

Do you (still) love me ?

A crash course
on *telling* and *recognizing* lies

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Lies and some of the reasons behind them

Concerning lies

- ✓ Everyone lies once in a while
- ✓ Producing lies is at reach for everyone
 - *lies* are more than just incorrect information (intention to deceive)
- ✓ Producing “good” lies is not trivial
- ✓ Recognizing them can be a very hard task

Reasons behind them

- ✓ *protecting* yourself or others (white lies)
- ✓ get some *advantage* : material or sentimental (e.g. love)

Three kind of “liars”

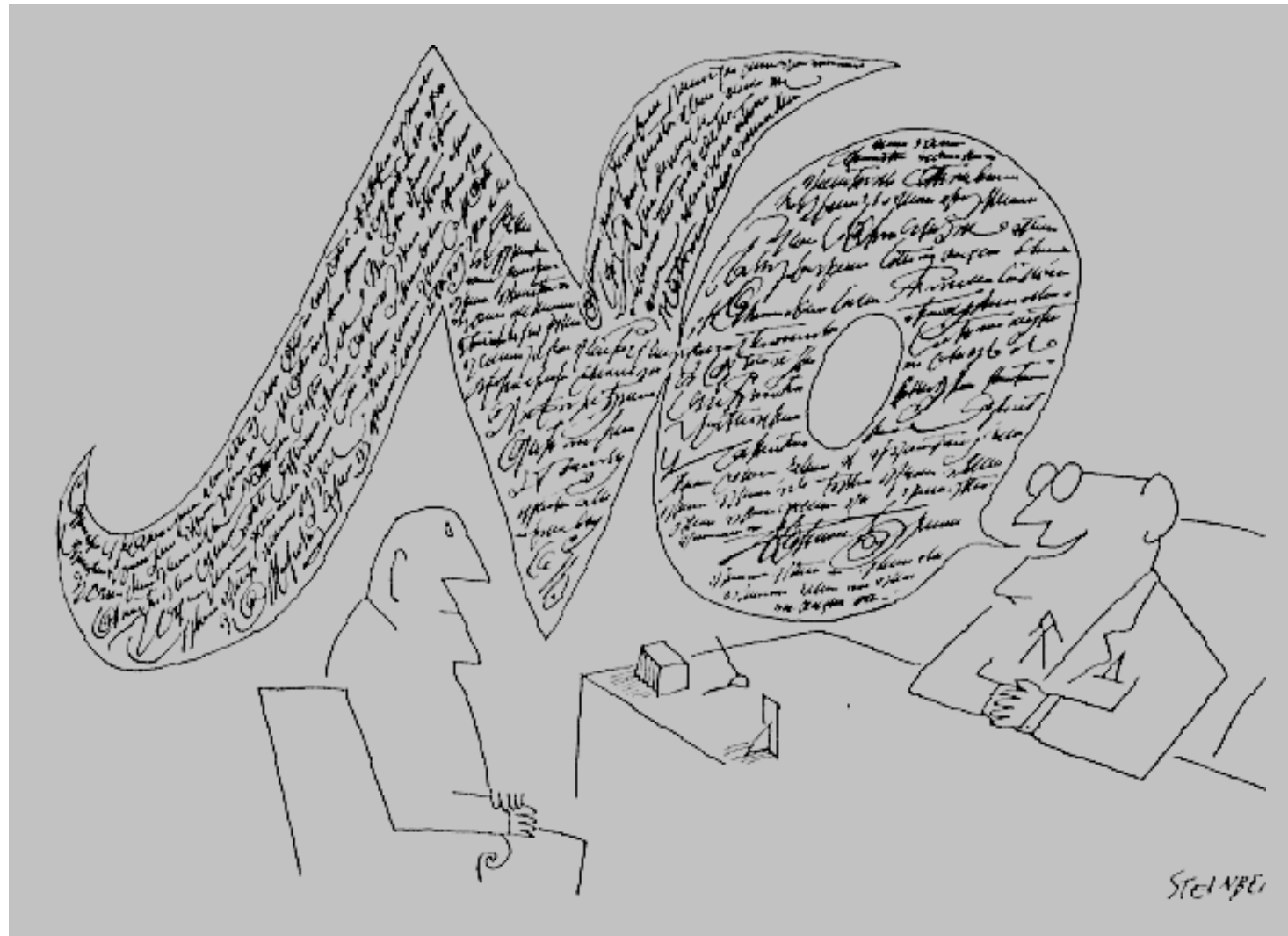
- ✓ good guys (don't lie)
- ✓ bad guys (do lie)
- ✓ smart guys (lie by sticking to the rules, persuade)

The first don't get very far, the second get into jail (hell), the third get into heaven, i.e. they run our countries

End of the very short course on telling lies

- There won't be any course on how to build a lie-detector either: sorry for that !!!
- In exchange I may offer some ideas of how to
 - build a politically correct insult generator
 - read and write between the lines
 - perform subliminal communication
 - do LSA and Latent Semantic Synthesis (LSS)

**Become a diplomat and learn how to read and write
between the lines. We don't always communicate
everything explicitly with words**



Lies, truth and things in between

- If lies are black and truth is white, they are only two the extreme values of a continuous reality
- There are many intermediate shades, and they are not necessarily half lies
- Goal of the talk: to show some of these intermediate shades, more specifically this talk is a bit about
 - *persuasion* (verbal massaging, reading and writing between the lines)
 - *containers* and *containment*, or *form* and *content*.

Warning

- Very speculative
- A number of half baked (crazy, hopefully stimulating and useful) ideas

Outline

- Some linguistic and rhetorical problems
- Some computational approaches
 - Pauline (Hovy)
 - PostGraphe (Lapalme & Fasciano)
- Psychological approaches
- How word access techniques could be used for subliminal communication ?

Language as a resource

G. Leech & J. Svartvik (1975)

A communicative grammar of English, Longman, pp.135-155

- Modal verbs Could, might, should
- Interjections: What a fantastic goal
- Exclamations How interesting!
- Nuclear stress You do look great!
- Repetition You are a bad, bad girl.
- Intensification of questions Why on earth didn't he tell me?
- Rhetorical questions: Wasn't it a great concert?
- Degree adverbs I really hoped that he'd make it
- Intensifying adverbs He's an absolute saint

Style, meaning and form

Style is “the way in which something is said, done, expressed, or performed”

(The American Heritage® Dictionary of the English Language, Fourth Edition)

Style is a means towards an end, hence, together with tone

- it effects the readers' perception
 - ✓ relative importance of information, focus, point of view
- *engaging* them or putting them to *sleep*, make them *laugh* or make them *cry*...

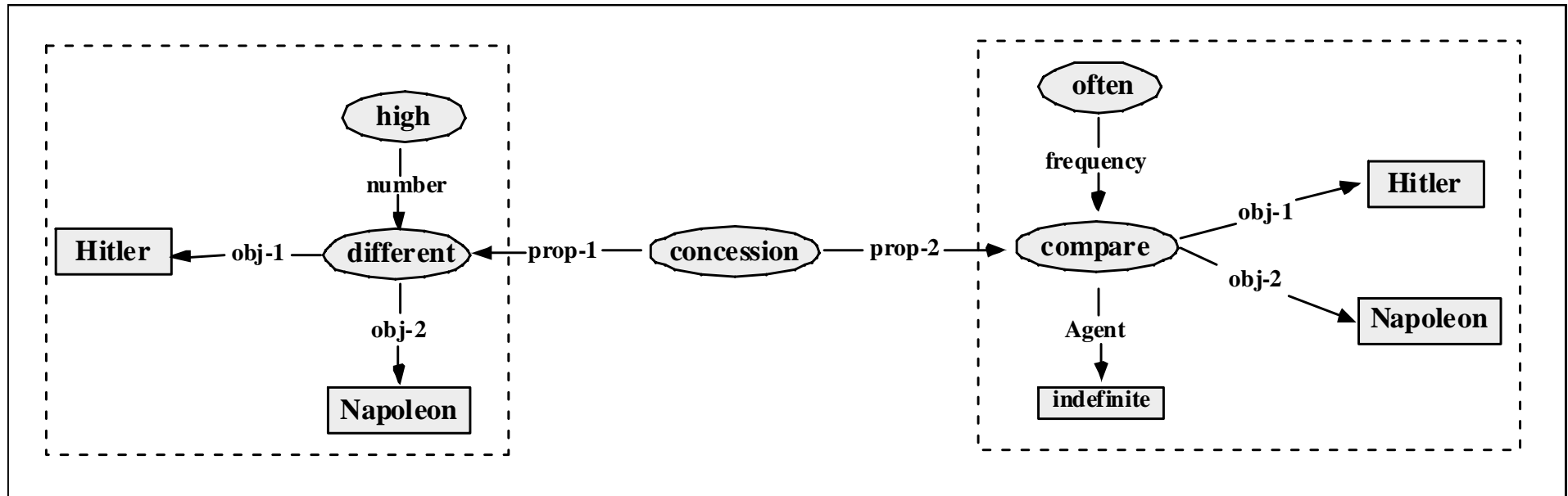
Paraphrases : different perceptions of one and the same situation

- a) The young troops that defeated Napoleon's army were fresh.
- b) The fresh troops that defeated Napoleon's army were young.
- c) The fresh and young troops defeated Napoleon's army.
- d) The army defeated by the fresh young troops belonged to Napoleon

Main idea

- (a) The troops are fresh;
- (b) The troops are young
- (c) The troops defeated the army.
- (d) The army belongs to Napoleon

What do you want to stress?



Focus on *differences or similarities*

- a) Hitler has often been compared with Napoleon, although there are many differences between the two men.

- b) Although there are many differences between Hitler and Napoleon, the two men have often been compared.

When *alike* is not quite the *same*.

Topicalisations are not innocent

Given some input:

x is like y

We could start from either end :

x or y

Yet the effect would not be quite the same

Women are like flowers.

Flowers are like women.

Active vs. Passive voice

yield different effects, hence serve different goals

Active voice provides for clarity and force

- ✓ subjective rather than objective,
- ✓ the voice for giving instructions

However technical writing is often objective

Passive voice slows the pace, shifts *emphasis* by changing the *point of view*. The *focus* seems to be on the *process*.

The car broke.

Consider the following sentences

active vs. passive voice, nominalization

1. I've made some big mistakes.
2. Big mistakes have been made.
3. Mitterrand decided to nationalize the French banks.
4. Nationalization of the French banks (newspaper headline)

Who was responsible for the actions described in (2) and (4)?

Paint with words

Example input : “*reach out and touch somebody*”

- Leap out and grab somebody.
- Barge out and bump somebody.
- Gallop out and kick somebody.
- Lumber out and charge somebody.
- Pounce out and eat somebody.
- Flap out and scare somebody.
- Lurch out and squash somebody



Feed the reader's imagination

Example input : “*reach out and touch* somebody”

- Slither out and wrap somebody.
- Buzz out and sting somebody.
- Bounce out and bash somebody.
- Swoop down and seize somebody.
- Plunge out and ram somebody.
- Swing out and squeeze somebody.

■

Importance of the setting orient the reader's interpretation

1° I admire Sally Binns. She's tall, thin and walks like a crane.
2° I can't stand Sally Binns. She's tall, thin and walks like a crane.

Interpretations

1° : *graceful and elegant* (Sally Binns)
2° : *unattractive* (Sally Binns)

Computational work

NLG as a goal directed activity

PAULINE (Hovy)

take pragmatic factors, i.e.

user's *knowledge & affect* into account

- Linguistic options for the concept ARMED PERSON
 - freedom fighter
 - terrorist
 - gunman

The concept ARMED PERSON is expressed as

freedom fighter

if the action is political violence

& if the hearer is interested in political freedom

terrorist

if the action is political violence

& if the hearer is interested in maintaining peace

gunman

in all other cases

Actors and their characteristics

Actors :

IRA terrorist, terrorist's wife,
british soldier, american citizen

Characteristics of actors

interests: British losses, nursing, children, weaponry, politics

sympathies: IRA-British successes, authorities, children, peace

antipathies: anything British, authorities, killing, war, IRA successes

emotion: tense, angry, unhappy, irritated, relaxed, neutral

knowledge: terrorism in general-detail, nursing, military action in detail

Concerns of an IRA terrorist

■ An IRA terrorist

- *interests:* British losses
- *sympathies:* IRA successes
- *antipathies:* anything British, authorities
- *emotion:* tense, angry
- *knowledge:* terrorism in detail

Concerns of a British soldier

- A British soldier

- *interests:* weaponry
- *sympathies:* British successes, authorities
- *antipathies:* IRA successes
- *emotion:* tense, irritated
- *knowledge:* military action in detail

Contextual information

Hearer	Sean O'Flanahan	John Brown
Input concepts	shooting	shooting
Focus	sympathy	interests

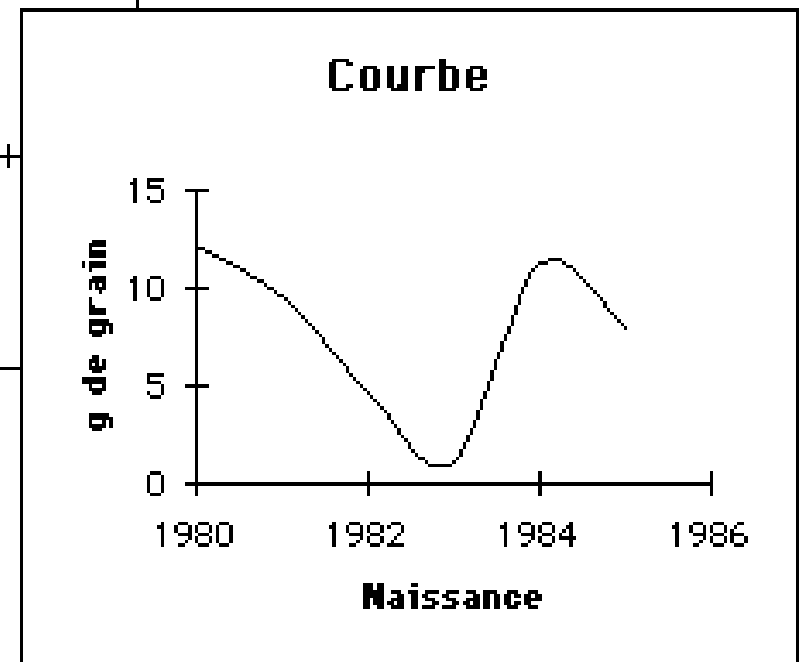
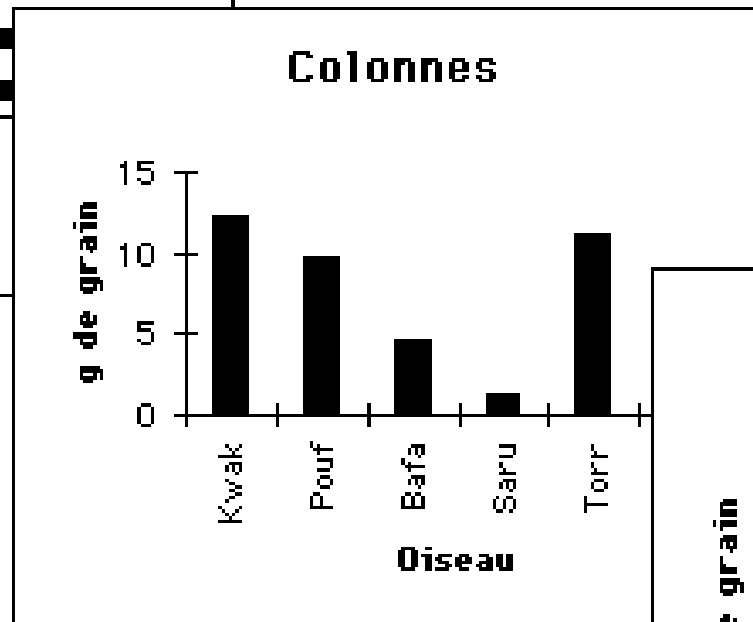
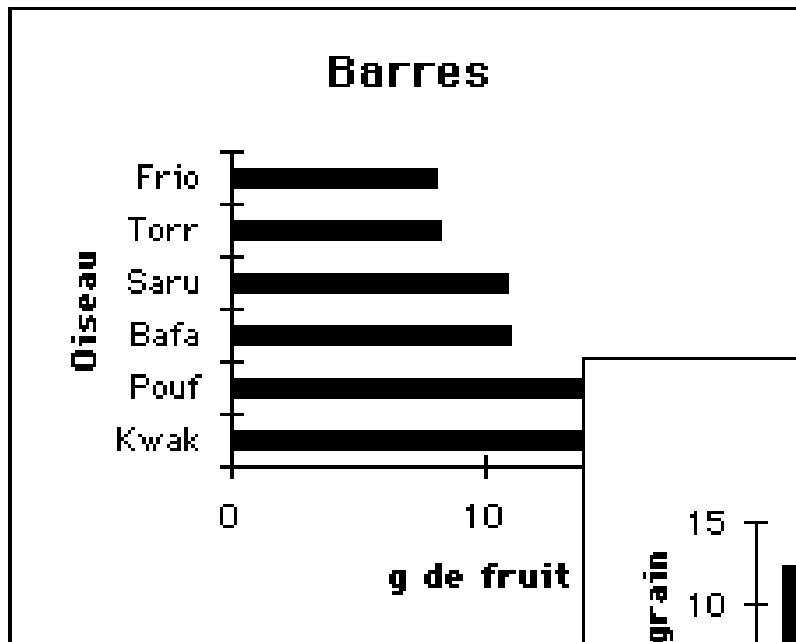
Corresponding text

An Austin car was used by two FREEDOM-FIGHTERS to escape from Belfast Football Stadium yesterday. A twelve year old girl, Mary, was shot and wounded with a seventy calibre rifle. She was taken to Mary Magdalene Hospital and treated and discharged. She is an orphan at present. A forty year old soldier from Leeds, a city, Bill Smith, was shot and killed. He will be buried tomorrow. A twenty-five year old passerby woman, Rosie Areas, was shot and killed. She will be buried in Belfast Cemetary three days from now.

A seventy calibre semi-automatic Belgian rifle was used by two GUNMEN to shoot and to kill a forty year old soldier from Leeds, a city, Bill Smith. The rifle was used by them to shoot and to wound a twelve year old girl, Mary, yesterday at Belfast Football Stadium. She was taken to Mary Magdalene Hospital and treated and discharged. She is an orphan at present. The rifle was used by them to shoot and to kill a twenty-five year old passerby woman, Rosie Areas. She will be buried in Belfast Cemetary three days from now. An Austin car was used by them to escape.

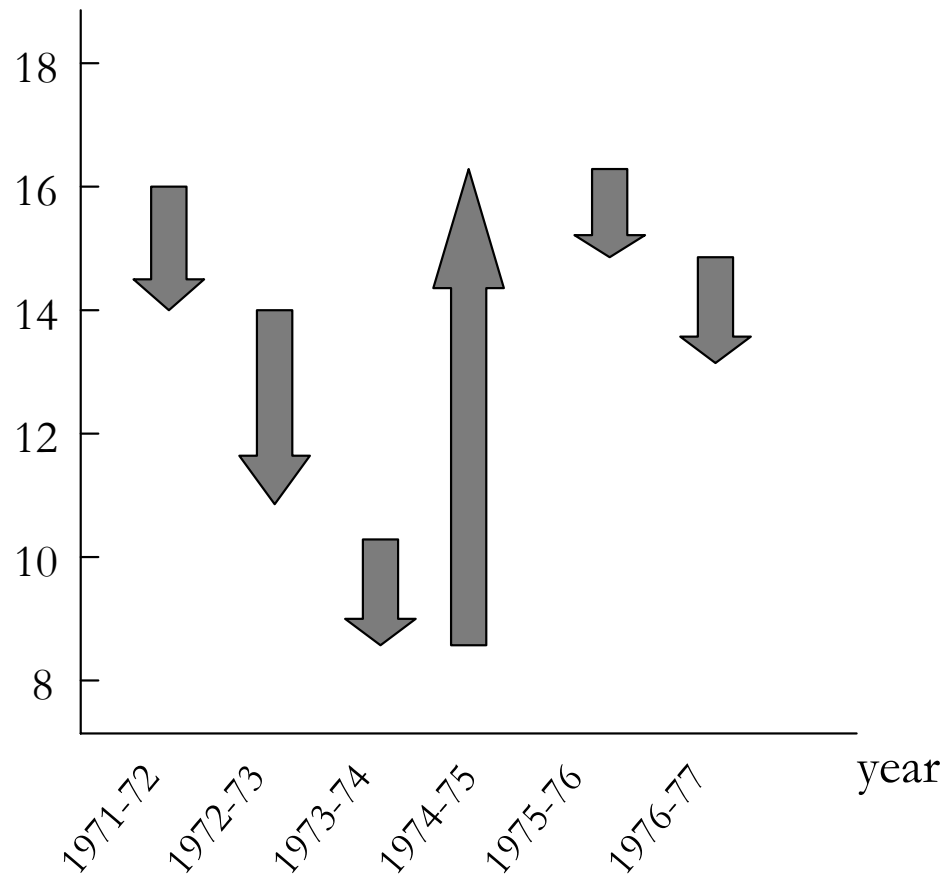
**PostGraphe: highlight what
you consider as important,
or clever ways of using pies,
bar charts and language**

PostGraphe (Lapalme & Fasciano)



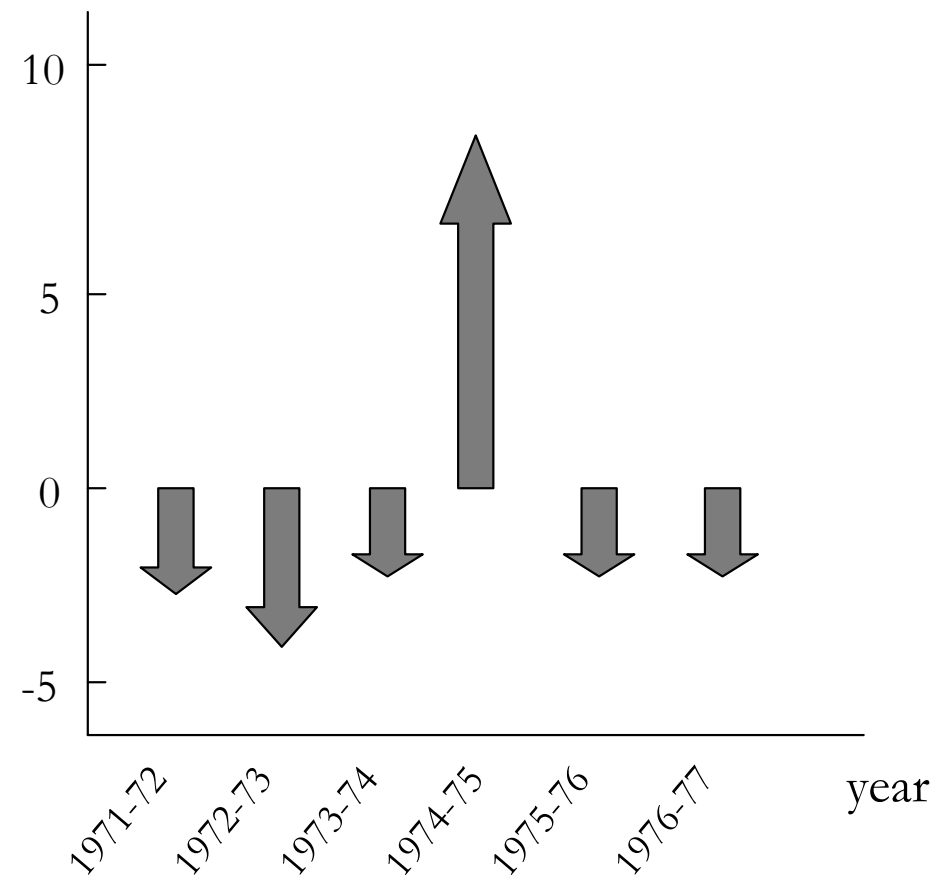
There is no absolute truth, there are but points of view: *increase vs. decrease* of profits

profits



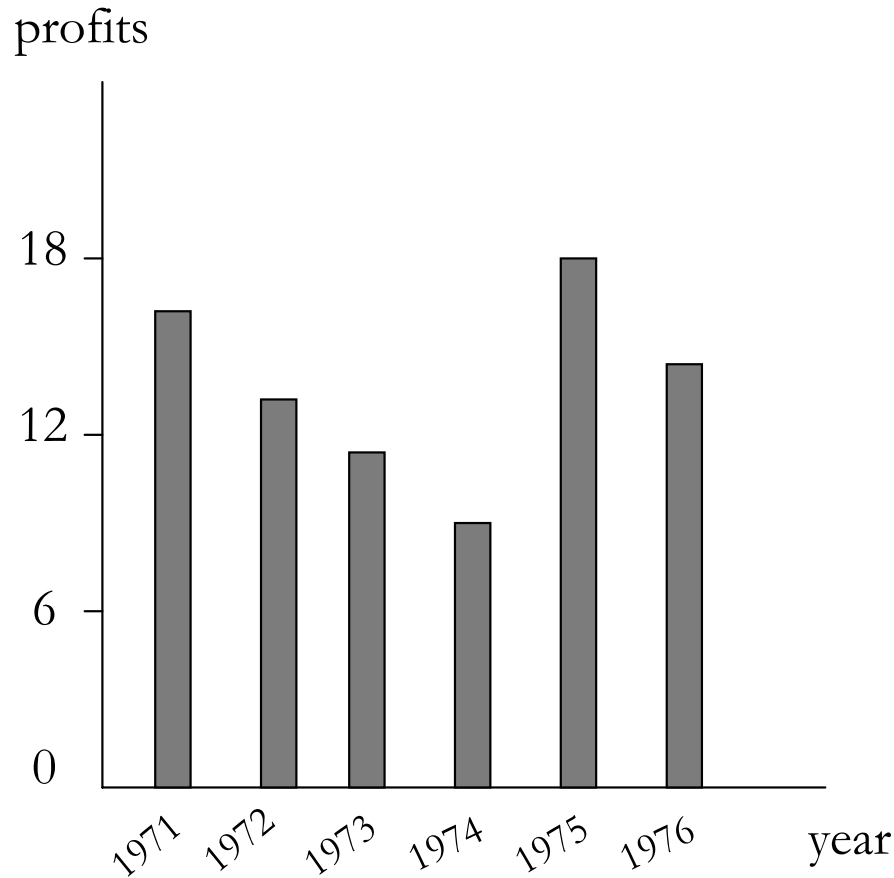
The profits have made a big jump 1974 - 1975 decreasing slightly the other years.

Variation of profits

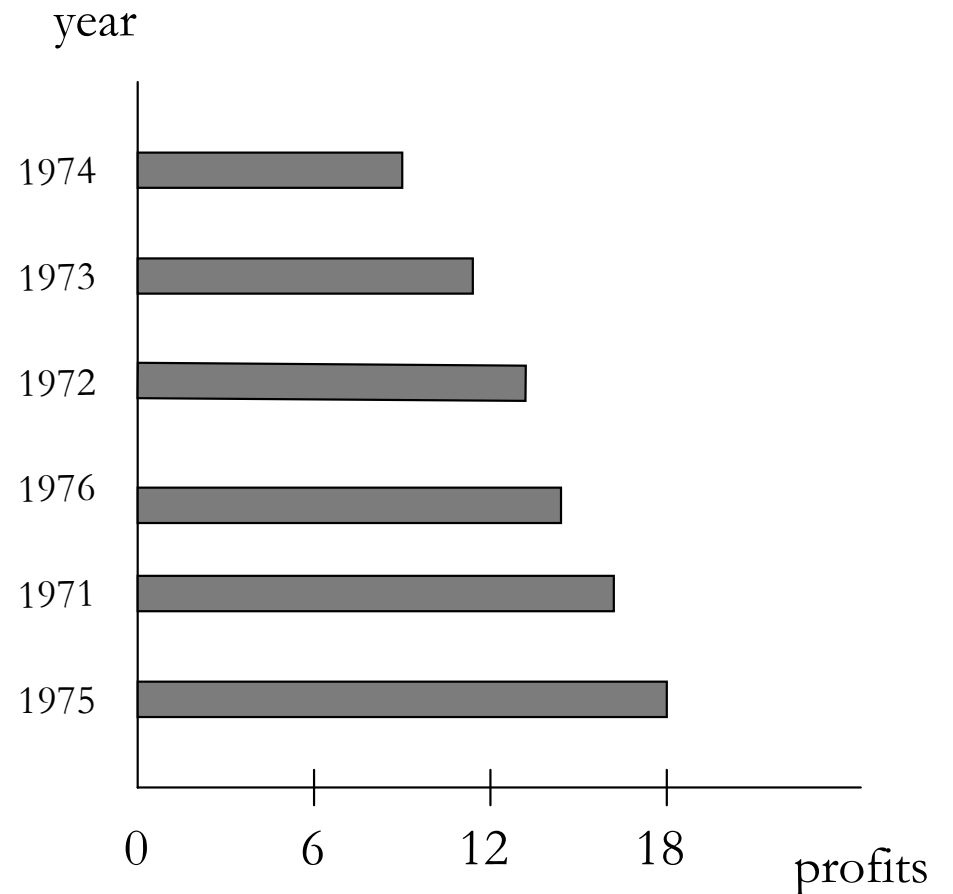


Globally, profits have decreased despite a strong increase between 1974 - 1975.

Evolution vs. Position

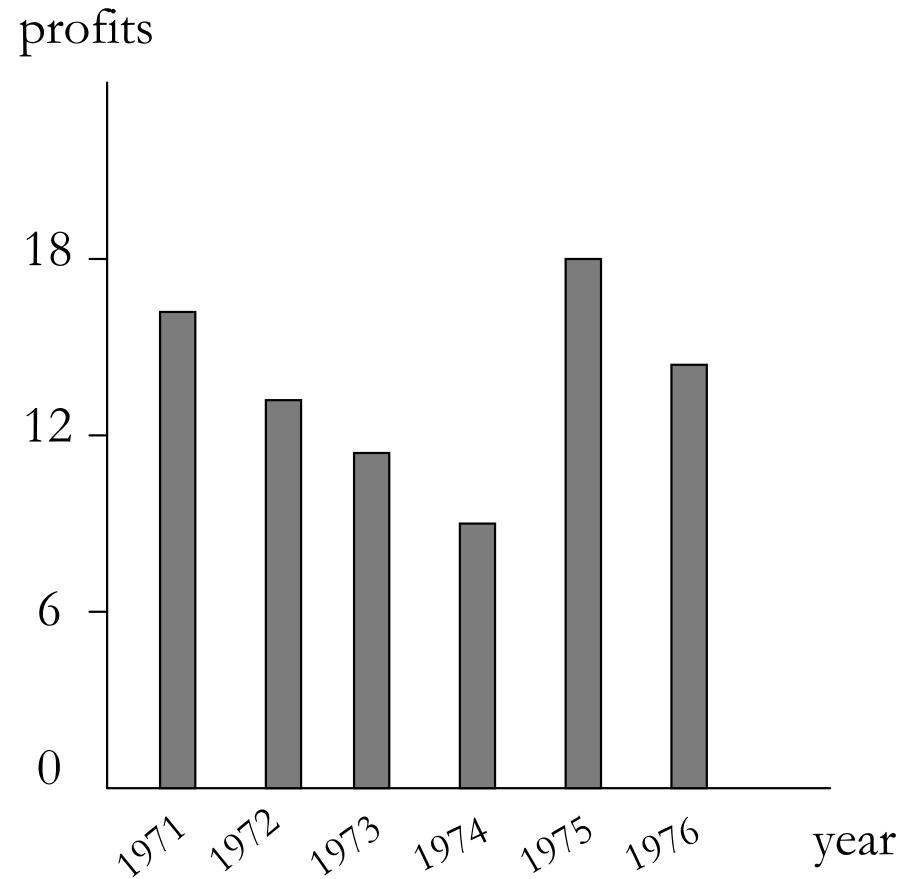
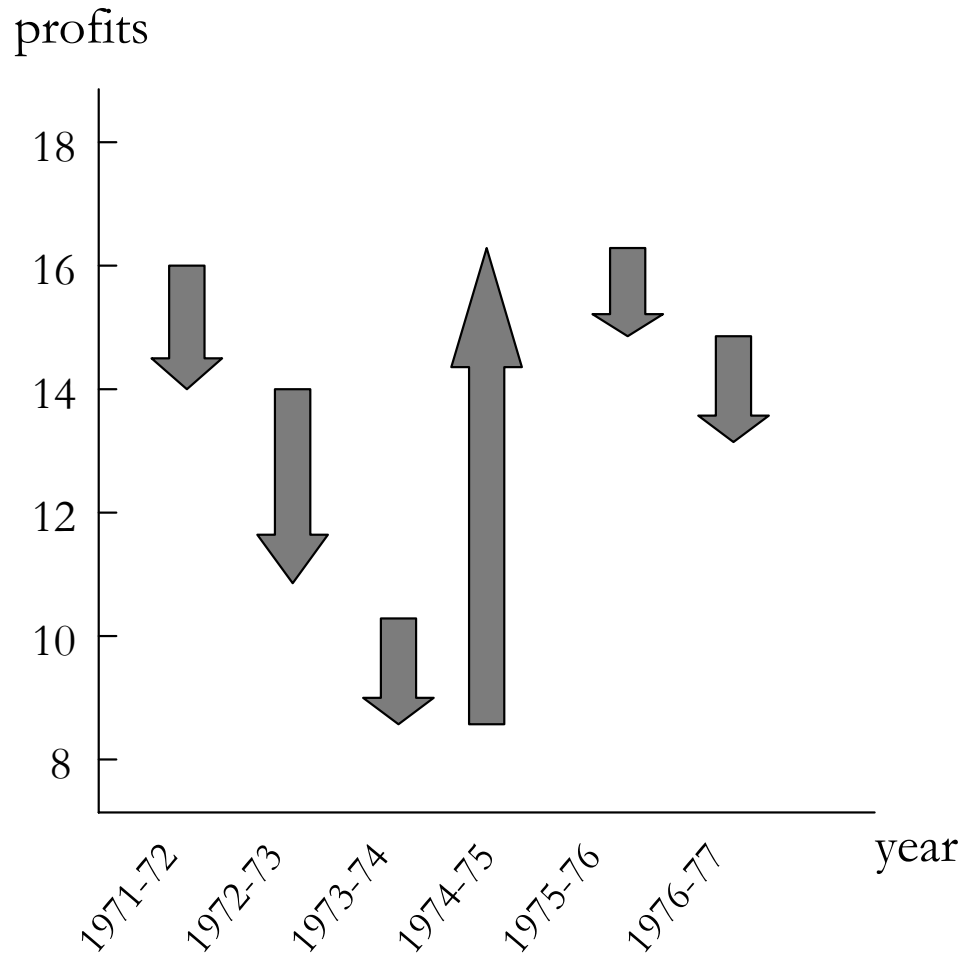


Globally, profits have decreased despite a strong increase 1974 - 1975.



The profits have been at their highest 1975 and 1971. They were at their lowest in 1974, being worth about half of what they were worth in 1975.

There is no absolute truth, there are but points of view



Globally, the benefits have decreased despite a strong increase between 1974 and 1975.

See also

Gibber

Cawsey, A. (1991). *Using plausible inference rules in description planning*. 5th Conference of the European Chapter of the Association for Computational Linguistics, Berlin. pp 119-124.

Georgette

Kölln, M. (1997). *Textproduktion als intentionaler, benutzerorientierter Prozess*. St. Augustin : Infix: DISKI, 158.

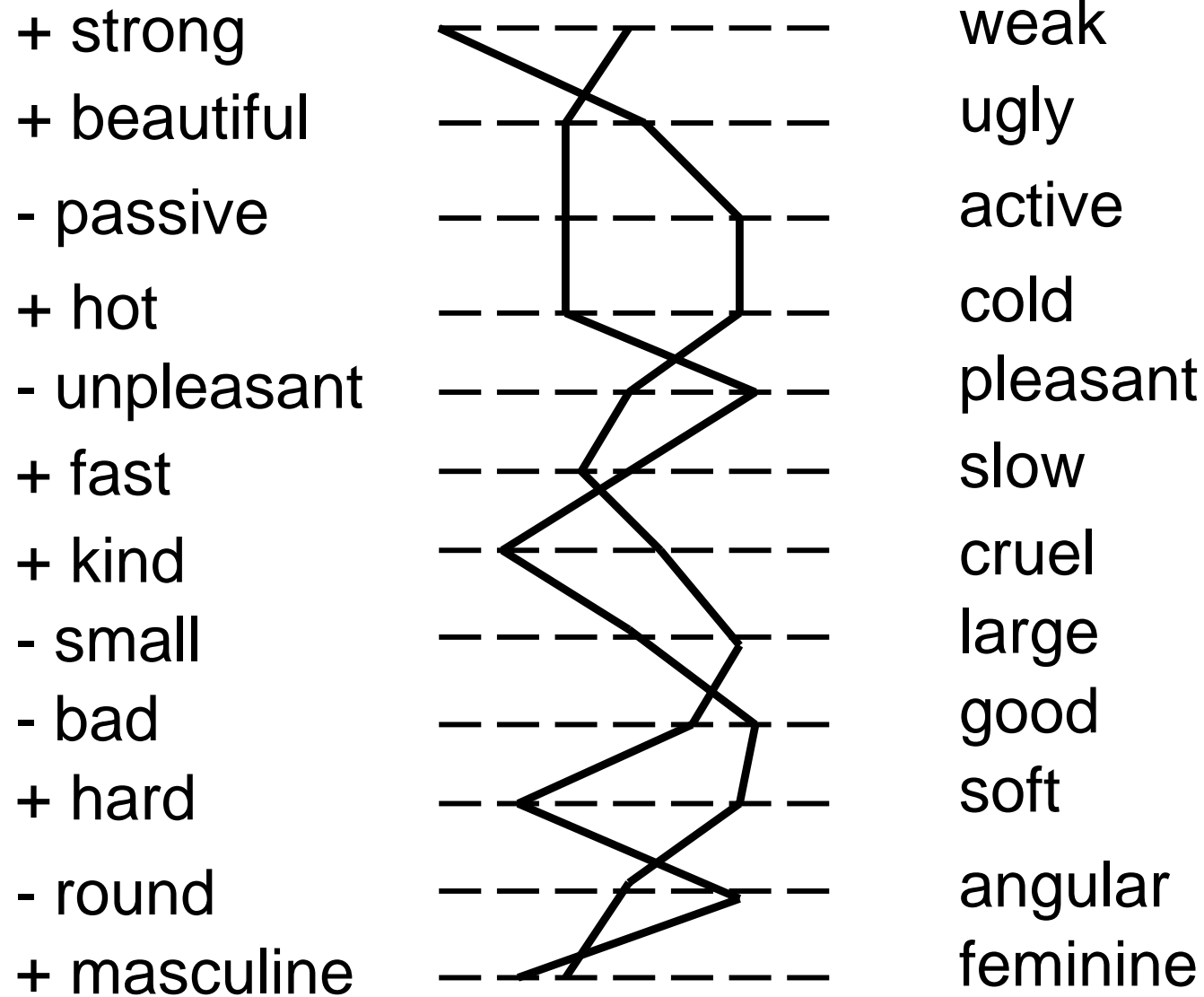
Kölln, M. E.. Employing User Attitudes in Text Planning. In Proceedings of the 5th European Workshop on Natural Language Generation, pp. 163—179

Can we measure subjective meaning?

Psychological approaches

Osgood's semantic differential

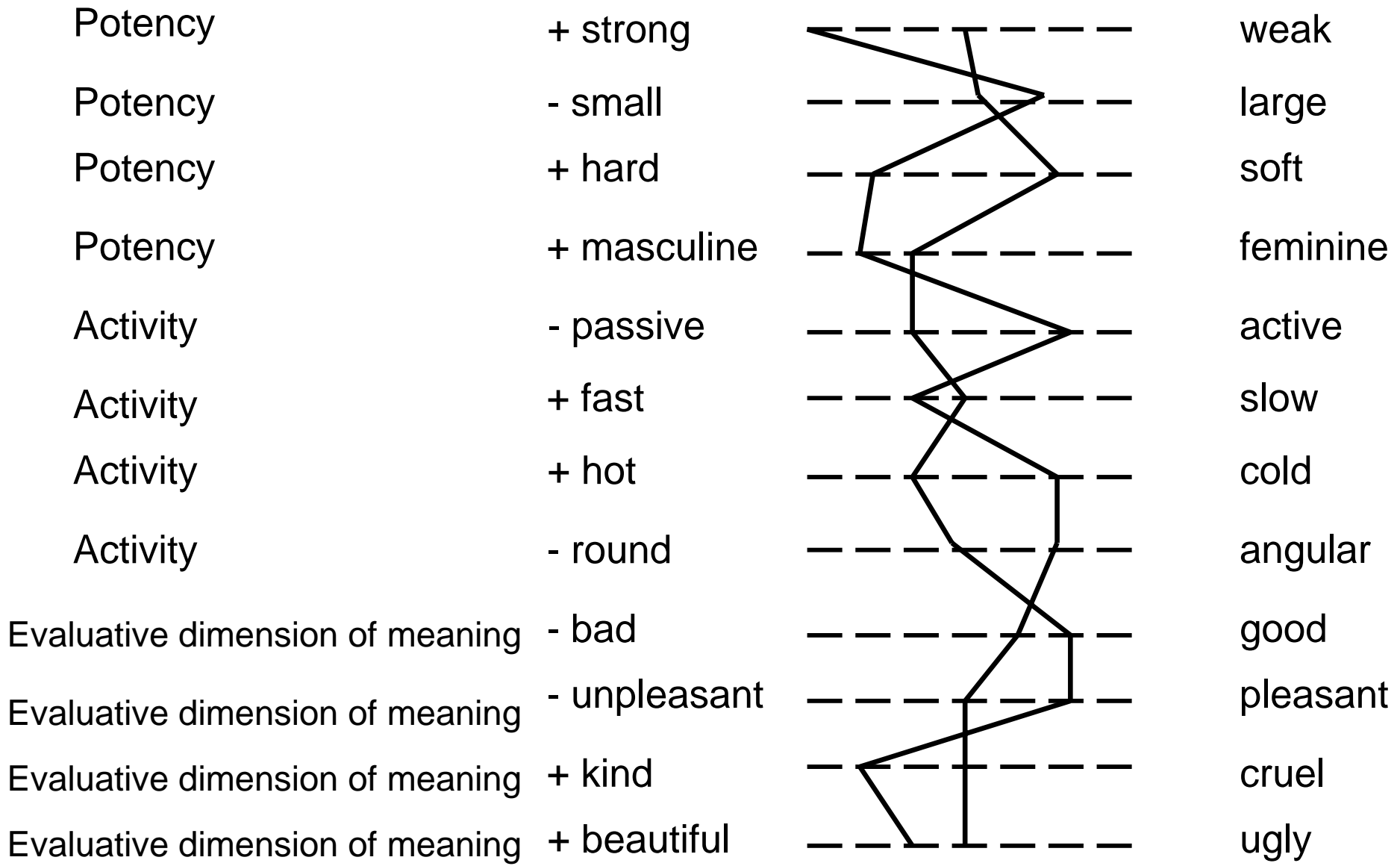
Scales



(Adapted from Osgood et al. (1957))

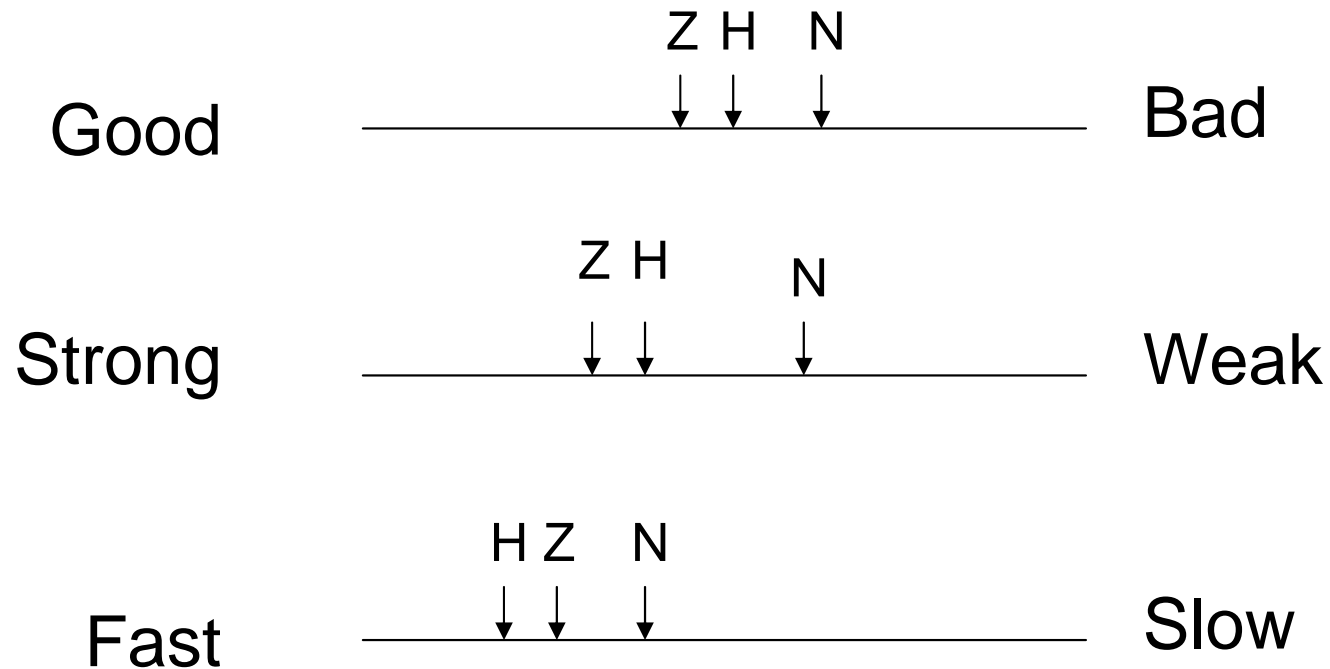
Dimensions

Scales



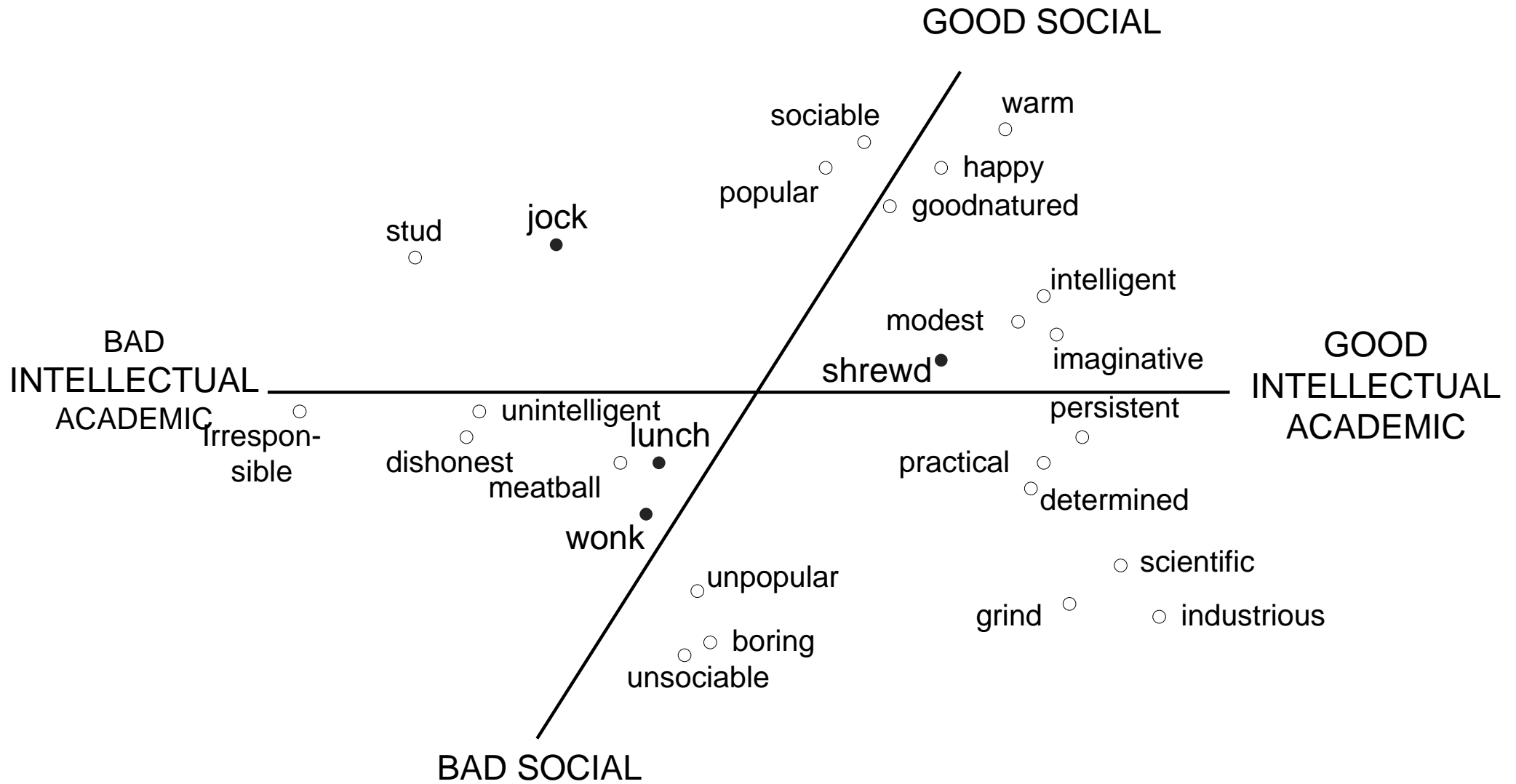
Cultural differences between Zuni , Hopi and Navaho concerning their rating of the concept “coyote”.

(Adapted from Maclay and Ware, 1961)

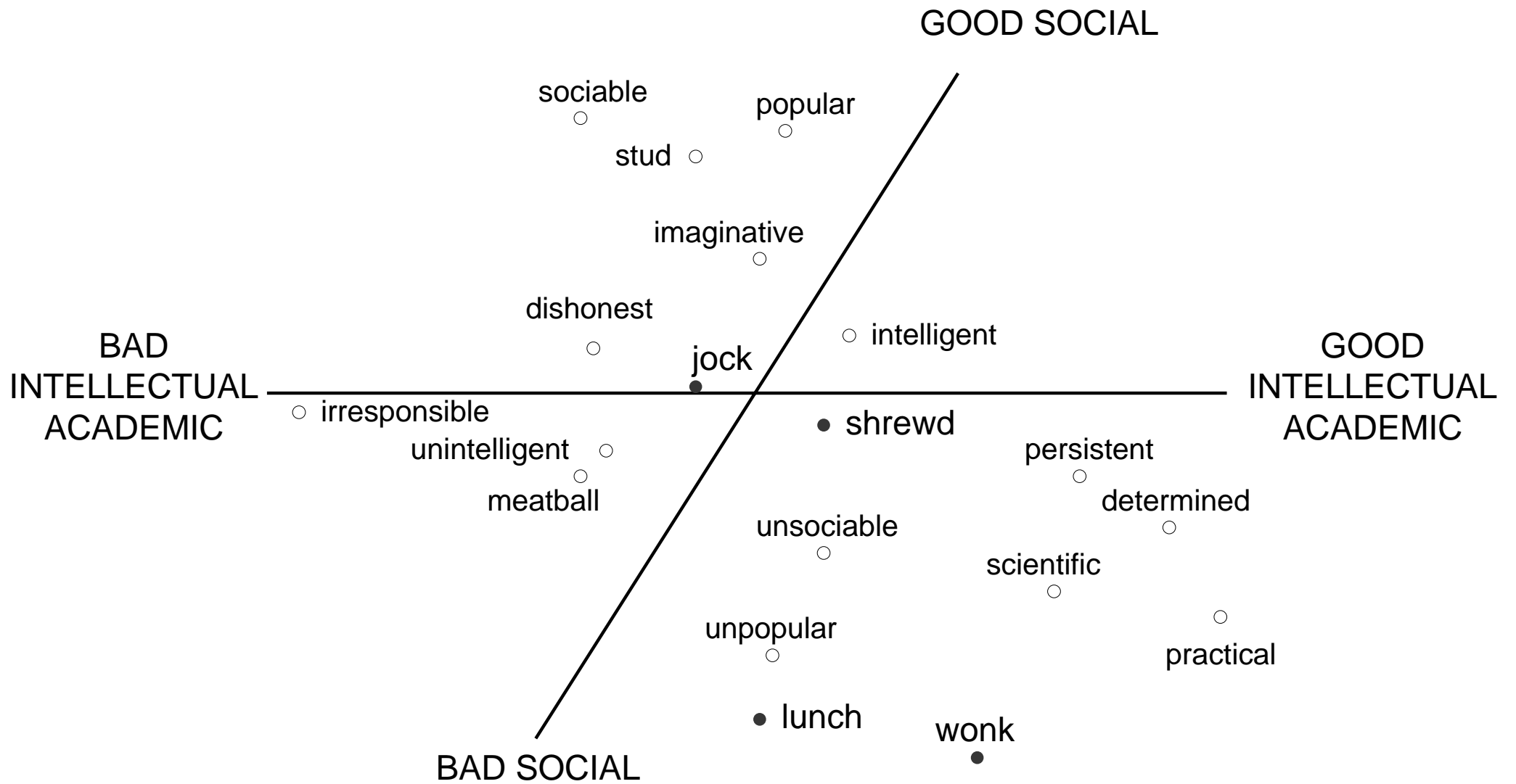


Word	Denotative meaning
<i>Wonk</i>	An introverted student who studies all the time ; generally considered to be physically unattractive
<i>Stud</i>	A good-looking student who is successful with women ; cool and detached
<i>Lunch</i>	A graceless, socially unattractive student
<i>Meatball</i>	Same as <i>lunch</i> , only more physically and intellectually unattractive
<i>Grind</i>	A student who studies diligently for long periods of time ; a periodic <i>wonk</i>
<i>Jock</i>	An athlete

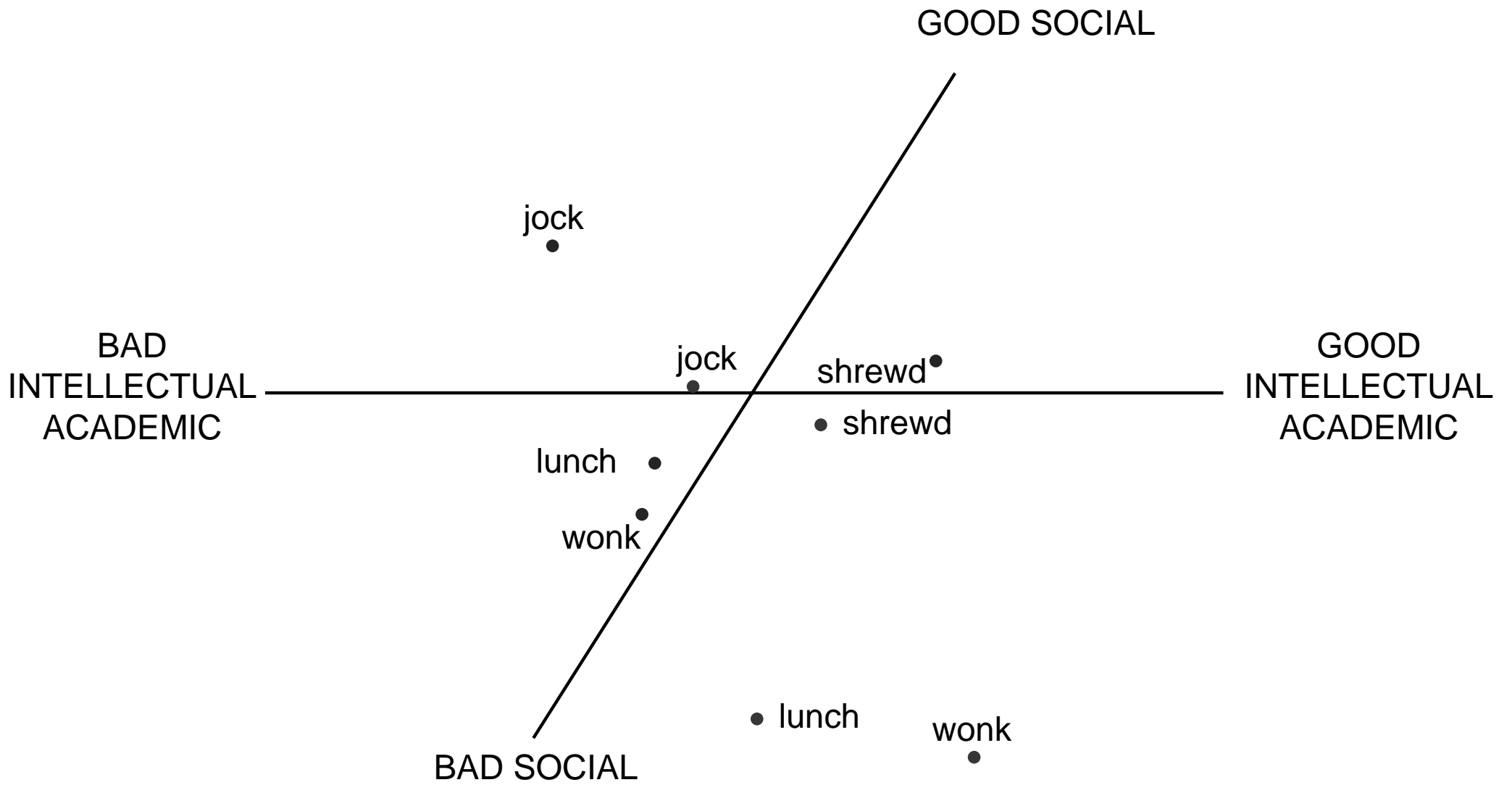
Semantic map of college-related words obtained from *college freshmen*.



The relative position of a word on either of the two scales is estimated by drawing a line from the word perpendicular to the scales.



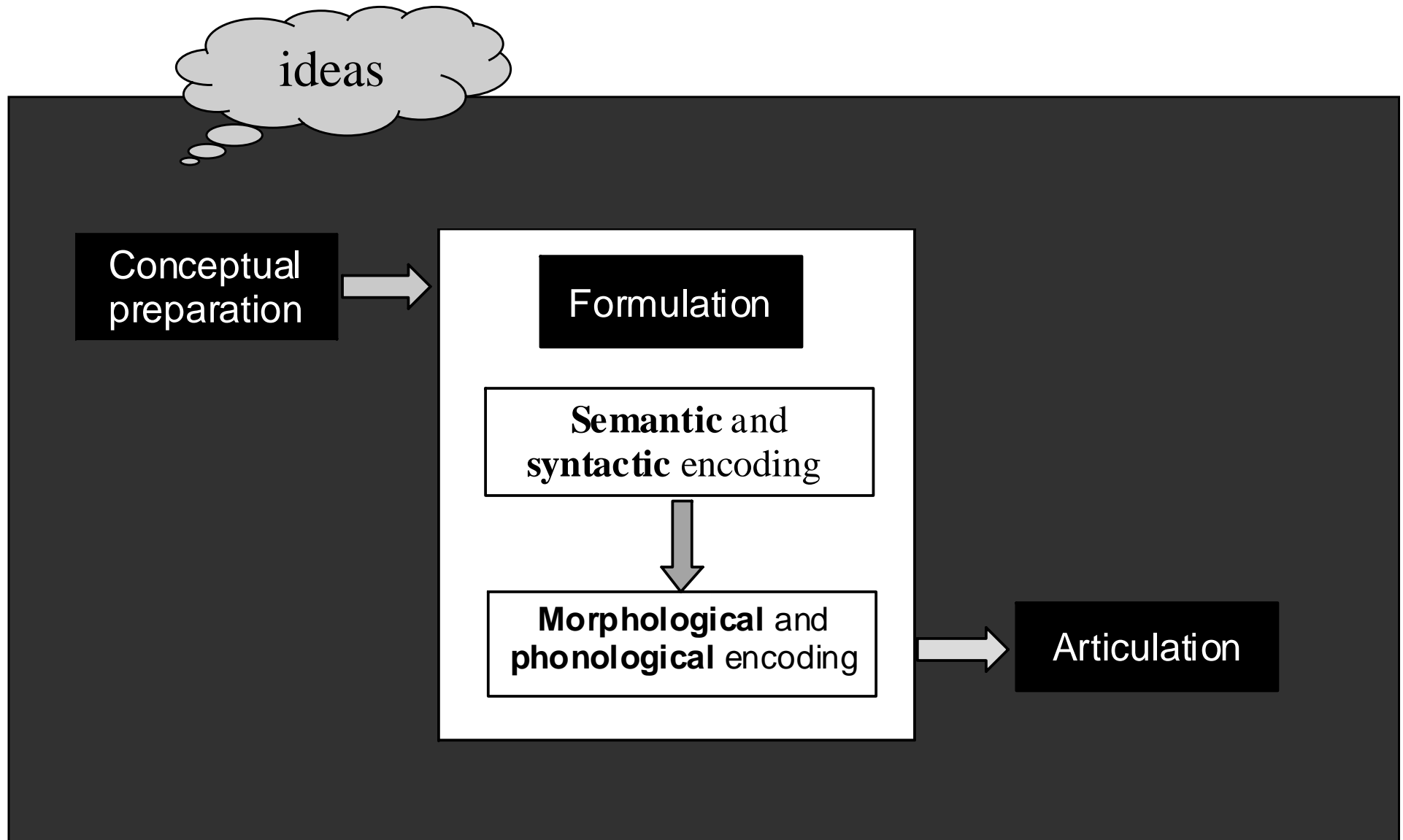
Semantic map obtained from *college seniors*.



Can word access techniques help us to reveal and produce hidden meanings?

- Subliminal communication
- Reading between the lines

The three principal steps



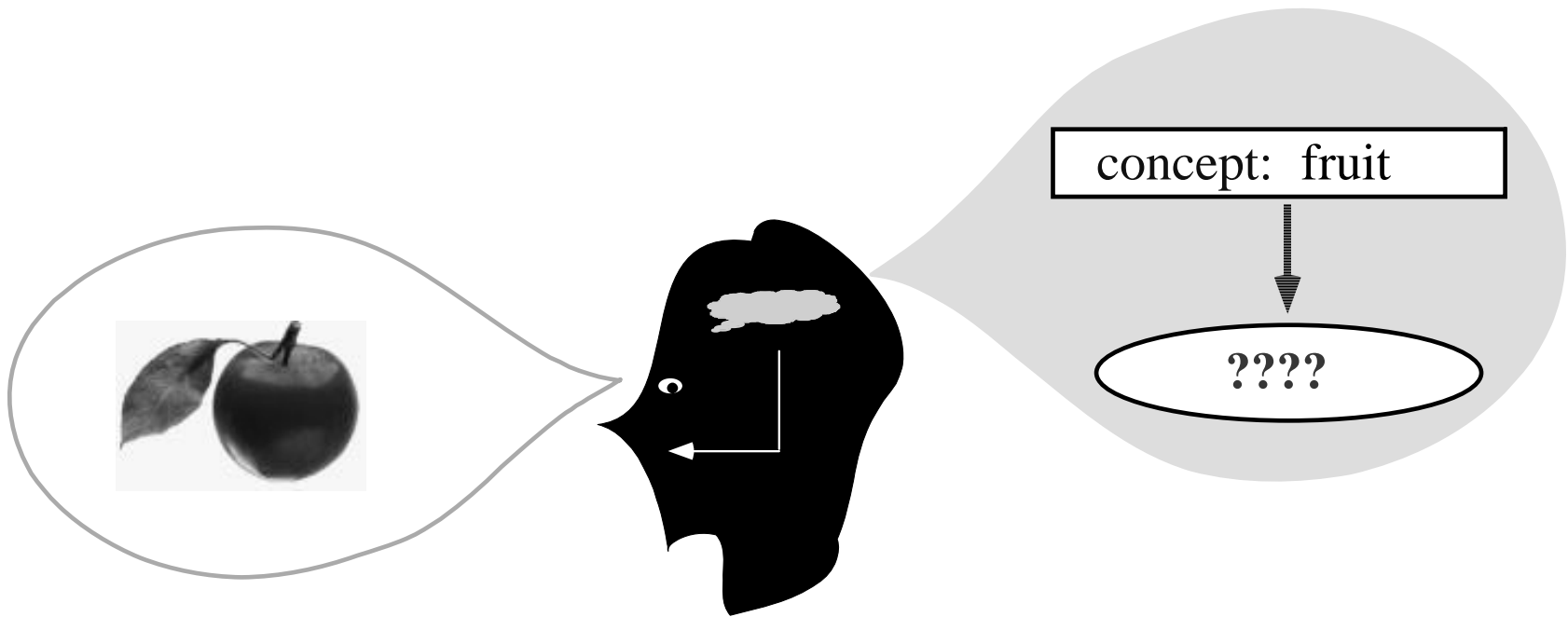
The problem of lexical access:

one of the major bottlenecks in real time processing

Problem :

- ❑ not to find what you're looking for
- ❑ to get drowned in information
- ❑ information in the wrong order
 - ✓ electronic dictionaries built for use by a machine
 - ✓ electronic dictionaries built to be used by people

What was the name again?



Work on the TOT-phenomenon revealing what people know

1) Parts of the meaning

(mocha: coffee beverage flavored with milk, sugar, and cocoa)

2) Relations to other concepts or words (associations)

eg.: Mocha : town and port in southern Yemen at the red sea)

Starbucks: place where this beverage is served)

Work on the TOT-phenomenon revealing what people know

- 3) Information concerning the form of the target word
 - a) number of syllables
 - ✓ first and last syllable (bathtub effect)
 - b) grammatical information
 - part of speech
 - gender
 - colloquial expression
 - c) origine (eg. Greek, latin)
 - d) target word : when presented a list containing the target word they will recognize it immediately and unmistakingly

Form-based access

- Pitch
- Bitch
- Beach (i-ea)
- Peach
- Mich (p-m)

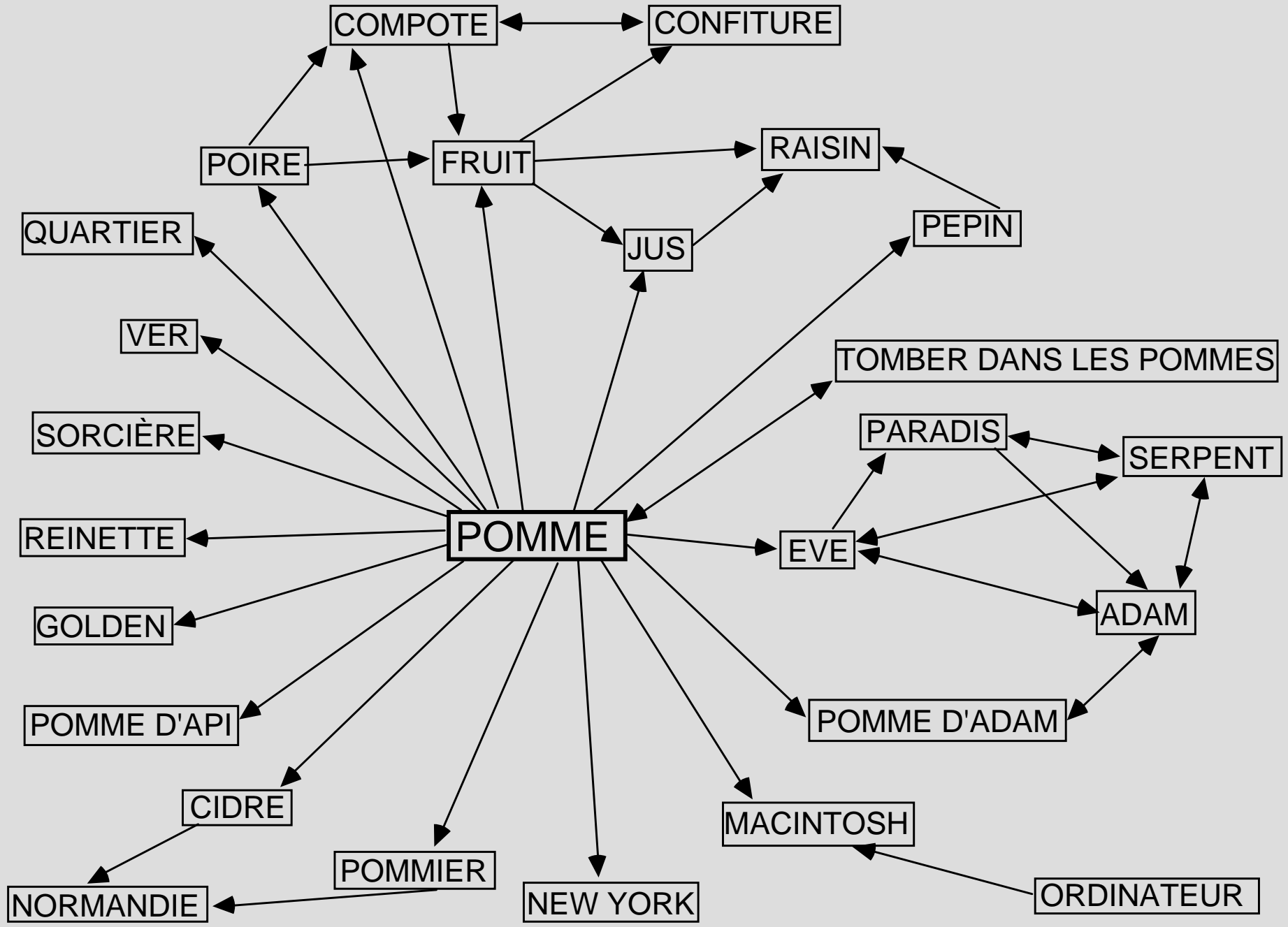
**Word access on the basis of
meaning, i.e. via associations**

Word Association Test

- Generally, a list of words (*stimuli*) is given to subjects and the subjects are asked to respond with the first word that comes into their mind.

'Cat' stimulates

- dog 49
 - mouse 8
 - black 4
 - animal 2, eyes, gut, kitten, tom 2,
 - bit, Cheshire, claw, claws, enigma, feline, furry, hearth, house, kin, kittens, milk, pet, pussy, todd 1
- (of 100 people asked)



What can be associated with what?

In principle, **anything** with **anything** :

- ✓ ideas with ideas
- ✓ ideas with words
- ✓ ideas with sounds

- ✓ words with words
- ✓ words with smells

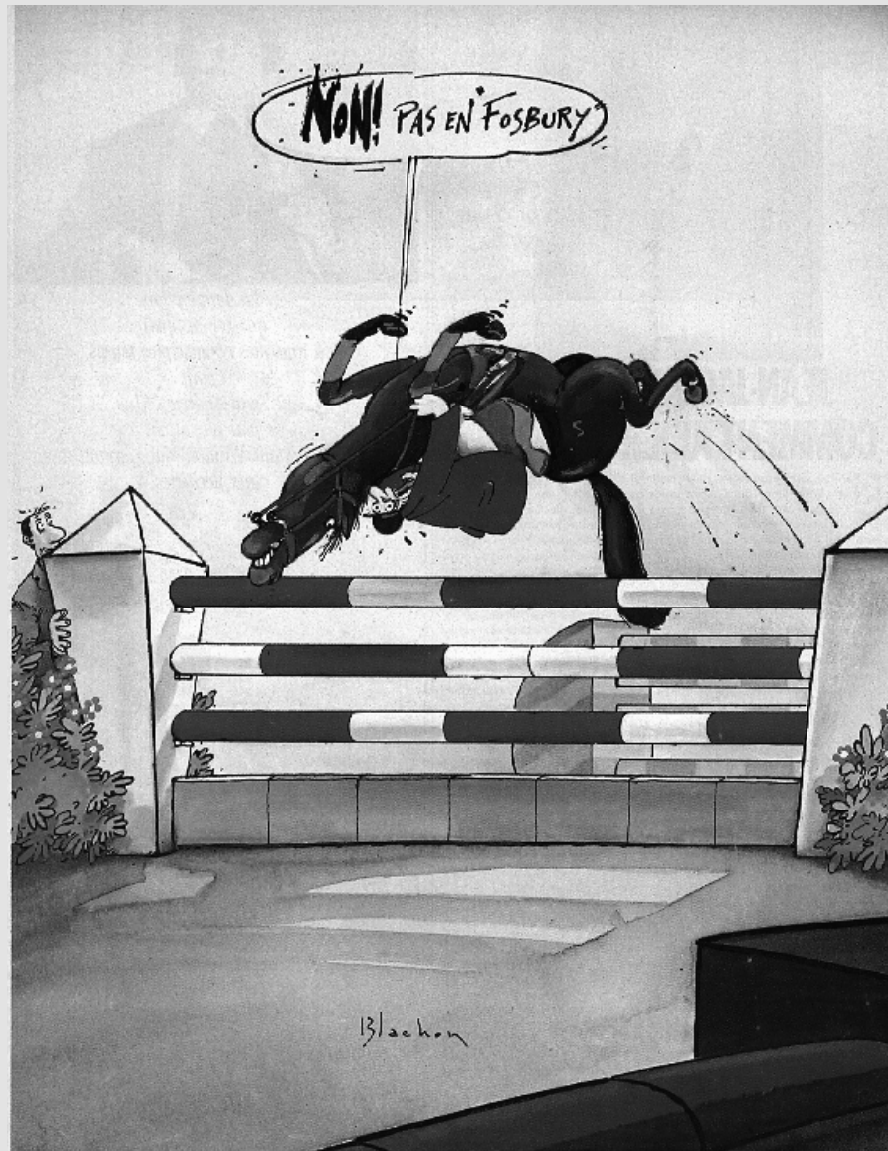
We can't help it, anything^{✓ etc.} will remind us of something.
Hence let's make use of it.

Different ways to get the message across : Tiger's smile for Nike



- ✓ **figure** (here Tiger Wood's photo)
- ✓ **symbol** (here Nike AND Tiger's smile)
- ✓ **word** → (eg. Nike)
- ✓ **or a combination**

Come on,
don't do
the
Fosbury
again !



(Nearly) **All roads are leading to Rome, or, how to get a cup of coffee by offering an apple?**

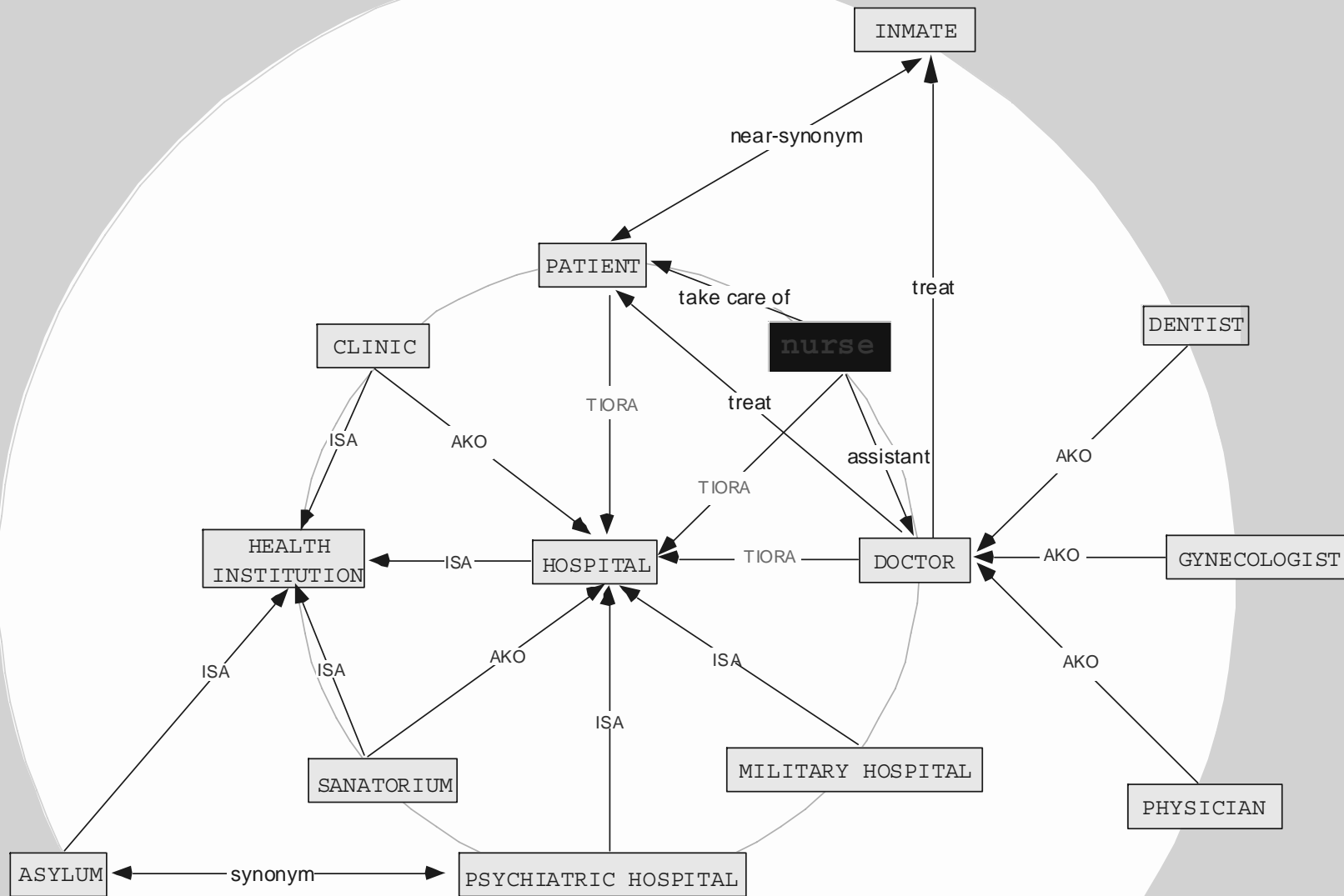
Navigation in a huge associative network

Input : apple

Desired output: mokka or cappucino

- Apple -> (fruit, Mac)
- Mac -> computer hardware/software (PC, mouse, printer, Lisp, Java...)
- Java -> (island in Indonasia, programming langage, Kawa...)
 - Java -> (café, Kawa, ...) rhyme
 - kawa -> (café, mokka, ...)
 - ✓ coffee -> (cappucino, mokka, ...)

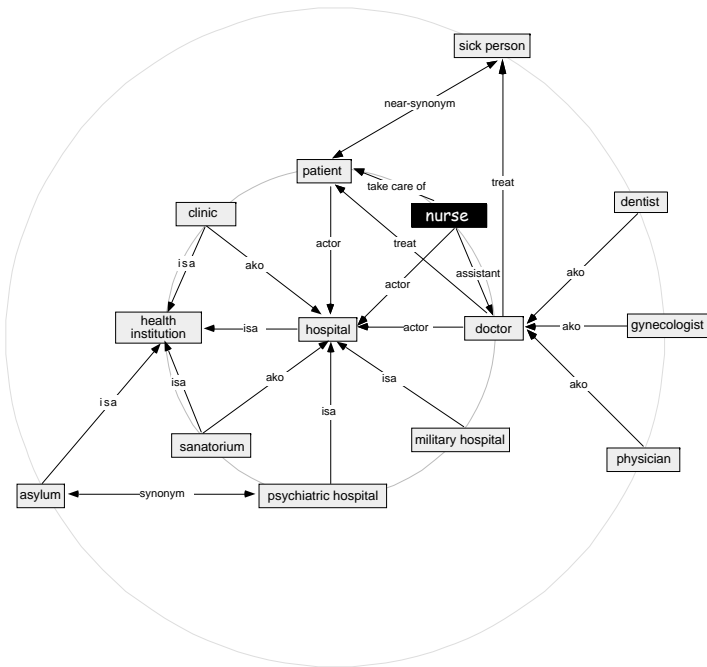
Internal Representation



**links must be interpretable
to allow for navigation**

Show only what's useful

Internal representation



AKO

- clinic
- sanatorium

ISA

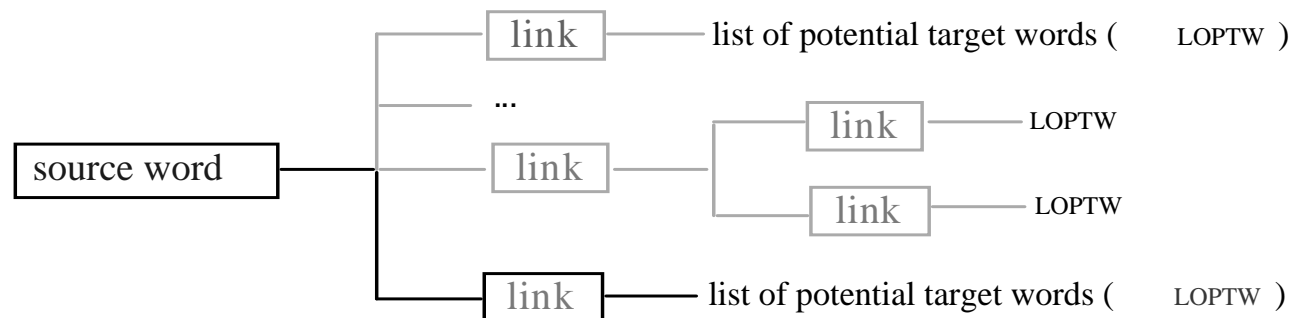
- military hospital
- psychiatric hospital

ACTOR

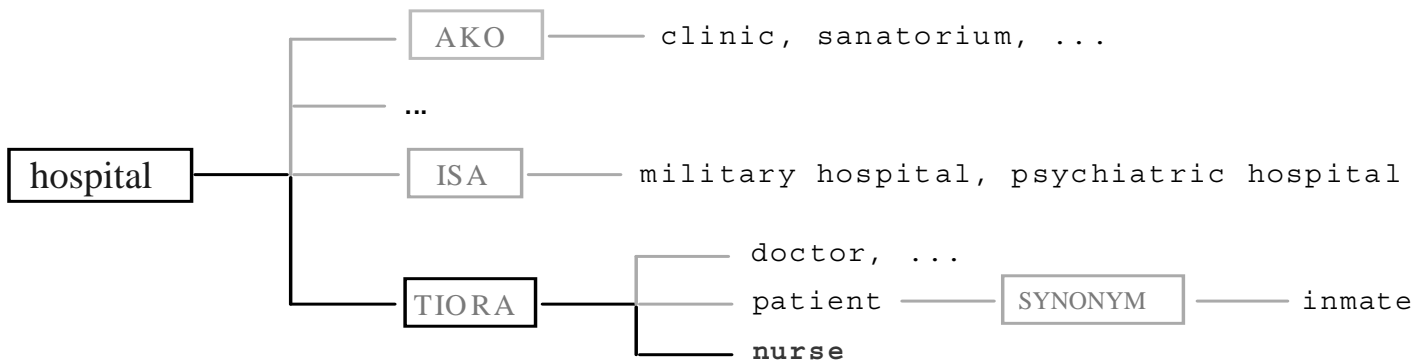
- doctor
- patient
- nurse

Don't drown the user: ease navigation

Abstract representation of the search graph



A concrete example



How to build the resource?

the method

How to mine these associations?

- A. Take a well-balanced corpus (encyclopedia) and extract
 - ✓ patterns and collocations
- B. Type the links
 - ✓ manually: ask people to qualify the links
 - ✓ automatically : via a lexical ontology
 - ✓ By reusing part of the sentence in which they occurred (coffee produce in Brazil)

Collocation extractor (Ferret, 2003)

	Mot	Collocations	Cohésion
destinatrice (2)	frégate	24	0.295999
destiner (5400)	navire	22	0.246043
destinée (896)	golfe	19	0.212824
destituer (133)	missile	12	0.228062
destitution (191)	homme	12	0.150894
destrier (6)	aérien	10	0.210013
destroyer (30)	envoi	10	0.233353
destructeur (248)	envoyer	10	0.198995
destructif (16)	chasseur	9	0.235086
destruction (1255)	mine	9	0.217573
destruction (13)	avion	9	0.192707
dette (2670)	char	8	0.227042
dette_extérieur (231)	ravitailleur	8	0.313931
dette_publique (179)	annoncer	8	0.148603
deuil (519)	allemand	8	0.159774
deustchemark (13)	lance-missiles	8	0.295801
deu	américain	7	0.134075
deu	pièce_d'artillerie	7	0.292084
deu	corvette	7	0.317291
deu	navire_de_guerre	6	0.295999
deu	premier_ministre	6	0.153637
deu	guerre	6	0.148095
deu	dragueur	6	0.308295
deu	lundi	6	0.168247
deu	patrouilleur	6	0.302209
deu	batterie	6	0.237343
deu	saoudite	6	0.208927
dev	armé	6	0.20493
dev	soldat	6	0.181972
dev	hélicoptère	6	0.213067
dev	combat	6	0.176933
dev	escadron	6	0.259587
devin (33)			
deviner (661)			
devinette (33)			

Use of such a resource as a starting point for subliminal communication

- How to read between the lines ?
- How to insult someone without getting sued?

Knowing which term (source word) is likely to evoke which other term (potential target words), we have a candidate set from which we (the author) can choose:

Chomsky	-> famous linguist from MIT
George Bush	-> president of the US
idiot	-> simple, innocent

Likewise, one could think of creating titles, brandnames, ...

sound -> noise, silence	--> sound of silence
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Despite my cheating with the title, by presenting a “crashed course” on lies rather than a crash-course on how to build a lie-detector, I hope nevertheless that you’ve found some of my ideas useful and enjoyed the talk.