



WHY LANGUAGE LEARNING OPENS THE MIND: OLD PREJUDICES, TRENDY MYTHS, AND NEW RESEARCH

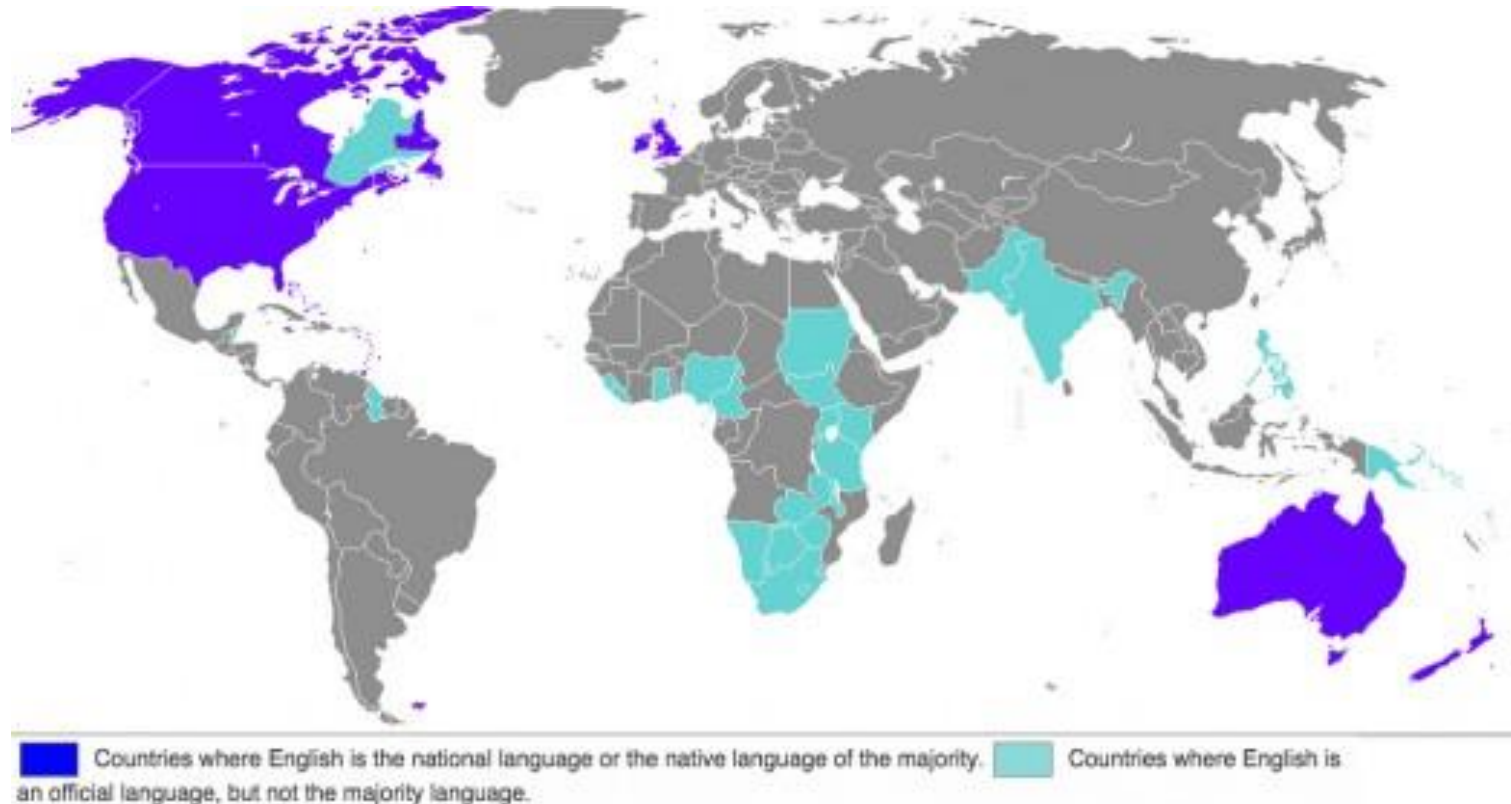
Antonella Sorace
University of Edinburgh
a.sorace@ed.ac.uk

British Academy, Anna Morpurgo Davies lecture
10 May 2019

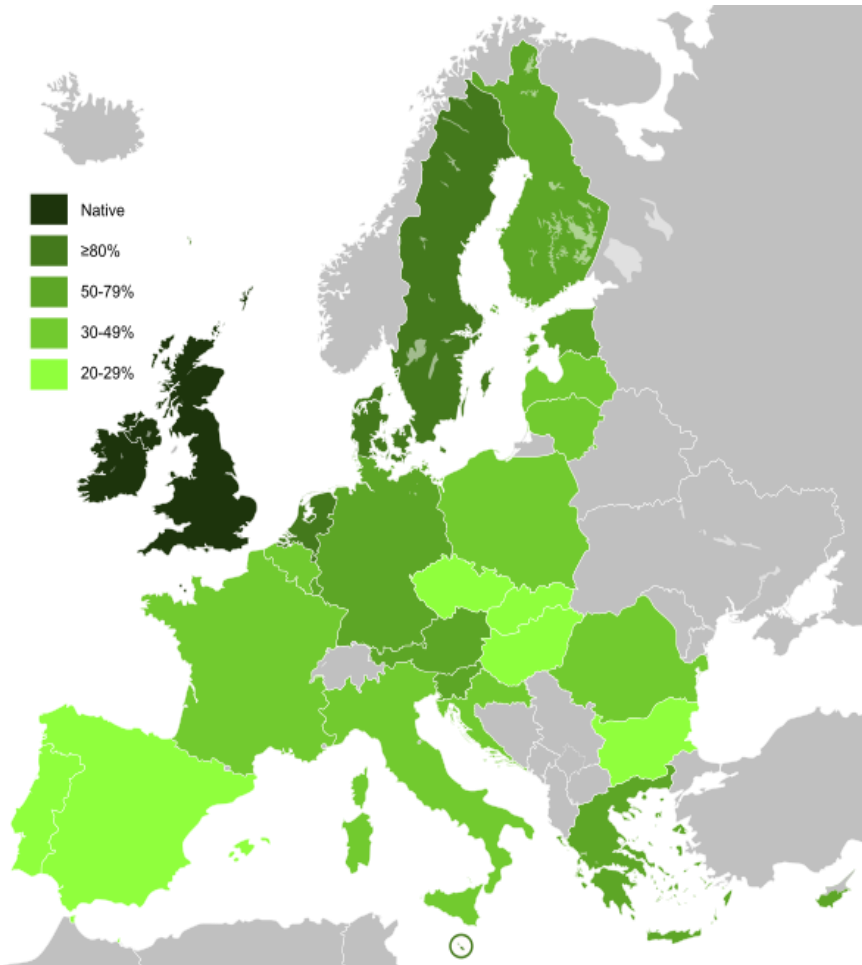
Plan of lecture

- Bilingualism and language learning in context: the UK and beyond
- Brief overview of research on the “bilingual advantage”: from old myths to new myths
- Inconsistencies, controversies and the role of interdisciplinary research
- Societal implications
- Engaged research: from research to society, and back again

Language learning: challenges in the Anglosphere



In the UK people often think....

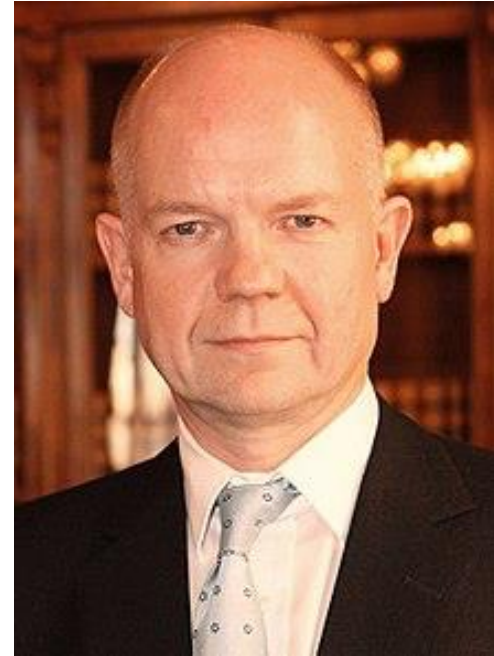


- *“What’s the point of learning another language?”*
- *“Everybody speaks English, right?”*

WRONG!

“Privileged monolingualism”

“We have some immense assets and advantages in the area of relations between nations, international courts of public opinion and international negotiation tables.... For example, the English language, connecting us to billions of people”



William Hague
(Former Secretary of State for Foreign Affairs, UK)

“Privileged monolingualism”

- The UK has the worst language skills of all 28 countries in the EU.
- Lack of language skills **costs the UK economy £48 billion a year.**



Brexit fears coming true

Hold your tongues: why language learners fear a vote for Brexit

Jo Griffin

Leaving the EU could lead to an irreversible decline in foreign language learning, with Britain paying a high economic and cultural price

431 views | Jun 27, 2018, 06:20pm

Schools Reap Brexit 'Dividend' As Language Learning Plummets



Nick Morrison Contributor ⓘ
Education -

Brexit Briefing **Brexit**

+ Add to myFT

Putting up Brexit language barriers

Monolingual Britons are disadvantaged if they cannot communicate effectively abroad

The Guardian view on languages and the British: Brexit and an Anglosphere prison

Editorial

Research on bilingualism over the last 80 years



Journal of Experimental Psychology
9(5):388-397, October 1926

evidence that the use of a foreign language in the home is one of the chief factors in producing mental retardation as measured by intelligence tests.

Review of Educational Research

11.3, 1941

“ the simultaneous learning of two languages produces a mental obfuscation or tangling which impedes the learning of other subjects.”

Three (still) common misconceptions

Confusion



Problems at school



'Useful' and 'not useful' languages



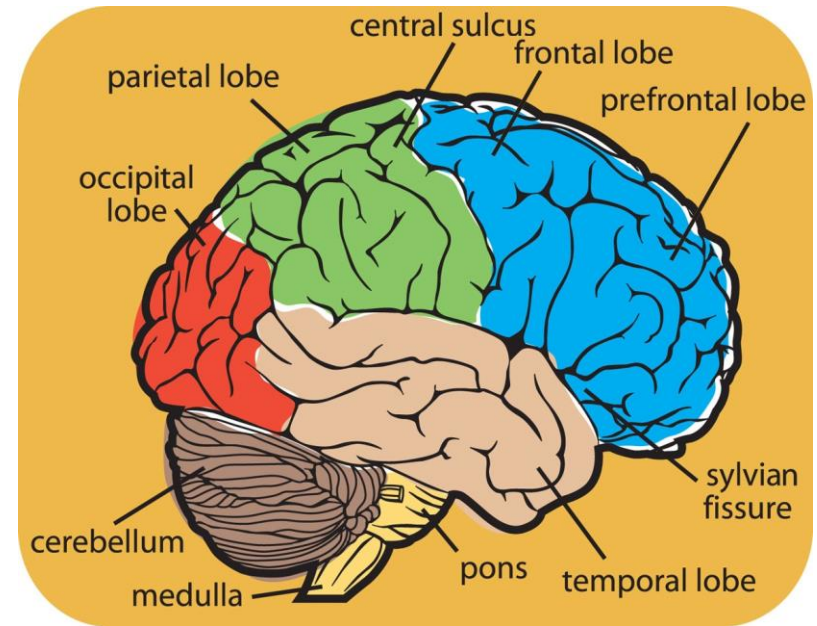
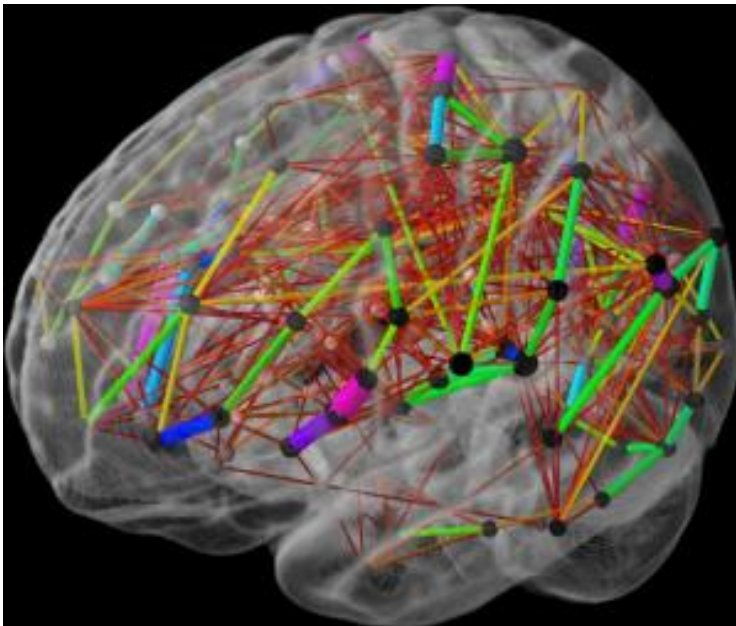
English
Spanish
Chinese

Irish
Gaelic
Sardinian
Polish
etc.



How bilingualism changes the brain

- Anatomy



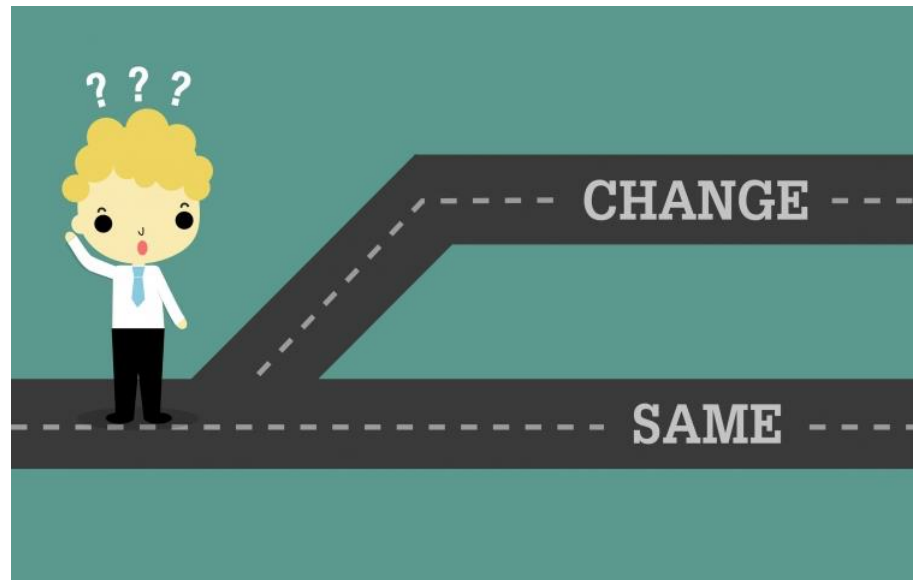
- Connectivity

This shouldn't be surprising!

- Brain changes observed as a consequence of different types of experience, e.g.
 - taxi drivers
 - musicians



How bilingualism changes behaviour



What research shows



Bilingual sensitivity begins at birth



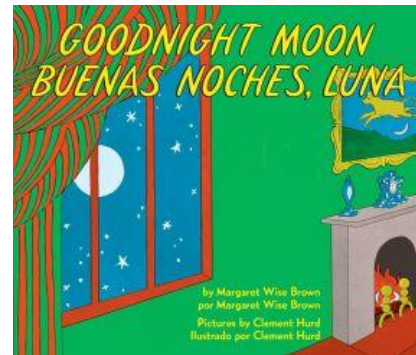
Bilingual infants can discriminate rhythmically similar languages at 3-4 months



Bilingual infants at 8 months can (still) distinguish two rhythmically different languages just by watching silent talking faces

Effects on language

- Language mixing = competence in both languages
- Better understanding of how language works; head start in early literacy
- Better ability to learn other languages



Perspective-taking

- Earlier awareness of other people's perspectives and readiness to switch from one's own to others' points of view



Cognitive control

- More efficient control of attention and ability to handle conflicting information

blue yellow red
purple black

blue yellow red
purple black

Decision-making



Bilingual speakers tend to make more rational decisions in their L2 and to better control heuristic biases that are based on emotional reactions.

Why these effects?

- The two languages of bilinguals are always active.
- Bilinguals have to exclude one language when they speak the other.
- This makes them better at handling and monitoring conflicting information.



It doesn't matter *which* languages

- What matters is the fact of having more than one language in the brain.
- **THERE ARE NO 'MORE USEFUL' OR 'LESS USEFUL' LANGUAGES FROM THIS POINT OF VIEW!**



Myths about adult second language learning ("late bilingualism")

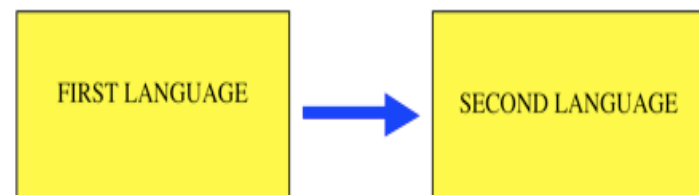
- You can't learn a language well as an adult



- Teaching and correction: the only way to learn



- The first language affects the second (but not vice versa)



What research shows

Adults can reach very high levels of L2 proficiency

Most of what proficient L2 speakers know is learned implicitly

The native language changes as an effect of learning a second language (“attrition”)

1	Non-user
2	Intermittent user
3	Extremely limited user
4	Limited user
5	Modest user
6	Competent user
7	Good user
8	Very good user
9	Expert user
10	NATIVE-LIKE



Cognitive effects found across adulthood

- Our research has found selective cognitive effects of language learning in university students....
- ... and in much older learners



Effects on ageing

- Some protection against the decline of cognitive abilities, both in normal and pathological ageing.



Lothian Birth Cohort 1936
N = 1091



Age 11 in 1947



Age... 70 in 2006

...and 73 in 2009

...and 76 in 2012

LBC
1936

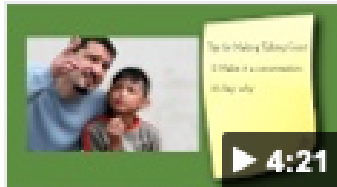
New myths

**BILINGUAL CHILDREN
ARE GENIUSES!**



How Language Can Increase Your Child's IQ - YouTube

<https://www.youtube.com/watch?v=VkwmR5dXfP0> ▼



1 Sep 2014 - Uploaded by Testing Mom

In this video, Karen Quinn, The Testing Mom, discusses how the number of words a **child** hears every day has ...

Your Baby's Linguistic Superpower | How to Raise a Super Baby ...

<https://www.youtube.com/watch?v=7CqbUeTC4Uk>



10 Mar 2018 - Uploaded by CNA Insider

Is the best time for **your child** to start learning several **languages** before he/she is even 12 months old? Here's ...

How To Raise Bilingual Kids - YouTube

<https://www.youtube.com/watch?v=caltIFkUyis>



21 Sep 2017 - Uploaded by Learn With Adrienne

NEED HELP GETTING **YOUR CHILD** TO TALK? CLICK HERE → <https://learnwithadrienne.mykajabi.co...> SIGN ...

Does Your Child Speak Two Languages? Here Is Why They Are A Lot ...

<https://www.kidsstoppress.com/...your-child...languages-here...they...a...smarter.../9577>



3 Nov 2011 - Uploaded by TED-Ed

But I remember tons of moms saying that teaching them a single language that would ensure admission ...

How To Make YOUR Child Smart-Genius Kids(2-7 Year Olds Proof ...

<https://www.youtube.com/watch?v=xpmUuhGiftU> ▼



29 Jun 2015 - Uploaded by Children Learning Reading

How To Make **YOUR** Child Smart-Genius Kids(2-7 Year Olds ... You can also "quickly" and "easily" teach ...

You've visited this page 4 times. Last visit: 03/05/19

New myths

**BILINGUALS DON'T GET
ALZHEIMER'S!**



Why Bilingualism Prevents Alzheimer's



John Zeisel, Ph.D., HuffPost · July 22, 2011

[Home](#) » [Neuroscience](#) » [Brain](#) »

Being Bilingual Can Help Prevent Alzheimer's

·  March 26, 2019

YOUR HEALTH

Speaking More Than One Language Could Prevent Alzheimer's

January 10, 2013 · 4:15 PM ET

COGNITIVE HEALTH

Bilingualism helps ward off dementia, study shows

...and many others

Learning a New Language Stimulates Same Pleasure Centres in the Brain as Sex and Chocolate



By Priya Joshi

October 25, 2014 23:28 BST



Learning a new language has the same effect as sex and chocolate on the brains pleasure centres.

ELITE DAILY

SECTIONS VIDEOS CGI SCIENCE OF YOU PRESIDENTIAL ELECTION

People Who Are Bilingual Are Smart, Creative And Better Lovers



35k SHARES



Are these effects always found?

Not all these benefits are always found in all bilinguals: many other factors play a role.

Bilingualism is not categorical or clearly quantifiable!



Are these effects always found?

There is no coherent evidence for a bilingual advantage in executive processing

Kenneth R. Paap*, Zachary I. Greenberg

nature

THE INTERNATIONAL WEEKLY JOURNAL OF SCIENCE



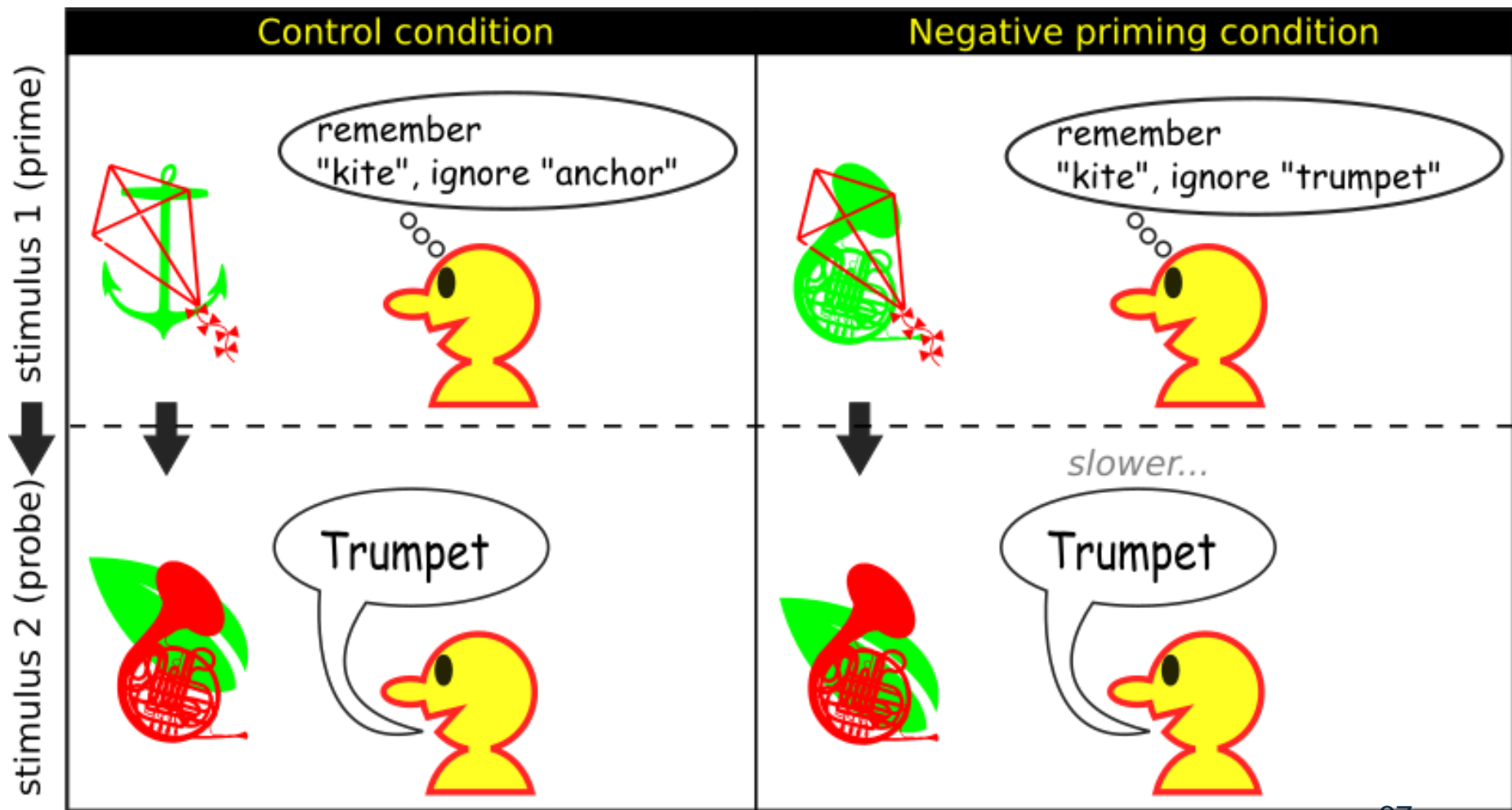
INTERDISCIPLINARITY

Why scientists must
work together to save
the world **PAGE 305**

Interactions/1

LINGUISTIC AND COGNITIVE
FACTORS IN BILINGUAL
COGNITIVE CONTROL

Current focus of cognitive research: disengagement from inhibition



Variable cognitive effects in minority languages

Sardinian-Italian

YES



Gaelic-English

YES

Frisian-Dutch

YES



Cypriot Greek-Greek

YES



Catalan-Spanish

YES



Basque-Spanish

NO



Welsh-English

NO

Cymraeg

Language distance

- Similar languages:

- Catalan-Spanish: effects found
- Sardinian-Italian: effects found
- Cypriot Greek-Greek: effects found
- Frisian-Dutch: effects (partly) found

- Dissimilar languages:

- Welsh-English: effects not found
- Basque-Spanish: effects not found
- Gaelic-English: effects found

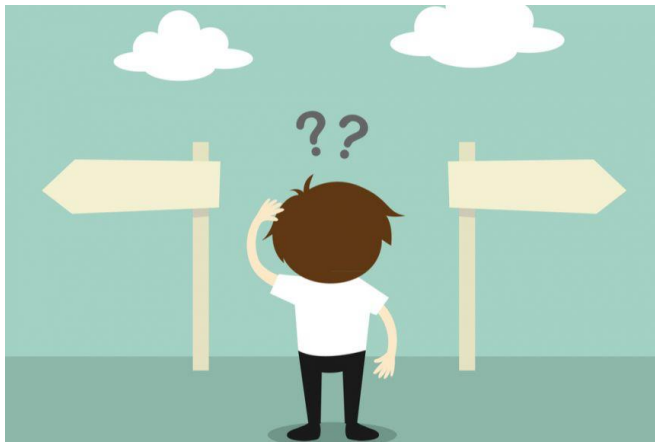
Patterns of bilingual use

- Dual language contexts:
 - Welsh-English: effects not found
 - Basque-Spanish: effects not found
 - Catalan-Spanish: effects found
- Single language contexts:
 - Sardinian-Italian: effects found
 - Cypriot Greek-Greek: effects found
 - Gaelic-English: effects found
 - Frisian-Dutch: effects (partly) found

Interactions/2

LINGUISTIC AND COGNITIVE FACTORS IN DECISION MAKING

Decision making



Rational decisions and controlling biases that are based on emotional reactions = more likely in L2 than in L1 .

LEVERHULME
TRUST _____

Do L2 speakers draw the same pragmatic inferences as L1 speakers when they process language?

Asian Disease problem

- *Recently, a dangerous new disease has been going around. Without medicine, **600** people will die from it. In order to save these people, two types of medicine are available, with different consequences:*

Gain frame:

- *If you choose Medicine A, **200** people will be **saved**. (safe option)*
- *If you choose Medicine B, there is a 33.3% chance that 600 people will be **saved** and 66.6% chance that no one will be **saved**. (risky option)*

Loss frame:

- *If you choose Medicine A, **400** people will **die**. (safe option)*
- *If you choose Medicine B, there is a 33.3% chance that no one will **die** and a 66.6% chance that 600 will **die**. (risky option)*
- *Which medicine do you choose?*

Loss aversion bias

- **Loss aversion bias**: L1 speakers choose the safe option more frequently in the gain frame than in the loss frame (“framing effect”)
- **“Foreign language effect”**: L2 speakers don’t show the same loss aversion
- Are L2 speakers more rational in their L2 because of reduced emotionality?
- Does “200 people will be saved” mean *exactly* 200? *At least* 200? *At most* 200?
- Can the interpretation of number term determine which choice is rational?

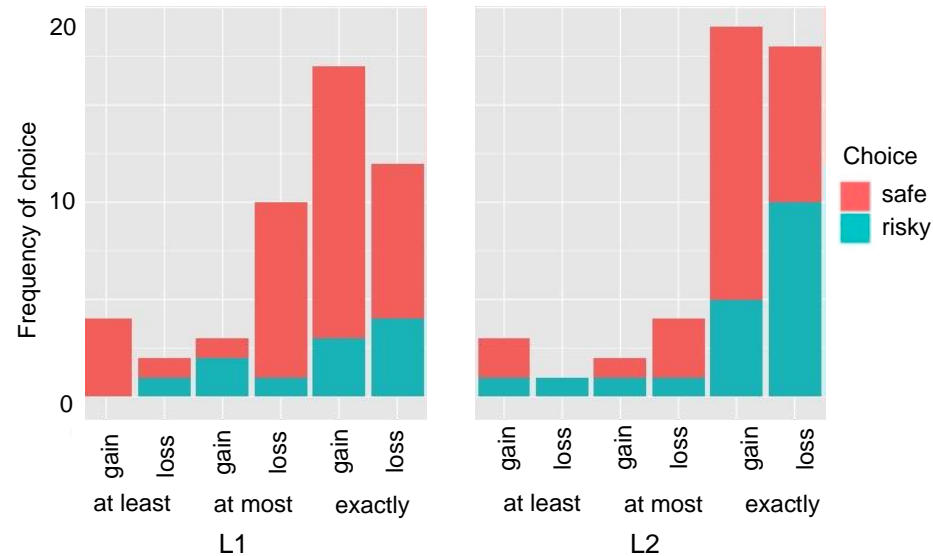
Number interpretation

Framing effect for *'exactly'* and *'at least'* interpretations; reverse for *'at most'*

Higher L2 proficiency = more L1-L2 similarity in interpretation and decisions

More *'exactly'* interpretations for proficient L2 than L1 group

Consistent with L1 and L2 speakers having different interpretations and choosing rationally based on those



Interactions/3

**INTERACTIONS OF
LINGUISTIC, SOCIAL AND
COGNITIVE FACTORS IN
BILINGUAL CHILDREN**



Language, Place and Identity: exploring children's linguistic and cognitive development in heritage and community languages

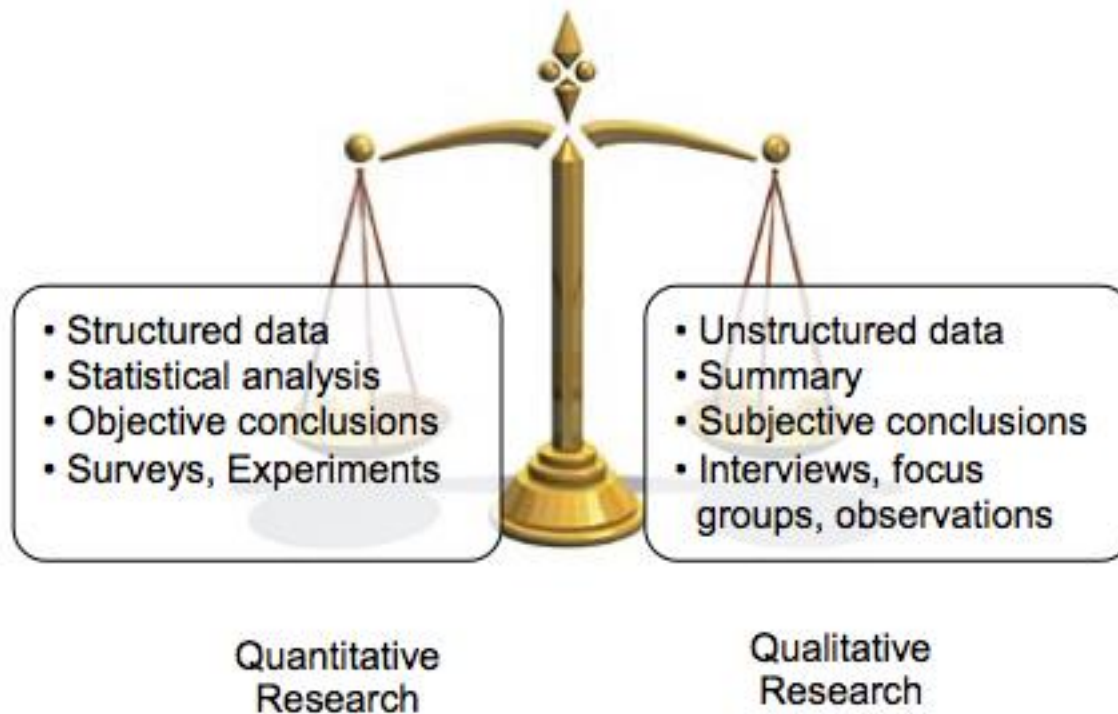


CHANGING MINDS • CHANGING LIVES

Language and identity

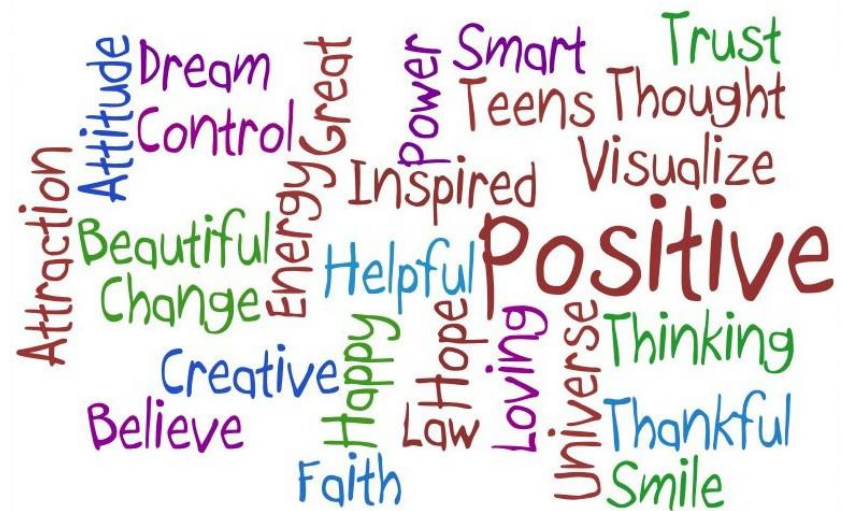
- Studying children's experiences of heritage and community languages to understand how languages and multilingualism are valued and experienced.

Integration of qualitative and quantitative data



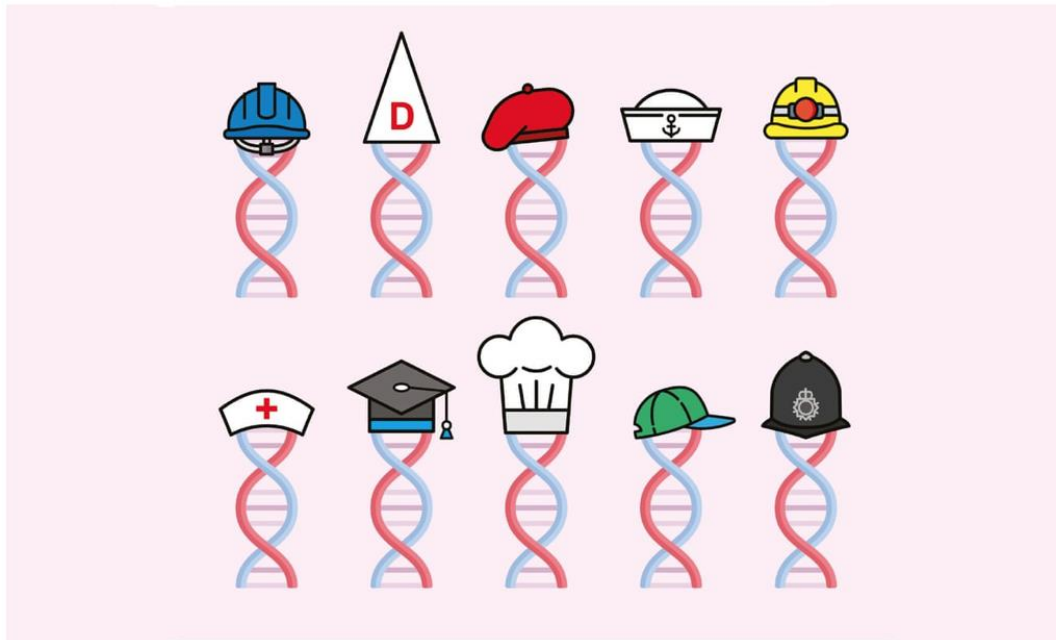
Results

- Children with positive attitudes in encouraging school and family environments are more likely to show the cognitive advantages of bilingualism.



Predispositions to benefit from the bilingual experience?

So is it nature not nurture after all?



- Research is ongoing....

Important implications for...

- Families
- Migrant children and multilingual classrooms
- Health
- Language learning and teaching in primary schools
- Language policy
- Regional minority languages
- Businesses

Bilingualism in the family: a commitment

- Enough engaging exposure to both languages

LANGUAGE A

LANGUAGE B



- Variety of speakers



- Positive attitudes in the family and in the community



Other potentially important factors

- Patterns of language use in the family and in society



- Literacy

Bilingualism and migration

- First generation migrants experience pressure not to speak their home language
- Maintaining home languages is advantageous from multiple points of view



Only problems or also resources?

- Tendency to *pathologize* and *problematise* issues related to migration and second language learning
- Monolingual and monocultural biases in existing educational and diagnostic tools



Some challenges



- Smaller vocabulary
- Atypical language behavior (e.g. 'silent periods')
- Identity and 'belonging'



Some challenges

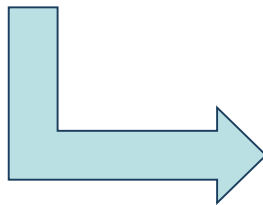
- Some language disorders look superficially similar to stages of second language development
- Language impairments often **overdiagnosed** or **underdiagnosed** in bilingual children



Language learning at school



- Is this the way it works?



Younger NOT necessarily better unless...



Enough input in the second language



Engagement



Variety of speakers



Language learning in schools

- Children learn differently at different ages
- One hour a week: enough input?
- Teachers should be trained on how languages are learned
- Parents should be informed and helped to support their child



**The Scottish
Government**
Riaghaltas na h-Alba

Language Learning in Scotland A 1+2 Approach



Minority languages ↔ bilingualism

- Bilingualism is vital for the transmission of a minority language across generations.
- Speaking the minority language may give children the benefits of bilingualism.



Living languages change!

(in both directions)



- Change is not ‘loss’ or ‘contamination’.
- Change is not deterioration of linguistic standards

Business needs languages

Not only to trade with a greater number of international partners and understand cultural differences...



... but also because languages can bring specific advantages for business skills



“Soft power”



- *“Persuading others through attraction, rather than coercion or payment”* (Nye 1999).
- Multilinguals are potentially better at evaluating arguments and understanding what may be attractive to others, and this strengthens the ability to cooperate, negotiate, and compromise.

“Soft power”

- As Richard Rose (2008) puts it:

“Knowledge of EFL does not confer soft power on Anglophones but on Europeans using it in interactions with monoglot American and English speakers”.

Prioritizing

Joseph Nye:

- “... technological advances have led to... an explosion of information, and that has produced a "paradox of plenty.... Attention rather than information becomes the scarce resource, and those who can distinguish valuable information from background clutter gain power”.



What can be done?



**PROVIDE ACCESSIBLE
AND ACCURATE
INFORMATION** to
families, learners,
teachers and policy
makers about benefits,
challenges and
developmental facts =
BETTER DECISIONS

Bilingualism Matters

University of Edinburgh Centre of Excellence

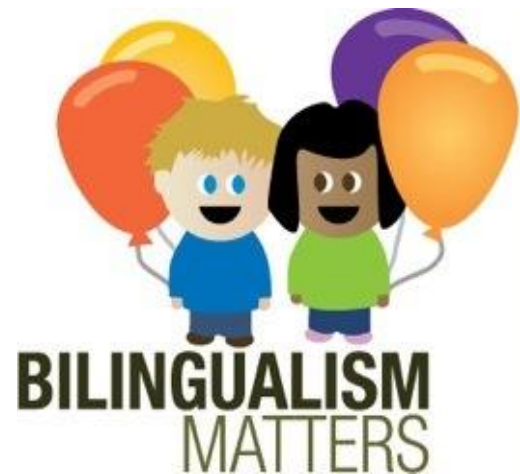
Seminars and training for international companies and institutions

Public engagement and policy advice

Research commissioned by stakeholders

Regular appearance in the media (on language and multilingualism)

International network of 26 branches in Europe, in the US, in the Middle East and in China.





26 branches:

- 19 in the UK and Europe; 5 in the US; 1 in the Middle East; 1 in China
- Next: Canada



From research to society



Partnerships and collaborations

RSA

21st century enlightenment

PEARSON



The Scottish Government
Riaghaltas na h-Alba

• EDINBURGH •
THE CITY OF EDINBURGH COUNCIL

育 SCEN
SCOTLAND CHINA EDUCATION NETWORK

THE ROYAL
SOCIETY
OF EDINBURGH

Children
inScotland
every child - every childhood


EUROPEAN CENTRAL BANK
EUROSYSTEM



NHS
SCOTLAND


Scottish Funding Council
Promoting further and higher education

Projects



European
Commission



REGIONE AUTÒNOMA DE SARDIGNA
REGIONE AUTONOMA DELLA SARDEGNA



E·S·R·C
ECONOMIC
& SOCIAL
RESEARCH
COUNCIL



Education and Culture DG

Lifelong Learning Programme



From society back to research



More insightful research



- Better understanding of the contexts of research questions and more research insights
- More clarity in research communication and presentation

Student involvement

- Students and visitors volunteer to assist with particular BM activities or projects.
- Training and opportunities to talk to the general public and engage in community projects.
- This experience is increasingly valued by employers.



The scientific and the public understanding of bilingualism needs bridges across...

... different research fields

... research and society



THANK YOU!

<http://www.bilingualism-matters.ppls.ed.ac.uk/>

bilingualism-matters@ed.ac.uk

A.Sorace@ed.ac.uk