The Power Language Index

A presentation at INSEAD (Abu Dhabi, UAE)

25 May 2016

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Hello

Hello and good morning (مرحبا وصباح الخير)

Hodi

こんにちは

Hei

สวัสดี

Zdravo

Hola

안녕하세요

سلام

مرحبا

Bonjour

Olá

Ahoj

Cześć

Hello

Здравствуйте

नमस्ते

Hej
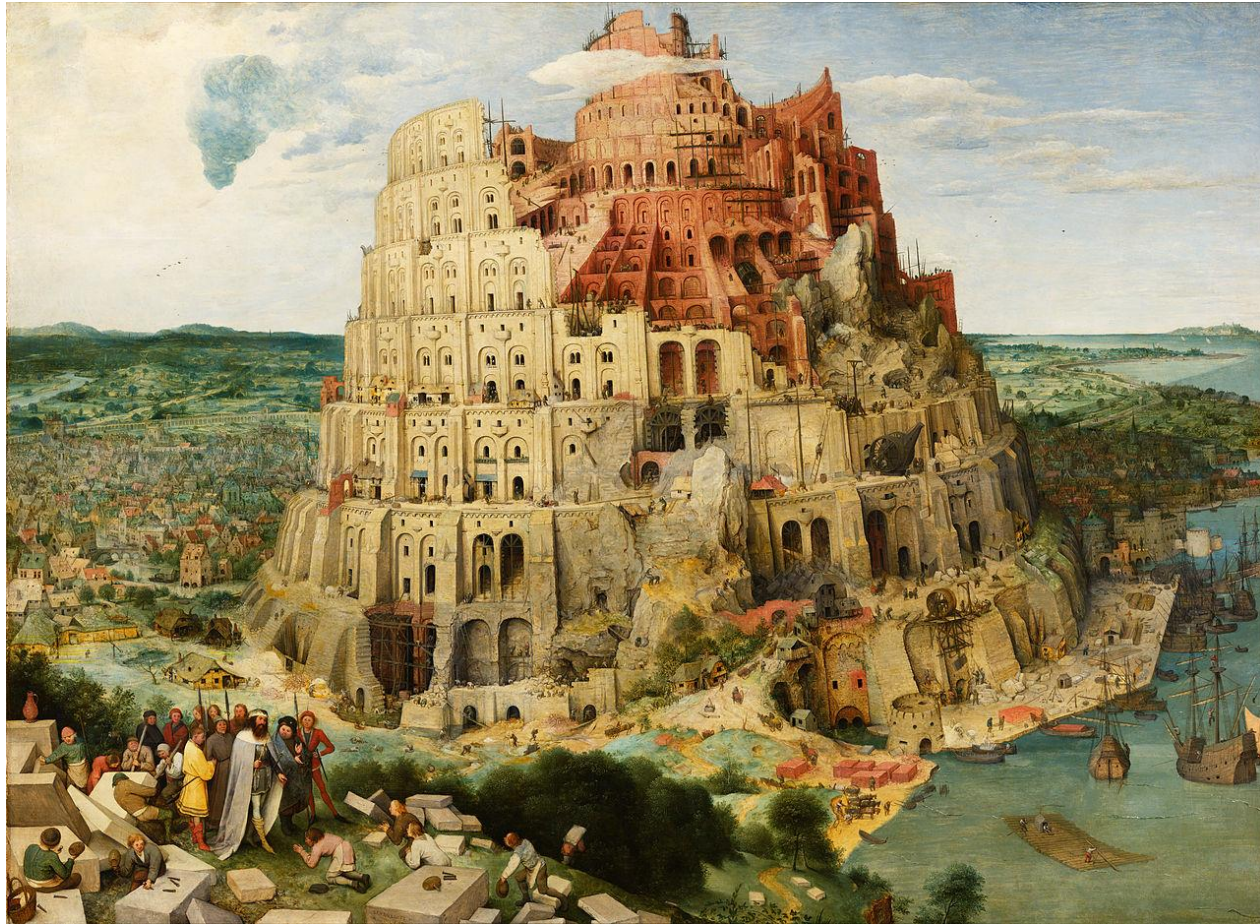
Buna

Ciao

你好

שלום

Hallo

Hallå

Сәлеметсіз бе

Merhaba

Χαίρετε

There are ~6,000 active languages in the world
But two thousand of them have fewer than a thousand speakers

Earliest signs of human language date back 60-100 thousand years.
Oldest written forms of languages traced to the Near East ca. 26th century BC.

Now 7 billion people speak thousands of languages across the world.
But just 15 languages account for half of the languages spoken in the world.

Not all languages are equal
Mandarin Chinese counts nearly 1 billion native speakers

If the world "hello" were written in their scripts in proportion to the number of native speakers for 30 prominent languages

Thought experiment: Most useful language

If an alien were to land on the Earth, what language would serve it best?

Assume that the alien has similar ambitions to humans, with a desire to travel, earn a livelihood, communicate with others, consume media, acquire/share knowledge, and perhaps even engage in high-level diplomacy.

Create index to compare efficacy of languages
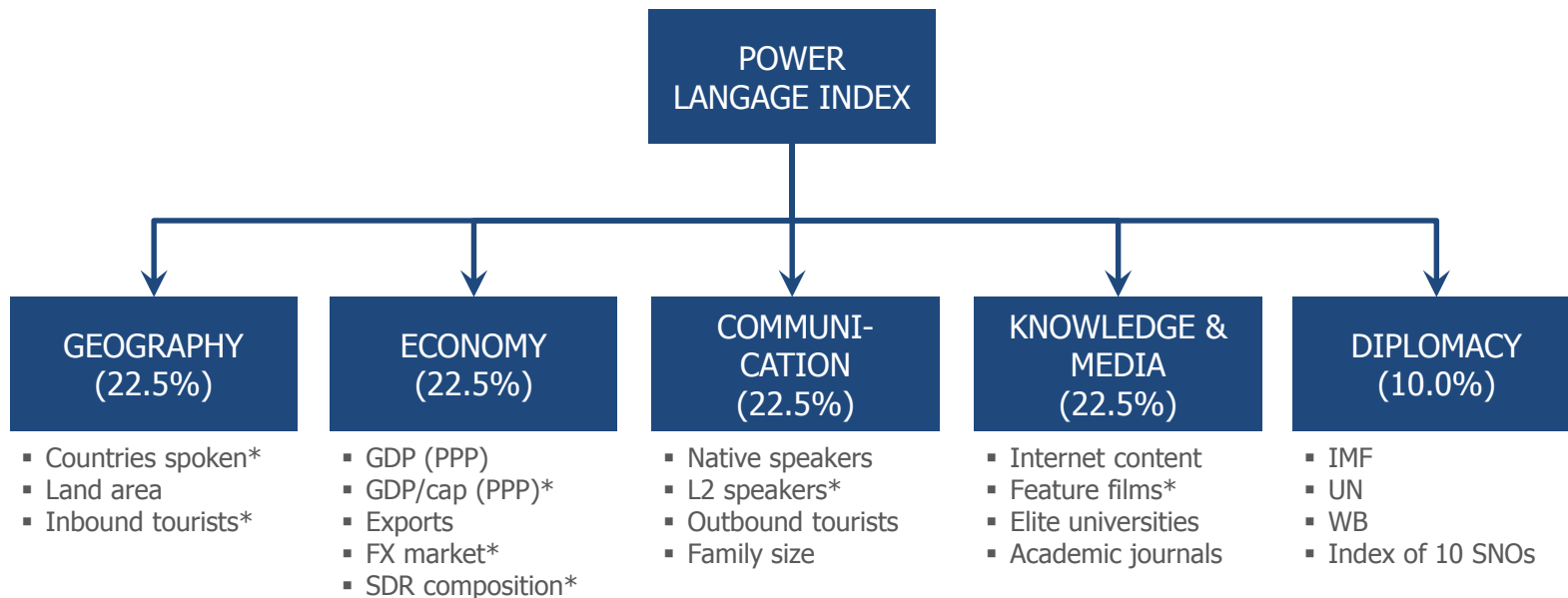## Opportunities: geography, economy, communication, K&M, diplomacy

Choose an additive representation for a given language (indexed by $k \in K$)

$$f_k(s(\boldsymbol{x})) = a_1 s_{1,k} + a_2 s_{2,k} + \cdots + a_N s_{N,k} = \sum_{i=1}^{i=N} \alpha_i s_{i,k}$$

where
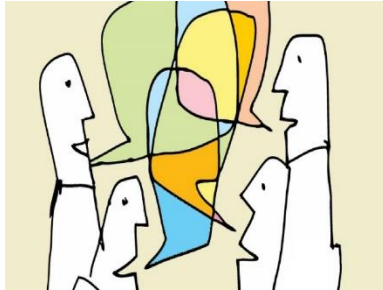
$$s_{i,k}(x_{i,k}) = x_{i,k}/x_{i,\max\{K\}} \quad \text{and} \quad \sum_{i=1}^{i=N} a_i = 1 \quad \text{are the weights}$$

$$\begin{cases} \boldsymbol{x} > 0 \\ f'(s(\boldsymbol{x})) > 0 \end{cases} \Rightarrow f_k(s(\boldsymbol{x})) \in [0,1]$$

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                         POWER
                    LANGAGE INDEX
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GEOGRAPHY (22.5%)	ECONOMY (22.5%)	COMMUNI-CATION (22.5%)	KNOWLEDGE & MEDIA (22.5%)	DIPLOMACY (10.0%)
▪ Countries spoken* ▪ Land area ▪ Inbound tourists*	▪ GDP (PPP) ▪ GDP/cap (PPP)* ▪ Exports ▪ FX market* ▪ SDR composition*	▪ Native speakers ▪ L2 speakers* ▪ Outbound tourists ▪ Family size	▪ Internet content ▪ Feature films* ▪ Elite universities ▪ Academic journals	▪ IMF ▪ UN ▪ WB ▪ Index of 10 SNOs

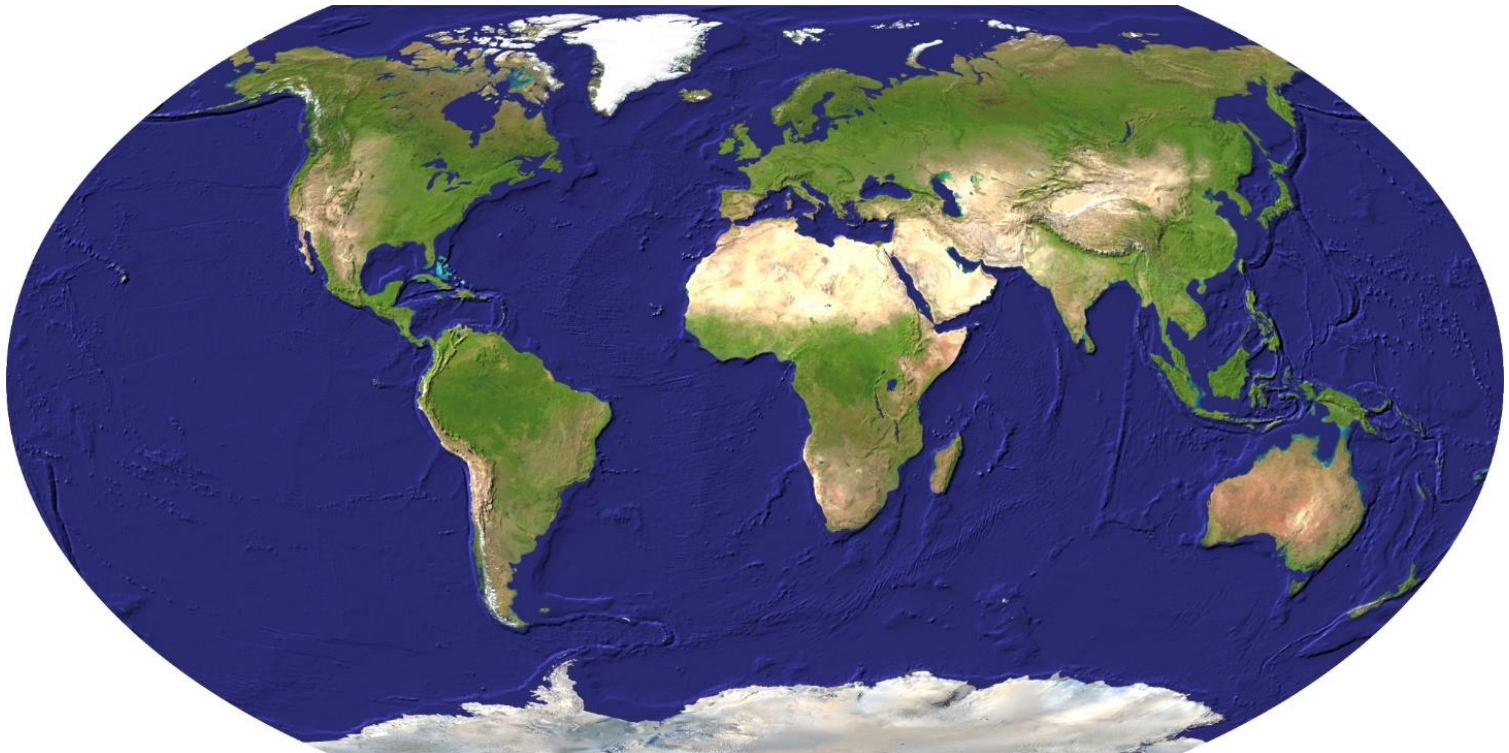# Geography (travel)

Language enables travel

Number of countries in which language is spoken*

Geographic area of the countries in which language is spoken

Overnight international tourists in countries associated with language

Economy

Language enables economic participation

GDP and GDP/cap

Exports (share of world)

FX market share (2-way)
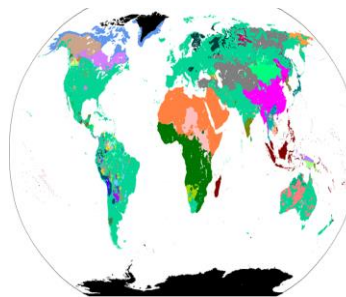
SDR composition

Communication
Language enables communication & media/knowledge consumption

Native speakers

L2 speakers*

Language family*

Outbound tourists

Media and knowledge

Language enables communication & media/knowledge consumption

Internet content   Feature films*   Elite universities   Academic journals*

Diplomacy

Language enables diplomacy

Just 9 languages are used in high-level international diplomacy!

Results: English is *the* global language
Mandarin Chinese growing in power but remains a distant second

| Rank	Language	Score	Native	Geography	Economy	Comm.	K&M	Diplomacy
1	English	0.889	446.0	1	1	1	1	1
2	Mandarin	0.411	960.0	6	2	2	3	6
3	French	0.337	80.0	2	6	5	5	1
4	Spanish	0.329	470.0	3	5	3	7	3
5	Arabic	0.273	295.0	4	8	6	19	4
6	Russian	0.244	150.0	5	13	10	8	5
7	German	0.191	92.5	8	3	7	4	8
8	Japanese	0.133	125.0	27	4	22	6	7
9	Portuguese	0.119	215.0	7	19	13	12	9
10	Hindi	0.117	310.0	13	16	8	2	10

NB: This table does not group the Chinese languages as one and also makes distinct Hindi and Urdu (if Hindi and Urdu were grouped as one language it would surpass Japanese in the ranking)
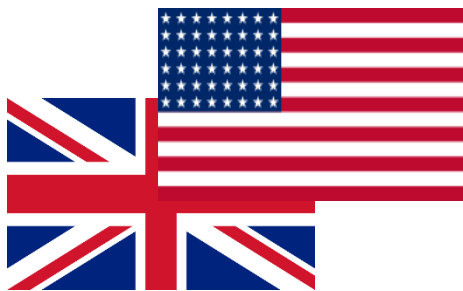
- Mapping variables to languages not always straightforward as most indicators are captured at nation-state level

- Many countries have many languages associated with them, and official status of a language within a country is not equivalent to knowledge of a language within it

- The difference between a language and a dialect is not always clear (e.g. Chinese languages/dialects, Hindi and Urdu, etc.)

Source: Power Language Index (Chan, 2016)

Growth of English
British empire and apex Americana made English dominant
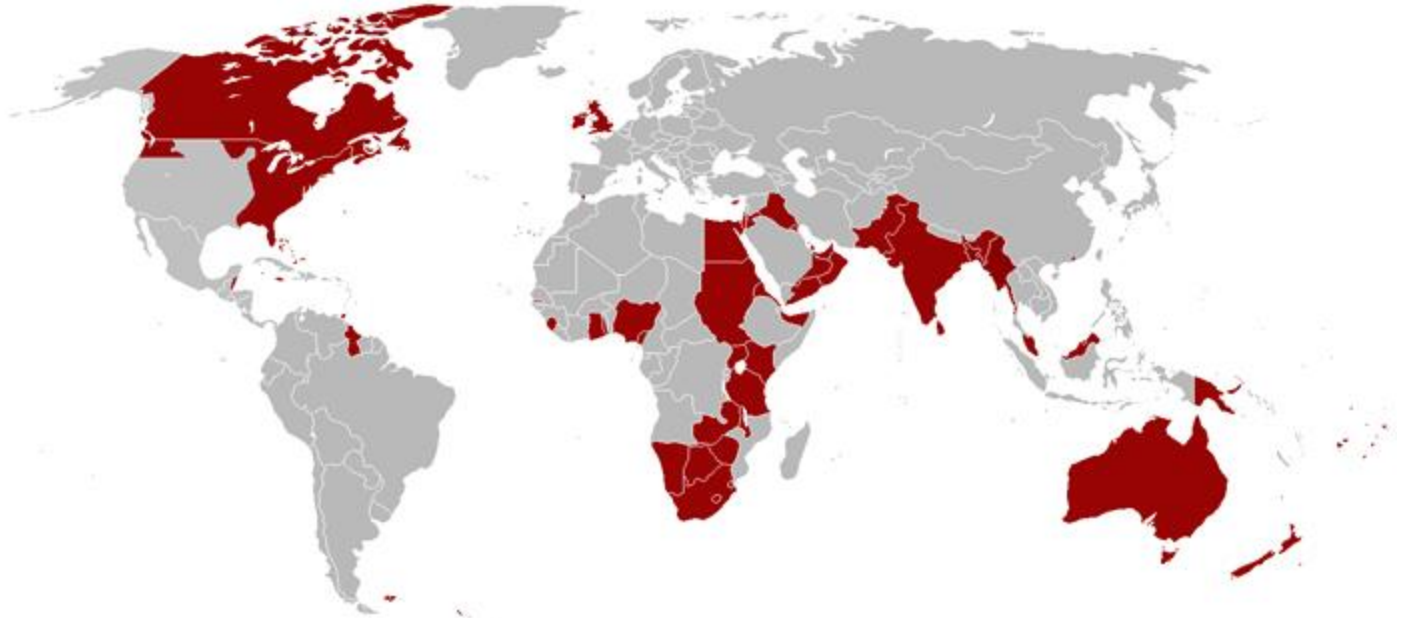
What do you call someone who speaks 3+ languages? A polyglot.

What do you call someone who speaks 2 languages? A bilingual?

What do you call someone who speaks just one language? An American (or Brit)

CASE STUDY: SINGAPORE

- English was chosen as an official and the *de facto* working language of Singapore

- Yet none of the population are native English speakers

- English was chosen because it would not favour any of the ethnic communities, plus it is acknowledged as globally important (and there is a history of British legacy)

- Positive herding/network effect (and less negative recent history)
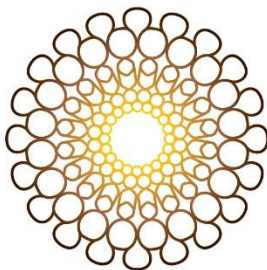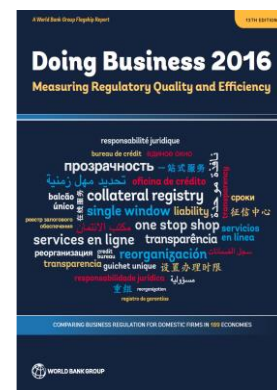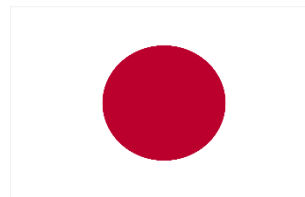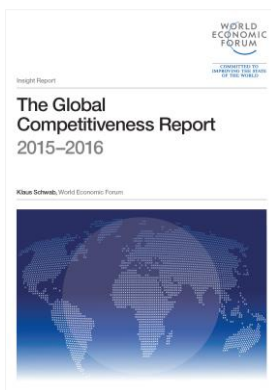
Implications and applications
Why should we care which languages are dominant?

Language is an extension of the power of nation states, esp. soft power and its ability to influence politics
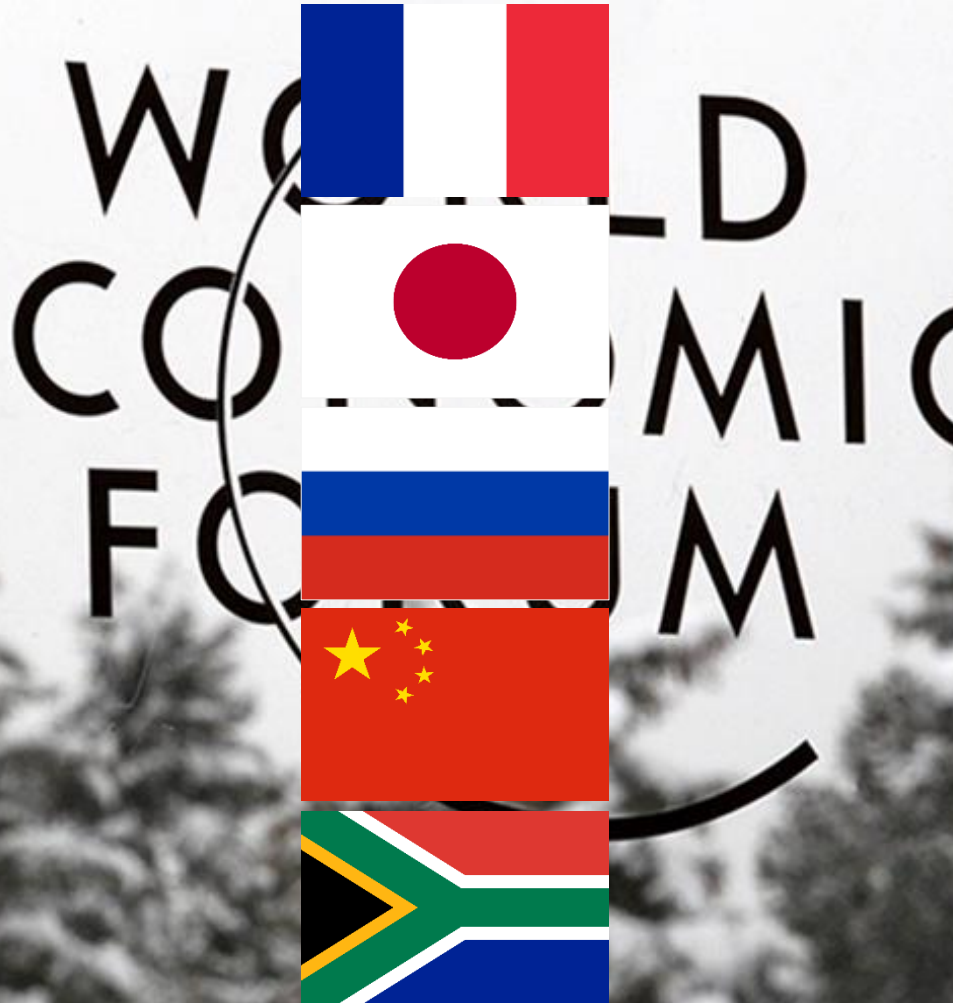
# The global elite is an English-speaking club
Weak English proficiency limiting influence of o/w large countries

Speaking English is a competitive advantage,
yet none of the competitiveness reports consider the language of a country!

Evolution over time

Although English is now dominant it was not always the case

English

Mandarin

French
Spanish

Arabic
Russian

German
Japanese
Portuguese
Hindi
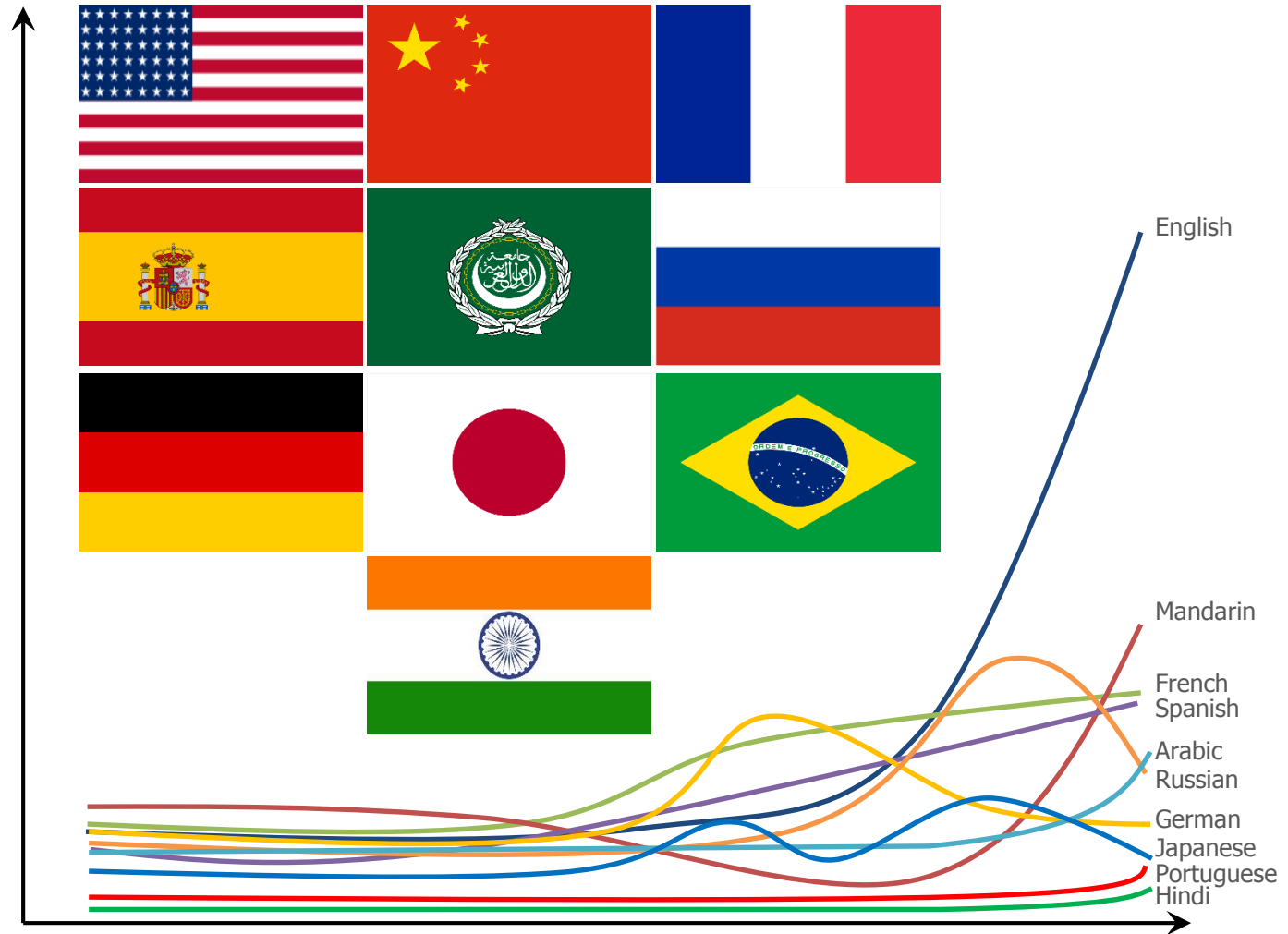
The Arabic language
A top-10 language but with an uncertain path forward

#	Opportunity	Criteria	Value	Score	Rank
1.1	Geography	Spoken (MM)	20.5	0.494	4
1.2	Geography	Area (km^2)	13,851,531	0.375	3
1.3	Geography	Tourists (in)	76,140,865	0.408	5
2.1	Economy	GDP (PPP) (BN)	$5,972	0.202	5
2.2	Economy	GDP/cap (PPP)	$14,916	0.233	36
2.3	Economy	Exports	$1,141,921	0.300	6
2.4	Economy	FX market	0.0%	0.000	22
2.5	Economy	SDR	0.0%	0.000	18
3.1	Communication	Native (MM)	295	0.237	5
3.2	Communication	L2 (MM)	250	0.490	2
3.3	Communication	Tourists (out)	49,180,500	0.196	9
3.4	Communication	Family size (MM)	37	0.023	88
4.1	K&M	Internet	0.8%	0.014	23
4.2	K&M	Films	5	0.004	47
4.3	K&M	Universities (500)	8.5	0.027	12
4.4	K&M	Journals	0	0.000	28
5.1	Diplomacy	UN	1.000	1.000	1
5.2	Diplomacy	IMF	1.000	1.000	1
5.3	Diplomacy	WB	1.000	1.000	1
5.4	Diplomacy	Index of 10	0.400	0.400	4
INDEX				**0.273**	**5**

Sources: CIA Factbook, IMF, UN, UIS, World Bank, WBDID, Wikipedia
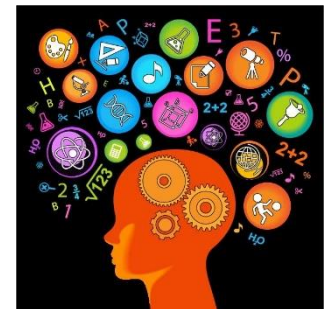
Steady state: One global language?

World is heading to one lingua franca with pockets of regional languages

No knowledge of English in the globalised age is equivalent to being illiterate.
But will world converge to just one language?
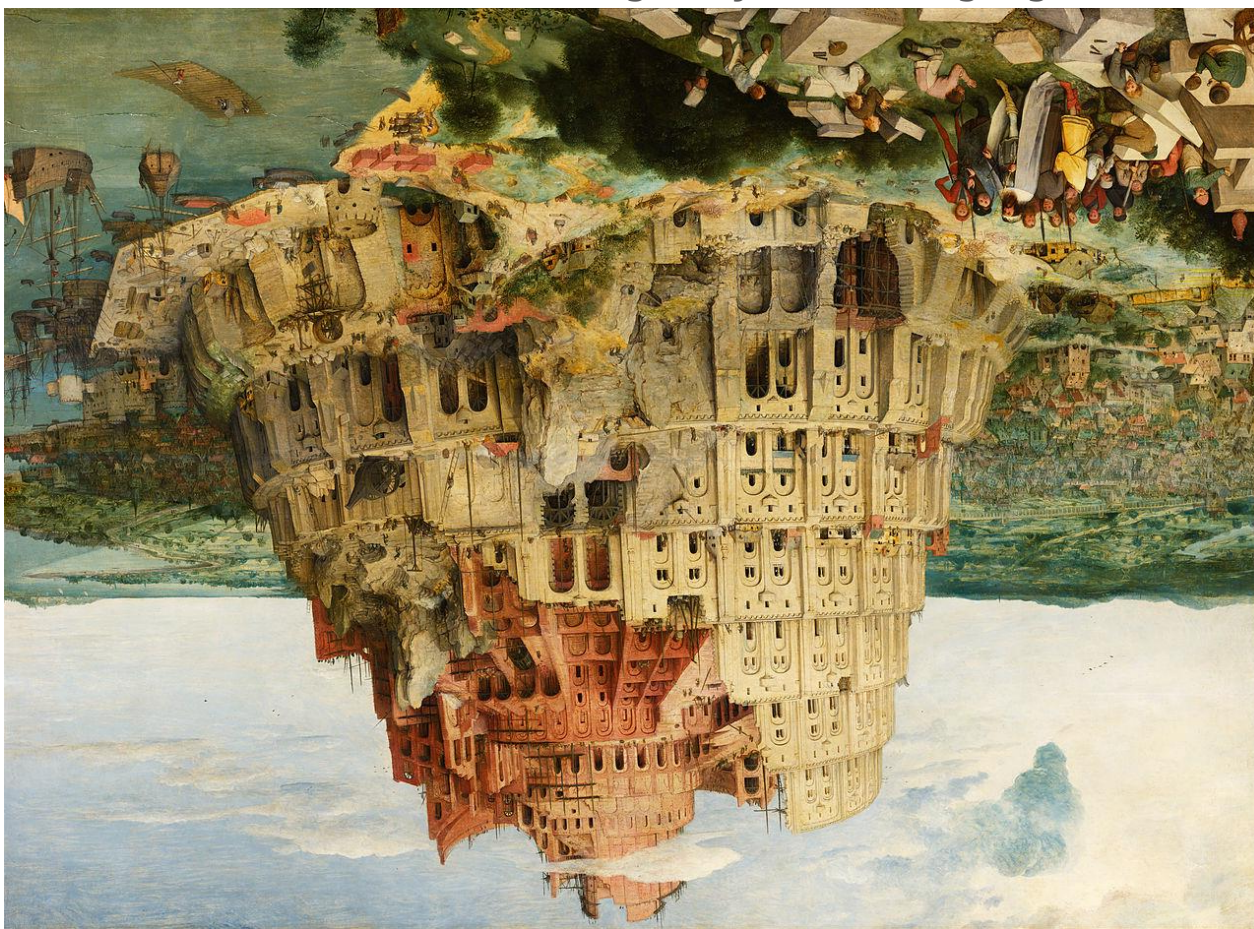
One single language not the likely outcome – people are attached to their language.
But one true global *lingua franca* with several dominant regional languages.

Death of translators and polyglotism?

Will technology obviate the need for learning other languages?
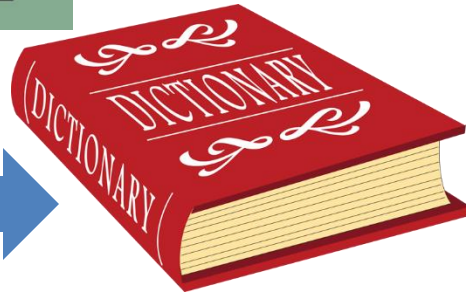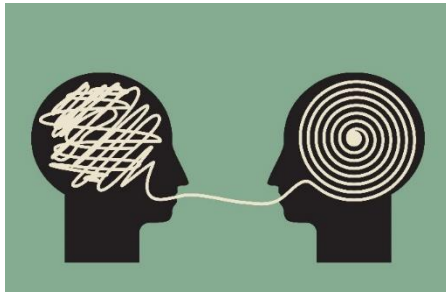
Most dictionaries cover only a fraction of the active language vocabulary (which itself changes over time and is region specific)

Google Translate has just 103 languages in its database

"In the long run, we are all dead."
John M. Keynes

Technologies will arrive that will tear down linguistic barriers, but language is also cultural and...
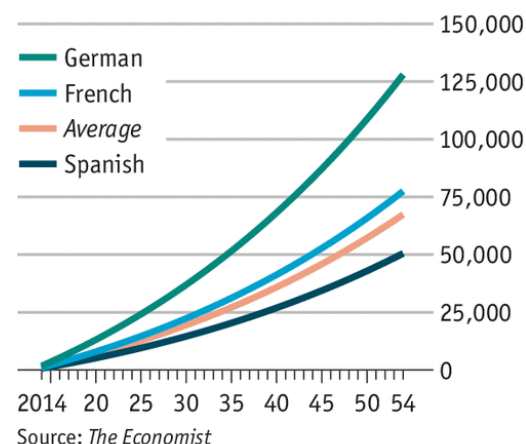
Language as a tool for success
Many benefits of learning a second (or third) language

Bilinguals in Canada earn (4 to 8 per cent) more than unilinguals (Christofides & Swidinsky, 2010). True across countries – but (income) gains are usu. small.

Accumulated language bonuses
Forecasts, €

German
French
Average
Spanish

Source: *The Economist*

Studies have also shown that people's behaviours/personality and criticalness in thinking are influenced by language (Keysar et al., 2012).

Sources: Christofides & Swidinsky (2010): "The economic returns to a second official language." Canadian Public Policy Vol 36(2) pp 137-158 June.
Keysar et al. (2012): "The foreign language effect." Psychological Science 2012 23: 661

Obrigado ありがとうございました धन्यवाद

Gracias شكرا 謝謝 Merci

Danke Спасибо

Thanks