the role of mobile computing in daily life

Alcatel-Lucent Bell Labs
September 2010

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“mobile devices”

human needs

conversation and all that

coordination vs. collaboration

“shared whitespace”

appendices

“mobile device” <> mobility + device

always-on + internet-connected = extension of the nervous system

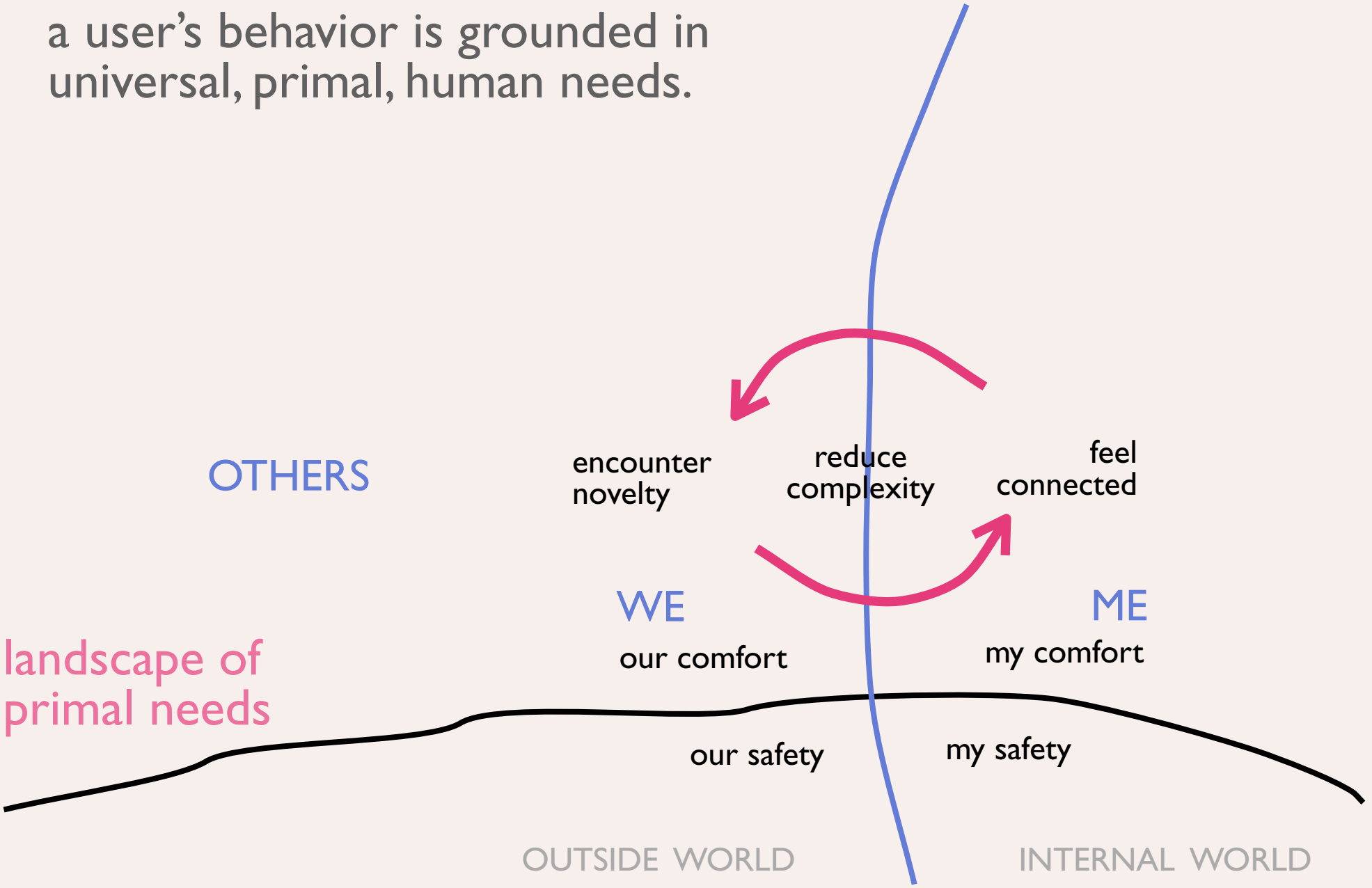
nervous system = lowering uncertainty while achieving human needs

human needs = safety + comfort + simplicity + connection + novelty

“mobile device” = my self

human needs

a user's behavior is grounded in universal, primal, human needs.



a user's behavior is grounded in universal, primal, human needs.

encounter novelty

when capacity is available: seek "the new" and be open to adventure that offers delight, wonder, excitement

feel connected

on-going: reach out and respond to others—create, share, and consume objects that increase trust and contributes to well-being

reduce complexity

on-going: simplify or reduce expenditure of physical, emotional, and mental effort—collaborate and plan smarter, achieve balance

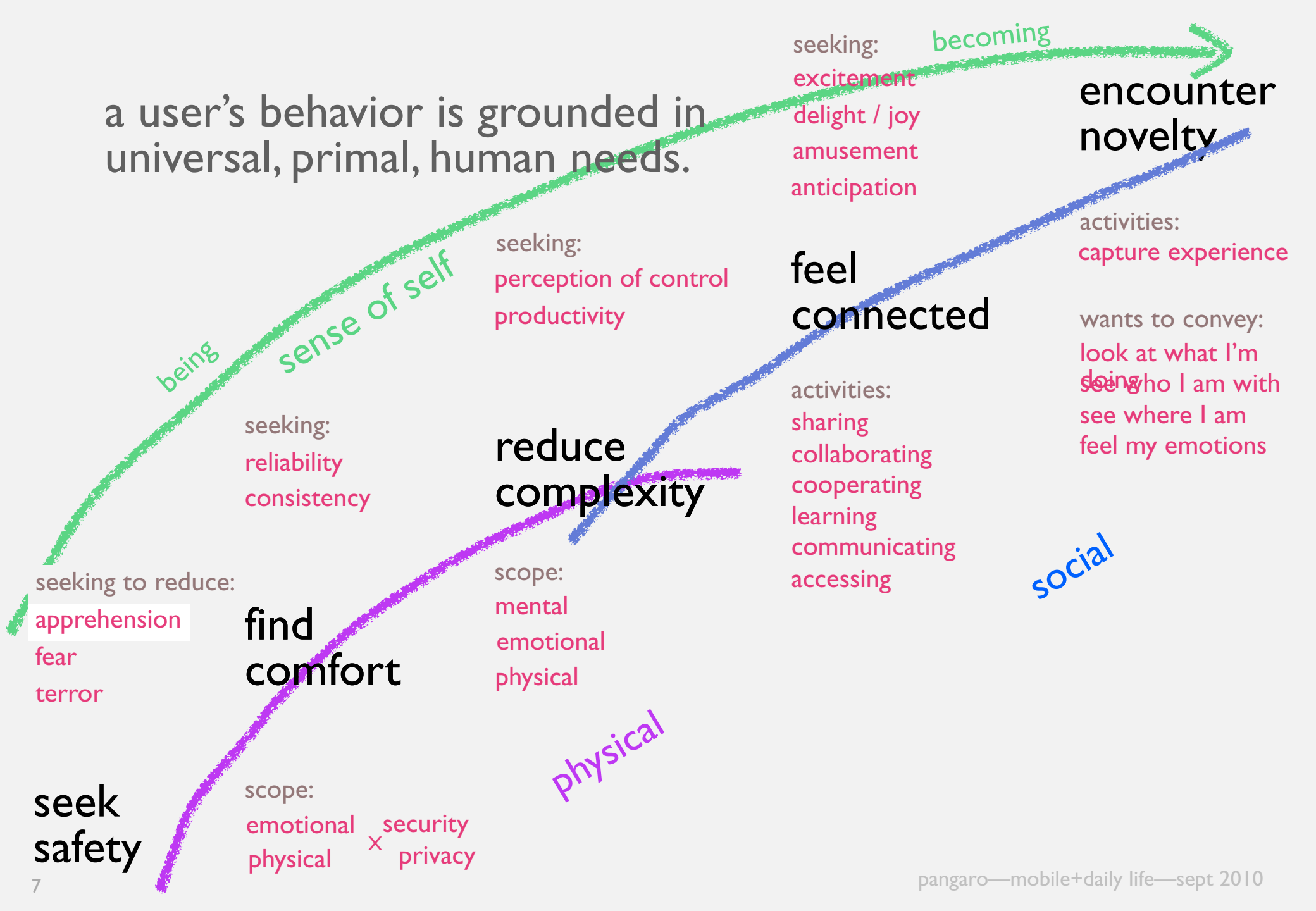
find comfort

less urgent but still primary: reduce apprehension and increase physical and emotional well-being

seek safety

most urgent: reduce fear of urgent risks to physical and emotional security—increase privacy

a user's behavior is grounded in universal, primal, human needs.



conversation and all that

communication vs. conversation

	communication	conversation
theory	information theory	conversation theory
focus	reliability of channel	reliability of understanding
atom	message	distinction
molecule	message repertoire	coherence
objective metric	correctness of message	degree of agreement
strength	disambiguating	learning
limitation	not about new messages	takes effort to quantify

role of conversation

language and conversation co-arise

conversation may lead to agreement

agreement may lead to action or transaction

action repeated over time leads to relationship

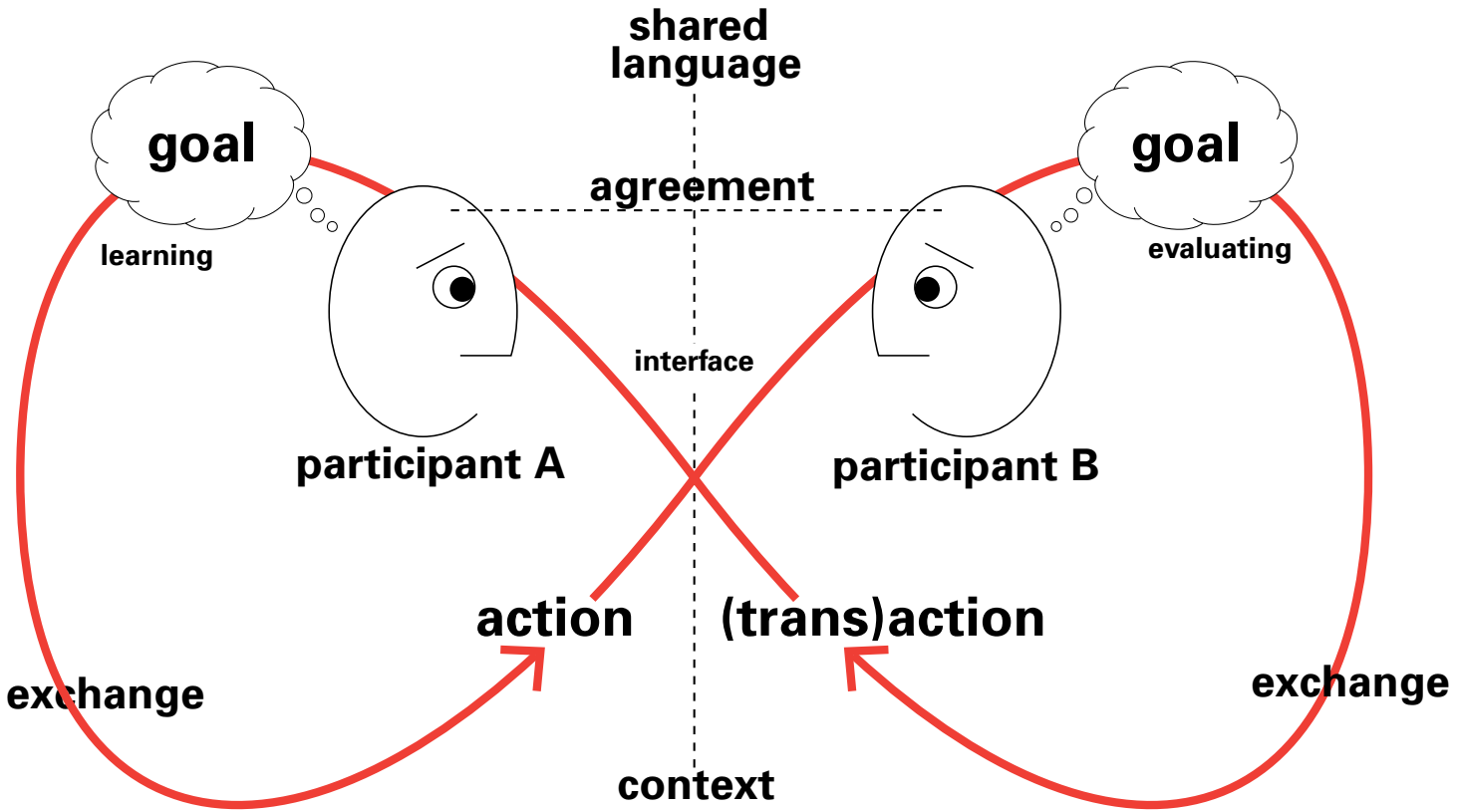
relationship maintained over time leads to trust

trust lowers the social cost of interactions

lowered social cost leads to efficient society

efficient society can better fulfill human needs and desires

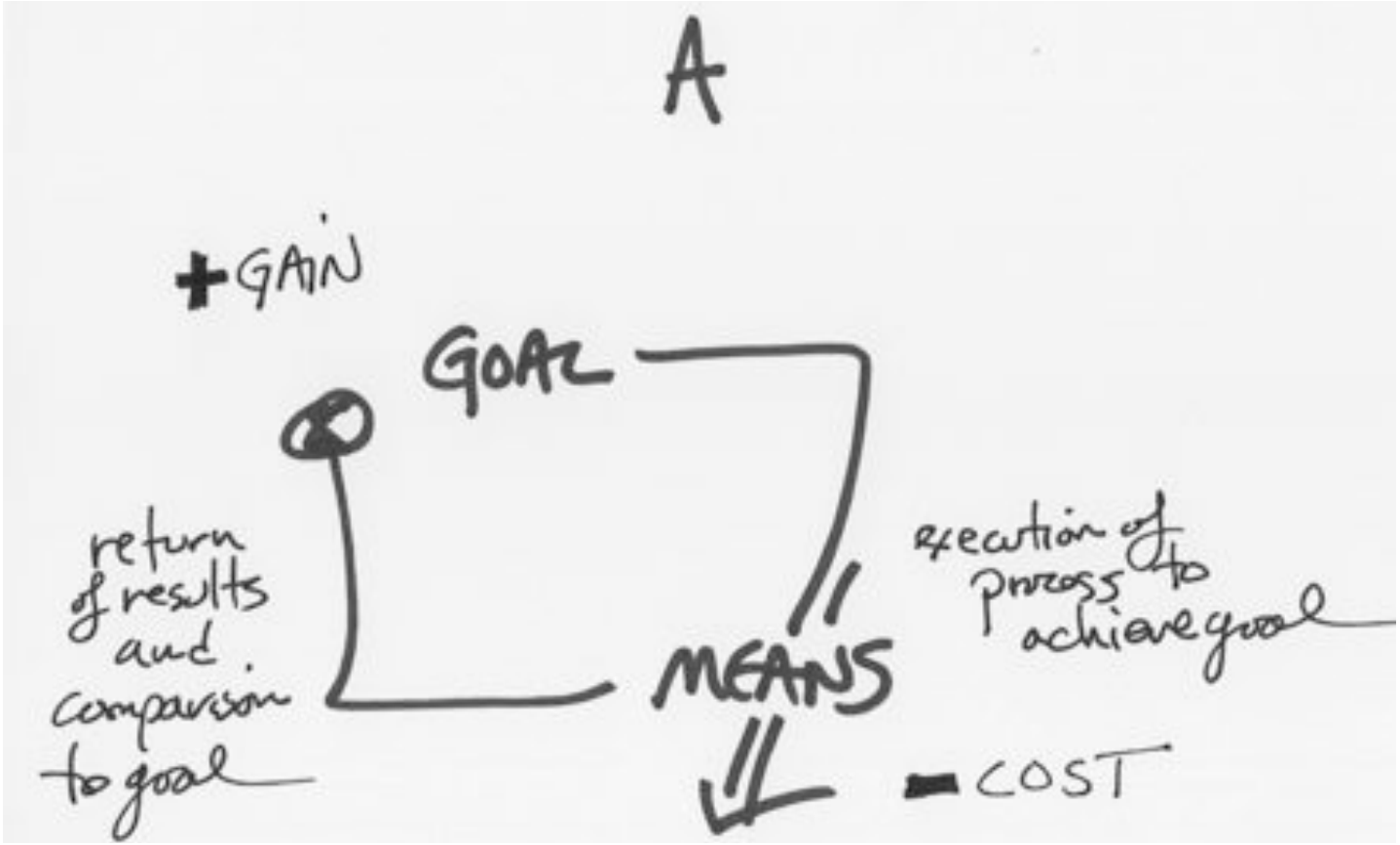
elements of conversation




BEING HUMAN
living together
requires
leads to / reinforces
provides feedback for
CONVERSING
participating P2P
in language
is the means for
leads to new ideas for
GOAL-MAKING and PLANNING
may include strategies for
INCREASING CHOICES
· adding variety
· staying open
SIMPLIFYING
· lowering BIO-COST
· increasing efficiencies
ACTING in the WORLD
lead to
saves resources needed for

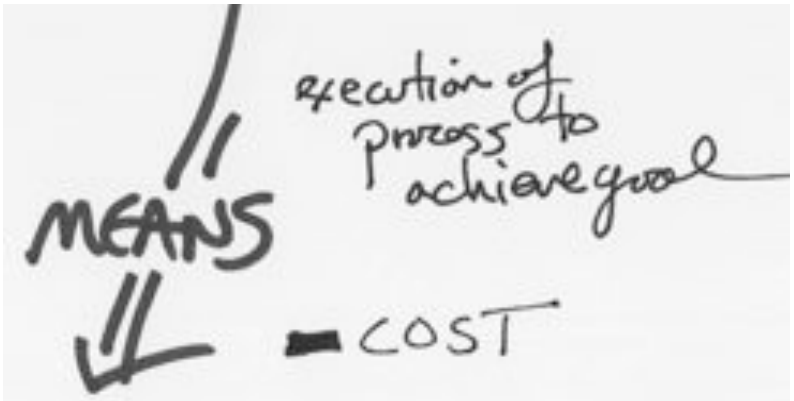
coordination vs collaboration

gain vs. cost in achieving a goal

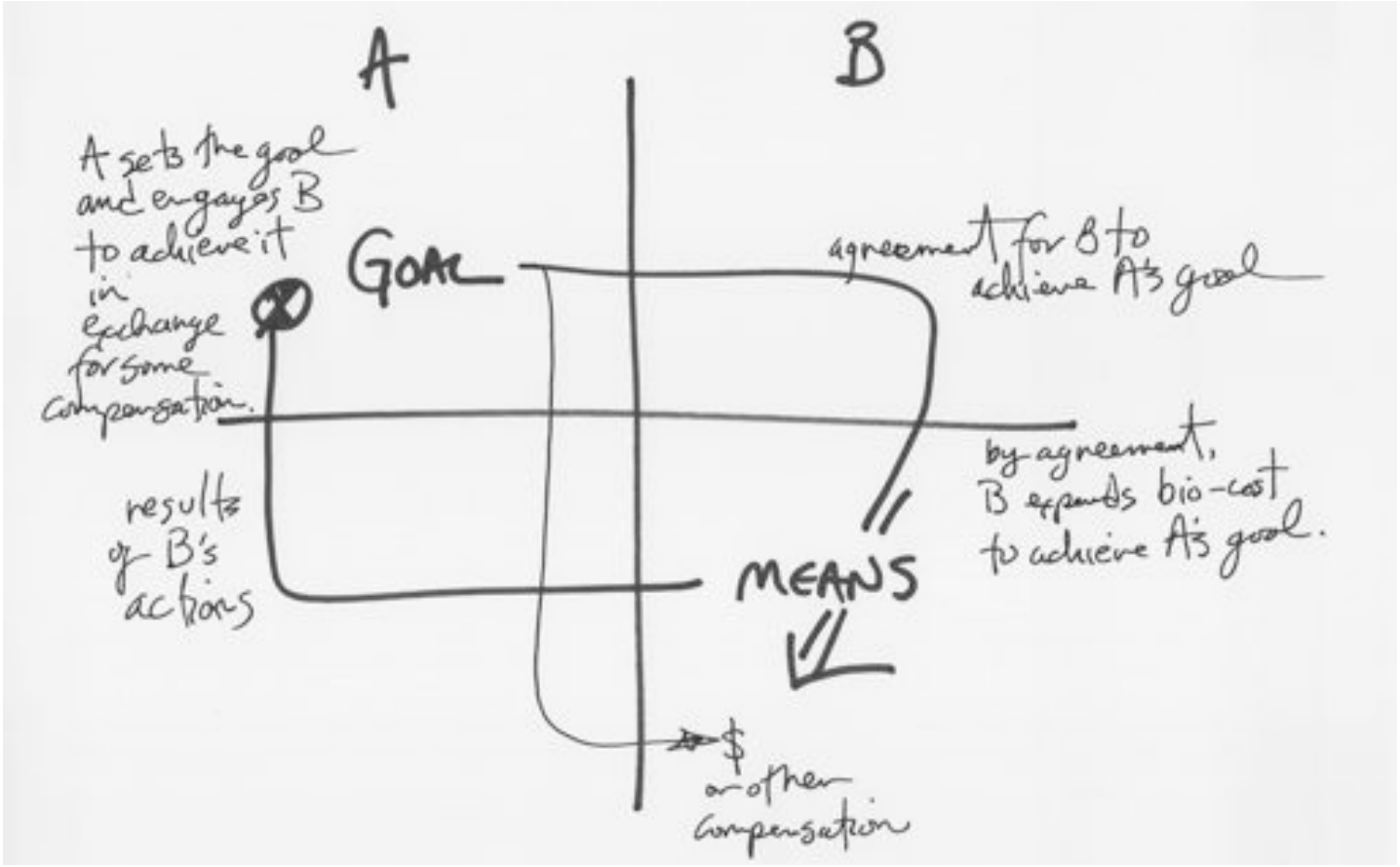


cost(s) in achieving a goal

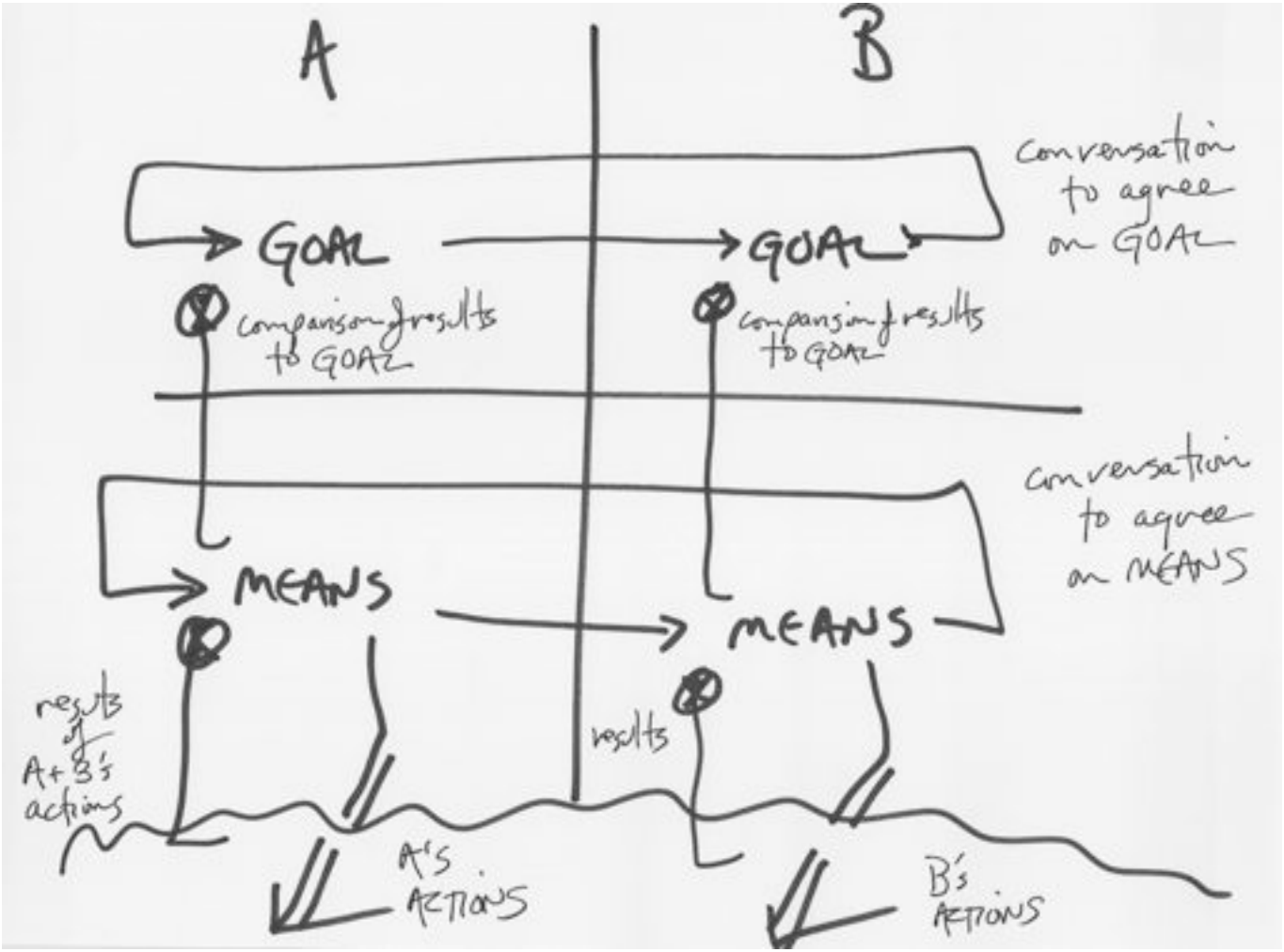
- money
- barter
- "bio-cost"
  - energy
  - time
  - attention
  - stress



coordination for a given goal



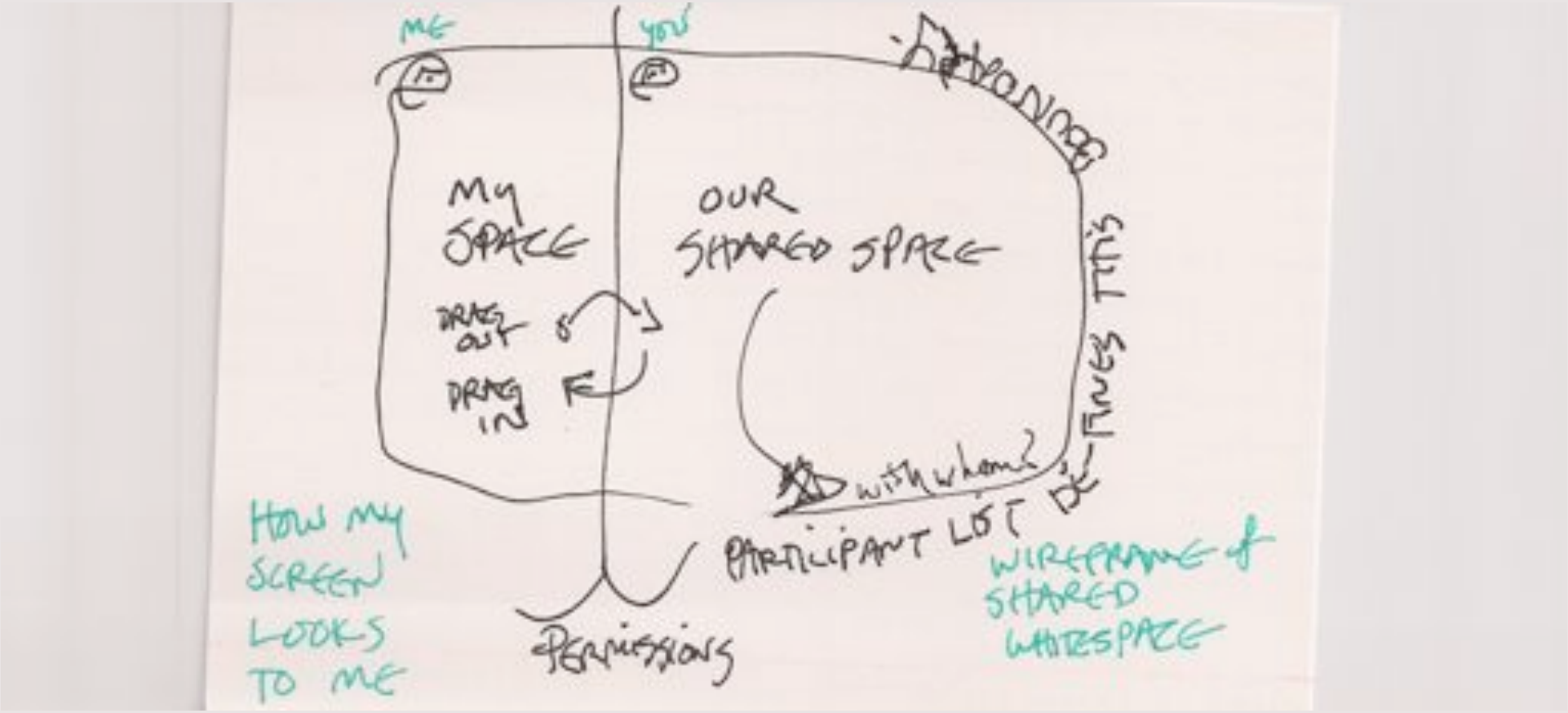
collaboration on goals (and means)

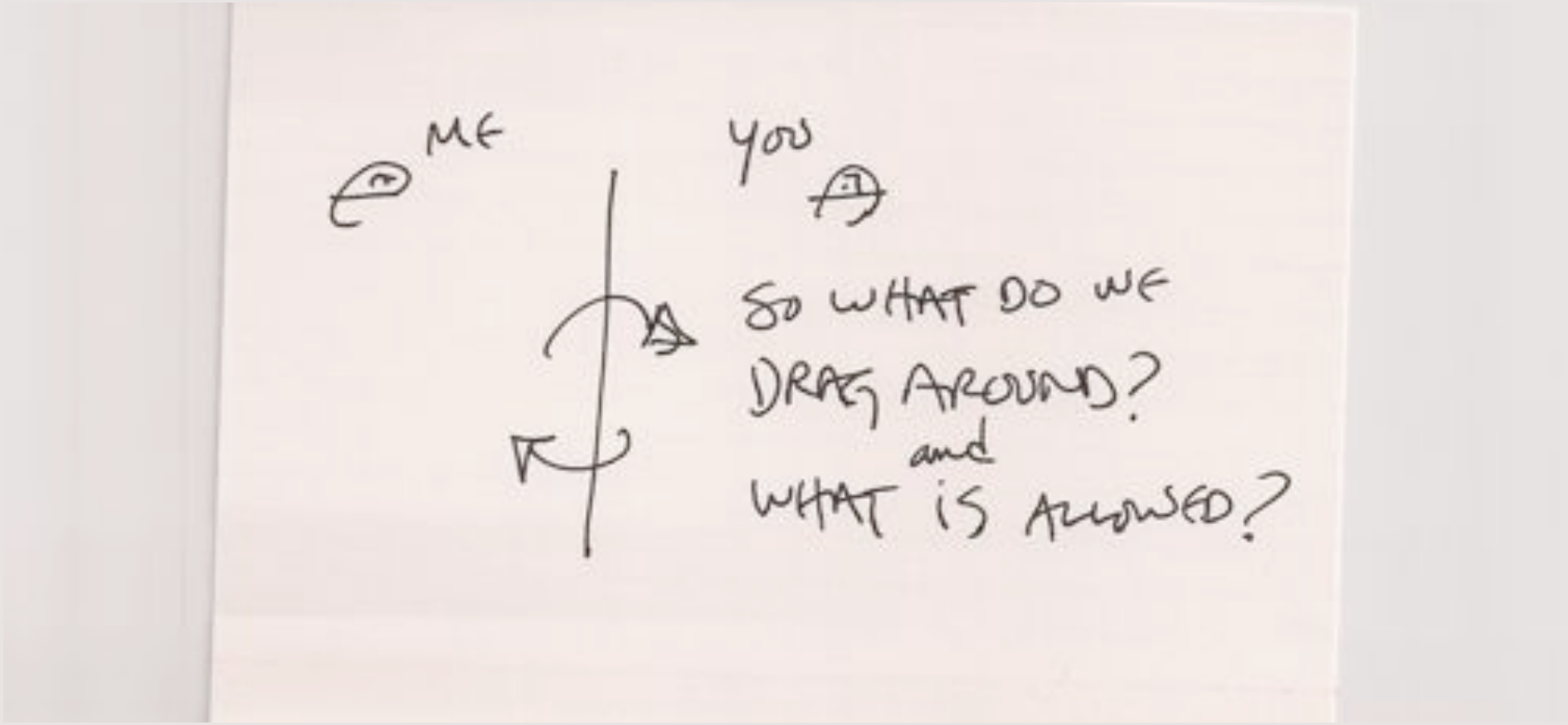


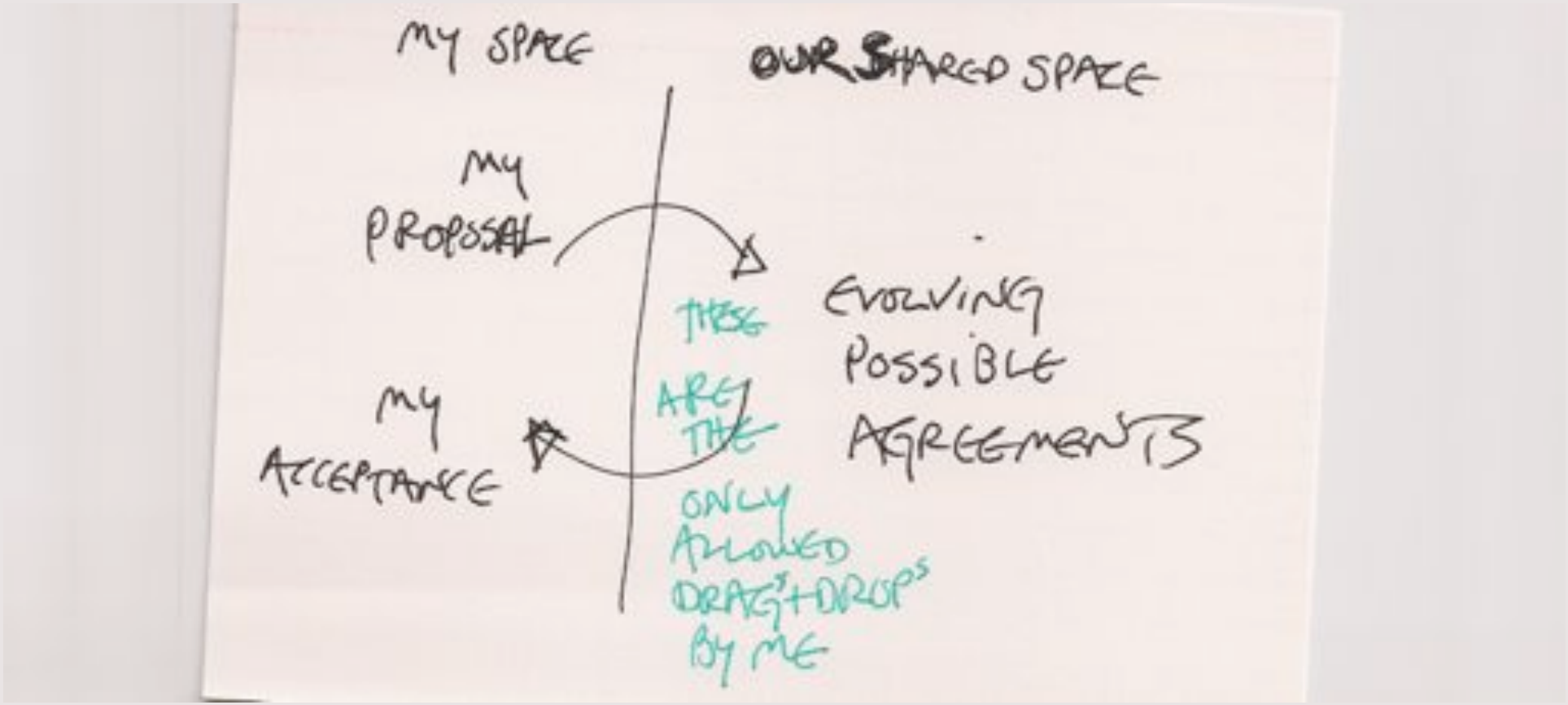
“shared whitespace”

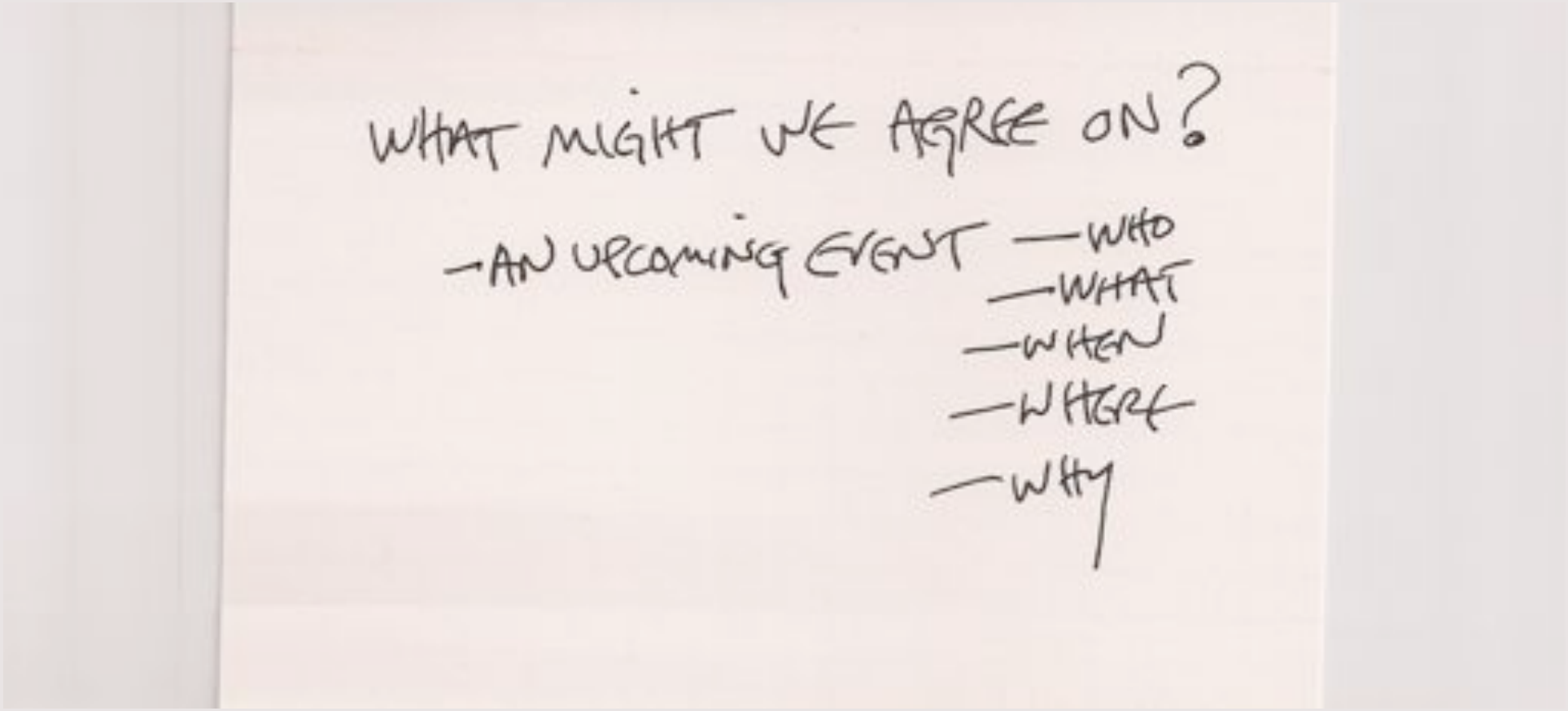

SHARED WAITSPACE


DESIGN OF
INTERACTION for
CONVERSATION
A SPECIFICATION DOCUMENT


ME
YOU
MY SPACE
OUR SHARED SPACE
DRAG OUT
DRAG IN
WITH WHOM?
PARTICIPANT LIST
DELETES THIS
HOW MY SCREEN LOOKS TO ME
PERMISSIONS
WIREFRAME of SHARED WHITESPACE

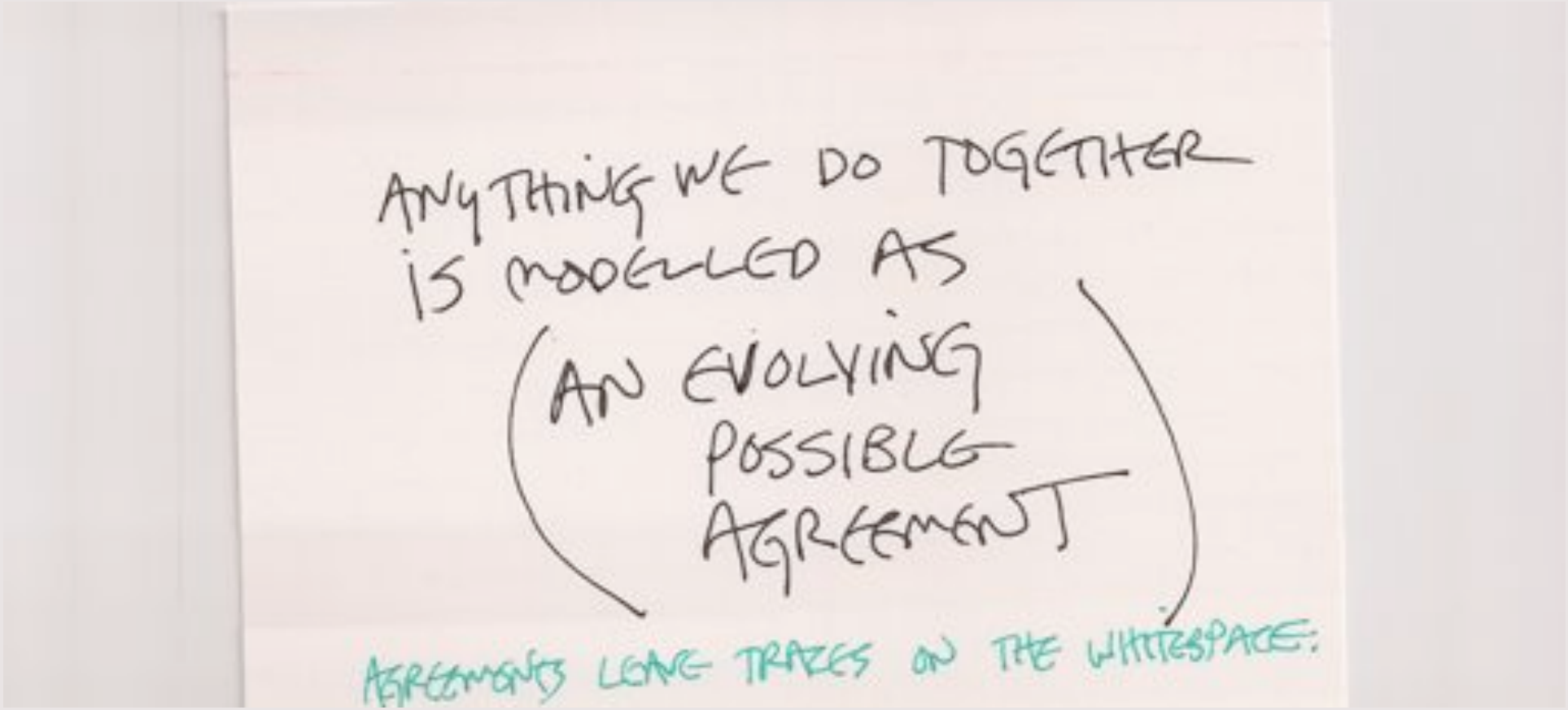

ME
YOU
SO WHAT DO WE DRAG AROUND?
and
WHAT IS ALLOWED?

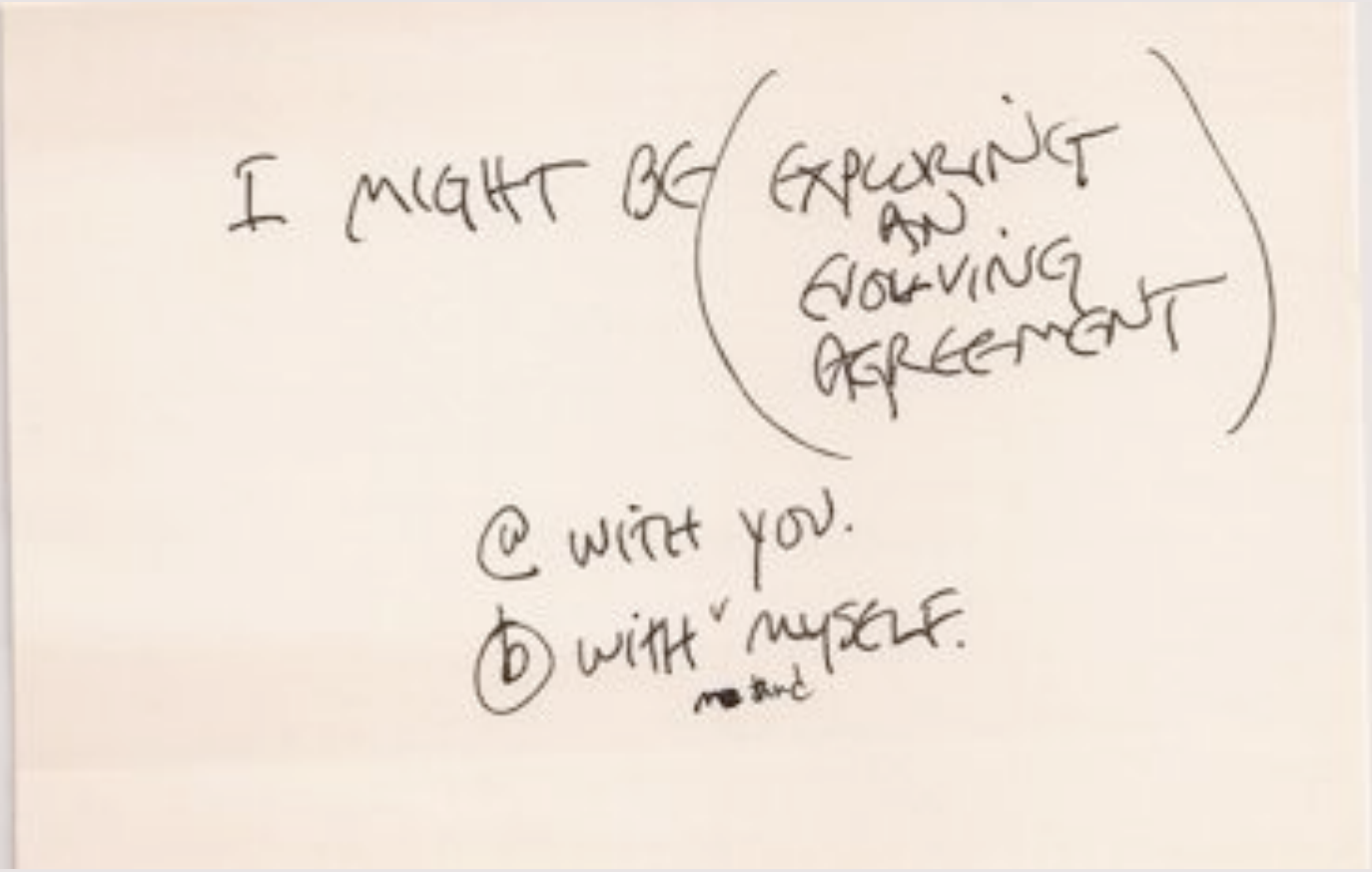

MY SPACE
OUR SHARED SPACE
MY PROPOSAL
MY ACCEPTANCE
THESE ARE THE ONLY ALLOWED DRAG+DROPS BY ME
EVOLVING POSSIBLE AGREEMENTS

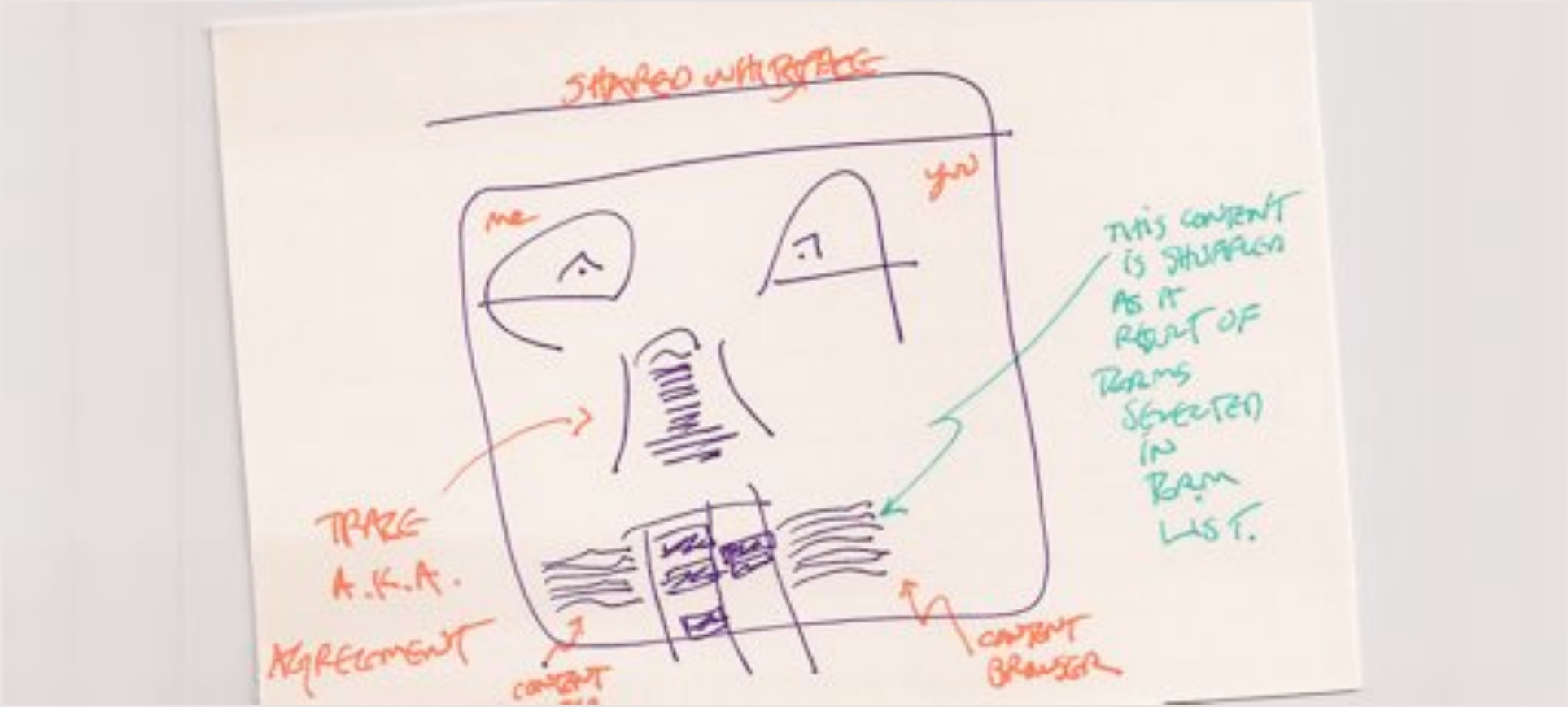

WHAT MIGHT WE AGREE ON?
-AN UPCOMING EVENT
—WHO
—WHAT
—WHEN
—WHERE
—WHY

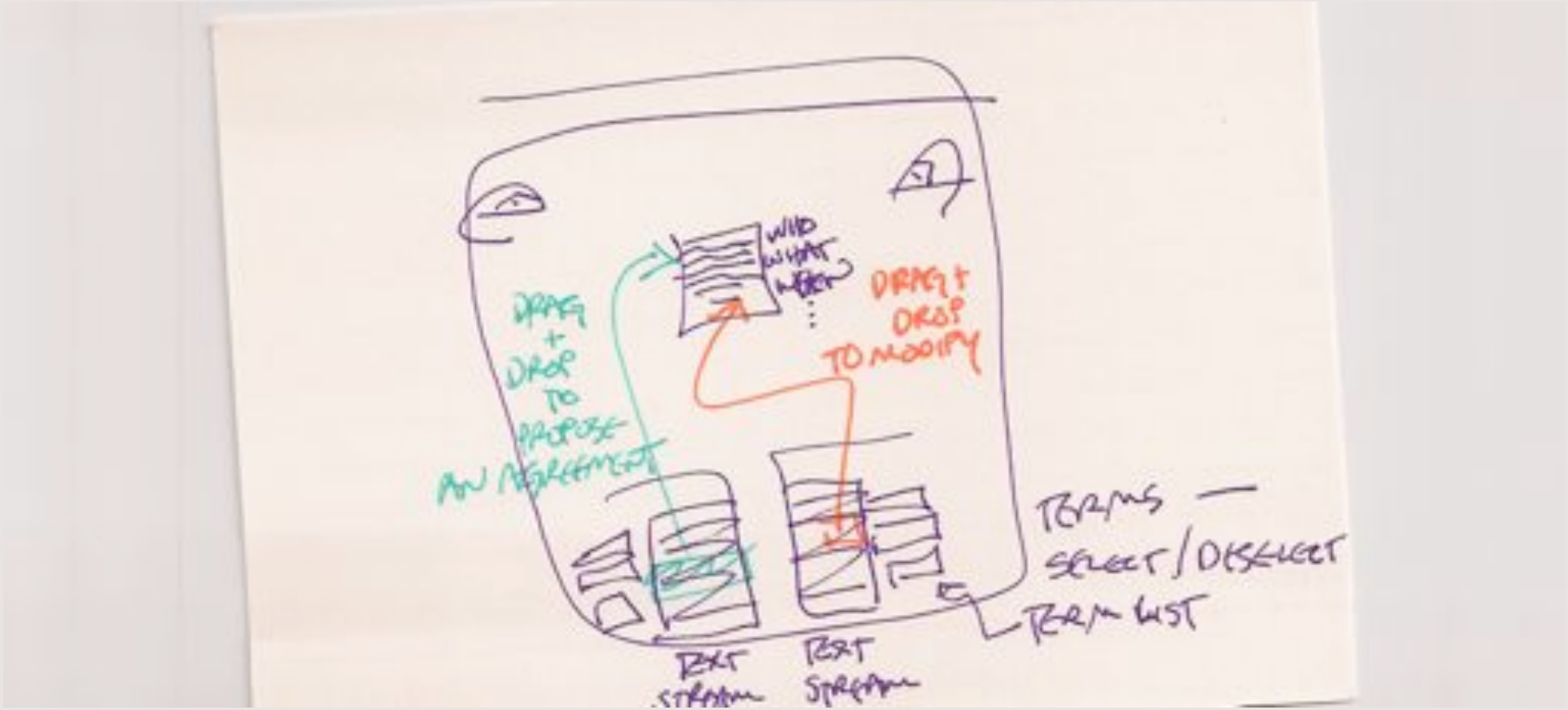
WE MIGHT ALSO AGREE
TO DO* SOMETHING
TOGETHER

* WORK TOGETHER ON A PROJECT
* BE FRIENDS
* SHARE MUSIC
* BEYOND MEETING / COLLABORATING


ANYTHING WE DO TOGETHER
IS MODELLED AS
AN EVOLVING
POSSIBLE
AGREEMENT
AGREEMENTS LEAVE TRACES ON THE WHITESPACE.


I MIGHT BE (EXPLORING AN EVOLVING AGREEMENT)
@ WITH YOU.
(b) WITH MYSELF.


me
you
THIS CONTENT IS SHUFFLED AS A RESULT OF TERMS SELECTED IN BAM LIST.
TRADE A.K.A. AGREEMENT
CONTENT
CONTENT BROWSER


DRAG + DROP TO PROPOSE AN AGREEMENT
DRAG + DROP TO MODIFY
TERMS — SELECT / DESELECT TERM LIST


SHARED WAITSPACE

thank you

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appendix

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designing for conversation

http://pangaro.com/designforconversation

CONVERSATION REDUX

I. **context**

II. **language**

III. **exchange**

IV. **agreement**

V. **transaction**

context—**l**anguage—**e**xchange—**a**greement—**t**ransaction

cleat = **conversational traction**

taquet

1. invest in understanding conversation

- **evaluate prior prototypes and versions in terms of conversation**
  - **for C-L-E-A-T, how could the conversations have been improved?**
- **look at each technology in terms of conversation**
  - **what does a given technology do better?**
  - **less well?**
- **think in terms of conversation when developing new campaigns**
  - **what's the goal?**
  - **what's the best technology for each aspect of the conversation?**

can we design directly to increase trust?

2. track trends, tools, and technologies

...that will change the quality of conversations in the next 5 years

- **beyond social networks**
- **beyond mobility**
- **context-awareness**
- **+++**

3. design for conversation

- embrace every user as a participant
- define specific goals for each exchange
  - for the group
  - for each individual participant
- create workflows where conversation leads design
  - context...
  - language...
  - exchange...
  - agreement...
  - transaction...

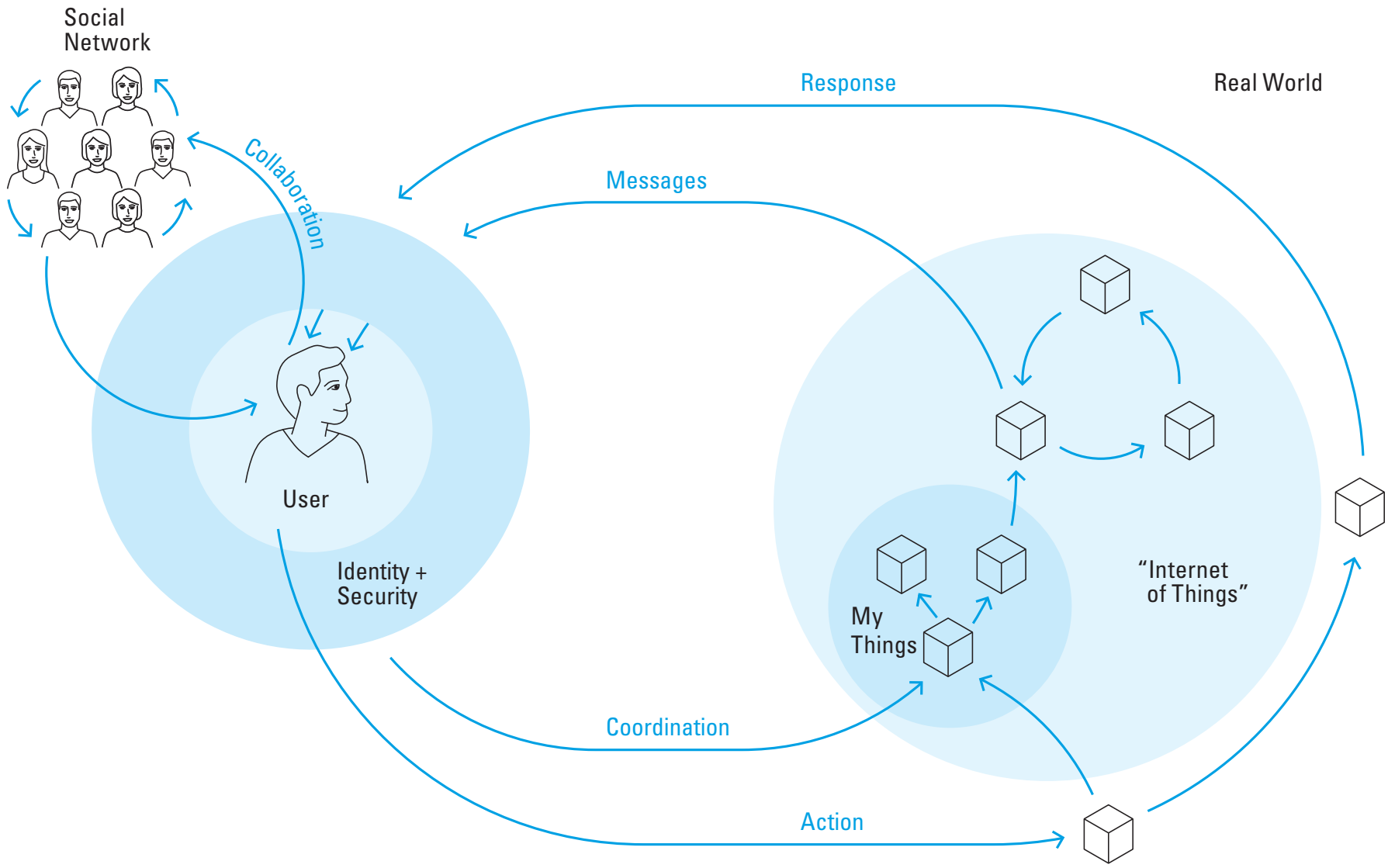
4. prototype the conversations you want

- **prototype conversations,**
  not features, products, services, web sites...
- **instill continuous sensing and testing as a process for**
  - **understanding the users, the market, the ecosystem**
  - **defining and delivering the offering**
  - **increasing satisfaction of the participants**

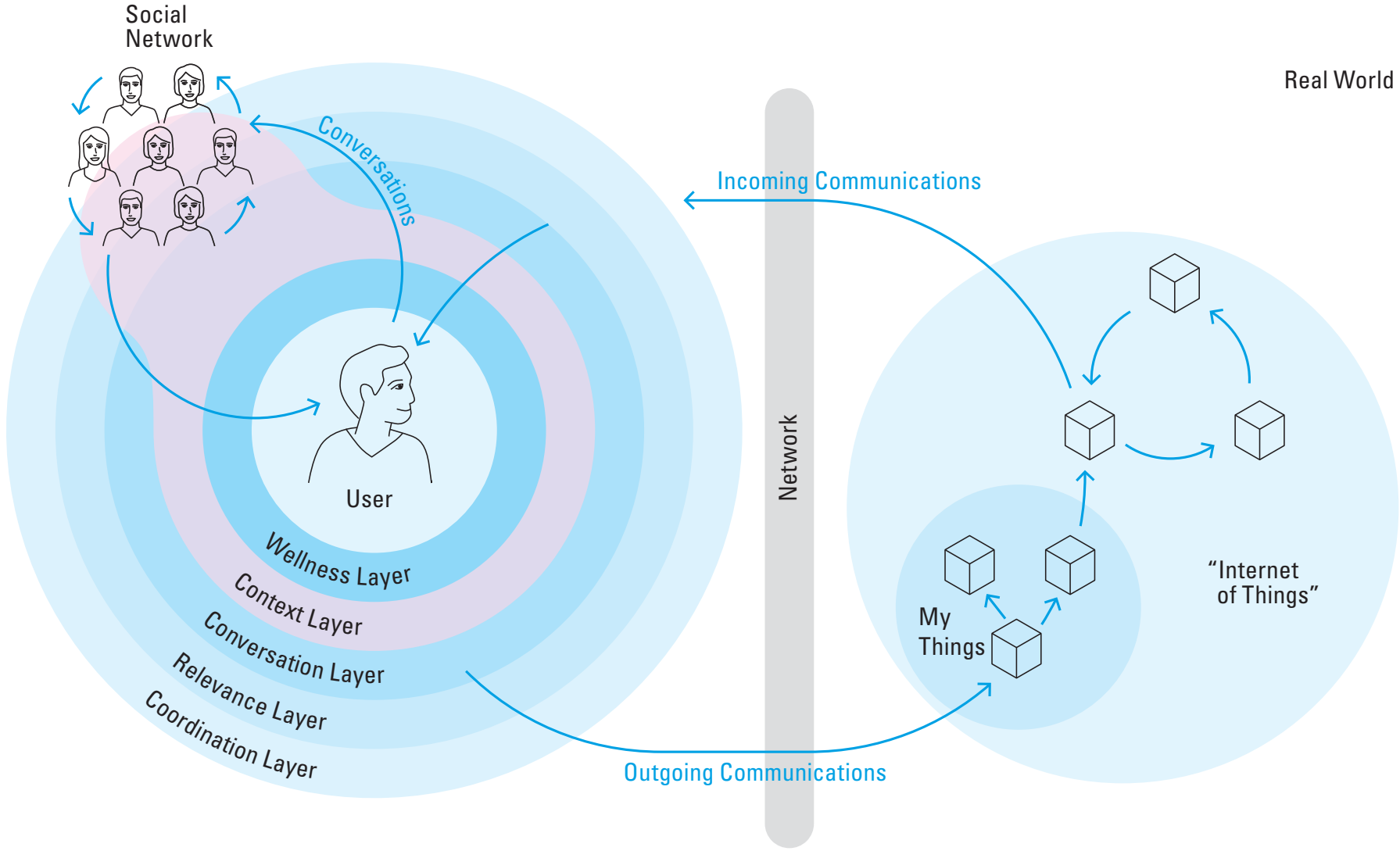
remember that productive conversation is iterative.
it requires trial-and-error. it gets more efficient over time.

layered services

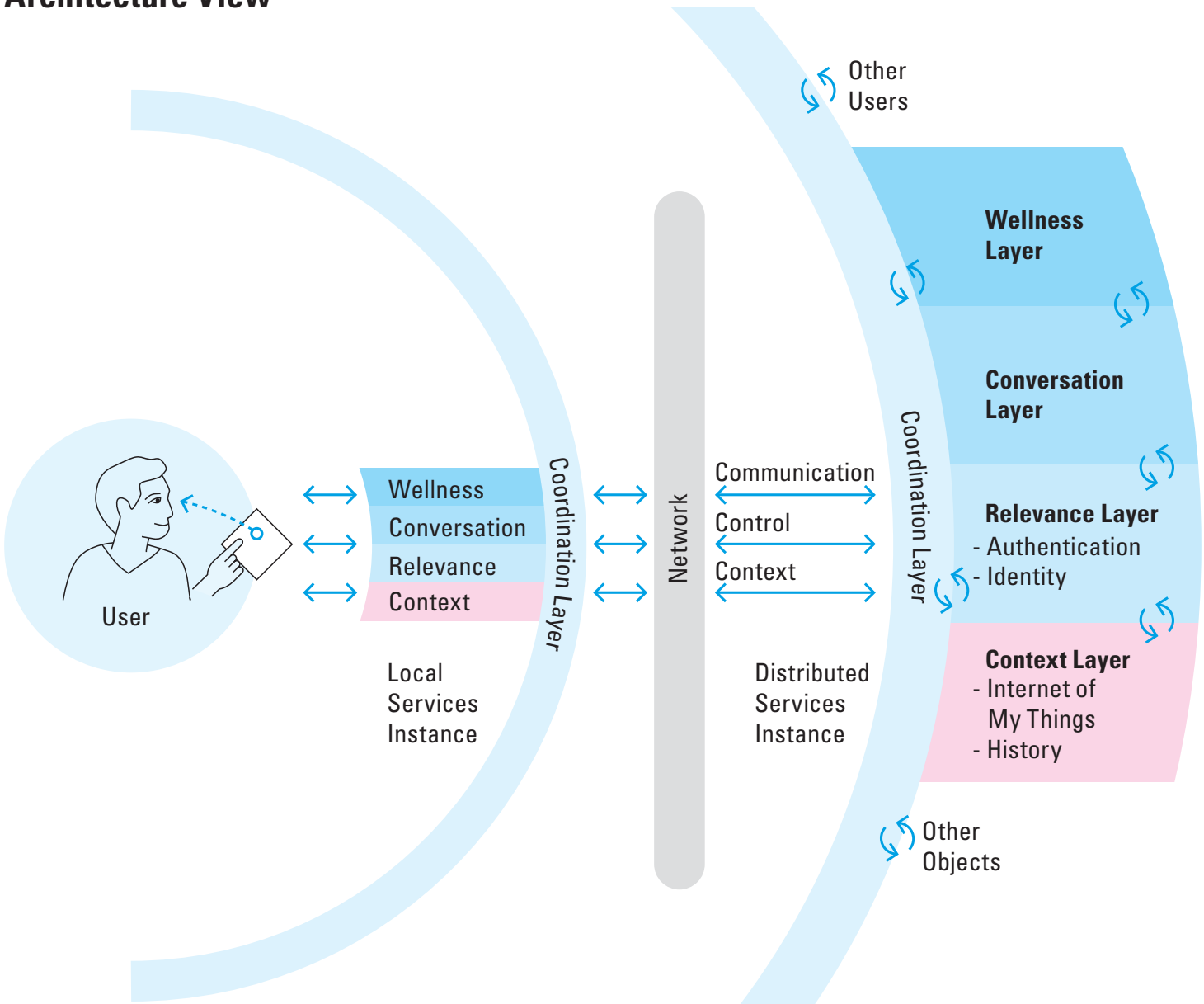
User View


Social
Network
Collaboration
Response
Real World
Messages
User
Identity +
Security
My
Things
"Internet
of Things"
Coordination
Action

Services View



Architecture View



Services "Social Cloud"	**Current State** discrete apps & functions	**Desired State** UX and API integration	**Pilot Projects** candidates for prototyping
context	• personal data + files • behavioral history • geo-location • social network connections	• "Internet of My Things" • "Internet of My Social Graph" • content engagement history • event engagement history • current situation assessment	• implement a shared data schema to operate across all services, apps, and devices + populate with user data • extract predictive patterns for recommendations on per-user basis
relevance	• authentication + security • auto-login • recommendations	• fractal identity services • proximity metrics • recommendation management	• develop UX for fractal identity management • determine best industry model of federated identity • combine UX and identity model + validate
conversation	• email • text • voice • video • content sharing (e.g., Flickr) • social networks (e.g., Facebook) • real-time notifications (e.g., twitter)	• filtering and aggregation • comprehension management: calculating cognitive uncertainty for delivering the right piece of information for the current user in context [9] • story management: consumption, creation, and enhancement of narratives • capturing sharables, manipulation + management of all content	• design knowledge tracking schema + populate with user data • identify gaps, ensure data will be tracked in future • implement adaptive content interface based on user history, goal, and learning style • create interruption-based interaction model
wellness	• subscription to health information sites • tracking of a device that monitors some physiological state (running time and distance, effort expended, blood-level glucose...)	• multiple dimensions of environmental and body sensors • body-area networks + real-time alerts • goal setting and tracking • connection to health-care practitioners • epidemiological tracking	• build integrated platforms for data fusion and unified UI across disparate systems (multiple doctors, patients, family members, etc.) • support conversations in pursuit of health + wellness • incorporate techniques to enable behavior change • evaluate keystone partnerships or acquisitions
coordination	• alarms + calendars • email + message handling • entity extraction • maps	• situation management • event planning + re-planning • agreement management	• develop UX for controlling situation flow • use situational model to harness improving situations as driver of user motivation