



# DIVERSITY OF SCHEMAS IN ENGLISH BAHUVRIHI COMPOUNDS

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# INTRODUCTION

Within the framework of Relational Morphology (Jackendoff & Audring 2020), the lexicon consists of both lexemes and schemas abstracted from them.

This presentation provides a case study aimed at illustrating the diversity of schemas abstracted from series of lexemes that share a common form, specifically, bahuvrihi compounds with the right-hand constituent *head*, and at exploring how these schemas are interrelated and structured.

*X-head*

*acidhead, addlehead, anglehead, applehead, asshead, baldhead, ....*

# BAHUVRIHI COMPOUNDS



redhead

denote a referent by specifying a certain characteristic or quality the referent possesses

Bauer, L. (CGEL, 2002, pp. 1651-1652):

English has only a relatively small number of compounds of this kind but [...] this type of formation is still productive. Bahuvrihi compounds in English mostly denote kinds of people and are generally derogatory. Some are readily used as vocatives: *Hey, birdbrain!* There are also compounds of this type that denote animals (*redbreast*), plants (*longleaf, whitethorn*), and inanimates (*greenback*, a type of banknote; *blackhead*, a kind of pimple; *hatchback*, a type of car).

# SCHEMA

## WITHIN RELATIONAL MORPHOLOGY

### Schemas

- are abstractions from series of existing lexemes on the same-except principle; they “express the commonalities among items listed in the lexicon” (Jackendoff & Audring, 2020a: 37).
- have three levels - semantic, morphosyntactic, phonological (Parallel Architecture, Jackendoff 2002).
- “are in essentially the same format as words, except that some of their structure is made up of variables” (Jackendoff & Audring 2010b: 3).
- contain variables and optionally fixed parts.
- have a relational role (provide structure to the lexicon) and a generative role (provide patterns for the formation of new words).
- have declarative character: „*This* is a possible structure” (Jackendoff & Audring 2010a: 28)
- they are categories comprising central and peripheral members.
- are hierarchically structured - higher-level and lower-level schemas.

# DATA COLLECTION & METHODOLOGY

Forms: Araneum Anglicum Maius corpus (1,2 G tokens) (80%), additional manual search OED, Google (20%)

Total type frequency of forms: 328

Meanings: OED: 223, Urban Dictionary: 138, Google: 91, Wiktionary: 33, Wikipedia: 34, Merriam-Webster: 10, Other: 7

Total type frequency of pairs of form and meaning: 536

One form may have up to 10 meanings:

*whitehead* - old person, blond woman, cocaine addict, passerine bird, goose, duck, pigeon, pimple

Manual elimination of lemmas

- endocentric compounds, such as *arrowhead*, *warhead*
- overall metaphors, such as *doghead* (the hammer of a gunlock having a shape that resembles a dog's head)
- toponyms, such as *Sandhead*, *Spithead*
- eponyms, *whitehead* (a torpedo invented by Robert Whitehead)

Method of analysis:

- lexicon is that of an idealized "superhero speaker", containing all existing English words from all varieties. Real-life speakers' lexicons are, of course, much more fragmented.
- compilation of series sharing semantic characteristics (formally, they are all Adj/N + *head*)
- within the series, search for members with other body parts but *head* in the corpus in order to determine whether the right-hand constituent is a variable or a fixed part. Series containing variables are thus not complete.

# INDIVIDUAL „BAHUVRIHI“ SCHEMAS IN -HEAD

Criteria for distinguishing individual schemas:

Semantics: [NATURAL ORGANISM WHOSE (BODY PART)<sub>X</sub> HAS (FEATURE)<sub>Y</sub>]<sub>Z</sub>  
Morphosyntax: [N<sub>N</sub>/Adj<sub>Y</sub> N<sub>X</sub>]<sub>Z</sub>  
Phonology: /...y...x/z

**Category:** although unexpressed, present on the semantic level, cf. the plural for fishes (*bighead*)

**Left-hand variable:** semantic specification, also whether it is central or peripheral

**Right-hand constituent:** whether it is a variable (body part) or fixed (*head*)

# NATURAL ORGANISMS

Total type frequency: 98 (fish: 36, bird: 25, mammal: 7, snake: 5, plant: 18, other: 7)

Semantics: [NATURAL ORGANISM WHOSE (BODY PART)<sub>X</sub> HAS (FEATURE)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj</sub>Y <sub>N</sub>X]<sub>Z</sub>

Phonology: /...<sub>Y</sub> ...<sub>X</sub>/<sub>Z</sub>

- RHC: a variable (cf. *longtail*, *sharpclaw*, *silverback*, ...). No predominant body part.
- LHC: typical features: colour, shape, size
- Mostly refer to biological classification, stylistically neutral
- Peripheral members:
  - *shorthead* (sailors' jargon for young whales), *mophead* (tree, which is relatively small in comparison with the trunk)
  - *jarhead*, *jughead* (derogatory names for a mule) – possibly personification, thus a schema for humans (subschemata: stupid), see below

*anglehead*  
*applehead*  
*baldhead*  
*bighead*  
*blackhead*  
*blossomhead*  
*bluehead*  
*blunthead*  
*bowhead*  
*bristlehead*  
*bufflehead*  
*bullhead*  
*bumphead*  
*butterhead*  
*cathead*  
*copperhead*  
*curlyhead*  
*doghead*  
*doublehead*  
*dragonhead*  
*elephanthead*  
*fathead*  
*flathead*  
*gilthead*  
*goathead*  
*goldhead*  
*hammerhead*  
*hardhead*  
*hornyhead*  
*horsehead*  
*humphead*  
...

# INANIMATES

Total type frequency: 63

Type frequency of the general schema only: 11

*anglehead* (torch), *powerhead* (underwater firearm), *twinhead* (pump)

4 subschemas

Semantics: [THING WHOSE (PART)<sub>X</sub> HAS (FEATURE)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj</sub>Y N<sub>X</sub>]<sub>Z</sub>

Phonology: /...<sub>Y</sub> ...<sub>X</sub>/<sub>Z</sub>

- RHC is a variable, so the size of the series does not suggest the schemas' resting activation, as in natural organisms
- LHC is variable, cf. *hardtop* (car), *greenback* (note). *Head* refers to an upper part.
- most members (52) comprise four specific sub-schemas with right-hand constituents fixed



# INANIMATES - SUBSCHEMAS

Semantics: [SCREW WHOSE HEAD<sub>X</sub> HAS (FEATURE)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj</sub>Y N<sub>X</sub>]<sub>Z</sub>

Phonology: /...<sub>Y</sub> hed<sub>X</sub>/<sub>Z</sub>

## Screws/bolts/nails

Type frequency: 30

*domehead, starhead, roundhead, ...*

## Fish hooks/baits

Type frequency: 13

*beadhead, goldhead, hardhead, ...*

- some overlap with natural organisms (fish, insect - *head* literal)
- the right-hand constituent fixed
  - *woolhead* where the whole bait is made of wool
  - *wobblehead, jighead* refer to hooks with no "head as upper part"

## Harley-Davidson motors

Type frequency: 6

*F-head, flathead, ironhead, knucklehead, panhead, shovelhead*

## Pimples

Type frequency: 3

*blackhead, whitehead, yellowhead*

# PEOPLE

Total type frequency: 375

General schema type frequency: 118

Semantics: [PERSON WHOSE (BODY PART)<sub>X</sub> IS ASSOCIATED WITH (Y)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj<sub>Y</sub></sub> N<sub>X</sub>]<sub>Z</sub>

Phonology: /...<sub>Y</sub> ...<sub>X</sub>/<sub>Z</sub>

Physical feature: *slaphead* (bald), *whitehead* (old, blond)

Character: *bighead* (conceited), *pighead* (stubborn)

Behavioural traits: *googlehead* (an "expert" getting knowledge only from the internet)  
*zebrahead* (a white man dating dark-skin women)

Includes anthropomorphic reference (toys, characters in games): *gogglehead* (manga), *splithead* (doll)

A specific microseries (subschemas?):

- *windhead, galehead, breezehead*  
*windhead* - a person who does not think as fast as a galehead but does think faster than a breezehead, UD
- *loosehead, tighthead* - rugby players

General schema derogatory with some exceptions: - *chillhead* (a generally worthwhile human being, UD)  
- characters/toys (above)  
- the microseries (above)

A specific sub-series - Canadian military slang (7): *cementhead* (infanteer), *whistlehead* (officer)

# PEOPLE - SUBSCHEMAS

## STUPID PERSON

Type frequency: 99

Semantics: [STUPID PERSON WHO IS ASSOCIATED WITH (Y)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj<sub>Y</sub></sub> N<sub>X</sub>]<sub>Z</sub>

Phonology: /...<sub>Y</sub> hed<sub>X</sub>/<sub>Z</sub>

Terms of abuse, deliberately (purely) derogatory

RHC fixed as *head* - but also a subschema of a more general schema for stupid people (cf. *birdbrain*)

LHC:

- direct reference to stupidity (*dumbhead, stupidhead, sillyhead*) or confusion (*addlehead*)
- vulgarisms (*fuckhead, shithead, dickhead*)
- “stupid” animals (*asshead, muttonhead, oxhead, turkeyhead*) or dull commonplace “stupid” objects (*bananahead, beanhead, shovelhead*)
- conceptual metaphors (cf. Barcelona 2008)
  - emptiness (*airhead, bubblehead, nonhead, jughead, hollowhead*)
  - small brain (*gooberhead, pinhead*)
  - slowness (*saphead, thickhead, fathead*)
  - hardness, i.e. impenetrable (*hardhead, bonehead, brickhead, rockhead*)
  - softness, i.e. lacking quality (*puddinghead, doughhead, cheesehead*)

# PEOPLE - SUBSCHEMAS

## ADDICTED PERSON

Type frequency: 44

Semantics: [ADDICTED PERSON WHO ABUSES (DRUG)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj<sub>Y</sub></sub> N<sub>X</sub>]<sub>Z</sub>

Phonology: /...<sub>Y</sub> hed<sub>X</sub>/<sub>Z</sub>

- the right-hand constituent fixed as *head*
- the left-hand constituent
  - central members (40) – reference to drug – *acidhead* (LSD), *brownhead* (heroin), *poppyhead* (opium), *pillhead* (amphetamines)
  - peripheral members (4)
    - manner of use – *tinhead* (drug wrapped in foil when smoked)
    - effect – *granolahead* (confused mind), *stonehead*, *zipperhead* (“unzipped” mind)

# PEOPLE - SUBSCHEMAS

## ENTHUSIASTS

Type frequency: 92 (75 + 17)

Semantics: [PERSON WHO IS ENTHUSIASTIC ABOUT (Y)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj</sub><sub>Y</sub> N<sub>X</sub>]<sub>Z</sub>

Phonology: /...<sub>Y</sub> hed<sub>X</sub>/<sub>Z</sub>

- Overlap with addicts (possibly evolved from the schema for addicts) - *coffeehead, techhead, tubehead, ...*
  - depends on salience (addiction vs enthusiasm), i.e., evaluation (negative vs positive)
- Neutral/positive (non-derogatory)
- The series also comprises products (*Applehead, Cherryhead*), shops (*Biscuithead, Breadhead*), websites (*Surveyhead, Wowhead* (World of Warcraft))

Subschema: music enthusiasts (17)

central: music style, such as *jazzhead, hip-hophead, metalhead, ...*

peripheral: individual musicians, *machead* (Mac Miller), *parrothead* (Jimmy Buffett)  
other reference to music styles, *rattlehead, rivethead* (heavy metal)

# PEOPLE - SUBSCHEMAS

## ETHNIC GROUPS

Type frequency: 23

Semantics: [ETHNIC GROUP WHOSE MEMBER'S (BODY PART)<sub>X</sub> IS ASSOCIATED WITH (Y)<sub>Y</sub>]<sub>Z</sub>

Morphosyntax: [<sub>N</sub>N/<sub>Adj<sub>Y</sub></sub> N<sub>X</sub>]<sub>Z</sub>

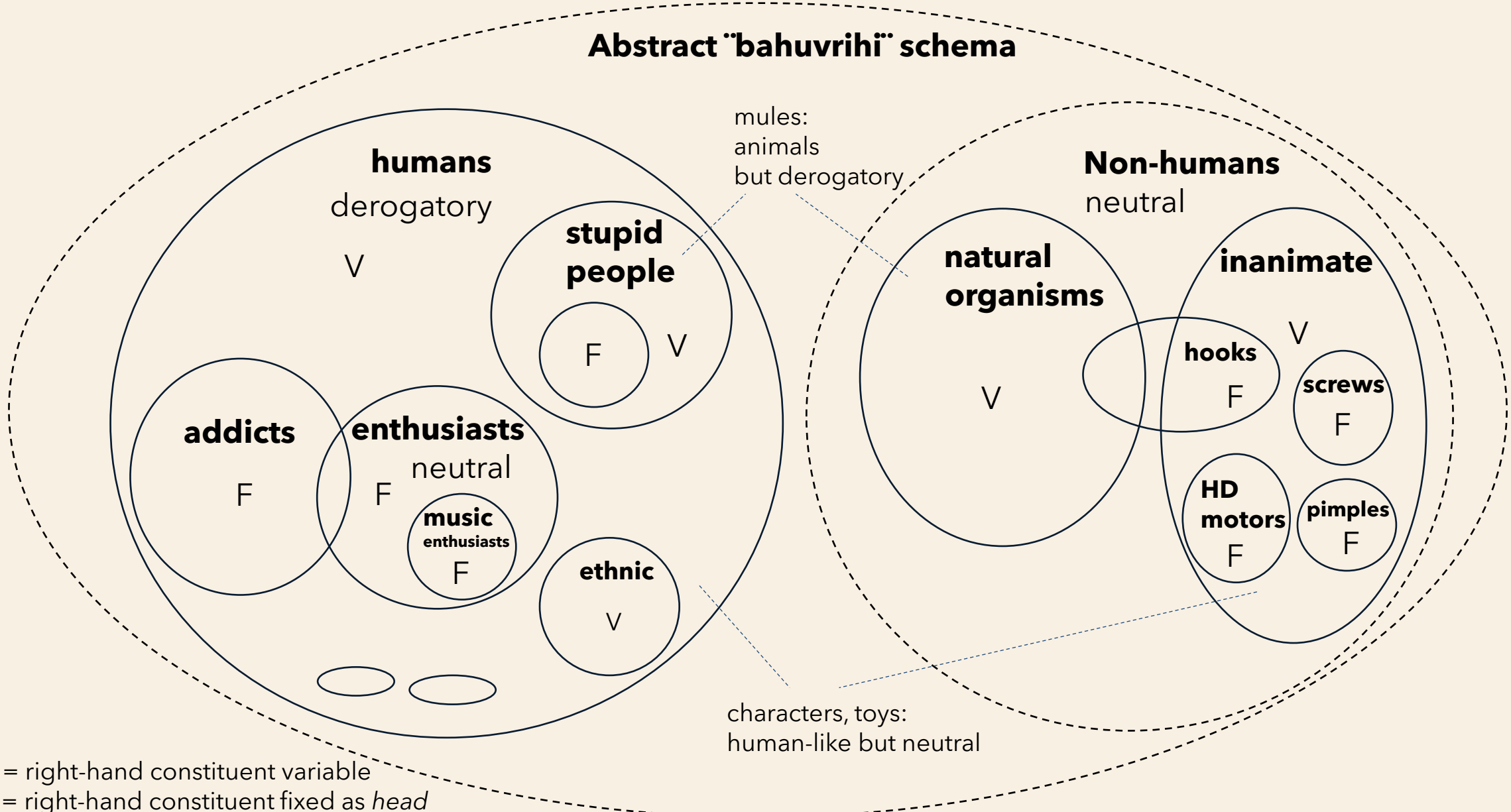
Phonology: /...<sub>Y</sub> ...<sub>X</sub>/<sub>Z</sub>

- Category - ethnic group. Individuals are backgrounded, as they do not necessarily have the denoted characteristics, cf. *towelhead* (Arabic), *buddha head* (Asian).

MEMBER OF A CATEGORY FOR CATEGORY metonymy

- strongly derogatory
- RHC is a variable, cf. *slanteye*, *thicklips*, *yellowbone*, ...

# SUGGESTED SYSTEM OF *-HEAD* SCHEMAS



# SIZE OF SERIES






- orientational, other body parts in the series with variables are not included
- the size of the series does not reflect resting activation as token frequencies are not included

<b>Natural organisms</b>	<b>98+</b>
<b>Inanimates</b>	<b>63+</b>
Screws/bolts	30
Fish hooks/baits	13
HD motors	6
Pimples	3
<b>People</b>	<b>375+</b>
Stupid people	99(+)
Addicts	44
Ethnic groups	23
Enthusiasts	92
Music enthusiasts	17
<b>TOTAL</b>	<b>536+</b>

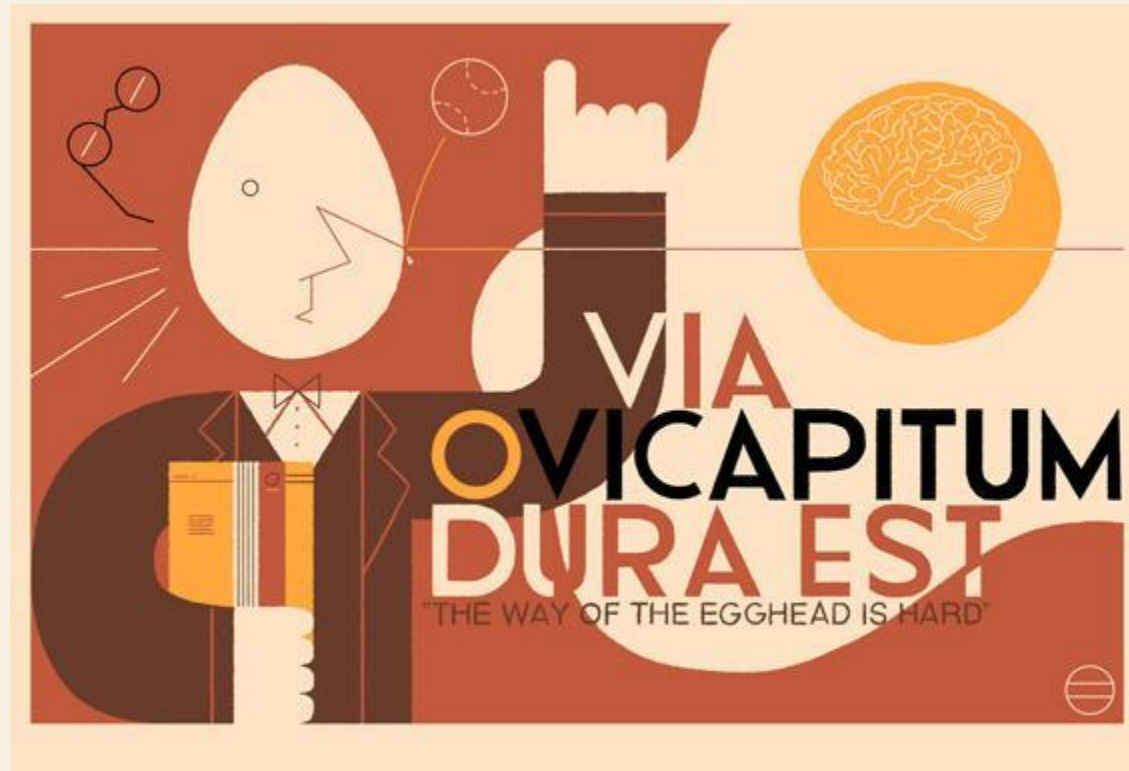


# P. S.

Going back to Bauer's characteristics

Relatively small number		
Still productive		mostly those denoting humans (UD), little need to name, e.g., a new animal species
Mostly denote people		In the sample 376 (humans) x 160 (non-humans)
With people generally derogatory		Some are purely derogatory, the only major exception are enthusiasts (92)
Also animals, plants, inanimates		Plants in the sample are rare, since head is not their prototypical part, unlike leaves, flowers, roots, etc.

# THANK YOU, EGGHEADS 😊



## References

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