Studying and conjuring infrastructures

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14. April 2011.
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introductory remarks

no strict analytical definition to decide what is an infrastructure and what is not.

infrastructure is not only something we can refer to and identify 'out there in the world'.

But a conceptual tool in itself to study with that enables us to see, think and comprehend things.

infrastructure as enabling thinking and analysis.

An assemblage - or infrastructure - for thinking and analytical work.

points

resources

infrastructures and human action

studying infrastructures 'out there'

tracing infrastructures

conjuring infrastructures

infrastructures of/for/in social innovation

resources

symbolic interactionism:

People produce meaning based on their circumstances and they draw on and construct those circumstances in symbolic as well as material ways.

actor network theory:

Reality is the product of associations of human and non-human actors. Sizes, scales, essences and agencies are *consequences* of associations not *causes*.

deleuzian rhizomes:

Reality is the product of multiple relations working and affecting bodies and entities on a 'plane of immanence' and thus not necessarily obvious to perceive.

actor network theory and Deleuzian thinking: seemingly small changes in the network have profound changes for the 'whole'. Reality is continuously 'in the making'

infrastructures and human action

understand and conceptualise the intertwinedness of material and technological agency and human action.

a cautionary and symmetrical endeavor avoiding both determinist structuralism and agential autonomy.

deconstruct infrastructures as strictly technical, rational, ahistorical, universal and apolitical. As simple means of transportation.

unpack infrastructures as contingent products of negotiations, heterogeneous assemblages comprised of political, economical, trivial, mundane and technical elements.

infrastructures as black boxes: folding time and space. Always also other place and time.

not running by themselves but must be maintained and supported continuously.

infrastructures when up and running are background, invisible (to some) and 'ready-at-hand', when they break down they emerge become visible and 'present-at-hand'.

infrastructures and human action

Paris, the invisible city - a study of infrastructures and 'seeing'

we always see from somewhere and there are no overall point of view (or Gods eyeview (Haraway))

no *panorama*, but lots of *dioramas* (miniature models) that make something visible, but always by the cost of making something else invisible. Oligopticon vs. panopticon

the social is enabled and scaffolded by infrastructures and devices. A sociology of the collective comprised of humans and non-humans.

Latour: We do not see them, we see *with* them. If we have no apparatuses to see and conceive with, we see nothing. No romanticism about pure, untainted, detached perception and experience.

Plato out of the cave would not perceive things "as they really are". He would perceive "nothing" because he would have no means of perception.

studying infrastructures 'out there'

infrastructures are relational, not things.

> 1) they are networks. They work due to the connections that make them up. E.g. the railway tracks depends upon, timetables, tickets, trains, machines, drivers, stations, passengers etc.
>
> 2) For one person it affords for another it obstructs. Eg. the staircase in relation to the person in the wheelchair. For some it is an object to tinker with and maintain for others it is a background resource. E.g. the road in relation to the roadworker and the cardriver.

parallel to Latour: things as objects and as gatherings.

methodological rules

master narrative or inscription.

identifying the main objective of the infrastructure and analysing the inscribed assumptions about the world and the 'othering' of the infrastructure.

surfacing invisible work.

what makes the infrastructure run? who is doing what, where and how in order for it to function and especially who do not we see (and why)?

paradoxes of infrastructures.

infrastructures are supposed to make things run smoothly and effectively. Why does the seemingly slight change of a work practice become problematic and obstructs the infrastructure from functioning? Poor understanding of what the specific work task implies for the 'arc of work': the entire project. Work is comprised of both the visible work producing something and the work required to coordinate the production work (articulation work).

tracing infrastructures

infrastructures as multiple and partially existing objects.

studying infrastructures 'in the making' entails tracing the various articulations and enactments of them in different places and refusing the common sense assumption that the different enactments refers to the same singular object.

being nominalist: insisting that a given project is first and foremost a name and a name is not identical with a singular object.

emphasizes the relational status of infrastructures in several senses: 'in the making' and thus not stable, as different/relative to practices and as pieced together through connections between places and practices.

conjuring infrastructures

moving from a representationalist notion of infrastructures towards a performative one.

studying - tracing - conjuring

conjure:

the performance of tricks that are seemingly magical, typically involving sleight of hand : *a conjuring trick.*
make (something) appear unexpectedly or seemingly from nowhere as if by magic
call (an image) to mind *: she had forgotten how to **conjure up** the image of her mother's face.*
cause someone to feel or think of (something) *: one scent can **conjure up** a childhood summer beside a lake.*
call upon (a spirit or ghost) to appear, by means of a magic ritual *: they hoped to **conjure up** the spirit of their dead friend.*

becoming sensitive to infrastructures - learning to see and think with them

conjuring infrastructures

infrastructures as partially existing, neither simply present or absent, but emerging and moving in and out of existence relative to the practices they are part of.

the study of infrastructures should therefore also be conceptualised as specific ways of bringing them into existence.

infrastructures are translated through the study or unpacking of them they go from being 'technical', 'rational', 'universal', 'invisible' to being 'historical', 'contingent', 'heterogeneous', 'located', 'visible', 'maintained'.

infrastructures are thus brought into being in specific ways - a conjuring of infrastructures.

so what to do?

infrastructures are certainly difficult objects to study, so what to do?

despair - we lack concise definitions and understandings to guide us!

or...their status as multiple and relational incites our sensitivity of them, *because* not *despite* of their uncertain, illusive statuses.

We have to research harder, be inventive in our ways of studying and arguing for them, conjure them through our studies of them.

- and yet again there seems to be plenty of infrastructures around, only we need to engage in the difficult practice of tracing, describing and piecing them together and make them appear in all their heterogeneity.

infrastructures of/for/in social innovation

1) the study and building of (technical) infrastructures as a design practice

2) design practices conceived as Things (as gatherings) bringing together different actors and 'matters of concern' in order to make novel inventions.

3) unpack design practices as infrastructures. Infrastructures-of-design. Q: What master narratives is build into or inscribed in e.g. living labs?

   Places for play and experimentation, innovative and creative people. Rehearsing the future. Participation, deliberation, power assumptions (some are weak others are strong), change and progress.

4) Provided the notion of infrastructures as inherently relational, partially existing and multiple how we perceive and enact reality is also uncertain. Reality is undecided and 'in-the-making' => Social innovation might then be about complicating, challenging and 'undoing' versions of the present rather than attempts to *transgress* and move beyond it.

concerns

what kind of notions of the present are we implicitly reproducing? how do they become visible to us so that we may be able to think differently and ask different questions?

making the world a better place runs through design and interventionist research, but the premise - or the infrastructure - of such an aspiration is ironically an immodest self attribution of ones conception of the current state of affairs as in need of improvement, as adequate.

we always live in the best of worlds (Leibniz), only we may not be aware of it but this is due to our implicit assumption of panoramatic overview.