Tuesday, January 18, 2022

Class 2: Classification Principles

LIBR 509:

- Class Themes:
 - What categories are and how we systematically create categories to organize knowledge and enable interactions with items => apply theory in creation exercise, specifically creating a faceted classification system and then providing peer feedback
 - Principles behind classification: grouping of resources into classes, nested into classes
 - Theories of categories and classical categories and faceted classification (one mode of creating classification systems)

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- Lecture in 3 parts:

- <u>1. Classification Principles</u>

- Category Theory: Sorting things into groups
 - Theories of categories
 - Limitations of the classical theory of categorization
 - We have deeply held beliefs and preconceived understandings of categorization because of how ubiquitous it is in our lives and the way we think
 - Categorization is the process of dividing the environment into equivalent groups
 - Members of a category are "similar" in that they share some perceived quality or attribute
 - Categories are the building blocks of cognition
 - Apprehension of similarity
 - By grouping entities according to observable similarities, we form concepts about the environment

- This allows us to make <u>generalizations</u> about past experience, which can be extended to new situations which we can build on (formation of knowledge)
- Categories are flexible as they rely on context to determine similarity. Because context can vary, the composition of the category can also vary.
 - We impose categories on the world because it makes the world understandable.

- Classical Categories

- Tend to influence most of the categorization systems we see today
- Plato and Aristotle (from Greek philosophy)
- Intension: a definition or description of a concept (text)
- Extension: the member or examples of an object (visual)

- Classical Theory of Categories

- This is the way categories actually exist in terms of how reality is constructed, organized, and presents itself
- Rules:
 - 1. Defining features can be specified [intension]
 - 2. In order to be a member of the category, an entity must have all of the defining features (group of entities is called extension)
 - 3. There's no such thing as one member to be a "better fit" for the category than another member
 - 4. Hierarchical inheritance
- Limitations of Classical Categories
 - Can these types of categories work to explain reality to each other?
 - Critiques:
 - 1. It is not always possible to list all properties
 - 2. Properties don't always strictly determine category membership
 - 3. Some items fit in a category better than others
 - 4. Doesn't allow for shifting and complex nature of social categories

• 5. Can be politically charged or biased

- Exps:

- (Some items first in a category better than others) Sandwiches: a PB&J fits better than a big mac. Is a hot dog a sandwich?
- (Shifting and complex nature of social categories) Gender (binary categories are too broad, categorizations can result in social and emotional consequences, many cultural standards are constrained by man/woman binary)
- (Can be politically charged / bias) Apartheid (classification imposed by authority, 4 main race classes, classes rigidly defined by loosely applied)

- Categories: Invented or Discovered?

- Classical theory says that categories are **Discovered** the categories that we
 make is us perceiving qualities and being able to replicate them (how well we
 can identify them).
 - The composition of a category reflects an underlying structure that is inherent in the physical world. We perceive this structure when we notice recurring patterns or association of attributes
- The other theory is that categories are **Invented** we create our environment by imposing boundaries. That is, we select the criteria that we use to organize the environment. They can be adjusted.

- Non-Classical Categories (from psychology and linguistics)

- Prototype Theory: the way we perceive categories is that we do have exemplar members from which we can judge resemblance. (Rosch, 1983) => how fast can you recognize something as part of a category (sparrow vs ostrich)
- Radial Categories: "Where there is a central case and conventionalized variations on it which cannot be predicted by general rules" (Layoff, 1987, p.84). Based on examination of linguistic group and how gendered articles (French, and Spanish) are applied in societies (male and female nouns, affiliated with spiritual / cultural belief systems)

- 2. Faceted Classification

• Popular organizing system; not common in libs but in other institutions

• What is Faceted Classification?

- Anything that reduces something into a number of different categories (can describe from many different POVs)
- Exp. Price, Colour, Shop Location, Item Type (item in Etsy)

<u>Classification Principles</u>

- Isolates (values of an item)
- Are the facets mutually exclusive (do they have overlap?), or is each a fundamental category (do they describe the same thing)? What order are they in? First thing listed is generally the most important / popular / key quality.

• Isolates

- An individual value (could describe an item)
- Exp. Red, Yellow, Blue
- Some isolates can be grouped together. These groups are called <u>Sub-facets</u> (exp. *Navy* blue)

Principles of Isolates

- Homogeneity all isolates must be the same thing
- Mutual Exclusivity no two isolates can overlap in meaning
- Joint Exhaustively together, the isolates can cover all cases
 - From Ranganathan, S.R. Elements of Library Classification. 1945.
 - Fundamental Categories of Principles & Division (1960, Vickery) ways of thinking about what an item (in lib classification) is
 - Ranganathan Fundamental Categories:
 - Personality, Matter (what things are made of), Energy (change or processes), Space (volume, space, geography), Time (duration of a thing, when it is happening in time)



Facets

-A group of isolates that belong together. Facets generally have *labels*

-Exp. Colour (facet label) ; red, yellow, and blue as a group are a facet

- Faceted Classification, procedure for creation
 - 1. Identify attributes
 - 2. Group attributes into facets (option: isolates are grouped into sub-facets when attributes have a lot of detail)
 - 3. Sequence of facets [citation order exp. What is the first most prominent facet ppl will see]
 - 4. Sequence of isolates within facets [exp. order in array biggest to smallest, greatest to least]
 - 5. Create notation (won't see in web; specific to libs alphanumeric system)
 - 6. Create specific classes (won't see in web; specific to libs alphanumeric system)
- 3. Create: Faceted Classification Assignment (prototype)
 - Making a faceted classification like the one in the textbook
 - 1. Choose a set of resources (more than 20 items)
 - What are the things?
 - Who is searching/browsing through them?
 - How many are there?
 - What are the important or salient differences between them?
 - 2. Aim for at least 4 facets and 12 isolates

- One of your facets can be binary (yes/no) while another has 6 categories (red, orange, yellow)
- Make sure each facet is describing one and only thing
- Make sure isolates are mutually exclusive of each other
- Facets should go in order of most important to least
- Isolates should have some sort of intuitive order
- The facets you create when additional items are added to the collection (should be extensible)
- To be more challenging: add alphanumeric (steps 4/5) and try to have your facets cover the 5 areas Ranganathan put in his original approach to faceted classification
- Peer Review Guidelines
 - Not anonymous shouldn't take longer than 2hrs
 - Be kind and constructive. When in doubt, asking questions instead of correcting
 - Look for: Mutual exclusivity (is there overlap between isolates in a facet?), fundamental categories, breadth and depth, maintenance and revision