Telling stories with narrative taxonomy

August 2014   Austin UXPA

What is narrative taxonomy?

- Who this is for
- When to use it

Narrative and UX

- Narrative elements
- How we do it

Taxonomy and UX

- A brief history of taxonomy

Narrative taxonomy

- It's just an ontology
- ANITA
- Concept sentences
- Card sort, user conflicts
- Card sort, pet store
- What works, what doesn't

Discussion

References

If at first the idea is not absurd, there is no hope for it.

Albert Einstein

Anyone attempting to define a user-centered taxonomy:

- Information architects
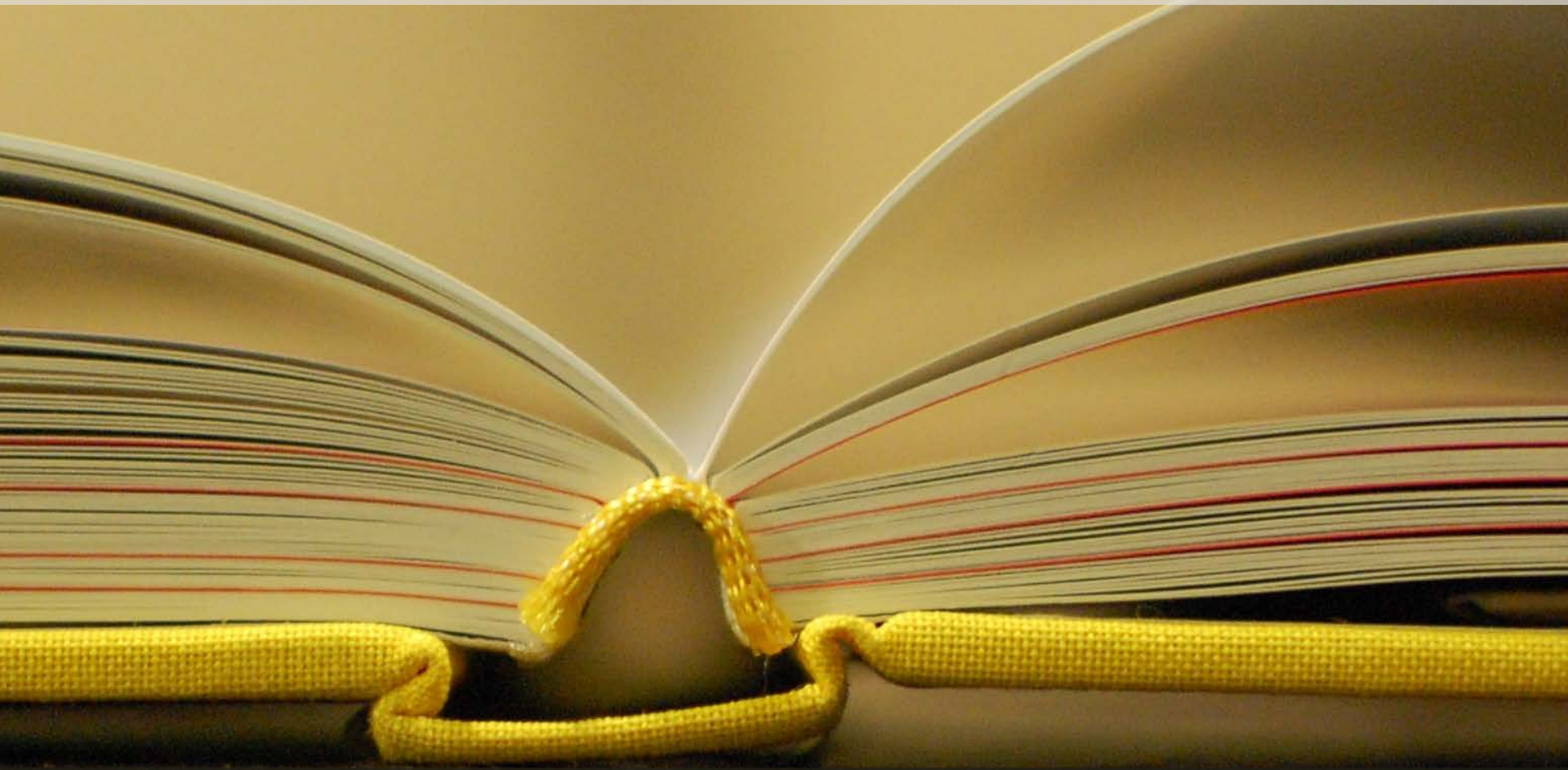- Content strategists
- Taxonomists

- When you've begun to notice your taxonomy is not working as well.

- When you are transforming a site (e.g., the company's core business value has changed, or the site was designed for the wrong audience).

- When you're making a call between different nodes or concepts.

- When you have user groups in conflict.

If a story is not about the hearer, he will not listen.

John Steinbeck

Narrative

User experience and storytelling align easily.

Narrative elements

Characters

Plot

Voice

Conflict

Theme

Setting

UX elements

Personas

User flow, use cases

Content strategy, brand

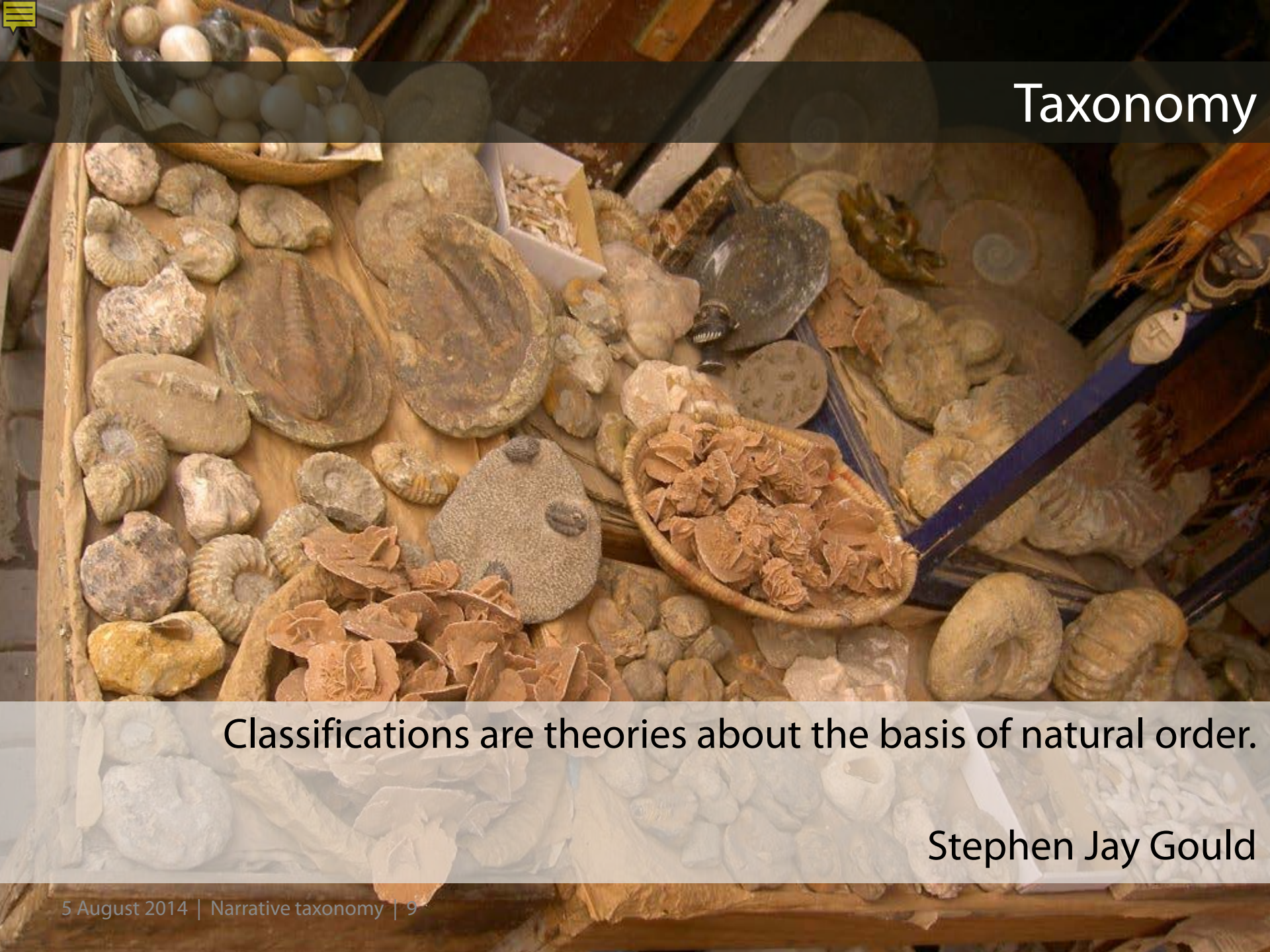Multiple purposes & users

Mental models, brand

Framework, visual design

Most of our understanding of users is imagination, supplemented by data.

- As a user, I want to _____, so that I can _____.
- Profiles and personae
- User language (SEO, internal search, folksonomies, user-generated content, testing)
- User research
- Putting ourselves in our user's shoes.

Classifications are theories about the basis of natural order.

Stephen Jay Gould

The word *yellow* wandered through his mind in search of something to connect with.

Douglas Adams

Things that are yellow

ATTRIBUTE	VALUE
Yellow 1	
	Banana
Yellow 2	

Color families

ATTRIBUTE	VALUE
Color 1	Yellow
Color 2	Blue
Color 3	Green

Canary descriptors

ATTRIBUTE	VALUE
Color	Yellow
Class	Aves
Population status	Stable

Shades of yellow

ATTRIBUTE	
Yellow 1	
	Lemon
Yellow 2	
	Golden
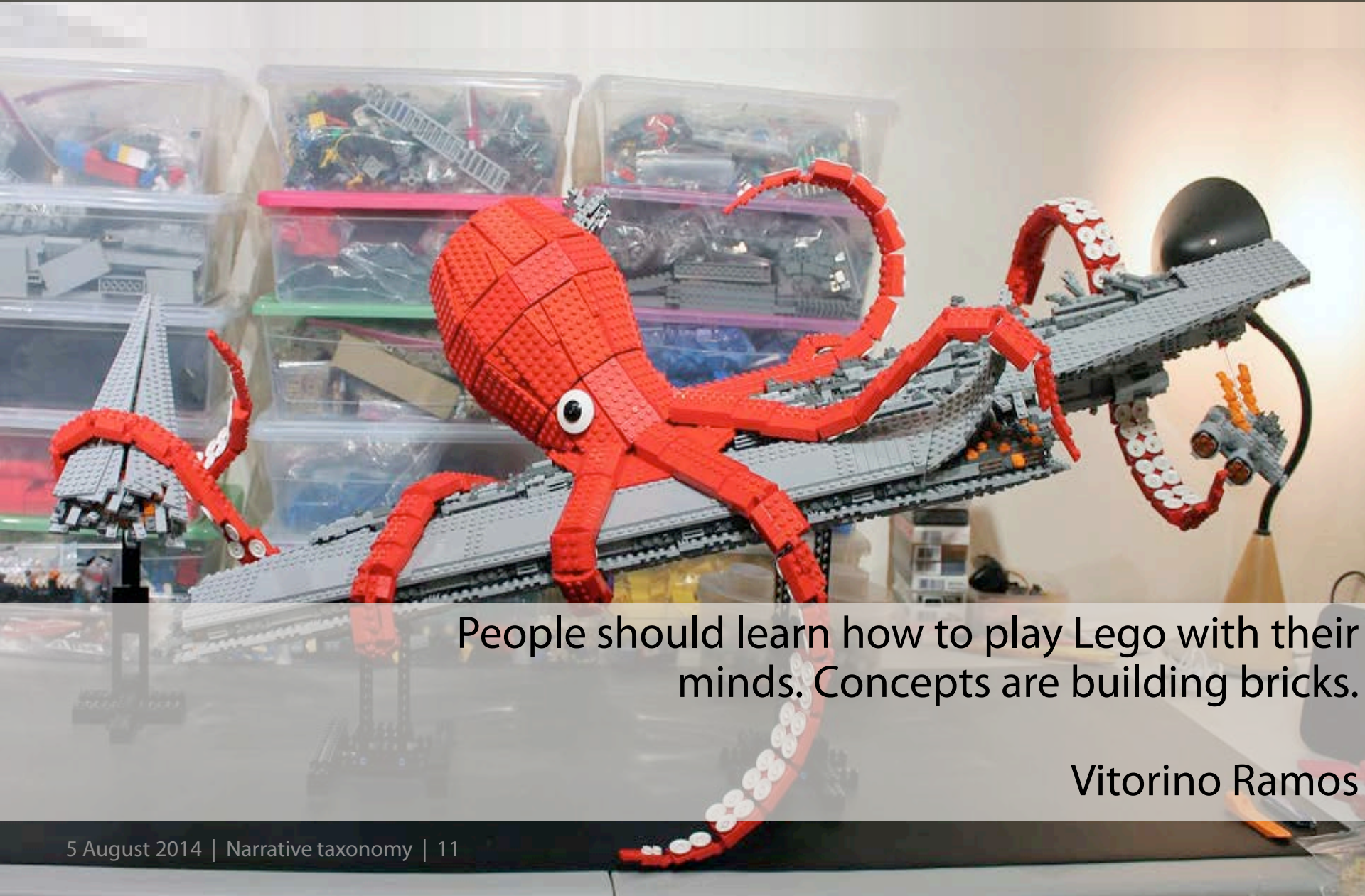
People should learn how to play Lego with their minds. Concepts are building bricks.

Vitorino Ramos

The history of science is the history of taxonomy

Empedocles
- Fire
- Air
- Water
- Earth

Aristotle's foundational categories
- Substance
- Quantity
- Quality
- Relation
- Place
- Time
- Posture/Attitude
- State
- Action (doing to)
- Being affected

Linnaeus
1. Domain
2. Kingdom
3. Phylum
4. Class
5. Order
6. Family
7. Genus
8. Species

Cladistics; same structure, different concepts.

Astrobiology
0. Arborea Terra
1. Dominion Terroa
2. Eukaryotes
3. Animal
4. Vertebrate
5. Mammal
6. Primate
7. Homidae
8. Homo
9. sapiens

0. Terra
1. Ribosa
2. Viruses

Einstein

Ecology
Relationship-driven

Bohr

Biosphere   Ecosystem

Alpha predators
Scavengers
Keystone species

Taxonomy is not identification.

Taxonomy is not navigation.

Taxonomy is not databases.

Taxonomy is not fixed.

Taxonomy is metadata.

Taxonomy is a springboard.

But ultimately…

Taxonomy is structured context

Storytelling and taxonomy

The primary role of a taxonomy is to describe or **narrate** the natural relationships between concepts.

Cataldi, Candan, and Sapino

Taxonomy and story telling are not obviously close.

Narrative elements	**Taxonomic (ontological) elements**
Characters	Intended audience
Plot	Relations, functions
Voice	Attributes
Conflict	Rules and restrictions
Theme	Axioms
Setting	Objects, Attributes

Foundational (top)   vs.   Domain-specific

Hierarchical   Faceted

Exclusive   Inclusive

Formal/imposed   Folksonomy

Ontologies are essentially the framework of a given taxonomy, or the underlying taxonomy behind the actual set of taxonomic objects. In a sense, narrative taxonomy is just another ontology.

Mario Cataldi

K. Selcuk Candan

Maria Luisa Sapino

ANITA and *Narrative-based taxonomy distillation for effective indexing of text collections*.*

ANITA =

A

Narrative-based Interpretation of Taxonomies for their Adaptation.

*For slides 19-24, 31-32 all narrative taxonomy content comes from the ANITA work and these scientists! Others are UX-driven applications of their ideas.

"The primary role of a taxonomy is to describe or **narrate** the natural relationships between concepts."

Cataldi and company proposed "a novel distillation approach for adapting existing taxonomies to varying application contexts… Unlike the original taxonomy, which is hierarchical, the narrative is linear, but created in a way which reflects the structure of the hierarchy."
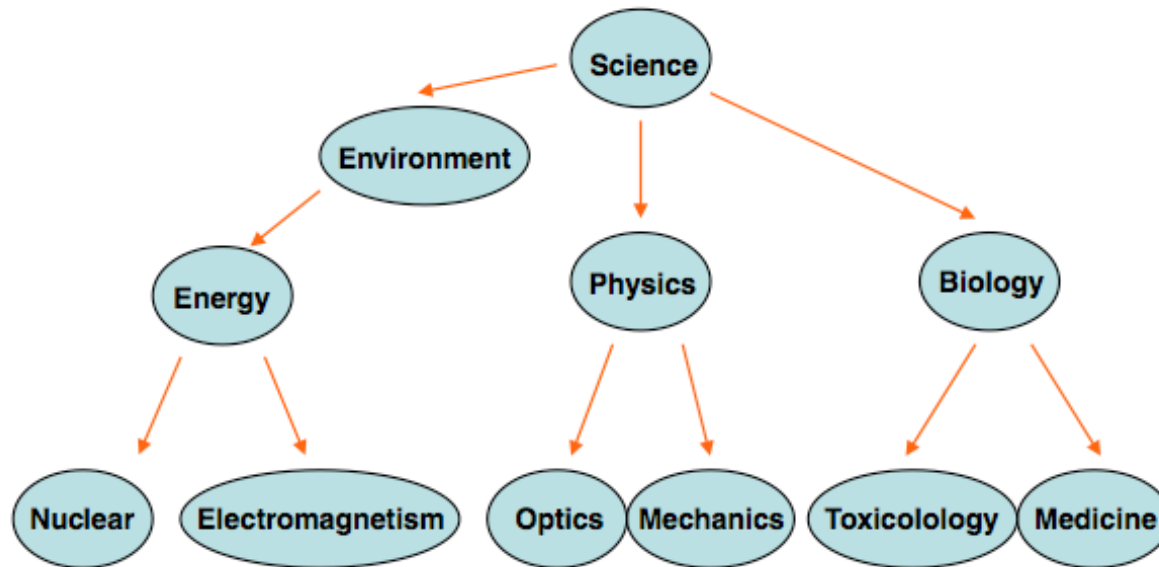
A narrative is a sequence of sentences. A narrative taxonomy is a sequence of concept-sentences.

Keywords → Keyword vectors

Hierarchical paths → Narratives

Suggested sentence vectors. Keywords not in bold are found in the text of the document collection.

{**science**, student, education, **physics**, teacher …}

{**environment**, **science**, ecology, **energy**, earth …}

{**physics**, quantum, particle, **mechanics**, theory …}

{**medicine**, safety, disease, **science**, policy …}

{**toxicology**, **biology**, departments, student, **science**…}

Broad → specific ("pre-order constraints")

"The most general concept is used as the root of the hierarchy, and the most specific ones are the leaves."

**Specific → broad** ("post-order constraints")

Concepts flow bottom-up; "after presenting the most specific concepts, their super-concept is narrated."
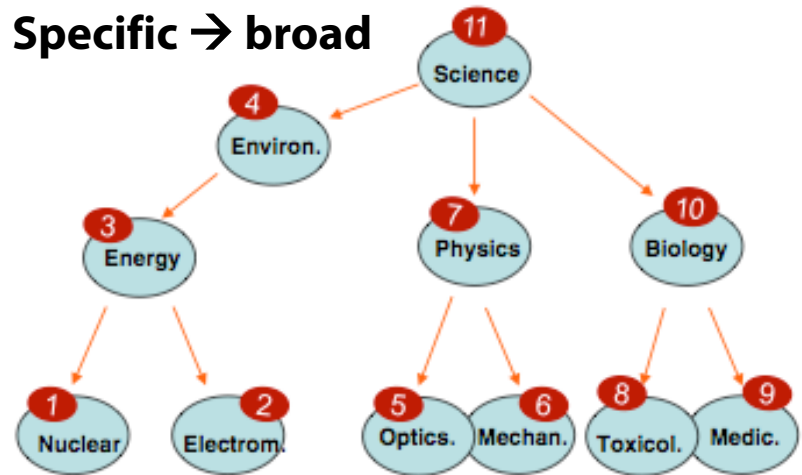
Parenthetical

Here, the ancestor concept, broad or specific, occurs at both the beginning and end of the narrative path. "Intuitively, the parenthetical traversal is analogous to a narrative where each passage is presented with an introduction and goes in details until a general conclusion."
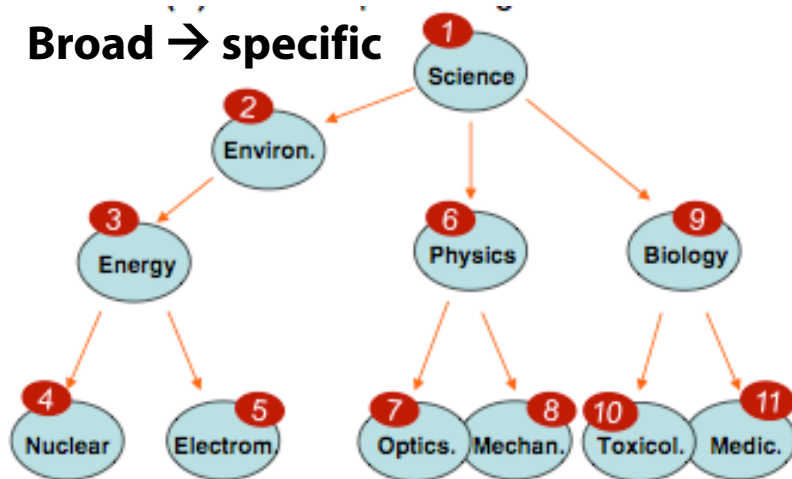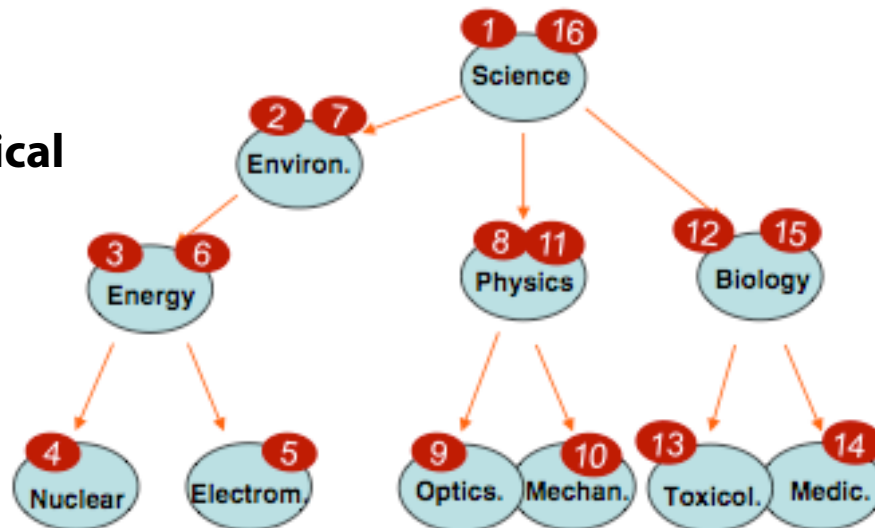
Broad → specific

Specific → broad

Parenthetical

Occasionally our imaginations encounter conflicts. Analyzing user purpose can be helpful in these cases.

At a healthcare software company, the two largest groups of users were frequently in conflict.

Clinicians
- Patient-focused
- Time-focused
- Less desktop/laptop savvy, but growing mobile usage
- Routine- and check list-driven, but also more individualistic.
- Frequently contract; may serve multiple HHAs
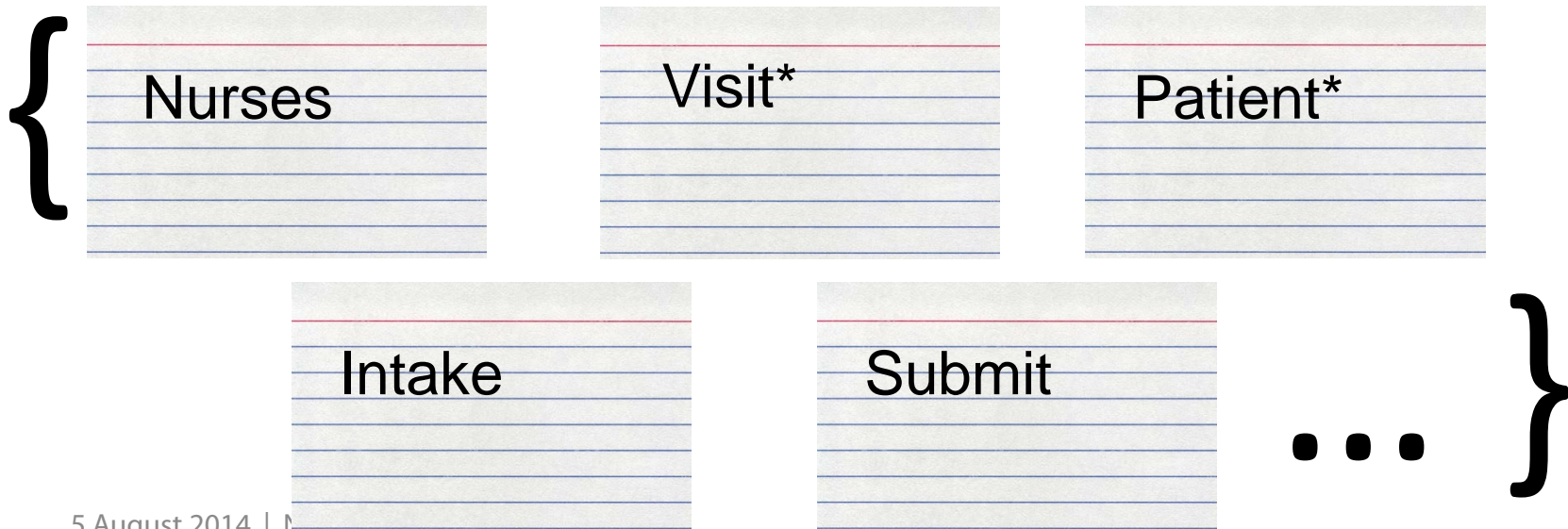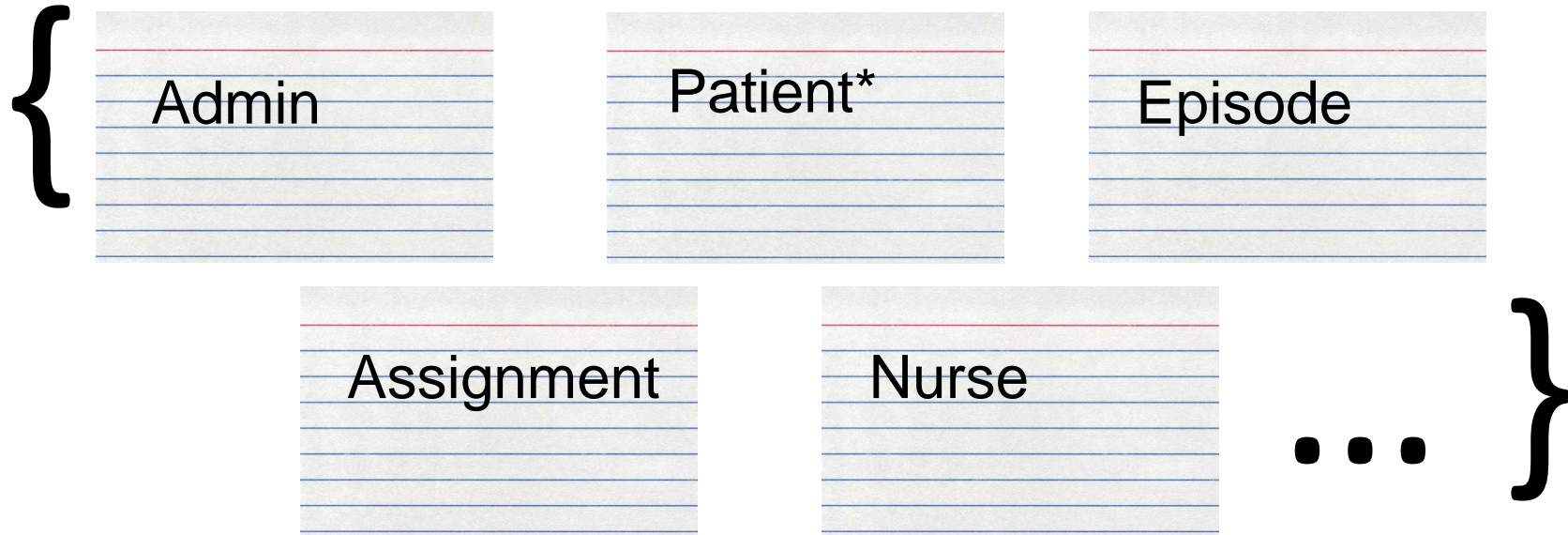
Includes RNs, LVNs, therapists, social workers

Administrators
- $-focused
- Episode-focused
- Typically more tech-savvy, especially desktop
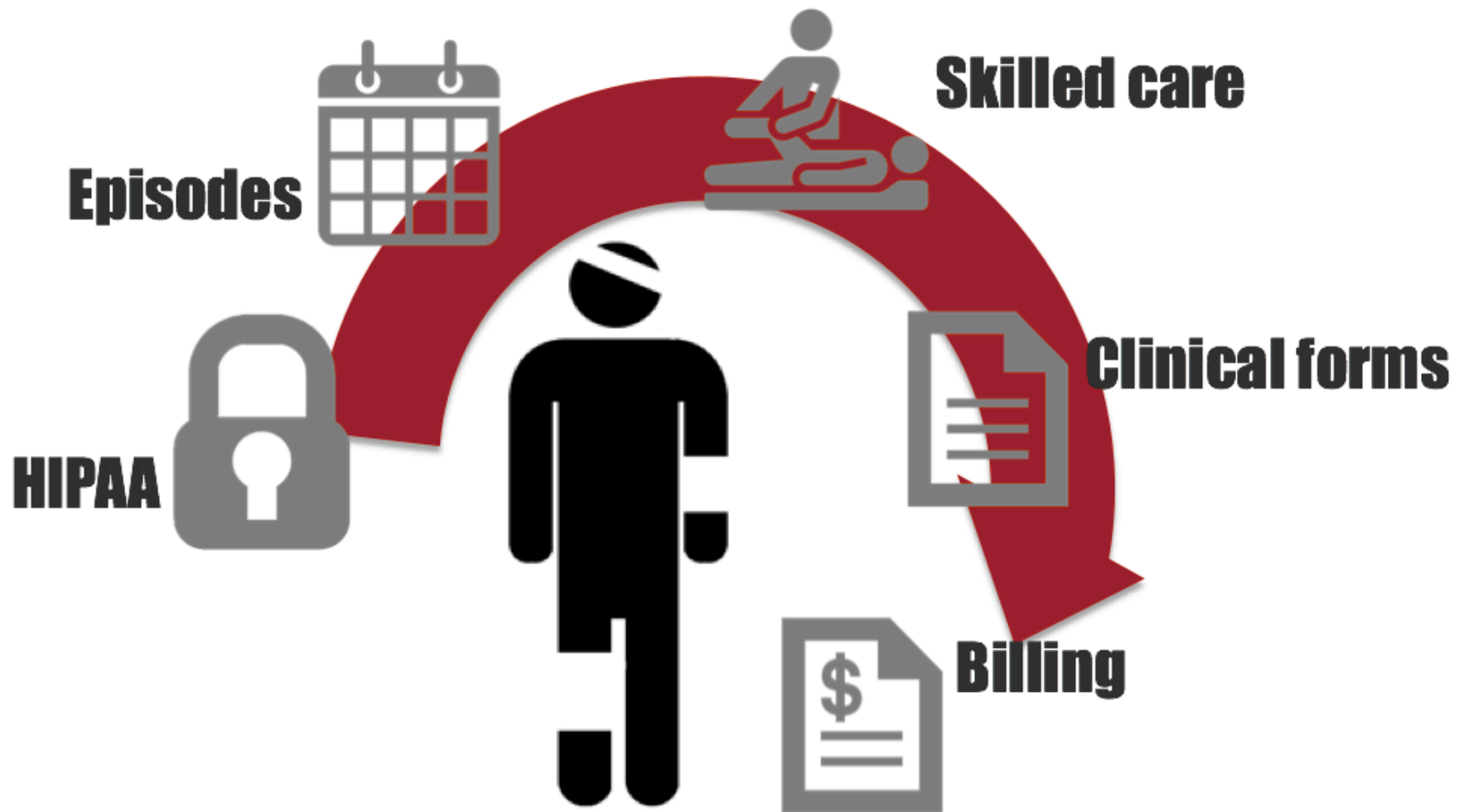- More expectant of new features and improvements
- More likely to be FTE

Includes administrators, schedulers, directors of nursing, case manager, marketers
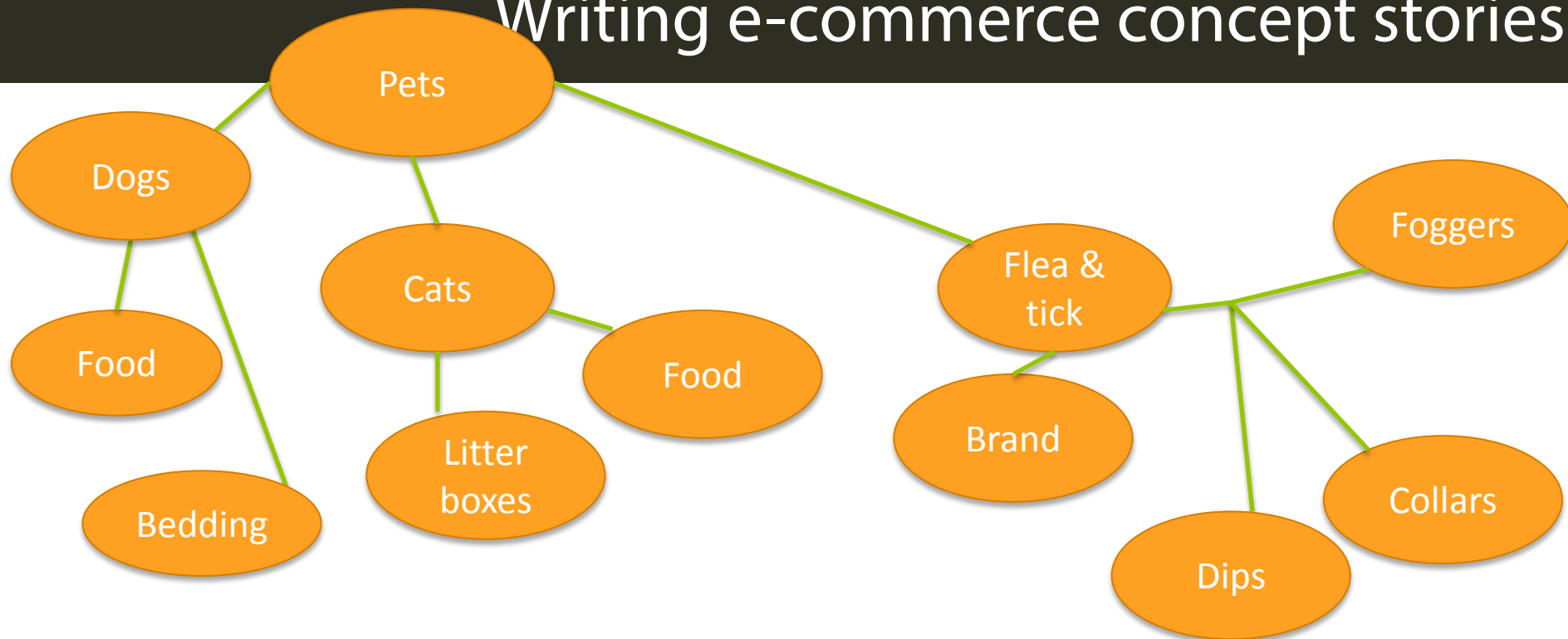
{ Admin   Patient*   Episode

Assignment   Nurse   ... }

{ Nurses   Visit*   Patient*

Intake   Submit   ... }

Episodes

Skilled care

HIPAA

Clinical forms

Billing

The patient is the story.

Pets

Dogs

Cats

Flea & tick

Foggers
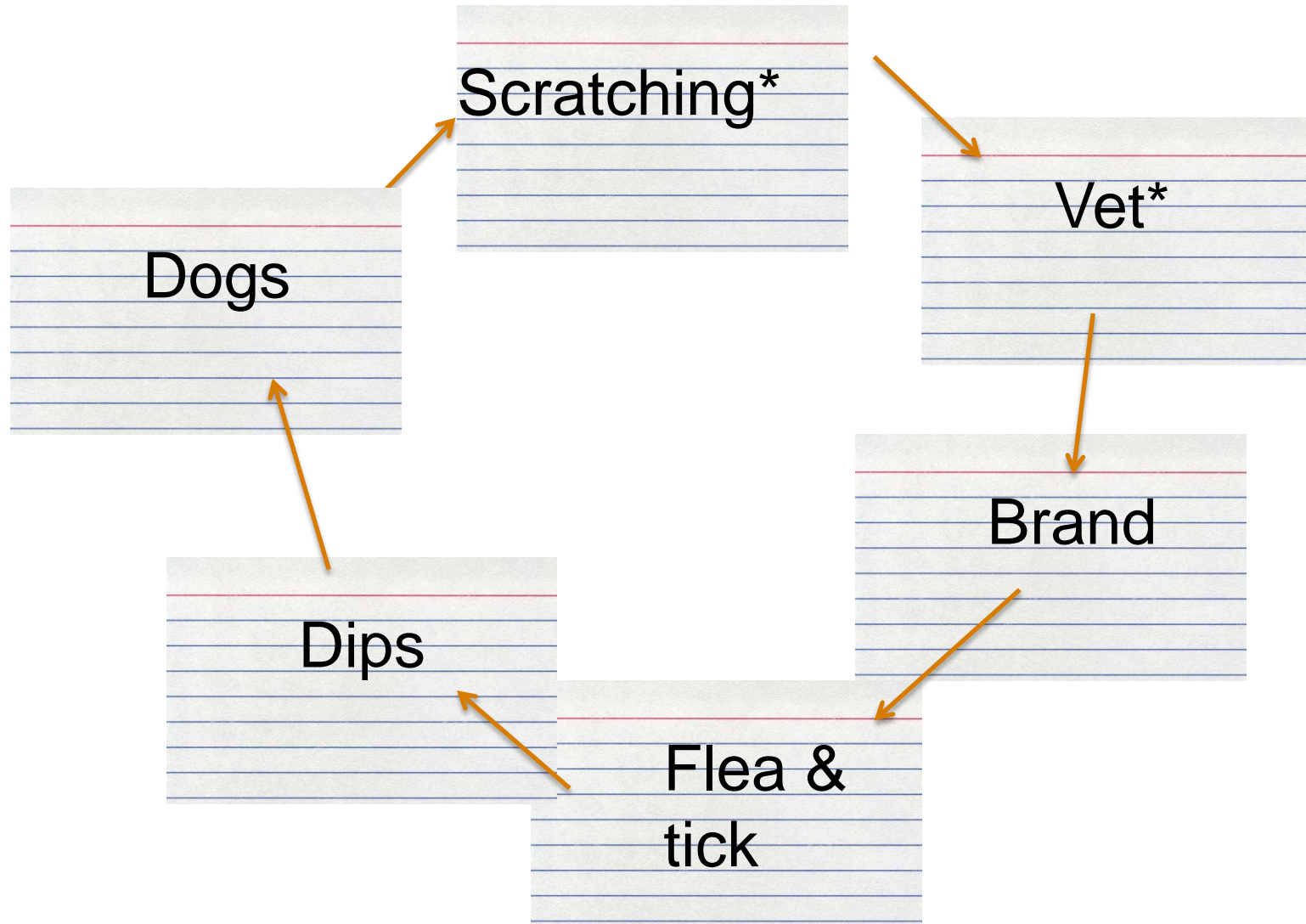
Food

Food

Brand

Collars

Bedding

Litter boxes

Dips

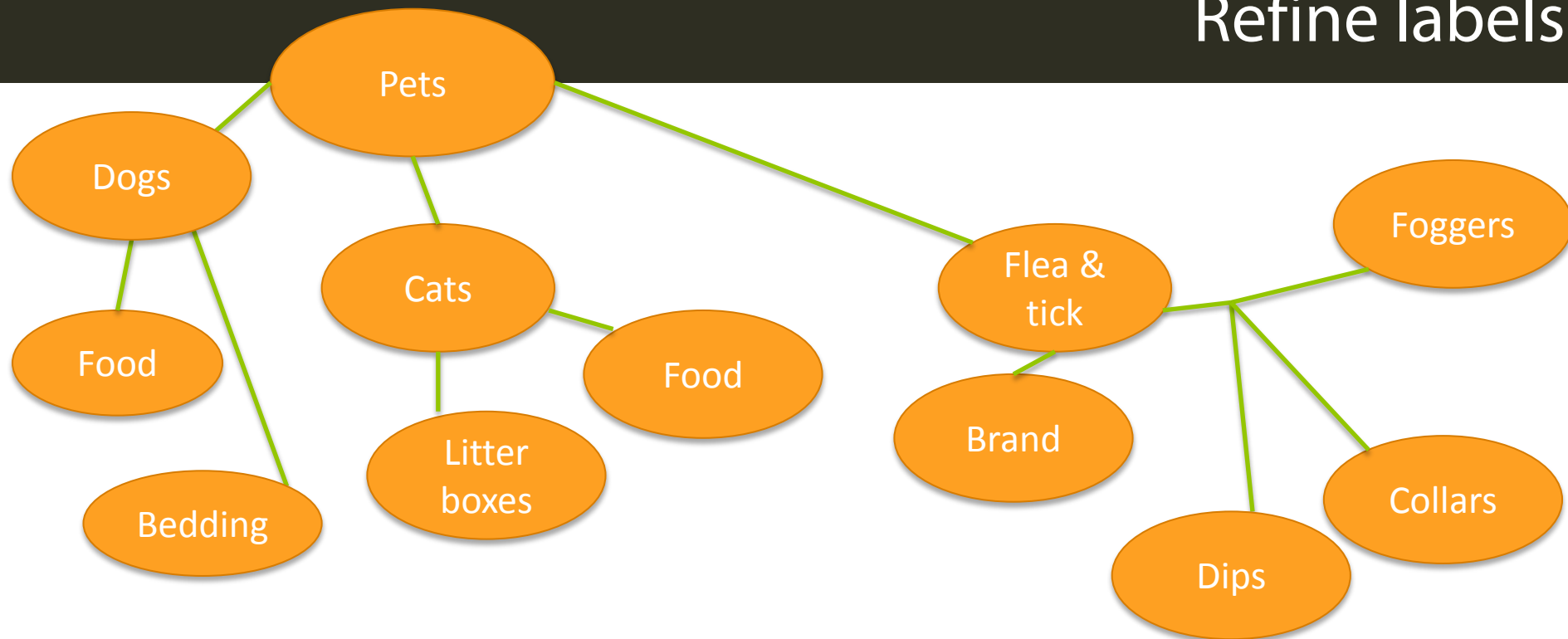Suggested sentence vectors. Keywords based in retail catalog and user research are not bolded.

{**pets, cats**, parent, safety/hygiene, **litter boxes** …}

{**dogs,** new owner, **bedding**, …}

{**dogs**, scratching**, vet**, **brand, dips**, **flea & tick**, **dogs**..}

Scratching*

Vet*

Dogs

Brand

Dips

Flea & tick

{**dogs**, scratching**, vet**, **brand, dips**, **flea & tick**, **dogs..**}

Flea & tick
Hairballs   }   Care & health?
Worms

{**dogs**, scratching**, **care & health, flea & tick**, **dogs..**}
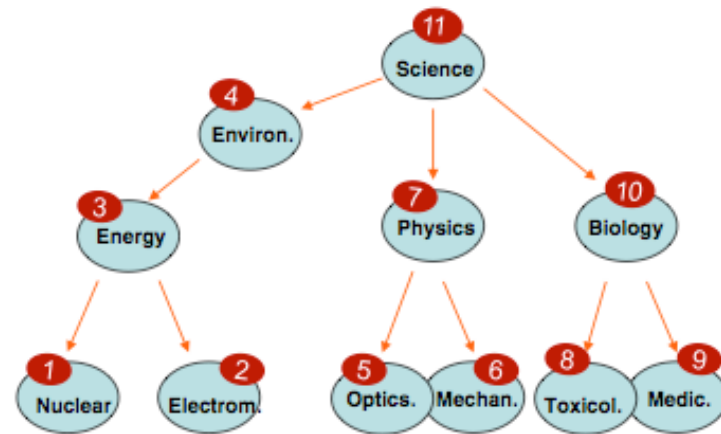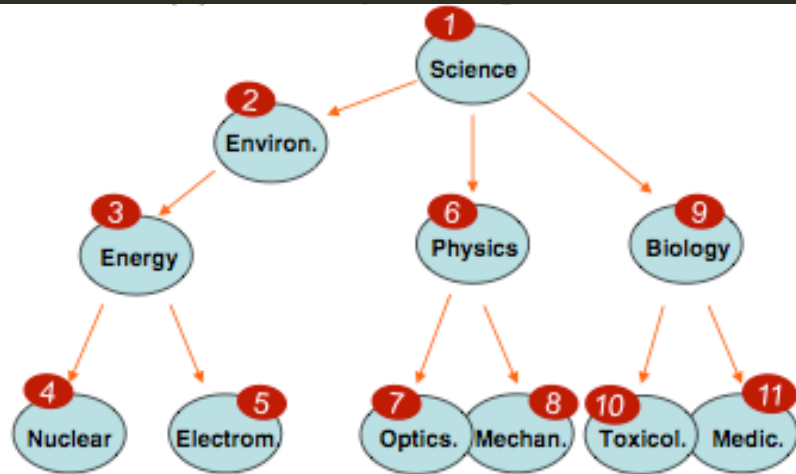
A good taxonomy's minimum viable product should:

- Cover the entire body of objects being organized.
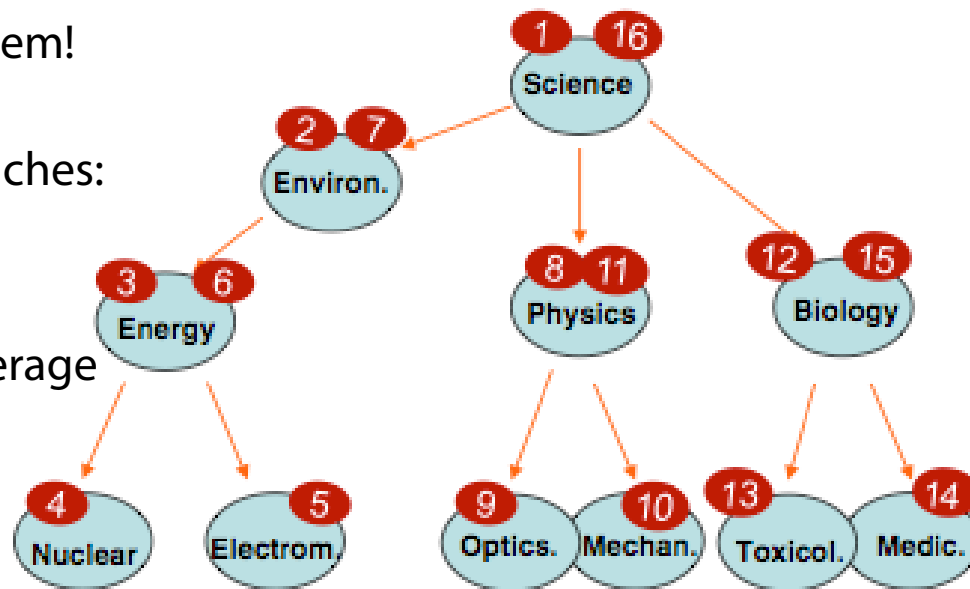- Reduce redundancy.
- Avoid fuzziness

And the winner is: All of them!

Compared to the original taxonomies, ANITA approaches:

- Reduced redundancy
- Improved domain coverage
- Shortened labels

Credit where credit is due

- Cataldi, M., K. Candan, M. Sapino (2011). *Narrative-based taxonomy distillation for effective indexing of text collections.* Data & Knowledge Engineering 72 (2012), p.103-125. Available via Elsevier.

- *241/365: yellopen* by bradleypjohnson, on Flickr. (Open book photo.) Creative Commons license. https://flic.kr/p/aispX8; https://creativecommons.org/licenses/by/2.0/legalcode

- *Fossils* by s3k, on Flickr. https://flic.kr/p/4XGMK; https://creativecommons.org/licenses/by/2.0/legalcode

- *Storytelling* by pennuja, on Flickr. Creative Commons license. https://flic.kr/p/mw3P4k; https://creativecommons.org/licenses/by/2.0/legalcode

- Gould, S. J. (2003). *The hedgehog, the fox, and the magister's pox: mending the gap between science and the humanities.* http://www.amazon.com/The-Hedgehog-Fox-Magisters-Pox/dp/0674061667

- Vitorino Ramos quote https://chemoton.wordpress.com/tag/pattern-recognition/

- Star destroyer-destroying kraken http://www.gadgetreview.com/2013/05/lego-giant-kraken-attacks-darth-vaders-super-star-destroyer.html

Recommended:
Gould, S. J. (1989). *Wonderful life: the Burgess Shale and the nature of history.*
http://www.amazon.com/Wonderful-Life-Burgess-Nature-History/dp/039330700X

All otherwise unattributed content by Alex O'Neal.