

# Language and Thought

# Modularity of Language

- We've been assuming that the cognitive system underlying language is separate from that underlying other cognitive processes, e.g., reasoning or perception.
- There are two not incompatible variants of this view:
  - Functionalism
  - Linguistic relativity

# Linguistic Relativity

Edward 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 up on 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.

# Eskimo snow

- Eskimos have lots (maybe hundreds) of words for snow: reflects a different Weltanschauung (world view)
- Alternative: have lots of words for snow, because snow is important to their culture.

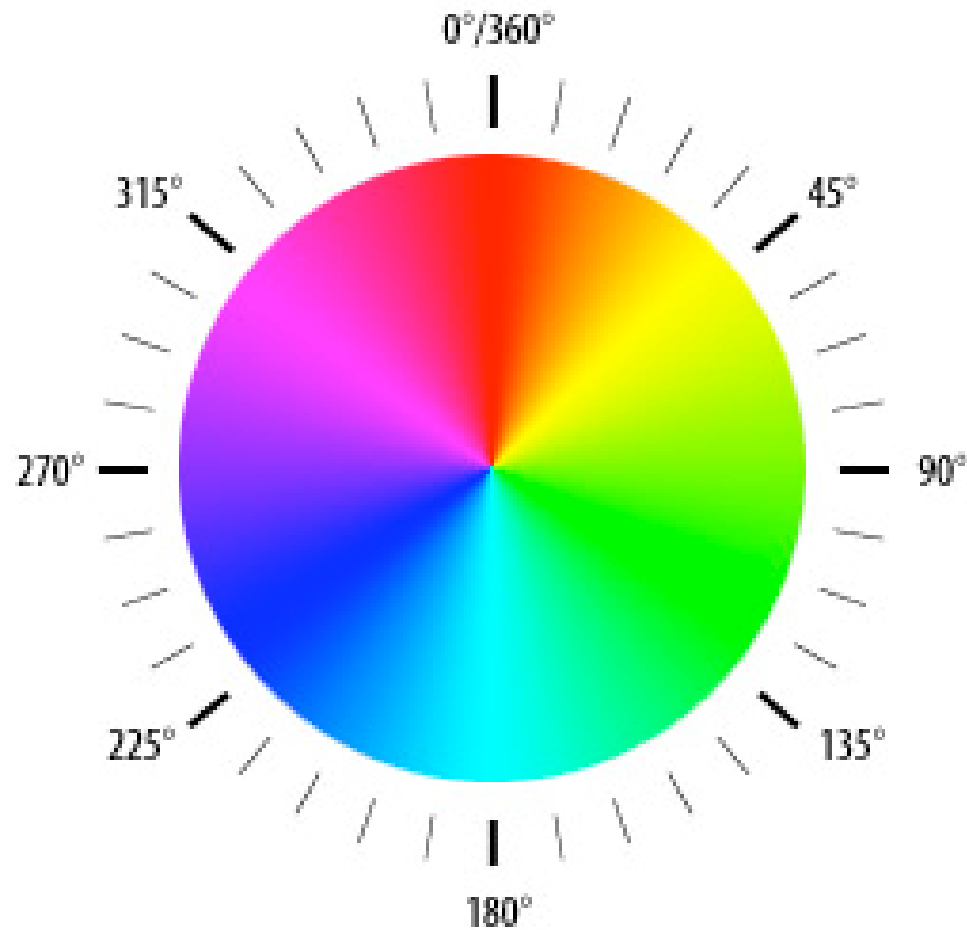
# Eskimo Snow

- But it isn't really true. Probably Eskimo (Yupik) has only about 12 words (roots) for snow.

# English Snow

- Moreover, English has lots of words for snow, too:  
avalanche blizzard blowing snow dusting  
flurry frost hail hardpack icelens igloo  
powder sleet slush snowbank snowcornice  
snowfort snowhouse snowman snow-  
mixed-with-rain? snowflake snowstorm

# A better case: Color



# The Language of Color

- Languages vary in how many basic color categories they distinguish.

<b>English:</b>					
purple	blue	green	yel- low	orange	red
<b>Shona:</b>					
Cips <sup>w</sup> uka	Citema	Cicema	Cips <sup>w</sup> uka		
<b>Bassa:</b>					
hul	ziza				

# Relation between language and perception

- Whorf/Sapir: A language chooses a set of color categories, which determines how speakers of that language perceive the world.
- Is this true?

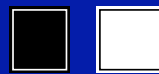
# Universals in the Language of Color

- Berlin and Kay: Laws governing the choice of color terms that are lexicalized in a language

**Number of colors**

**Colors Included**

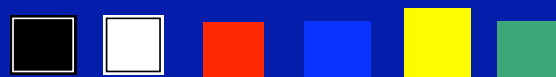
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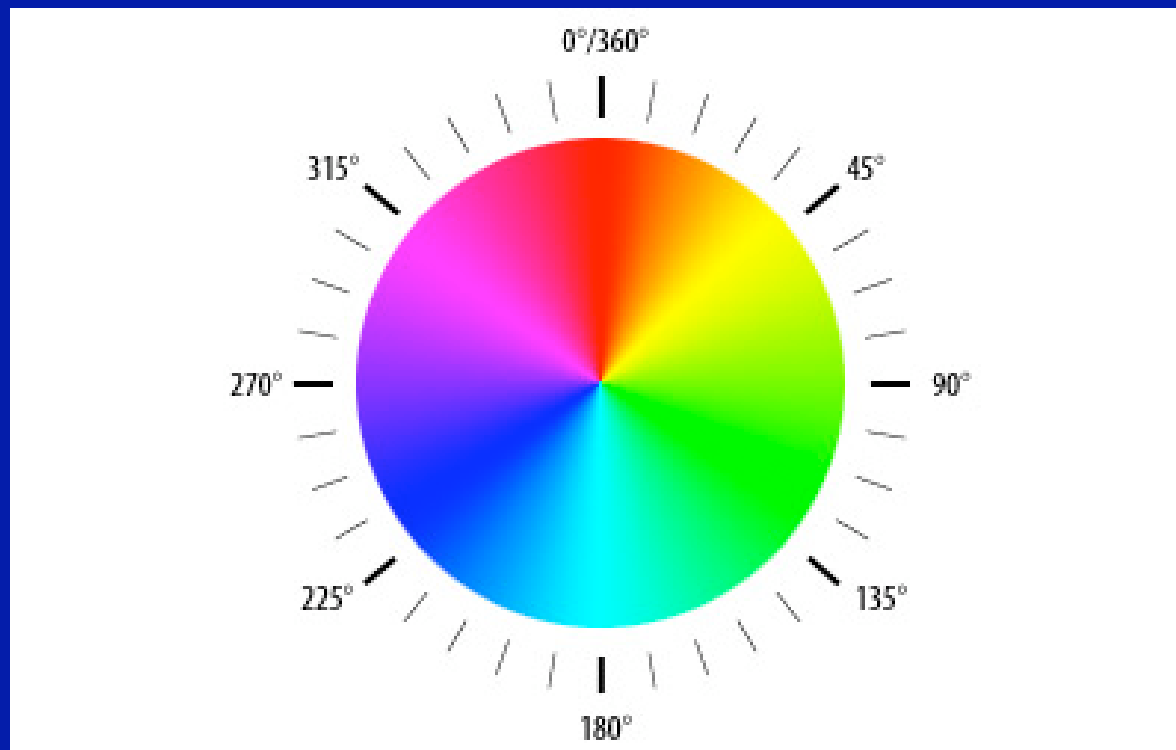


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# Universals in the Language of Color

- Color Boundaries vary cross-linguistically, but focal colors do not.



# Universals in Color Perception

- Rosch: experiments with Dani and English speakers
  - Recognition memory task: similar sorts of errors
  - Easier to learn names of focal colors

# Problems with Color

- Color perception is a low-level process, and as such is modular.
- Perhaps there are higher level cognitive processes which do show effects of linguistic relativity.

# Spatial representation

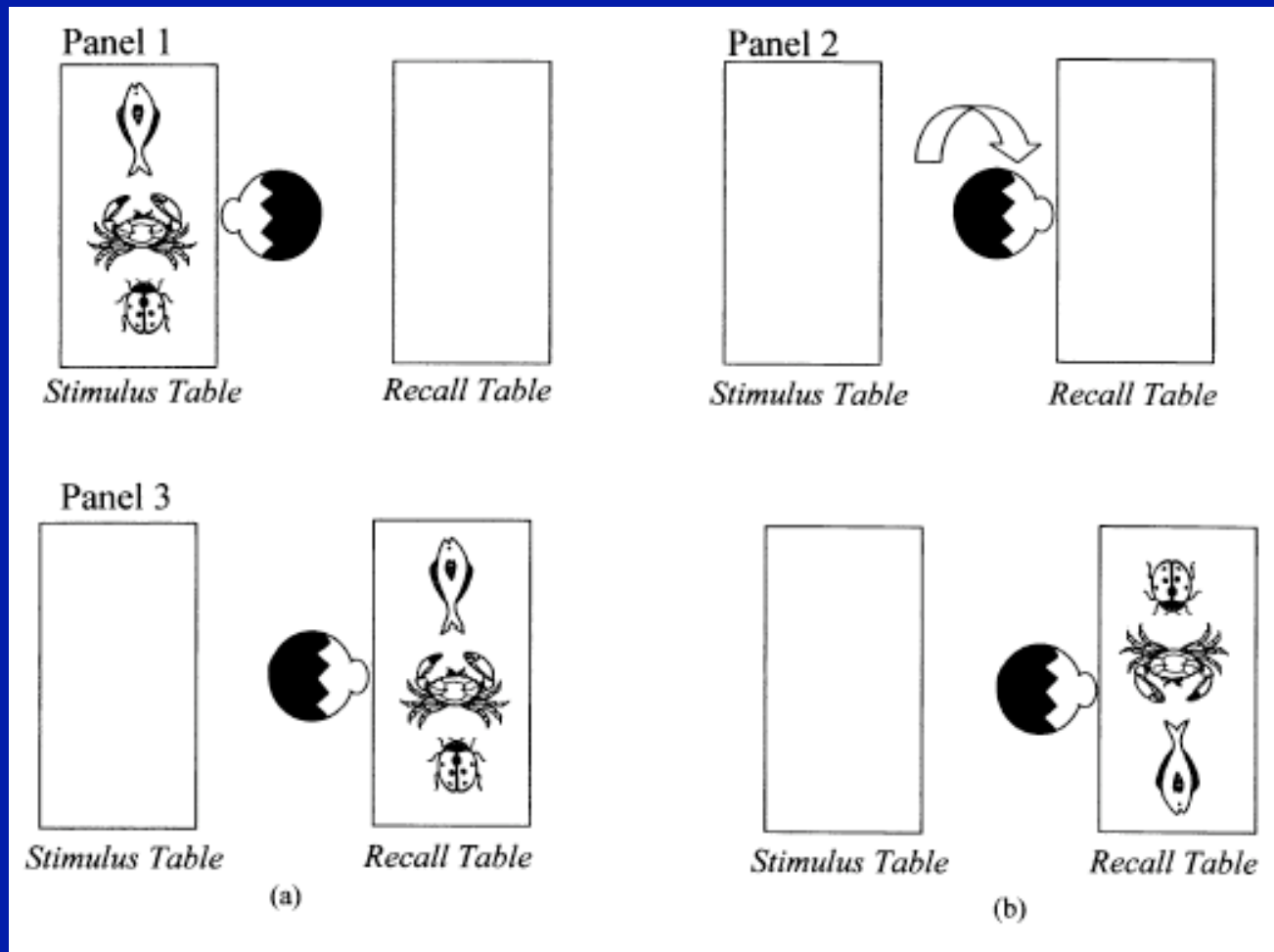
- Two types of spatial relations
  - Egocentric: left, right
  - Allocentric: east, north, near the door
- Languages differ in whether their speakers make predominant use of words referring to one or the other of these types of relations.

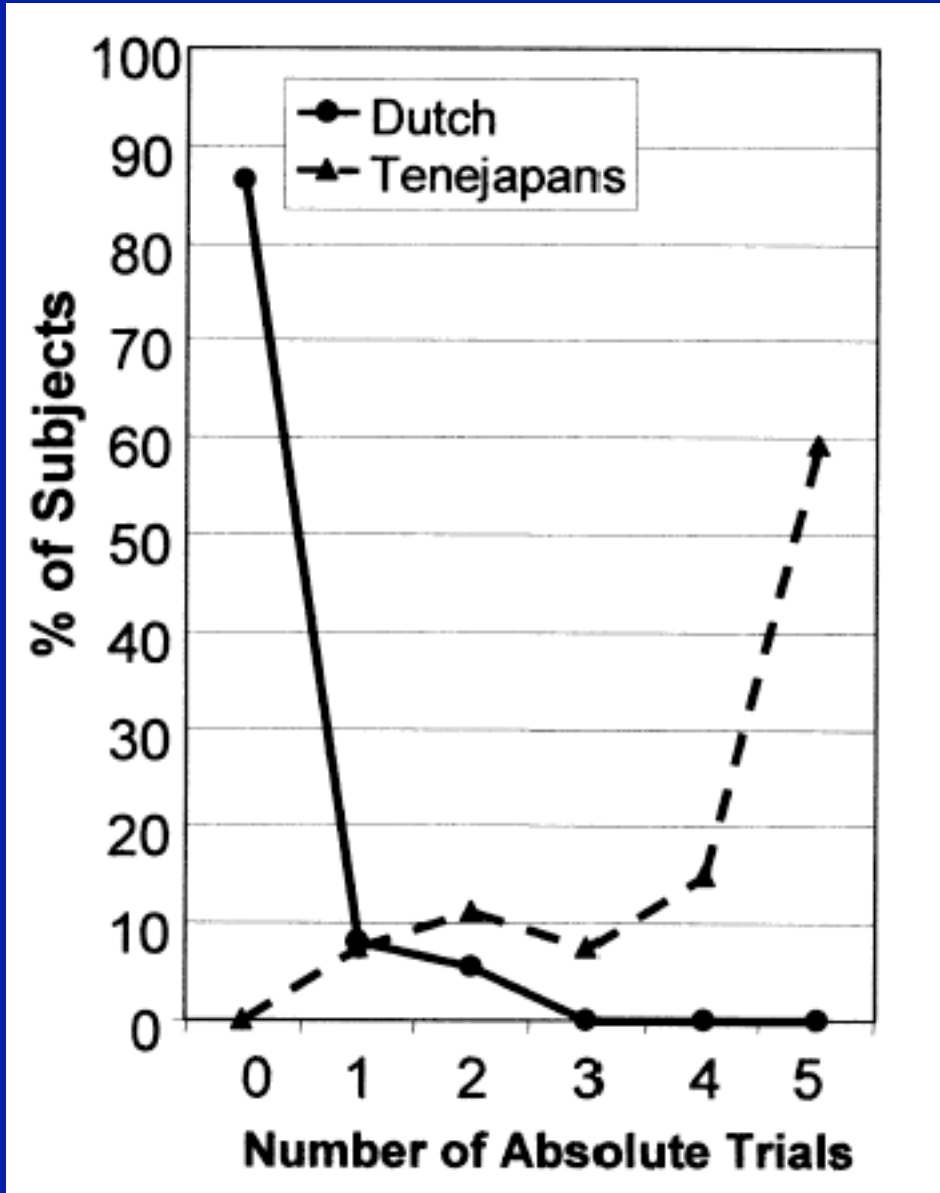
# Cross-linguistic spatial variation



- English: the dinosaur is to the left of the cat
- Tzetzal: the dinosaur is uphill from the cat

# Animals in a row test

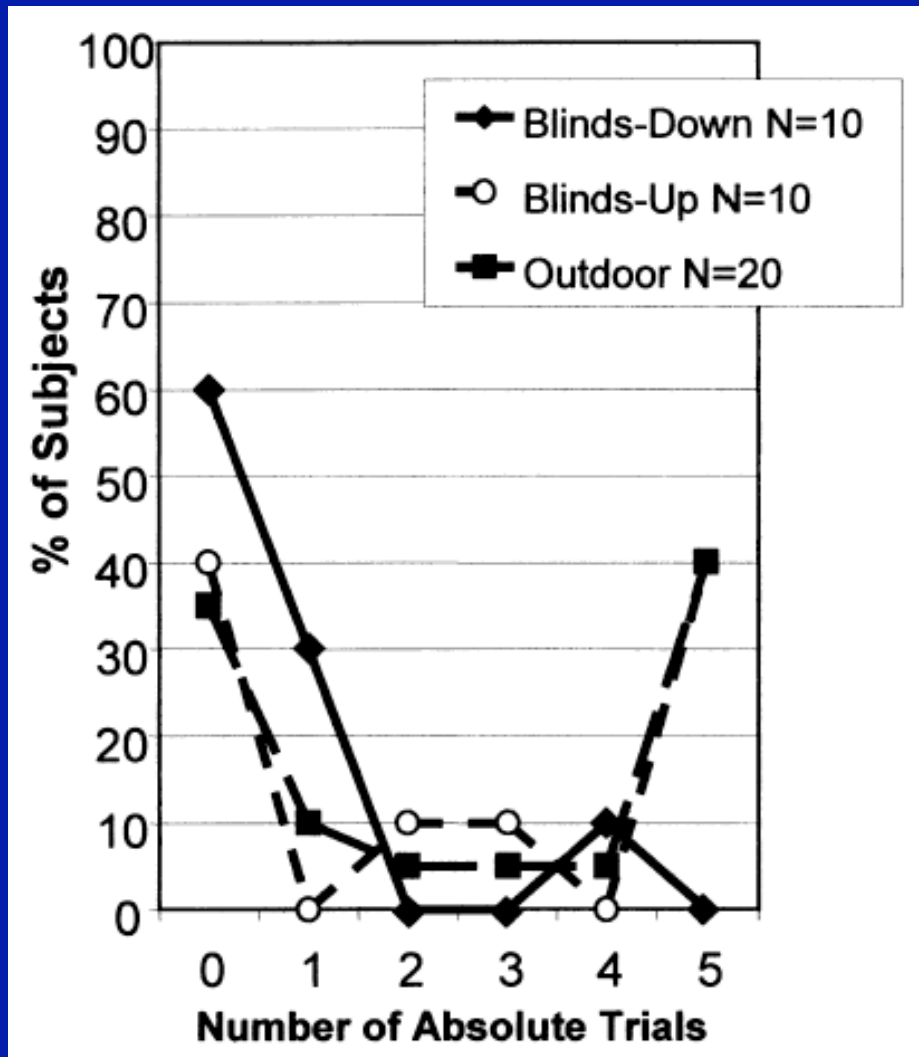




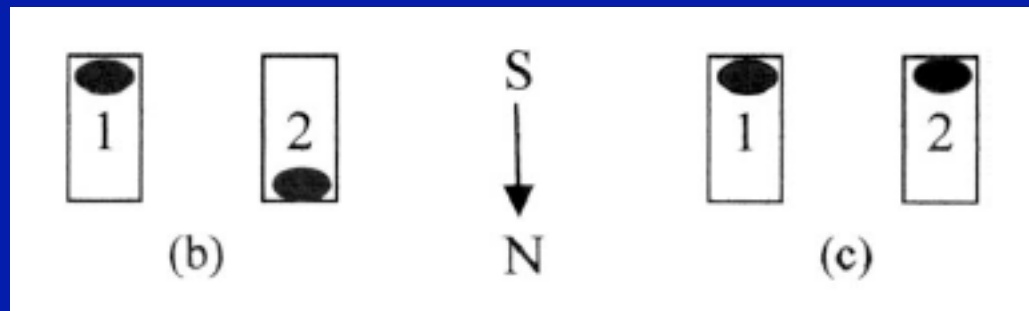
# Influence of language on spatial representation

- So, should we conclude that Whorf and Sapir are right?
- Li and Gleitman: context of experiment was different for two groups. Such context could trigger the salience of different spatial relations.

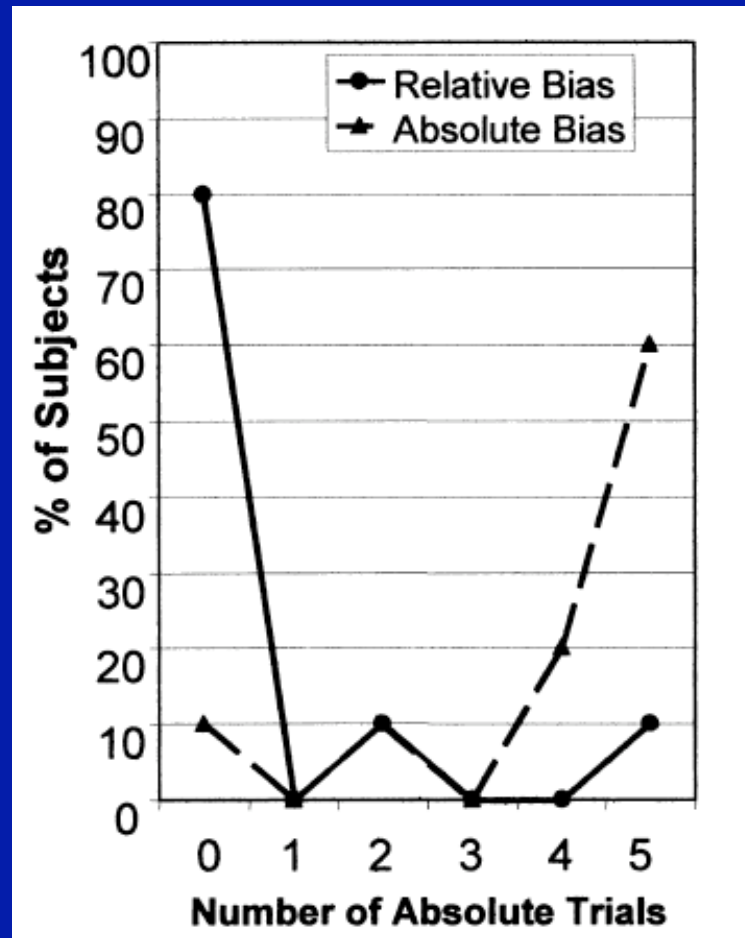
# English speakers as Mayans



# Landmarks and Mayans



# Landmarks and Mayans



# Conclusion

- English speakers can be made to perceive the world as they were speakers of a language imposing allocentric spatial classification.
- Suggests that language is not determining perception.
- But language may make certain kinds of relations more salient.