Think 53: Food Talks

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Language, Thought, and Dessert

Tuesday, April 11, 2017

What is the relationship between language and thought?

Does speaking another language lead you to think differently?

Do languages differ arbitrarily or are there *universal* elements of language?

Outline for today

1. Linguistic Relativity
2. This language has 100 words for X
3. This language has 0 words for X
4. Linguistic Universals

Sapir-Whorf Hypothesis

Edward Sapir (1884-1934)

- Anthropologist and linguist
- First classification of the languages of the Americas

Benjamin Lee Whorf (1897-1941)

- Fire prevention engineer
- Worked his day job at the Hartford Fire Insurance Company while doing linguistics on the side.

Franz Boas

[the grammar of a language]... **determines those aspects of experience that must be expressed**

When we say "The man killed the bull" we understand that a definite single man in the past killed a definite single bull. We cannot express this experience in which a way that we remain in doubt whether a definite or indefinite person or bull, one or more persons or bulls, the present or past time are meant. We have to choose between aspects and one or the other must be chosen. The obligatory aspects are expressed by means of grammatical devices (1938:132)

Sapir:

"Human beings do not live in the objective world alone, nor alone in the world of social activity as ordinarily understood, but are very much at the mercy of the particular language which has become the medium of expression for their society. It is quite an illusion to imagine that one adjusts to reality essentially without the use of language and that language is merely an incidental means of solving specific problems of communication or reflection. The fact of the matter is that **the 'real world' is to a large extent unconsciously built upon the language habits of the group**. No two languages are ever sufficiently similar to be considered as representing the same social reality. The worlds in which different societies live are distinct worlds, not merely the same world with different labels attached... We see and hear and otherwise experience very largely as we do because the language habits of our community predispose certain choices of interpretation." -Sapir (1958:69)

Whorf

We dissect nature along lines laid down by our native languages. The categories and types that we isolate from the world of phenomena we do not find there because they stare every observer in the face; on the contrary, the world is presented in a kaleidoscopic flux of impressions which has to be organized by our minds -- and this means largely by the linguistic systems in our minds. We cut nature up, organize it into concepts, and ascribe significances as we do, largely because we are parties to an agreement to organize it in this way -- an agreement that holds throughout our speech community and is codified in the pattern of our language. The agreement is, of course, an implicit and unstated one, **BUT ITS TERMS ARE ABSOLUTELY OBLIGATORY: we cannot talk at all except by subscribing to the organization and classification of data which the agreement decrees.**

"Science and Linguistics (c.a. 1940).

Development

- Boas: “…it determines those aspects of experience that must be expressed…”
- Sapir: Language is a guide to "social reality."
- Whorf: We dissect nature along lines laid down by our native languages

Wilhelm von Humboldt (1767-1835)

Language as Weltanschaung (worldview)

"Each tongue draws a circle about the people to whom it belongs, and it is possible to leave this circle only by simultaneously entering that of another people."

but "one always caries over into a foreign tongue to a greater or lesser degree one's own cosmic viewpoint — indeed one's personal linguistic pattern."

Slide from Jim Morgan

Sapir-Whorf Hypothesis

"**Language shapes thought**: Your thoughts, percepts, and actions are influenced/determined by the language you speak."

Strong version: Linguistic Determinism

- Language dictates thought: Speaking a certain language makes you unable to think certain thoughts that speakers of other languages could think.

Weak version: Linguistic Relativity

- Speakers of different languages "end up attending to, partitioning, and remembering their experiences differently simply because they speak different languages" (Boroditsky 2003)

Historical milieu: Whorf and Einstein

Whorf was influenced by recent popularity of Einstein's theories of relativity.

- The idea that there is no such thing as "absolute time" and that time is relative to the observers

His idea was that objectifying time as a nominal "thing" was true of English but not true of Hopi, where temporal relations were more often expressed adverbially, relationally.

So for Whorf, Hopi was more "true" to relativity.

Foreshadowing our discussion of metaphor in Week 3

Time is understood directly, but is conceptualized via metaphor, which we can inspect by looking critically at our language.

- Time is money
  - “Not worth my time”, “invest some time in this”, “spare me some time”
- Time is a spatial dimension
  - “We’re coming up on week 2”, “the following days”

Linguistic relativism fell out of favor in the 1960s

Chomsky proposed that human language was innate and universal, and there were no real differences between languages

Cultural relativism seemed like a throwback to thinking “primitive people had primitive thoughts”- the Noble Savage.

The recent revival of linguistic relativism

Especially in this century.

Experimental results that we saw Thursday and we'll do more of today

Their claim: speakers of different languages "end up attending to, partitioning, and remembering their experiences differently simply because they speak different languages

Intuitions on both sides

Linguistic relativity:

- Look how different the words and grammar are that speakers use in different language! In using these different words speakers must be therefore focusing on/attending to the world differently.

Linguistic uniformity:

- These speakers all think exactly the same, but when they have to talk, they just talk differently.

Whorf and time in Hopi

Whorf suggested Hopi had a different model of time than English

- It's kind of hard to understand exactly what he meant
- But the popular press immediately extended that to “Hopi has no concept of time!!!!
- Recent research suggests that Hopi certainly has a concept of time, although the language has a very different temporal system than English.

Let’s look at a another difference in time representations: Mandarin vs. English

Spatial frames of reference

"The spatial frame of reference of a given language influences spatial thought in many tasks, such as recall, recognition, and making inferences "

McDonough, Choi and Mandler (2003)

Time in Mandarin versus English

Both English and Mandarin can talk about time as a "horizontal" axis.

以前	前年	前天
yi-qian	qian-nian	qian-tian
to-front	front-year	front day
"before"	"the year before last year"	"the day before yesterday"
以後	後年	後天
yi-hou	hou-nian	hou-tian
to-back	back year	back day
"after"	"the year after the next year"	"the day after tomorrow"

Time in Mandarin versus English

Mandarin can also talk about time as a “vertical” axis.

上个月 “last month”
Shang ge yue
UP[classifier] MONTH

下个月 “next month”
xia ge yue
DOWN [classifier] MONTH

上个星期 “last week”
Shang ge xing qi
UP [classifier] WEEK

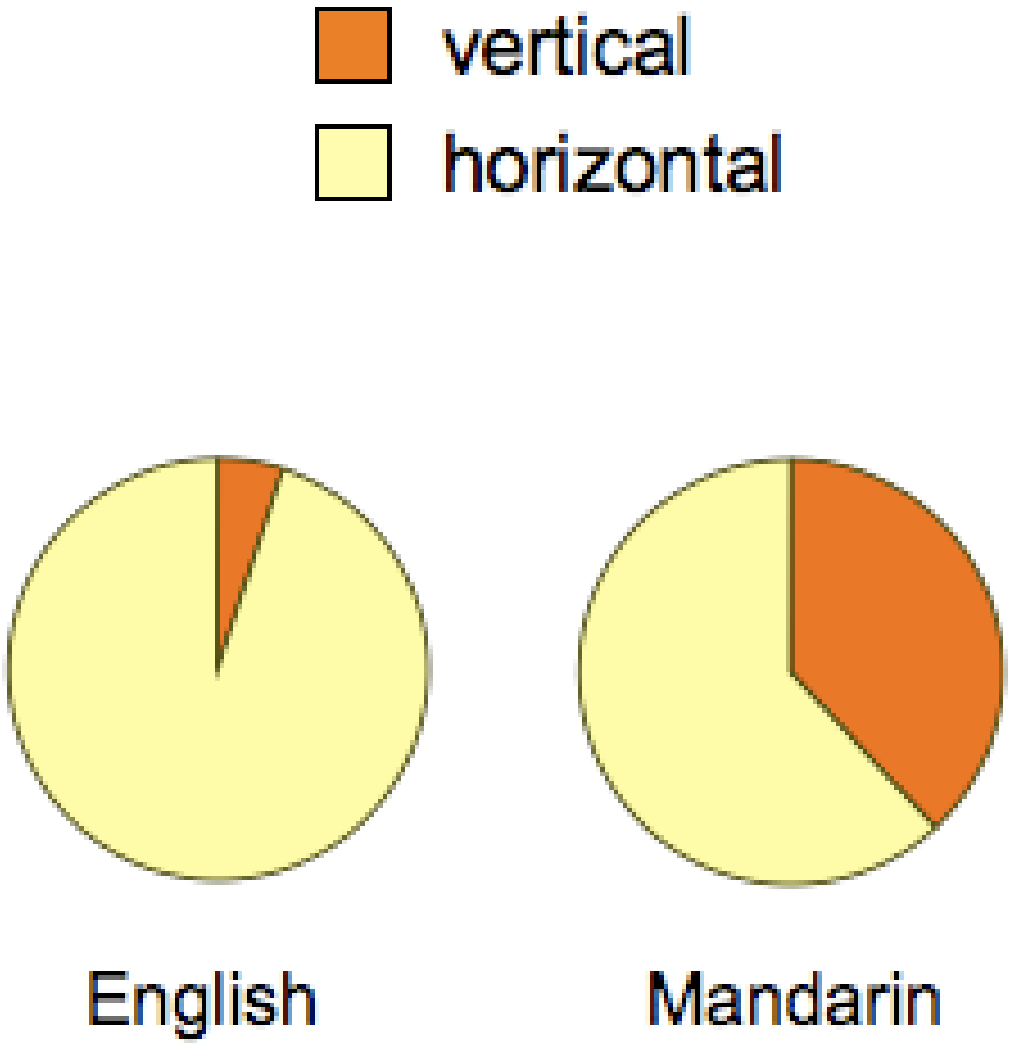
下个星期 “next month”
xia ge xing qi
DOWN [classifier] WEEK

上次 “last time”
Shang ci
UP TIME

下次 “next time”
xia ci
DOWN TIME

The “Waterfall of time”

Prevalence of the two time metaphors in English vs. Mandarin texts

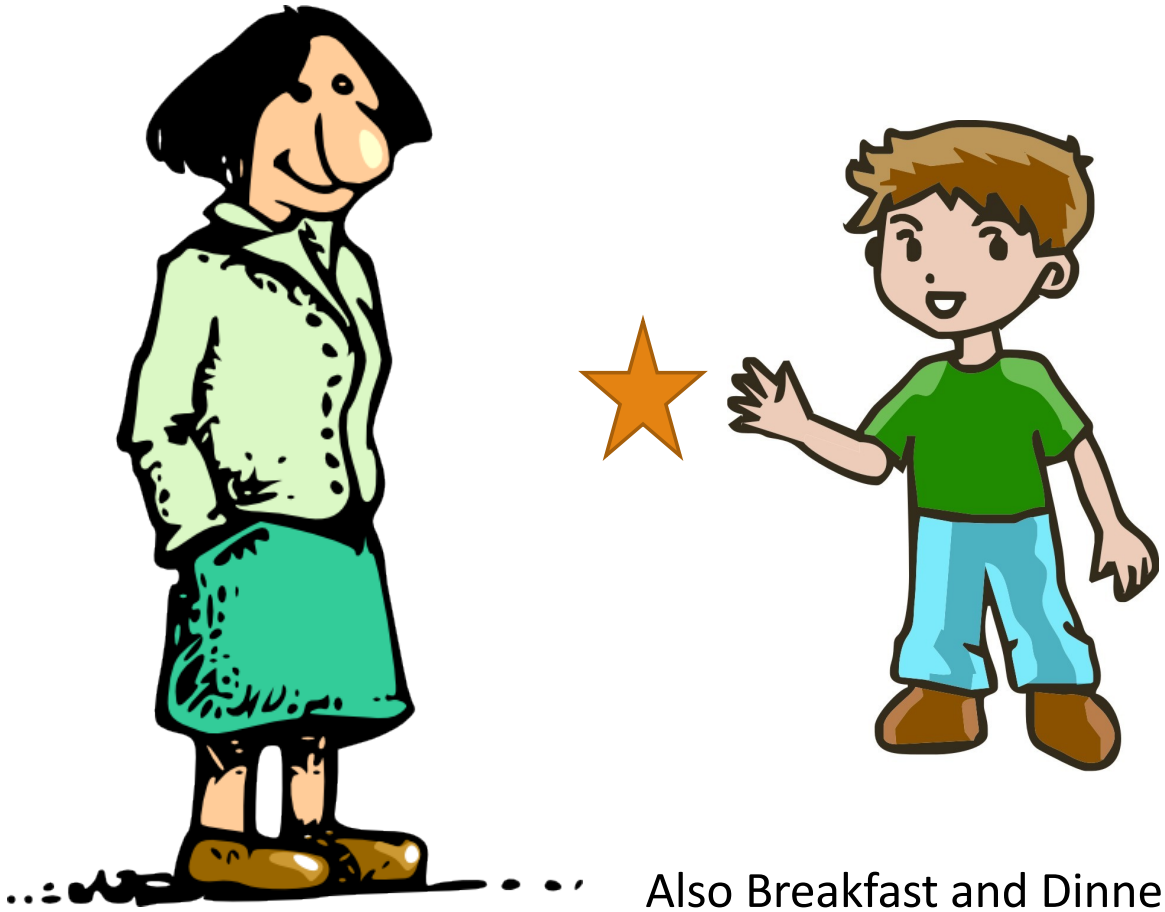


If Mandarin speakers **talk** about time vertically more often than English speakers,

Do they also **think** about time vertically more than English speakers?

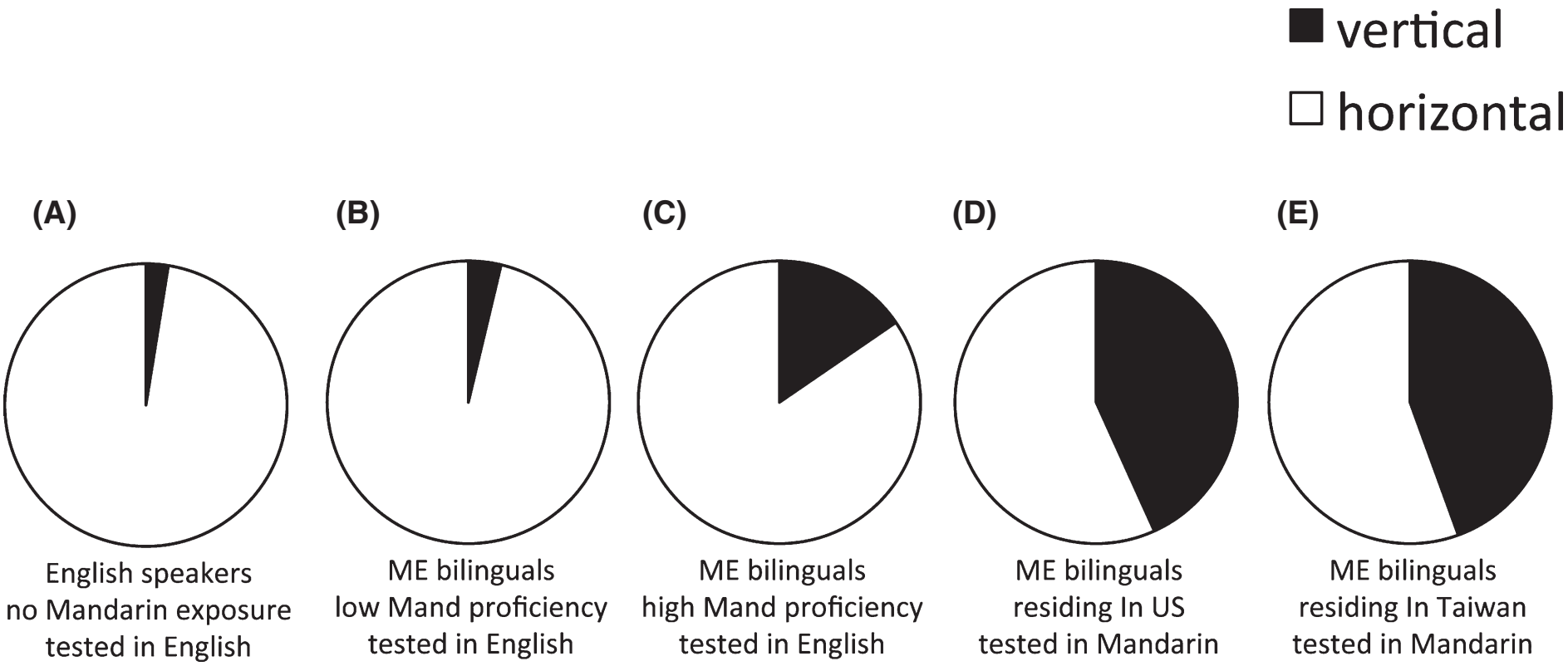
Fuhrman et al. (2011)

“If I tell you that this here is TODAY,
where would you put YESTERDAY?
And where would you put TOMORROW?’



Also Breakfast and Dinner with respect to Lunch,
and September and October with respect to August

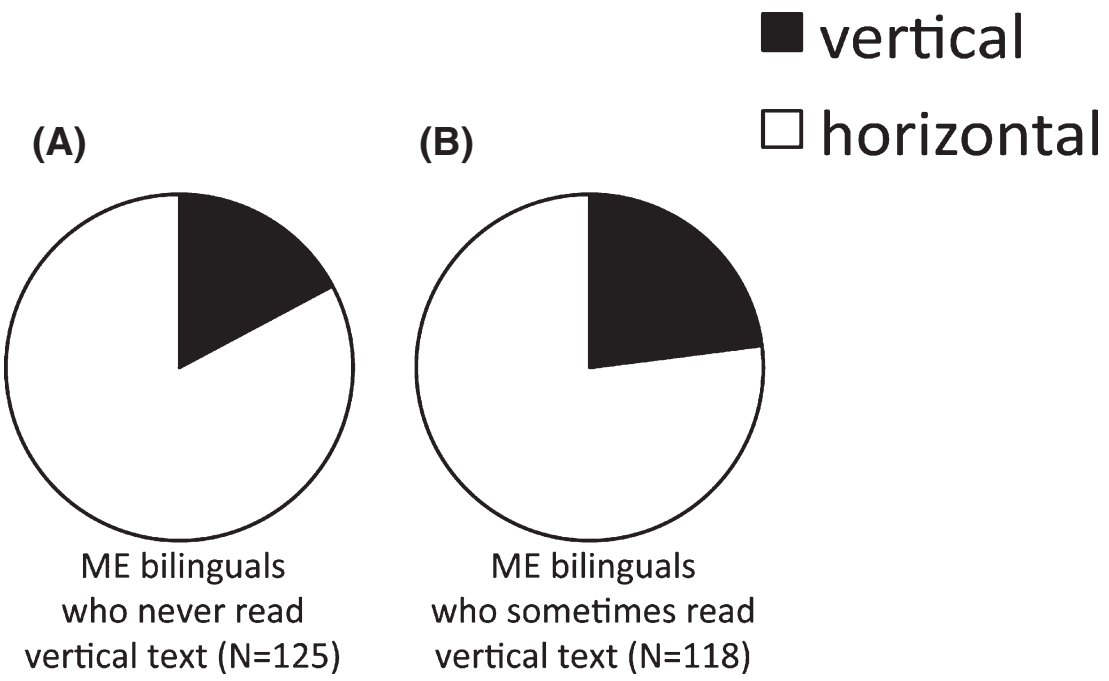
Fuhrman et al. (2011) results



Boroditsky results: Controlling for writing direction

Ask participants how often they read text left to right, right to left, up to down.

Results held for participants who only read left-to-right

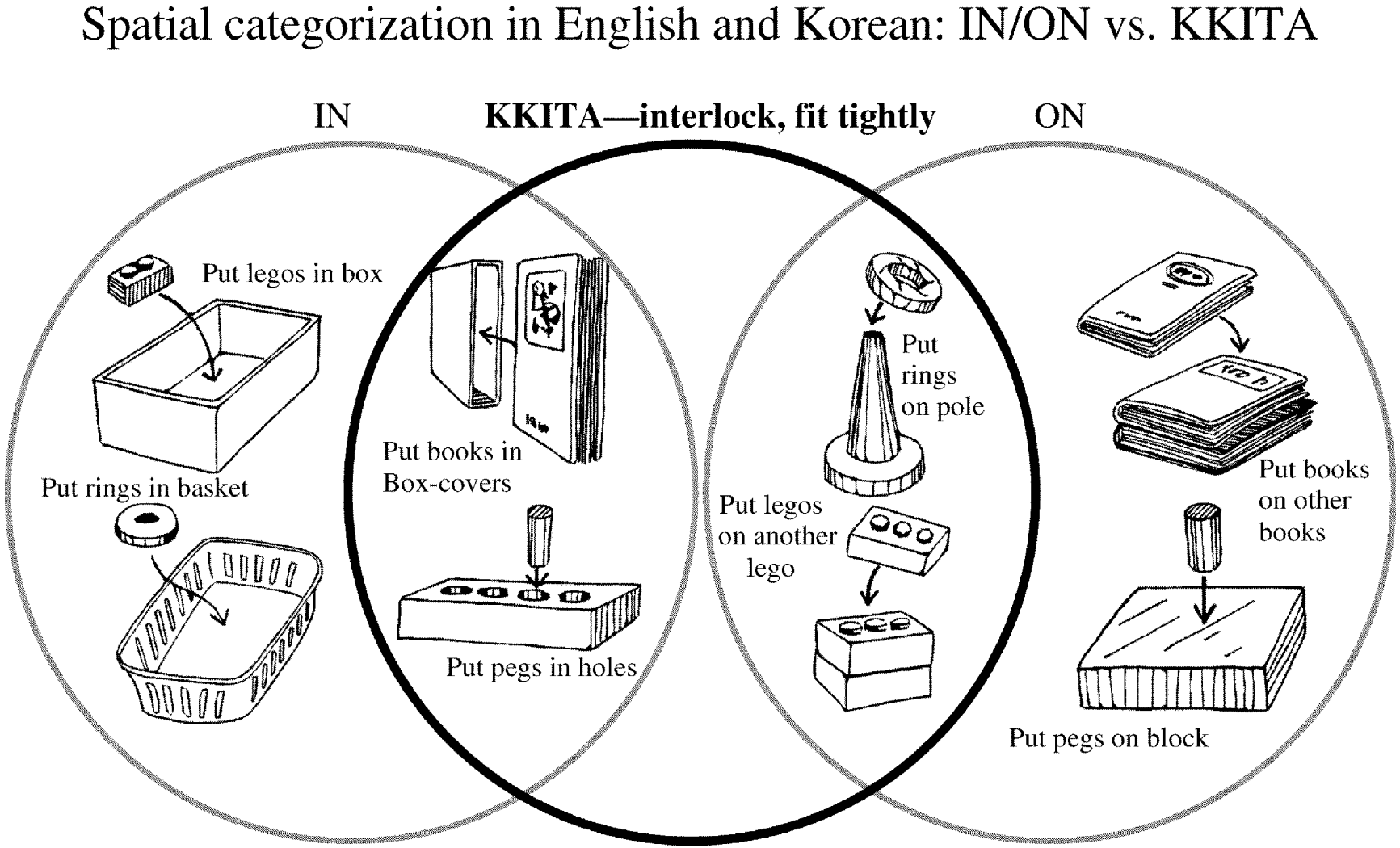


Boroditsky's conclusions

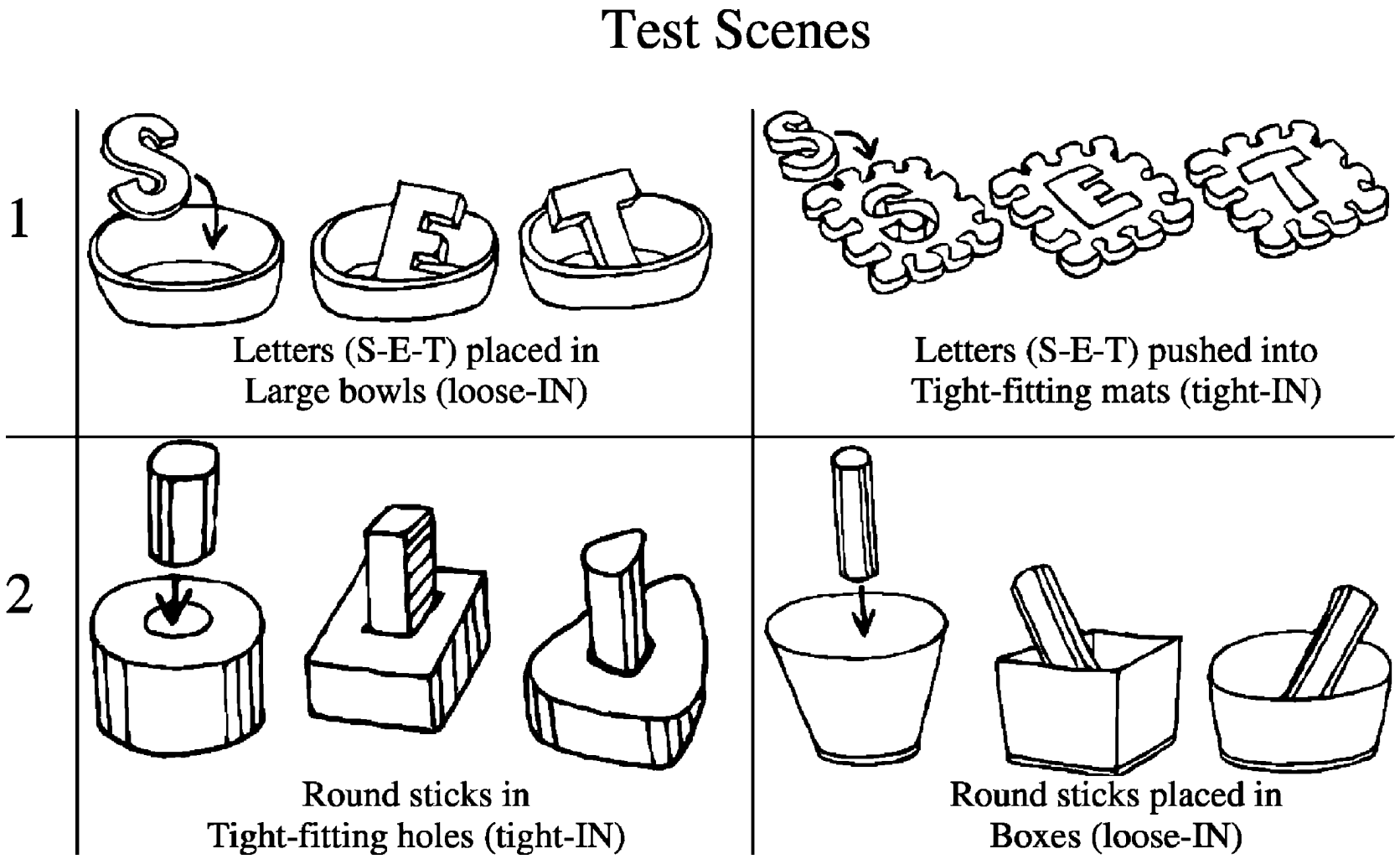
- English and Mandarin speakers differ in their representations of time
  - Mandarin speakers arrange events in vertical plane 15-44%
  - English speakers arrange events in vertical plane 2.5%
  - Mandarin bilinguals arranged events vertically even when speaking English
- These differences in people's time representations were predicted by patterns in language.

Other experiments on spatial reasoning

McDonough Choi and Mandler 2003



Detecting kkita “fit-tightly” Infants succeeded; English-speaking adults failed



Anti-Whorfian arguments

Pinker 1984. “The Language Instinct”

Pinker really really really hates Whorfianism

“wrong, all wrong!”

Anti-Whorfian arguments

Pinker 1984. “The Language Instinct”

Pinker is arguing against

- Strongest possible Strong Whorfianism:

  "thought is the same thing as language" (Pinker 1984)

Pinker's counter-argument

1. We can think visually in terms of images

   Lots of fun evidence for this: Kosslyn's mental rotation

2. Hence thought cannot be the same as language

Anti-Whorfian arguments

Problem with Pinker's 1984 argument.

"Thought is the same thing as language"

is kind of a straw man, not the same as any of the positions we're discussing

Linguistic relativity:

- Look how different the words and grammar are that speakers use in different language! In using these different words speakers must be therefore focusing on/attending to the world differently.

Linguistic uniformity:

- These speakers all think exactly the same, but when they have to talk, they just talk differently.

Part II: Language X has Y words for Z

Another aspect of Linguistic Relativity, also due to Whorf

We have the same word for falling snow, snow on the ground, snow packed hard like ice, slushy snow, wind-driven flying snow -- whatever the situation may be. To an Eskimo, this all-inclusive word would be almost unthinkable; he would say that falling snow, slushy snow, and so on, are sensuously and operationally different, different things to contend with; he uses different words for them and for other kinds of snow. (Whorf 1940)

Eskimos and snow!!!

The New York Times

Science

WORLD | U.S. | N.Y. / REGION | BUSINESS | TECHNOLOGY | SCIENCE | HEALTH | SPORTS | OP

ENVIRONMENT | SPACE & COSMO

For Snow, the Real Action Begins After It Falls

By JANE E. BRODY
Published: February 9, 1988

HANOVER, N.H.— THE Eskimos have about four dozen words to describe snow and ice, and Sam Colbeck knows why.

FACEBOOK

TWITTER

History of the Myth

Anthropologist Franz Boas 1911

Notes that English has different roots for different kinds of water:

- river (running water)
- brook (small running water).
- rain (water falling from sky)
- lake (large still water)

4 words for snow in “Eskimo” (Eastern Canadian Inuktitut)

- aput ‘snow on the ground’
- qana ‘falling snow
- piqsirpoq ‘drifting snow’
- qimuqsuq ‘a snow drift’

1940: Whorf's "5 Eskimo words for snow"

We have the same word for falling snow, snow on the ground, snow packed hard like ice, slushy snow, wind-driven flying snow -- whatever the situation may be. To an Eskimo, this all-inclusive word would be almost unthinkable; he would say that falling snow, slushy snow, and so on, are sensuously and operationally different, different things to contend with; he uses different words for them and for other kinds of snow. (Whorf 1940)

The number of words skyrockets

Martin (1986)

”3”	Brown **1958** “3 Eskimo words for snow”
“Many”	Eastman **1975**
“50”	Langford Wilson **1978** play “The Fifth of July”
“9”	*The Straight Dope. Compendium.* **1984**.
“100”	**1984** New York Times
“200”	WEWS-Cleveland **1984** broadcast

What's the lesson

Bad science journalism

- Nobody checked with a linguist

People need a way to operationalize cultural importance

Words seem like a natural sign of something

Fine, but how many Eskimo words are there for snow?

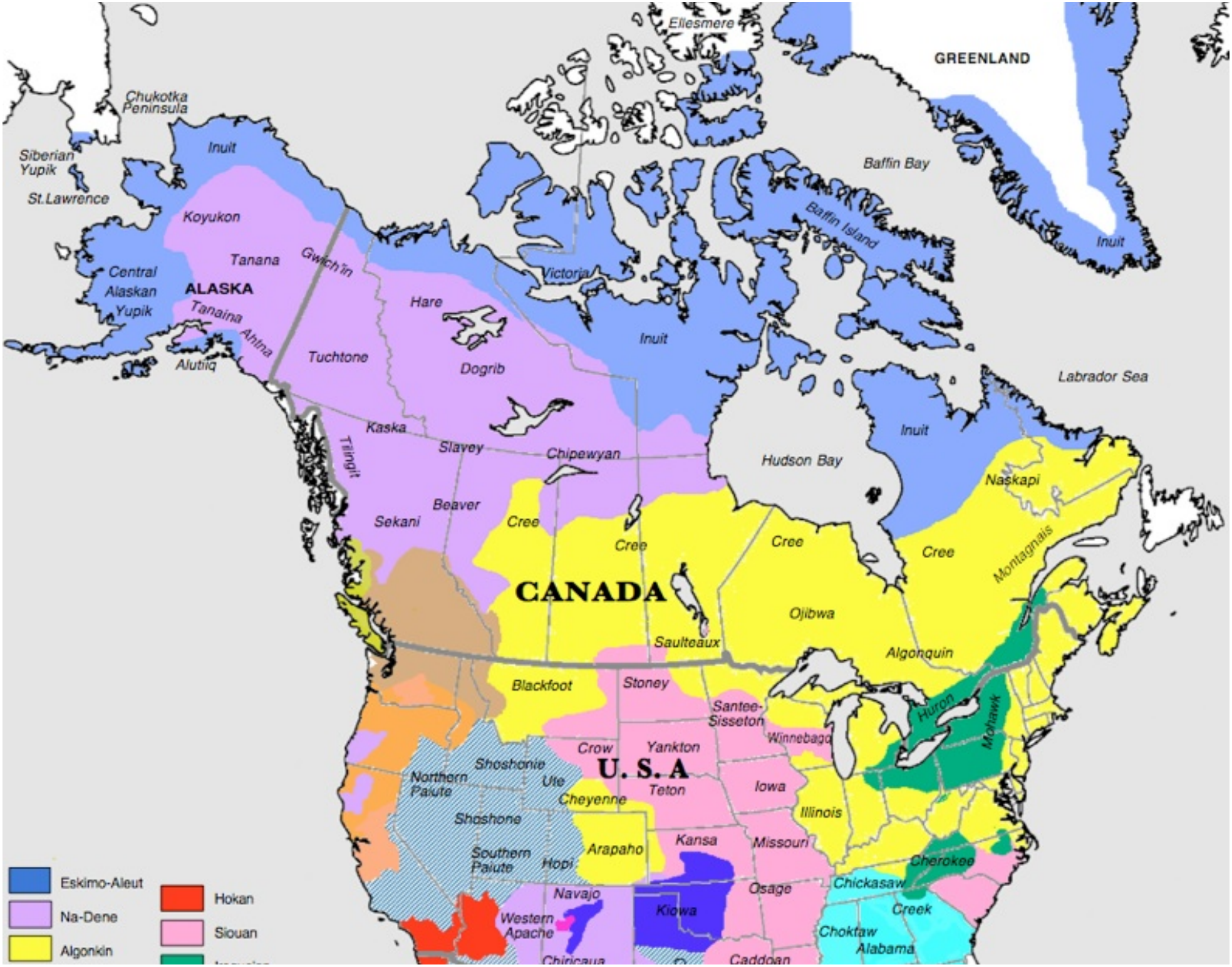
Somewhat a tricky question

How many

1. Eskimo
2. Words
3. For snow?

Eskimo: a loose term

- Technically: Inuit and Yupik peoples
- Living in Alaska, Canada, Greenland, Siberia
- Speaking
  - Central Alaskan Yup'ik
  - West Greenlandic (Kalaallisut)
  - Inuktitut


Ellesmere
GREENLAND
Chukotka Peninsula
Siberian Yupik
St.Lawrence
Inuit
Baffin Bay
Baffin Island
Inuit
Koyukon
Tanana
Gwich'in
Central Alaskan Yupik
ALASKA
Tanaina
Ahtna
Alutiq
Victoria
Inuit
Hare
Tuchtone
Dogrib
Labrador Sea
Kaska
Slavey
Chipewyan
Tlingit
Hudson Bay
Inuit
Naskapi
Beaver
Sekani
Cree
Cree
Cree
Cree
Montagnais
CANADA
Ojibwa
Saulteaux
Algonquin
Blackfoot
Stoney
Santee-Sisseton
Winnebago
Huron
Mohawk
Crow
Yankton
Shoshonie
Northern Paiute
Ute
U. S. A
Teton
Iowa
Cheyenne
Illinois
Shoshone
Arapaho
Kansa
Missouri
Southern Paiute
Hopi
Cherokee
Chickasaw
Navajo
Osage
Kiowa
Creek
Western Apache
Choktaw
Alabama
Caddoan
Eskimo-Aleut
Na-Dene
Algonkin
Hokan
Siouan

Words

Roots:

- Snow, slush

Inflected or compounded words formed from that root

- snowing, snowy, snowier, snowiest, slushy, snowy, snowfall, snowflake, snowdrift, snowcapped, snowbank, snowstorm

Inuit and Yupik languages have very rich morphologies

Morphology in Inuktitut

Mallon (2000)

699 verb endings in the North Baffin dialect

1) Inuktitut nouns and verbs can be singular, dual and plural.

takujunga	**takujuguk**	**takujugut**
I see	we two see	we several see

2) instead of words *because, if, whether,* Inuktitut uses different verb endings

takugama	**takugunnuk**	**takungmangaatta**
because I see	if we two see	whether we several see

3) Different verb endings for nonspecific vs. specific situations.

takujunga	**takujunga**	**takugama**
I see	I see	because I see
takujagit	**takujara**	**takugakku**
I see you	I see him	because I see him

Morphology in Inuktitut

Nouns have roots plus other chunks

umiaq boat
umiaq + **juaq** big boat (ship)
umiaq + **juaq** + **mi** in the ship

Some noun chunks expand on the meaning of the noun:

umiaq boat
umiaq + **lik** boat-owner
umiaq + **lik** + **mut**to the boat-owner

You can pile up noun chunks

umiaq + **juaq** + **lik** + **viniq** + **mit** from the former ship-owner

Morphology in Inuktitut

mit +	**vik +**	**liaq +**	**juma +**	**lauq +**	**juq +**	**guuq**
VR	**NM**	**VM**	**vc**	**vc**	**ve**	**tail**
land	place	go to	want	past	he	he says

“he said he wanted to go to the landing strip “

mivviliarumalauqturuuq

Snow

What counts as a word for “snow”?

Example: Canadian Inuit *igluksaq* ‘snow for igloo making’

But this is really glossed as

iglu ‘house’ *ksaq* ‘material for’

So it means “building materials” and includes plywood, nails, etc. in addition to snow

Yes, Dan, but how many Eskimo words are there for snow?

Geoff Pullum in his article “The Great Eskimo Vocabulary Hoax” asked linguist Anthony Woodbury (University of Texas)

Woodbury says, based on Steven A. Jacobson’s Yup’ik Eskimo Dictionary (U of Alaska Fairbanks 1984):

“A dozen or maybe two dozen”

Hmm, 2 dozen

Snow, slush, sleet….

avalanche

blizzard

hardpack

powder

flurry

dusting

snow cornice


DID YOU KNOW THAT SUBURBAN WHITE MALES HAVE OVER 100 WORDS FOR "LAWN"?
7-29
SPEEDBUMP.COM
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So what does this mean for the Sapir-Whorf Hypothesis?

To discuss in section!!

And for paper #1!

Instead of “100 words for X”

We sometimes hear

“Language X has no word for X”

What are the implications?

Let’s look at one example

Dessert

What is a dessert?

Dessert

French, first used in 1539, the participle of desservir, “de-serve”, to clear the table

The stuff you ate after the table was cleared

Dessert was new in England or France

Europe wasn't traditionally big on dessert.

Herodotus 5th century BCE talking about the Persians:

[The Persians] have few solid dishes, but many served up after as dessert ["epiphorēmata"], and these not in a single course; and for this reason the Persians say that the Hellenes leave off dinner hungry, because after dinner they have nothing worth mentioning served up as dessert, whereas if any good dessert were served up they would not stop eating so soon.

Medieval Baghdad had dessert

A meal from 1001 Nights:

roasted chicken, roast meat, rice with honey, pilaf, sausages, stuffed lamb breast, nutty kunāfa swimming in bee's honey, zulābiyya "donuts," qatā'if pancakes folded around a sweet nut filling, and baklava.

Sweet dishes come to Europe

These desserts came first to Muslim Al-Andalus

The mythological Ziryab, a musician who arrived in 822 at the court of Abd-al-rahman II of Cordoba

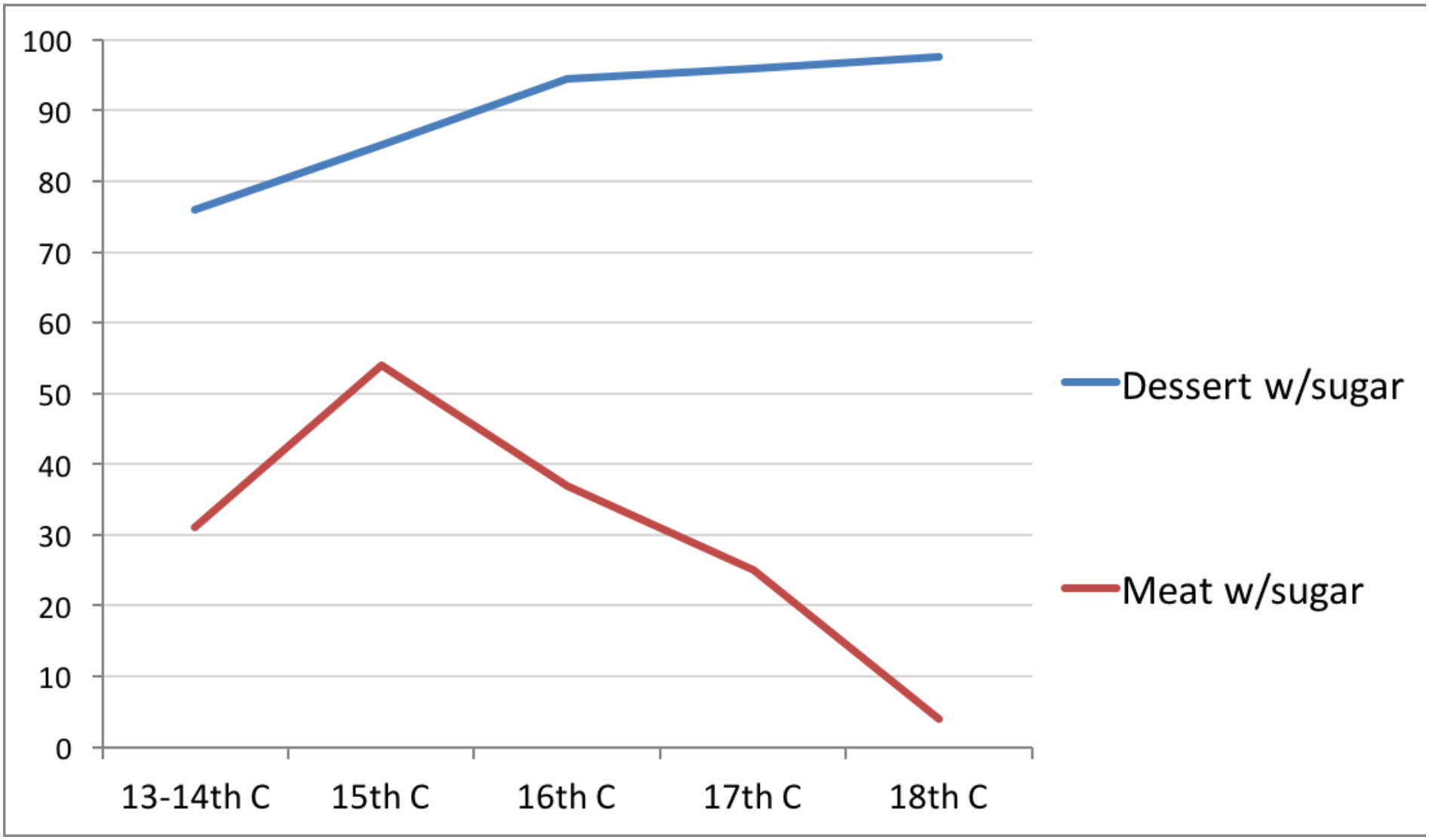
By 1250, Spanish cookbooks said that meals should end in desserts

And sweet dishes throughout the meal spread across Europe from Spain and Catalonia

- *zirbaja*, sweet-and-sour chicken stew,
- *jullabiyya*, chicken made with rose- syrup (*sharâb al-jullâb*, from the Persian word for rose),
- lamb stewed with quince, vinegar, saffron, and coriander.

And sweet things slowly move to the end of the meal

Historian Jean-Louis Flandrin's study of sugar in French recipes over time



Dessert in English

- 1612 the word first used in English

  "such eating, which the French call desert, is vnnaturall, being contrary to Physicke or Dyet."

  - But it just still means fruit/nuts

- By 1789, at a Manhattan dinner party after Washington's inauguration, the modern US meaning:

  "The dessert was, first apple pies, puddings, etc.; then iced creams, jellies, etc.; then water-melons, musk-melons, apples, peaches, nuts."

The grammar of cuisine

- Dessert is not universal
- It's a recent, contingent culture meme.
- Part of the implicit "grammar of cuisine"

American Dinner = (salad/appetizer) main (dessert)

French dinner = (entrée) plat (salade) (fromage) (dessert)

Italian dinner = (antipasto) primo secondo (insalata) (formaggi) (dolce)

- Even this order is recent: Before 1900, Americans used to eat salad at the end of the meal.

No word for “dessert” in Chinese

Traditional Chinese meal didn’t have a sweet course at the end.

The standard translation for “dessert”:

Cantonese *tihm ban* 甜品

Mandarin *tián diǎn* 甜点

really just meant “sweet food/snack”

Traditional Cantonese meals end in soup or sometimes fruit.

Back to our question:

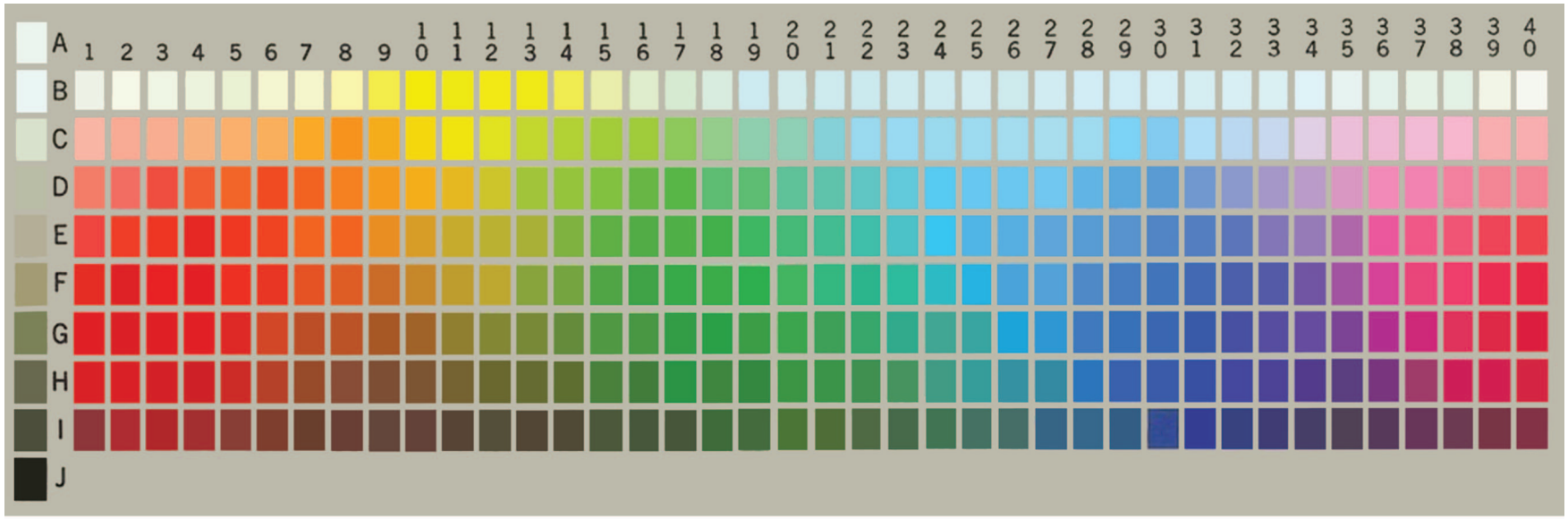
What does it mean if a language has “no word for X”

To discuss in section!

4. Is everything relative? What is universal?

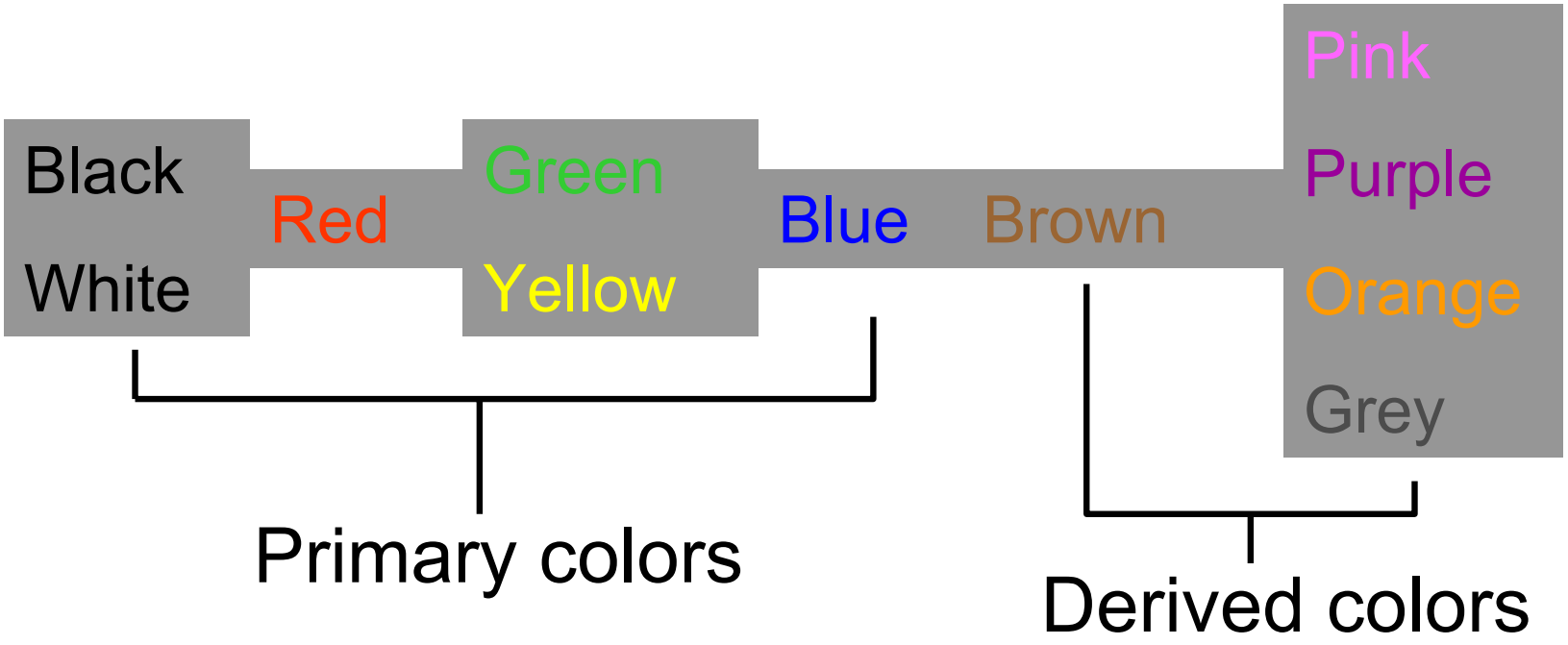
Universals in Color Words

Berlin and Kay (1969) had speakers of different languages name color categories on a chart:



Color Universals

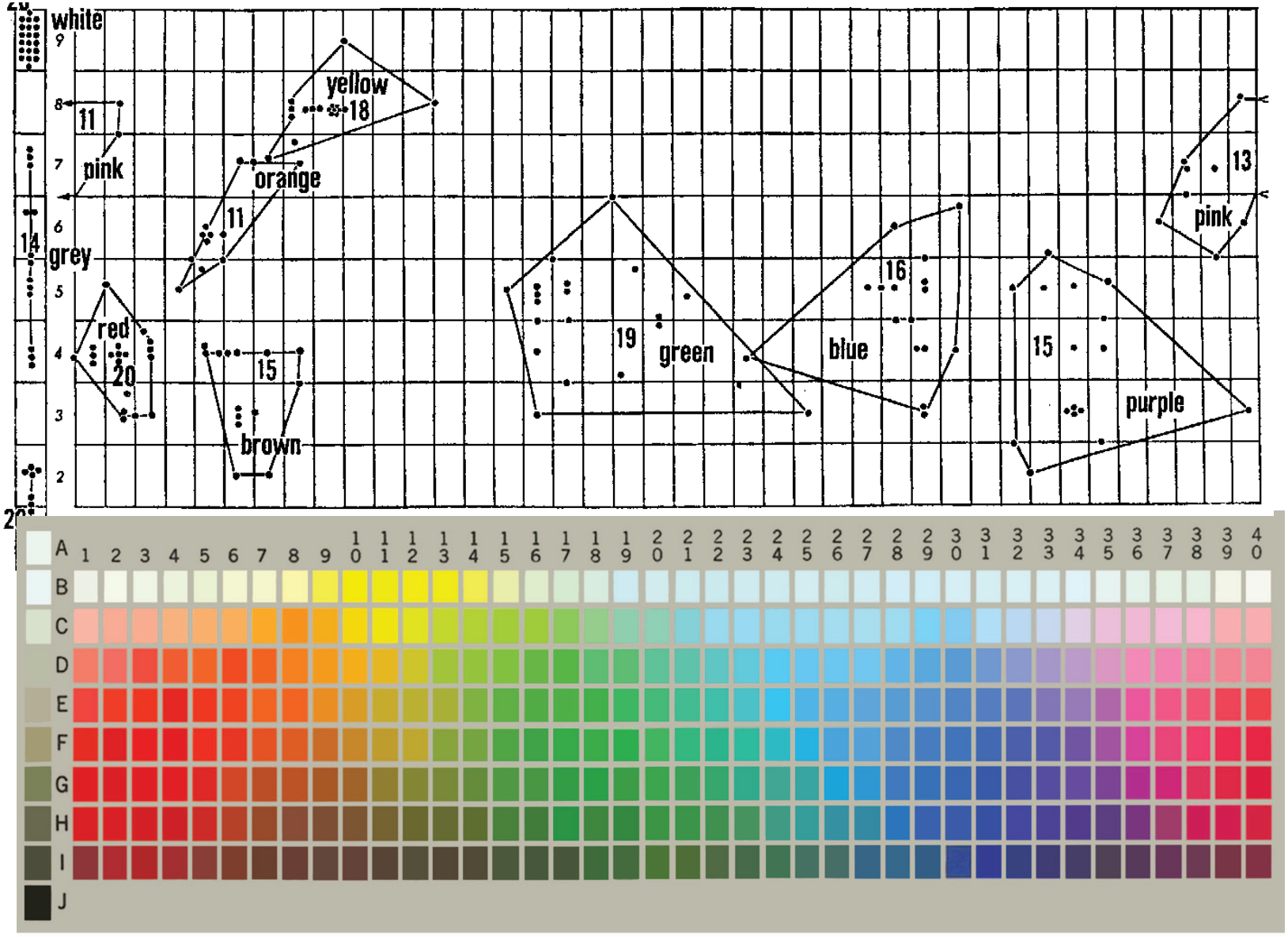
Berlin & Kay (1969): languages name colors in a universal, evolutionary order



Slide from Jim Morgan

Different languages have similar focal colors

Berlin&Kay 69



Berlin and Kay's Universal Trends in Basic Color Names

# of terms in a language:

Two:	white and black (light and dark)
Three:	red, white, black
Four:	yellow or green, red, white, black
Five:	yellow, green, red, white, black
Six:	blue, yellow, green, red, white, black
Seven:	brown, blue, yellow, green, red, white, black
Eight +:	purple/pink/orange/grey + above

A language with 3 colors

Krahn/Wobé, spoken in Ivory Coast

	Gborbo	**Krahn**	
a.	*la*^{2}	*gbe*^{3}	'the shirt is black'
	shirt	be-black	
b.	*dE*^{3}	*plu*^{1}	'the thing is white'
	thing	be-white	
c.	*dE*^{3}	*sain*^{41}	'the thing is red'
	thing	be-red	

Why? Two theories

Universalist:

Color categories in the world's languages are organized around six universal focal colors corresponding to the prototypes of English **black**, **white**, **red**, **green**, **yellow**, and **blue**.

The boundaries between colors are projected from these foci and lie in similar positions across languages

Relativist:

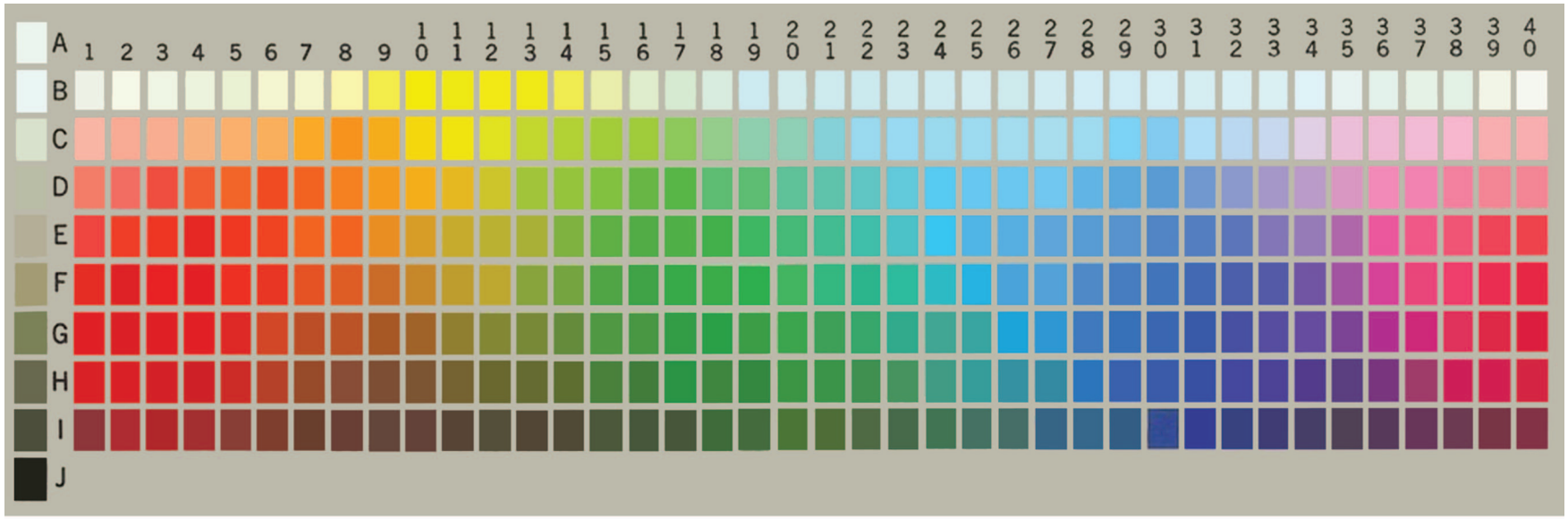
Color categories are defined at their boundaries by local linguistic convention, which is free to vary across languages.

Why? A third answer:

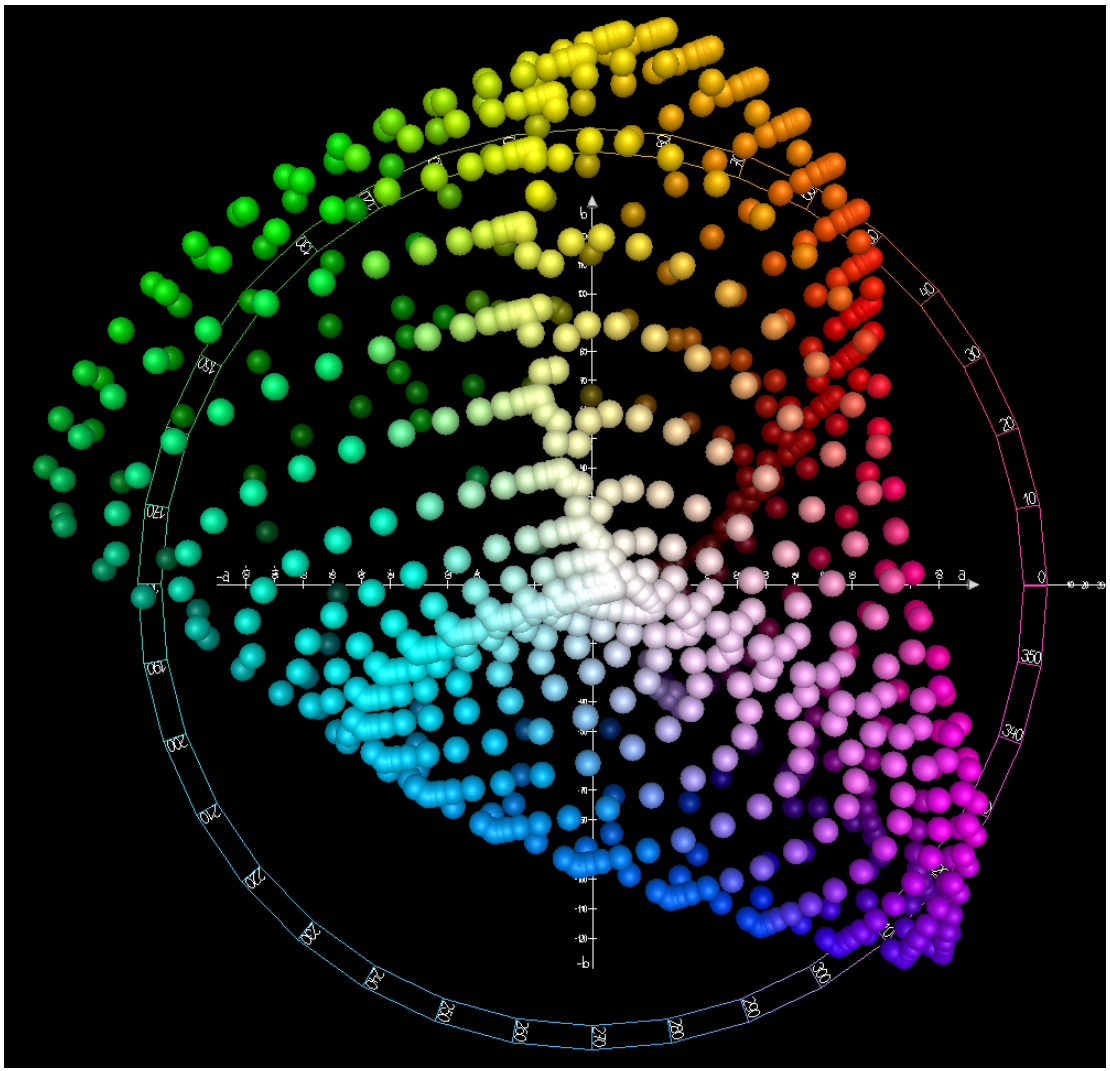
Universal properties of the human visual system

Universals in Color Words

The Munsell color chart



Human experiments tell us the "perceptual space" of color



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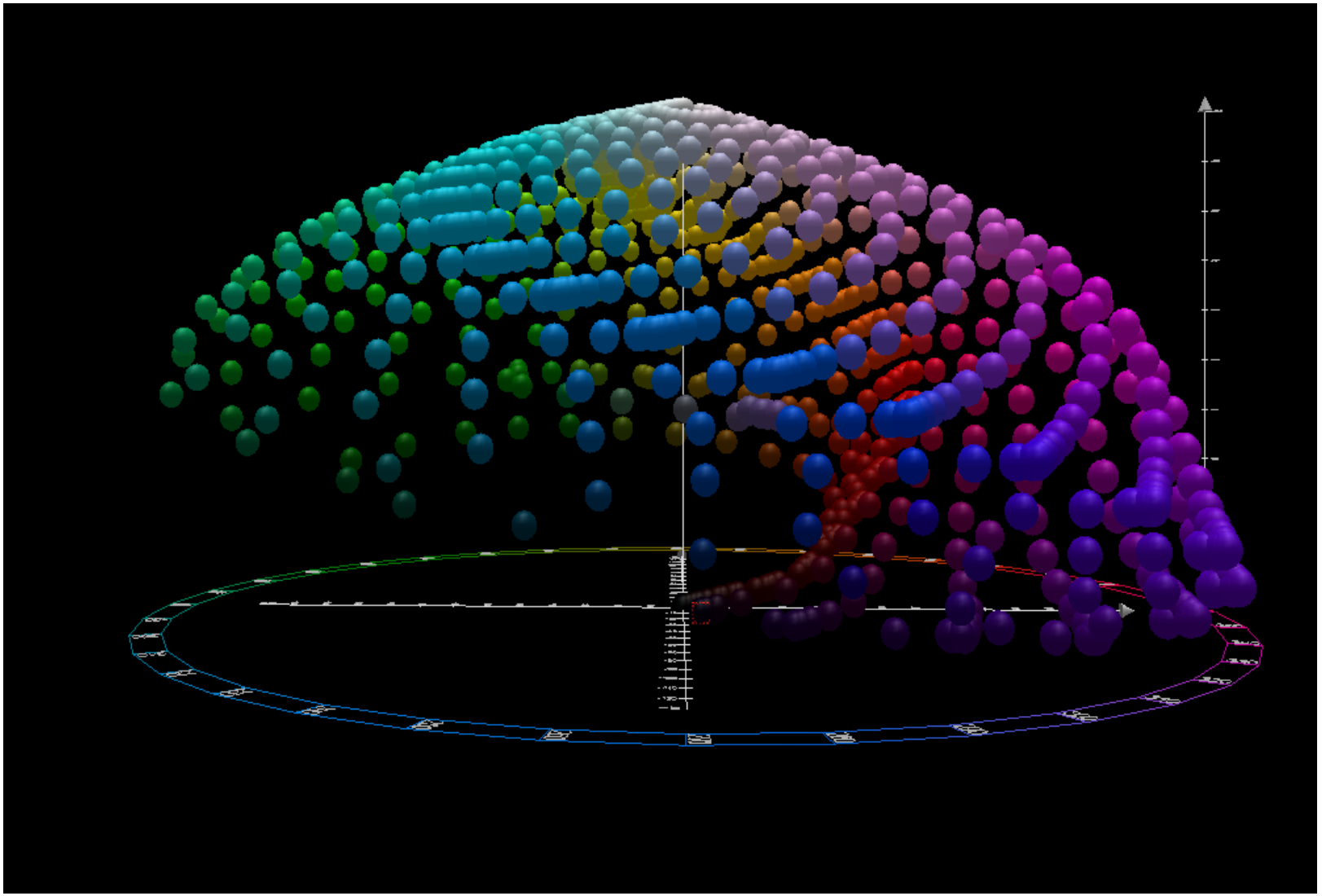


Given any two color chips

We can measure how similar they are according to the human visual system

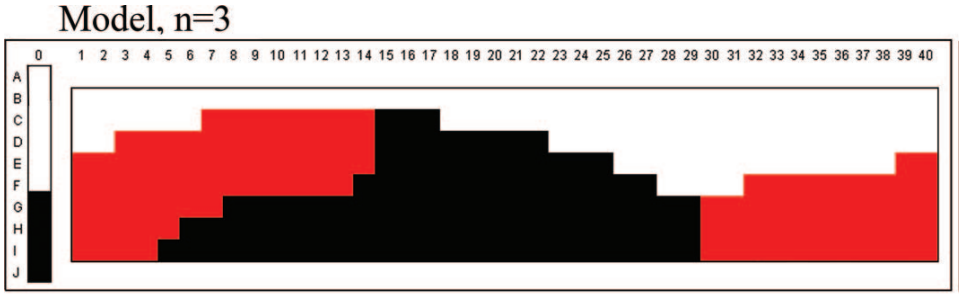
Regier et al's proposal

- Boundaries of color names tend to lie at places that make all the color chips within a category more similar to teach other, and all the chips across categories more different

Why? Universals of The Human Visual System

Terry Regier, Paul Kay, and Naveen Khetarpal (2007)

Color groupings optimize human categorization; the set of names makes it most likely that chips are are perceived similarly (given human vision system) will be named similarly.



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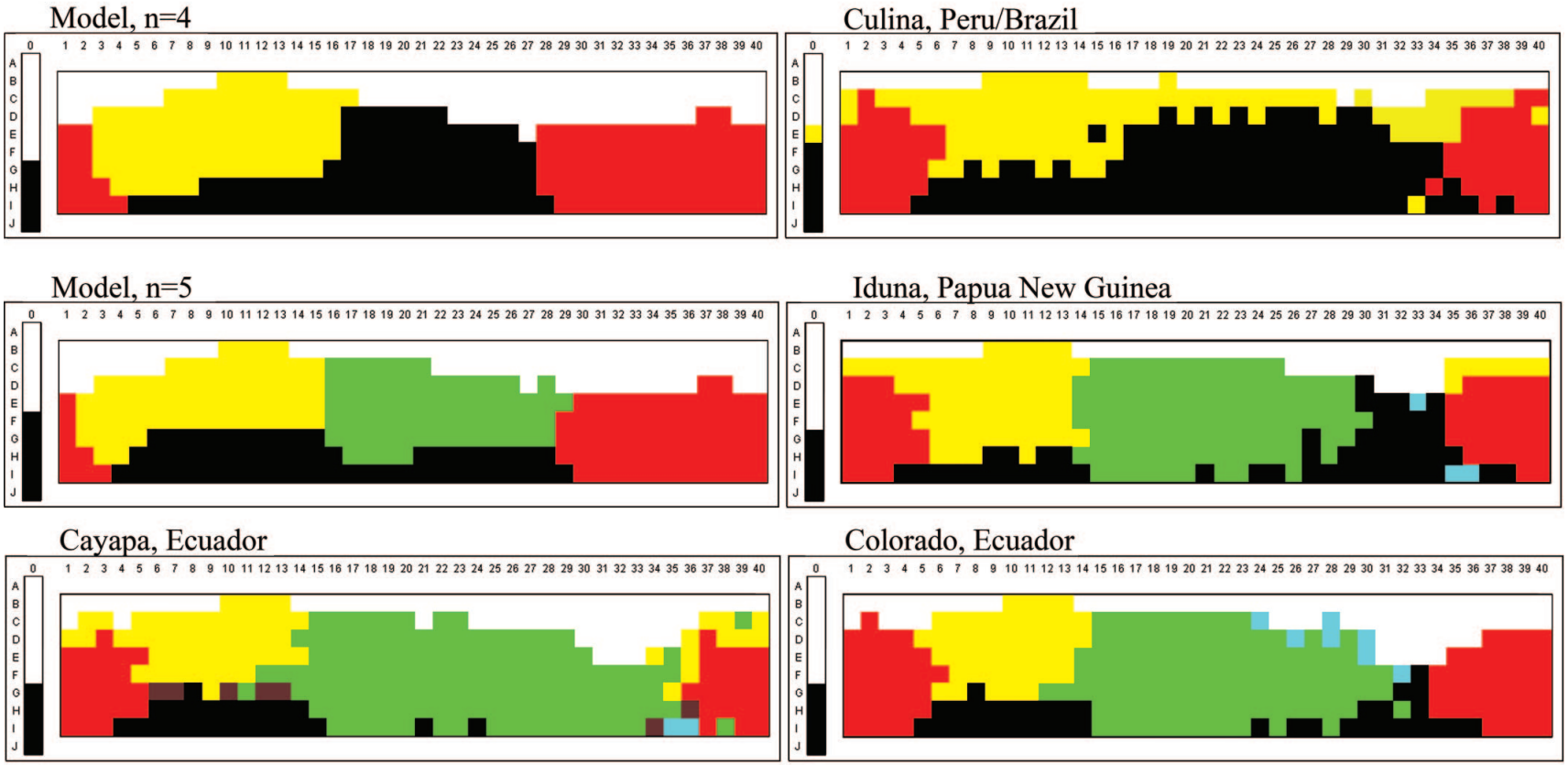

An alternative hypothesis for the origin of basic color terms

Ken Shirriff (1990) Journal of Irreproducible Results

"Why do languages follow these rules? My hypothesis is that cultures find it necessary to develop words for colors in order to do their washing.

That is, **language follows laundry**.

This is a bold claim, but the evidence is compelling: the rules of laundry directly account for the rules of color terms"

Language follows Laundry

Shirriff 1990

Colors must be separated for laundry (Tide 1991), elaborated as the *basic rule of laundry*: ‘‘Always separate darks and lights.’’ (Gottesman 1991).

Thus in order to wash clothing, a culture must first have words to distinguish darks and lights, explaining color rule #1.

The second rule of laundry is ‘‘Never wash reds with anything even remotely white’’ (Gottesman 1991). Cultures must next develop a word for ‘‘red’’. Rule #2.

For more advanced laundry, bright colors, such as green and yellow, should be washed separately. Rules #3 and #4.

Next, cultures will discover that washing blue jeans separately is beneficial, resulting in rule #5. Finally, the remaining colors will be named. Rules #6 and #7.

References

Gottesman, Greg. 1991. ‘‘Laundry and Ironing’’ in *College Survival.* NY: Prentice Hall.
Tide detergent (box). 1991. Cincinnati: Procter and Gamble.

Other Potential Universals?

Including Sound Symbolism, Thursday!

Some conclusions

There is some truth to both linguistic universalism and relativism

Academics come in two varieties:

- "Those who make many species are the 'splitters,' and those who make few are the 'lumpers.'" Charles Darwin, 1857

But even if speaking a different language only makes you think a **little** differently, that's pretty worthwhile! Go take a language

Check your sources.