

Is Arbitrariness a Design-Feature of the Sign?

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Foreword

- Project still ongoing – questions and input desired! 😊
- Key concepts:
 1. *THE LINGUISTIC SIGN*
 - *i.e. THE WORD (written or spoken)*
 - It can be studied in terms of:
 - *Form*
 - *Meaning*
 - *Relationship between the two*
 2. *ARBITRARINESS*
 - *where there is no link between form and meaning*
 - *thus, **nonarbitrariness** is where there **is** a link between form and meaning*
- Contemporary fields of study into nonarbitrariness:
 - *Iconicity* (written language; morpheme clusters)
 - *Sound Symbolism* (spoken language; phoneme clusters)

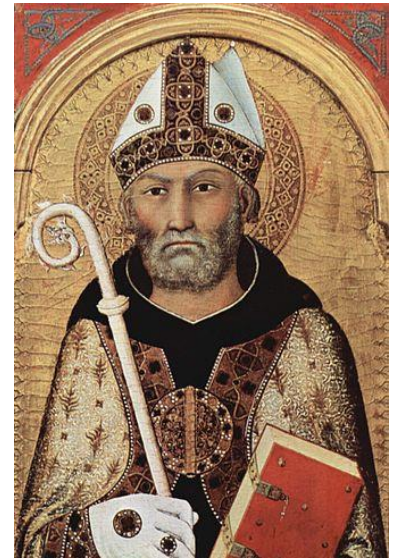
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1. History of the Philosophy of Semiotics in Linguistics

There seems to be a widely-held view that semiotics started with Ferdinand de Saussure...

- Plato (428 - 347 BCEish) – *Cratylus*: on a naturalness of names
- Aristotle (384 - 322 BCE) – *De Interpretatione*: on the arbitrariness of sound and signified
- St Augustine (354 - 430 CE) – *De Dialectica*: four conceptual distinctions: *res* (reality/objects of reference), *verbum* (signifier), *dicibile* (signified), *dictio* (form)
- Roger Bacon – *De signis* (1267): seven ‘typologies’ of sign; 6th: *given and directed by a soul, deliberated = words* (4 clarifications – ‘connoting’, ‘arbitrary’, ‘literal and metaphorical’ and ‘unrestricted’)
- John Locke – *Essay concerning Human Understanding* (1690): in relation to innateness, a linguistic arbitrariness, only the mental can be signified
- Thomas Reid – *An Inquiry into the Human Mind on the Principles of Common Sense* (1764): distinctions of natural (from nature) and artificial (from humans) language; artificial sounds being arbitrary (manmade)
- *de Saussure* – *Course in General Linguistics* (1916): signifié (signified, concept) and signifiant (signifier, word/sound pattern) forming **the sign**



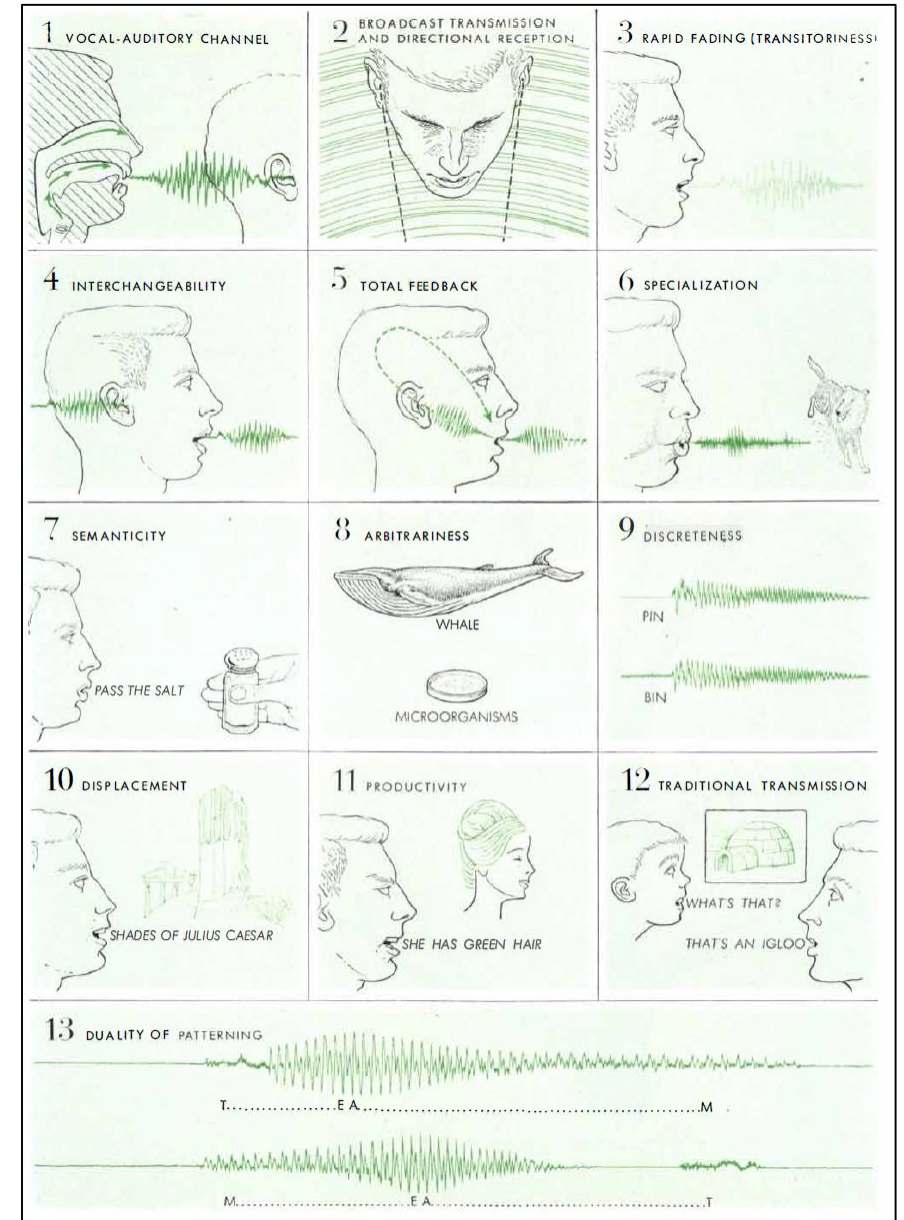
2. History of Philosophical Languages

- John Wilkins – *An Essay towards a Real Character, and a Philosophical Language* (1668) (aiming to formulate a language to represent “all things and notions”)
- Gottfried Leibniz – *lingua generalis* (1678) (aiming to codify language such that it could be represented by numbers)
- John Quijada – *Ithkuil* (2004, 2009, 2011) (aiming to minimise on the ambiguities found in natural languages)
- Sonja Lang – *Toki Pona: The Language of Good* (2014) (aiming to promote minimal complexity and more positive thinking)



3. Background to The Thought Experiment

- Starting from Aristotle, arbitrariness assumed as ‘natural’
- But why?
 - Languages available for observation?
 - Presupposition that nonarbitrariness would be impossible? cf. pictographic scripts
- Hockett (1960): *The Origin of Speech*
 - 13 “Design-Features” of language
 - Aiming for a set of shared characteristics of *all* forms of language
 - To allow for a comparative method to get at ‘the origin’ of language



3. The Thought Experiment

- **But, what if Plato had been right?**
 - What if the parts of words expressed some characteristic of what they meant?
 - Cf. contemporary iconicity: *phonesthemes*
 - “Phonemes of phoneme clusters that frequently correspond to particular meanings” (Winter et al., 2017)
 - e.g. ‘-irl/url’ for the concept of ‘circular’: *twirl, hurl, curl, furl, whirl, swirl, purl* (Kwon & Round, 2015)
- This would be a kind of ‘perfect nonarbitrariness’.
- What does that even mean?

Socrates: ...if the name is to be like the thing, the letters out of which the first names are composed must also be like things. Returning to the image of the picture, I would ask: How could anyone ever compose a picture which would be like anything at all, if there were not pigments in nature which resembled the things imitated, and out of which the picture is composed?

Cratylus: Impossible.

Socrates: No more could names ever resemble any actually existing thing, unless the original elements of which they are compounded bore some degree of resemblance to the objects of which the names are imitation: And the original elements are letters?

Cratylus: Yes.

- Cratylus (Plato)

Socrates: ... Do you agree with me that the letter rho is expressive of rapidity, motion and hardness?

Cratylus: I should say that you were right.

Socrates: And that lamda was expressive of smoothness, and softness, and the like?

Cratylus: There again you were right.

- Cratylus (Plato)

3. The Thought Experiment: The Perfectly Nonarbitrary Language

- The question: *could there be a perfectly nonarbitrary language?*
 - Perfectly? – **totality, as much as possible**
 - Nonarbitrary? – **concerning the signifier-signified relationship**
 - Language? – *functionality*
- **Functionality: that the language could still *function* as a language as much as any other natural language does**

Or:

- *that nonarbitrariness could be a feature of language;*
- *that arbitrariness is not a design-feature of the sign.*

3. The Thought Experiment: The Perfectly Nonarbitrary Language

- If ‘nonarbitrary’ refers to there being a meaningful link between the sign and what it means (however such a link is realised)...
- ***The perfectly nonarbitrary sign would consist of all that which it means.***
 - In other words, the signifier would have to *be* the signified
- Of course, this is impossible...
- BUT – if we accept that all that we¹ can know² is what we perceive:
- ***The perfectly nonarbitrary sign would consist of all that which is perceived³ of what it means.***

Footnotes:

1. Under the view that language is a very *human* communicative medium, we must take a human view to its nature
2. This therefore excludes the possibility of *a priori* knowledge (what can/could be known without experience, e.g. arithmetic)
3. What, then, is ‘perception’...?

3. The Thought Experiment: The Perfectly Nonarbitrary Language

- *What is perception?*
 - Surprisingly, a definition is irrelevant, and probably impossible.
 - What's relevant is whatever constitutes perception. **Our perceptual faculties.**
- *What do we perceive with?*
 - Much easier! ... or, at least, less debatable?
 1. Our senses – however many there are
 2. Our emotions – however many there are
 3. Our minds – propositional attitudes; e.g. *beliefs, desires, value judgements*

Wait... why is this relevant?

The signs of the Perfectly Nonarbitrary Language would have to convey all of that which objects are perceived to be.

The signs themselves would contain perceptual, emotional and mental information, along with anything else perceived.

3. The Thought Experiment: The Perfectly Nonarbitrary Language

- An example of how this might work, just using an English gloss:
 - Concept: ‘my childhood bedroom’
 - Signs: XY ZABC DEF
 - Gloss:
 - VIS-bed-room-colour-lighting-window-curtain...
 - OLF-deodorant
 - AUD-whir_of_lamp
 - EMO-nostalgia-peacefulness...
 - MEN-desire_sleep-desire_youth-dislike_adulthood...

But, furthermore...

Not only would the signs have to represent this information, in whatever form or quantity, they would also have to do this in a way **that made the signifier, in its form, nonarbitrary.**

It would have to sound (when spoken) and look (when written), as far as it could¹, like the information displayed.

Footnote:

1. That is, that arbitrariness **seems not to be a binary concept** (arbitrary/nonarbitrary). It appears as if there are **further distinctions** of nonarbitrariness to be made...

A New Conception of Nonarbitrariness: **Degrees**

- In this thought experiment, a new conception of arbitrariness has been uncovered – *a nonbinary, realisation-centric view*.
- I propose: we need to carefully consider nonarbitrariness in three degrees:
 1. **Projected/anthropocentric nonarbitrariness** – where the nonarbitrariness, which is indeed discoverable, is not discoverable by virtue of the sign in and of itself. The nonarbitrary quality of the sign in question is dependent upon the extent to which it is considered by speakers to represent somehow what it means in its form (e.g. phonesthemes)
 2. **Motivational/imperfect nonarbitrariness** – where the form of the sign is constructed such that it attempts to convey any amount of information about the signified (e.g. a pictogram)
 3. **Structural/perfect nonarbitrariness** – where the form of the sign, in as far as it can, attempts to convey all information it can encode within the sign about the signified (e.g. the perfectly nonarbitrary language)

An Experimental Approach

- In theory, I've been able to show the conceivability (at least) of a perfectly nonarbitrary language
- But linguistics is a *science*: so, could I do it in practice?
- Experimental prerequisites:
 1. An **artificial nonarbitrary**¹ language
 2. A method for a **comparison**² with natural languages

Footnotes:

1. Ideally, this would be **structurally nonarbitrary** and **natural**. Given my own limitations, however, it could only ever be **motivationally nonarbitrary**. Further, only a *small section* of a language could be created, not the entire lexicon or grammar.
2. Such that data from tests involving natural languages **might parallel** data acquired from tests involving this artificial one – ***THAT THE ARTIFICIAL LANGUAGE MIGHT STILL BE FUNCTIONAL***.

4. The Outcome: Nonarbitrer

- So, here's what I did:

- Points of note:

1. Only orthography, no phonology
2. Predominantly sensory/visual
3. Key component: **order of perception**
4. Images prototypically realised (Rosch, 1975)
5. Three-tiered morphology
6. BWO: OVS
7. Thirteen classifiers

1. The dog likes the food.



2. I drive the car.



3. She writes.



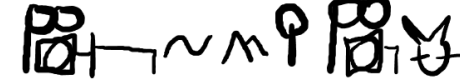
4. The old man sleeps.



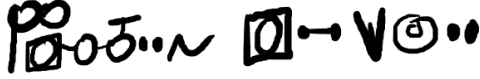
5. The cat doesn't like the dog.



19. The cat sleeps on the grass under the tree.



20. The two young girls ride their bikes.



21. Do they think I don't like them?



22. I can't see her reading chair.



23. The children want to be in their treehouse.



But, there's still something missing...

How could I show that any data I get from testing with this language is *not just a result of the structure* of this language, rather than a result of its nonarbitrariness?

or, *how could I experimentally isolate nonarbitrariness?*

It should be noted, though, that the grammar here is only anecdotally interesting. *As long as it obeys the theory* as just set out, its realisation is irrelevant.

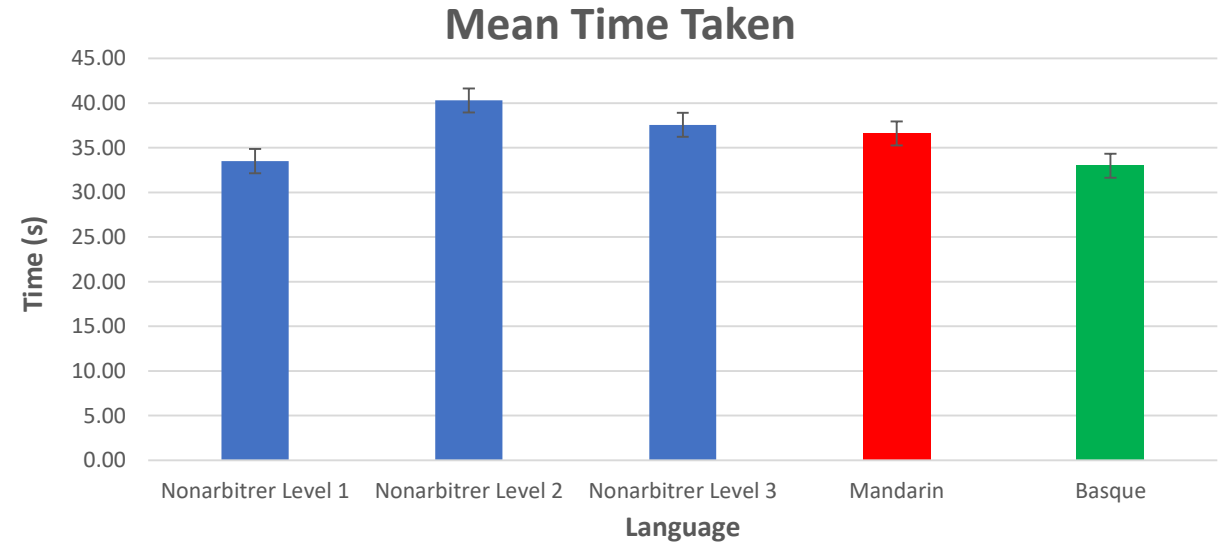
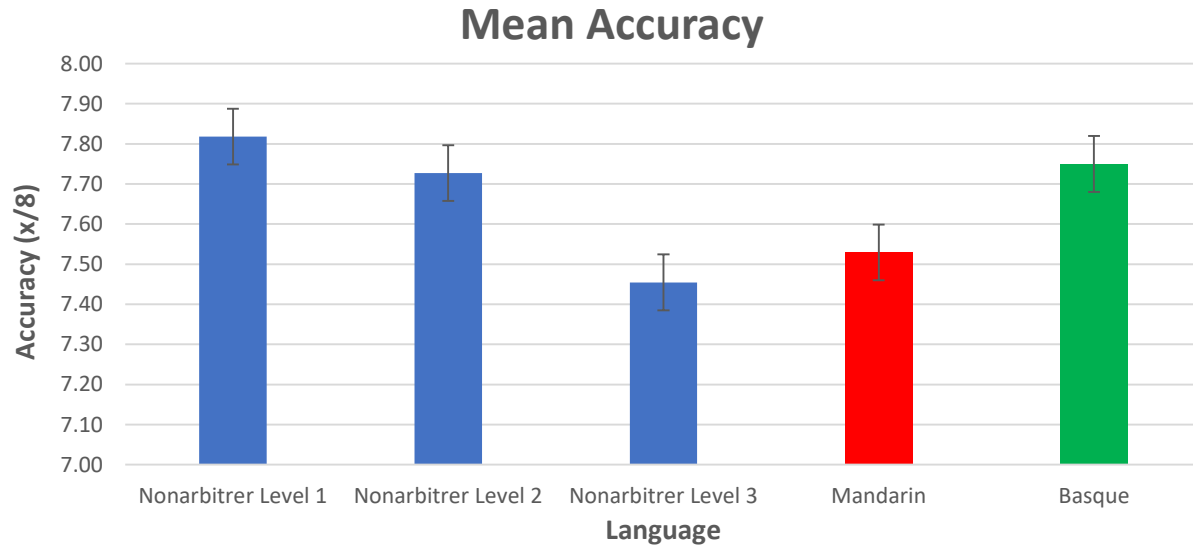
4. The Outcome: Nonarbitrer Levels

- So, here's what I did:
- To isolate the nonarbitrariness of the language, I created two stylised versions that represented increasing **levels** of arbitrariness
- I gave 33 people a short multiple choice verbal declarative recall task with the one of the three Levels
- I then asked participants to repeat the task for either Mandarin or Basque
 - Dissimilarity to English
 - Similar/Dissimilar script
- **Functionality** was measured as **accuracy** and **time taken**.

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Mandarin</u>	<u>Basque</u>
1. She				1. He 他	1. Blue <i>Urdinak</i>
2. Bicycle				2. I see <i>我看見</i>	2. Bad <i>Txarra</i>
3. Blue				3. Feel happy <i>感到開心</i>	3. Mouse <i>Saguaren</i>
4. Their				4. Old 老	4. To be in <i>Egon</i>
5. Writes				5. Sleeps <i>睡覺</i>	5. Grass <i>Belarra</i>
6. Dislikes				6. My <i>我的</i>	6. Tree <i>Zuhaitz</i>
7. Dog				7. Table <i>桌子</i>	7. To want <i>Nahi</i>
8. Treehouse				8. House <i>屋子</i>	8. Children <i>Haurrak</i>

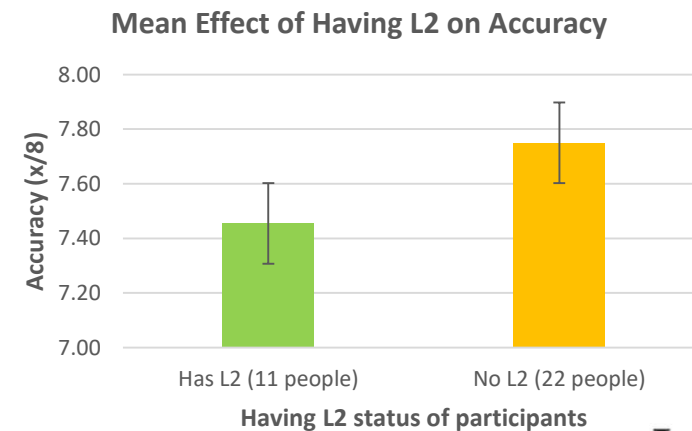
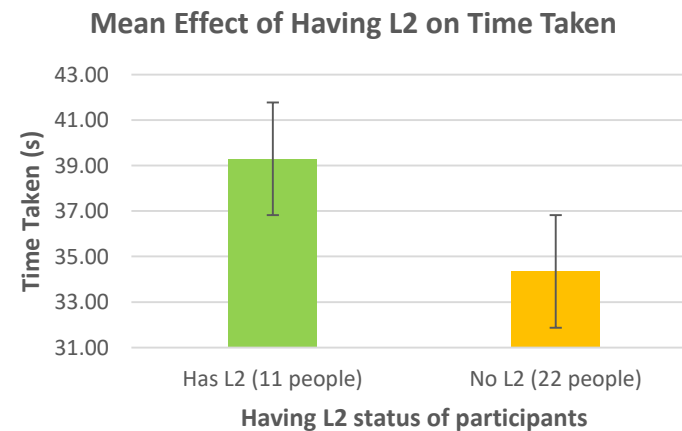
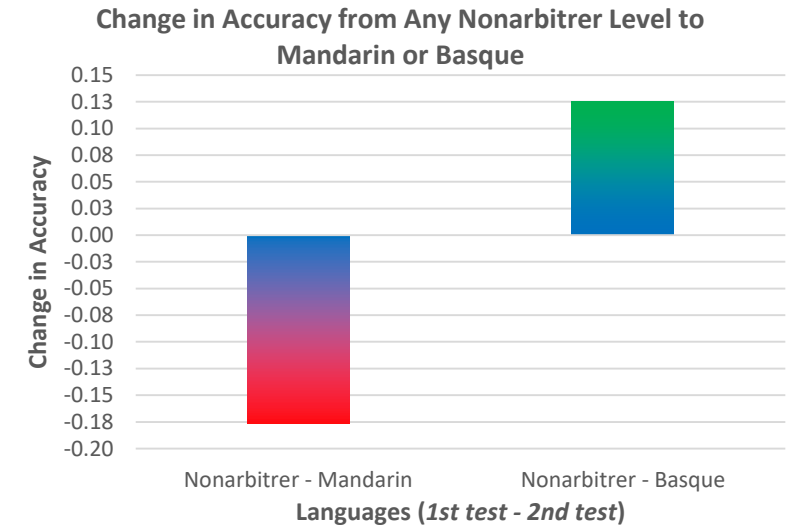
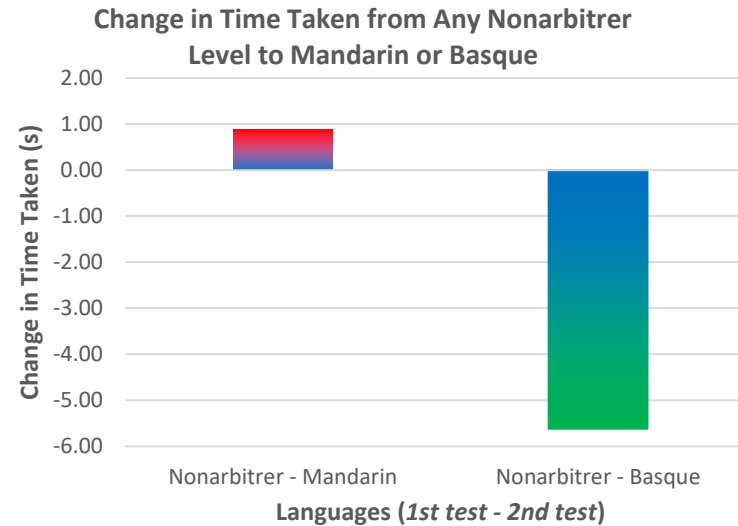
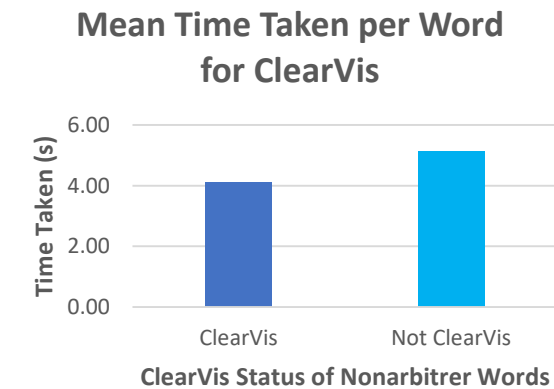
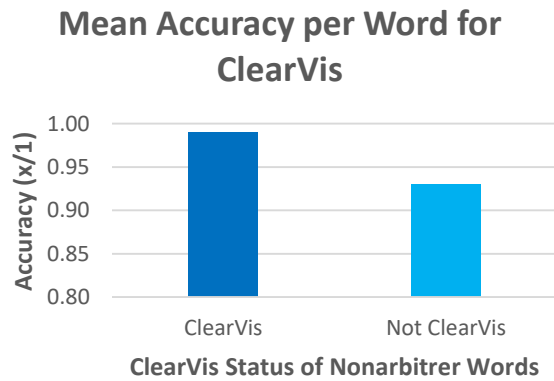
5. Testing & Results: Nonarbitrer **Levels**, Mandarin & Basque

- So, here's what I got:



5. Testing & Results: Nonarbitrer Levels, Mandarin & Basque

- So, here's what I got (pt. 2):



6. Implications & Conclusions

1. It is not within the nature of the linguistic signifier that it must have an arbitrary relationship with the signified; that arbitrariness is *not* a design-feature of the sign.
2. As far as I can see, nonarbitrariness comes in the form of three degrees: projected, motivational and structural.
3. A nonarbitrary language could function just as well as a natural arbitrary one, and might even have some immediate cognitive benefits.
4. Technically speaking, Plato could have been right.

Thanks very much for listening!
Any questions?