Hybridized digital-physical worlds

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Amsterdam, May 2007

what?
how?
current trends?
design issues?

Vocabulary of hybridity

linkage, merging, fusion, linkage, interconnection, binding, assemblage, amalgam, amalgamation, blend, blending, coadunation, coalescence, coalition, commingling, commixture, hybridization, compound, convergence, immixture, integration, intermixture, junction, merger, merging, mixture, smelting, synthesis, unification, union, uniting, welding, assimilation, alliance, interfusion, soup, salmagundi

research about how to design for hybridization led to:

pervasive computing, ubiquitous computing, everyware, wearable computing, mobile computing, things that think, calm computing, continuous computing, ambient intelligence, digital-physical computing, internet of things, networked objects, augmented reality, mixed reality, geospatial web, locative media, physical metaverse...

(all of these allow the digital-physical convergence)

underlying technologies

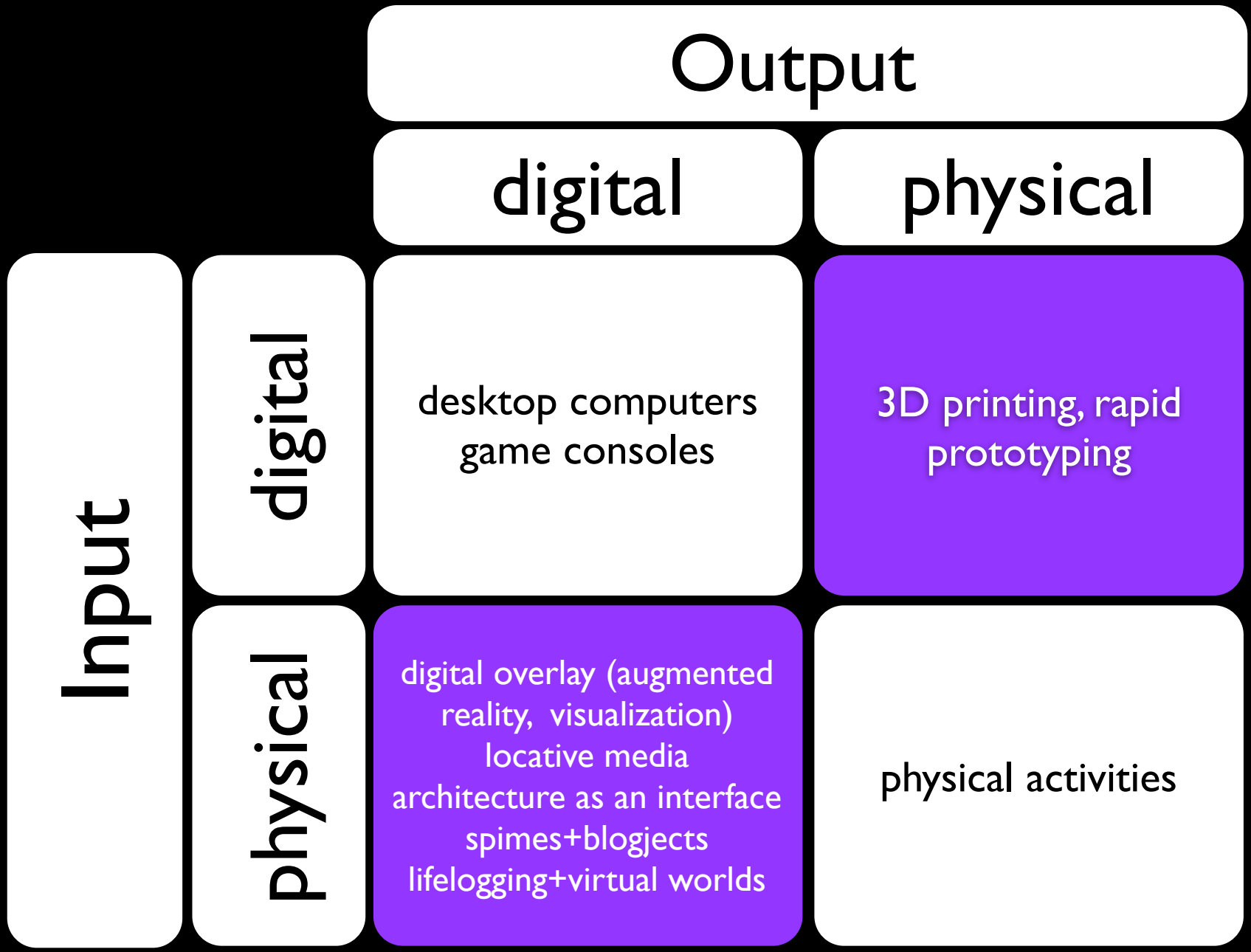
- identification (RFID, ipv6, visual tags...)
- sensors
  - positioning (GPS, Wifi, CellID...)
  - other information (pressure, temperature, etc.)
- communication (tcp/ip, BT/Wifi, zigbee, redTacton...)
- computation

“Media spaces LINK physical spaces through digital mediums.
Mixed reality environments FUSE physical and digital environments.
Ubiquitous computing environments EMBED the digital into physical environments.
Hybrid ecologies MERGE multiple environments, physical and digital.”
(Crabtree and Rodden, 2007)

what this hybridization is not about:

rather about:

a less utilitarian perspective


Output
digital
physical
Input
digital
physical
desktop computers
game consoles
3D printing, rapid prototyping
digital overlay (augmented reality, visualization)
locative media
architecture as an interface
spimes+blogjects
lifelogging+virtual worlds
physical activities

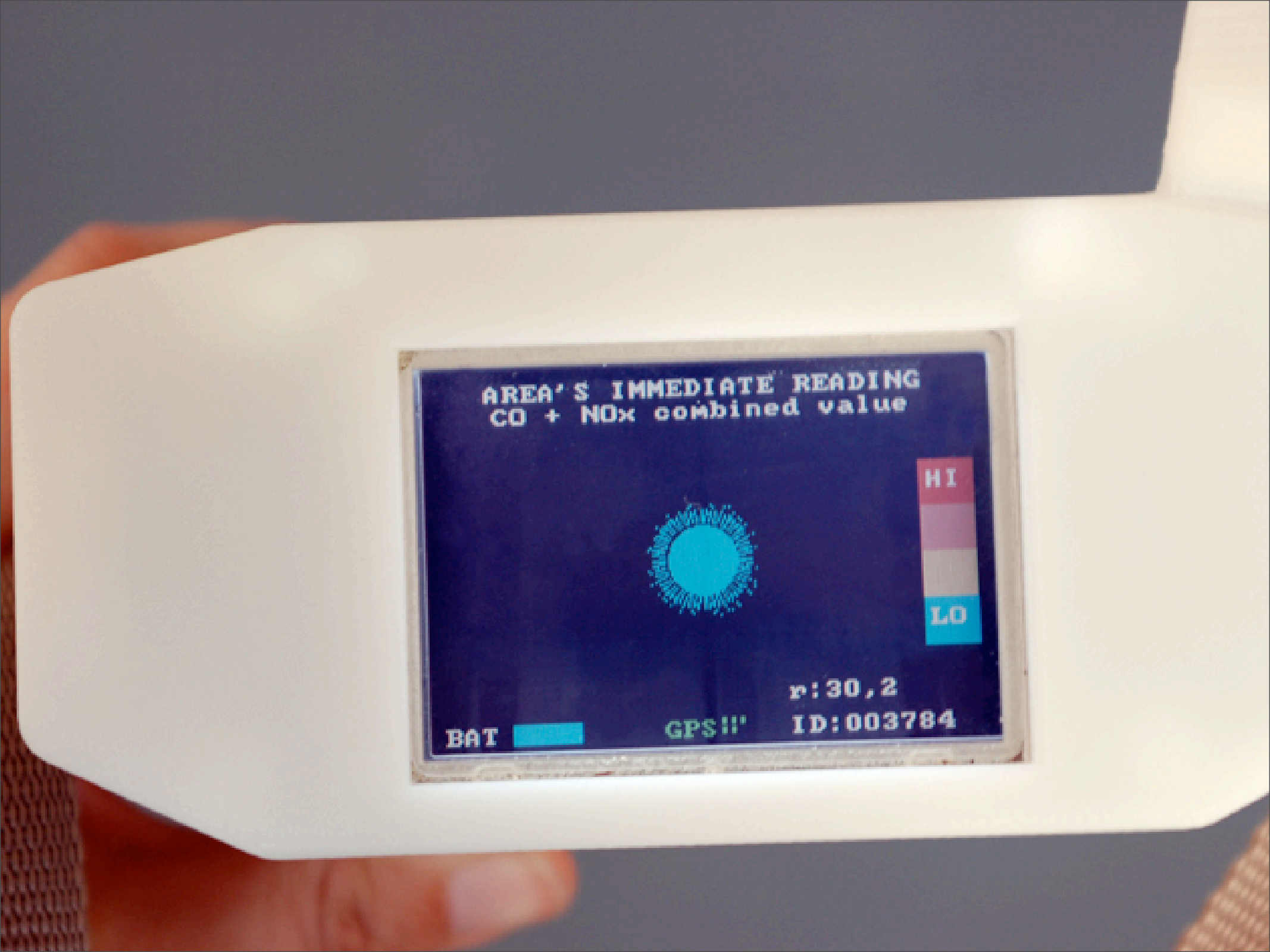
trends

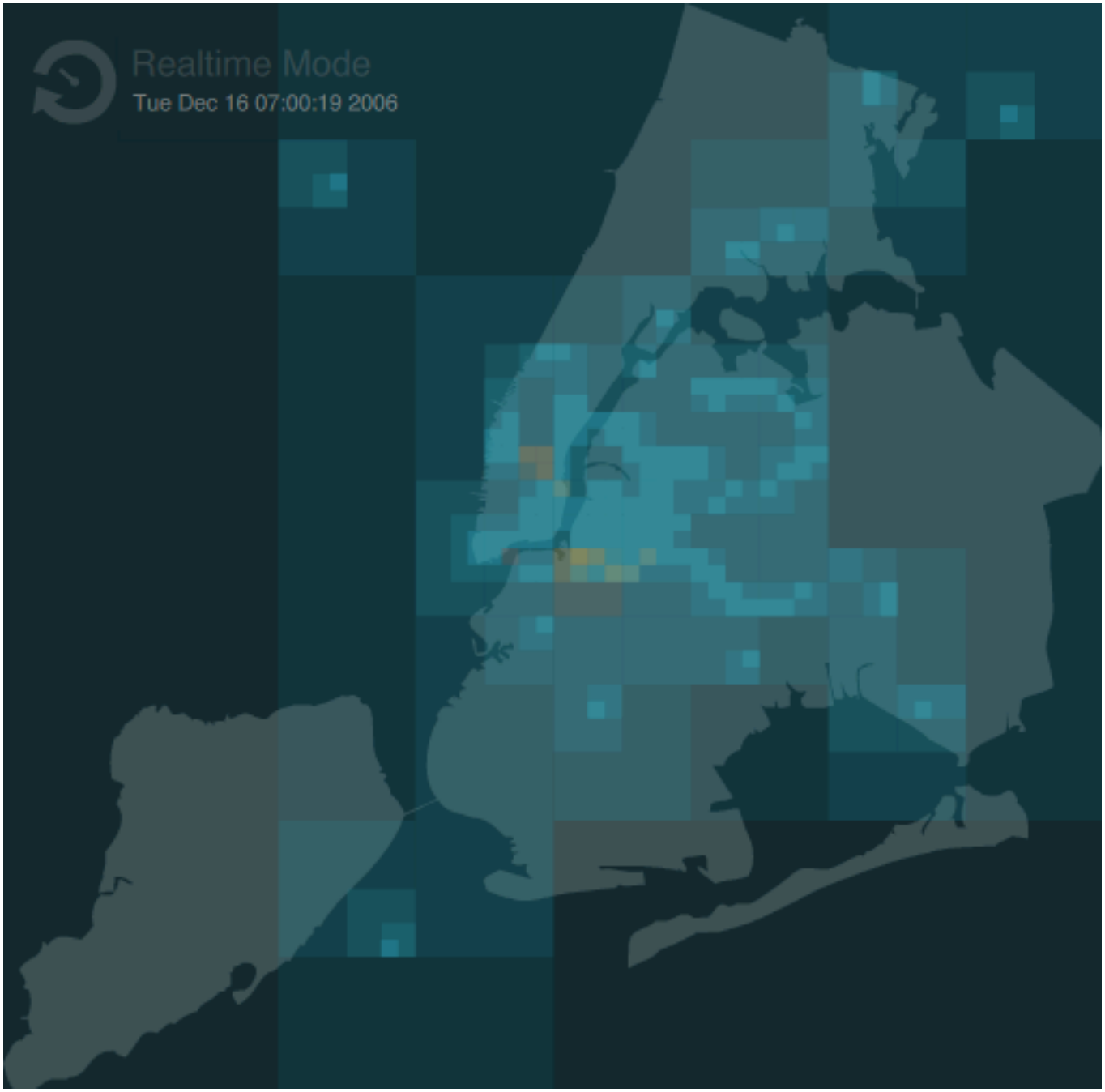
digital overlay (augmented reality, visualization)
locative media
architecture as an interface
spimes+blogjects
lifelogging+virtual worlds

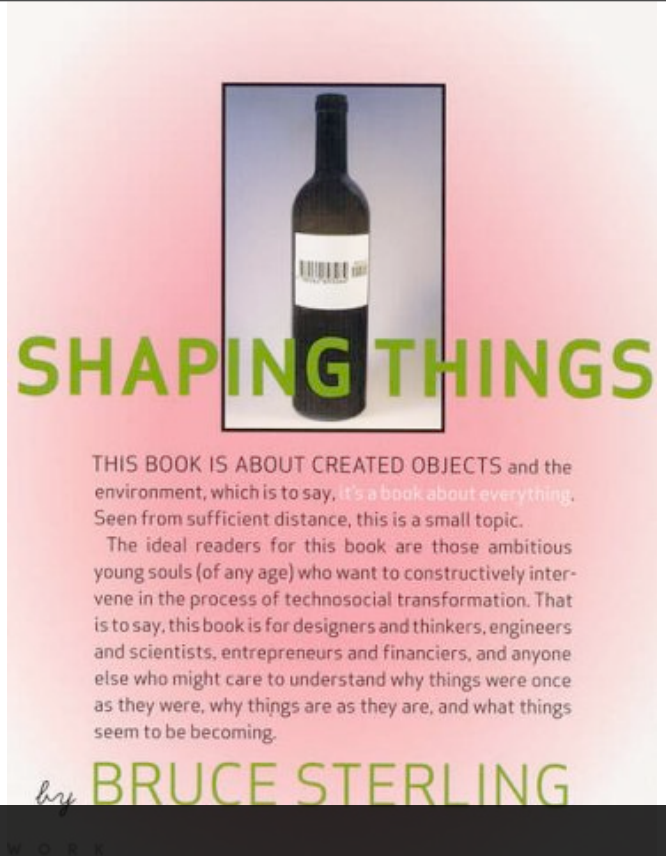
augmented/mixed reality: combination of real world and computer-generated data

visualizing the hybridization

Premptive media's AIR
(area immediate reading)


AREA'S IMMEDIATE READING
CO + NOx combined value
HI
LO
r:30,2
BAT
GPS!!'
ID:003784


Realtime Mode
Tue Dec 16 07:00:19 2006



Title:
A Manifesto for Networked Objects — Cohabiting with Pigeons, Arphids and Aibos in the Internet of Things

Short Title:
Why Things Matter

trackbacks:
Bruce Sterling. Shaping things. MIT Press, Cambridge, Mass., 2005.
Donna J. Haraway. The companion species manifesto: dogs, people, and significant otherness. Prickly Paradigm, University Presses Marketing, Chicago, Ill., 2003.
Bruno Latour. We have never been modern. Harvard University Press, Cambridge, Mass., 1993.

tag cloud:
spimes, spime, things, thing, lift06, ubiquitous computing, design, object, objects, rfid, arphid, arphids, pervasive networks, blogject workshop, near-field communication, nfc, web 2.0, world 2.0

permalink:
Ever since this "blogjects" topic has started circulating, I've been asked lots of things, but two questions have come to the fore. First, why would objects want to just blog? Second, why would I care if objects "blog"?

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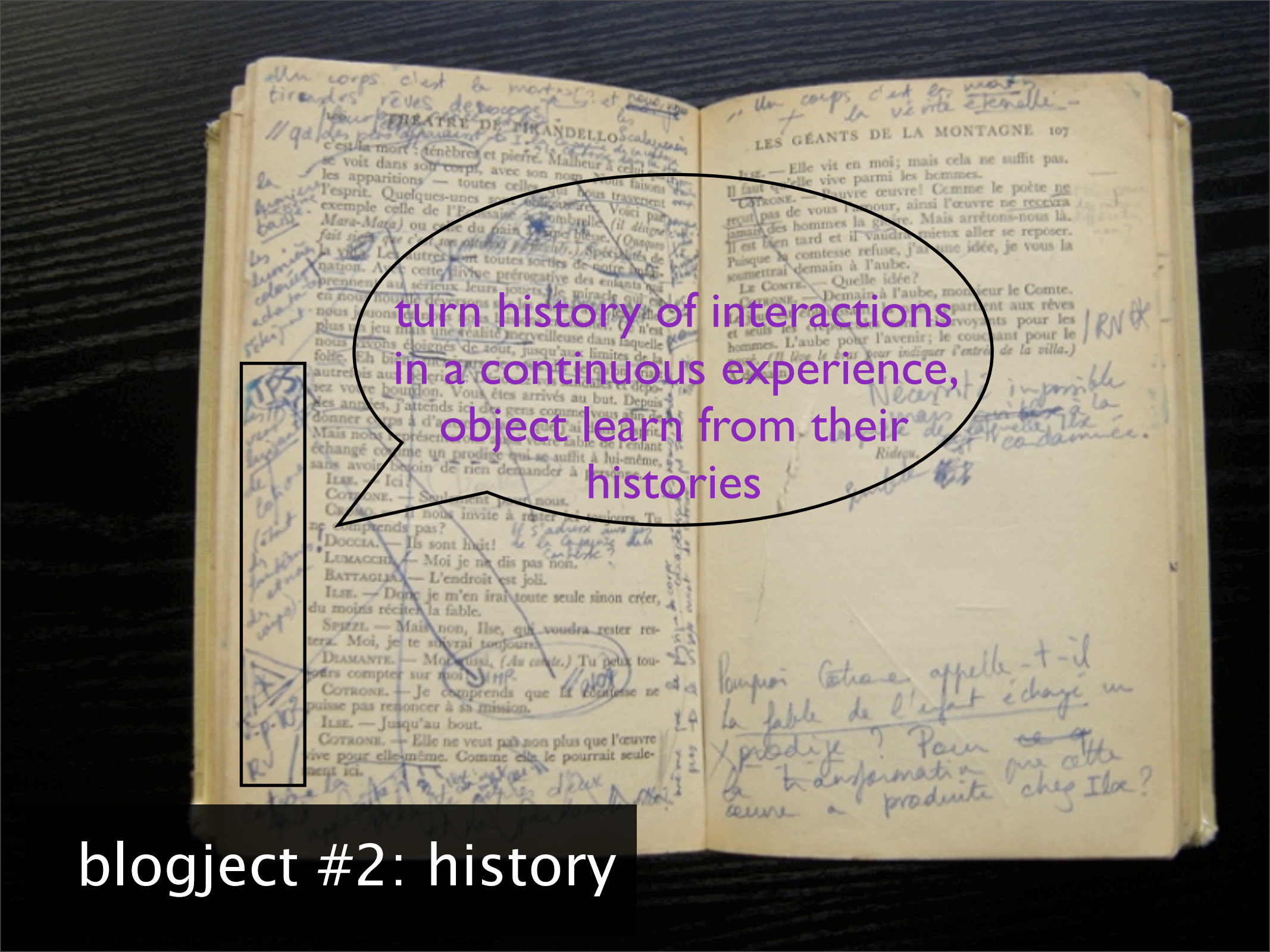
blogject (blog-objects)

blogject #1: traces



blogject #2: history

Sparky's Hovel

ABOUT

Email Me

CATEGORIES

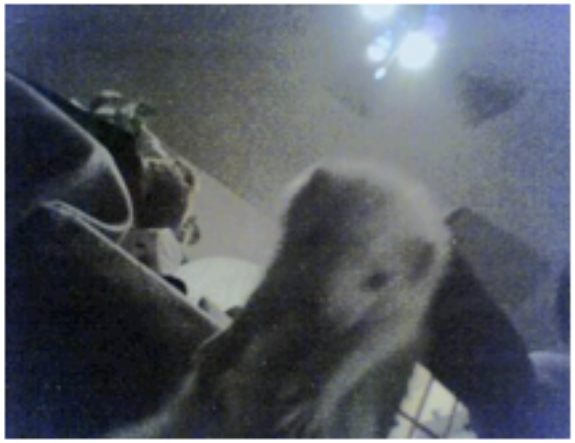
RECENT COMMENTS

johan on November 23, 2005 AIBO Photo Diary

ARCHIVES

January 2006
December 2005
November 2005

January 20, 2006 AIBO Photo Diary



Sparky

Total running days 59
Run time 10 h 24 min
Distance 19m/62ft
Face #
Ball ##
Bone ##

[Aibo diary]
Say "Good Boy" and I will work harder.

[Owner's comment]
ARRRGGGHHHHHHHHHHHHHH Ferret attck!!!!

Run for the hills!!!!!

Posted on 01/20/2006 at 11:00 PM | Permalink | Comments (0)

January 4, 2006 AIBO Photo Diary

Sparky

Total running
min
Distance
16m/52ft

newsgator RSS

ADVERTISMENT

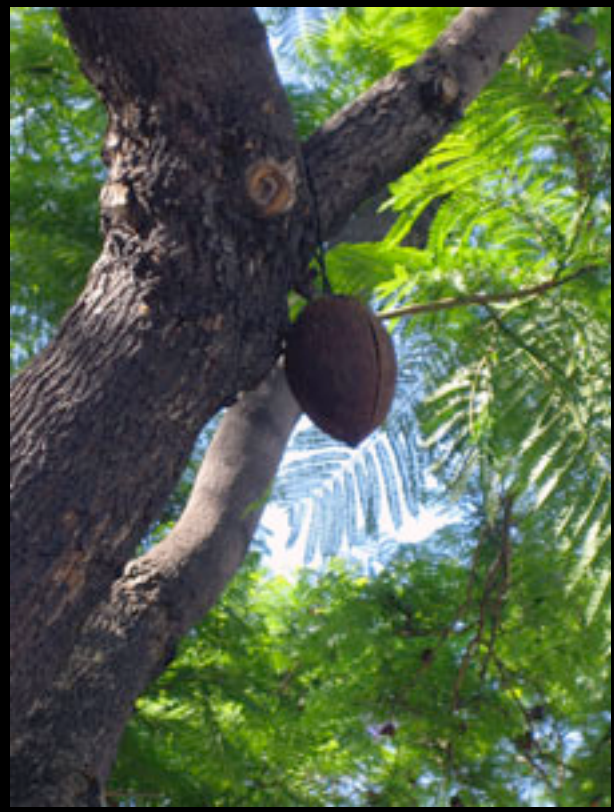
Add me to your TypePad People list

RECENTLY UPDATED WEBLOGS

AIBO ERS-7 Mind3 Blog
Toshi's Weblog
Bobbins blog
Aduki's eLog
CARAMEL THE AiBO - ERS-7M3T
My Weblog
frau patriccia
A Lot like Life

blogject #3: content production

tripwire (Tad Hirsch)



crittercams

Blogging pigeons (Beatriz Da Costa)

(automatic) lifeblogging +virtual worlds

(or... pedometers everywhere)

Spimes
(Bruce Sterling)

Speculative category of objects that:

1. Have a unique ID (RFID? thinglink?...)
2. Can be precisely located on Earth (GPS?, radio-frequency?)
3. A way to mine large amounts of data for things that match some given criteria, like internet search engines.
4. Tools to virtually construct nearly any kind of object; computer-aided design.
5. Ways to rapidly prototype virtual objects into real ones. Sophisticated, automated fabrication of a specification for an object, through “three-dimensional printers.”
6. “Cradle-to-cradle” life-spans for objects. Cheap, effective recycling.

design trends

- The InternetS of Places, People and Things
- Make explicit the invisible or the implicit (often negative phenomena)
- Underlying trend: collection of traces + new interaction partners
- Intricate relationships between the physical world and X virtual environments that are interconnected
  - What's being in a place?
  - What does it mean to be with someone? a pet?

design issues

- Agency: human? pet? artifacts?
- Reshuffled interaction design
  - Intentional/unintentional inputs
  - Synchronous/asynchronous output
  - Fragmented interactions
- Affordances of space
  - does the physical space afford specific behavior in virtual space?
  - the other way around?
  - is it so interconnected that behavior is seamless?

what drives design?
unfortunately: tech tech tech
BUT
also need new experiences
1) playful
2) with forgotten partners (pets, weather)
3) non utilitarian practices
4) lowtech/low bandwidth can be relevant

Thank you

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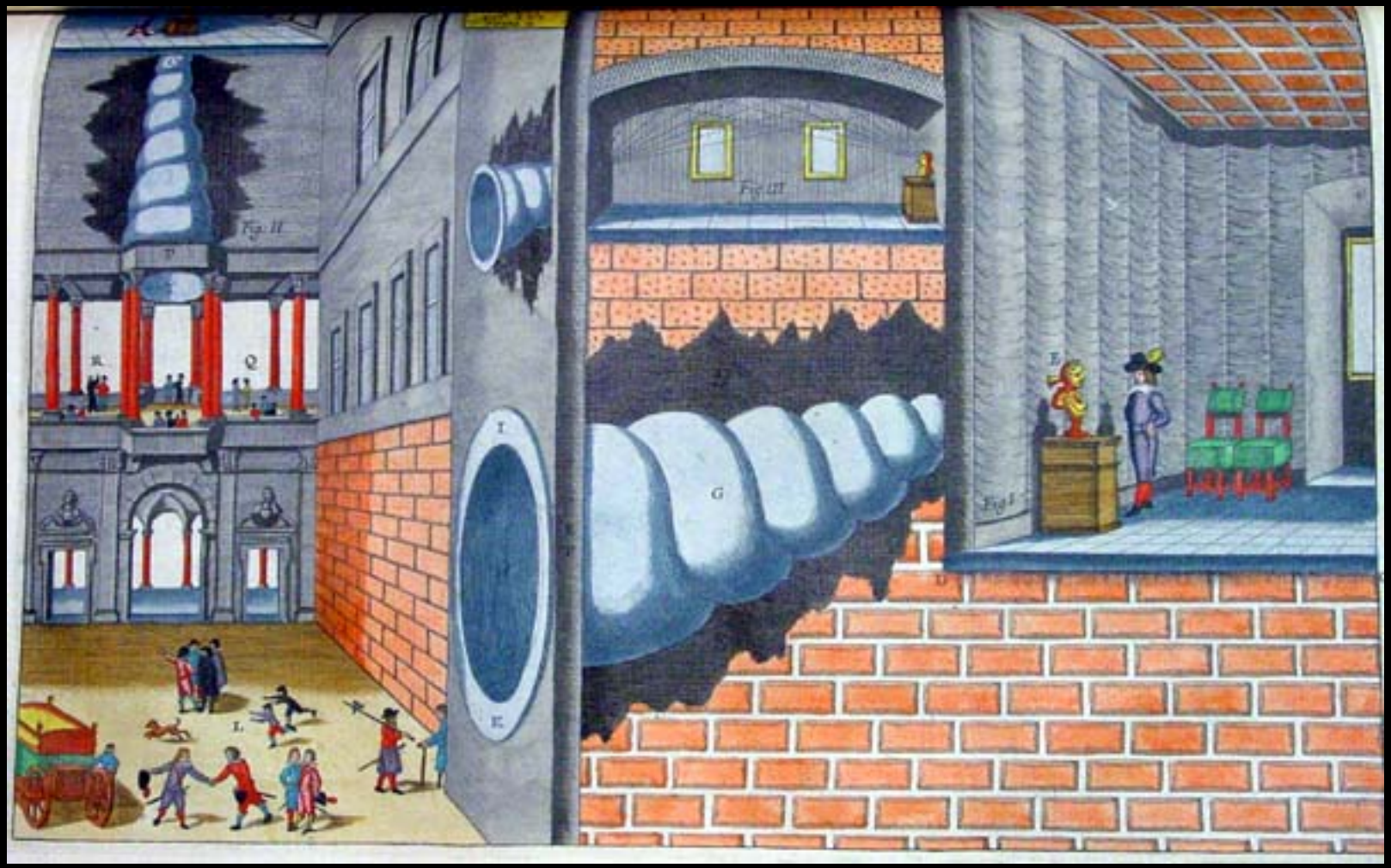
oh btw, this is not new



("piazza-listening device" by Athanasius Kirchner, 1650)