Everything a Requirements Engineer Ever Wanted to Know about Cognitive Linguistics

…but was afraid to ask

Colin Potts

RE Workshop,

Imperial College

April,2001

Traditional RE sideswipe at NL requirements...
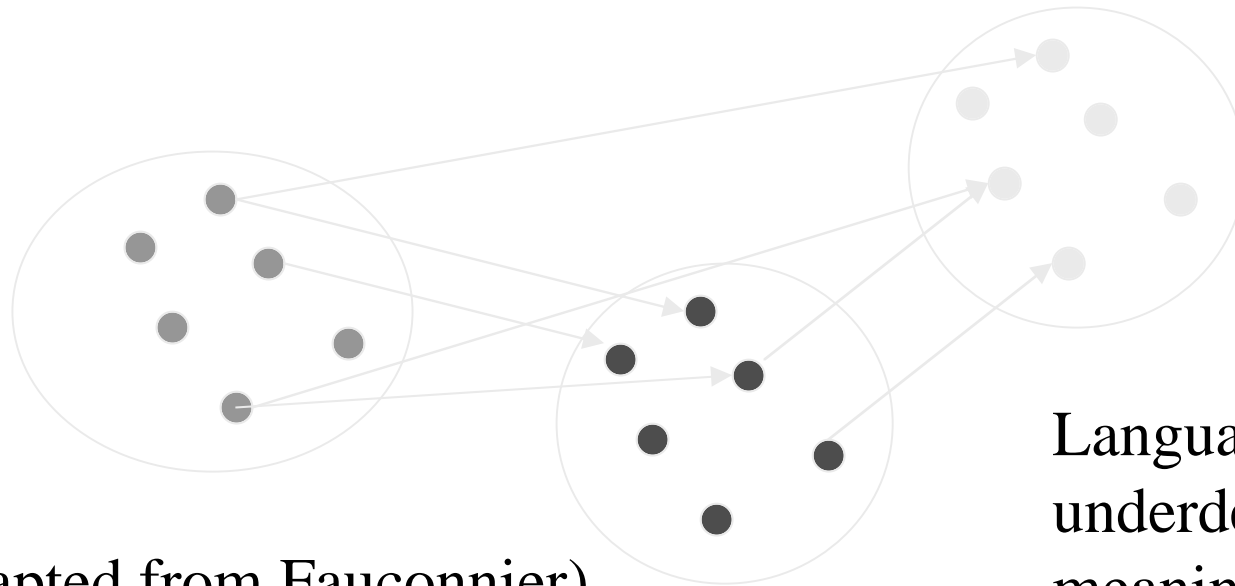
If <we say it> then
<they will understand>

If Bill Clinton had been Prime Minister of the UK, there wouldn't have been as much fuss about Monica Lewinsky.

...unless, perhaps, she had been a young man.

In that case, Clinton would have had to be mayor of San Francisco.

Language <u>radically</u> underdetermines meaning

(adapted from Fauconnier)

Elements of cognitive linguistics (Karen van Hoek)

- Conceptual/subjectivist semantics
    - Meaning is in the head
- Encyclopaedic not dictionary semantics
    - Meaning depends on use
- Structured categories
    - Concepts are prototypical, radial, resemblant
- Graded grammaticality/aptness
    - Meaning/translation shifts
- Non-autonomy of syntax
    - Language not separate from gen. cognition

The Naturalistic Turn

- Language is intentional
  - Mental spaces, not possible worlds (Fauconnier)
- Language does not convey meaning
  - Language affords meaning (Turner)
- Language is social
  - Meaning enacts rather than represents (Vygotsky)
- Meaning is grounded in behaviour
  - Grounded metaphor (Lakoff)

Thursday September 16, 1999 Week 38

Tasks

- ☐ Plastic prints
- ☐ Alex Harris (APG Annual) DL (Due : Sep 30)
- ☐ Install zip on Gateway
- ☐ Install s/w & files on G/way
- ☐ Ensure prtr/Pilot compat on Mac
- ☐ Replace CTX monitor
- ☐ Install zip on CTX
- ☐ Install software on CTX

***My Gvu bb

Office hour

Idris

Sort slides for Alex Harris & do additional copy w

Appointment

Appointment | ***My Gvu bb

☐ **Repeat Appointment**

Date September 16, 1999

Time 12:00 PM to 1:00 PM

⏰ ☐ **Set Alarm**

Categories Pubs

Delete… Add Another Cancel OK

hursday September 16, 1999 Week 38

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Appointments exist

Appointments have names

***My Gvu bb

Appointments have dates

Idris

Appointment   ***My Gvu bb

☐ Repeat Appointment

Date September 16, 1999

Time 12:00 PM to 1:00 PM

Appointments end

☐ Set Alarm

Appointments start

Categories Pubs

Sort slides for Alex Harris & do additional copy

Delete...   Add Another   Cancel   OK

Some appointments have alarms

Pilot 5000
Portal transparency
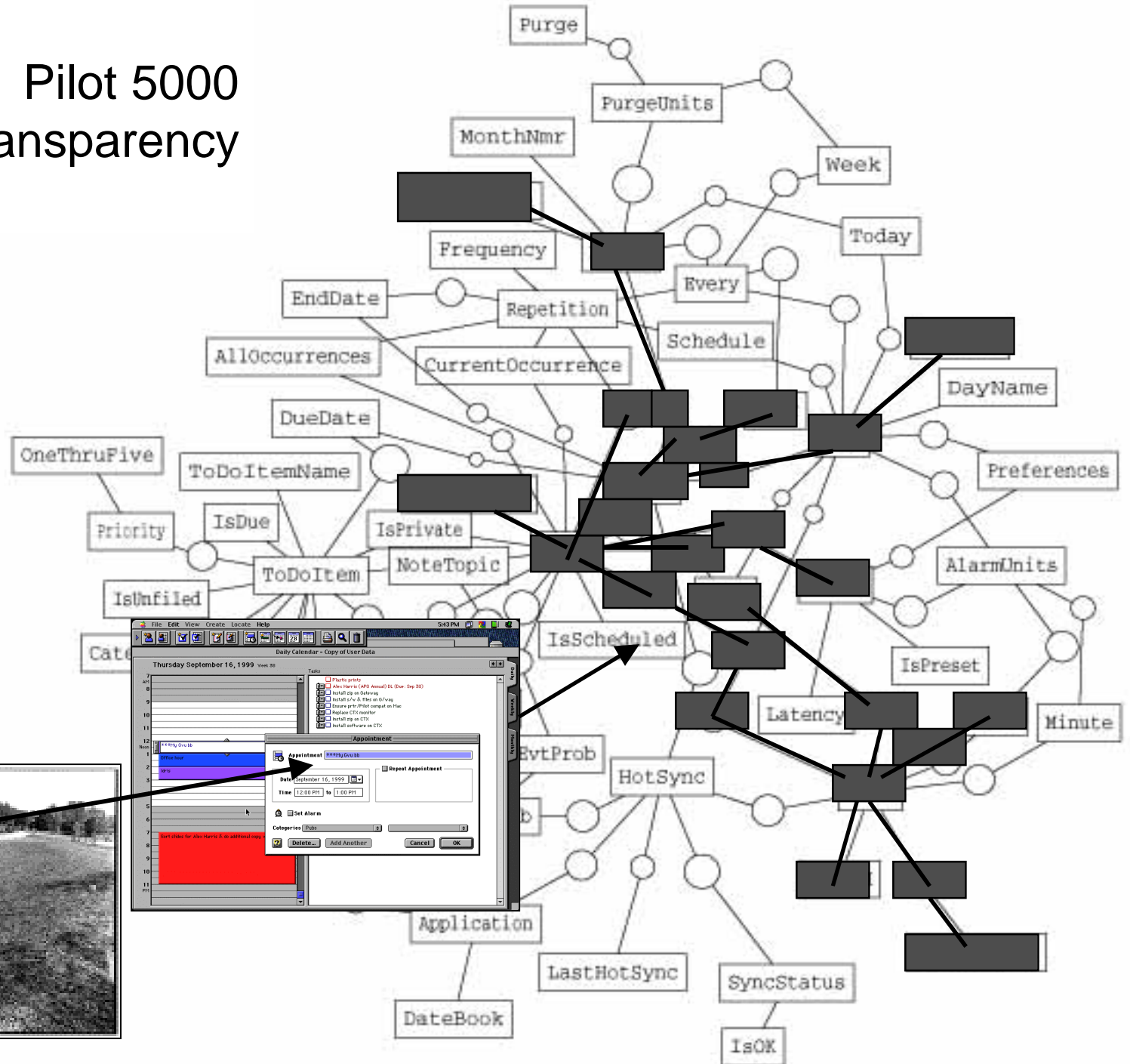
Implicit type-level semantic model
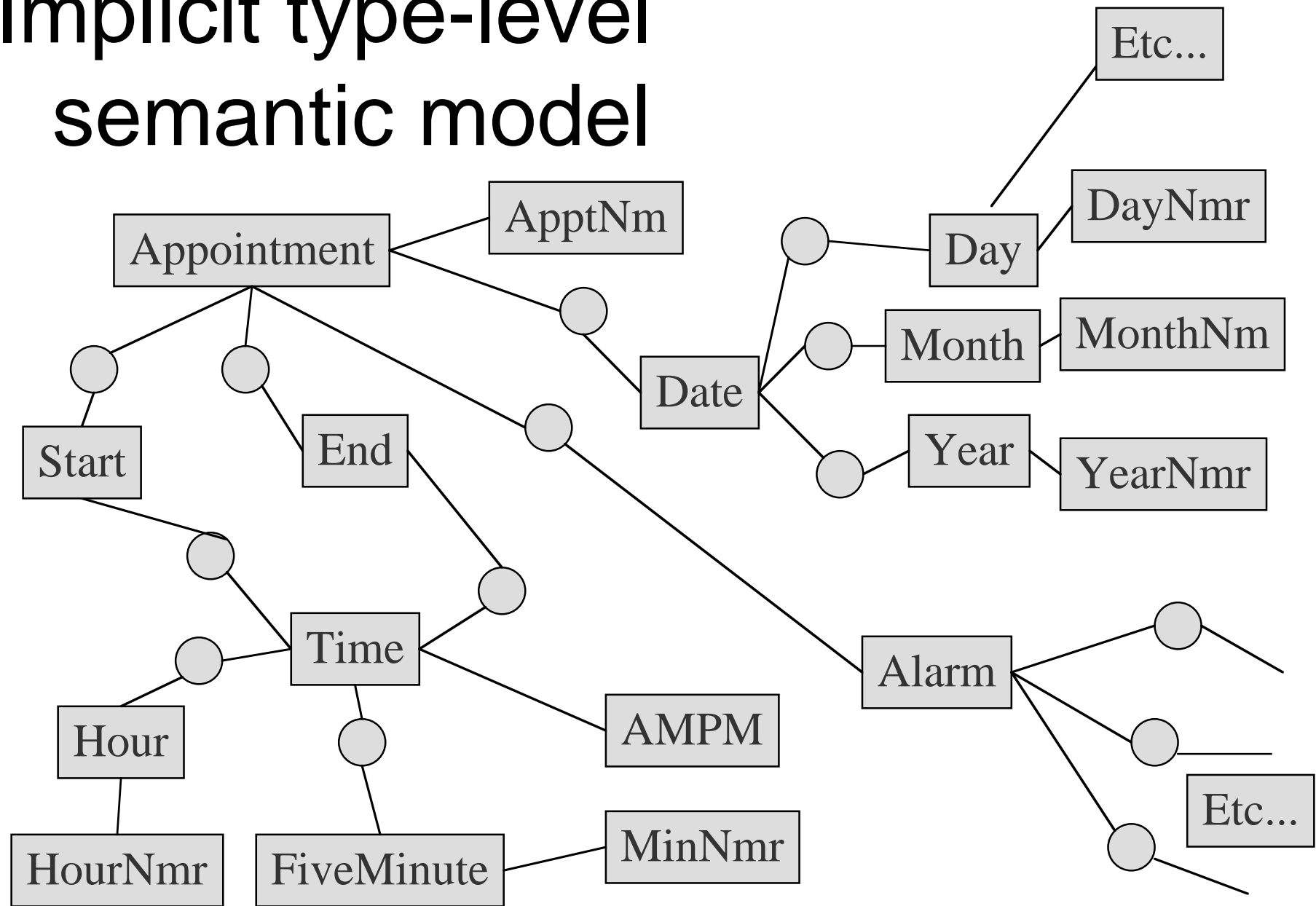
A bestiary of grounded metaphors (Lakoff & Johnson)

- important = big
- difficulty = burden
- more = up
- type of = inside
- similar = near
- degree = position
- arch. = phys. struct.
- help = support
- time = motion
- change = motion

- state = place
- action = self-propulsion
- purpose = destination
- purpose = desired thing
- cause = force
- relationship = enclosure
- control = be above
- know = see
- understand = grasp
- see = touch