BRIDGING THE GAP BETWEEN THE SCIENTIFIC AND PUBLIC UNDERSTANDING OF BILINGUALISM

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Bilingualism Matters

- 100+ community talks
- 120+ events for international companies and organizations
- 80+ media appearances
- Now a Centre of Excellence with offices and permanent staff
- An international network of branches (3 in the UK, 12 in other European countries, 2 in the US)

Areas of engagement

• Early language learning in the preschool and primary school years
• Maintenance of home languages in immigrant children
• Maintenance of regional minority languages
• Language learning in young and older adults

How can researchers help to raise awareness?

• What do people (think they) know?
• What subset of research can be communicated and how?
• Engaged research

Common misconceptions

CONFUSION!

COGNITIVE DELAYS!

Common misconceptions

BAD PERFORMANCE AT SCHOOL!

USEFUL AND USELESS LANGUAGES
• Persuading people that early bilingualism is not bad for children

• Persuading people that bilingualism and language learning are good and worth investing in

ARE BILINGUAL CHILDREN CONFUSED OR DELAYED?

Research on bilingualism shows:

• Early separation of the two languages

• Similar stages and milestones in bilingual and monolingual language development IF ENOUGH INPUT RECEIVED (but also differences for some aspects of language)

Research on bilingualism shows:

• Competence and creativity in language mixing

• Smaller vocabulary in each language but wider vocabulary across languages

Grammatical gender (Unsworth et al 2013)

• Gender in Greek and Dutch in bilingual children with English as the other language

• Does input matter?

• Does age of onset matter?
Age of Onset groups

- *Simultaneous bilinguals* (2L1)
- *Early successive bilinguals* who have acquired English first and then Dutch or Greek before age 4 (AoO 1 to 4 years)
- *Child L2 learners* (AoO 4 to 10 years)

Grammatical gender in Greek

<table>
<thead>
<tr>
<th>Gender of noun</th>
<th>Definite article</th>
<th>Indefinite article</th>
</tr>
</thead>
<tbody>
<tr>
<td>Masculine</td>
<td>o</td>
<td>enas</td>
</tr>
<tr>
<td>Feminine</td>
<td>i</td>
<td>mia</td>
</tr>
<tr>
<td>Neuter</td>
<td>to</td>
<td>ena</td>
</tr>
</tbody>
</table>

Gender: also marked on plural determiners, nouns, adjectives

Grammatical gender in Dutch

<table>
<thead>
<tr>
<th>Gender of noun</th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Indefinite</td>
<td>Definite</td>
</tr>
<tr>
<td>Common</td>
<td>een</td>
<td>de</td>
</tr>
<tr>
<td>Neuter</td>
<td>een</td>
<td>het</td>
</tr>
</tbody>
</table>

Common gender: *de tafel ‘the table’*
Neuter gender: *het huis ‘the house’*

Results

- Gender in Greek
  - 2L1 = Greek monolinguals
  - 2L1 ≠ ESB = CL2
- Gender in Dutch
  - 2L1 = ESB = CL2 = Dutch monolinguals (all late)

Research on bilingualism shows:

- Better metalinguistic skills
- Earlier awareness of other people’s perspectives
- Better control of attention and ability to handle complex situations

IS THERE A ‘BILINGUAL ADVANTAGE’ IN GENERAL COGNITION?
New misconceptions

- BILINGUAL CHILDREN ARE MORE INTELLIGENT!

Focus on executive functions

- A set of cognitive processes that underlie goal-directed behaviours.

(from Miyake & Friedman 2012)

Current controversies...

- Effects have been found in experimental research with both child and adult bilinguals, but not in all studies.
- The effects are not always 'advantageous'

Cognitive benefits... and their flip side

- There may be another side of the coin
- See e.g. Treccani, Argyri, Sorace & Della Sala (2009): early bilinguals are better at inhibitory control and therefore have a larger negative priming effect.
- Possible effects of this trade-off on language?

Italian-English and Italian-Spanish bilingual children

(Serratrice et al. 2009; Sorace et al. 2009; Sorace & Serratrice 2009; Serratrice et al. 2012)

- Large group (N=167) of older bilingual children: age ranges 6-8 and 9-10.
- Monolingual child and adult Italian and English-speaking controls
- Two different structures

Subject pronouns

(1a) While John is eating, he (John) is talking on the phone.
(1b) While John is eating, he (Paul) is talking on the phone
(2a) Mentre Gianni mangia, ŏ (Gianni) parla al telefono
(2b) Mentre Gianni mangia, lui (Paolo) parla al telefono

(different topic)
Determiners with plural nouns

(3a) Ø Sharks are dangerous animals  
(3b) The sharks at the aquarium are small

Italian/Spanish

(4a) Gli squali sono animali pericolosi  
(4b) Gli squali all’acquario sono piccoli

English

GENERIC

SPECIFIC

Results: subject pronouns

• Both Italian-English and Italian-Spanish bilinguals accept overt subject pronouns in null subject pronoun contexts

Paperino ha detto che lui è caduto
Donald Duck, said that he fell

• Younger monolingual control children also accept inappropriate overt pronouns.

Results: determiners with plural nouns

• Only the Italian-English bilinguals, but not the Italian-Spanish bilinguals, accept ungrammatical bare Ns in Italian.

*In genere fragole sono rosse  
generally strawberries are red

• Native Italian controls, both young and older children and adults, perform at ceiling.

Extension of overt pronouns happens in late bilingual speakers

• advanced L2 speakers of Italian

• attrited L1 speakers of Italian

L2 speakers > L1 attriters

• but also speakers of 2 null subject languages

(Belletti et al. 2007; Sorace & Filaci 2000; Tampli, Sorace, Heycock & Filaci 2004; Sorace et al 2009; Sorace 2011)

WHAT’S THE PROBLEM WITH
SUBJECT PRONOUNS?

Grammar-context coordination

OMISSION OF SUBJECTS PRONOUNS POSSIBLE

AM I TALKING ABOUT AN ACCESSIBLE REFERENCE?

AM I MAKING A CONTRAST BETWEEN TWO REFERENCE?

OMIT SUBJECT

DO NOT OMIT SUBJECT

CONTEXT

GRAMMAR OF ITALIAN

INTERFACE CONDITIONS
What aspects of executive function are involved in using anaphoric forms?

• In natural interaction, bilingual speakers have to be able to rapidly inhibit irrelevant pronoun-antecedent mappings, integrate changing information from the context and from the assessment of the interlocutor’s knowledge state, and update the discourse model accordingly (see Brown-Schmidt 2009 a.o.)

A trade-off between inhibition and integration/updating

• The ability to integrate and update is in a trade-off relation with inhibitory control.

• Another manifestation of negative priming (ongoing research with H. Rohde)

• Advantages in inhibitory control but also disadvantages in integrating information and building ‘central coherence’.

• Particularly for structures ‘interfacing’ with extragrammatical factors (pragmatics, context)

• BUT: ‘advantages’ or ‘disadvantages’ are always defined against a monolingual norm!

• DO BILINGUAL CHILDREN PERFORM WORSE AT SCHOOL?

• DO THEY HAVE PROBLEMS IN THE MAJORITY LANGUAGE?

• THESE WORRIES SEEM TO APPLY PARTICULARLY TO MINORITY LANGUAGES

The Language and Cognition study in Sardinia

• Garraffa, Mereu, Beveridge & Sorace (2014, submitted):

• 95 children attending primary 1 and 2 classes, of whom:
  - 40 Italian-Sardinian bilingual children
  - 45 Italian monolingual children.

• Cognitive tests:
  - Opposite Worlds (verbal)
  - Dimensional Change Card Sorting task (non verbal)

• Linguistic tests:
  - Modified version of COMPRENDO, a comprehension test of Italian.
The Language and Cognition study in Sardinia

- Verbal cognitive task: younger bilingual children initially have lower scores but by the end of the second year they overtake monolinguals.

- Non-verbal cognitive task: younger bilingual children are initially the same as monolinguals but older bilinguals have higher scores than monolinguals.

- Italian language task: globally no differences between bilingual and monolingual children, except for one more complex structure where bilinguals have an advantage on monolinguals.

A study of Gaelic-medium education

Sorace, Cape & Bak (submitted):

- 63 bilingual children in GME; matched monolingual controls in English-medium education schools

- 3 tests from the “Test of Everyday Attention for Children” (Manly et al 1999)

- Bilingual children better than monolinguals in one of the tests, “Opposite Worlds”, just like the Italian-Sardinian children in the Sardinian study.

Previous consistent results

Lauchlan, Parisi & Fadda (2012):

- 62 bilingual children (32 in Sardinia e 30 in Scotland)

- 59 monolingual children (29 in Sardinia e 30 in Scotland)

- Tests of non-verbal reasoning, cognitive control, working memory, metalinguistic and verbal abilities, mental arithmetics.

- Bilingual children score higher than monolinguals in three out of five tests.

- Gaelic-English bilinguals scored higher than Sardinian-Italian bilinguals.

- Possible effects of Gaelic-medium education (no Sardinian-medium education).
Learning languages at school: the Scottish context

- Language learning not a high priority
- Lack of confidence in teachers and parents
- Lack of involvement/interest in parents
- Extremely busy teachers
- Overscheduled schools
- Feeling that "why do we have to bother with languages?"
- Unrealistic expectations

The Early Learning of Chinese project

- 2 hours a week for 6 months
- Native Chinese speaking volunteers work with the teacher
- What do children learn?

- Chinese language ability:
  - Lexical tones
  - Some written Chinese characters.
- The tone Detective game
- Character recognition
- Metalinguistic awareness:
  - Better awareness in the mother tongue
- Sun-moon problem
- Executive function:
  - Effects of Mandarin input on children's attentional skills
- DCCS

Results from three schools A, B, and C

- Children who received more Mandarin input from the TA (schools A and C) performed better in tone and character recognition
- ELCP children better than controls at Sun-moon and DCCS part 3
The SOFT project (ongoing)

- The SOFT project aims to help immigrant children in the acquisition of the host language, but is not limited to this.
- It also aims to facilitate social integration by having immigrant and local children learn a third language.

- Learning a language that is different from both the host language and the immigrant language can create a level playing field where all children are equal.
- In fact immigrant children may be at an advantage because they are already bilingual.

The project facilitates home-school relationships by having parents involved in the same language learning activities promoted for the children by the school.

- Testing still ongoing.

Conclusions

- Research on language and cognition can dispel old and new misconceptions about early bilingualism
- It can inform decisions on bilingualism and language learning in families, schools and other community sectors.

THANK YOU!

ANY QUESTIONS?