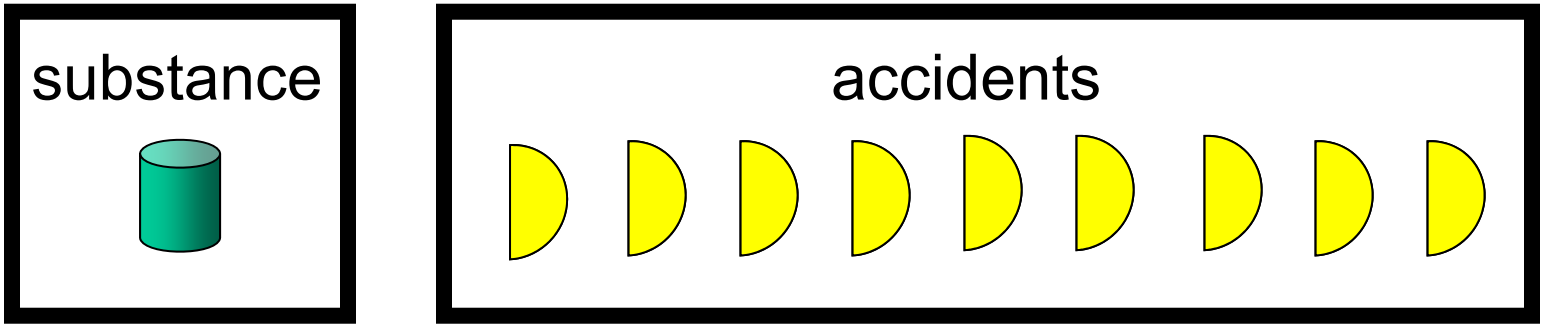
Digitale Umwelten

Barry Smith

EcoTechGender, October 24, 2016

Preamble on Aristotle

Theory of Categories

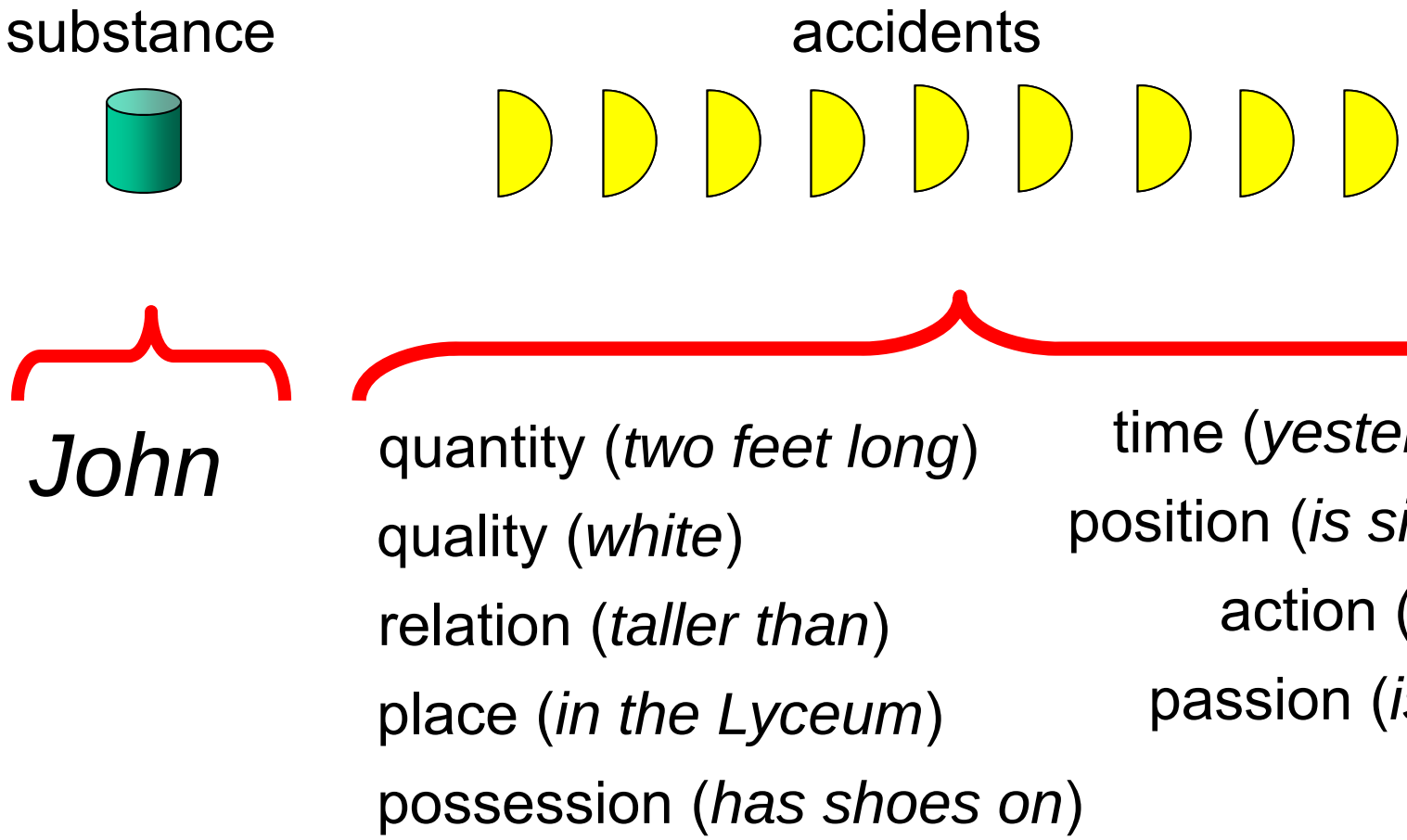


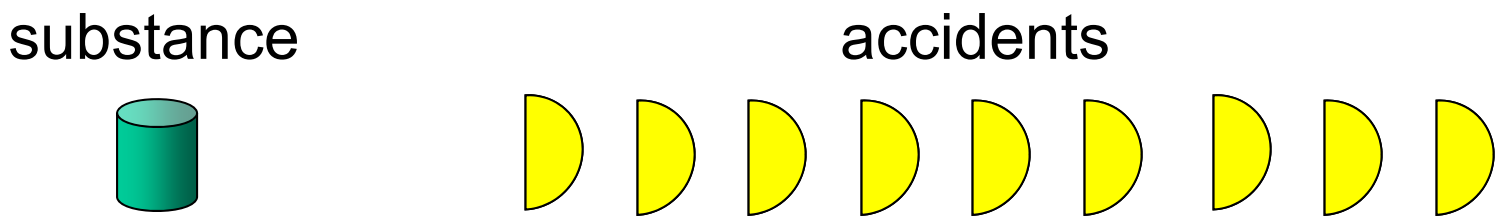
one substantial category

John, man

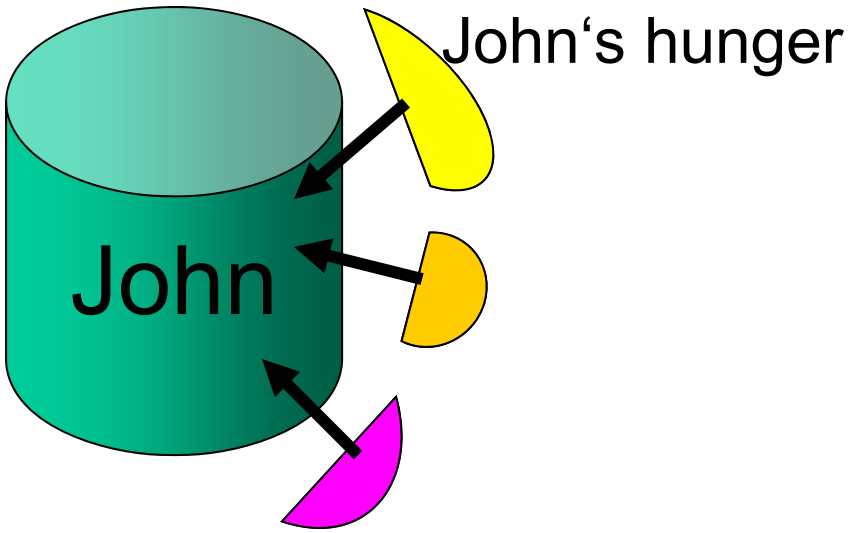
nine accidental categories

your hunger
your sun-tan
your being taller than Mary

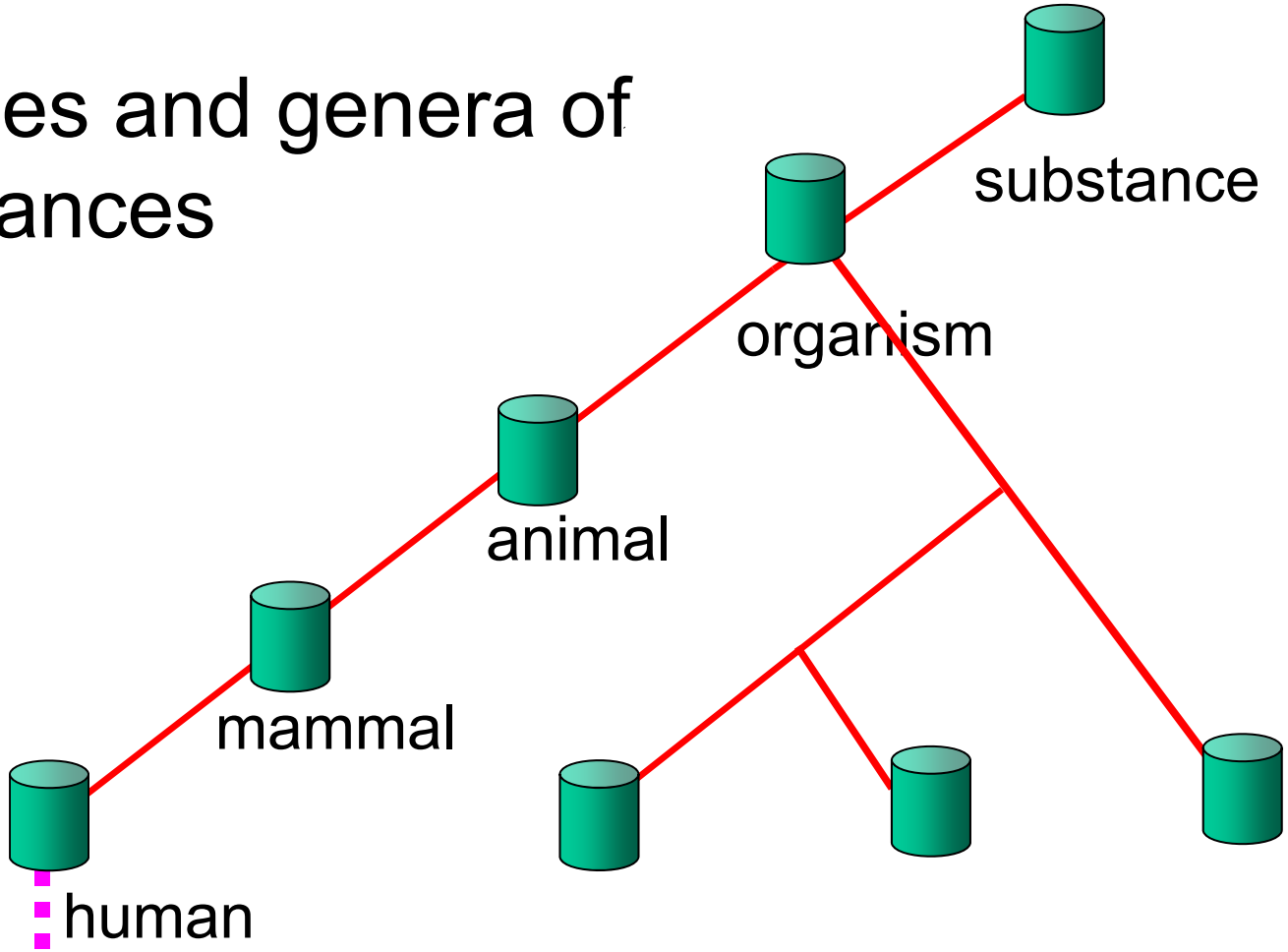

substance
accidents
John
quantity (two feet long)
quality (white)
relation (taller than)
place (in the Lyceum)
possession (has shoes on)
time (yesterday)
position (is sitting)
action (cuts)
passion (is cut)



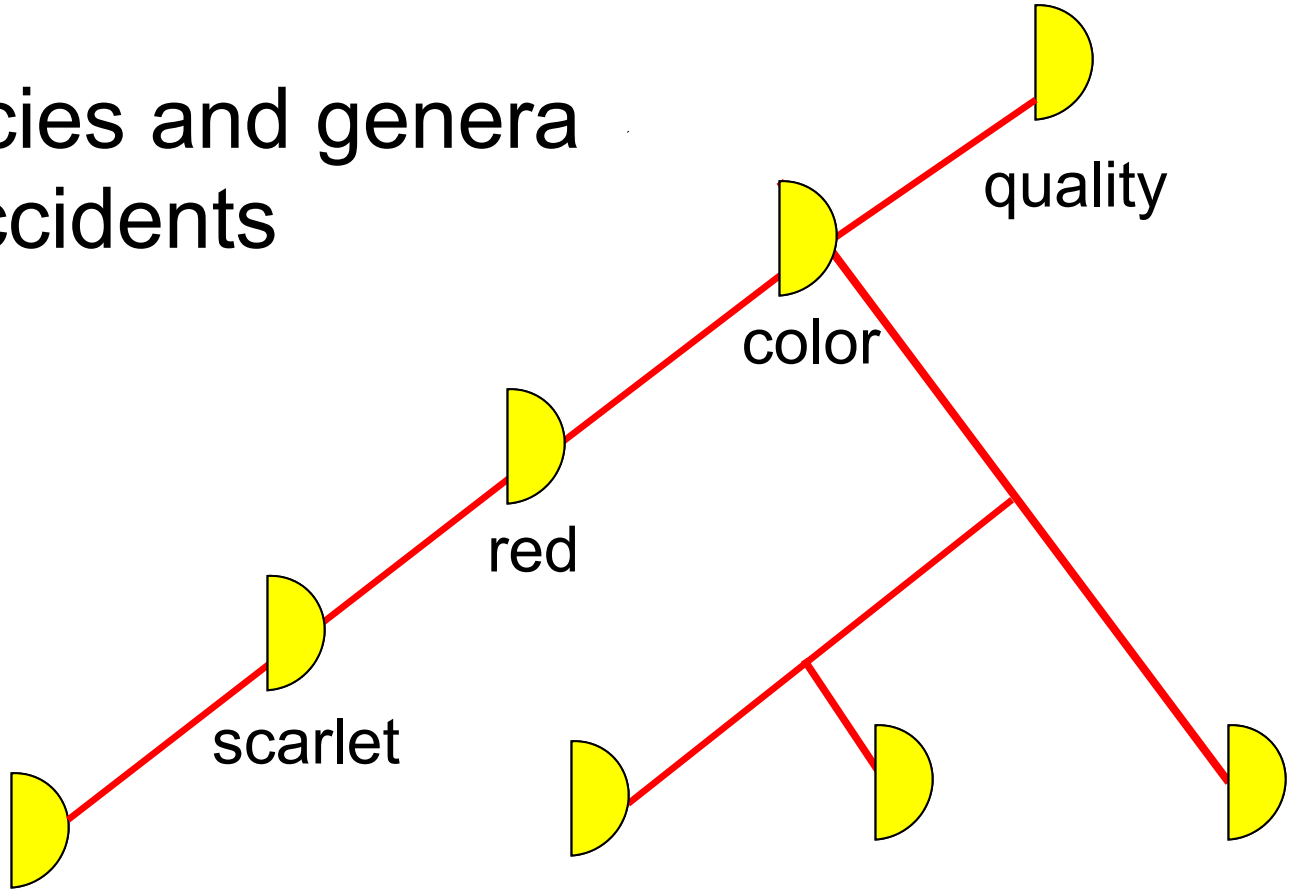
Substances are the bearers of accidents



Species and genera of substances



Species and genera of accidents



this individual accident of redness

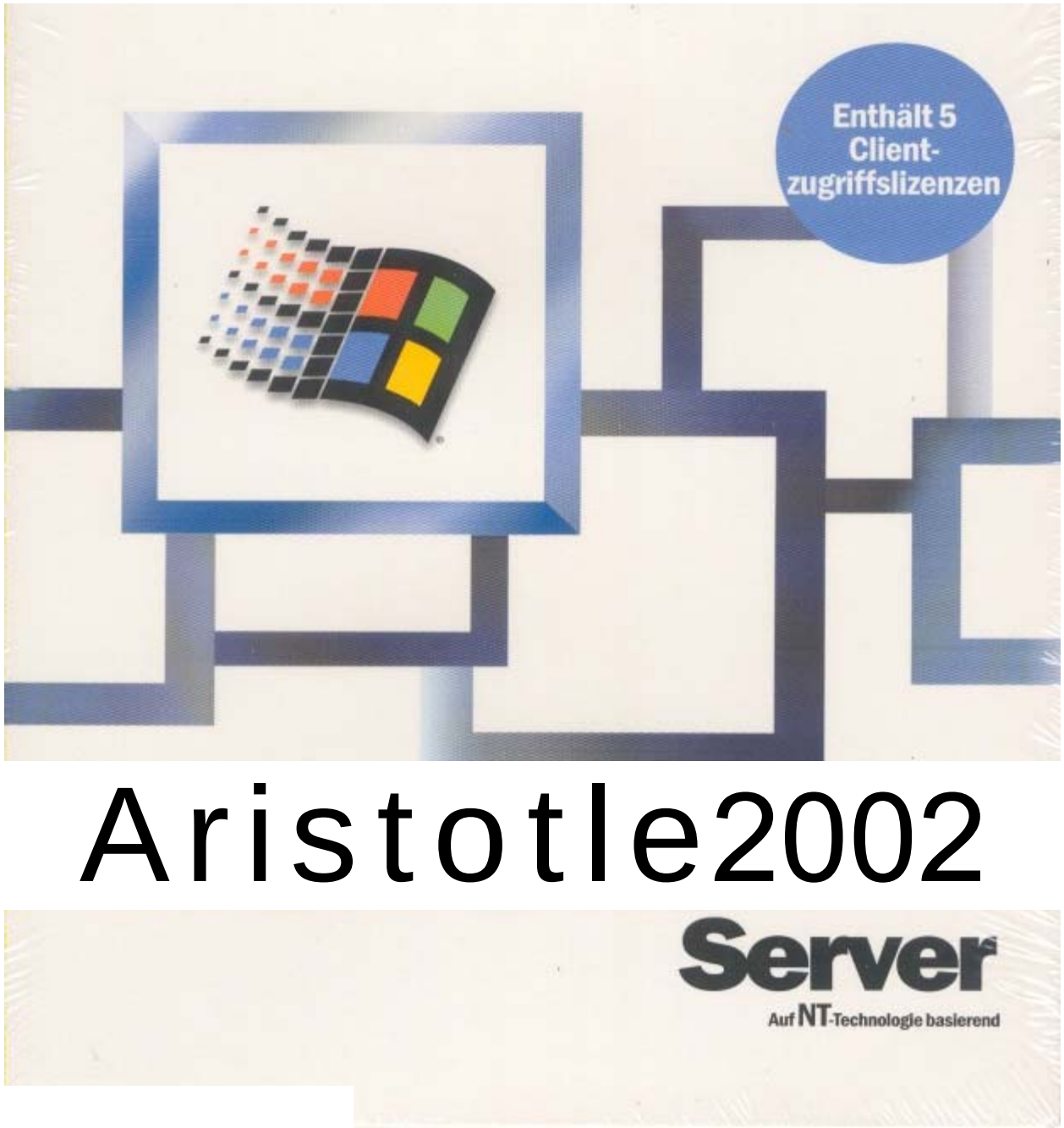
(this token redness – here, now)

Aristotle 1.0

an ontology recognizing:

- genera and species of substances
- genera and species of accidents
- individual instances of substances
- individual instances of accidents

what is missing?



Aristotle2002

Buchheim/Flashar/King (Hg.)

Kann man heute noch etwas anfangen mit Aristoteles?

Meiner 2002

Buchheim/Flashar/King (Hg.)

Kann man heute noch etwas anfangen mit Aristoteles?

Meiner · BoD

ARISTOTELES 2002

Barry Smith[1]

1. Einführung: Kategoriensysteme und ontologische Transparenz

1.1 Ontological Engineering

What Aristotle 1.0 lacks

is the category of *niches, environments* in which organisms live

which are shaped by the organisms which live in them

and which shape these organisms themselves

Environments guide our actions

they provide enclosures, apertures, signposts, pathways, barriers, attractors

which *afford* different sorts of actions

affordances

"The affordances of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or evil."

a glass of beer *affords drinking*

a chair *affords sitting*

a step *affords climbing*

a chin (in the boxing ring) *affords hitting*

a checkbox *affords checking*

a keyboard *affords keying …*

James J. Gibson, *The Ecological Approach to Visual Perception,* 1975

affordance

Angebotscharakter

(auch **Aufforderungscharakter**

oder **Affordanz**)

James J. Gibson, *The Ecological Approach to Visual Perception,* 1975

Environments comprehend systems of affordances

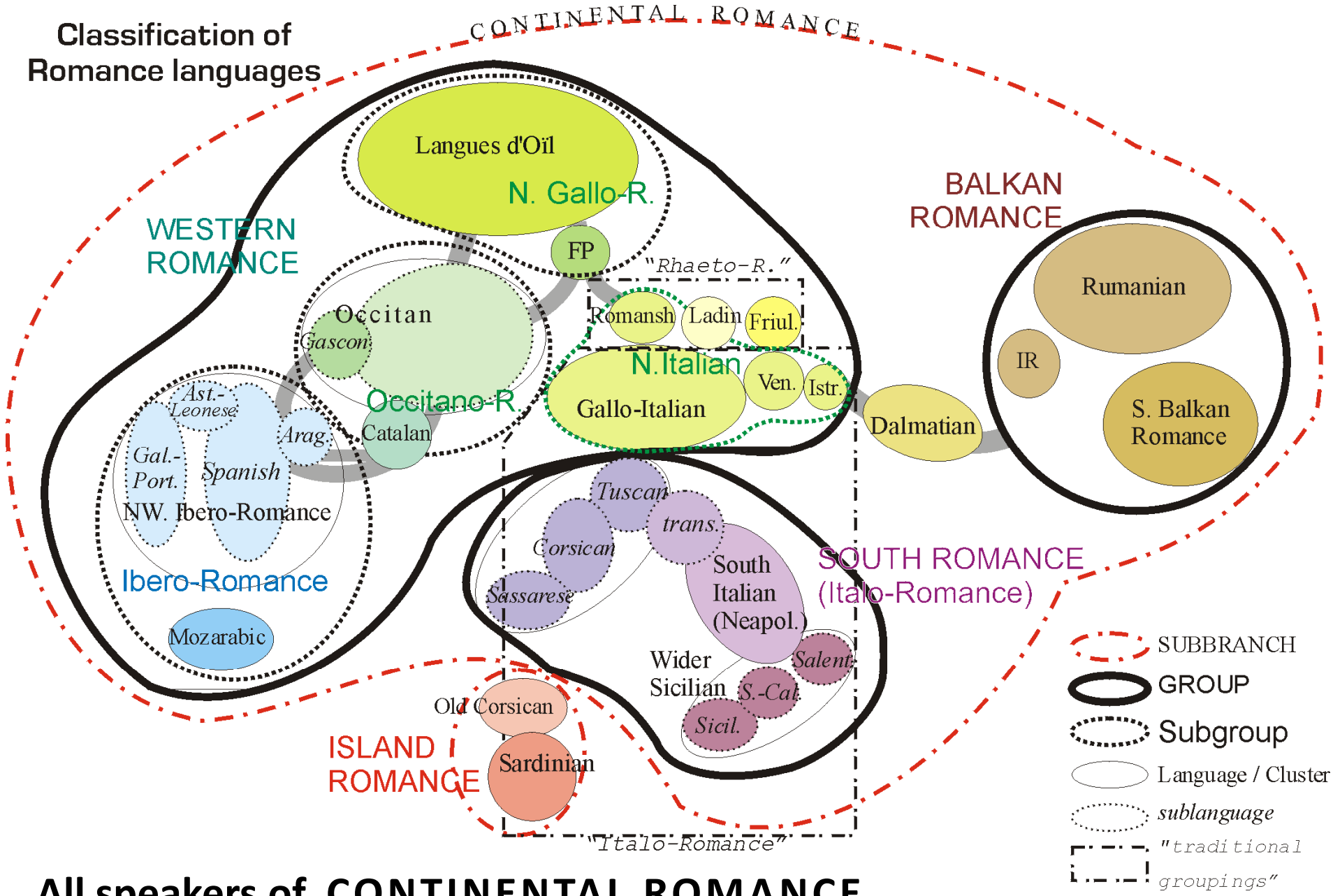
- organisms evolved to fit into these systems of affordances
- for cultural organisms like human beings, we become tuned to the corresponding affordances through training, drill, learning, …

We are trained to use language

Each person acquires a certain complex set of habits and skills, which is their linguistic competence

Persons living in the same community will have overlapping sets of linguistic competences – which is what makes communication possible

These sets of competences will overlap, and merge into each other



All speakers of CONTINENTAL ROMANCE share in common a certain subset of dispositions

Thomas Reid

Reid's theory of 'social operations' (1785)

'social acts' vs. 'solitary acts'

A social act … must be directed to some other person –

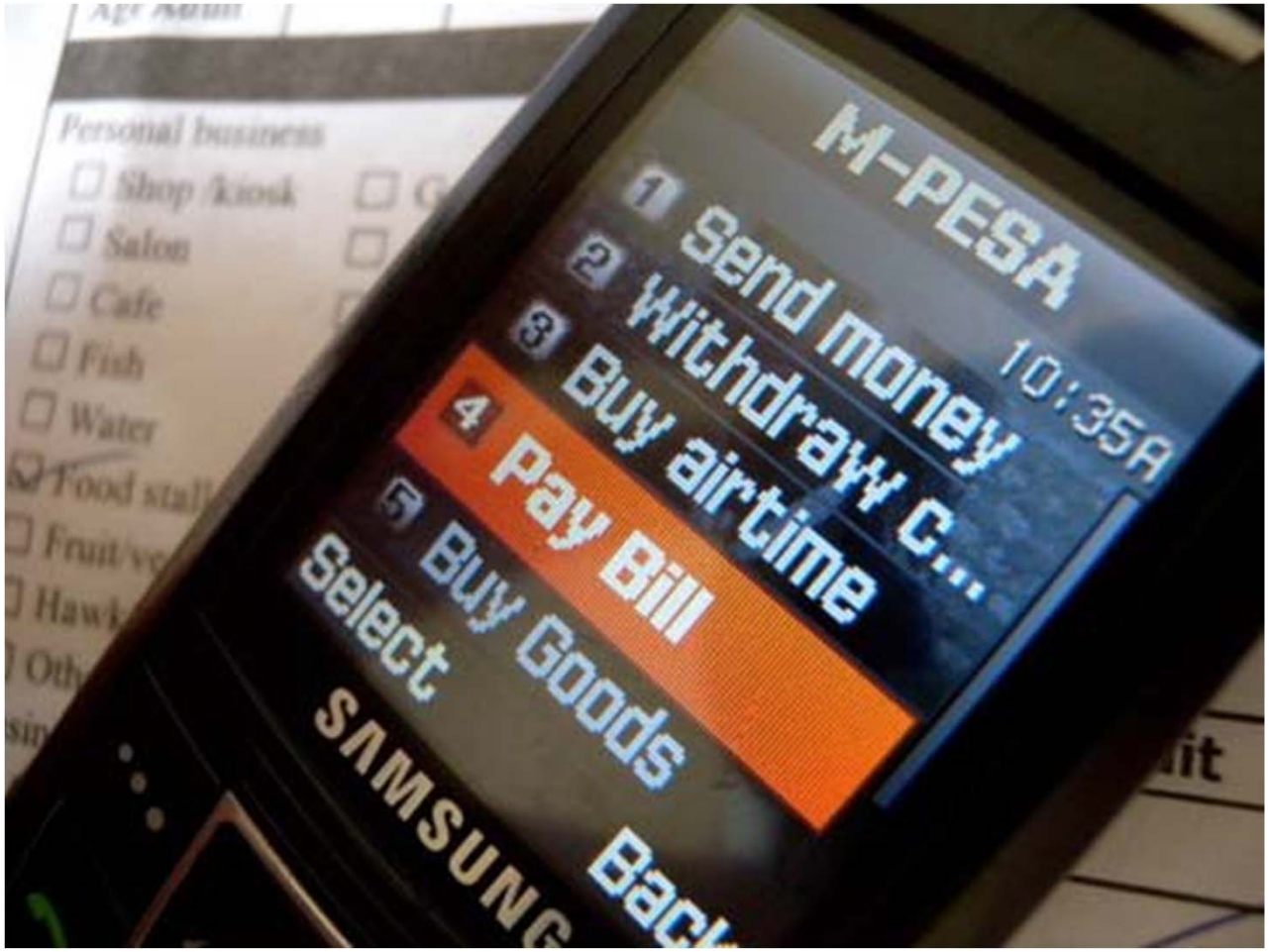
it constitutes a miniature 'civil society'

today communication is mediated in part by our membership in overlapping miniature *digital* civil societies

In Gibson's terms: a mobile phone *affords texting*

digital communication itself is being intermeshed with other sorts of digital activities, through the same linguistic and keyboard competences

a mobile phone *affords banking*



a mobile phone *affords mating*

a mobile phone *changes family life*

Digitale Umwelten

new environments, with new kinds of affordances, through which *people* are being changed in new kinds of ways

People of old were nodes

in biological networks

in friendship networks

in workplace networks …

These networks were held together by face-to-face interactions which run at human speed and have a short half life

The consequences of single interactions rarely cumulated in such a way as to have wider ranging effects

Today everything is different

Today everything is different

Basisinformationen
Die SCHUFA & Ich

SCHUFA macht Kredit möglich

SCHUFA macht Kredit möglich

… by shaping humans

SCHUFA macht Kredit möglich

… by shaping humans

… by shaping the environment in which humans borrow and save

SCHUFA is tied to a host of other networks

banking
real estate
credit cards
employee rating agencies

the effect of which is to make people more credit-worthy – in other words more honest

UBER
Novato
Vallejo
Pinole
Martinez
Antioch
Concord
San Rafael
Richmond
Walnut
Brentwood

The Uber App provides a map of your route as you traverse it

Calculates the fare and deducts it from your credit card

it then allows you to rate your driver for punctuality, cleanliness, …

Uber *customers* can then use these ratings in making bookings in the future

But then, when you leave the taxi, it allows the driver to *rate you*, the customer and these ratings too are stored in the system and used by other *drivers* in the future

The power of data accumulation

Behind the scenes, good behavior is being rewarded and bad behavior punished

customers who vomit in the cab, or who behave aggressively, will find themselves restricted in their use of Uber in the future

Uber is constantly accumulating vast amounts of information on the micro-details of cities; on prospective drivers, riders, and road conditions;

and constantly improving the ways its algorithms instantly present drivers with highly intuitive options – by digitizing transactions

Uber also digitizes safety. The App gives your daughter a photo, name, and license plate for the stranger who picks her up at 2a.m.

It shares a detailed record of her route; which likewise protects the driver, and ensures that the driver does not get lost in unfamiliar parts of town.

Uber makes for better drivers, better cabs, safer rides, better passengers

AirBNB makes for better lodgings, a wider choice of lodgings, better landlords and better lodgers

Amazon.com makes for more informed consumers, which makes for better products

It also makes for cheaper products, as the information asymmetry between seller and buyer is gradually eroded

Tripadvisor makes for better food

as restaurant ratings are constantly updated by ever new customers

Tripadvisor creates a constant competition among restaurants

The internet allows cumulation of the effects of single actions

RateMyProfessors.com

Martha Nussbaum

Professor in the Law department
at University of Chicago, Chicago, IL

ARE YOU MARTHA NUSSBAUM?

Rate this professor | Share

SUBMIT A CORRECTION | LEARN HOW RATINGS WORK

OVERALL QUALITY

3.6

WOULD TAKE AGAIN

N/A

LEVEL OF DIFFICULTY

3.6

HOTNESS

Top 20 Tags for this Professor

See how other students describe this professor.

CHOOSE YOUR TAGS

- **Recommend and Be Recommended –** In the following 3 categories: Professional, Personal, Dating
- **Peeple Number –**Your Peeple Number is the total number of recommendations you have received in all 3 categories
- **Connections –** Find likeminded connections with high Peeple Number scores with our Nearby feature

Reid, Reinach Austin, Searle:

theory of speech acts

“I pronounce thee man and wife”

“Would you like to dance?”

“Can you come to my barbecue?”

speech acts create miniature civil societies

affordances

the perceptual systems of animals are tuned to just those features of their environments which are salient to their actions

for humans these include linguistic features:

- linguistic sounds
- written signs
- printed signs

FOR SAFETY
You must KNOW
German traffic signs

Social institutions come into existence through speech acts

Sometimes intermixed with document acts

IN CONGRESS, JULY 4, 1776.

A DECLARATION

BY THE REPRESENTATIVES OF THE

UNITED STATES OF AMERICA,

IN GENERAL CONGRESS ASSEMBLED.

Scott J. Shapiro, “Massively Shared Agency”, 2013

[Bratman, Searle …] ‘are unable to account for the existence of massively shared agency.’

they ‘have largely concentrated on analyzing shared activities among highly committed participants. The working assumption has been that those who sing duets or paint houses together are all committed to the success of the activity.’

Nowadays we have not only competences for speaking, reading and writing

but also screen (click-) competences

and keyboard competences

neurological re-engineering of human beings through repetitive keyboard action

goes back to the 14th century, when the clavichord and harpsichord were introduced

today repetitive keyboard action has the same importance to human action as speaking or writing

repetitive keyboard action is a principal ingredient of modern kinetic warfare

and of cyberwarfare

Zero Hedge | On a long enough timeline the survival rate for everyone drops to zero.

WWIII? A "Hybrid Geo-Financial War" Between NATO and Russia Is Dangerously Escalating

Submitted by Tyler Durden on 05/21/2016 22:00 -0400

BRICs China Cohen Donald Trump Henry Kissinger Natural Gas Poland President Obama Ukraine

speech acts and document acts now intermixed with digital acts

communities can themselves serve as affordances

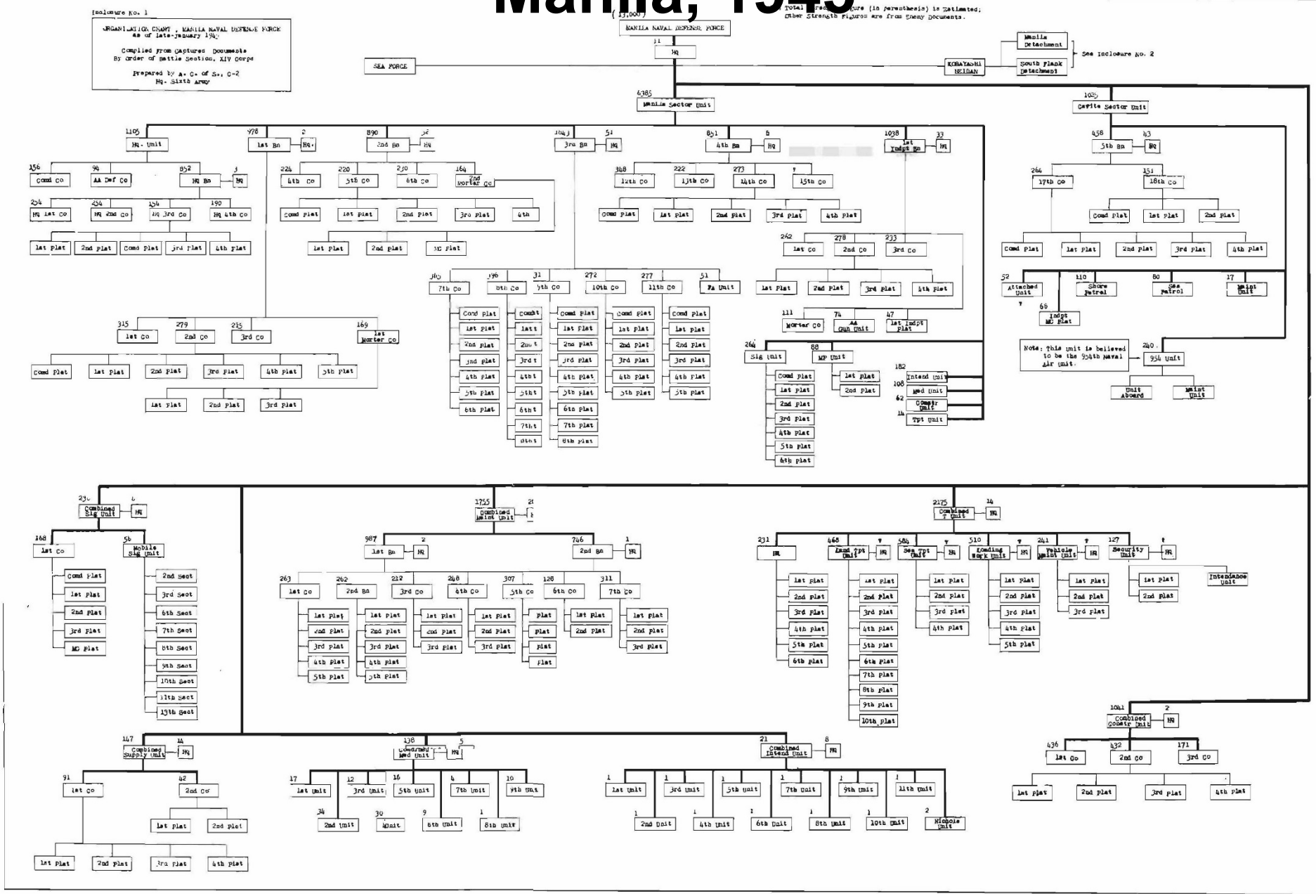
a family *affords bonding*

a group *affords joining*

an enemy encampment *affords bombing*

Some social institutions involve massively complex networks of sub-institutions held together by networks of speech acts and document acts supporting relations of authority and delegation

Org Chart: Japanese Naval Defense Force Manila, 1945



as speech acts and document acts and digital acts become ever more intermixed in every more complex and ever more hierarchical networks

this creates ever more comprehensive civil societies

Social Network Sites as Networked Publics

The affordances of networked publics are fundamentally shaped by the properties of bits, the connections between bits, and the way that bits and networks link people in new ways.

Networked publics are not just publics networked together, but they are publics that have been transformed by networked media, its properties, and its potential.

The Global Jihadi Archipelago

Scott Atran

Soccer, paintball, camping, hiking, rafting, body building, martial arts training, and other forms of physically stimulating and intimate group action [Graffiti Crews] create a small cultural niche: a bunch of buddies who become a “band of brothers” in a glorious cause (Atran 2010).

The Global Jihadi Archipelago

Scott Atran

a new kind of transcultural niche that leapfrogs the limits and responsibilities engendered by previous generations within territories of origin. Here, peer communities of imagined kin—bands of “brothers and sisters” drawn willy-nilly from across more than 100 countries and many more ethnic groups—commit in ritual oaths and performance of sublime acts of terror to a new world order

The Global Jihadi Archipelago
A New Type of Transcultural Niche
Scott Atran

The internet allows cumulation of the effects of single actions

“Publicity hyped by political and media frenzy is the oxygen that fires modern terrorism (Atran 2013), filling a transcultural niche whose ecology ranges over a media landscape (where competition for resources is a struggle for control of information) and a geographical archipelago that spans the globe.”

The Global Jihadi Archipelago

A New Type of Transcultural Niche

Scott Atran

the global jihadi archipelago where information from across the world and cyberspace narrows mightily to fit the dreaming ecology of the Caliphate—a transcultural niche, which … devoted actors of the Islamic State are fighting unto death to make real.

recall Gibson: the environments in which we live provide niches, enclosures, apertures, signposts, pathways, barriers – they *afford* different sorts of actions

affordances

"The affordances of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or evil."

James J. Gibson, *The Ecological Approach to Visual Perception,* 1975

DDoS, October 22, 2016

The Internet is under attack. *The New York Times* reported that "major websites were inaccessible to people across wide swaths of the United States on Friday after a company that manages crucial parts of the internet's infrastructure said it was under attack.

DDoS, October 22, 2016

in a troubling development, the attack appears to have relied on hundreds of thousands of internet-connected devices like cameras and home routers that have been infected — without their owners' knowledge — with software that allows hackers to command them to flood a target with overwhelming traffic.