

TEACHING INFRASTRUCTURES BREACHING THROUGH DATA JOURNALISM AND DATA ACTIVISM

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“This article is in a way a call to study boring things. Many aspects of infrastructure are singularly unexciting... It takes some digging to unearth the dramas inherent in system design creating, to restore narrative to what appears to be dead lists” (p. 37)

Susan Leigh Star (1999). The Ethnography of Infrastructure. *American Behavioral Scientist*, 43(3).

“The most salient characteristic of technology in the modern (industrial/post-industrial) world is the degree to which most technology is not salient for most people, most of the time...

mature technological systems... reside in a naturalized background, as ordinary and unremarkable to us as tree, daylight, and dirt. Our civilization fundamentally depend on them, yet we notice them mainly when they fail, which they rarely do”

Paul Edwards (2003). Infrastructure and Modernity.

In *Technology and Modernity: The Empirical Turn* (Cambridge, MA: MIT Press).

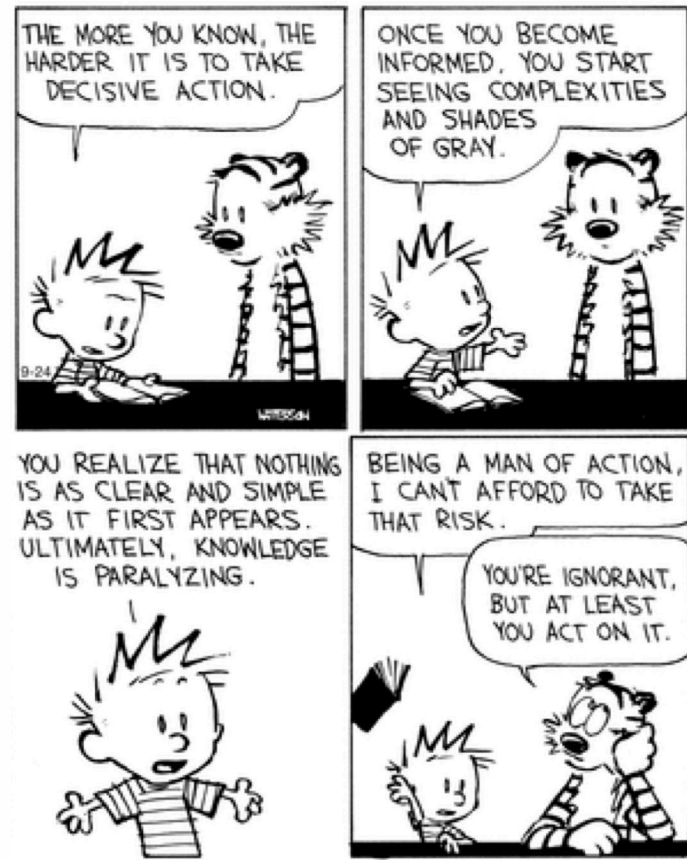
INFRASTRUCTURE INVISIBILITY



INFRASTRUCTURE INVISIBILITY

“Procedurally it is my preference to start with familiar scenes and ask what can be done to make trouble. The operations that one would have to perform... to produce the socially structured affects of anxiety, shame, guilt, and indignation; and to produce disorganized interaction should tell us something about how the structures of everyday activities are ordinarily and routinely produced and maintained” (p. 37)

Harold Garfinkel, 1967, *Studies in ethnomethodology*.



ON THE USE OF “BREACHING EXPERIMENTS”

“My husband and I were watching television. My husband remarked that he was tired. I asked, ‘How are you tired? Physically, mentally, or just bored?’

(S) I don't know, I guess physically, mainly

(E) You mean that your muscles ache or your bones?

(S) I guess so. Don't be so technical. (After more watching)

(S) All these old movies have the same kind of old iron bed –stead in them

(E) What do you mean? Do you mean all old movies, or some of them, or just the ones you have seen?

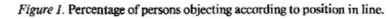
(S) What's the matter with you? You know what I mean

(E) I wish you would be more specific

(S) You know what I mean! Drop dead” (p. 43)

Harold Garfinkel, 1967, *Studies in ethnomethodology*.

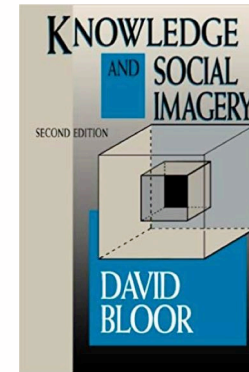
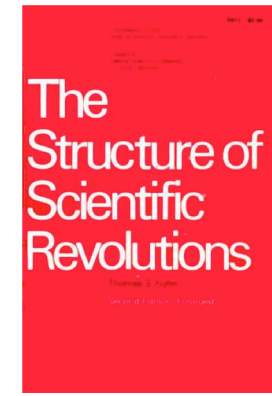
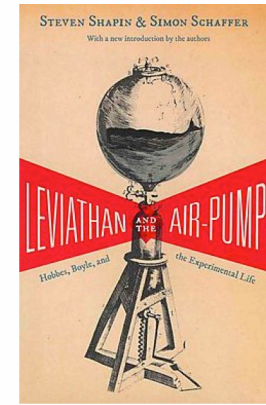
AN EXAMPLE OF BREACHING EXPERIMENTS



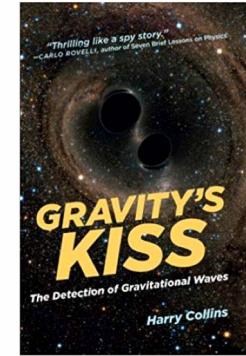
BREACHING EXPERIMENTS IN SOCIAL PSYCHOLOGY

“a similar methodology was advocated by Harold Garfinkel, for investigating the taken-for-granted features of social life... The methodological assumption underpinning the study of controversies is similar, only in this case the breach in the normal social operation of science is produced by the scientists themselves. By studying a scientific controversy, or moments of contestation, one learns something about the underlying dynamics of science and its relations with wider society”

Trevor Pinch, 2015, “Scientific Controversies”
in *Encyclopedia of the Social & Behavioral Sciences*



Bruno Latour
Pasteur: guerre
et paix des microbes
Suivi de *Irreductions*



CONTROVERSIES AS STS BREACHING EXPERIMENTS

“I have stopped in the engineering school where I teach, to give a social science class: I only ask the young engineers to follow for one year, in real time, a scientific or technical controversy... They learn more science – meaning research – and it just happens that, without even noticing it, they learn also more law, economics, sociology, ethics, psychology, science policy and so on, since all those features are associated with the piece of science they have chosen to follow”

Bruno Latour, *From the two cultures debate to cosmopolitics*

2015



Osiris (réacteur de recherche nucléaire)



Faut-il garder la limite des 2°?



La construction de la liaison ferroviaire Lyon-Turin



La fabuleuse histoire du gluten

2014



La liaison peptidique



La tempête Xynthia



La pilule féminine



La salle de shot du 10 arrondissement



Ocean Iron Fertilization



Eolien offshore



Les espèces protégées : le cas du loup et de l'ours



Peut-on produire de la viande de manière responsable ?

2013



Faut-il supprimer les prisons ?



L'expérience de mort imminente



La bataille des sols



La mort des abeilles

CONTROVERSY MAPPING AS A TEACHING METHOD

Marres, N., & Rogers, R. (2005).

**Recipe for Tracing the Fate of Issues and their
Publics on the Web.**

In L. Bruno & P. Weibel (Eds.), *Making Things
Public* (pp. 922–935). ZKM/MIT Press.

Venturini, T. (2012).

**Building on faults: how to represent
controversies with digital methods.**

Public Understanding of Science, 21(7), 796–812.

Marres, N., & Moats, D. (2015).

**Mapping Controversies with Social Media: The
Case for Symmetry.**

Social Media + Society, 1(2), 1–17.



This website presents the results of the EU research project EMAPS, as well as its process: an experiment to use computation and visualization to harness the increasing availability of digital data and mobilize it for public debate. To do so, EMAPS gathered a team of social and data scientists, climate experts and information designers. It also



climaps.eu

CONTROVERSY MAPPING AND DIGITAL METHODS

Data Journalism, 2016 King's College London



Data Activism, 2017 École Normale Supérieure, Lyon



A BREACHING DIDACTICS FOR DATA INFRASTRUCTURES

Data Journalism, 2016 **King's College London**

with Liliana Bounegru

- BA students in “Digital Culture”
- Focus on data visualization and story-telling
- Collaboration with data activists
 - Tax Justice Network
 - Open Trials project
 - Amnesty International Decoders
 - Ressources contract Open Oil

Data Activism, 2017 **École Normale Supérieure, Lyon**

with Axel Meunier

- MA students in “Information Architecture”
- Focus on data collection and usage
- Collaboration with grassroots activist
 - Open source developers in Lyon
 - Migrants help associations

A BREACHING DIDACTICS FOR DATA INFRASTRUCTURES

Data Journalism, 2016 King's College London

with Liliana Bounegru

1. Introduction to data storytelling (2 hours)
2. What makes a good data story? (2 hours)
3. Collecting data (2 hours)
4. Cleaning data (2 hours)
5. Data analysis (2 hours)
6. Turning data into images (2 hours)
7. **Data sprint (2 full days)**
8. Conclusion (2 hours)

Data Activism, 2017 École Normale Supérieure, Lyon

with Axel Meunier

1. Course introduction (3 hours)
2. Project section and group formation (3 hours)
3. Help with project development (30 min Skype)
4. **Ethnography mini-workshop (2 full days)**
5. Help with project development (30 min Skype)
6. **Data sprint (3 full days)**

COURSE STRUCTURE

1. **Successful data projects are rare**, for they demands the alignment of

- an interesting and precise research question (which is generally not evident)
- and a dataset that can allow to tackle it (which is generally not available)
- Give students time to test & explore, but help them avoiding wrong track

2. **Data creation** is where the action is

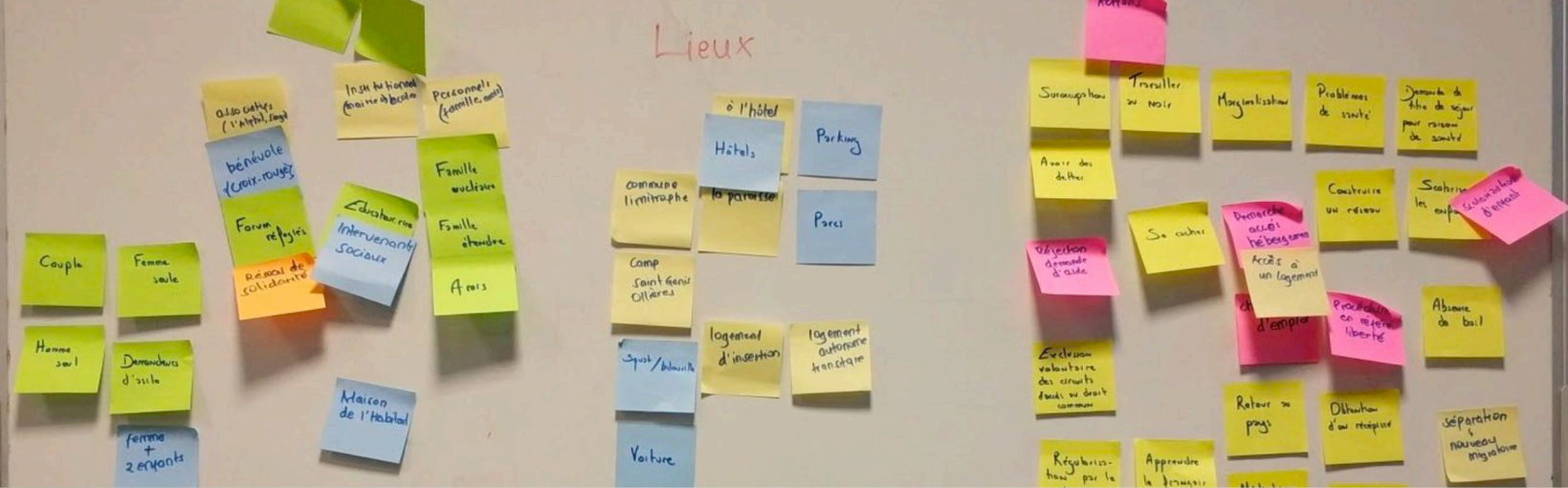
- Both in terms of problems and of learning occasions (data is always oriented)
- But it is also the longest and most frustrating operation (data is never right)
- Encourage students to invest efforts in the creation of data

3. **Ethnography** is crucial but also difficult because

- It takes time to find the right informants and built a relation with them
- Informants ideas about “data projects” are too definite or not enough
- **Allocate time & support to the construction of a shared “scope statement”**

4. **Most student will fail the exercise**, but not the course if

- they use the discussion within their group to adopt a reflexive posture
- The final report describes the process and not only the product
- **Make clear that the exercise is about de-construction as much as construction**



Création d'un médium pour représenter la réalité des migrants diambulant à Lyon

- Sous la forme d'un webdoc.
- Permet de sensibiliser à l'action des associations ainsi qu'à la réalité qui a poussé l'émigration de l'amphi C.

Création d'un outil ou "Kit" d'un Lyon "Migrant friendly"

- Sous forme d'une carte offrant les différentes possibilités (Réparat°/accompagnement/Logement/nourriture).

“INTERNAL MIGRATION” EXAMPLE

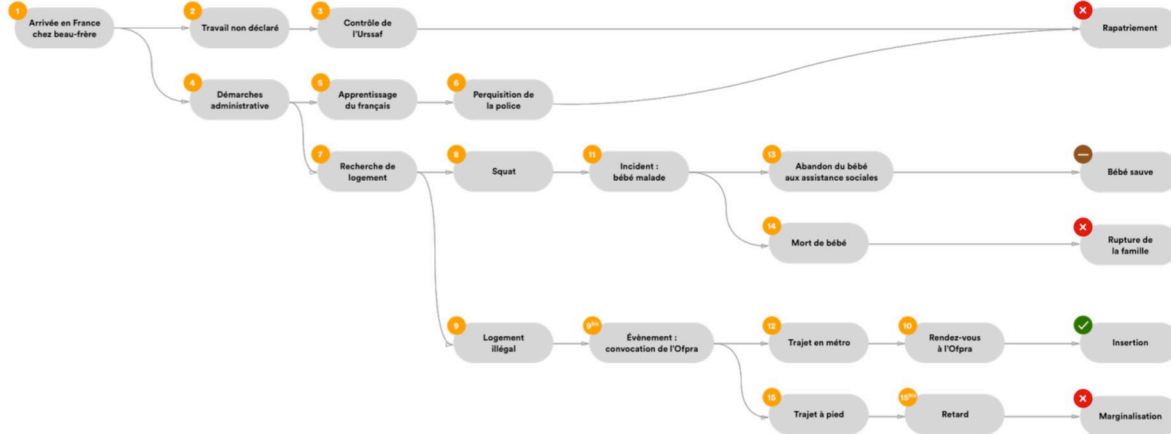
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20180107	Squat	La Cabine, # avenue Berthelot, 69007, Lyon 7e	LyonMag	https://www.lyonmag.com/article	Police	Intervention de la police au squat « La C	200_personne
20171207	Squat	12 rue Baudin, 69100, Villeurbanne	Rebellyon	https://rebellyon.info/Occupat	Initiative populair	Squat du bâtiment 12 rue Baudin	50_personne
20171201	Collège	10 Avenue Henri Barbusse, 69120 Vaulx-en-Velin	Rebellyon	https://rebellyon.info/Collège-	Ville de Lyon	Occupation du collège Barbusse de Vaul	2_famille
20171125	Ecole primaire-m	5 Impasse Flesselles, 69001 Lyon	Rebellyon	https://rebellyon.info/Familles	Ville de Lyon	Occupation du gymnase de l'école élémé	
20171124	Ecole primaire-m	2-6 Rue Alsace Lorraine, 69001 Lyon	Rebellyon	https://rebellyon.info/Ce-soir-	Ville de Lyon	Occupation de l'école Servet par des farr	
20171121	Ecole primaire-m	5 Rue Sergent Blandan, 69001 Lyon	Rebellyon	https://rebellyon.info/Occupat	Ville de Lyon	Occupation de l'école primaire Robert De	6_famille
20171115	Amphithéâtre	Université Lyon 2	Rue89	http://www.rue89lyon.fr/2017/1	Ville de Lyon	Occupation de l'amphithéâtre C à l'univei	40_personne
20171031	Squat	5 rue de la saint André	Rue89	http://www.rue89lyon.fr/2017/1	Police	Expulsion du plus grand squat de Guilloti	4_famille
20171008			Ekathimerini	http://www.ekathimerini.com/2	International Org	Un groupe de 234 réfugiés a quitté Athèr	234_personne
20170913	Camp	Pont Raymond Poincaré, 69100 Villeurbanne	20minutes	http://www.20minutes.fr/lyon/2	Police	Camp (bidonville) du Pont Raymond Poir	145_personne
20170531	Camp	Porte de Croix-Luizet, 69100 Villeurbanne	20minutes	http://www.20minutes.fr/lyon/2		Camp (bidonville) de la Porte de Croix-Lu	145_personne



“INTERNAL MIGRATION” EXAMPLE

Profil

- famille monténégrine
- père, mère
- 1 fille (4 ans), 1 garçon (8 ans), 1 bébé (3 mois)
- lié à la Mafia, risque de vendetta
- 5.000 € de budget

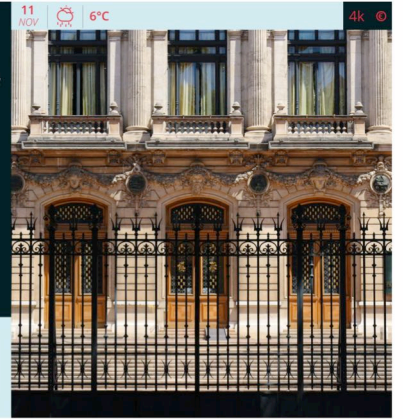


Vous faites les démarches administratives

-1k €
Vous décidez de commencer tout de suite les démarches afin d'obtenir le statut de demandeur d'asile. Cela prend un certain temps, vous maintenez déjà six mois que vous attendez chez votre beau-frère et vous avez perdu le moitié de vos économies. La situation n'est pas viable sur le long terme, votre beau-frère a des enfants lui aussi et le manque d'espace nuit à leur scolarité.

Deux choix s'offrent à vous : vous pouvez choisir de rester encore chez votre beau-frère afin d'apprendre le français et trouver un emploi dans votre domaine de compétence en attendant que votre demande soit traitée. Ou bien, vous pouvez choisir de partir à la recherche d'un nouveau logement.

- Restez chez votre beau-frère
- Trouver un nouveau logement

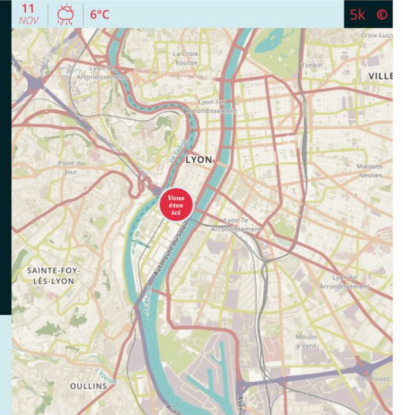


Vous voilà arrivé à Lyon

Suite à de graves violences dans leur pays d'origine, le Monténégro, la famille de madame Kotor est contrainte de se protéger dans un autre pays. Un de vos beaux frères habite à Lyon, en France. Au cours de votre situation, à vous propose de vous accueillir vous et votre famille. Vous profitez de l'occasion, vous résumez les affaires que vous souhaitez emporter, vos économies (10 000 euros en tout et pour tout, et vous, votre mari, votre fille de 14 ans, votre fils de 8 ans et votre bébé vous mettez en route pour la France. Le trajet, par voie illégale, vous coûte la moitié de vos économies. Vous arrivez donc chez votre beau-frère avec 5000 euros. À 9 personnes dans un 5ème, vous êtes en situation de surpopulation.

Deux choix s'offrent à vous : vous pouvez choisir de travailler directement au noir, consciente que vos économies ne dureront pas longtemps, ou bien vous pouvez choisir d'entreprendre des démarches administratives en espérant qu'un statut vous soit accordé avant que vous n'avez plus d'argent.

- Travailler illégalement
- Entreprendre les démarches administratives



"INTERNAL MIGRATION" EXAMPLE

From “how can we make the public opinion aware of the problem?”

To “how can we facilitate the delivery of help, without exposing the migrants?”

- The issue was not about public awareness, but about expert practices
- The addressees were not the public or the migrants, but the intermediaries
- The problem was not about making data visible, but making it invisible (and yet usable)
- The contribution may have been about setting up a data infrastructure rather than using it

“INTERNAL MIGRATION” EXAMPLE

