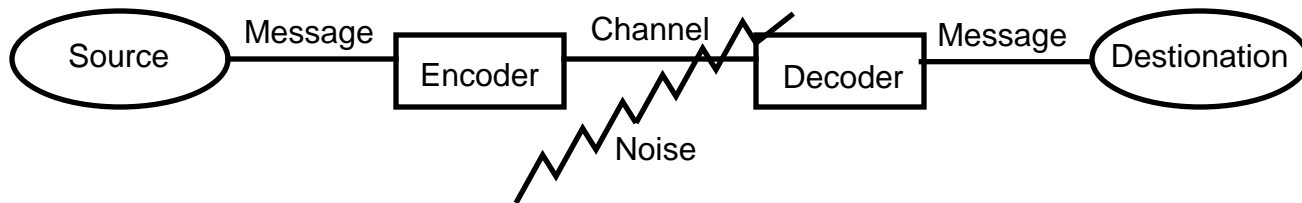


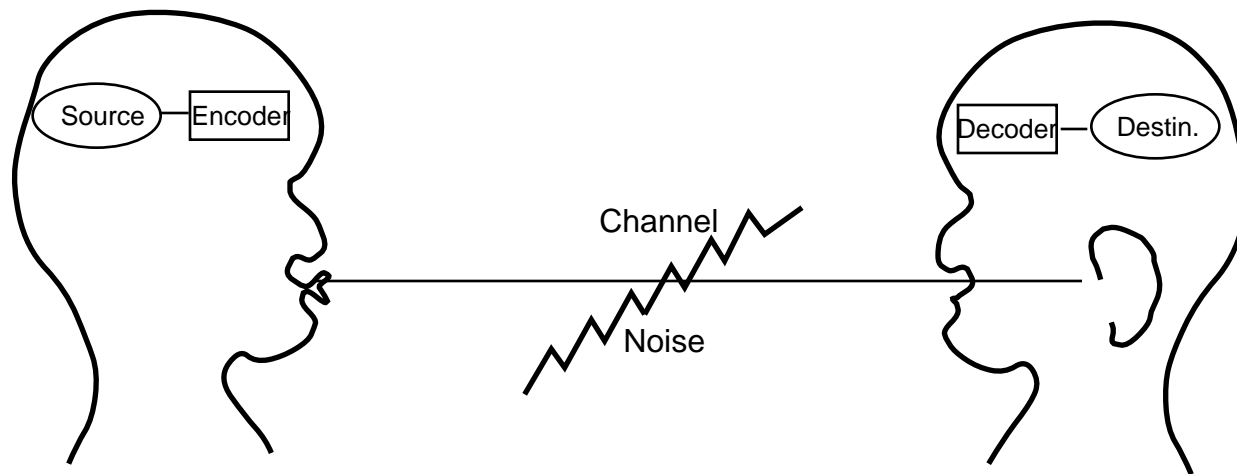
# Preliminaries

- Shannon/Weaver coding
- Requirement of mediating artifact
- Oral vs. written communication
- Inference beyond decoding

# Shannon/Weaver coding



# Requirement of meditating artifact



# Inference beyond decoding

- It's hard to wreck a nice beach.
- It's hard to recognize speech.
- He is a friend of mine.
- I really like to work.
- Do you know what time it is?

# Meaning

- Grice's "meaning"
- Semiotics
- Context

# Grice's "meaning"

- '[S] meant something by x' is (roughly) equivalent to '[S] intended the utterance of x to produce some effect in an audience by means of the recognition of x' [1957]
- Cooperative principle
- Grice's Maxims

# Cooperative principle

- Participants in communication share common purposes. They are expected to observe suitable conversational moves.

# Grice's Maxims

- **Quantity**
  - Make your contribution as informative as required
  - Do not make your contribution more informative than is required.
- **Quality**
  - Do not say what you believe to be false.
  - Do not say that for which you lack adequate evidence.
- **Relation**
  - Be relevant.



# Grice's Maxims (cont)

- Manner
  - Avoid obscurity of expression.
  - Avoid ambiguity.
  - Be brief.
  - Be orderly.

# Context

- Mutual knowledge
- Consensual relevance

# Mutual knowledge

- $I\text{Know}(x)$  iff  $U\text{Know}(x)$
- In order for the listener to recover the speaker's intended meaning, contextual information must not only be known by both, but **mutually** known.
- How?
- Paradoxical?
  - Assumes solution it seeks

# The FOA language game

- Language games
- About(Topic, Material, SezWho)
- Relevance

# Language games

- Connecting readers to writers
- Communicating public knowledge  
\cite{Saracevic75}

# Communicating public knowledge \cite{Saracevic75}

We may think of public knowledge as being organized into a structure of subjects, represented in a language and recorded into a literature, elements of which can be called documents. Both a source and a destination involved in the communication of knowledge have ... files where subject knowledge is stored... Communication is effective when and if information that is transmitted from one file results in changes in another. Relevance is a major of these changes. \cite{Saracevic75}

# About(Topic, Material, SezWho)

- Special relation, between subject, materials which inform, and SezWho!

# Relevance

- Sperber & Wilson
- Objective relevance
- Probabilistic relevance



# Sperber & Wilson

- Communication aims at improving knowledge
- Communication is a demand for **attention**
- **New, connected** information allows further inference
  - The more inferences allowed, the more **relevant**
- Principle of relevance: Ostensive act guarantees relevance
  - Ostensive behavior: makes manifest intention to inform

# Objective relevance

- Sentence relevant to information need iff member of some minimal premise set for some component of that need [vanR, p. 147]

# Probabilistic relevance

- “... objected to on same grounds as the probability of Newton’s Second Law being true!”
- $\text{Pr}(\text{user, selected from pool, will find document relevant})$
- $\text{Pr}(\text{particular user will find document relevant})$

# Other dimensions to meaning

- Argument structures
  - Rhetoric, narrative
- Connecting text to its organization
  - [Flores & Winograd]

# Who needs to FOA (in the brave new WWW)

- New Science on the Net
- Publishers
- Teachers/Students
- Active Colophia: FOA\$ goes to...

# New Science on the Net

- Peer review: Filtering the flow
- Support/constraint of official channels
- Eg: Getting Lerner's manuscript
- Eg: Physicists and the LANL reprint archive
- “Blind” reviewing critique

# Publishers

- The value of information
- Publishing models

# The value of information

- \$/content
- How/does (good) automatic indexing change editors' efforts?
- What is Computists worth?
- Paying for speed
  - Financial analysts
  - Legal (Shepards, recent cites)
- Connect time vs. number of queries



# Publishing models

- Magazines
  - Eg: HotWired IPO
  - Eg: Slate.msw
- Product/service
- Coop model
  - [GNU]
- Refinery model
  - [New Stefik?]

# Teachers/Students

- FOA self-reference!
- The Tell/ask duality

# FOA self-reference!

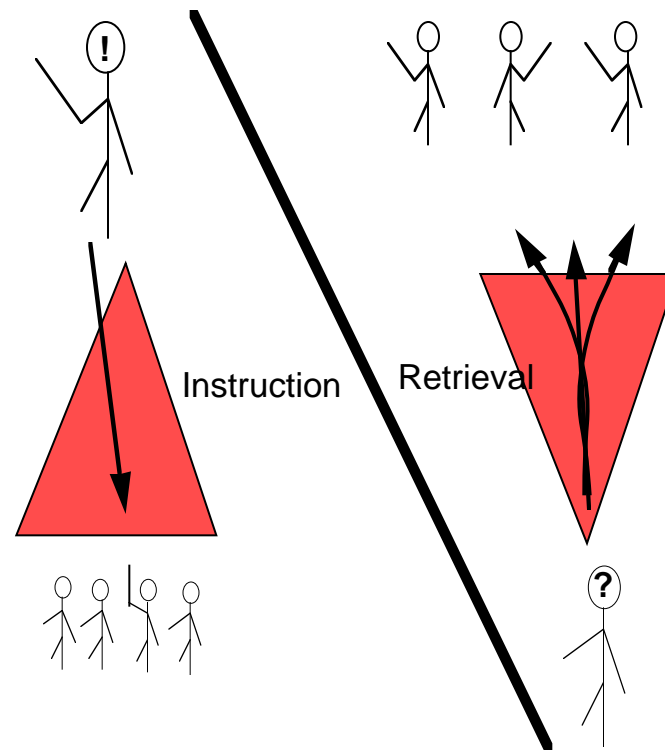
- In the modern setting for learning, what belongs in:
- This FOA (text/lecture/WWW site) is itself example is one, evolving experiment.

# In the modern setting for learning, what belongs in:

- The lecture
- The textbook
  - cf. Kuhn's dependence
- Hypertext
  - Multiple paths
- CDROM
- WWW
  - Dynamism

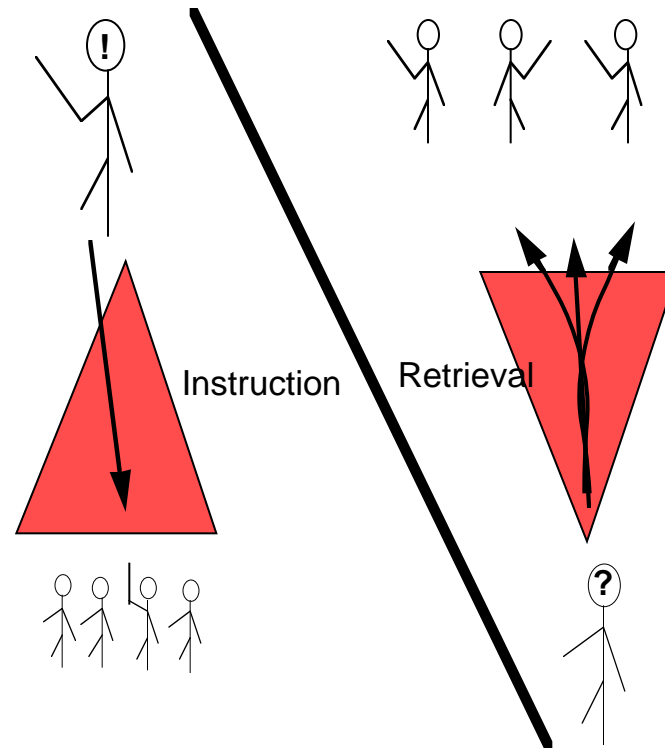
# The Tell/ask duality

- Teaching:learning :: Writing:Reading dualities
- EB: “In for a fact, stay for a lesson”
- Good teachers already perform "knowledge retrieval," passing on what they know to their students in response to questions



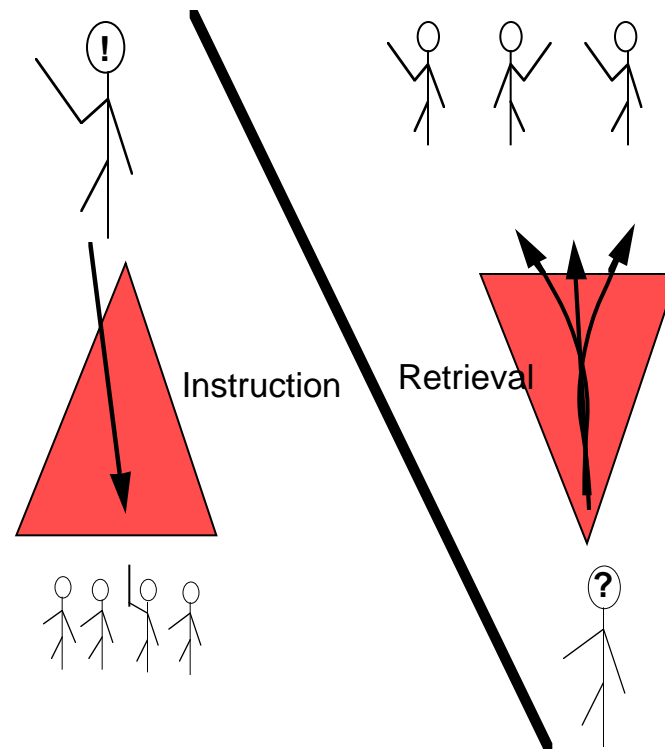
# The Tell/ask duality (cont)

- Instruction "on demand" moves more of the onus for education into the hands of students
- Students become active constructors of their education
- Conversely, IR should become more like instruction, attaching more pedagogy to the retrieval of media



# The Tell/ask duality (cont)

- Broadcast lectures and searched textbook



# Active Colophia: FOA\$ goes to...

- Shareware participants
  - GNU
  - Alpha
  - OzTeX