What is special about multilingualism?

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Structure of presentation

- What does ‘special’ mean?
- What sources do we have about the status of L3 or the multilingual system?
- Focus on linguistic and psycholinguistic aspects
- Is L3/multilingualism special?
‘A comparison of bilingual and trilingual processing suggests ‘that these similarities and differences are both of quantitative and qualitative kind, and therefore trilingual competence is distinct from bilingual competence’

(Hoffmann 2001, 1)
What is special?

- Inspired by discussions at Iowa L3 conference
- Broaden the scope from L3A to the development of the multilingual system
- Is learning a third/fourth/... language fundamentally different from learning a second language or register?
- Is the language system fundamentally different from the monolingual/bilingual one?
Is there something like monolingualism?

➢ From a linguistic/sociolinguistic/psycholinguistic perspective there is no fundamental difference between different styles, registers, varieties, dialects or languages

➢ ‘Register: range of vocabulary, grammar, etc. used by speakers in particular social circumstances or professional contexts’ (OAD)

➢ ‘Language: words, phrases etc. used by a particular group of people’ (OAD)
L3 as a methodological tool

We argue that a comparison of L1 and L2 acquisition alone, however, is not sufficient in terms of our understanding of the human capacity for language. We need to investigate the acquisition of a third language in order to unconfound certain factors left confounded in L1/L2 acquisition’

(Flynn et al. 2004, 4)

e.g. In study of CLI from L1/L2/L3
Multi/bilingualism as a policy issue

- The ISB/Oslo debate
- Bilingualism restricted to ‘mother tongue/ local language + English’
What makes third language processing special?
- More easily acquired?
- More easily lost or maintained?
- Stored in different parts of the brain?
- Processed differently in the same parts of the brain?
- Behavioral differences: type and number of errors, processing speed, interference?
Sources of information

- Neurolinguistic data:
  - Multilingual aphasia
  - Neuro-imaging studies
  - Hyperpolyglots

- Psycholinguistic: models and processing
Neurolinguistic 1: multilingual aphasia

- Main issues
  - Differences in disturbances between bilinguals and multilinguals?
  - Differential decline and recovery patterns?
  - Different aphasia types for different languages?
  - Code switching problems?
Databases: Albert & Obler 1978/Paradis 1977

- Albert & Obler 1978: meta analysis of 108 reported cases from mid 19th century till 1977
- What happened to bilingual aphasia?
Patterns of impairment and recovery

- Synergistic: Impairment and recovery in parallel
- Differential: differently impaired and recovery in different rates
- Antagonistic: Decline of earlier recovered language with recovery of other language
- Successive: Recovery of one language after previous one
- Selective: Impairment and recovery of only one language
Factors in recovery

- Order of learning the languages
- Degree of proficiency in languages
- Affective attitudes to languages
- Site and size of lesion
- Recent use of languages

So: difficult to assess pure L3 effects
‘Neither primacy, automaticity, habit strength, stimulation pre- and post-onset, appropriateness, need, affectivity, severity of aphasia, type of bilingualism, type of aphasia or structural distance between the languages could account for all the non-parallel recovery patterns observed’

(Paradis 2001,90)
Meta-analysis MPI data set (Huibregtse & de Bot 2002)

- 17 cases of aphasia, 7 plurilinguals
- Tested in all of their languages with the BAT
- Parallel recovery is general pattern
- Differential recovery reflects pre-morbid differences in proficiency
Does having more languages make you less vulnerable in cases of aphasia?

- Only with non-parallel recovery, an additional language may take over
- No conclusive evidence of effect of therapy in one language on recovery of other languages (Kohnert 2010 meta-analysis)
Differences between bilingual and multilingual aphasia

- Definitional problems
- Selection of special/interesting cases
- Incomplete information by present-day standards
- In Albert & Obler’s meta-analysis no significant differences were found between bilinguals vs multilinguals, but some tendencies
Bilingual vs. Multilingual aphasia: tendencies

- Multilinguals seem to recover the first learned language more while bilinguals tended to have better recovery of the recently, most frequently used language.
- Multilinguals tended to have more non-parallel recovery.
More regression of first language when the second language recovered in multilinguals than in bilinguals

But: hardly any information about premorbid proficiency
Caveats

- ‘The individual case studies on polyglot aphasics are published because they are interesting’
  (Albert & Obler 1978, 100)
- Paradis’s data base using the Bilingual Aphasia Test: what is normal for specific age groups
- Changes in views on language in the brain: monosites vs. multiple areas
Conclusion on basis of aphasia research

- No indications from special characteristics of multilinguals
- But numbers are small
- Assessment of skills in multiple languages is still rare
Neurolinguistic 2: Neuro-imaging studies

- Study on quadri-linguals: ‘all four languages activated overlapping brain areas, corresponding to the major language regions. The number of activated voxels correlated with proficiency (lower proficiency, fewer voxels)’

- No effect of age of acquisition.

(Briellmann et al 2004, 531)
‘All languages of an individual use a unitary language committed neural system, at any rate at the level of the BOLD responce.’
(Bloch et al. 2008, 625)

‘ Multilingual word production activated a common set of of brain areas dedicated to known subcomponents of picture naming.’
(Videsott et al 2010, 103)
‘Our data suggest that the performance of language tasks in different languages engages largely the same cerebral areas but that the brain, to perform at a comparable proficiency level, engages more neural substrates for later acquired languages’

(Vingerhoets 2003, 2181)
• ‘Regions of brain activated by different languages do not overlap completely’ (Yetkin et al. 1996, 476)

• ‘Our data show different coactivation patterns in Broca’s area for the three languages in the same subject’ (Wattendorf et al. 2001, 625)
Conclusion on basis of neurolinguistic data

- With increasing proficiency, convergence to a shared neural substrate for L1/L2/L3
- More variation in representation depending on level of proficiency
- Contradictory findings on role of age of acquisition
- No specific L3 effects
The case of hyperpolyglots
BABEL NO MORE
THE SEARCH FOR THE WORLD’S MOST EXTRAORDINARY LANGUAGE LEARNERS
MICHAEL ERARD
Definitional issues

- Distinction between knowledge and use
- Distinction between exceptional learners and ‘language collectors’
- Daniel Tammet’s learning of Icelandic in two weeks
- Alexander Arguelles’s 56 languages
- Mastery?
- ‘How many languages do you live in?’ Kramsch in Erard 2012, 24
Special: the Geschwind-Galaburda Hypothesis

- Due to early testosterone-related changes in the brain, clusters of talents, traits and deficits emerge:
  - Left-handedness
  - Homosexuality
  - Autoimmune disorders
  - Learning disorders
  - Talents in music, arts and mathematics
  - Autism
  - Visio-spatial deficits
Most hyperpolyglots show several of these traits

Diagnostic tests show that savants like Tammet have a digit-span of 10-12 elements, twice the span of the normal population

Treffert (U of Wisconsin) on savants:
- ‘prodigious memory, very deep, but exceedingly narrow’.
- 10% of people with autism have savant skills
- 50% of savants have autism
‘The brain doesn’t have a native language. The brain can only reflect the fact that a set of neural circuits was built and activated for a certain period of time. Nor does the brain care if those neural circuits map onto things the rest of the world calls languages or dialects’ (Erard 2012, 159)
Linguistic perspective

- Are L3 (and Lx) languages acquired more ‘easily’ or more successfully?
Phonology

- **Llama, Cardosa & Collins, 2010**
  - Two groups of L3 Spanish learners
    - (1) L1 English / L2 French / L3 Spanish (n=11)
    - (2) L1 French / L2 English / L3 Spanish (n=11)
  - Production of voiceless stops & VOTs

- Psycho(typology)
Phonology

- Cabrelli Amaro & Rothman, 2010
  - Two beginner BP L3ers:
    - Simultaneous bilingual English/Spanish /L3 BP
    - (Successive) L1 English / L2 Spanish / L3 BP

- Learner type
Phonology

- Gallardo del Puerto, 2007
  - Spanish/Basque bilinguals /L3 English
    - high & low Basque proficiency (n=30 each)
  - Discrimination of English phonemes

- Proficiency/learner type
Phonology

- Werker, 1986
  - Mono- (n=10), bilinguals (n=10)
  - [early Hindi (n=10)]
- Perception of (unknown) phonetic distinctions

- (Psycho)typology – specific experience
Morphosyntax

- **Thomas, 1988**
  - L1 English / L2 Spanish / L3 French
    - (1) Biliterates (n=10)
    - (2) Non-biliterates (n=6)

- **Sanz, 2000**
  - (1) L1 Spanish / L2 English (n=77)
  - (2) Spanish / Catalan / L3 English (n=124)

➤ Literacy in L2
Morphosyntax

Flynn, Foley & Vinnitskaya, 2004

- (1) L1 Kazakh / L2 Russian / L3 English
- (2) L1 Japanese / L2 English
- (3) L1 Spanish / L2 English

- Restrictive Relative Clauses

- (Psycho)typology
Morphosyntax

- Leung, 2005
  - Two groups of beginner French learners
    - (1) L1 Chinese / L2 English (n=41)
    - (2) L1 Vietnamese (n=16)
  - Article suppliance, definiteness

- (Psycho)typology
Morphosyntax

- Bardel & Falk, 2007
  - Two groups of beginner L3 (+V2):  
    - (1) L1 –V2 / L2 +V2 (n=4)  
    - (2) L1 +V2 / L2 –V2 (n=5)  
  - Negation in +V2 languages

- (Psycho)typology
Morphosyntax

- Rothman and Cabrelli Amaro, 2010
  - Beginner Italian & French learners:
    - (1) L1 English/L2 Spanish/L3 Italian (n=10)
    - (2) L1 English/L2 Spanish/L3 French (n=9)
    - (3) L1 English/L2 Italian (n=11)
    - (4) L1 English/L2 French (n=10)
  - Null subjects/OPC

  (Psycho)typology
Morphosyntax

Montrul, Dias & Santos, 2011

- Two groups of beginner L3 BP:
  - (1) L1 English / L2 Spanish (n=18)
  - (2) L1 Spanish / L2 English (n=18)
- Clitic use

(Psycho)typology
Lexicon

- Lindqvist, 2010
  - Advanced proficiency French learners:
    - L1 Swedish / L2 English / various L3-L6 (n=14)
  - Production/ source of lexical influence

- Proficiency
Lexicon

- De Angelis & Selinker, 2001
  - Two Italian learners:
    - L1 French / L2 English / L3 Spanish / L4 Italian
    - L1 English / L2 Spanish / L3 Italian
  - Production/ source of lexical influence

- (Psycho)typology/proficiency
Lexicon

- Gibson, Hufeisen & Libben, 2001
  - (intermediate) German learners (n=64)
    - 6 groups
  - Production of prepositional verbs

- No (Psycho)typological effect
Lexicon

- Lemhöfer, Dijkstra & Michel, 2004
  - L1 Dutch / L2 English / L3 German (n=28)
  - Lexical decision task (RTs) on cognate recognition

- (Psycho)typology – lexical similarity
Linguistic perspective

Are L3 (and Lx) languages acquired more ‘easily’ or more successfully?

Yes ...

... and No!
Linguistic perspective

➢ Are L3 (and Lx) languages acquired more ‘easily’ or more successfully?

➢ **Is there enhanced metalinguistic awareness in L3 and Lx?**
Jessner, 2008

“It can be defined as the ability to focus on linguistic form and to switch focus between form and meaning”. (2008:277)

“It is made up of a set of skills or abilities that the multilingual user develops owing to her/his prior linguistic and metacognitive knowledge.” (2008:275)
Sanz, 2000

- L1 Spanish / L2 English (n=77)
- Spanish / Catalan / L3 English (n=124)

“heightened metalinguistic awareness, which results from exposure to literacy in two languages, gives bilinguals the capacity to focus on form and pay attention to the relevant features in the input” (2000:36).

- Literacy in the L2
Thomas, 1988

- (1) L1 English/ L2 Spanish (biliterate)/ L3 French (n=10)
- (2) L1 English/ L2 Spanish / L3 French (n=6)
- (3) L1 English/ L2 French (n=10)

The results “highlight the importance of formal instruction in the bilinguals’ related language to develop metalinguistic awareness” (1988:240)

- Literacy in the L2
Linguistic perspective

- Are L3 (and Lx) languages acquired more ‘easily’ or more successfully?
- Is there enhanced metalinguistic awareness in L3 and Lx?

Generally, yes
Linguistic perspective

- Are L3 (and Lx) languages acquired more ‘easily’ or more successfully?
- Is there enhanced metalinguistic awareness in L3 and Lx?
- Are L3 (Lx)s more easily lost or maintained?
Schmid, 2002

- Meta-analysis of 37 studies on L1 attrition focused on bilingualism, no comparison between bi/multilinguals
Many studies on L1 and L2 attrition are about L3:

- Weltens (1989) and Grendel (1993) on French as a foreign (3rd/4th) language
- Jordens et al. (1989) on German as a foreign (3rd/4th) language
Schmid, 2011

- No indications that having more languages protects against attrition of any language.
Paradis, 2004

- explicit learning is more vulnerable than implicit learning, with respect to language loss.
- lexical knowledge ≠ morphosyntactactic knowledge

Learner & acquisition type
de Bot & Lintsen, 1986

showed language use and proficiency to be important factors in the retention of NN language(s).

Use and proficiency
Linguistic perspective

- Are L3 (and Lx) languages acquired more ‘easily’ or more successfully?
- Is there enhanced metalinguistic awareness in L3 and Lx?
- Are L3 (Lx)s more easily lost or maintained?

It depends......
Searching for the Holy Grail?

- Why do we want L3 to be special?
- Do we need to show that multilingualism is something desirable?
- Is it better to define L3/multicompetence as a separate subfield?

Thank you! Dank u! Eskerrik asko! Gracias!
➢ Thank you/Danke/dank u