**Human Communication 1
Lecture 2**

**1. Two analogies for
Communication….
Phatic versus Ideational
Communication**

Implicit analogies

Play an important role in how we understand our world,
especially our inner world

Liken one thing to another *in some respects* and *not in
others*

   E.g. water flow as an analogy for electricity

Leave matters implicit exactly *how far they go*

   If you unplug a socket, will the electricity escape?

Unearthing analogies can be revealing about how we
are thinking

Analogies are often the beginnings of explicit theories

Analogy 1: communication is the transport of ideas

First: sender A knows that P (a proposition);
receiver B doesn't know that P

Then: A makes noises "*what do you call a
murderer with fibre….a cereal killer*"

Next: B hears noises "*what do you call a
murderer with fibre….a cereal killer*"

In the end: sender A knows that P; receiver B
does know that P

So what has been transported is the idea that P

But. . .

What has actually moved from A to B?

- Sound vibrations…..
- OK, that's true! But is it enough? And how
does sound carry ideas?

What is right about this is that some energy
has to be transferred from A to B - only
telepathy works without it….

But what else has to be in place for this to
work?

Analogy 2: communication as resonance

Resonance is when one body vibrates and
another resonates picking up some of its
energy

- Bodies have 'natural frequencies'

If two bodies share close enough natural
frequencies, they resonate together

- So sender sends message by vibrating, and
receiver receives it by resonating

Analogy 2: communication as resonance

What is right about this is that sender and
receiver have to share a lot before
communication works

We talk about *being on the same
wavelength* when we succeed in
communicating something others would
not understand

Phatic vs. ideational communication

These two metaphors both highlight important complimentary aspects of communication

– Malinowski, an anthropologist writing in the 1920s introduced the term *phatic*
– Contrasted with *ideational* communication
– Paradigm examples of phatic communication include fashion, ritual
– Hard to say what proposition is communicated

Phatic vs. ideational communication

Successful phatic communication creates *community*

Ideational communication transfers *propositions*

– Telling a joke transfers information but also creates community
– Phatic communication may work *through* ideational communication

Similarities and differences (a)

Both require shared knowledge of codes

Both require transmission of energy

- Resonance metaphor seems particularly apt for phatic communication
- Transport of ideas for ideational

But the two are not easily separable - both aspects almost always involved

Much human phatic communication depends on complex ideational communication

Similarities and differences (b)

A proposition can be understood without knowing how it fits into the context - phatic communication cannot be decontextualised

e.g. the answer to the question: *"What did you do this weekend?"* would depend on who was asking it - a friend, your mother, the police….

Cognitive science tends to focus on the ideational and background the phatic (sociological approaches do the opposite) though more recent moves to social communication and intelligence

But we forget either altogether at our peril

Phatic communication

– A recent name for these is COMMUNITIES OF PRACTICE
– The way we do things, the words we use, the knowledge, skills, rights and responsibilities we have, the kinds of people we are, . . .
– None of this can succeed without getting ideas across
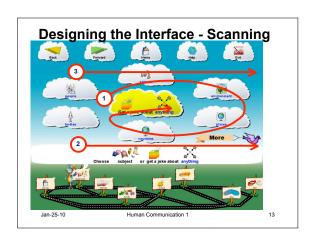– But merely getting ideas across leaves out the phatic dimension

AL uses computer and voice Week 1 (training)

Designing the Interface - Scanning

"Are you ready?" – Using STANDUP

EM tells AL one of 'her' jokes

Wider communication to others

Background reading

Standup: **Facilitating language play in non-speaking children through computer-supported joke construction**

http://www.csd.abdn.ac.uk/research/standup/

see the publications page, in particular:

Ritchie, G., Manurung, R., Pain, H., Waller, A., Black, R. and O'Mara, D. (2007) A practical application of computational humour. Pp. 91-98 in *Proceedings of the 4th International Joint Conference on Computational Creativity*, ed. Amilcar Cardoso and Geraint A. Wiggins. London.

2. Levels of representation in language

A simple model of language use

Utterance:
- constructed from what speaker wants to convey,
- interpreted by hearer who reconstructs the speaker's intended message.

Processes involved in language comprehension and understanding can be described in terms of levels of structure: sounds, words, phrases, sentences.

Complex processes such as those involved in speech can be decomposed into simpler ones.

Comprehension and production

….may be thought of as inverse processes operating in opposite directions

[oversimplification: there is evidence that comprehension may be simpler that production e.g. in spelling and in learning to speak a second language]

Knowledge of language may be thought to be made up of rules for manipulating different levels of structure.

In Comprehension….

1. a sentence is heard (or read)
2. analysed into phonemes (units of sound) e.g. /f/ /ow/ /n/;
3. phomeme sequence analysed into morphemes (units of meaning) e.g. 'phon-' '-ing' '-ed';
4. dictionary (lexicon) used to relate these to words;
5. syntactic rules used to analyse phrases and sentences;
6. semantic rules are used to get meaning;
7. deductive and inferential rules used for conclusions and to draw inferences from other knowledge.

Simplistic Model….

Whilst this is a simplistic model:
- serves to suggest the components needed in designing computer systems and
- in developing psychological models.

More formally we can structure and analyse language at a number of different levels.

Levels of Structure and Analysis

Phonetics/Phonology:
   The level of speech sounds.
Morphology:
   The formation of words from their parts.
Syntax:
   The combination of words---grammar.
Semantics:
   The meaning of words, sentences and utterances.
Discourse/Pragmatics/Speech Acts:
   The structure of collections of sentences, the use of language.

Phonetics and Phonology

Phonetics is concerned with the sounds themselves, three perspectives:
- Articulatory: how we produce them
- Acoustic: what they are actually like as sound waves
- Auditory: how we perceive them

Phonology is about the relation between words and sounds. Consider:

innumerate	immoderate	
intolerant	impossible	incredible
unnecessary	unmasked	
untoward	unbelievable	uncouth

Phonetics and Phonology

Or consider English plurals:
boat---boats (/s/),   bag---bags (/z/),
wish---wishes (/ez/).
This gets even tricker:
roof---roofs (/roovz/), wife---wives (/waivz/),
wife---wife's (/waifs/).

Other suffixes do funny things too:
electric (-/ik/)---electricity (-/isitee/)
(note the stress moves too),
create (-/eit/)---creation (-/aishun/).

Morphology

….addresses the level of structure internal to the word.

There are restrictions on the patterns of sound which make up a word:
- almost all languages compose words from syllables,
- with a few exceptions all languages require a one-to-one correspondance between syllables and vowels

But we can identify meaning-bearing units smaller than words.

Morphology

Inflectional morphology: word forms for different versions of the same underlying word:
- singular/plural
Usually '-s', sometimes `-ices' (`vertex', `index') or `-i' (`focus') or nothing (`deer'));
- past/non-past/3rd singular present/present participal
Usually `-ed', nothing, `-s', `-ing', but lots of more or less irregular cases. Compare `quack', `eat', `do' and `is'.
- basic/comparative/superlative adjectives.
Usually nothing, `-er', `-est'

English - very modest in this area

Spanish - verbs have about 50 inflected forms,

Ancient Greek - 350

Amerindian languages - 10s of 1000s of forms for verbs.

Derivational morphology:

New words from old.
1. Affixation `un-', `re-', `multi-', `-ise', `-able'
Some but not all affixes combine and even iterate e.g. `reunionisation'.
2. Simple juxtaposition
- without spaces (`toothbrush'),
- with hyphens (`toothbrush-holder')
- with spaces (``toothbrush-holder box label loss enquiry'' or even ``repair manual binder delivery van repair manual . . .'').

Different languages have different preferences

Syntax (grammar)

Structuring words into sentences in a given language.

Different languages do things differently,
- all try to organise by a convention of use
- enables hearers/readers to tell what speakers/writers meant:
Who did what to whom;
What goes with what.

Syntax (grammar)

Some languages use word order to manage things:
English: Robin kissed Kim
I gave the children cold sandwiches
French: Robin a baissé Kim
Italian: Ho dato ai bambini congelati panini

Some languages (also) use adpositions to sort things out:
English prepositions: The funeral took place today in Leicester of the two victims . . .
Japanese postpositions: Watashi no kodoma wa hon o yomimasu

Or languages may use inflection to do the job:
Latin: Puell am bon am naut a amat
Russian: devochk u horosh uyu matros liubil

Semantics

What do words mean, how is this related to what sentences mean and how utterances are interpreted?

Sentences are abstract, names for types of utterances.

Utterances are concrete specific examples of actual use, spoken or written, of sentences.

Sentences have meaning in the abstract, while utterances have concrete interpretations.

Semantics

Consider the sentence:

"Last week I arrived on Tuesday before leaving on Monday."

This is always false, regardless of when, where and by whom it is uttered.

On the other hand the truth or falsity of:

"Last week I went to the Picnic Basket three times."

can only be determined on an utterance-by-utterance basis.

Pragmatics: Discourse + Dialogue

How can utterances be used in a discourse or dialogue?

Some important aspects of language operate above the single utterance level.

Reference in general and pronouns in particular are the most obvious examples:

"Robin and Kim went to see 2001 last week. They thought it was great, but the cinema was nearly empty."

Pragmatics: Discourse + Dialogue

Not just any sequence of question and answer is acceptable or useful in a dialogue.

Where you are in a discourse affects how you should say things:

"Is there a night flight to London?"

"No, the next flight is tomorrow."

"No, but there is a flight to Paris."

Dialogue is in any case much more than just question and answer:

- how we manage to orchestrate our talk so that we make the most of the rather narrow channel we share is a major open question.

Speech Acts and Planning

Speaking is an action, performed in service of achieving some goal.

"Please open the window."

"When does the next bus leave?"

"Do you know the time?"

Speech Acts: Requests, Statements, Questions, Commands and Commissives are main types.

Commissives: when by right of authority you can make something happen by speaking:

"I hereby christen this ship the S.S. Rustbucket."

"You're out!"

Exercises and study (a)

Exercises: Take a communication situation and describe how the phatic and ideational aspects of communication figure in your example situation.

e.g.

http://www.youtube.com/watch?v=WxB1gB6K-2A

What are the difficulties that you encounter in fitting these concepts to your example?

Practicalities: Tutorials

Tutorials start next week
- Don't change unilaterally, contact Kendal in the ITO with proposed swaps

You can find your group assignment at
http://www.inf.ed.ac.uk/admin/itodb/mgroups/stus/hc1.html