

Cognitive Science 102b Cognitive Ethnography

<http://thiscourse.com/ucsd/cogs102b/wi13/>
Edwin Hutchins

Topics for today

- Two perspectives on human cognition
 - The view from the psychology laboratory
 - The view through the cognito-scope
- Cognitive Ethnography
 - What is it?
 - How to do it?
- Course Mechanics
- Getting started on project 1

Two Perspectives on Human Cognition

The view from the laboratory (or from the library)

1.0×10^4 Subjects
 7.0×10^1 Events
 7.0×10^5 Laboratory Cognitive Events

“Cognition”

Everyday cognition



Features of cognition (seen from the lab)

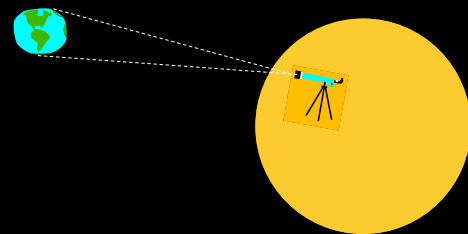
Laboratory

- Common
- Controlled
- Tidy
- General principles
- Generalizable
- Replicable
- Explanatory
- Pure

Everyday

- Uncommon
- Uncontrolled
- Messy
- Particularistic
- Domain specific
- Unique
- Descriptive
- Applied

Observing Earth through the Cognito-scope



Cognitive activity on Earth as seen through the Cognito-scope



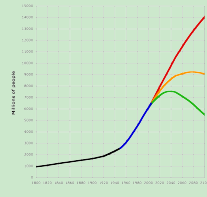
North America seen thru the Cognito-scope



The view thru the cognito-scope

7.0×10^9 People
 1.0×10^3 Events/day
 7.0×10^{12}
Everyday Cognitive Events

“Cognition”



Laboratory cognition
 7×10^5 Subject/Tasks
 Per day
 = one in 10 million

Features of cognition (seen thru Cognito-Scope)

Laboratory

- Uncommon
- In captivity
- Isolated
- Poor Meta-cognition
- Experimenter defines
- Special purpose skills
- Novel tasks
- One-time performance

Everyday

- Common
- In the Wild
- Ecological
- Rich Meta-cognition
- Actor defines
- General abilities
- Familiar tasks
- Repeated performances

Features of cognition (seen from the lab)

Laboratory

- Common
- Controlled
- Tidy
- General principles
- Generalizable
- Replicable
- Explanatory
- Pure

Everyday

- Uncommon
- Uncontrolled
- Messy
- Particularistic
- Domain specific
- Unique
- Descriptive
- Applied

If we do not do experiments,
 what methods can we use to
 learn about cognition?

Cognitive Ethnography

*The true mystery of the world is
the visible, not the invisible.*

- Oscar Wilde

What is Ethnography?

- A method:
 - The systematic study of the lifeworld of a community.
 - How the members of a community live, interact, communicate.
 - The material and ideational aspects of life.
- A product
 - Documentation of a lifeworld

What is cognitive ethnography?

- 1 Accurate records of specific instances of real world behavior.
- 2 Analysis of the cognitive aspects of those instances.
- 3 Use wider ethnography as a source of knowledge about what is being done, what resources are available for doing it, what conventions are used.

Our BIG problem

- Our minds are trained/adapted to systematically **NOT see** many aspects of the organization of activity.
- This happens at all levels of organization.
- You think you are seeing the world you live in, but **most of the interesting detail** – most of the details that must be understood in order to understand cognition in this world - **goes unnoticed**.

Manifestations of the problem

- We consider our own daily lives to be **routine** and uninteresting so we do not attend to the details.
- We **fill in gaps** in visual scenes, thereby failing to **see** the gaps. We rely on the world to provide consistency.
- We **ignore** the **background** in scenes in order to better **see** the figure.

More manifestations of the problem

- We do not **hear** disfluencies in **speech** unless they are overwhelming.
- If we are lucky, we **remember the gist** of what people say to us. We rarely remember the words they used to say it. When we are not so lucky, we remember what we expected or wanted someone to say, and not what they said at all.

More manifestations

- We **understand** the **world** through **cultural models** that make some things obvious and make other things impossible to think. We almost **never see** the cultural models that structure our understandings.
- We effortlessly process **multiple sources** of **information**, yet we rarely attend to the relations among these sources.

What can we do?

- We need tools and techniques to overcome the many manifestations of the seeing-but-not-seeing problem.

Building a microscope for everyday human cognition?

- We need a **cognito-scope**.
- It's a device with about 280 parts.
- **You are it!**
- With it, I intend for all of us to see and understand the world of cognition in greater detail.

Tuning the cognito-scope

- You **must** slow down.
 - Do not be in a hurry to understand.
 - Set aside time to look and reflect.
 - You cannot multitask the seeing of the world. Seeing in detail will take all of your attention.
- You **must** be honest.
 - There is a temptation to fill in gaps in your observations.
 - But you must NEVER report imagined events.
 - You must describe things as they are.
 - Not as you expect them to be. Not as you think they normally occur. Not as you would like them to be.

Think small

- When you have learned how to see your world, you will find that the smallest moment of human activity is loaded with interesting cognitive phenomena.

To overcome the tendency to take the world for granted ...

- Pay attention to detail
- Be methodical
- Plan your observations
- Keep a clear distinction between data and analysis
 - Your data is what you actually recorded
 - Everything else is analysis or interpretation

To counter the tendency to assume that your everyday life is routine...

- Keep a **cognitive diary** for an entire day
 - Noticing and recording what you actually use your mind for
 - And documenting the organization of an everyday activity
- Project 1. Cognitive Diary and Everyday Task Description

To overcome the fleeting nature of activity...

- Choose an activity setting to study
 - Establish rapport with participants and obtain informed consent
 - Stop the action with photos
 - Examine the photos carefully
 - Describe what is in the images
- Project 2. Photo documentation of an everyday activity

To conquer the fleeting nature of speech...

- Record it
 - Transcribe it
 - Find structure that is missed when listening in real time
- Project 3a. A photo-based interview

To learn what matters to others...

- Plan and conduct an **interview**
 - Learn how to listen
- Project 3a. A photo-based interview.

To make the cultural organization behind meaning-making visible...

- Document the conceptual organization of your interview data
 - Identify the logical relations among clauses in the data
 - Describe the cultural schemata that give coherence to the data
- Project 3b. Cultural models in your interview.

To find the structure in on-going activity...

- Capture human action or interaction in video
 - Perform analysis of video
 - Document the details of multimodal interaction
- Projects 4 and 5. Analysis of activity in video from your setting.

Cognitive Science 102b Cognitive Ethnography

<http://thiscourse.com/ucsd/cogs102b/wi13/>
Edwin Hutchins

Instructors

- Professor Edwin Hutchins
 - Office Hr. Friday 1-2, CSB 175.
 - ehutchins@ucsd.edu
- TAs
 - Richard Tibbles
 - Dario Gutierrez
 - Adam Mekrut
- IAs
 - Ram Dixit
 - Ren Nakanote

Course Mechanics

- Readings
 - Course web page: <http://thiscourse.com/ucsd/cogs102b/wi13/>
- Projects
 - Five projects at Calibrated Peer Review:
 - <http://cpr.molsci.ucla.edu/>
- Quizzes
 - In class, on readings
- No Final Exam!
- Discussion Sections
 - Start Friday.

Basis of your grade

Project 1	100
Project 2	125
Project 3	150
Project 4	100
Project 5	150
Quizzes	50
-----	-----
Total	675

Projects Overview

- Submit text to CPR on time.
- Grade will include quality of the writing (spelling, grammar, headers, etc.) and relevance to the lectures and assigned readings.

Cheating

- Academic dishonesty is absolutely NOT permitted!
- Do your own work.
- You may work in teams on some aspects of the projects (to be discussed with the project assignments), but you will always write and submit your own papers.

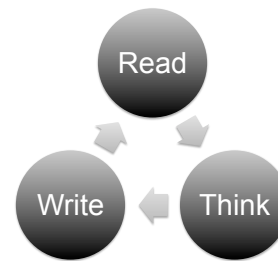
This offer includes:

- The ability to see cognition in ongoing activities
- The ability to see below the surface of things
- A robust and effective B.S. detector
- A better understanding of who you are with respect to the rest of the world
- Conceptual tools you can use after you graduate

- Mon, Jan 7, 2013 at 11:14
- Idris His
 - To: ehutchins@ucsd.edu
 - Hi Ed.
 - Happy New Year! I hope that you're doing well.
 - I'm currently a user experience researcher with JP Morgan and Chase in Seattle. However, this spring I'm going to be teaching a course on qualitative methods to the 1st year PhD students in the Human Centered Design and Engineering department at the University of Washington. Thinking about how I plan to teach this course got me thinking back to my roots in ethnography and transcript analysis and the things I learned from you at UCSD.
 - So, thanks again for being a great teacher and adviser.
 - Best wishes!
 - Idris

But Wait!

If you order now, you also get...



You also get

- The ability to read and critically evaluate written arguments
- The ability to think critically about your own arguments and those of others
- The ability to write coherent and persuasive arguments

For Thursday

- Read the article:
 - Neisser, “Memory: what are the important questions?”