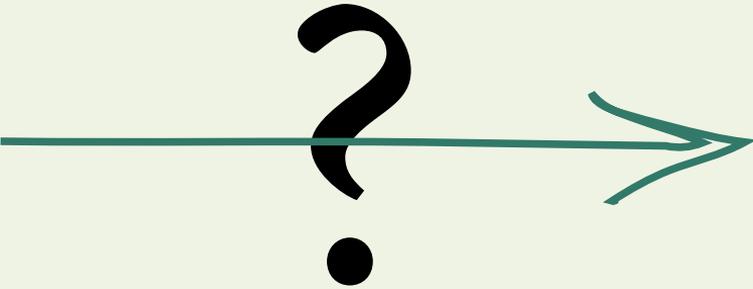
## The problem of written text

- › Linear
- › Difficult to describe multiple things happening concurrently
- › Difficult to show partiality
- › Defined start and finish
- › Difficult to show relationships



?

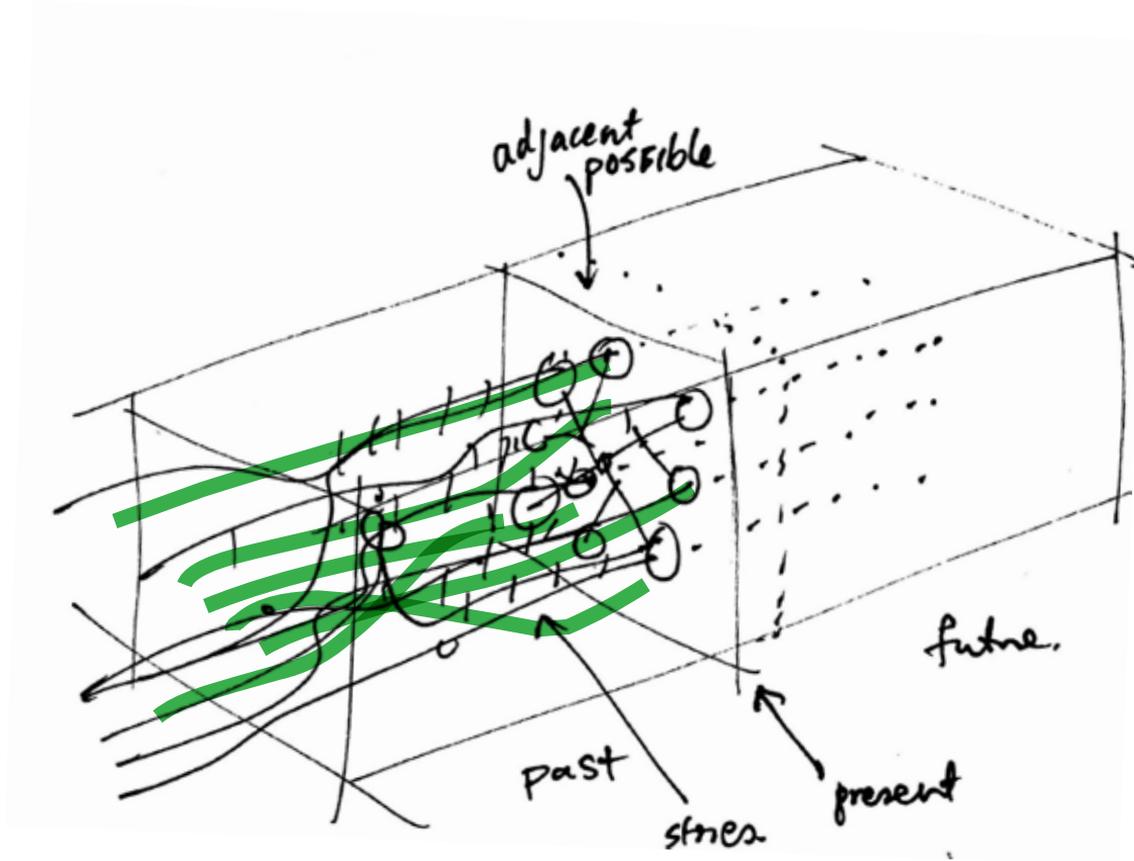
**Responsive  
Transport  
Environments**

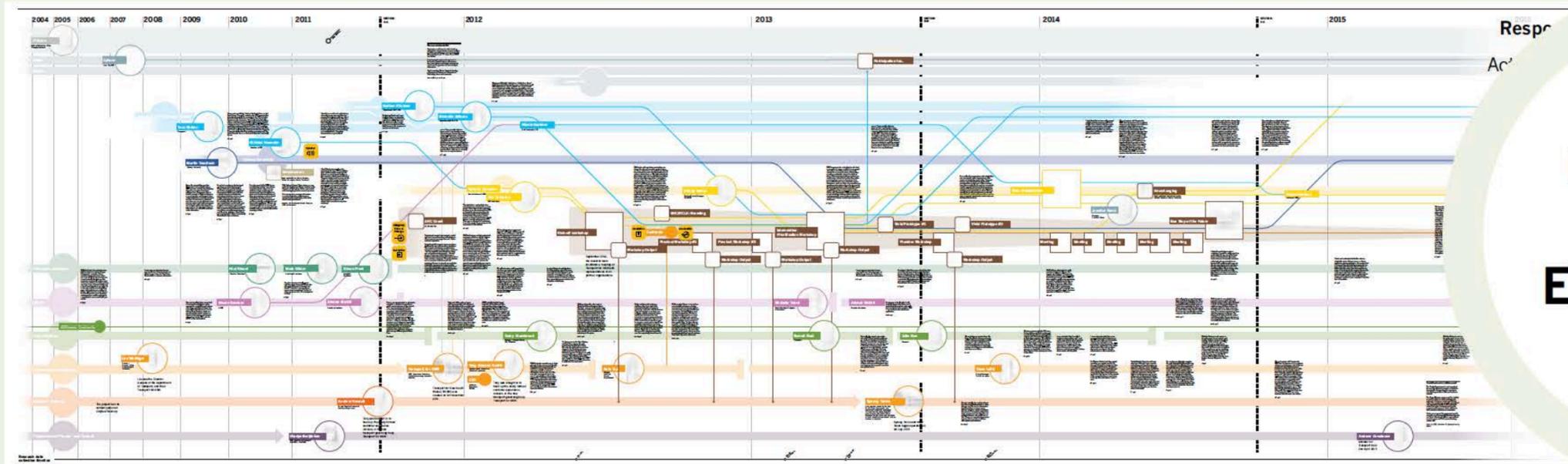


?

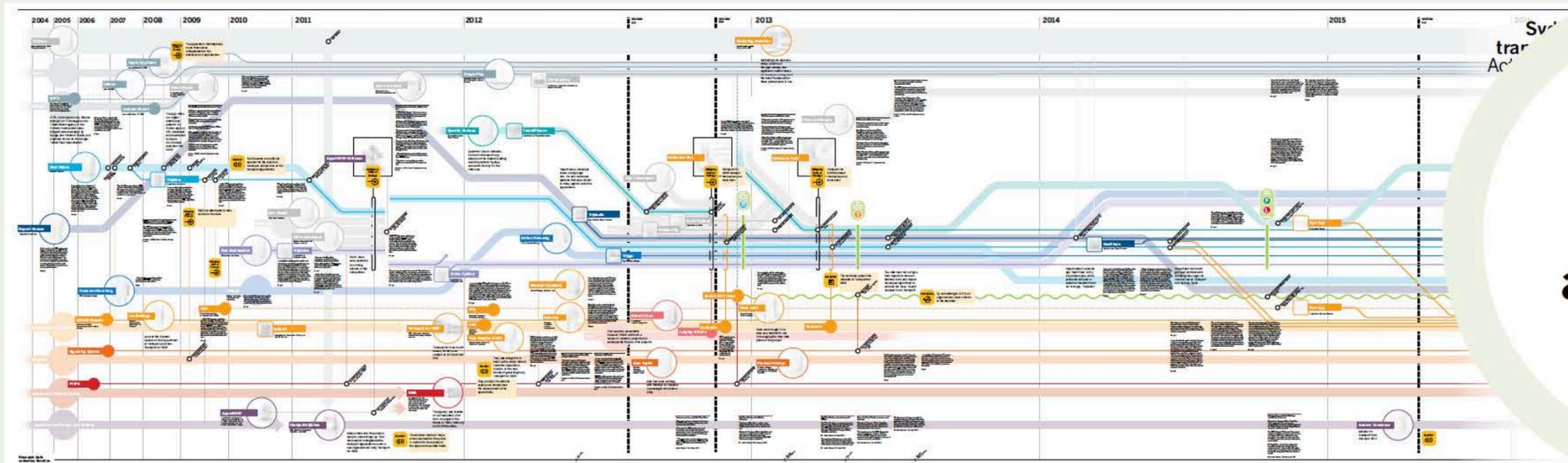
**Real-time  
transport  
applications**

## Examples





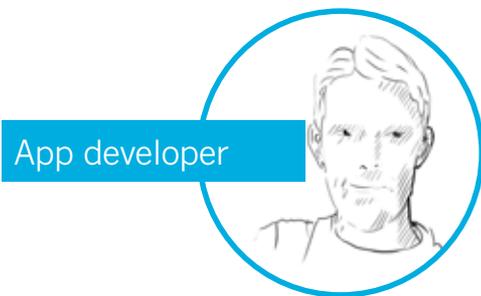
## Responsive Transport Environments



## Real-time transport applications

## Elements 1

### › Actors



### › Quotes

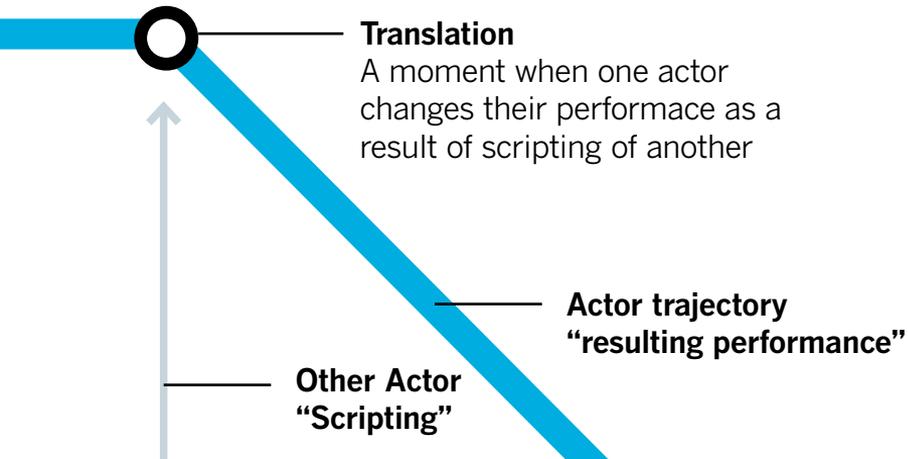
*Then the iPhone came along in 2008. When it was released it looked like it was going to be big...I bought one a few weeks after it came out and had a go at porting [the app to] it.*



`"You want to be successful? [Laughs] You have nowhere else to go... Once you upload your file_1.0, I'll take two weeks to get back to you, and I might not approve your little baby, I hope your aren't precious about it."`

## Elements 2

### › Actor-network Theory elements



Obligatory Point of Passage



A situation that has to occur for all of the actors to be able to achieve their point interests, as defined by the focal actor.

Inscription



A process of creation of artifacts that would ensure the protection of certain interests.

Speaker

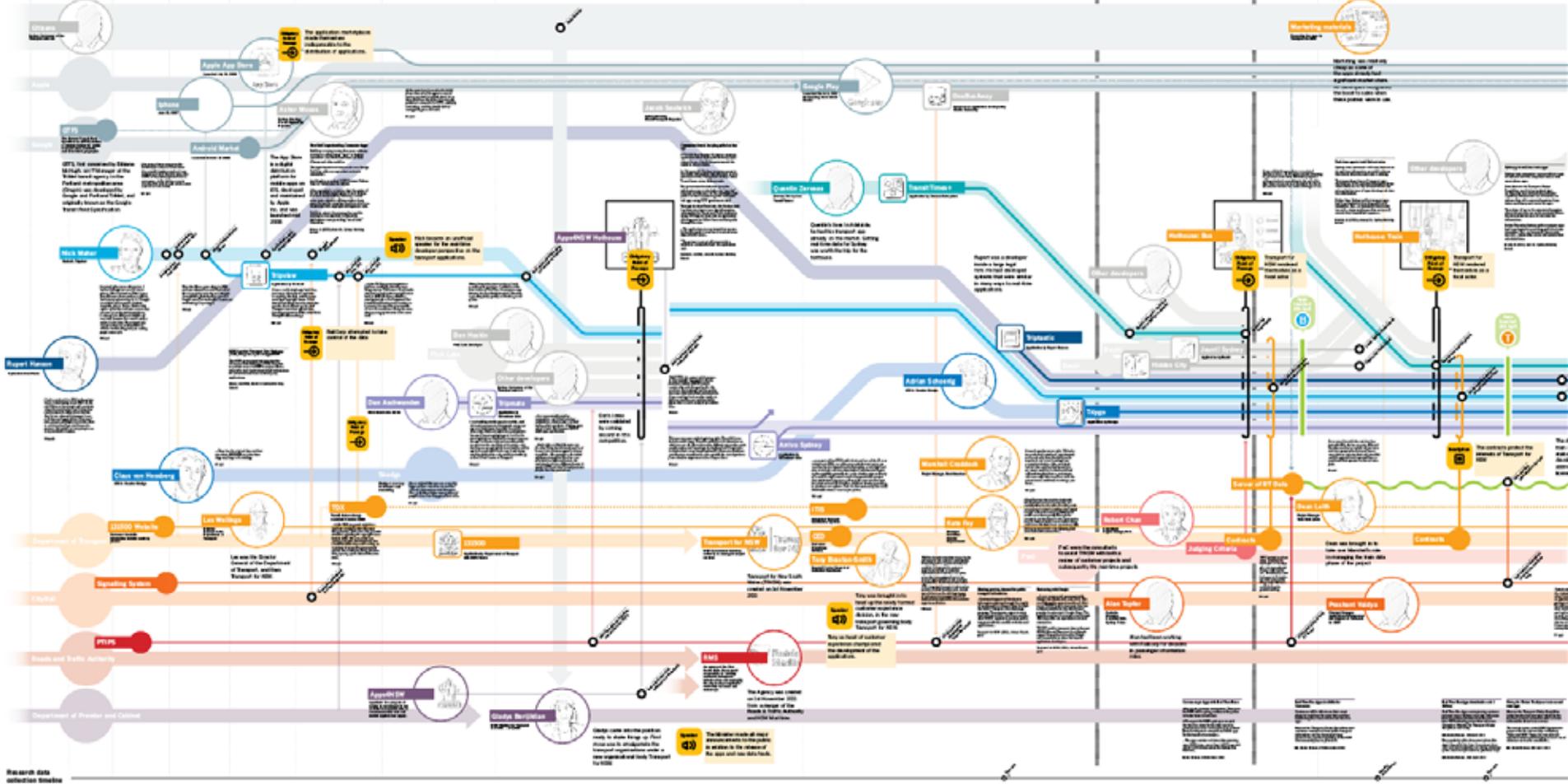


An actor that speaks on behalf of (or stands in for) other actors.

Irreversible



Degree to which it is subsequently impossible to go back to a point where alternative possibilities exist.



## C1 Nonhuman voices

"Ok, so you got what you wanted, but what is to happen to me? Now here I am abandoned and disintegrating. I am really not so sure now that I am too big, too impressive, too solid just to fade away..."

The Bus stop of the Future (June 2016)



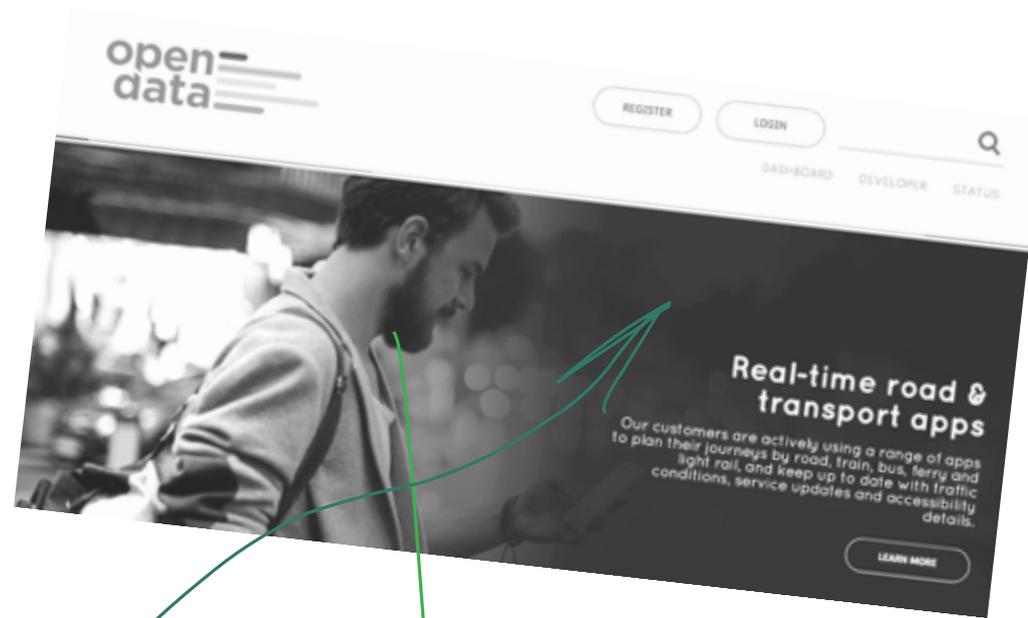
Costs a lot to move

Want to get rid of it

## C2 Nonhuman voices

"Click. Finally, I am here, and I am open, well almost open, much MORE open this time. The powers at be still have control. However, my scale, this time is so grand that you cannot reverse me; to put me back in the box, at least without a complete loss of public face."

TfNSW Open Data Portal (April 2016)



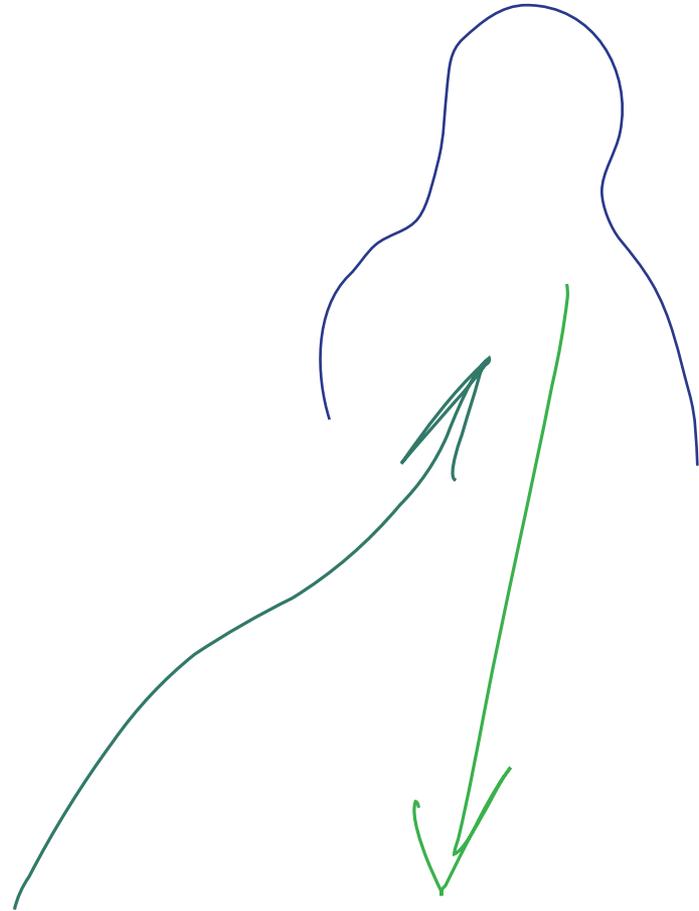
App developers using

transport for NSW are exposed

## C2 Human voices

“Yeah ...so Seattle uni developed OneBusAway as an open source app, and that was the app that the guys in PTIPS used, so they just took that because it was an open source and plugged their feed into it.”

Project manager, real-time bus (communication 2014)



## C2 Human voices

“...it is the archetypical definition of a quick win.  
So the quick win was really what Marshall did  
with bus, and I simply picked up Marshall’s  
model and I applied it to trains, and it worked  
beautifully”

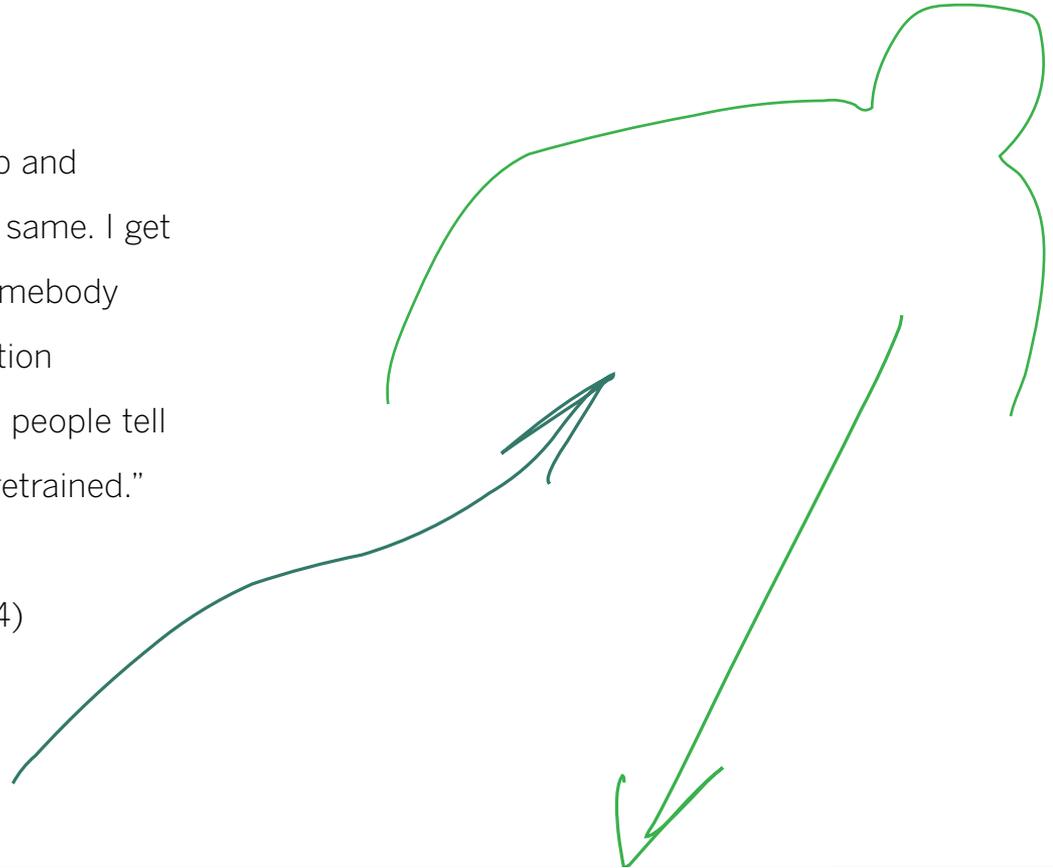
Project manager for real-time trains  
(communication 2014)



## C2 Human voices

“A lot of them assume that we [my app and Transport for NSW] are one and the same. I get feedback like that all of the time. Somebody told me the snack machine on a station platform stole his money. I have had people tell me that the bus drivers need to be retrained.”

App developer (communication 2014)



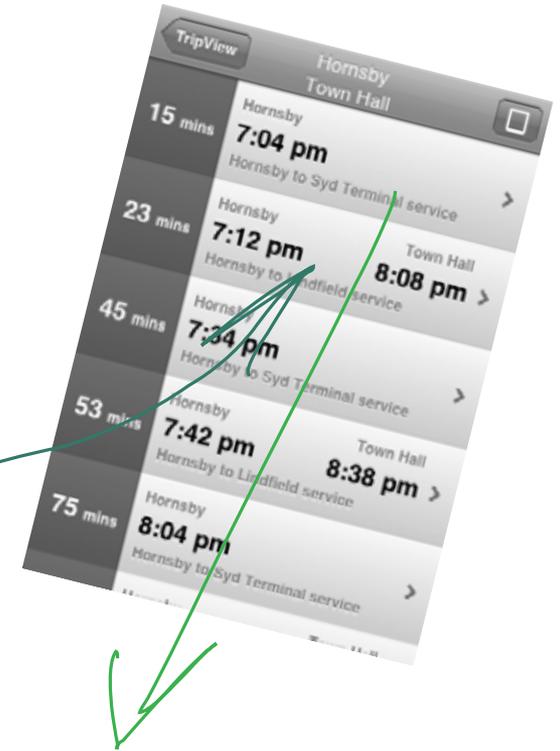
## C2 Nonhuman voices

"You want me to cease Railcorp? Not so fast... Do you think the public will be happy about that? Really, you give them nothing in return!"

App (2009)

thousands of users

Railcorp cannot shut down  
without political backlash



## C2 Media voices

“Moovit and Transit App were both selected to receive early access to restricted data before it opens up to everyone later this year.

Mr Constance said the new Open Data Hub will provide a platform for app developers across the world to innovate and deliver new ideas to customers.”

Popular Commuter Apps Now in Sydney

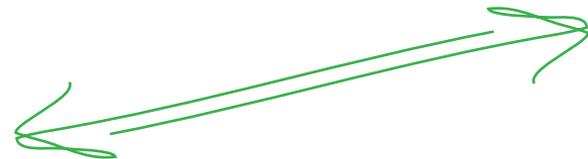
Media Release, Transport Minister, 16th February 2016



Validation



## What visual/study enabled

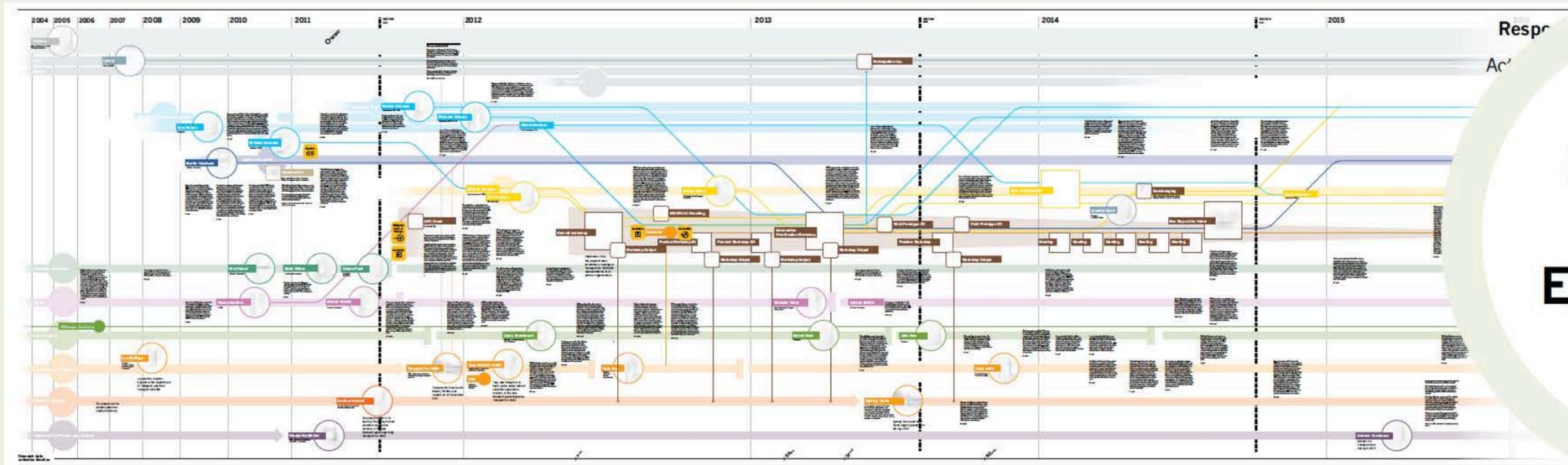


- › Built a visual language for engaging with contextualised project over time
- › Demonstrated dependence on dozens of technological and social actors, over wide ranges in time and space
- › Multiplicity of interpretation and realities
- › Dynamic of stabilising network over time
- › Decentralised public narrative
- › Successes and failures everywhere when scope broadened
- › Rhizomic - enter at any point (Deleuze & Guattari)

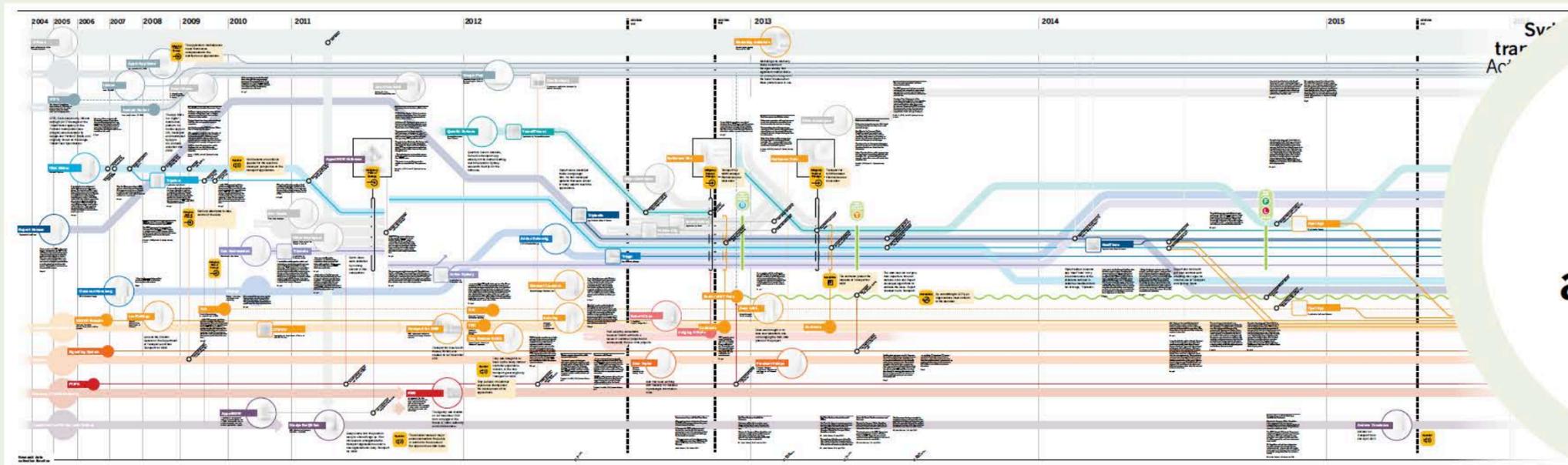
Deleuze, G. & Guattari, F., 1987, A thousand plateaus: Capitalism and schizophrenia, Bloomsbury Publishing.

## Findings in relation to cases

- › Co-emergence by agency of human and nonhuman actors - such as policy, individuals, legacy technological systems, rapidly changing contemporary communication systems, evolving meaning attribution, political will, organisational attention.
- › Performances dependent on contingencies in space and time
- › Longer term plans less relevant
- › Path dependence - many decisions determined in many ways
- › Bold 'innovative' steps not so bold in relation to context
- › Ability to enroll actors did have power
- › 'Smart city' not mentioned



**Responsive  
Transport  
Environments**

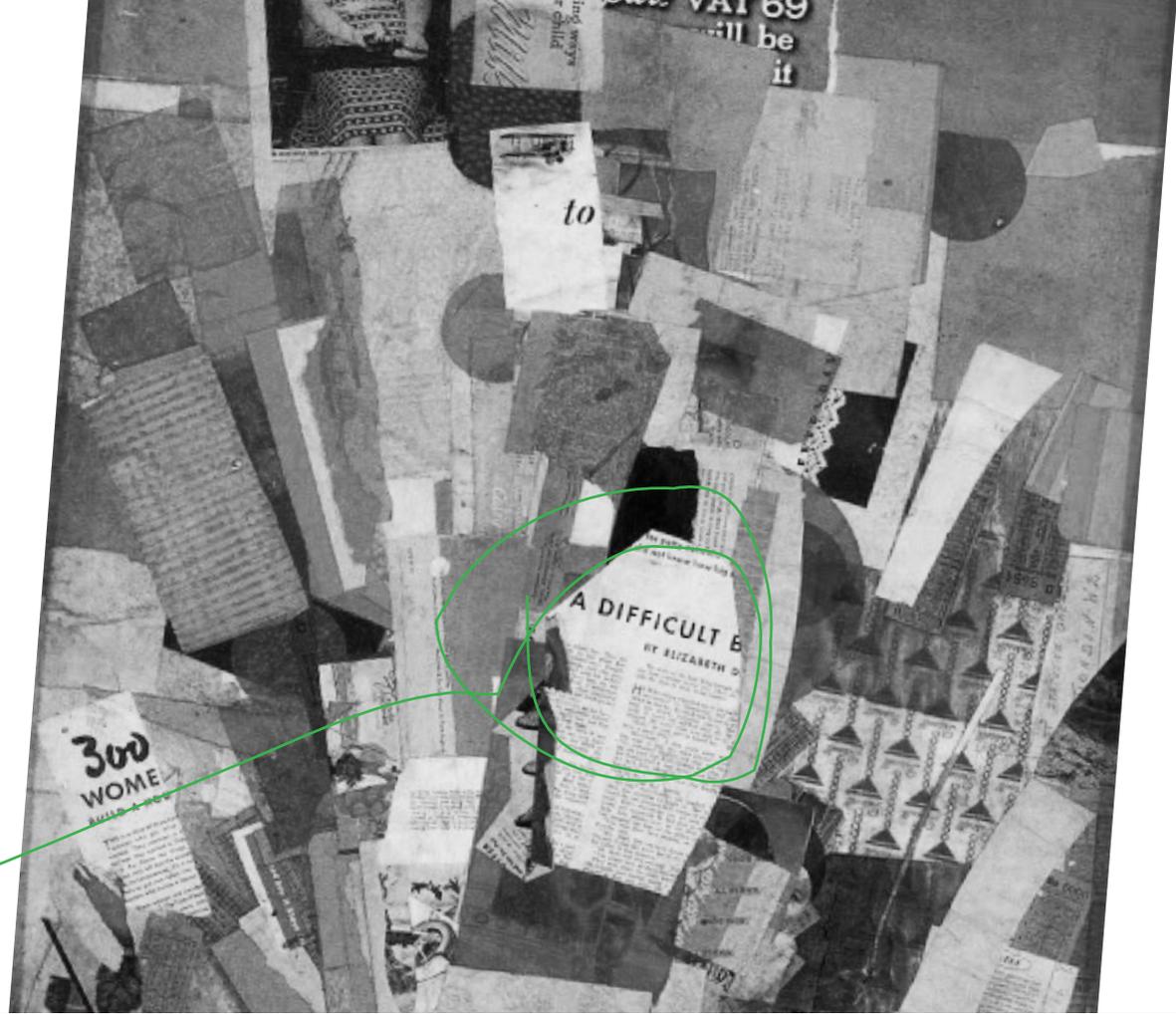


**Real-time  
transport  
applications**

## Metaphor of assemblage art

- › Cumulative
- › Meaning of coherent whole
- › Fragments of the past, captured in original form
- › Emergent, no evident beginning, end is a judgement, just when artist decides to stop making
- › Akin to memory

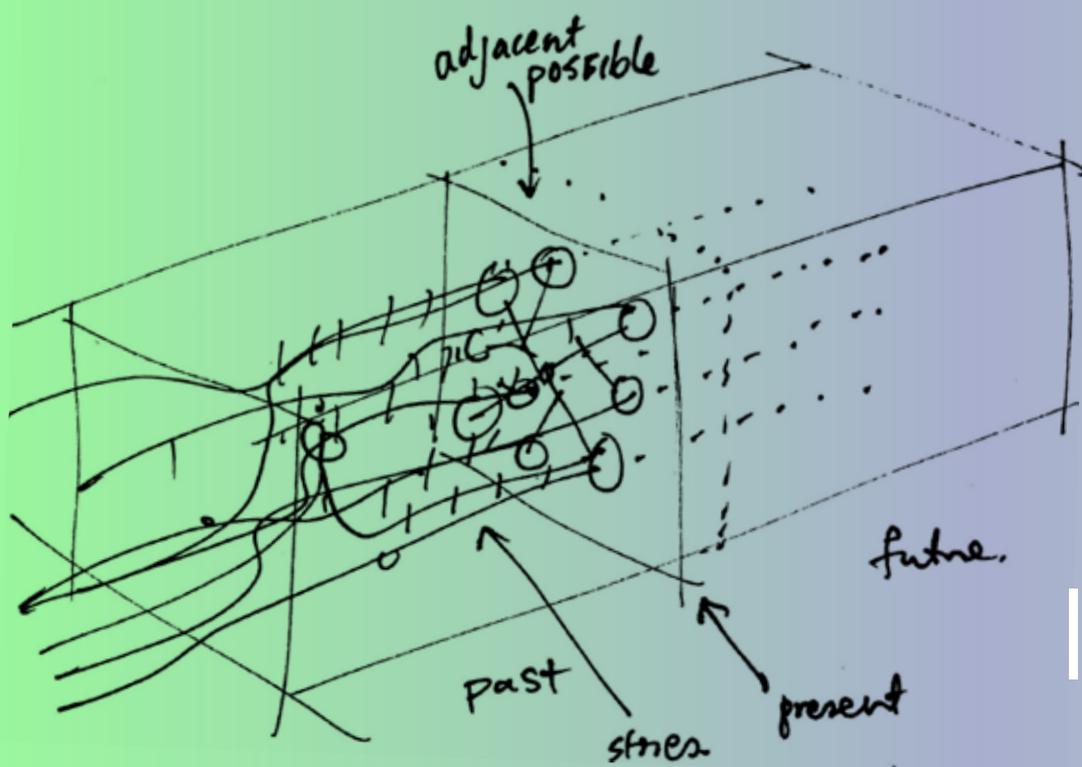
**[Difficult] 1942-1943**  
Kurt Schwitters



## Re-constituting 'Smart City' as a process of continued experimentation

- › **Being to becoming (process relational)**
- › Process not product (verb not noun)
- › Stabilisation/coherence not change
- › Meta-narrative of 'Development' problematised, opting instead for Translation - something always lost
- › Paradox of control
- › Embraces plasticity of people, organisation, technology in assemblages
- › "No issue, no public" - negotiated with object oriented politics
- › Adjacent possible, more useful than utopian





- › [timtompson@gmail.com](mailto:timtompson@gmail.com)
- › Twitter: [@timtompson](https://twitter.com/timtompson)
- › [timtompson.com](http://timtompson.com)

# IN BECOMING A SMARTER

# CITY