



# The impairment of concrete vs. abstract words in semantic dementia

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LORENA CIUTACU

# Overview

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1. Mental lexicon & semantic memory
2. Semantic dementia
3. Concrete words
4. Abstract words
5. Open questions

# 1. Mental lexicon

- all lexical concepts learned throughout life, in semantic memory
- Concreteness
- Imageability
- Frequency
- Age of acquisition

# 1. Semantic memory

- subcategory of long-term memory
- acquired early in life
- necessary for
  - recognition and naming of objects
  - accessing the meanings of words in the mental lexicon
  - „translating“ concepts into words
- resistant to deterioration, except in case of brain atrophy or damage

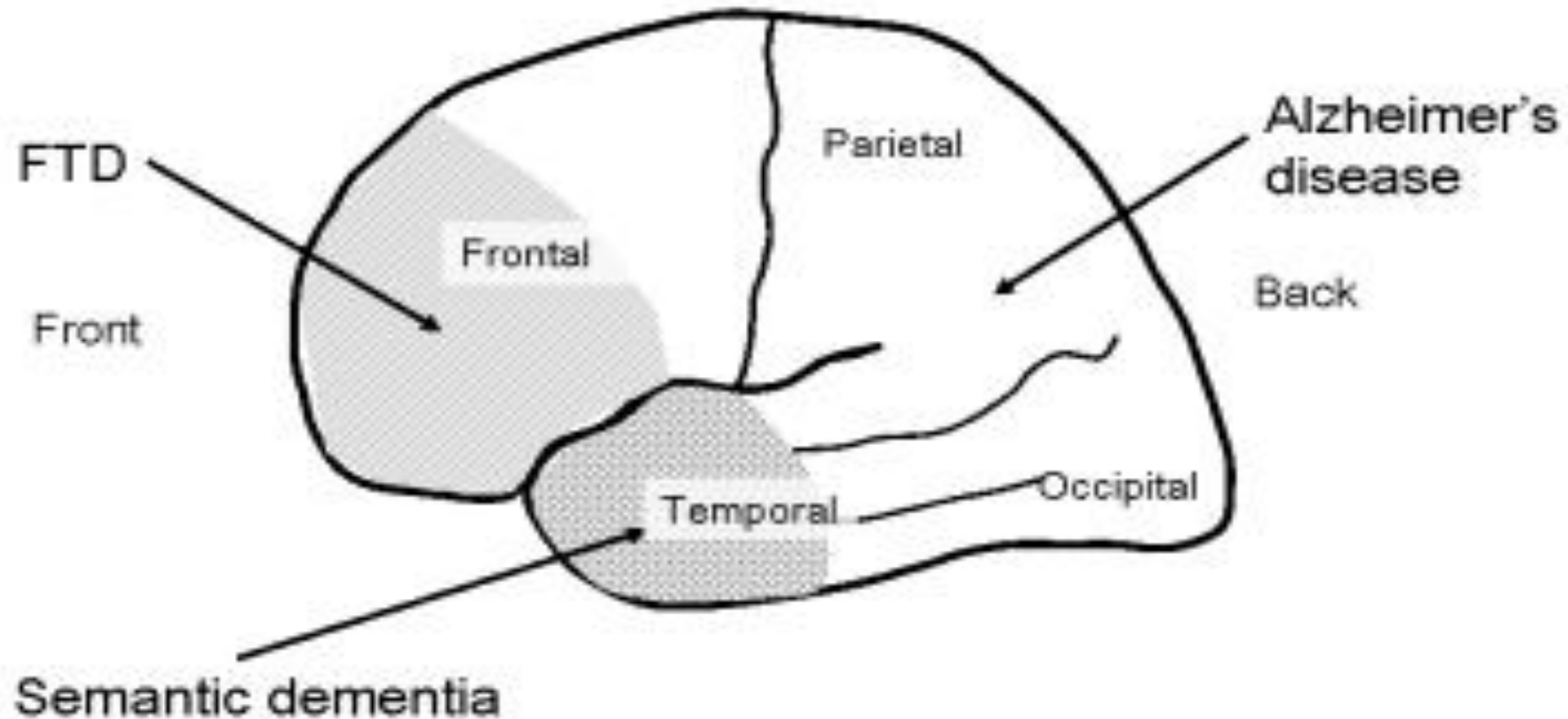
## 2. Semantic dementia

### Frontotemporal Dementia

- Behavioral
- Progressive nonfluent aphasia
- Semantic dementia

} Linguistic forms,  
manifested as  
primary progressive aphasia

## 2. Semantic dementia



[Image source](#)

## 2. Semantic dementia

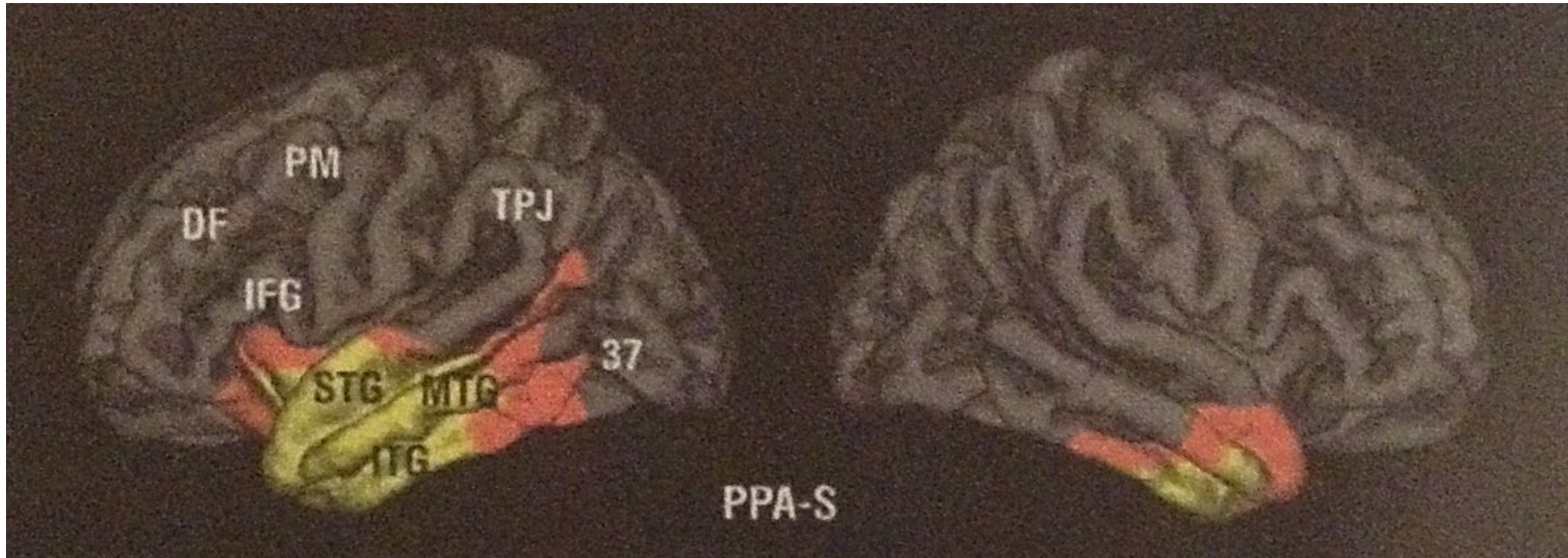


Image source: Kemmerer, 2015:95

## 2. Semantic dementia

### Preserved

- ✓ articulation and syntax (grammar)
- ✓ repetition of single words
- ✓ fluent speech
- ✓ episodic memory
- ✓ working memory
- ✓ problem solving



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### Preserved

- ✓ articulation and syntax (grammar)
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### Impaired

- meaningless speech
- semantic information
- social cognition
- emotional control
- understanding of objects / actions
- **anomia**

# 2. Testing SD

A: description-to-noun matching

B: description-to-verb matching

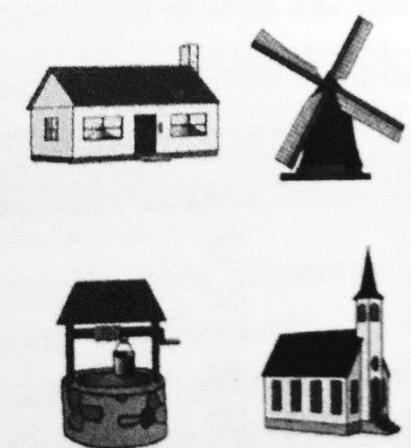
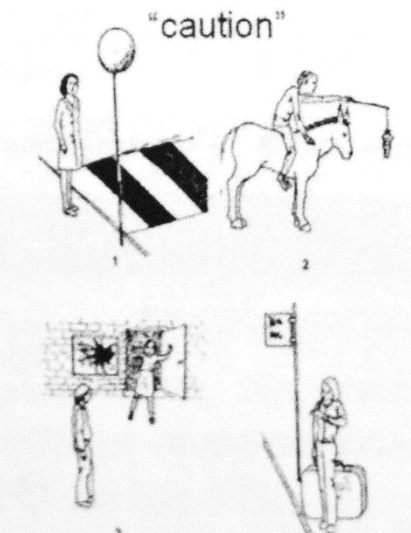
C: synonym judgement

D: verb similarity

E: mischievous monkey test with words

F: mischievous monkey test with pictures

G: Shallice & McGill word-picture matching

<p>A</p> <p>a state of sudden overpowering terror</p> <p>calmness      relaxation madness      panic</p>	<p>B</p> <p>a behaviour where you say something</p> <p>speak      pose observe      hear</p>	
<p>C</p> <p>constant</p> <p>regular   essential   aware</p>	<p>D</p> <p>confirm</p> <p>verify      finish</p>	<p>E</p> <p>"mischief"</p> <p>monkey      elephant kangaroo      zebra</p>
<p>F</p> <p>"faith"</p> 		<p>G</p> <p>"caution"</p> 

(Hoffmann et al., 2011)

### 3. Concrete words

Living

e.g., *dog*

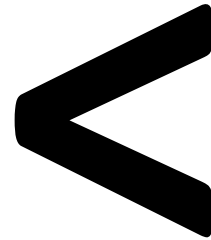
Specific knowledge

Specific words

e.g., *orange*

Same category

e.g., *shoes, gloves*



Non-living

e.g., *hammer*

Superordinate knowledge

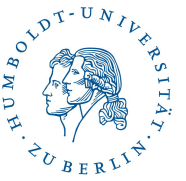
General words

e.g., *fruit*

Different categories

e.g., *banana, nose*

# 3. Concrete words: writing



Literature: *Jackson's dilemma* (1995)

Limited vocabulary, high frequency words

Picture naming test:

BUS: *something carried along;*

SLEDGE: *thing to be going up and down;*

KANGAROO: *beautiful creature that jumps.*

Cookie theft test:

*The girl is just holding a plate and various pieces of ... well... something useful... The thing where the water is running out.*



Iris Murdoch

(Garrard et al., 2005)

## 4. Abstract words

Emotions: *fear, anger, happiness...*

Values: *freedom, honesty...*

### **Concreteness effect (concrete > abstract)**

- Speech perception
- Speech production
- Reading
- Writing

## 4. Reverse concreteness effect

- some rare cases: **abstract > concrete**

(1) *Geese*: “An animal, but I’ve forgotten precisely.”

*Supplication*: “Making a serious request for help.” (Warrington, 1975)

(2) *Giraffe*: “I don’t know... it’s a sort of foreign term... something to do with furniture.”

*Free*: “Not restricted by anything.” (Cipolotti & Warrington, 1995)

(3) *Ink*: “Something that covers.”

*Try*: “Try is to endeavor to accomplish something.” (Breedin et al., 1994)

## 5. Open questions

- Reverse concreteness effect
- Categorical specificity
- SD in other languages/ bilinguals
- Detecting early signs of SD

# Literature

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