The tip of the tongue phenomenon with elderly

Viktória Horváth
Eötvös Loránd University
Department of Phonetics
As early as in Dickens

‘The name of those fabulos animals who used to sing on the water, has quite escaped me.’

Mr. George Chuzzlewit suggested ‘Swans’.

‘No,’ said he, ‘Not swans. Very like swans, too. Thank you.’

George…propounded ‘Oysters’.

‘No,’ said he ‘not oysters. But by no means unlike oysters; a very excellent idea, thank you my dear sir, very much. Wait! Sirens, of course.’

(Charles Dickens: Martin Chuzzlewit)
Introduction
The process of the mental retrieval

determination of the concept

lemma level
(lexical selection)

lexeme level
(phonological encoding)

mental lexicon
Introduction

The tip of the tongue phenomenon
Introduction

Biological changes with elderly
Method and material

- 50 definitions of words
  (nouns, verbs, adjectives, names of famous persons)
  with Indians: the pulled off head-skin of the enemy as a triumphal badge (scalp)
  he’s an Actor of the Nation, he played a role in „Szomszédok” and the leading role in the serial called the „Tenkes kapitánya”
  (Ferenc Zenthe)

- 10 elderly persons (average age: 73, 66-84 years)
- control group: 10 young persons (average age: 27, 23-37 years)
Hypotheses

- Old subjects will be able to activate less words than the young ones.
- Subjects will use different ways to find the target words.
- The word finding errors are caused mostly by phonetic similarity rather than by semantic one.
- The tip of the tongue phenomenon will be more frequent with the old speakers than with the young ones.
- Reaction times will be longer with elderly.
- Activating nouns will take all subjects shorter time than activating verbs.
Results

Successful activations of the two groups

- Old subjects: 54.60%
- Young subjects: 66.40%
Results
Successful activations of the old subjects

- Females: 46.40%
- Males: 58.80%
Results
Successful activations of word classes

- Nouns: 66% (old) vs 71% (young)
- Verbs: 61% (old) vs 73% (young)
- Adjectives: 46% (old) vs 66% (young)
- Proper names: 38% (old) vs 58% (young)

(old subjects: purple, young subjects: light blue)
Results
Ways of searching in the mental lexicon

- Repetition of definition: 49
- Semantic way: 41
- Telling information: 23
- Phonetic way: 11
- Combination: 22
Results

Occurrences of word finding errors in the elderly group

- average 3.7 errors per persons
- range: 1-8 errors

*Nem drog, hanem...(doppingol)*  
Not drugs, but... (dope)

*Nem horoszkóp, nem sztetoszkóp...(kaleidoszkóp)*  
Not horoscope, not stethoscope... (kaleidoscope)
Results
Types of word finding errors

- Phonetic
- Semantic
Results
The tip of the tongue phenomenon

- Average with elderly: 2.1 per persons (0-5)
- Average with young: 0.7 per persons (0-2)

asz... aszt... asztro... lógia
(as...ast...astro...logy)

kaleiszkóp... doszkóp... kaleidoszkóp
(kaleiscope... doscope...kaleidoscope)
Results

TOT: The successfully activated segments of the words

- Beginning of the word: 76%
- Mid-part of the word: 0%
- End of the word: 24%

Legend:
- Beginning of the word
- Mid-part of the word
- End of the word
Results

Occurrences of TOT according to word classes

<table>
<thead>
<tr>
<th>Category</th>
<th>Old Subjects</th>
<th>Young Subjects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nouns</td>
<td>38%</td>
<td>43%</td>
</tr>
<tr>
<td>Verbs</td>
<td>5%</td>
<td>29%</td>
</tr>
<tr>
<td>Proper Names</td>
<td>57%</td>
<td>29%</td>
</tr>
</tbody>
</table>

Legend: old subjects, young subjects
Resultst
Reaction times of the two groups

![Bar chart showing reaction times for old and young subjects. The chart indicates that old subjects have a significantly higher reaction time compared to young subjects. The reaction time for old subjects is 4453 ms, while for young subjects it is 1720 ms.](image)
Results
Reaction times according to word classes

- Nouns:
  - Old subjects: 3369 ms
  - Young subjects: 1321 ms

- Verbs:
  - Old subjects: 3655 ms
  - Young subjects: 2659 ms

- Adjectives:
  - Old subjects: 4423 ms
  - Young subjects: 1554 ms

- Proper names:
  - Old subjects: 6065 ms
  - Young subjects: 1348 ms
Results

Reaction times of old males and old females

- Nouns: Males 3095, Females 4243
- Verbs: Males 3196, Females 4115
- Adjectives: Males 4132, Females 4715
- Proper names: Males 4721, Females 7409

(ms)
Conclusions

- Biological changes of the elderly and changes in the lexical retrieval:
  - less successful activations
  - more word finding errors and more frequent TOT
  - longer reaction times
  - differences between accessing word classes
- Various ways to solve the problems in the lexical processes
- Differences between the sexes
Open questions

- How do silent pauses depend on problems in the lexical retrieval? Are they longer in case of word finding errors or in case of the tip of the tongue phenomenon?

- Are there any differences between the sexes in the function of the lexical processes, independent of age?

- Which factor has the greatest effect on the lexical retrieval: age, qualification, number of active working years, etc.?
Thank you for your attention!