

15.301/310, Managerial Psychology
Prof. Dan Ariely
Lecture 4: Memory

(a dash “-“ indicates student responses)

What if you couldn't remember more than a week? What would it be like?

What do you know about memory, having experienced it?

-learning in 7.012

You've had 21 years of memory – what do you know about this system?

When are your first memories?

-memory fades with time

Most, but not everything. Some things you remember all the time, circumstances bring it about

-triggered

We do not have perfect control

Things to remind us

-associations

-things relate to others easier

-touch, smell, visual memory

-short and long term memories

How do you know this short/long term memory?

-remember a phone number for awhile, then forget when someone asks you.

Memory is partly a representation of what is happening, and partly we make it up.

Great, we know something about memory.

One way to think about memory:

Exposed to stimuli

Goes through attention

Working memory and long term memory

A lot of cognitive psychology looks at computation, how is the mind like computers?

Hard drive/ ram: Short term – 15, 20, 30 seconds

Memory is even shorter – iconic memory. Look at me, then close your eyes. The image lasts about 200 ms.

Short term – if there is too much information, some gets lost.

Example: I will read some numbers, you won't know when I am going to stop. At some point, I'm going to ask you to remember the last three.

[reads numbers, has class try to remember]

This is quite hard even though it doesn't take a long time.

If I ask you now the last 4, you won't remember, they are already gone

You can remember 5 separate things. But if you put them together, it becomes one thing eg.: Big grey elephant in the forest

Grouping things together makes it easier.

We don't have people who don't have memory

Some have isolated, short and long term memory.

It is sad to see people like this. You can hold a conversation with them, then turn around.

When you turn back, they won't remember you.

These people can't transfer stuff to long term memory

Every day when they find out their parents died, they start crying again.

Long term memory:

Some things are constructed and some things last forever. It doesn't seem like there's a capacity constraint. There is not too much information

My representation of how memory works:

There is the outside world, reality.

But memory is everything we have to work with

In fact, all of you are a figment of my imagination. You can imagine I am just a brain.

The only thing we have access to is the internal world.

How we organize it: memory is organized by categories, sometimes with criteria

If you go to psychology class and asked about physics, sometimes it is hard to answer, even if you know it.

Is an ostrich or a robin more of a bird? An ostrich is an outlier.

Things can belong to multiple categories.

Mazda protégé is a car, it is Japanese, etc

The representation is based on all of these categories

At the beginning you create preferences and beliefs

And finally, you use the representation to express

Frame of memory -

Perception is the basic unit

Organization
Comprehension
Expression of beliefs, attitudes

Specific Memory Effects

Constructed memory

You might remember something from when you were 2, but if your mother keeps repeating a story for 17 years then the next thing you know, you think you remember it. It doesn't have to be real, we can easily create these memories.

How many of you have a feeling that you make up a lot of your memories?
Not many, there is little way to know.

Evidence about constructed memory

Loftus did a lot of the work

In ½ hr, Loftus convinced people that, when they were 5, they lost their mother in a mall, then a gentleman with a gray hat came and walked around with them until they found her.

She made it up, and it took 4 hours to subsequently convince the subjects that she made it up.

It is very easy to convince people

Many people falsely remember shaking Mickey Mouse's hand at Disneyland

This is the part of class for life:

So we construct memory – what should we change about life?

-Make happy memories

When you are fighting, say to your partner - so memory is constructed, let's say that 5 years ago, I said this, you said this...
Try it, tell me how it works.

Commercials create memories: do you remember when you were 5, it was cold outside, and mother made Campbell's soup? Maybe you did not live in a cold place when you were 5, but you remember the soup...

Evidence of child abuse from early childhood

There was a famous case in LA

A girl suddenly remembered being sexually abused

Her father was arrested, went to jail, then was convinced that he did do it.

The psychologist thought it was funny, and the case was tried with new evidence

The psychologist implanted memories that could not have happened
This father and daughter were particularly good at making up memories

There have been other similar cases, and it looks like none of them are holding water.

If you are Freudian, it is hard to say this is nonsense, it is a big part of the belief.

How are you today?

-fine

Do you have siblings?

-older brothers

Did your brother ever hit you?

-no

Okay, so how could it have happened?

And your second brother, how could he have hit you?

Once we create a vision in our mind, we remember it and we can't tell the difference.
Psychologists help people create repressed false memories.

How can you prove it? Psychologists can say that people believe this. But we can't go
back in time to check

What can we do?

-Plant false memory

Hint – paper you read for today

One of the things people remember is being abducted by aliens.

Look at these people – this is a central part of their life

Look at the memories – isolated something here

Alien abduction!

By Susan Clancy

She was persecuted by the alien abducted community afterward

Sometimes people wake up and are still slightly paralyzed. They are between awake and
asleep

This is a starting point for making these memories

Alien abductees have slightly different characteristics than we do – anyone know? Those
that read the paper? Okay, we'll ask you again in the exam

Source monitoring

Have you ever told a joke back to a friend that you didn't remember earlier?

There is a big problem with eyewitness memory

A judge can say – ignore this comment, but the comment and the judge's statement are
stored in separate places. Later you remember the comment well and that there was
something special about this comment. But you don't remember what.

Video:

“Alien Abduction.” *Penn & Teller: Bullshit!* Directed by Randall Moldave, Star Price, Tim Rogan, Scott Schafer. Showtime, 2004.

People really believe this
It is really changing their life fundamentally.

Friday there is a second experimental session
It is an auction with specific slots in time – sign up for one of those times
If you put yourself down, please make sure you come at that time.

Two more things
First, the George “Constanza” effect

There is an annoying guy, but over time we like him
With exposure, we learn to like things more and more.

Evidence for mere exposure

People were shown Chinese characters, then asked which they liked. Once they’d seen it up to a certain level, it increased their liking, then after that, their liking decreased.
The first letter of your name – you are exposed more under positive experiences

The TA will tell you some things created in the media lab to help and improve memory

TA:

Relate to aliens
Brad Rhodes - 5 years ago wearable technology
Eye display, constant readout of information based on what he says and what someone says to him. Like email, shows up as lines of text
Desktop application as well as display.

Ariely
Location specific, as well as people specific
Memory works in terms of association.

ARIA – tag images
As you create email, it would try to bring up appropriate images. It would tag the email archive as well as be able to send images with email

Memory prosthesis
Huge logs of conversations, look up later

My research
Memories coincide with your theories

What do you use as a memory prosthetic every day?
There may be some in our routine you don't think of

Do you know numbers of friends more now, or 10 yrs ago?

-none now, cell phone knows it

Know email addresses?

Autocomplete

Spelling – remember more when being tested?

Google – huge memory prosthetic!

-search inside a book is good for that too

Ariely: we're out of time

Wednesday - probability theory, bring calculators, statistics text.