Presentation 12: Situations

Herbert H. Clark
Stanford University

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George Miller

What happens as we read a descriptive prose passage? ...

Images. One approach is introspective. Indulge me, therefore, by participating in an experiment of self-observation. Below is a descriptive passage taken from Henry Thoreau's Walden. Read it attentively, but at the same time try to keep track of what is going on as you read:

2

Walden (Henry Thoreau)

"Near the end of March, 1845, I borrowed an axe and went down to the woods by Walden Pond, nearest to where I intended to build my house, and began to cut down some tall, arrowy white pines, still in their youth, for timber. . .

It was a pleasant hillside where I worked, covered with pine woods, through which I looked out on the pond, and a small open field in the woods where pines and hickories were springing up.

The ice in the pond was not yet dissolved, though there were some open spaces, and it was all dark-colored and saturated with water."

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Miller continued: Memory image

My introspections on reading this passage persuade me that ***I built something in my imagination***--a sort of mental picture to which I added details as I encountered successive phrases and sentences. ...

I shall call it a 'memory image'...

My memory image grew piecemeal in roughly the following way. First, I read that the time was late March; I formed no image at this point, but filed it away for possible use later.

Next, I saw an indistinct Thoreau borrow an axe from an even less distinct somebody and walk, axe in hand, to some woods near a pond.

The following phrase turned the trees into white pines, and I saw Thoreau, his back toward me swinging his axe on them. ...

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Miller continued:

One way to characterize the change that occurs in reading, therefore, is to say that ***you construct an image as part of the process of understanding the passage***, and that the image helps you to remember what you have read. ...

5

Miller continued: Semantic models

Models. This account of imagery formation will be persuasive to many people, but let me now describe another way to characterize what went on as I read the sample passage.

First, I cleared my mind of other matters. This initial attitude was one in which, potentially, any state of affairs at all could be represented. When I read the first sentence and encountered Thoreau borrowing an axe, ***I used that information to narrow down the variety of possible states of affairs*** to just those that included Thoreau borrowing an axe. ...

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Miller continued: Images vs. models

When I described my imagery, I described the process as ***constructive***. The second account I have given is not constructive, but ***selective***. ... If we are to take the selective hypothesis seriously, we must be clear that the sets of possible states of affairs among which the reader is choosing are not images. ... I shall call them 'models' of the passage ... [or] ***semantic models***. ...

A semantic model for a given text, then, is the set of all possible states of affairs in which all of the information in the memory image for that text is true. ...

Since [images and models] seem different, you might be tempted to ask which is correct. I claim that both are correct."

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Traditional distinction (à la George Miller, 1979)

> ***Semantic models***
> "I used [each sentence of the narrative] to narrow down the ***possible states of affairs***"
> *Selective* process

On reading Thoreau's *Walden*   8

Miller's "semantic models"

Words specify *categories*

dog	➜	[category of animal]
huge	➜	[category of relative size]
eat	➜	[category of activity]

Syntax, semantics specifies *combinations of categories*

"The huge dog is eating a bone" ➜

huge(x), dog(x), eat(x,y), bone(y)

"Propositions"

Traditional distinction *(à la George Miller, 1979)*

Semantic models	***Memory image***
"I used [each sentence of the narrative] to narrow down the ***possible states of affairs***"	"I built something in my imagination—a sort of ***mental picture*** to which I added details"
Selective process	*Constructive* process

On reading Thoreau's *walden*

"Memory images" represent …

Visual appearances	Bransford, Hörmann, Huttenlocher, Zwaan
Spatial relations	Denis, Glenberg, Johnson-Laird, Tversky, Bower, Clark, Morrow
Deictic perspectives	Bower, Clark, Morrow, Segal
Sounds	Halpern
Touch	Klatzky et al.
Enteroception (motor)	Casasanato, Zwaan
Suspense	Gerrig

How are they created?

Scripts	Schank & Abelson, Bower
Mental models	Johnson-Laird, Garnham, Gentner
Mental simulation	Kahneman & Tversky, Zwaan, Goldman
Embodiment	Barsalou, Glenberg, Zwaan
Motor resonance	Zwaan
Imagining	Walton, Clark

Traditional distinction *(à la George Miller, 1979)*

Semantic models	***Memory image***
"I used [each sentence of the narrative] to narrow down the ***possible states of affairs***"	"I built something in my imagination—a sort of ***mental picture*** to which I added details"
Selective process	*Constructive* process

Conceptual imagination "I am ***imagining that*** …"	Perceptual imagination "I am ***imagining seeing, hearing, feeling, doing*** …

On reading Thoreau's *Walden*

Situational representations

Situational representations

Situational representations are …
1. constructed
2. updated with each piece of new information
3. manipulable
4. perceptual-like
5. "experienced"

Functions
1. help interpret each new utterance
2. keep track of elements in situation being described

What is represented (among other things)
1. visual/spatial information
2. script information (typical practices)
3. cause and effect
4. emotion

Features of *visual-spatial* representation S

1. S is a 3-dimensional Euclidean ***frame of reference***
2. S represents ***viewpoint of observer at origin of S***
3. S includes physical entities—people, animals, things
4. Each entity is located with respect to the frame of reference
5. Certain entities (figures) are seen with respect to other entities (landmarks)
6. S is often ***experienced as unfolding in time***

Recognition memory (Bransford, Barclay, Franks)

1. Three turtles rested *on* a floating log and a fish swam *beneath them*. (target)
2. Three turtles rested on a floating log and a fish swam *beneath it*. (easily confused with target)
3. Three turtles rested *beside* a floating log and a fish swam beneath them.
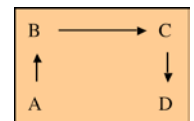4. Three turtles rested *beside* a floating log and a fish swam beneath it.

Layout descriptions (Manni and Johnson-Laird,1982)

Determinate layout:

A is in front of B
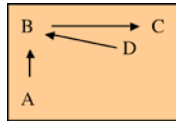
B is left of C

C is behind D

Used "fork" "knife" "cup" "spoon" etc. for A, B, C, and D

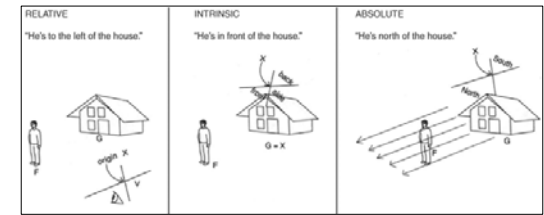## Layout descriptions (Manni and Johnson-Laird,1982)

Indeterminate layout:

A is in front of B

B is left of C

D is right of B

Frames of reference (Levinson)

Intrinsic	Refers to intrinsic properties of reference object
	"He is in front of the house."
	"The fly is crawling up his leg [of a man lying down]"
Relative	Refers to position of speaker and addressee (origin at speaker, or at addressee)
	"He is to the left of the house [*from here*]"
	"The man is on the other side of the house *from you*"
	"The house is beyond city hall [from here]"
Absolute	Refers to absolute directions
	"He is north of the house"
	"The bird is flying above the tree"

Frames of reference (Levinson)

RELATIVE — "He's to the left of the house."
INTRINSIC — "He's in front of the house."
ABSOLUTE — "He's north of the house."

Frames of reference (Levinson)
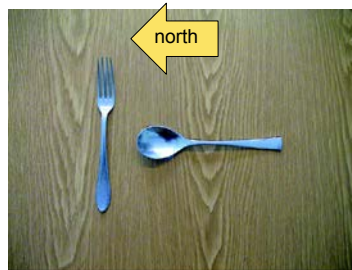
north

Relative: The fork is to the left of the spoon
Absolute: The fork is to the north of the spoon
Intrinsic: The fork is at the nose of the spoon

Frames of reference in linguistic choices

Deixis:

this, that, here, there + gestures

come, go, bring, take: toward or away from S, H

this side, the other side

in front, in back (of a non-featured object)

left of, right of

Verb tense and aspect:

present vs. past: *is* vs. *was*

imperfect vs. perfect: incomplete vs. complete: *went* vs. *had gone*

non-progressive vs. progressive: *went* vs. *was going*
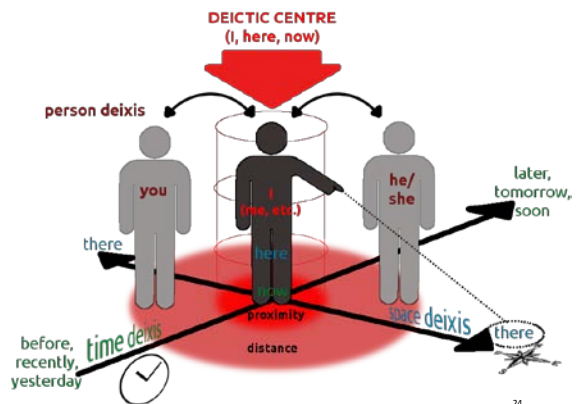
Ernest Hemingway, "The Killers"

"The door of Henry's lunchroom opened and two men came in."

Questions

1. Who opened the door?
2. Where are the two men when you are first aware of them?
3. Where is the story being told from?
4. Where are *you* interpreting the sentence from?

Ernest Hemingway, "The Killers"

"Two men opened the door to Henry's lunchroom and **went** in."

Questions

1. Who opened the door?
2. Where are the two men when you are first aware of them?
3. Where is the story being told from?
4. Where are you interpreting the sentence from?

Event descriptions (Black, Turner, Bower)

Consistent point of view:

Bill was sitting in the living room reading the paper, when John came into the living room.

Changed point of view:

Bill was sitting in the living room reading the paper, when John went into the living room.

Event descriptions (Black, Turner, Bower)

Consistent point of view:

Alan hated to lose at tennis. Alan played a game of tennis with Liz.

After winning, she came up and shook his hand.

Changed point of view:

Alan hated to lose at tennis. Alan played a game of tennis with Liz.

After winning, she went up and shook his hand.

Motion verbs and prepositions (Morrow, 1985)

Bill and Kathy prepared to go for a drive to the mountains.

Bill went outside to wait for Kathy in the car.

Kathy freshened up before leaving.

Suddenly Kathy noticed that she didn't have her sunglasses.

She walked from the study into the bedroom.	***She walked past the living room to the bedroom.***
She didn't find the glasses in the room.	She didn't find the glasses in the room.
Which room is referred to?	***Which room is referred to?***
bedroom 77%	bedroom 21%
study 21%	living room 73%

Pronoun resolution, foregrounding (Glenberg et al.)

1. Warren spent the afternoon shopping at the store. [setting]
   +He ***picked up his bag*** and went over to look at some scarves.
   He had been shopping all day. [filler]
   He thought it was getting too heavy to carry. [target]
2. Warren spent the afternoon shopping at the store. [setting]
   +He ***set down his bag*** and went over to look at some scarves.
   He had been shopping all day. [filler]
   He thought it was getting too heavy to carry. [target]

RT for target sentence

590 msec longer in 2 than in 1

same in 1 and 2 when there is no filler sentence

Interpretation of spatial verbs (Morrow and Clark, 1989)

1. I am standing on the porch of a farm house looking across the yard at a picket fence.
   - A tractor is just approaching it.   39.2 feet
   - A mouse is just approaching it.   2.1 feet
2. I am standing across the street from a post office with a mailbox in front of it.
   - A man crossing the street is just approaching the post office.   28.3 feet
   - A man crossing the street is just approaching the mailbox.   13.4 feet
3. I am standing at the entrance to an exhibition hall looking at a slab of marble.
   - A man is just approaching it with a camera.   18.0 feet
   - A man is just approaching it with a chisel.   4.8 feet

Interpretation of *several, some, a few* (*einige, mehrere, ein paar*) (Hörmann)

several crumbs	9.69
several paperclips	8.15
several pills	7.27
several children	5.75
several cars	5.50
several mountains	5.27

several small cars
several cars
several large cars

Hans Hörmann

Spatial contexts

|	
In front of the hut are standing a few people	4.55
In front of the house are standing a few people	5.33
In front of the city hall are standing a few people	6.34
In front of the building are standing a few people	6.69
Through the window one can see a few people	5.86
Through the peephole one can see a few people	4.76
In the morning he read a few poems	4.59
In the morning he wrote a few poems	3.44

Hans Hörmann

Iconic gestures

Speech	Gestures
they wheel a big table in	Fran sweeps her left arm inward in a horizontal motion.
with a big with a big [1.08 sec] cake on it	During pause Fran makes series of circular motions with forearm pointing downward and index finger extended.
and the girl	Fran raises her arm until it is fully extended vertically above her.
jumps up	

Adam Kendon

Deictic gestures of Tzeltal narrator
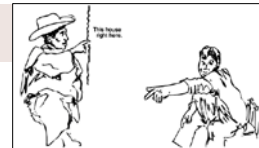
Speech	Gestures	What narrator does
There were indeed people living there	[pointing to a fence in the imaginary space of narrative].	points at an imaginary fence
beside the path	[vertical hand moving up and down, representing imaginary gate].	adds an imaginary gate
(That house) was the same size at this house here	[pointing at actual house nearby].	implies "That house [whose gate I can point to in imaginary narrative space] is the same size as this house [which I can point to here]."

John Haviland

Speakers and listeners keep track of voices

let me tell you a story, - - -

a girl went into a chemist's shop, and asked for, . contraceptive tablets, - -

so he said "well I've got . all kinds, and . all prices, what do you want,"

she said "well what have you got,"

Voices	Content
Sam	let me tell you a story
fictional narrator	a girl went into a chemist's shop, and asked for, . contraceptive tablets, - -
chemist	well I've got . all kinds, and . all prices, what do you want,
girl	well what have you got,

Representing narratives

In interpreting a ***narrative***, we …
1. ***imagine the story***
2. and, thereby, ***experience*** elements of the story

Two problems in coordinating experience

1. **How do narrators coordinate their narrative and audience's experience?**
   a. Participants expected to "re-experience" an event
   b. They expect to ***mentally simulate*** that event
   c. They need to jointly attend to simulated features
   d. *As if* jointly attending to real features in real time
   e. How do narrators engineer this joint attention?
2. **How do narrators linearize a non-linear experience?**
   a. Experiences are non-linear
   b. Narrator transforms them into linear narrative

Chafe's "Pear Stories"

People were shown a silent movie about events that occurred in a pear orchard

People were then asked, "Can you tell me what happened in the movie."
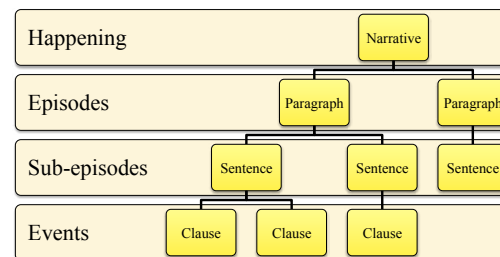
Chafe compared languages
  English
  Japanese
  Native American languages

Story hierarchy ➜ narrative hierarchy (Chafe)

Happening	Narrative
Episodes	Paragraph Paragraph
Sub-episodes	Sentence Sentence Sentence
Events	Clause Clause Clause

Excerpt from a pear story

(.85) A--nd (.15)	he (.35) sees this three pear (.20) these three baskets of pears,
and then	sees this man up in the (.50) tree,
and	decides (.45) that he'd like some pears.
And	at first looks like he's going to take one or two.
(.60) then	decides that he'd (.15) much rather take a whole basket,
(.55)	puts the basket on the bike,
(.90) tsk a--nd . .	kind of struggles
	cause it's much too big for him.
And	the bike is much too big for him.
(.80) A--nd . .	gets on the bike,
and (.20)	rides off.
(1.85) The--n (.20)	he's riding .. across this .. great (.25) expanse,
and (1.15)	a girl comes,
(.40)	riding a bike in the opposite direction,
(.55) and (.40)	you can see them riding (.65) towards each other,
and	you wonder if there's going to be a collision.

Beginning of a pear story

	Okay.
	Well--,
(.75)	let me see.
(1.5)	It opens with um-- (.4) I guess a farm worker,
(1.2)	picking pears,
(.75)	in a tree.
(1.0) A--nd u--m (2.6)	you see him taking .. picking the pears off the leaves,
and	putting them in a .. white apron,

Apartment descriptions

Interviewer	Could you tell me the layout of your apartment?
Respondent	You walk in the front door. There was a narrow hallway. To the left, the first door you came to was a tiny bedroom. Then there was a kitchen, and then bathroom, and then the main room was in the back, living room, I guess

Charlotte Linde, William Labov

Apartment descriptions (Linde & Labov)

Linearization scheme = tour
  Start at front door
  Go through every room
  Only look into rooms with dead ends
  Jump back to last intersection and go on.

Charlotte Linde, William Labov

Narratives of personal experience (Labov)

1. **Abstract** (brief summary of the whole story)
2. **Orientation** (stage setting about the who, when, what, and where of the story)
3. **Main events**
   Complicating action (what happened)
   Evaluation ("the point of the narrative, its *raison d'être*: why it was told, what the narrator is getting at")
4. **Result or resolution** (how the complicating action got resolved)
5. **Coda** (a signal that the narrative is finished)

William Labov

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Narrative of personal experience (Labov)

What was the most important fight that you remember, one that sticks in your mind?

Abstract	Well, one (I think) was with a girl.
Orientation	Like I was a kid, you know, And she was the baddest girl, the baddest girl in the neighborhood. If you didn't bring her candy to school, she would punch you in the mouth; And you had to kiss her when she'd tell yous. The girl was only about 12 years old, man, but she was a killer. She didn't take no junk; she whupped all her brothers.

William Labov

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Narrative of personal experience (Labov)

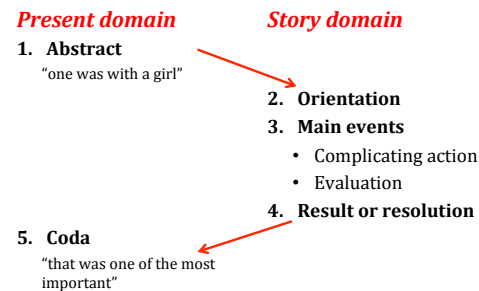| *[False start on complication]* **More orientation**	**And I came to school one day** and I didn't have no money. My ma wouldn't give me no money. And I played hookies one day, (She) put something on me. I played hookies, man, so I say, you know, I'm not gonna play hookies no more 'cause I don't wanna get a whupping.

William Labov

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Narrative of personal experience (Labov)

Complication	**So I go to school** **and this girl says,** "Where's the candy?" **I said,** "I don't have it." **She say,** powww**!** **So I says to myself,** "There's gonna be times my mother won't give me money because (we're) a poor family. And I can't take this all, you know, every time she don't give me any money." **So I say,** "Well, I just gotta fight this girl. She gonna hafta whup me. I hope she don't whup me."
Result or resolution:	**And I hit the girl**: powwww! and I put something on it. I win the fight.
Coda:	That was one of the most important.

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Narratives of personal experience (Labov)

Present domain   **Story domain**

1. **Abstract**
   "one was with a girl"

    2. **Orientation**
    3. **Main events**
      • Complicating action
      • Evaluation
    4. **Result or resolution**

5. **Coda**
   "that was one of the most important"

William Labov

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Conclusions

Situational representations often represent …
1. information beyond textual representation
2. spatial relations among objects
3. perspectives of narrator, characters
4. voices, identities of people

We are to *imagine* the scenes being described
Conceptual imagining: We imagine that …
Perceptual imagining: We imagine seeing, hearing, smelling, feeling …

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