Conversation is more than Interface

IXDA New York 2017

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http://pangaro.com/ixda2017.html

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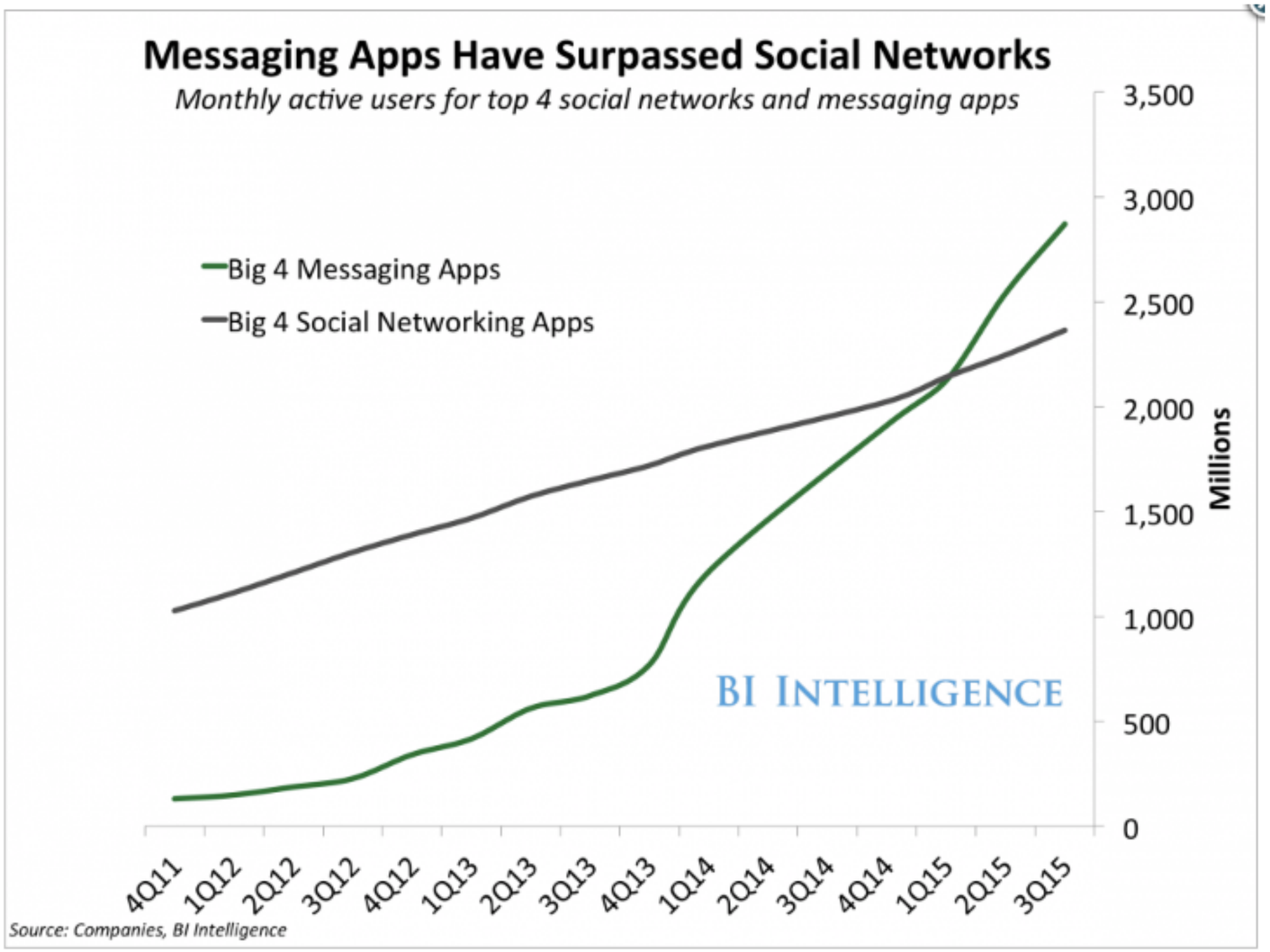
What is interaction?
What is interaction design?

MFA Interaction Design Program

PAUL PANGARO

Conversation is more than Interface

Conversation is more than Interface…isn’t it?


Messaging Apps Have Surpassed Social Networks
Monthly active users for top 4 social networks and messaging apps
Big 4 Messaging Apps
Big 4 Social Networking Apps
BI INTELLIGENCE
3,500
3,000
2,500
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500
0
Millions
4Q11
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3Q15
Source: Companies, BI Intelligence

JAN 26, 2017 @ 01:22 PM 1,856 VIEWS

The Little Black Book of Billionaire Secrets

Alexa, Google, Siri, Cortana: 24.5M Voice-first Devices Will Ship This Year

John Koetsier, CONTRIBUTOR

Journalist. Analyst. Futurist. Dreamer. FULL BIO

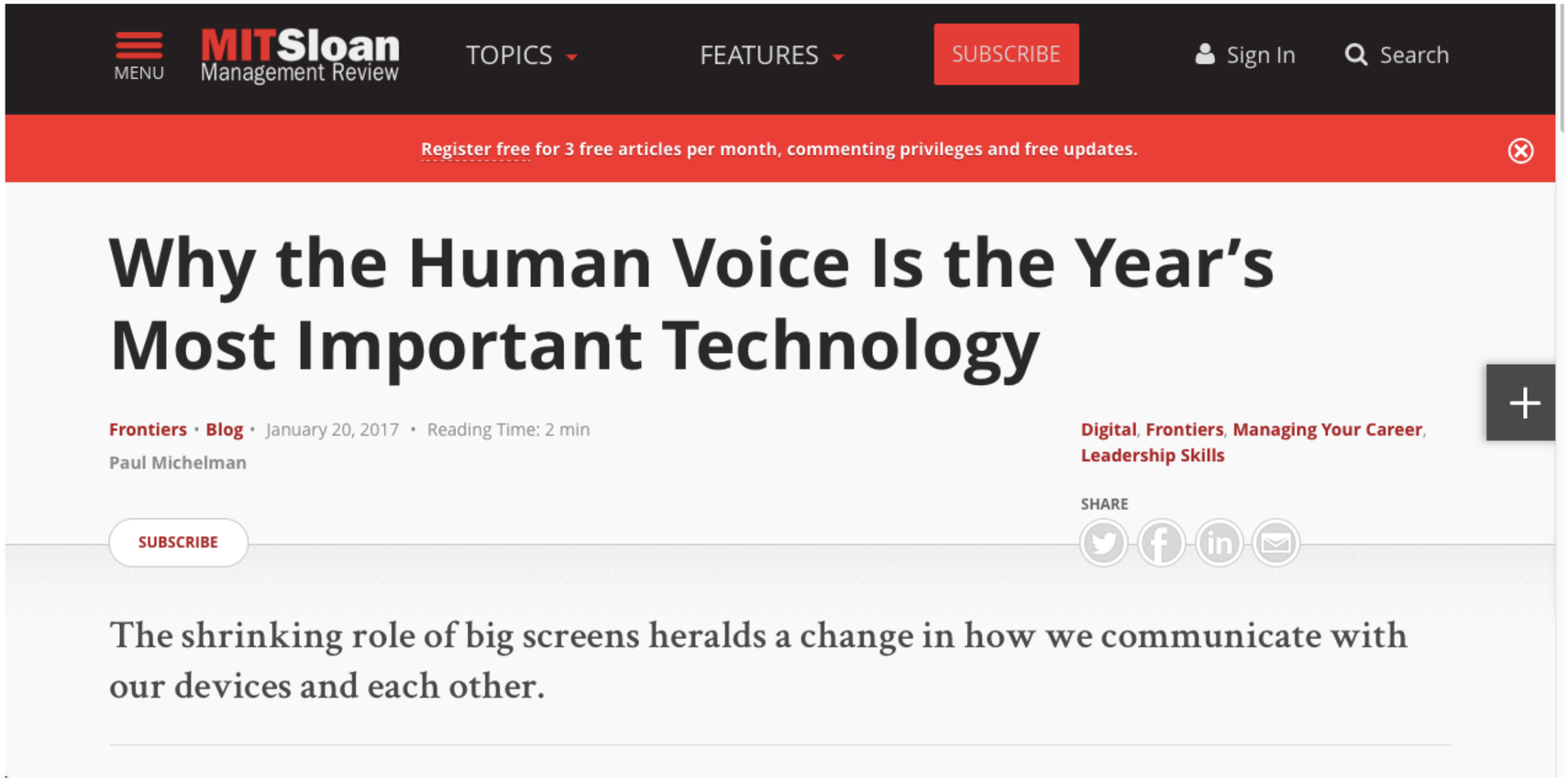
Opinions expressed by Forbes Contributors are their own.

Amazon Echo. (Credit: AP Photo/Mark Lennihan)

We are entering the age of the CUI, the conversational user interface. Already, there are 8.2 million voice-first devices in homes, mostly Amazon Echos.

Amazon Echo. (Credit: AP Photo/Mark Lennihan)

We are entering the age of the CUI, the conversational user interface. Already, there are 8.2 million voice-first devices in homes, mostly Amazon Echos.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Frontiers • Blog • January 20, 2017 • Reading Time: 2 min
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Digital, Frontiers, Managing Your Career, Leadership Skills
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The shrinking role of big screens heralds a change in how we communicate with our devices and each other.

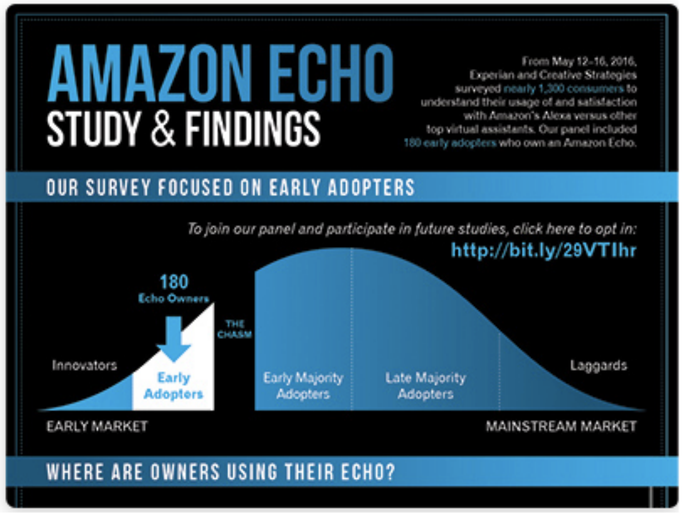
experian. Categories Industries Authors

Commerce is a conversation: Survey on Amazon Echo and Voice Assistants

September 14, 2016 by Cherian Abraham

Smartphones offer brands a ubiquitous, continuous and contextual delivery channel, and yet it requires us all to learn a new language of taps and swipes to navigate through apps. Often this poses more complexity that manifests in friction for the consumer who must wade through a series of screens to have a question answered. Messaging and conversational interfaces offer the possibility of a clean and simple user experience without having to learn a new syntax.

It is that ease of use and the resulting utility of a conversational interface in controlling and automating mundane tasks that have manifested itself in the popularity of Amazon Echo.

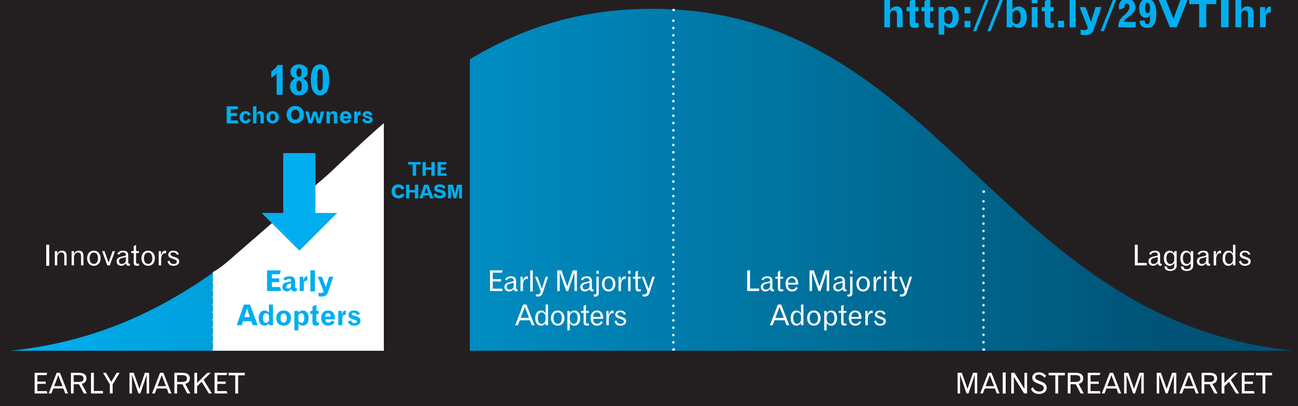


AMAZON ECHO
STUDY & FINDINGS

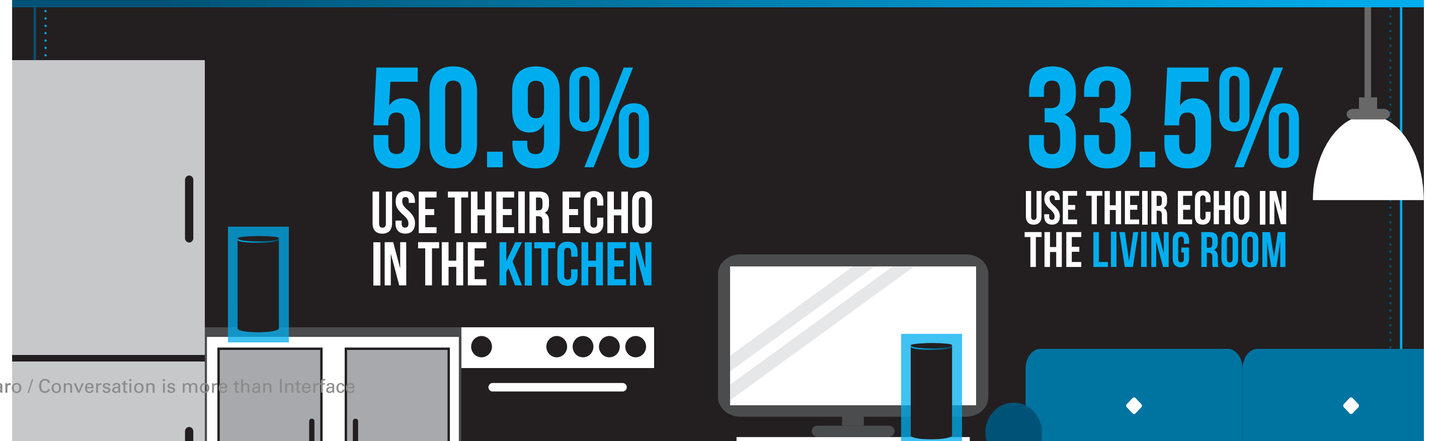
From May 12–16, 2016, Experian and Creative Strategies surveyed nearly 1,300 consumers to understand their usage of and satisfaction with Amazon's Alexa versus other top virtual assistants. Our panel included 180 early adopters who own an Amazon Echo.

OUR SURVEY FOCUSED ON EARLY ADOPTERS

To join our panel and participate in future studies, click here to opt in:
http://bit.ly/29VTIhr



WHERE ARE OWNERS USING THEIR ECHO?



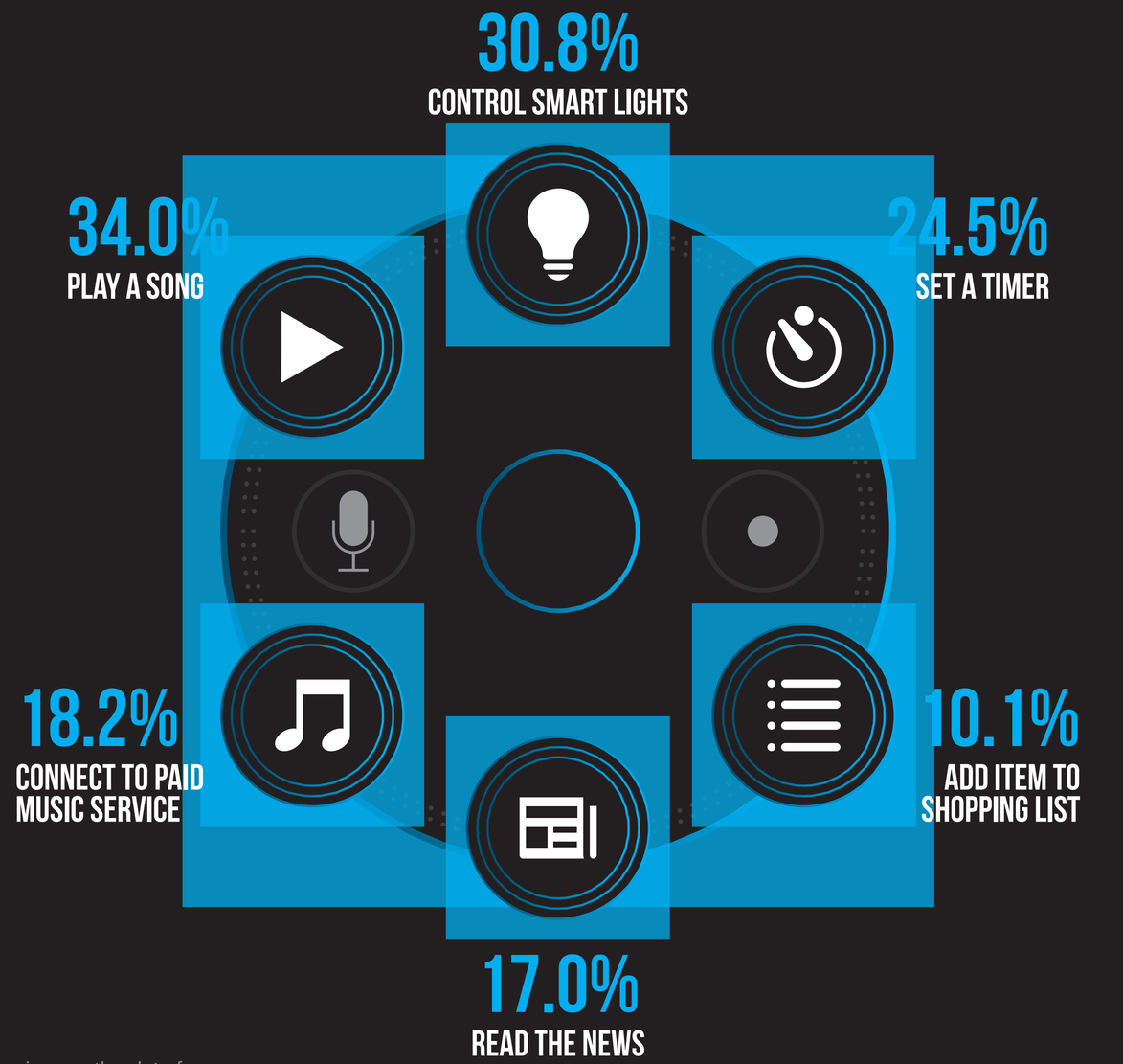
50.9% USE THEIR ECHO IN THE KITCHEN

33.5% USE THEIR ECHO IN THE LIVING ROOM

WHAT TASKS ARE ECHO OWNERS REPEATING MOST OFTEN?

EMERGING ECHO HABITS

Tasks owners are repeating most often



"I AM USING IT LESS." "MY USAGE IS ABOUT THE SAME" "I AM USING IT MORE."

WHAT DO ECHO OWNERS SHOP FOR MOST OFTEN ON AMAZON PRIME?

Nearly 96% of Echo owners in our survey use the Amazon Prime service; yet only 32.1% have asked Alexa to purchase an item at least once. However, this percentage is likely to increase over time given that 39.0% of respondents are increasing their Echo usage and becoming more comfortable using their voices to shop.

To get a sense of what Echo owners are likely to ask Alexa to buy in the future, we asked which product categories they most often buy on Amazon Prime today via any channel (e.g. Amazon app, online, asking Alexa or otherwise).

31.1% HOUSEHOLD ITEMS
Detergent, paper towels, etc.

26.4% HEALTH & PERSONAL CARE
Razors, shaving cream, etc.

18.9% BABY PRODUCTS
Diapers, wipes, etc.

14.9% PET PRODUCTS
Pet food, treats, etc.

10.1% BEAUTY PRODUCTS
Skin creams, lotion, etc.

10.1% BEVERAGES & SNACKS
Snacks, coffee, water, etc.

Based on our research, Household Items and Health & Personal Care are likely to be among the top Amazon Prime categories for future purchases using Alexa.

To join our panel and participate in future studies, click or scan below to opt in: ***http://bit.ly/29VTIhr***

Infographic by Sheryl Ong and @AaronSuplizio of Experian.
Special thanks to @cherian_abraham of Experian and @BenBajarin of Creative Strategies for their partnership in the creation and analysis of this survey.

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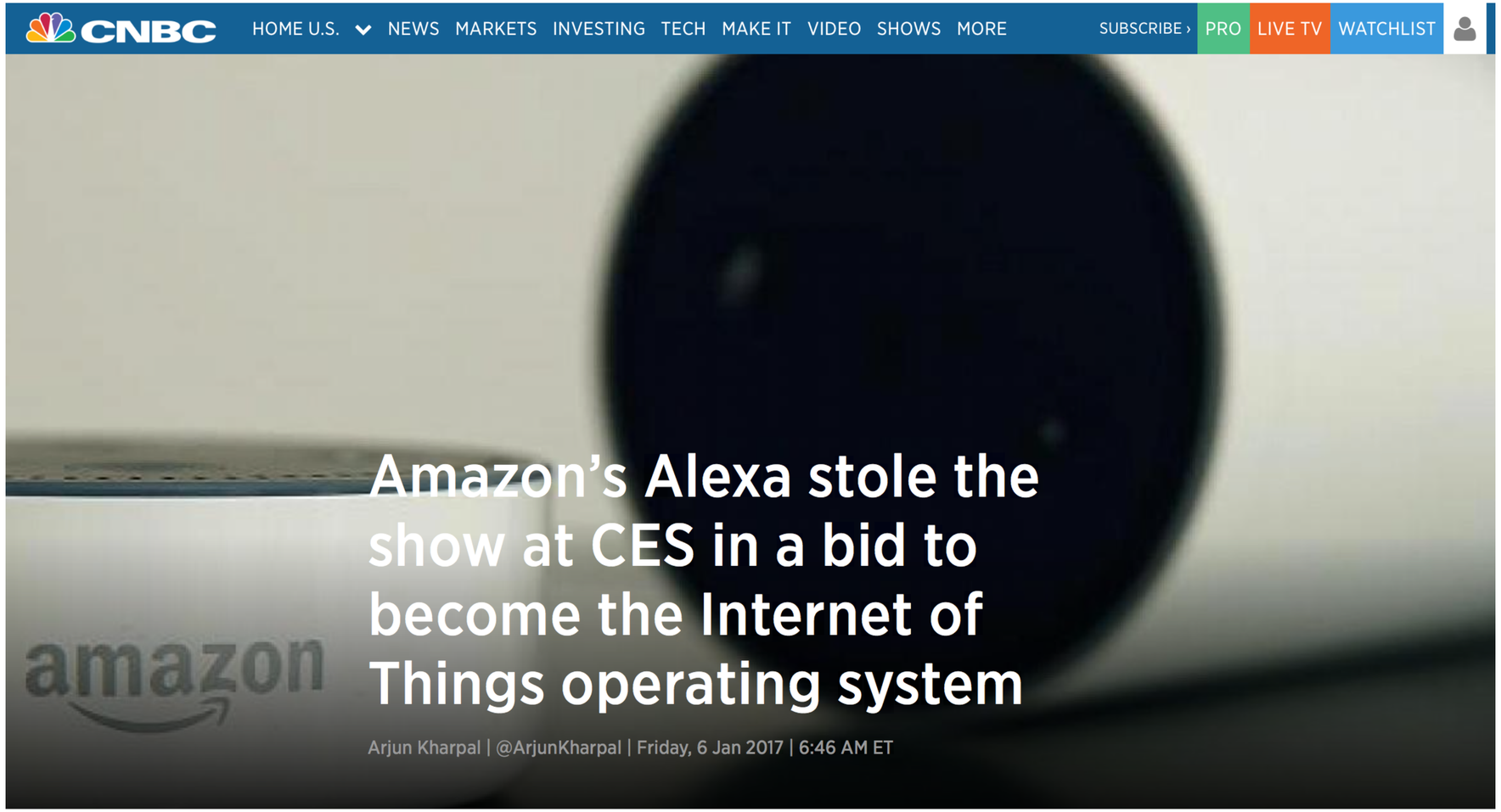
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amazon
Amazon’s Alexa stole the show at CES in a bid to become the Internet of Things operating system
Arjun Kharpal | @ArjunKharpal | Friday, 6 Jan 2017 | 6:46 AM ET

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AMAZON GOOGLE

Alexa and Google Assistant have a problem: People aren't sticking with voice apps they try

Discovery and retention issues are both challenge and opportunity.

BY JASON DEL REY | @DELREY | JAN 23, 2017, 6:00AM EST

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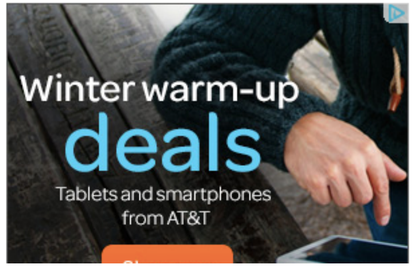

Gatebox - Virtual Home Robot [PV]_english
16°C
21°C
8°C
Oh, it may rain today.
Take your umbrella with you.
0:18 / 2:00

TECH \ AMAZON

TL;DR

You can finally say ‘Computer’ to your Echo to command it

Still can’t make Tea. Earl Grey. Hot.

by Dieter Bohn | @backlon | Jan 23, 2017, 7:42pm EST

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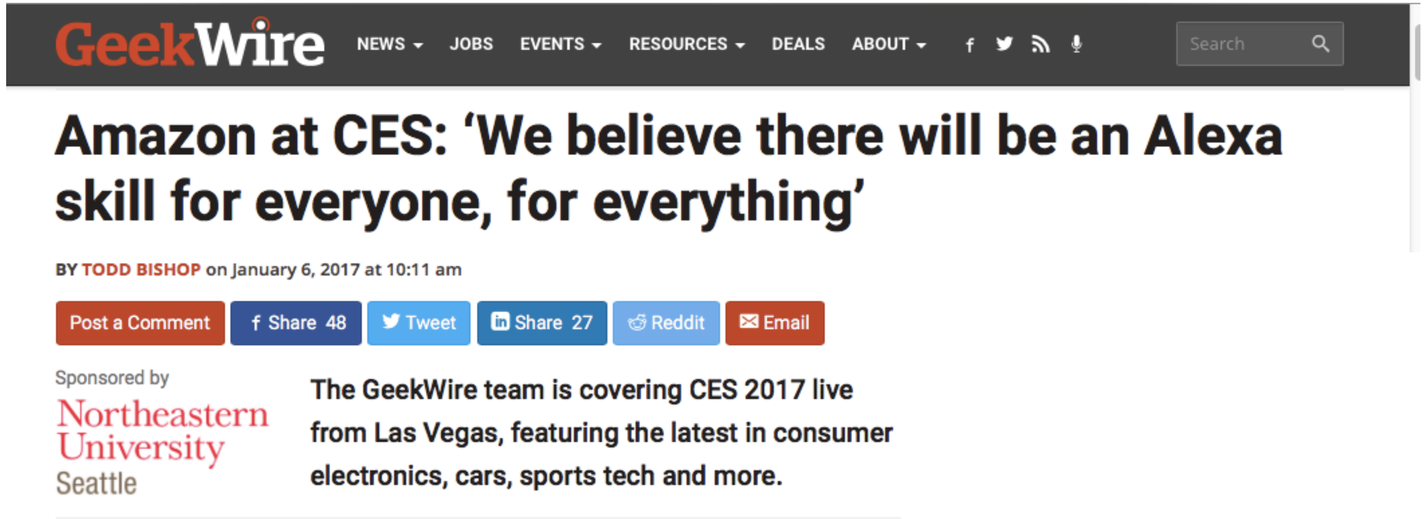
CNET › Appliances › Smart Home › 9 things Alexa can't yet do

9 things Alexa can't yet do

Alexa devices come with a laundry list of features, functions and integrations. However, there is a long list of things Alexa isn't capable of yet. Some of the missing features might surprise you.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Amazon at CES: ‘We believe there will be an Alexa skill for everyone, for everything’
BY TODD BISHOP on January 6, 2017 at 10:11 am
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Seattle
The GeekWire team is covering CES 2017 live from Las Vegas, featuring the latest in consumer electronics, cars, sports tech and more.

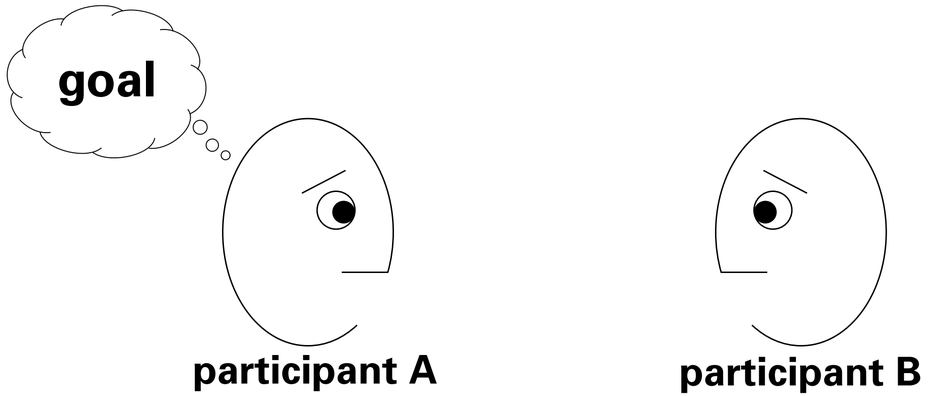
Alexa, can you please acquire the skill of conversation?

Source: Google Ngram Viewer

Alexa, can you please acquire the skill of conversation

Alexa, what is “conversation”?

— after Dubberly Design Office 2008
after Paul Pangaro
after Gordon Pask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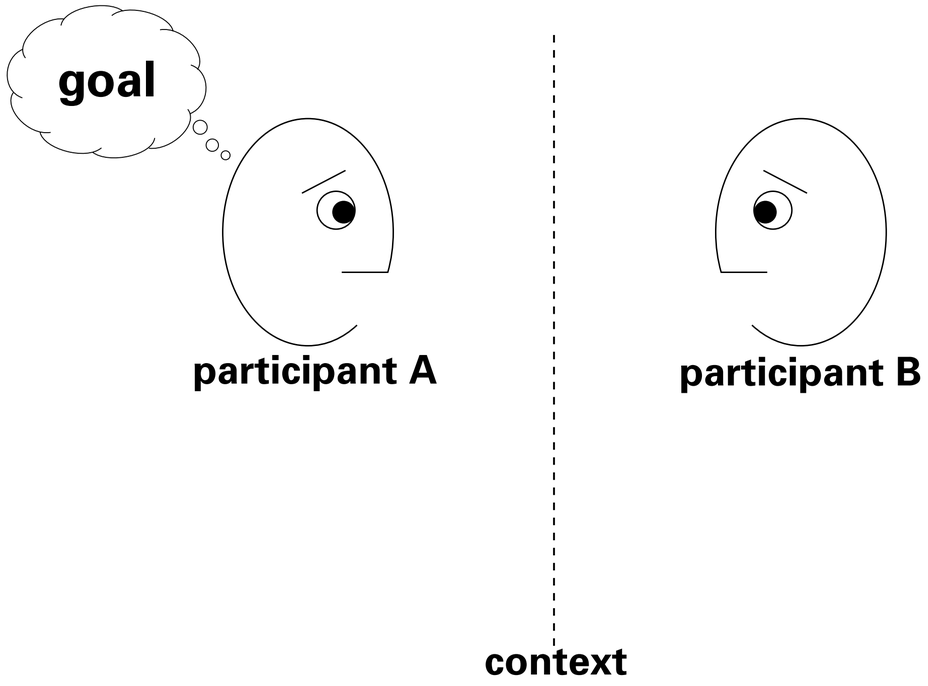
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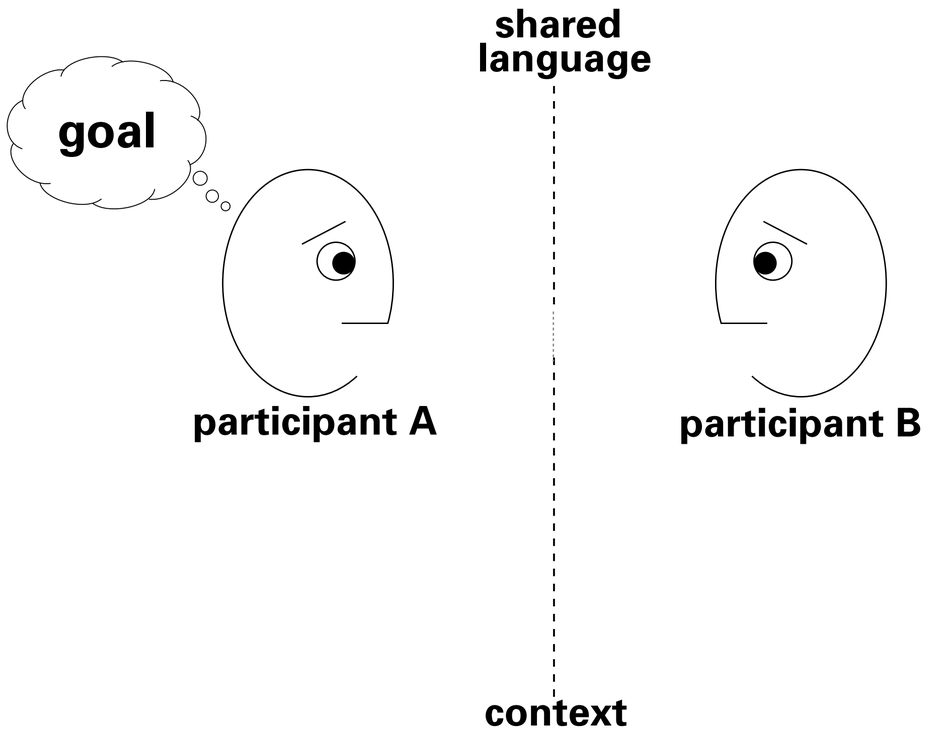
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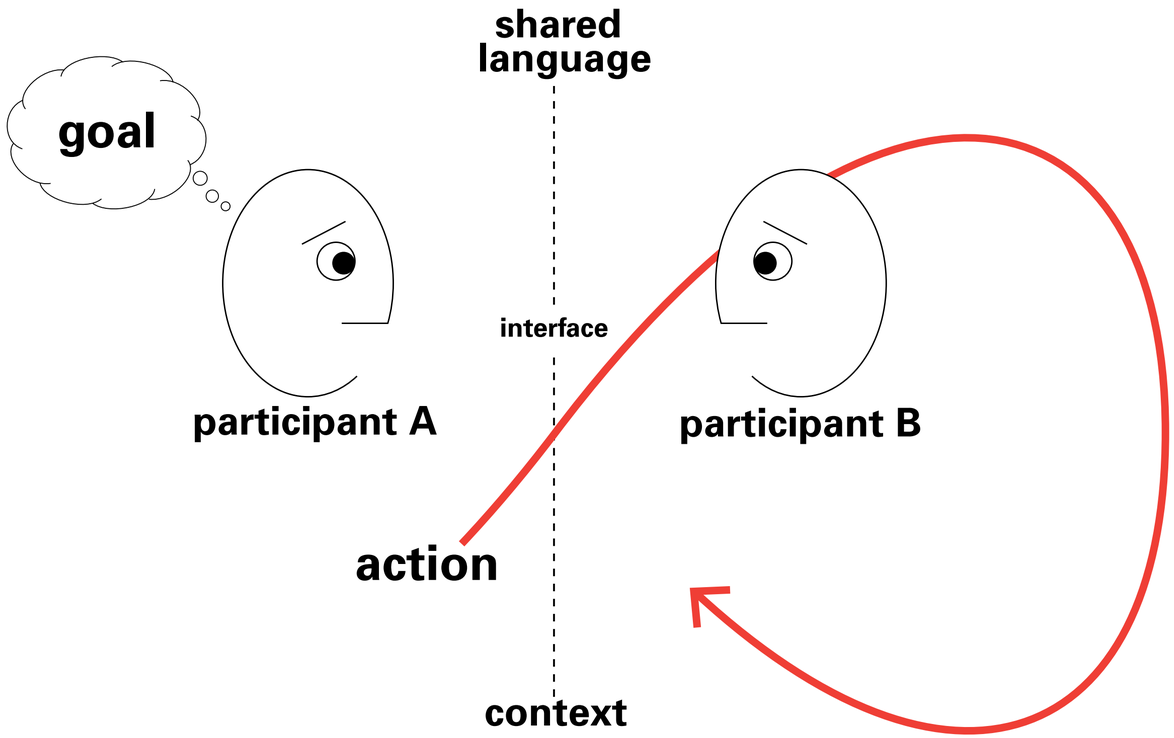
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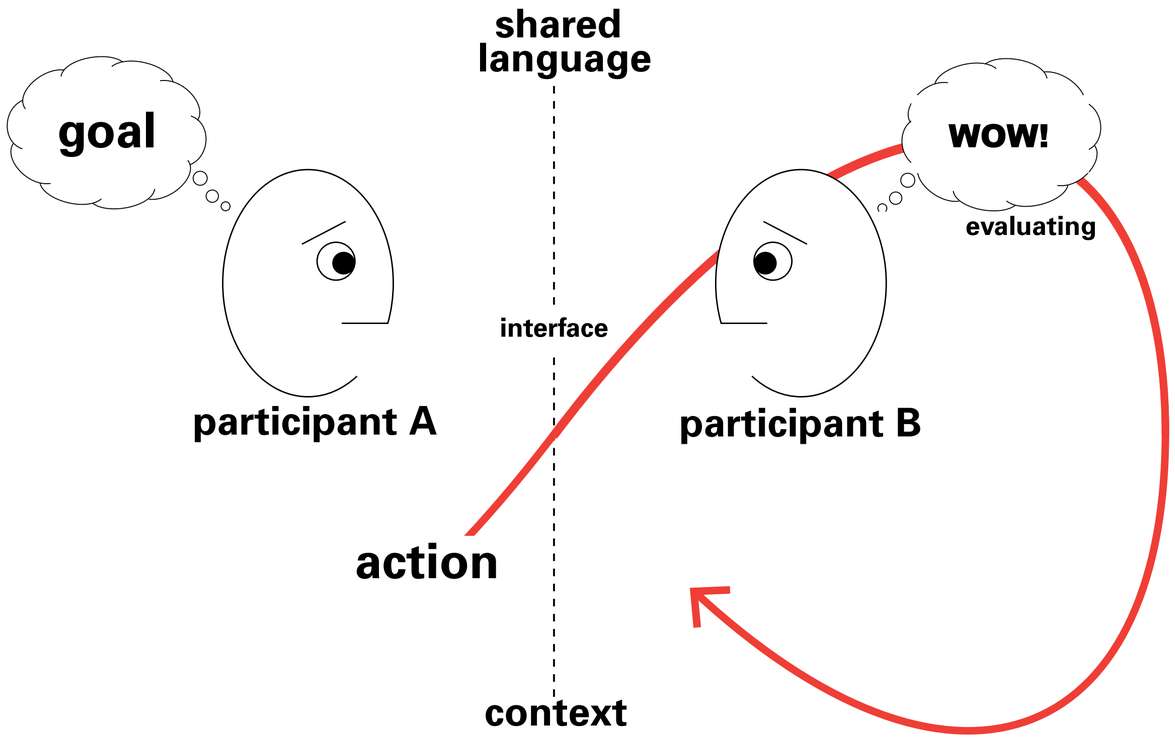
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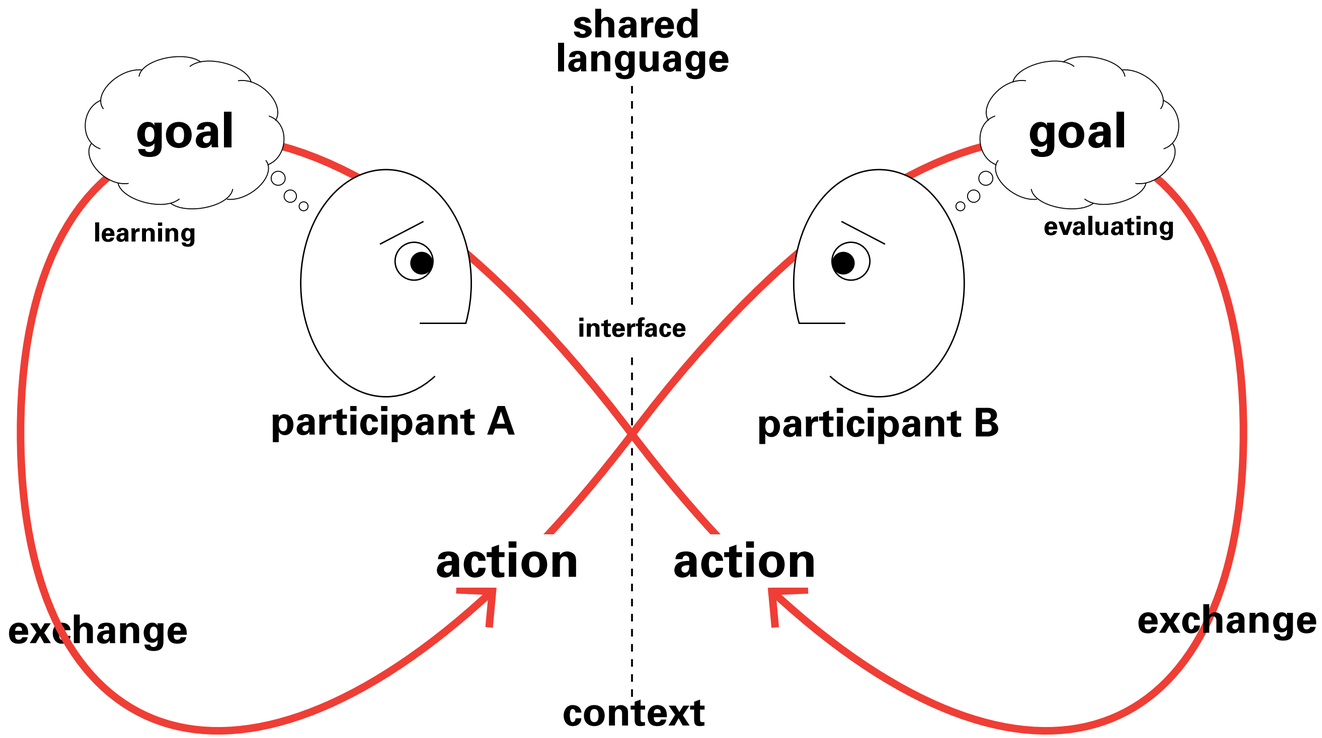
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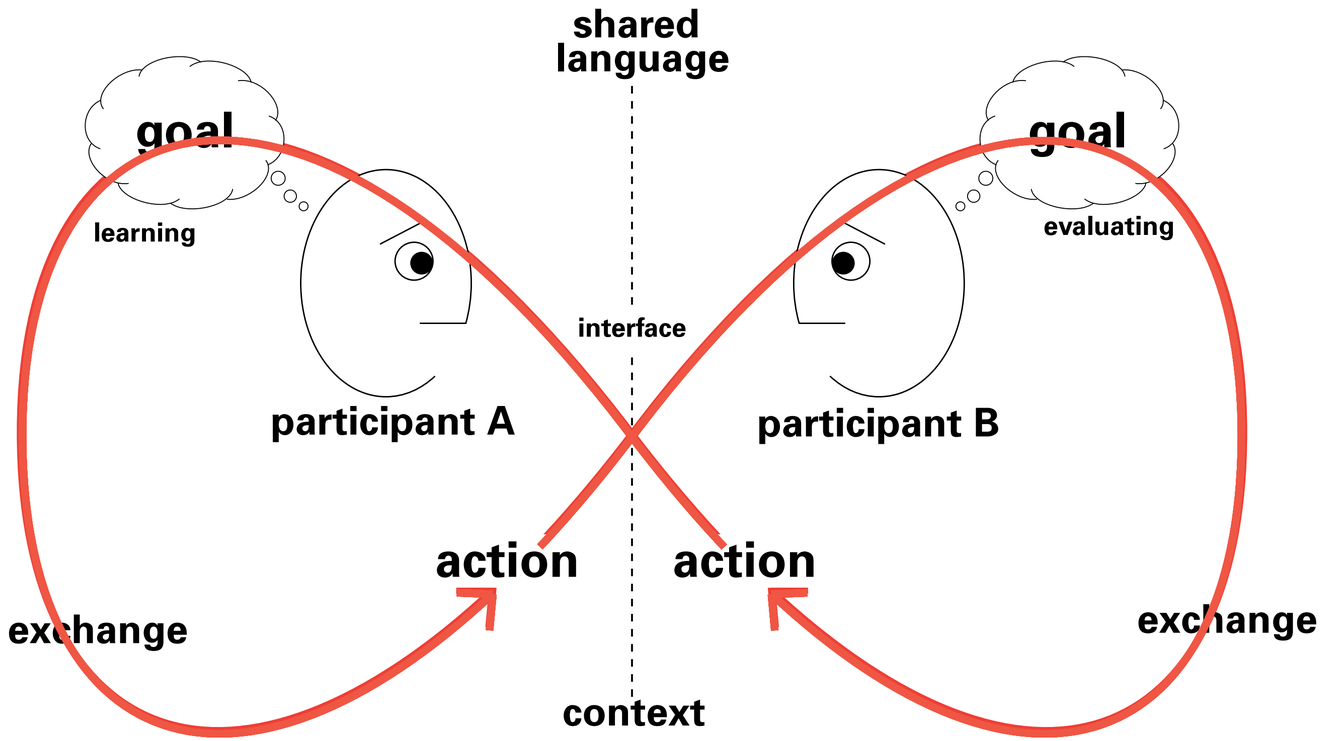
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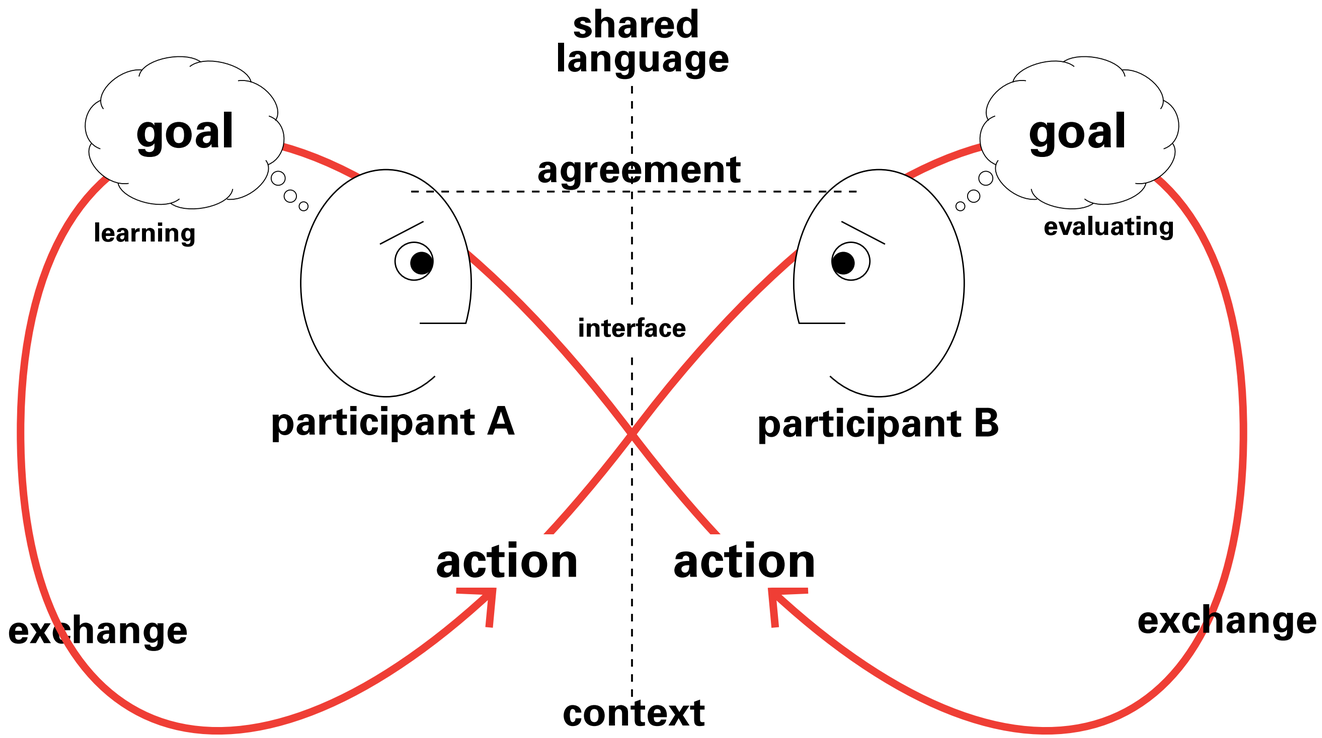
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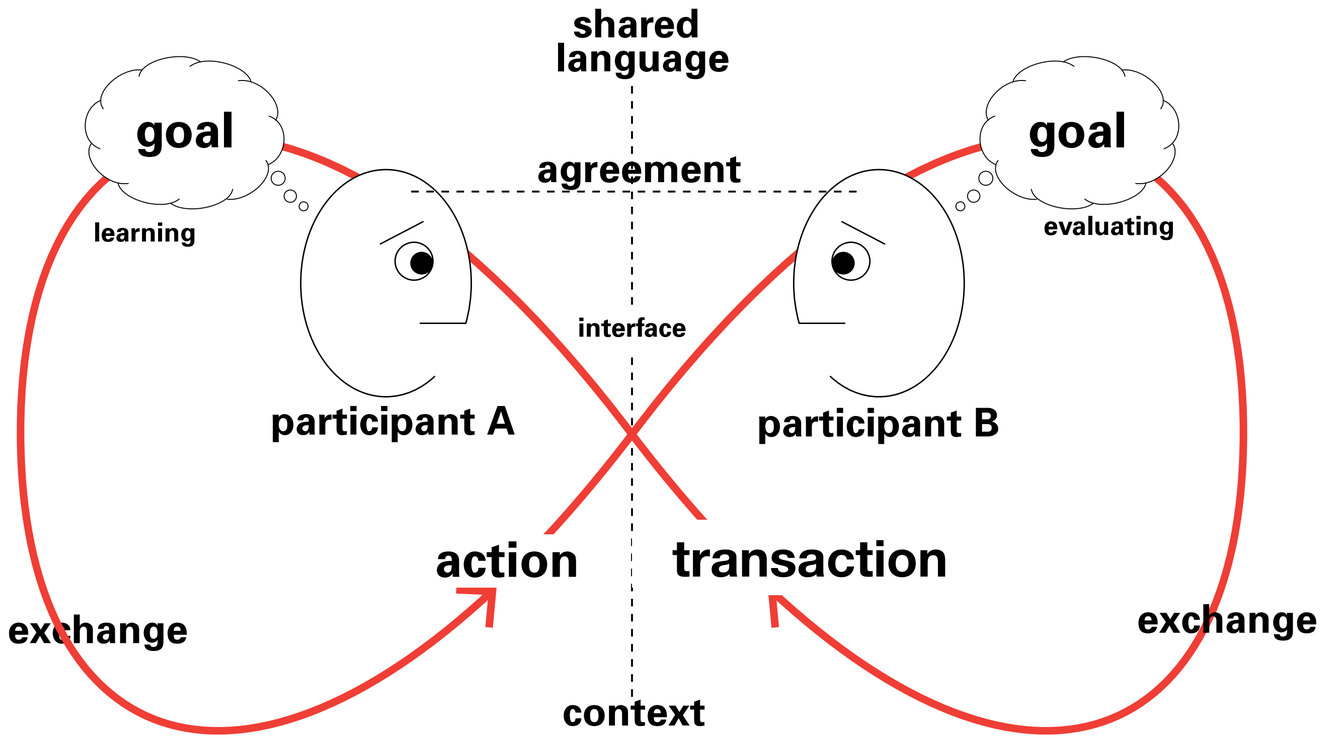
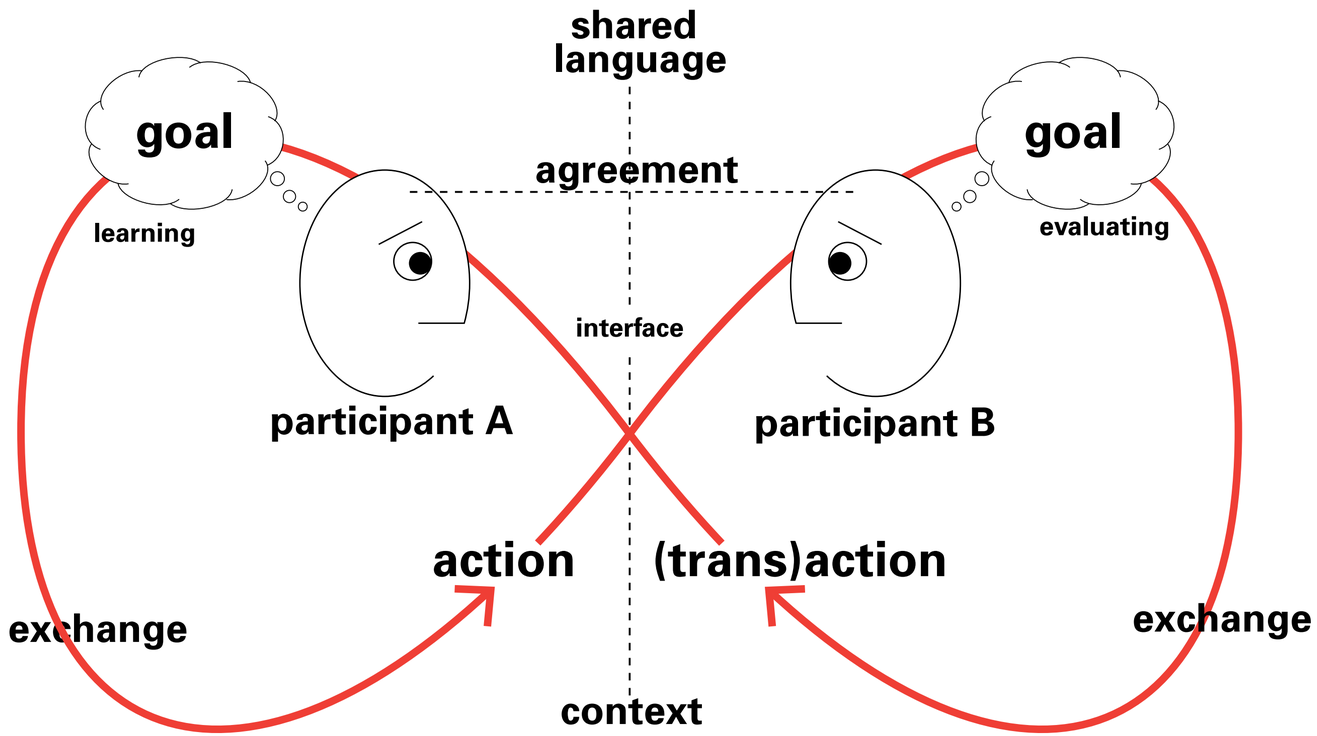


after Dubberly Design Office 2008


shared
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Applying Conversation Theory by Gordon Pask — Part 1

Conversation… What is it?

- Context
- Language (Shared)
- Engagement or Exchange
- Agreement
- Transaction or Action

Applying Conversation Theory by Gordon Pask — Part 1

Conversation = C-L-E-A-T

- Context
- Language (Shared)
- Engagement or Exchange
- Agreement
- Transaction or Action

Applying C-L-E-A-T

Why does conversation matter?

- to coordinate action, you must reach agreement
- to reach agreement, you must have engagement
- to begin an exchange, you must have shared language

Cooperation and Collaboration require Conversation

Consequences of C-L-E-A-T

What may follow from conversation?

- shared history
- relationship
- trust
- unity

Consequences of C-L-E-A-T

Conversation is the foundation for:

- community
- commerce
- culture
- government
- society

Applying C-L-E-A-T

Questions for Designing for Conversation

- What channel is being opened to begin the conversation?
  Is the interruption reasonable in how and when it intrudes?
  What is the bio-cost of the intrusion relative to its benefit?
  Are there better ways to interrupt?

- Is the first message clear?
  Does it offer something to the recipient?

- Does the exchange convey the potential benefits in continuing?
  Is there learning or delight? Is curiosity or interest stimulated?

- Is meaning easily understood—
  do the messages speak in the language of the participants?
  Are messages sensitive to others' context, needs, interests, values?
  How can messages be made more efficient or clear?

"What is Conversation?"
Dubberly & Pangaro
2009

http://www.dubberly.com/articles/what-is-conversation.html

Applying C-L-E-A-T

Questions for Designing “CUIs”

- What does the CUI know about the user’s context—
  what more can it know, automatically or by input from the user?
- How can a user convey intention *to* the software—
  can the CUI be open to the user’s goals, values, preferences?
- Does the CUI evolve during the engagement—
  in addition to understanding the user, can it build new knowledge?
- When should the CUI be confident it understands the user—
  and when should it double-check?
- Can the CUI’s capabilities build a relationship of trust—
  what does that take?

When will CUI’s do all this?

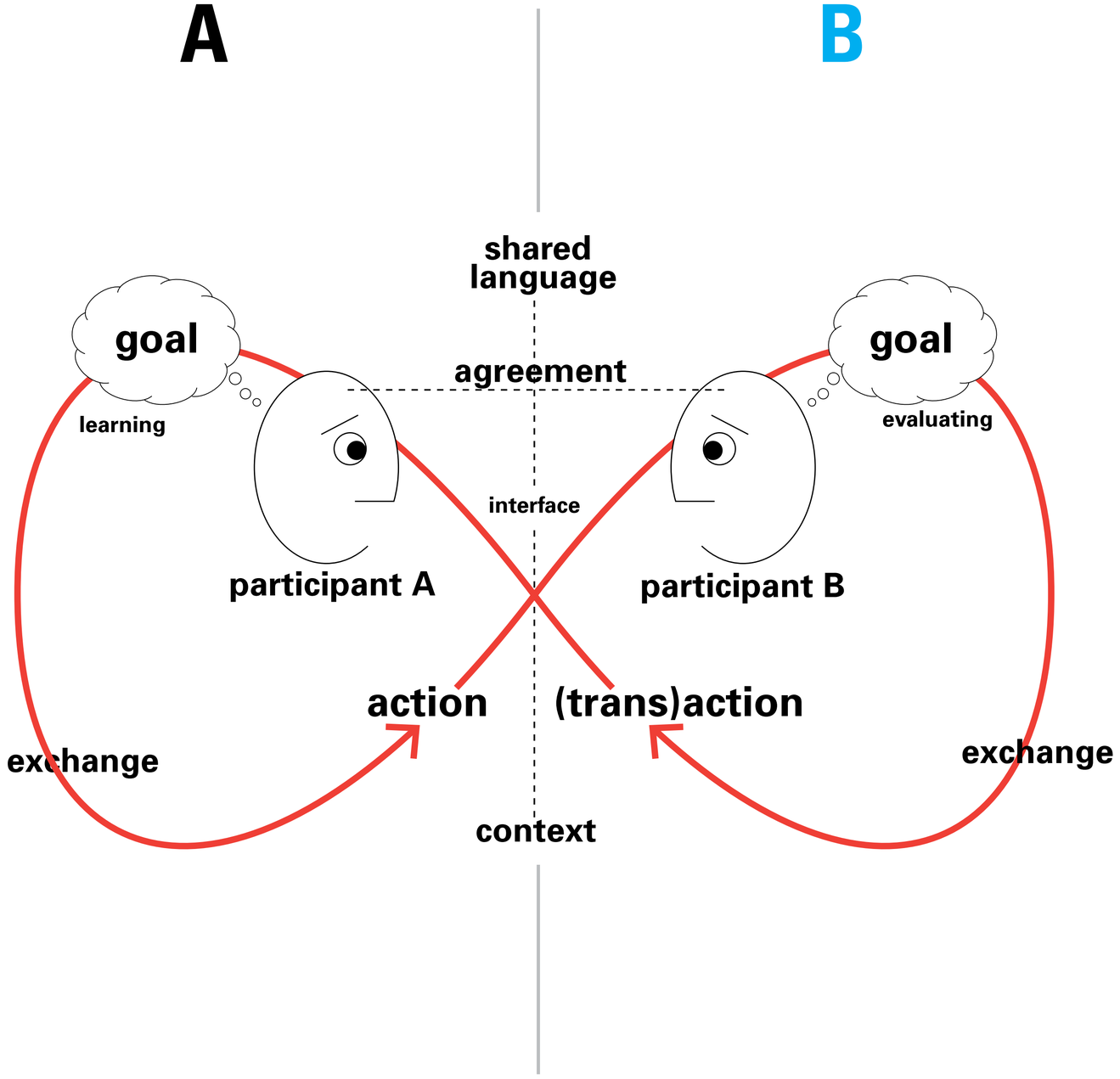
“What is Conversation?”
Dubberly & Pangaro
2009

http://www.dubberly.com/articles/what-is-conversation.html

Applying Conversation Theory by Gordon Pask – Part 2

What is the foundational structure of conversation?

What is an “architecture” for conversation?


A
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shared language
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participant A
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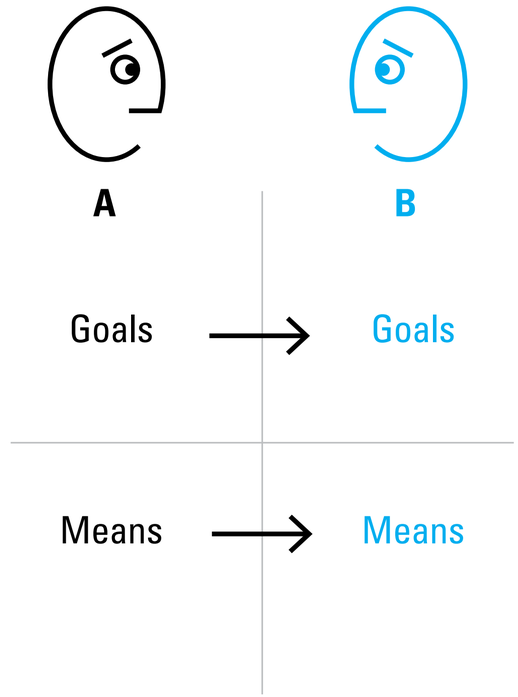
rly
don Pask

Architecture of Conversation

A and B may talk about goals, means, or both

“What is the goal? And how do we want to accomplish it?”



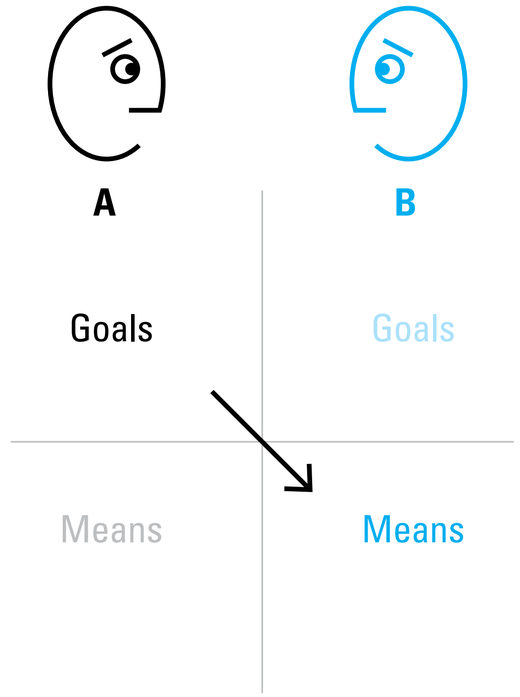
— adopted from Hugh Dubberly
after Paul Pangaro and Gordon Pask

54

Controlling

A tells B what to do and how to do it

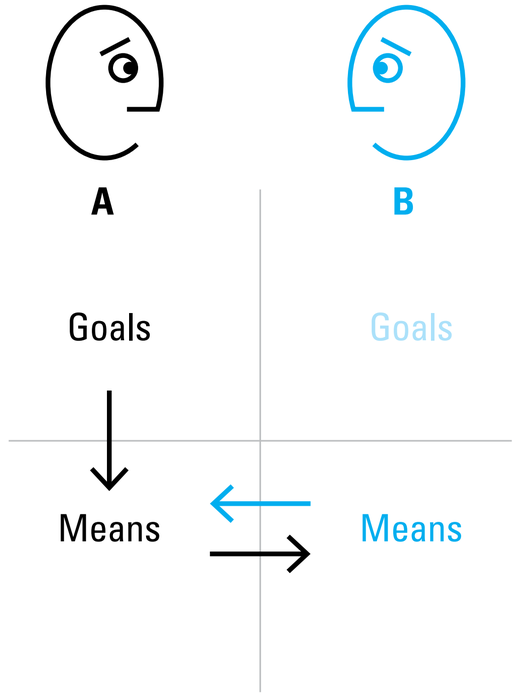
“Alexa, give me some news from NPR.”—does this one



— adopted from Hugh Dubberly
after Paul Pangaro and Gordon Pask

Guiding
A sets goal but discusses means with B

“Alexa, I want to listen to news, what are my options?”



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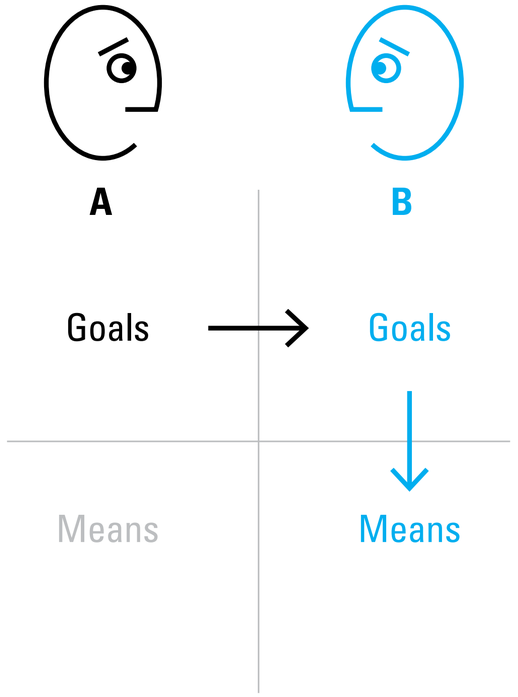
after Paul Pangaro and Gordon Pask

Delegating

A sets the goal but lets B decide the means to reach it

“Alexa, some news please.”—does this one



— adopted from Hugh Dubberly
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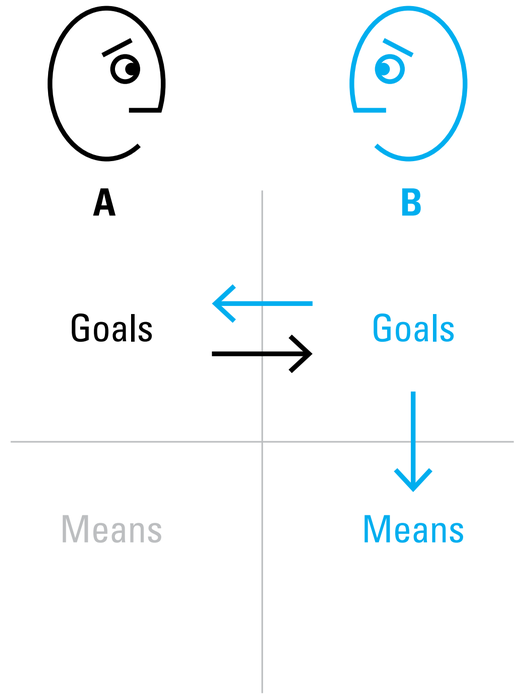
Collaborating

A and B decide together on goals

“Alexa, how about I listen to something?”



— adopted from Hugh Dubberly
after Paul Pangaro and Gordon Pask

Applying an Architecture for Conversation

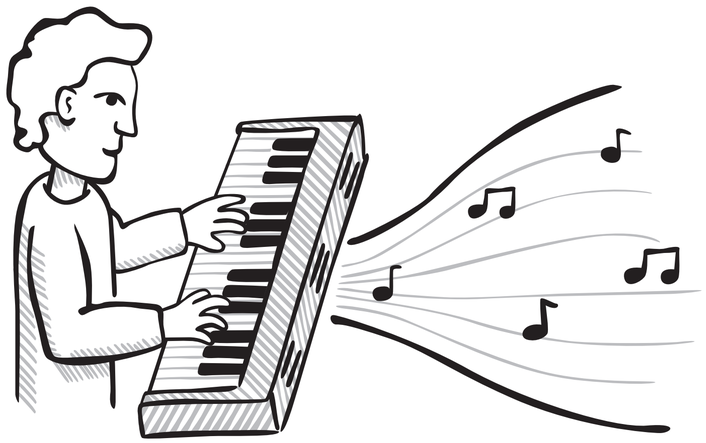
What kinds of “skills” are there in conversation?

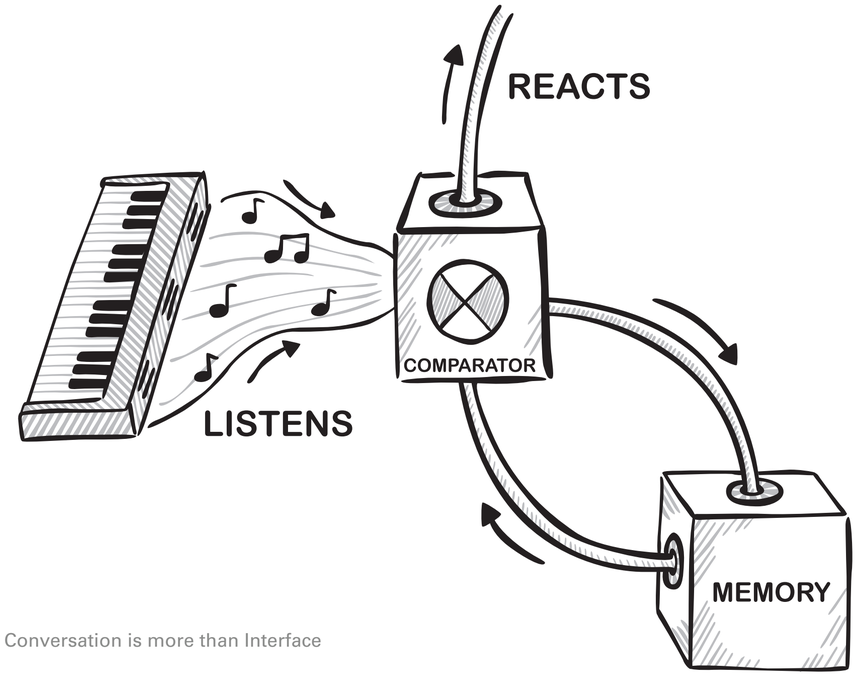
- responding to achieve a given task
- offering different means (tasks) to achieve a goal
- helping to achieve an underspecified goal
- collaborating to define the goal

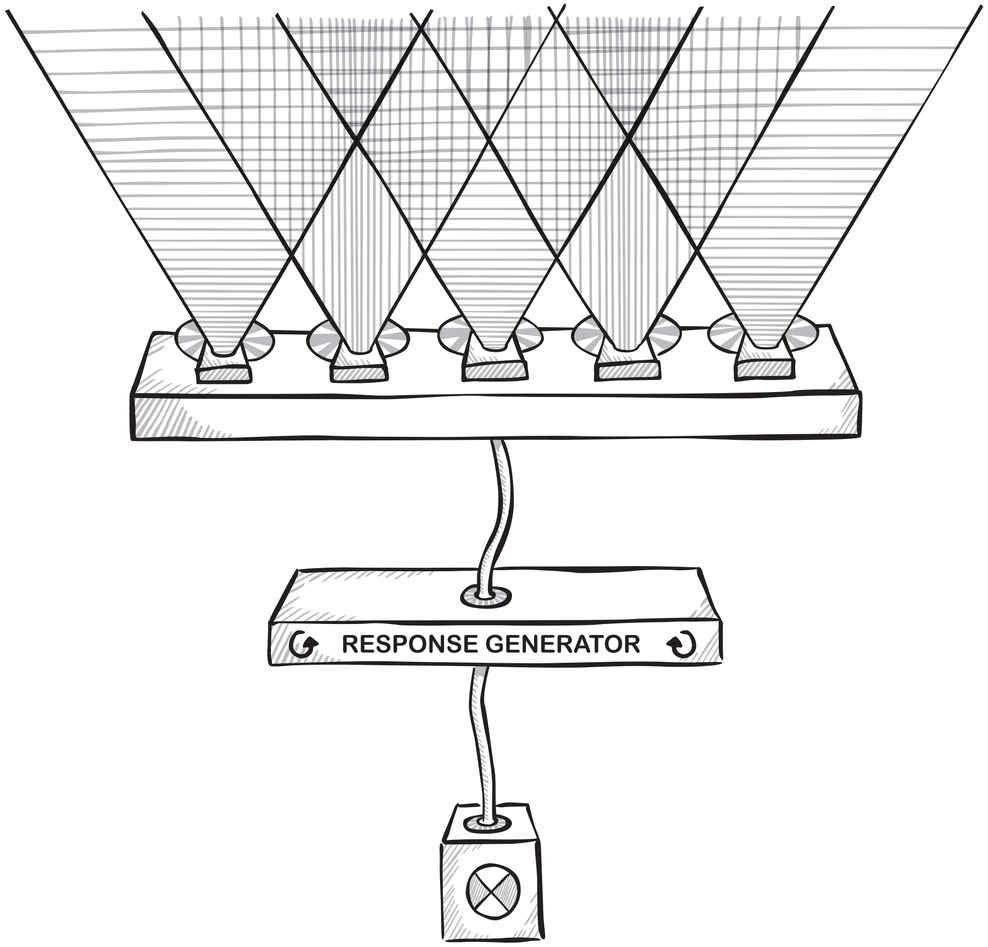
Will CUI’s be designed to do all these?

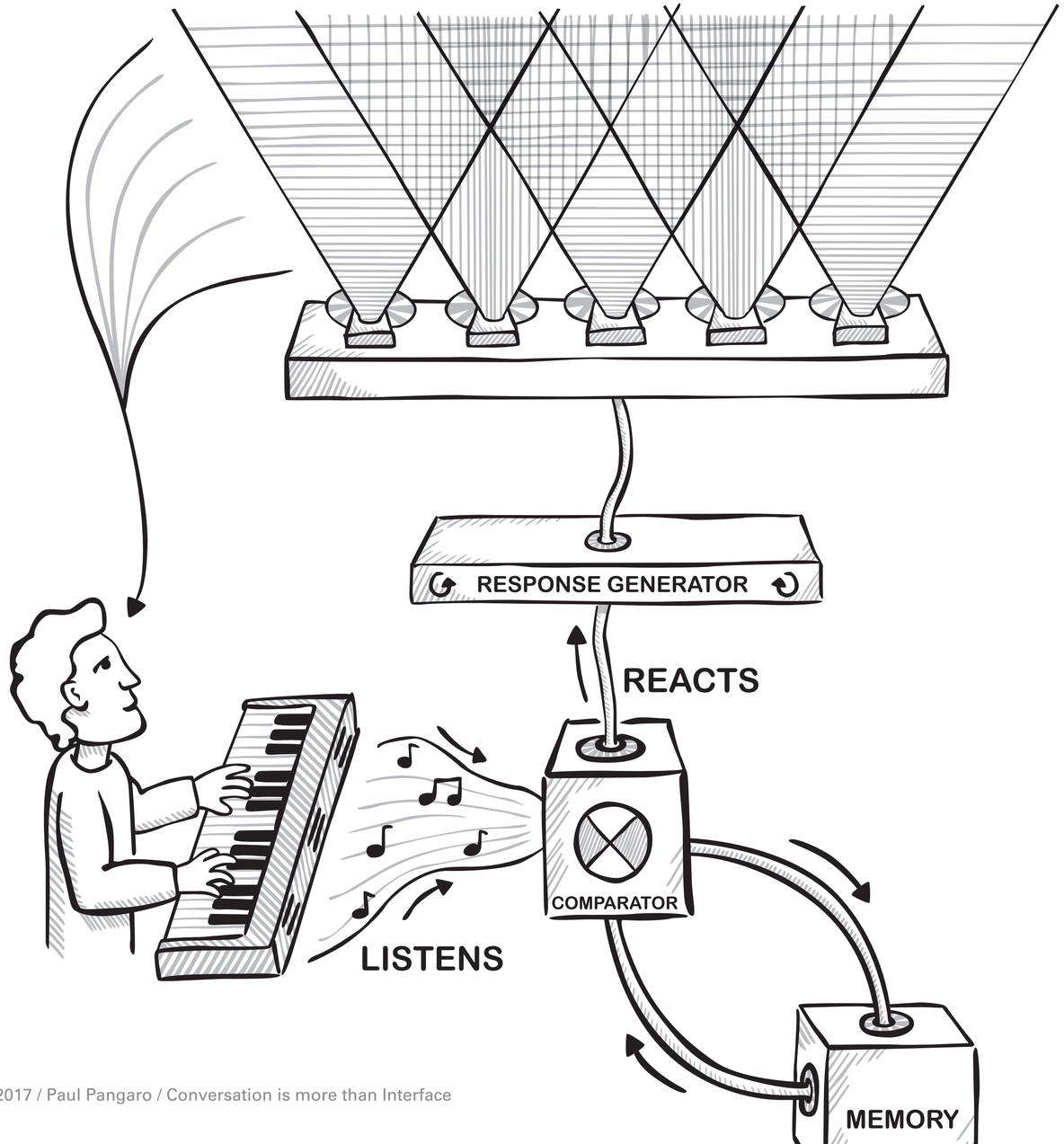
But can a machine have a real conversation?

Amazon Echo. (Credit: AP Photo/Mark Lennihan)



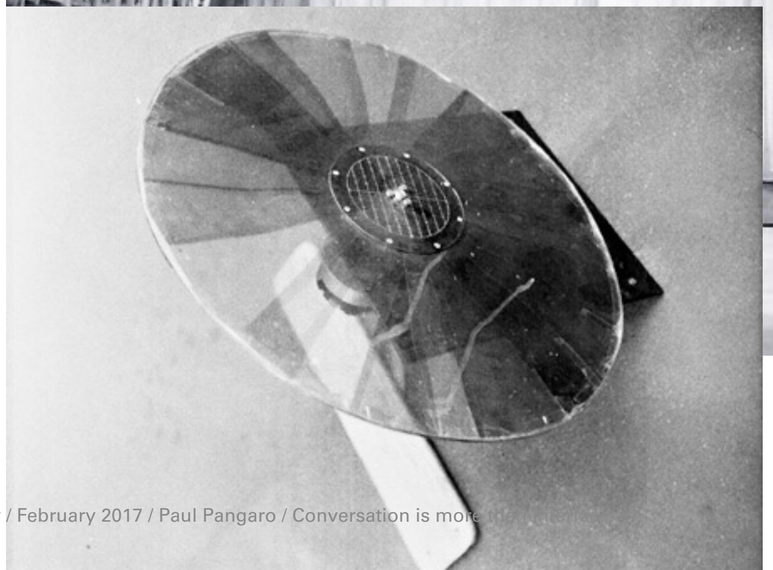

REACTS
COMPARATOR
LISTENS
MEMORY


RESPONSE GENERATOR


RESPONSE GENERATOR
REACTS
COMPARATOR
LISTENS
MEMORY

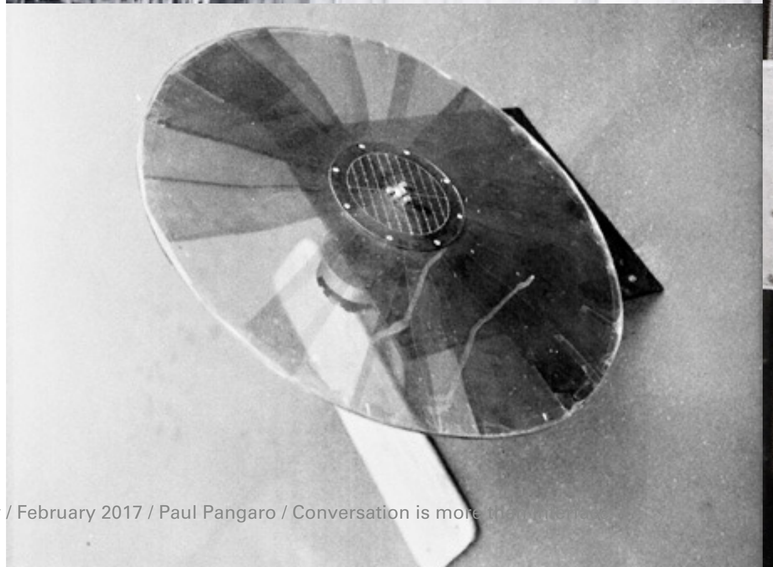
Gordon Pask’s Musicolour From mid-1950s

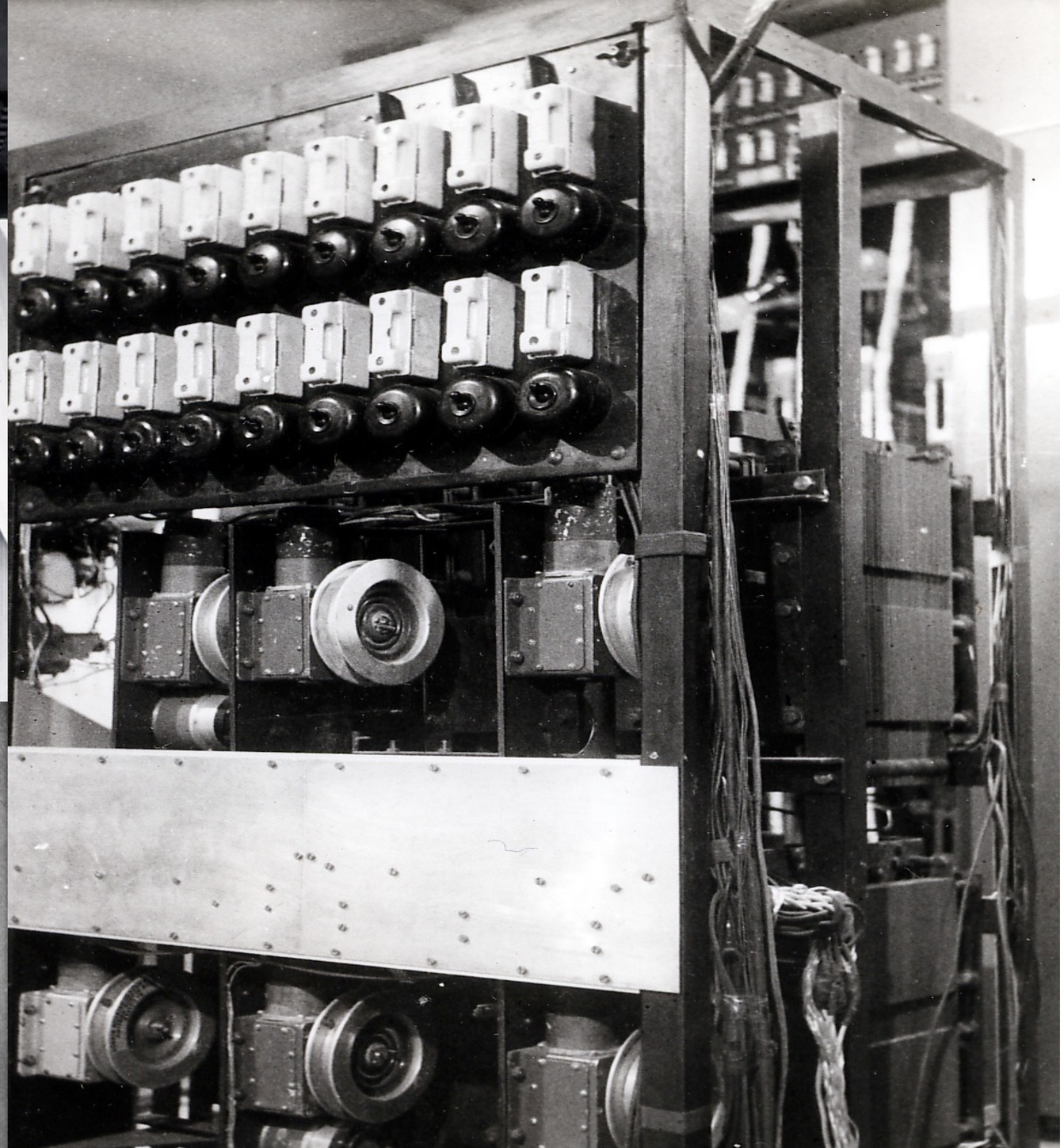
Discussed in Pickering 2009
See also Pangaro 1993

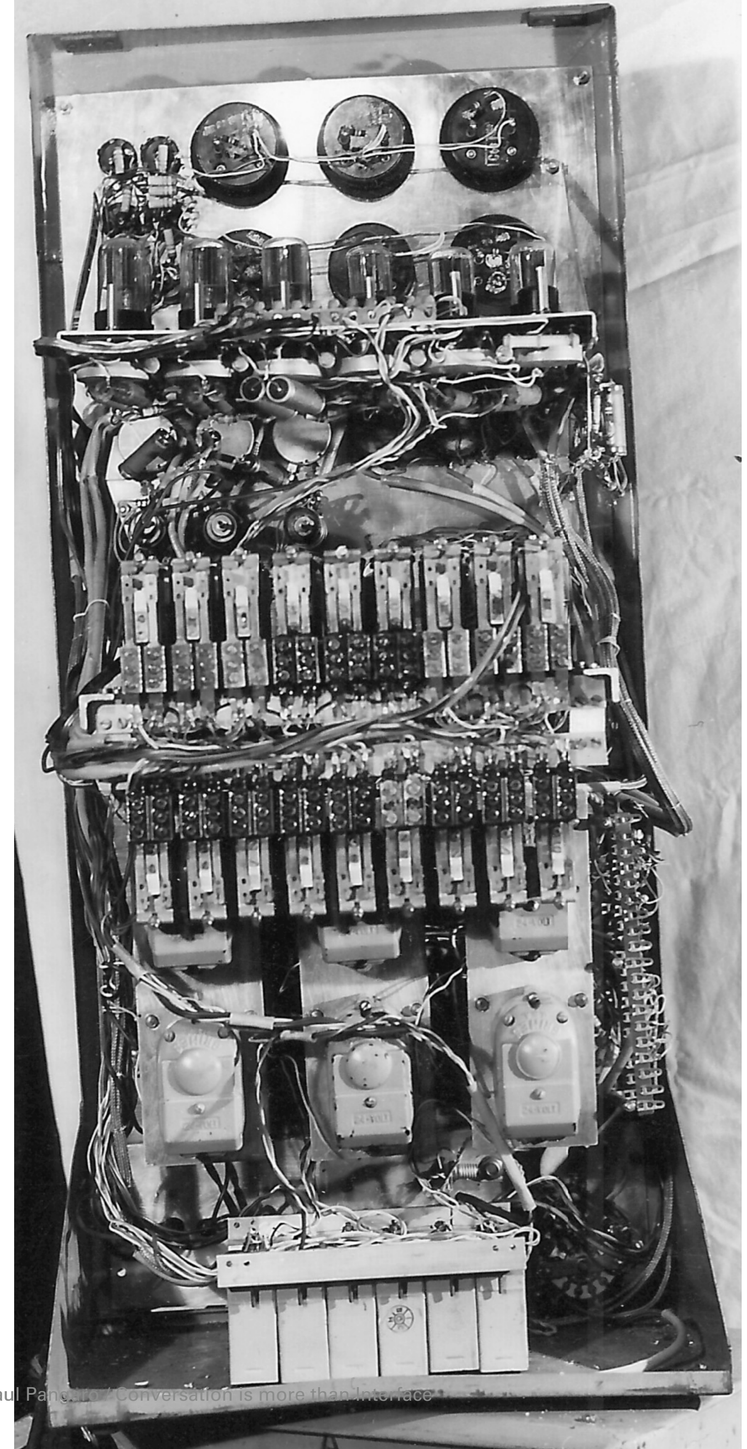


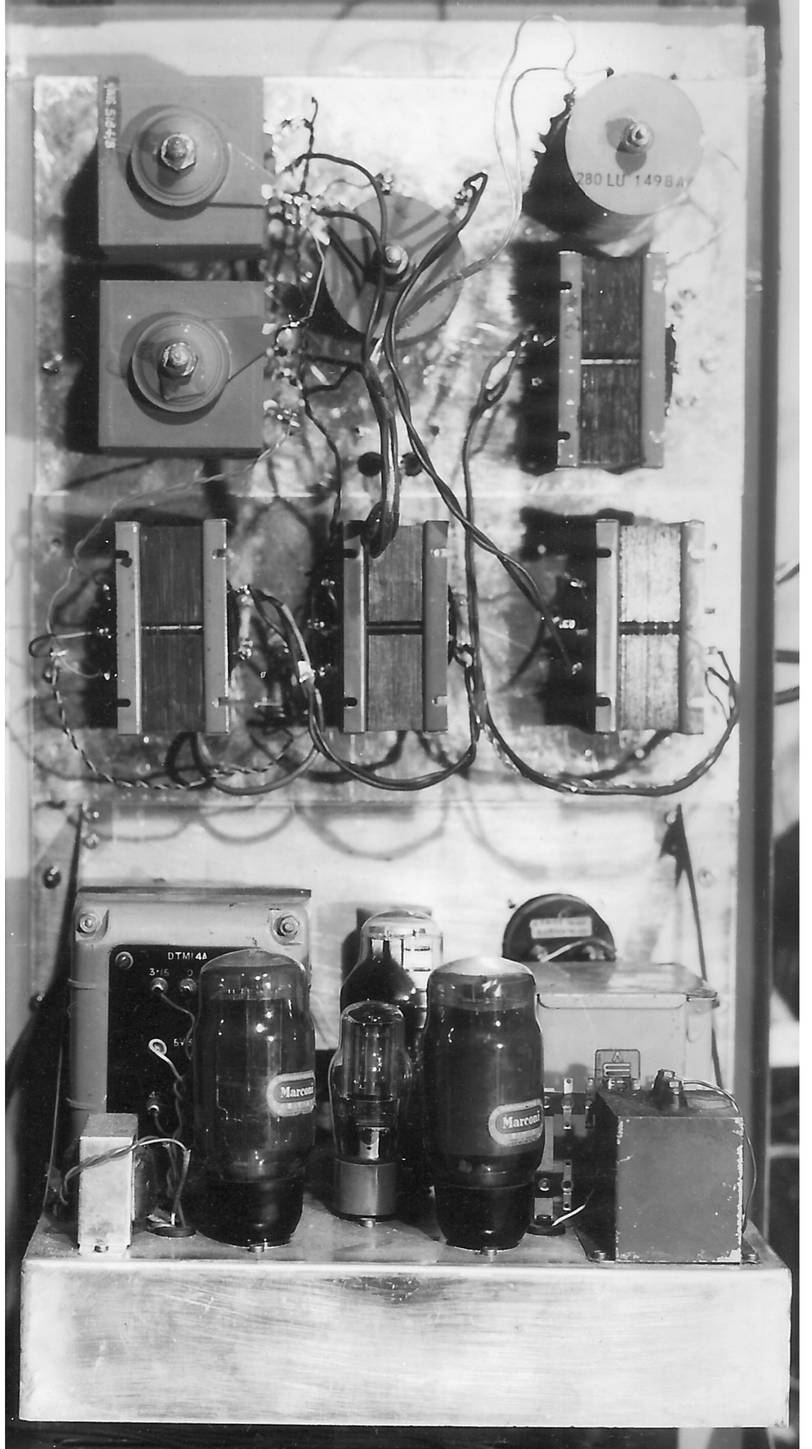
Gordon Pask’s Musicolour From mid-1950s

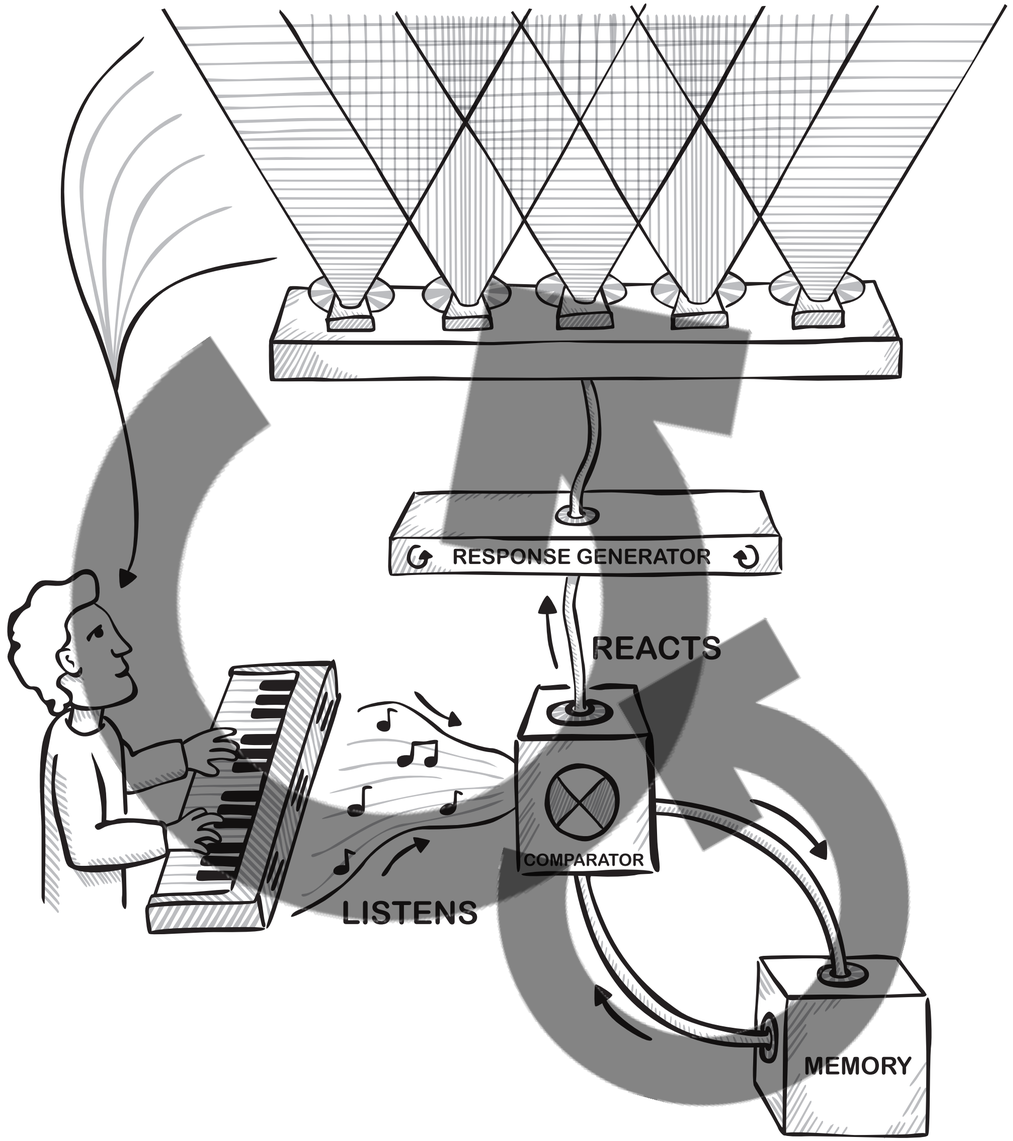
Discussed in Pickering 2009
See also Pangaro 1993

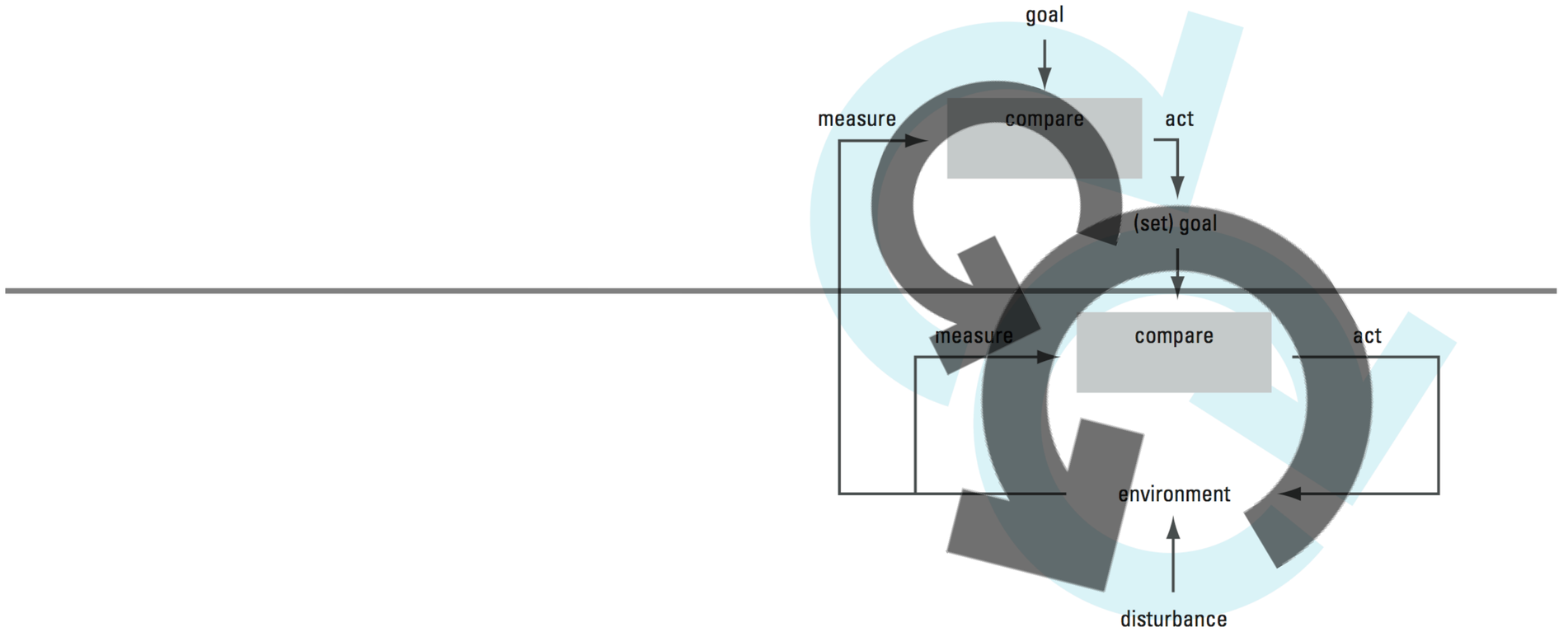


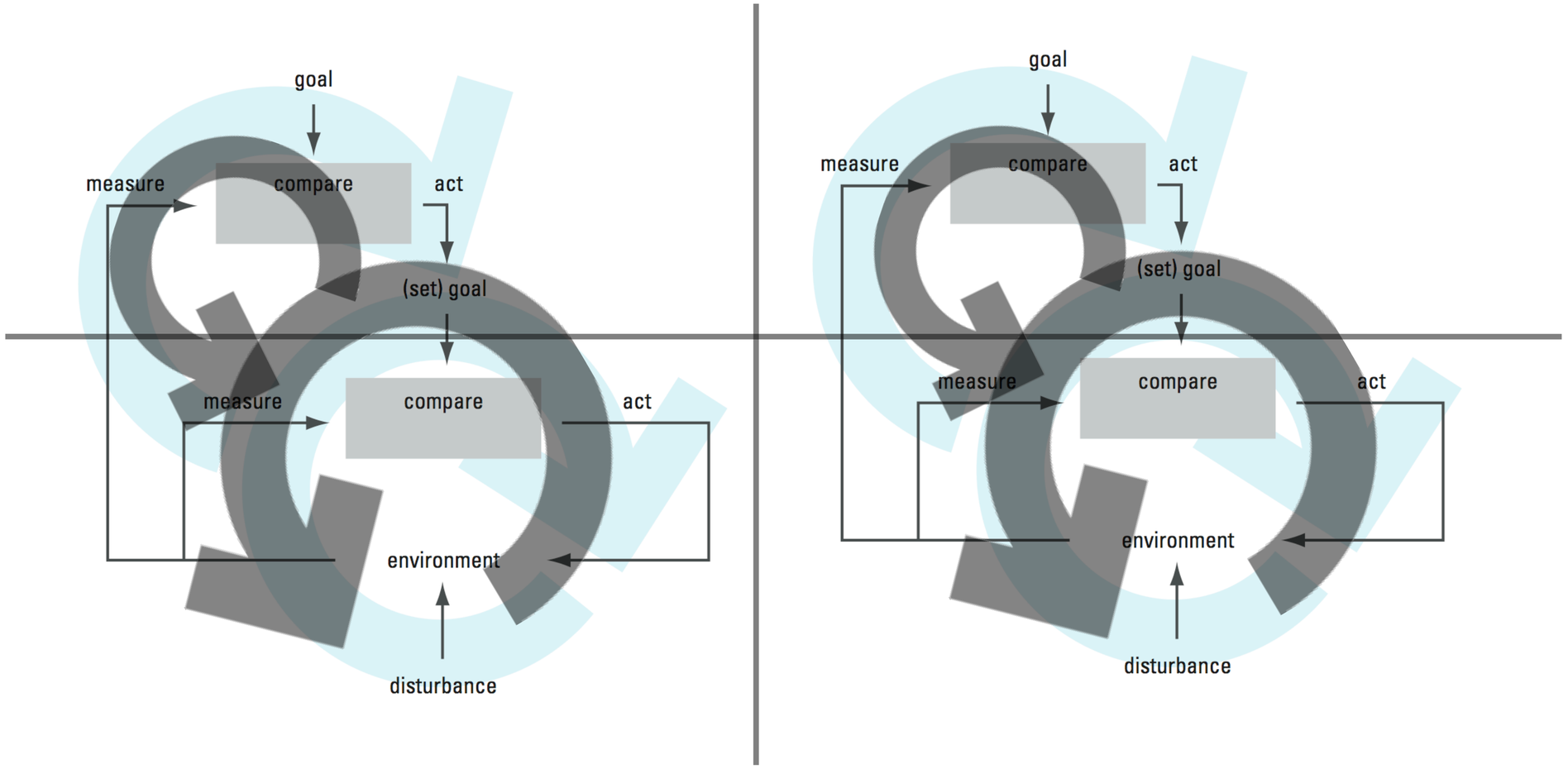





DTMI 4A
Marconi
Marconi


RESPONSE GENERATOR
REACTS
COMPARATOR
LISTENS
MEMORY

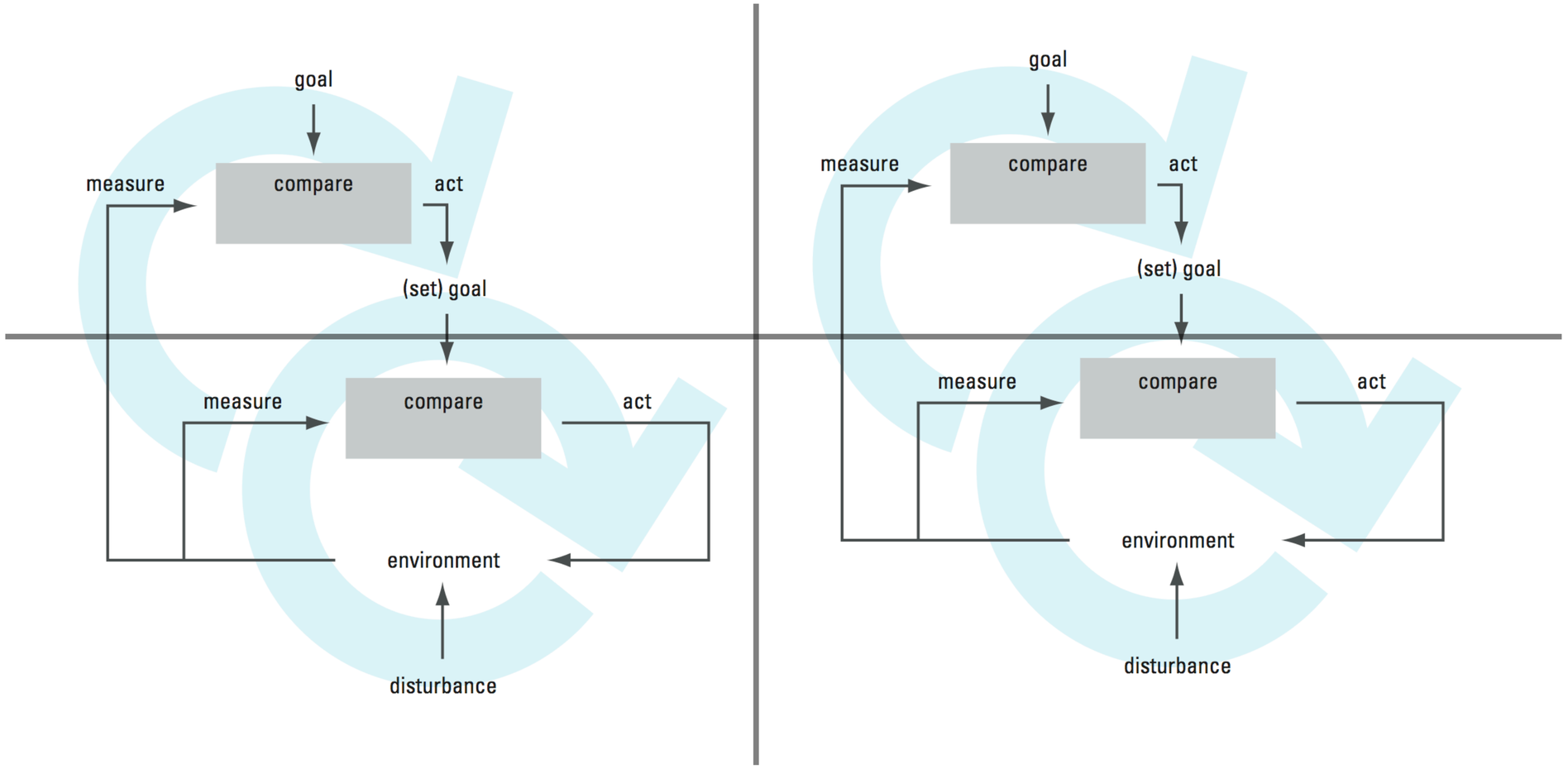

goal
measure
compare
act
(set) goal
measure
compare
act
environment
disturbance


goal
measure
compare
act
(set) goal
measure
compare
act
environment
disturbance
goal
measure
compare
act
(set) goal
measure
compare
act
environment
disturbance

Architecture for Conversation

Goals

Means



Conversation with Musicolour

What’s a “good conversation”?

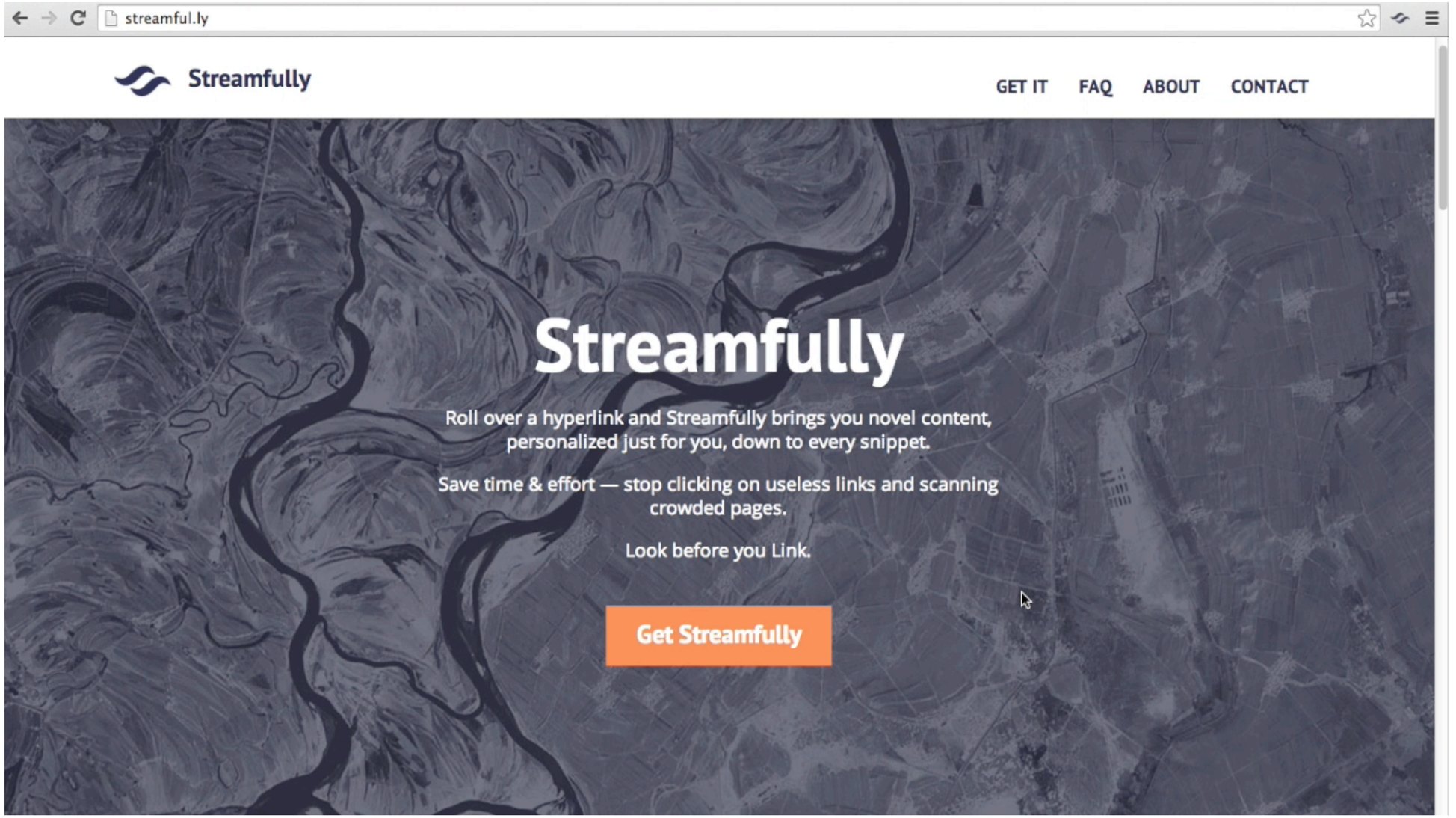
- avoids repetition
- continually offers something novel
- … while maintaining continuity

thoughtshuffler iOS 2013

UX by Miriam Simun
UI by See-ming Lee
concept & heuristics by Paul Pangaro

Streamfully mobile 2014

UI design & coding by John Katagawa
UX & heuristics by Paul Pangaro



http://streamful.ly/

Conversation with Content

What's a "good conversation"?

- avoids repetition
- continually offers something novel
- … while maintaining continuity
- helps you be what you want to be… to become
- asks great questions…

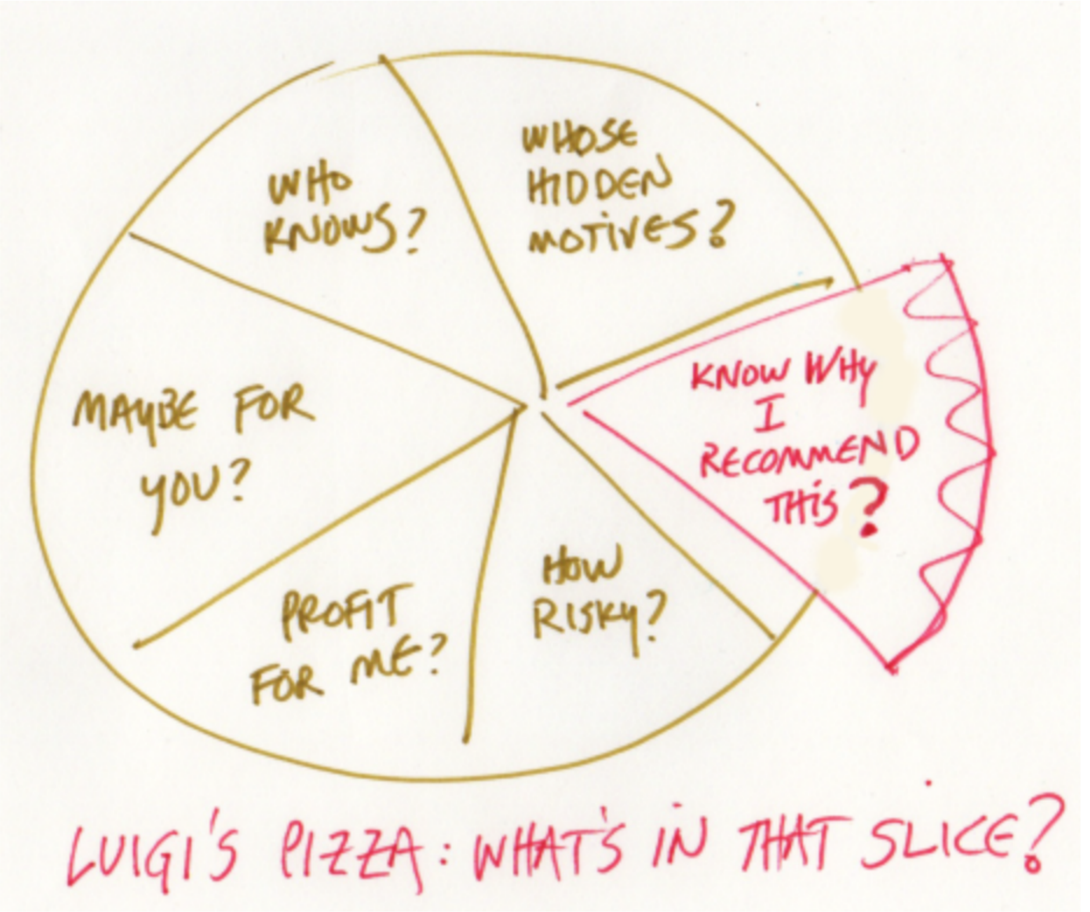
Why can't CUI's do all these?

Provocations

- What is “Conversation”?
- Can we “Design for Conversation”?
- Read any plays by David Mamet?
- Know the Parable of Luigi’s Pizza?

Luigi's Pizza: A Parable

November 8, 2016



Say you want to eat somewhere and you ask for my recommendation. I say, "Sure, I've got the best place for you: Luigi's Pizza, on the corner of First & Commerce."

https://ccsmfa.wordpress.com/

Thank you.

Conversation is more than Interface

IXDA New York 2017

Paul Pangaro, Ph.D.
Chair and Associate Professor
MFA Interaction Design Program
College for Creative Studies, Detroit
paul@pangaro.com

pangaro.com/ixda2017.html

Appendices

Conversation is more than Interface

IXDA New York 2017

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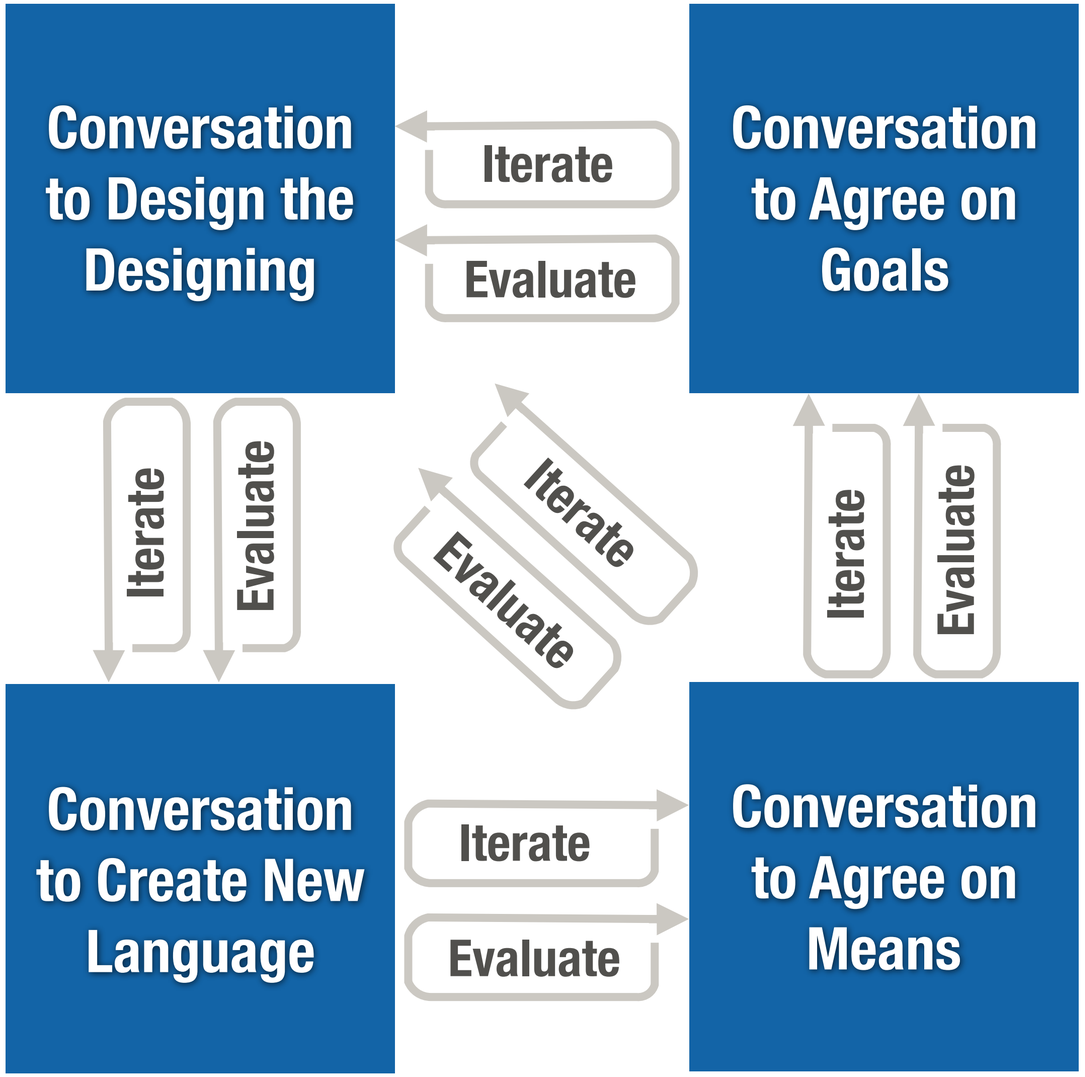
Chair and Associate Professor
MFA Interaction Design Program
College for Creative Studies, Detroit
paul@pangaro.com

pangaro.com/ixda2017.html

Design as Conversation



http://pangaro.com/rsd5/

SymptomChecker

Experiencing symptoms but not sure what they mean?
Use our Symptom Checker to help determine possible causes and treatments, and when to see a doctor.

Enter your symptom

Go

Give me symptoms to choose from ››

Assess Your Symptoms

Want to know what's causing your aches, pain, or rashes? We can identify conditions related to your symptoms.

Learn About Possible Causes

Get a better understanding of a condition: Discover if you're at risk, how it's diagnosed, and what you can do about it.

Explore Treatments

Weigh your treatment options, from traditional medicine to alternative therapies, and decide which is right to you.

Most Common Symptoms

- Diarrhea
- Knee pain
- Sore throat
- Sleep paralysis
- Insomnia
- Erectile dysfunction
- Blood in urine
- Conjunctivitis
- Heel pain
- Back pain
- Night sweats
- Abdominal pain
- Chest pain
- Foot pain
- Neck pain
- Vaginal discharge
- Morning sickness
- Anemia
- Constipation
- Vaginal itching

Advertisement

BOTOX onabotulinumtoxinA injection

Full Product Information including Boxed Warning and Medication Guide.

Ask a *BOTOX®* Specialist about Chronic Migraine and *BOTOX®*.

Find one today: ZIP CODE

Please scroll for Indication, Important Limitations, and Important Safety Information, including Boxed Warning.

injected to prevent headaches in adults with chronic migraine who have 15 or more days each month with headache lasting 4 or more hours each day in people 18 years or older.

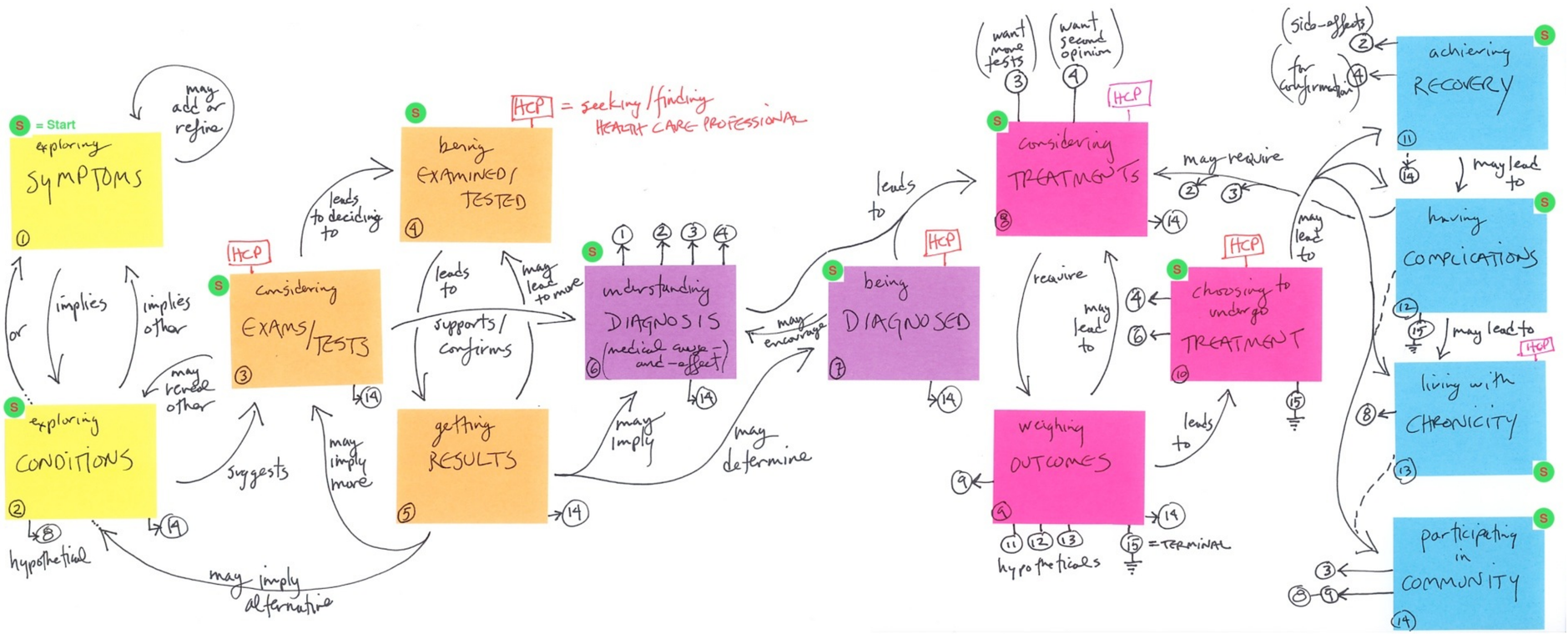
It is not known whether BOTOX® is safe or effective to prevent headaches in patients with migraine who have 14 or fewer headache days

Health Topic

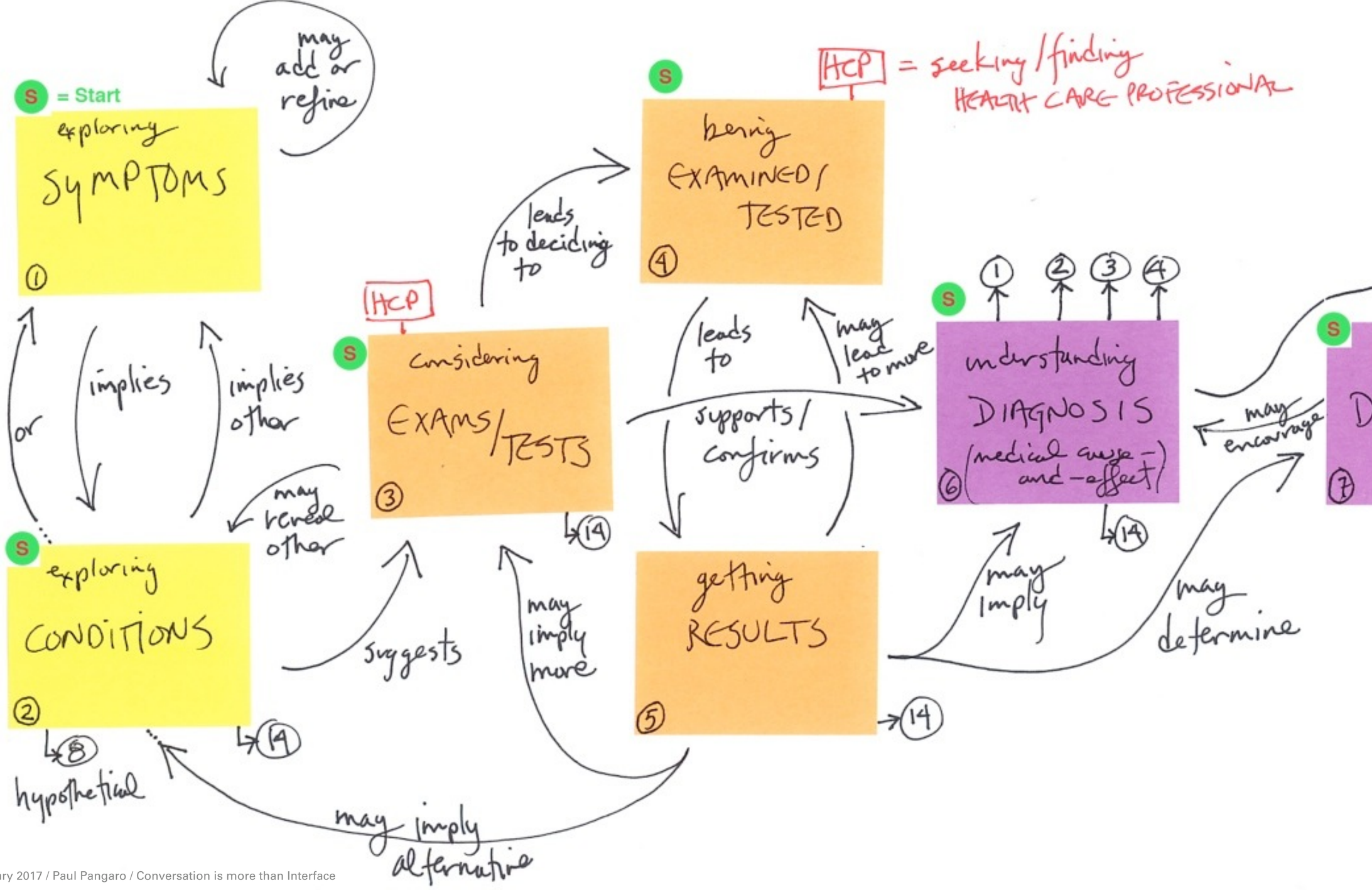
Healthline → Topics A-Z

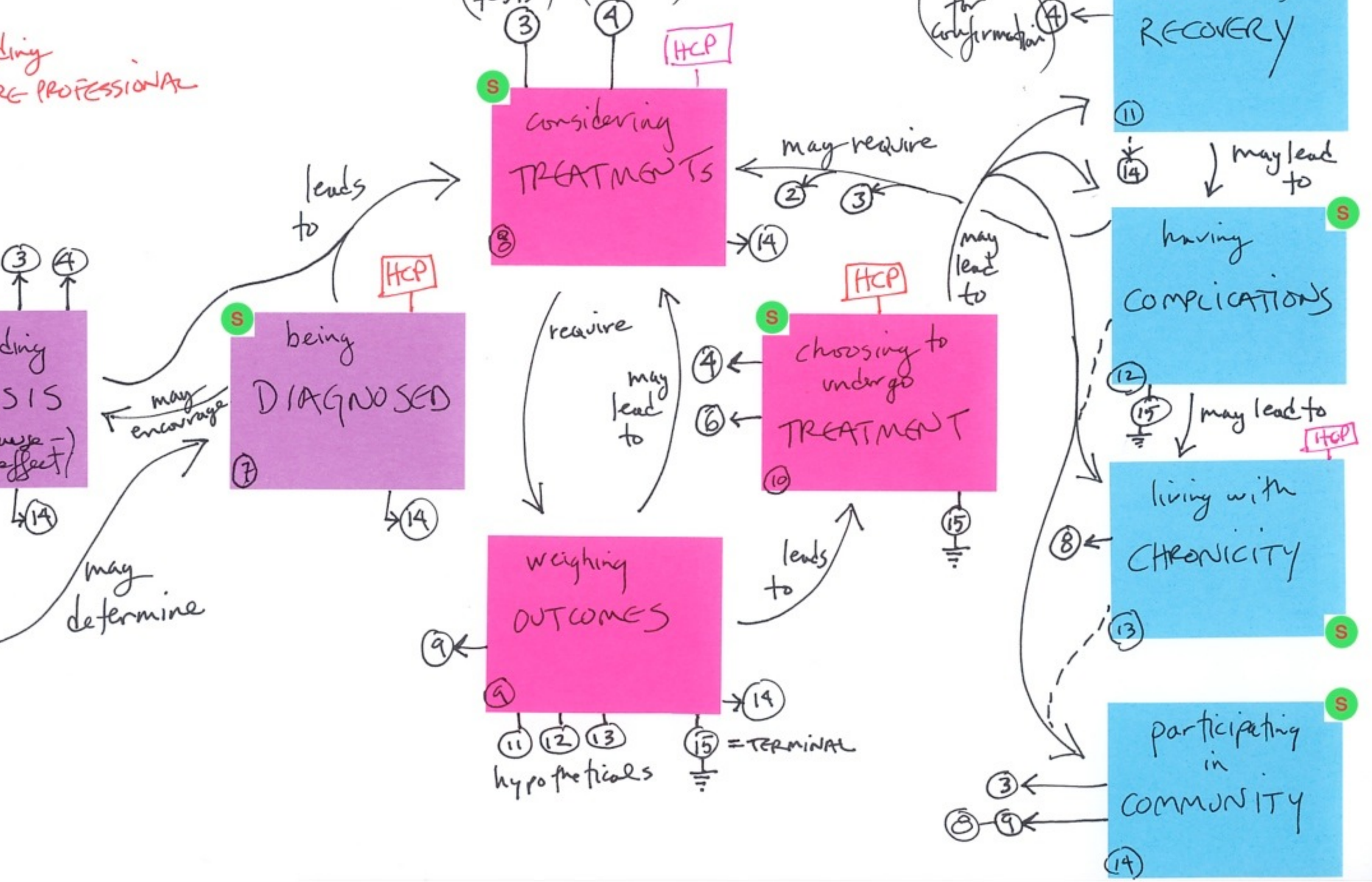
View by:

- Health Topics
- Symptoms
- Drugs
- Visual Health
- Videos
- Slideshows
- Health Blogs
- Health News
- Reference Library

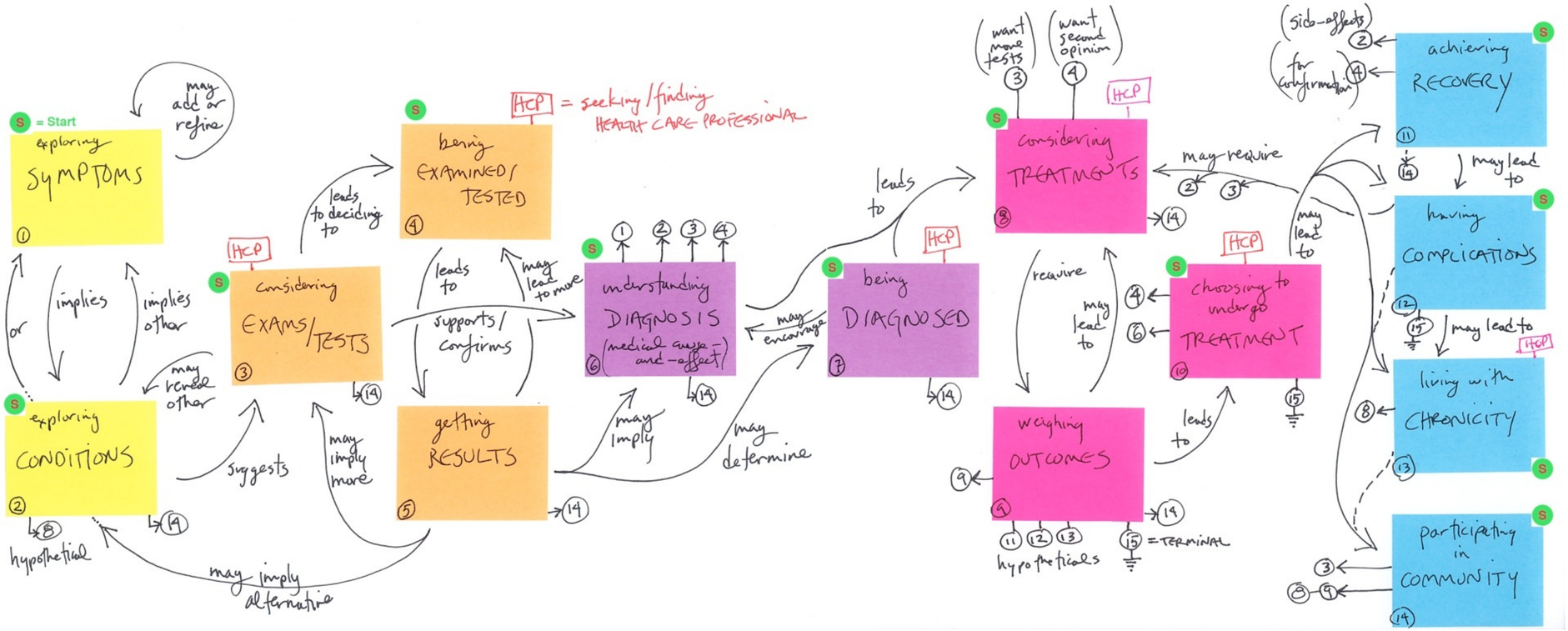


User Conversation Model 2006
Consumer Health Portal


S = Start
exploring
SYMPTOMS
1
may add or refine
exploring
CONDITIONS
2
or
implies
implies other
may reveal other
HCP
considering
EXAMS / TESTS
3
leads to deciding to
being
EXAMINED / TESTED
4
getting
RESULTS
5
suggests
may imply more
leads to
supports / confirms
may lead to more
understanding
DIAGNOSIS
(medical cause – and – effect)
6
may imply
may determine
may encourage
may imply alternative
hypothetical
8
14
HCP = seeking / finding
HEALTH CARE PROFESSIONAL



RECOVERY
considering TREATMENTS
HCP
may require
leads to
being DIAGNOSED
may encourage
may determine
require
may lead to
choosing to undergo TREATMENT
weighing OUTCOMES
hypotheticals
= TERMINAL
may lead to
having COMPLICATIONS
may lead to
living with CHRONICITY
participating in COMMUNITY


= Start
exploring
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may add or refine
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CONDITIONS
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may render other
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considering
EXAMS/TESTS
HCP
leads to deciding to
being
EXAMINED/TESTED
HCP = seeking/finding HEALTH CARE PROFESSIONAL
leads to
may lead to more
supports/confirms
getting
RESULTS
may imply more
may imply alternative
understanding
DIAGNOSIS
(medical cause – and – effect)
may imply
may determine
leads to
being
DIAGNOSED
may encourage
considering
TREATMENTS
want more tests
want second opinion
may require
weighing
OUTCOMES
require
may lead to
choosing to undergo
TREATMENT
leads to
hypotheticals
=TERMINAL
side-effects
for confirmation
achieving
RECOVERY
may lead to
having
COMPLICATIONS
may lead to
living with
CHRONICITY
participating in
COMMUNITY

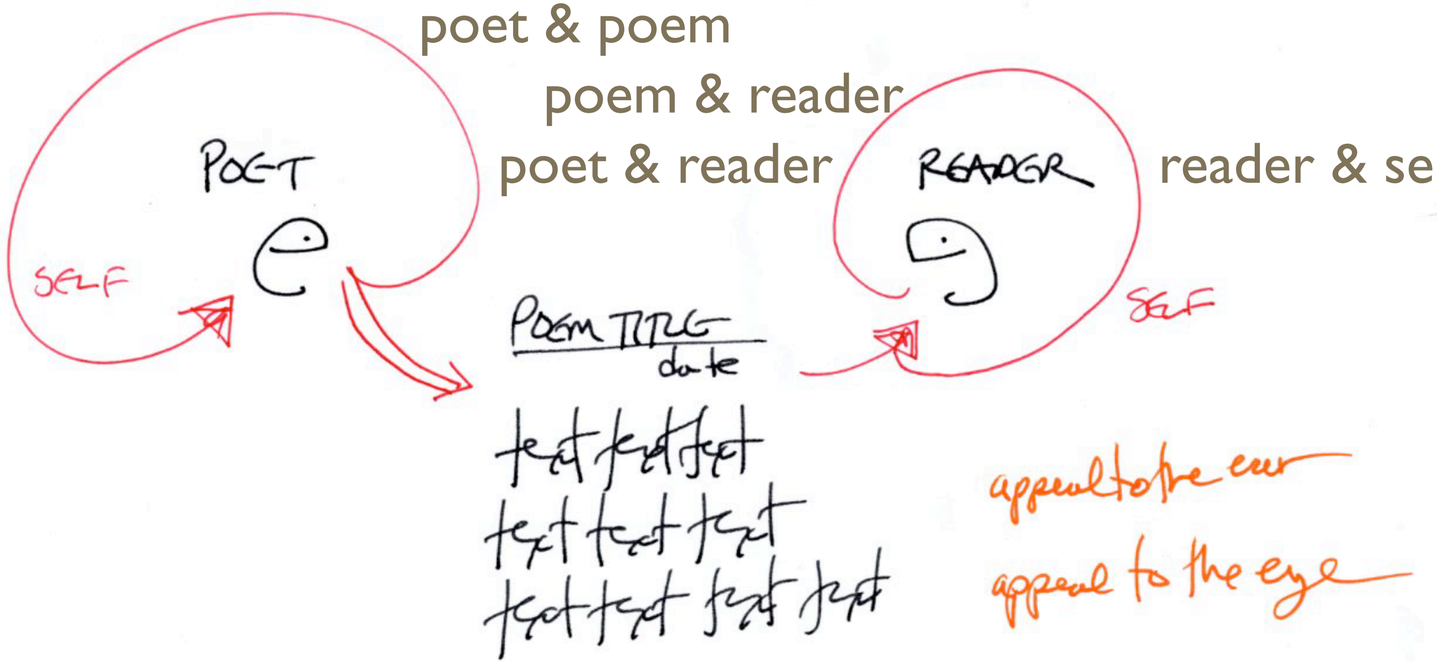
poetry is essentially dialog. dialog is a dynamic relationship.
poetrymachine's purpose is to enact dialog between
poet & self

poet & poem

poem & reader

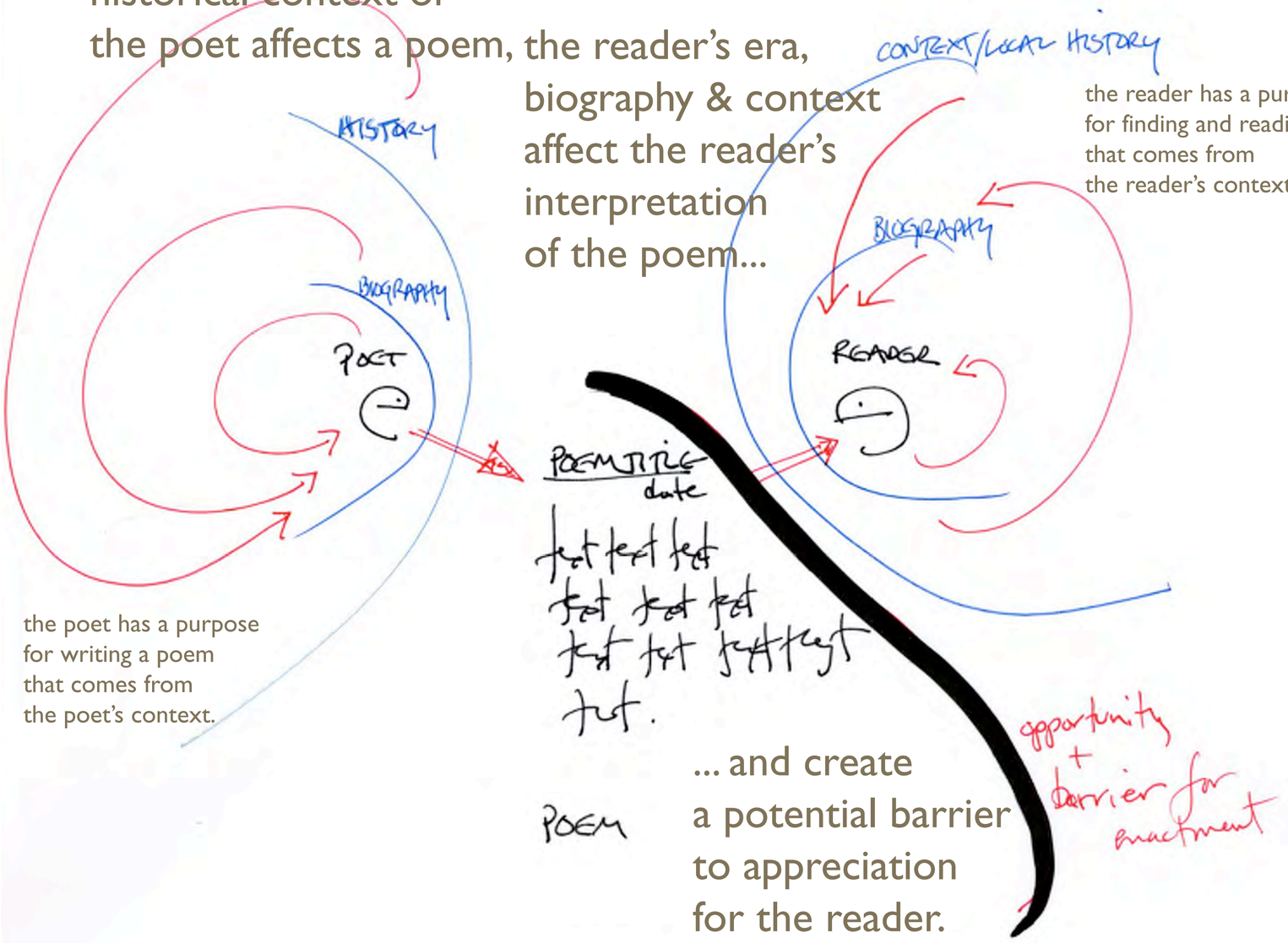
poet & reader

reader & self.



Design for a Poetry Machine 2007
PoetryFoundation.org

just as the biography &
historical context of
the poet affects a poem, the reader's era,
biography & context
affect the reader's
interpretation
of the poem...



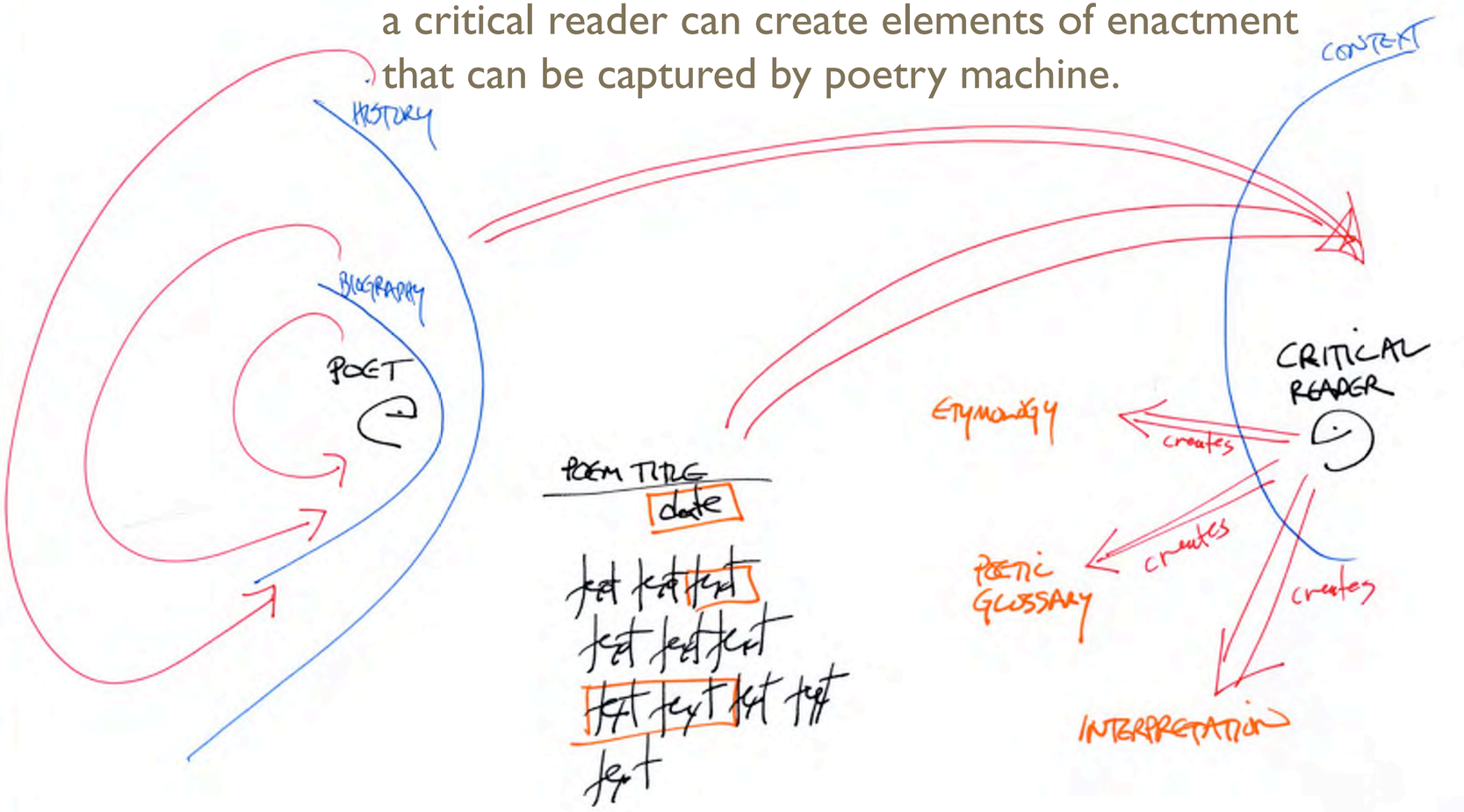
the poet has a purpose
for writing a poem
that comes from
the poet's context.

the reader has a purpose
for finding and reading poems
that comes from
the reader's context.

... and create
a potential barrier
to appreciation
for the reader.

opportunity + barrier for enactment

from an understanding of the poet's biography,
historical context, and the poem itself,
a critical reader can create elements of enactment
that can be captured by poetry machine.

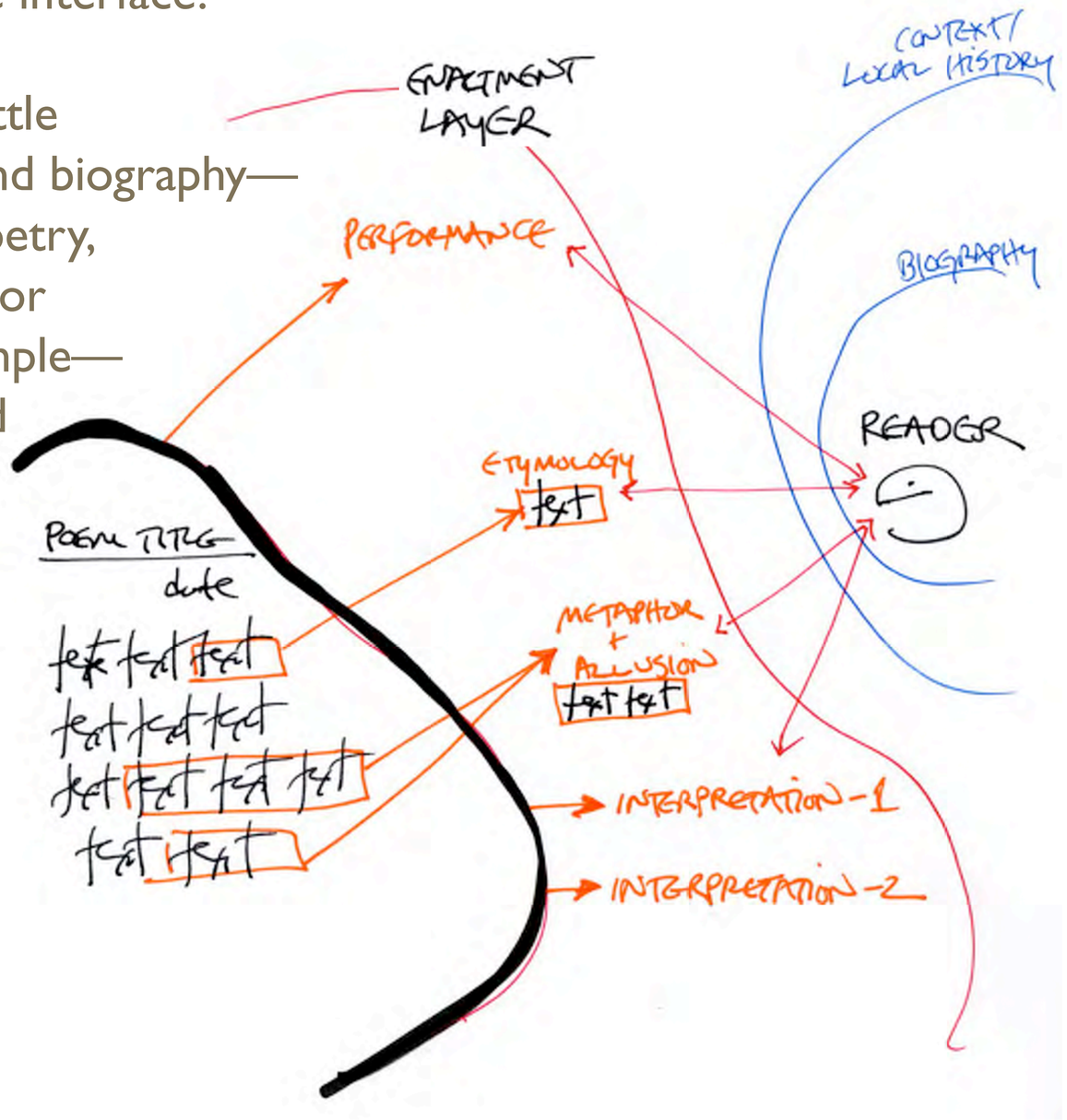


many readers could provide these perspectives,
giving poetry machine a rich storehouse of enactments.

poetrymachine's storehouse of enactments
creates a dynamic software interface.

if poetymachine knows a little
about a reader's context and biography—
level of experience with poetry,
purpose in seeking poetry, or
prior poems read, for example—
it can create a personalized
enactment layer by
choosing specific elements
of enactment to present
to that specific reader.

the enactment layer
enables a dialog
that connects
poem & reader,
poet & reader,
reader & self.



PAUL PANGARO