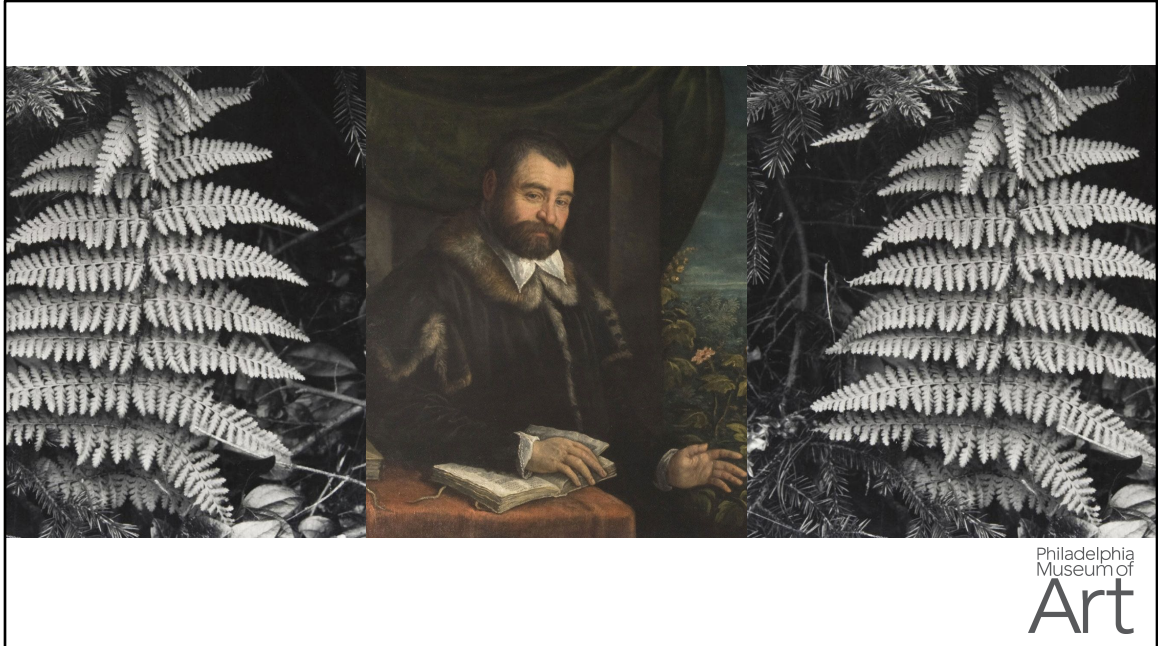# Ask a Taxonomist...Between Two Ferns

November 19, 2019

@LandAatPMA
#AskaTaxonomist

Juliet Vinegra:
Welcome to the Philadelphia Museum of Art. I am Juliet Vinegra, the Project Manager for the Art Information Commons initiative and your host for today's program Ask a Taxonomist...Between Two Ferns.
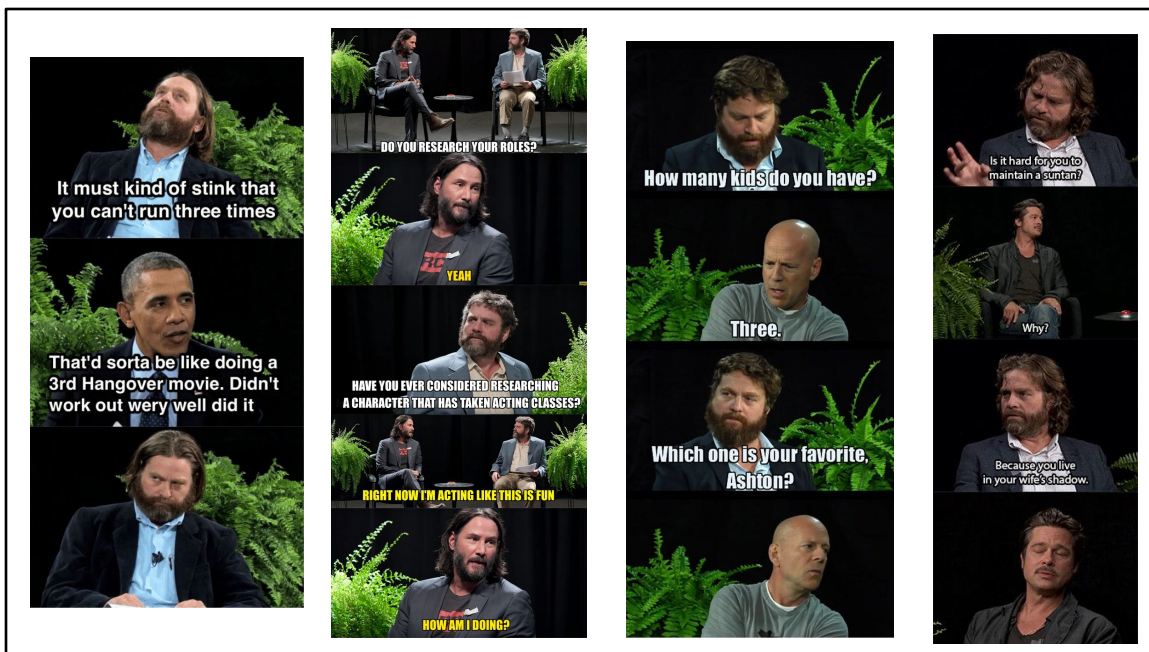
Juliet Vinegra:
You may have noticed when you walked in I had this up on the screen. I wanted to familiarize you with the format of today's show. These are some of the great quotes from Zach Galifianakis on his Funny or Die show Between Two Ferns. I thought it was a good way to get to know our special guest today, Bree Midavaine.

Credits:
Ladies and Gentleman, Between Two Ferns with President Barack Obama and Zach Galifianakis, MemeCenter,
https://www.memecenter.com/fun/2933201/ladies-and-gentlemen-between-two-ferns-with-with-president-barack-obama-and-zach-galifianakis.

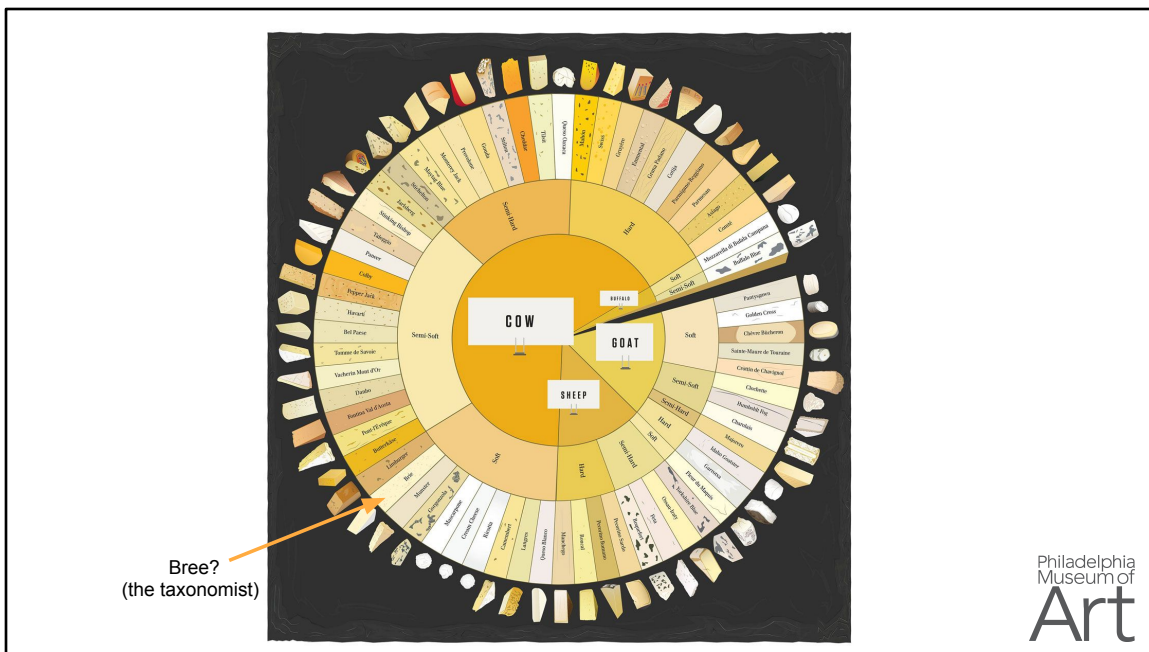Keanu Reeves, Catchy Memes, https://catchymemes.com/post/187916134044.

Between Two Ferns is a Masterpiece, Meme Guy,
https://memeguy.com/photo/20592/between-two-ferns-is-a-masterpiece.

Between Two Ferns…, Memedroid,
https://www.memedroid.com/memes/detail/1150046.

Bree?
(the taxonomist)

Juliet Vinegra:
You must like cheese a lot.

Bree Midavaine:
Oh because my name is like brie cheese. Well I can show you this really cool taxonomy of cheese!

Credits:
The Charted Cheese Wheel, PopChart,
https://popchart.co/products/the-charted-cheese-wheel.

Juliet Vinegra:
I never see you stuff dead animals in our office--I know a little something about your profession...

Birds Collection, National Museum of Natural Hisotry.
Photograph by Chip Clark.

Bree Midavaine:
You're thinking of a taxidermist, which...actually I have a story about that.

This is Roxie Laybourne. She spent 15 years as the taxidermist for the Smithsonian National Museum of Natural History. She organized the largest bird collection in the world She loved feathers and she was THE expert in matching single feathers to the bird of origin.

Birds, like most living things, can be organized into a hierarchical structure like the one on the left--according to species and subspecies, going from broader to narrower types. As Roxie did her work, which required her to examine the feathers under a microscope, she began to recognize new subspecies of birds based on slight differences in the feathers physical features. Her work created new areas of subspecies in the known taxonomy of birds and gave rise to forensic ornithology which is used to solve questions regarding bird strikes of airplanes. She was so amazing! Taxonomists help organize the world of knowledge and resources by analyzing the smallest details or data, structuring them and creating relationships between them in order to help facilitate the discovery of new information, just like Roxie did as a taxidermist turned accidental taxonomist.

Credits:
Roxie Laybourne, Photo: Chip Clark from Haleema Shah, "Meet Roxie Laybourne, the Feather Detective Who Changed Aviation," *Smithsonian Magazine*,

https://www.smithsonianmag.com/smithsonian-institution/meet-roxie-laybourne-feather-detective-who-changed-aviation-180971803/.

Roxie Laybourne, Photo: Chip Clark from Meghan Bartels, "How 'Feather Lady' Roxie Laybourne Cracked the Deadly Problem of Planes and Birds," *Audubon*, https://www.audubon.org/news/how-feather-lady-roxie-laybourne-cracked-deadly-problem-planes-and-birds.
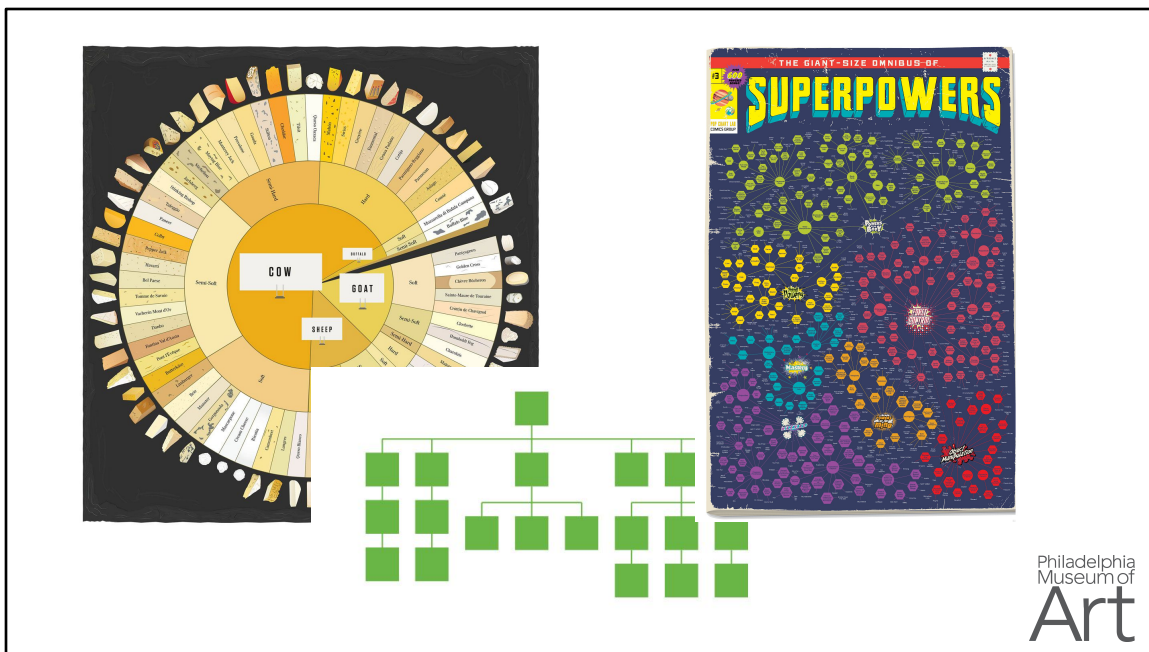
Juliet Vinegra:
How are these taxonomies the same thing if they all look so different?

Bree Midavaine:
They represent different ways of organizing or sorting all sorts of things into groups and creating a structured way of looking at the world around us or at resources in our institutions. All data or information can be grouped in different ways depending on the need for that information. We can make a taxonomy out of almost anything…as you can see.

Juliet Vinegra:
Okay, so what information goes into a taxonomy?
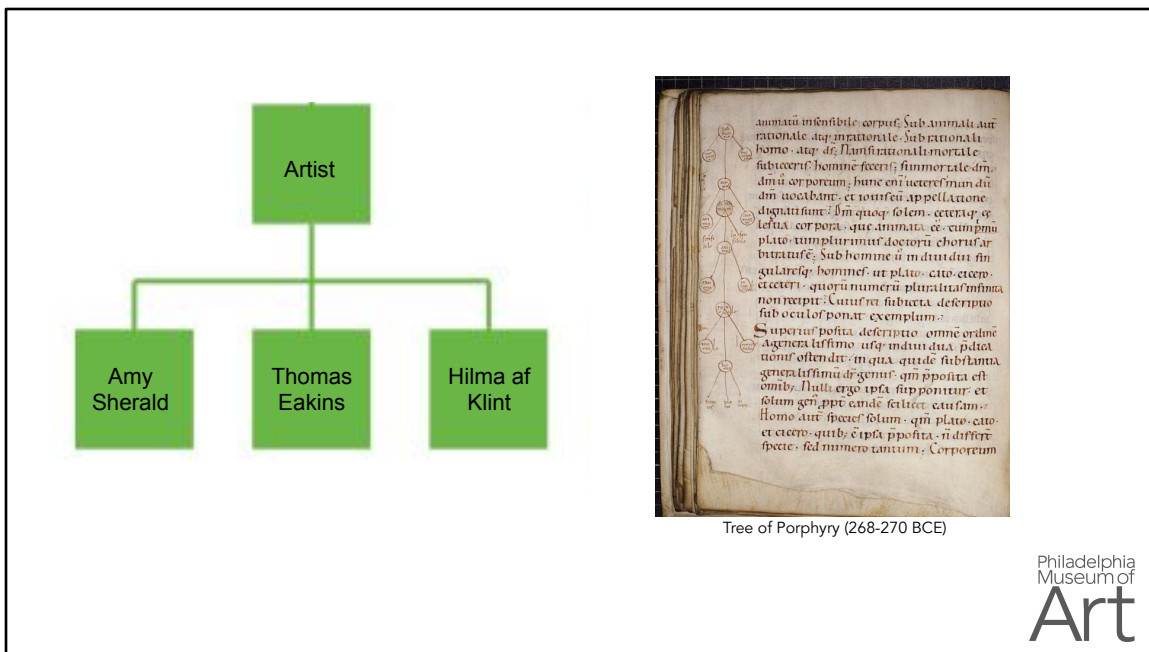
Bree Midavaine:
Taxonomy is really just an organizational structure. Usually it's applied to something called a controlled vocabulary or a thesaurus. A taxonomy can be built from different pieces. It can include a simple list of terms. This is called a controlled vocabulary to a more complicated model that contains relationships between terms in many lists.

Credits:
The Charted Cheese Wheel, PopChart,
https://popchart.co/products/the-charted-cheese-wheel.

The Giant-Size Omnibus of Superpowers, PopChart,
https://popchart.co/products/the-giant-size-omnibus-of-superpowers.

Tree of Porphyry (268-270 BCE)

Philadelphia
Museum of
Art

Bree Midavaine:
The most basic taxonomy takes a list or even more than one list and puts it into a hierarchical structure. Like this: Artist and each of the individual names are referred to as terms or concepts in a taxonomy. The hierarchy I have placed them is the most basic relationship between taxonomy terms: parent and child / broader and narrower.  It's a structure that has been used for a very long time to organize the world of knowledge. This one on the right lists Plato and Socrates as a subset of "MAN."

We use it to organize patterns of the world around us into usable information. Taxonomists organize data or info to create thesauri, controlled vocabularies, classifications. It can also help developers create search engines so we can find stuff. The structure of the taxonomy helps us organize small bits of data into recognizable patterns and relate like things together. This new way of looking at data can be used to organize and describe more complicated things like the resources of the museum.

Philadelphia
Museum of
Art

Bree Midavaine:

So a thesaurus and why it's important...once I was having a conversation with a friend about Nick Cave. He was talking about how visceral and colorful some of his work was and I mentioned how I thought that was an "interesting" way to think of his work, but that I was excited to see him when he came to perform in NYC. He looked at me weird and I looked at him weird because we knew there was a disconnect in the conversation. We were very confused until a light bulb finally went off and we both realized we were talking about two different Nick Caves. I was talking about this one, he's the musician (left) and he was talking about the artist (right). If we had a thesaurus visible, we would have started the conversation about the same Nick Cave. A thesaurus helps us differentiate between two things that sound or are labeled the same.

Credits:

Nick Cave: Photograph in Brighton, England, February 2017, Photo: Anton Corbijn from Chris Heath, "The Love and Terror of Nick Cave," *GQ,* https://www.gq.com/story/the-love-and-terror-of-nick-cave.

Nick Cave in his studio at Facility, Photo: Whitten Sabbatini from Hilarie M. Sheets, "Nick Cave Uses His Capital to Help Aspiring Creators," *The New York Times*, https://www.nytimes.com/2018/11/01/arts/design/nick-cave-chicago.html.

# Nick Cave: Furballs



Furballs #1

Furballs #2

Furballs #3

Nick Cave, c. 1995, hair, twine, nails, Chicago, IL, Gift of the Robert Alan Lewis Collection Palm Beach, 2016

Juliet Vinegra:
I found these laying around a back room in the museum...maybe Nick Cave needs a thesaurus...What else does a taxonomy do?

What's in a name?

Philadelphia

Philly

The City of Philadelphia

The City of Brotherly Love

Birthplace of America

Bree Midavaine:
Well it can help with terms that have more than one form of their name. Take Philadelphia for example. It has all these different names or how it can be referred to. We know you aren't going to use The City of Brotherly Love for your address because the PO requires you to use their preferred name: Philadelphia

Credits:
Ray K. Metzker, *Autowackies: Philadelphia from the series Autowackies*, 2004 (negative), 2006 (print), gelatin silver print, Philadelphia Museum of Art, https://philamuseum.org/collections/permanent/327488.html?mulR=1286061262|2.

Bree Midavaine:
BUT if you search for the city of brotherly love in google you'll find all sorts of information about Philadelphia even though you didn't search using that name. A required feature of a thesaurus is that for each term alternate names can be recorded. It is a thesaurus and the corresponding controlled vocabulary that allows google to find the Wikipedia page on Philly no matter which alternate name you use.
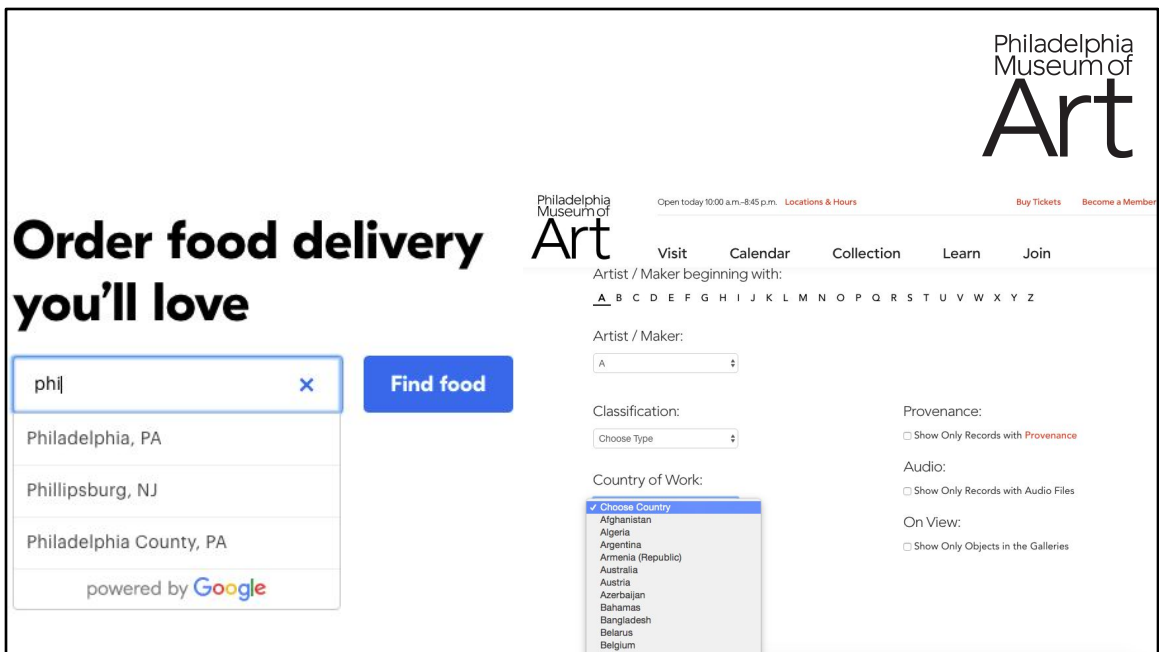
Juliet Vinegra:
What is a controlled vocabulary?

Bree Midavaine:
A controlled vocabulary in this case is talking about structure and that can be necessary. When adding your address online for a delivery, sometimes you have to pick from a list of locations. You don't get to just make up your own name for the city you live in, plus it's pretty easy to pick from a list when there's just one choice of name. This helps you fill out the form correctly and it helps the delivery person go to the right place. That list you choose from is a controlled vocabulary. Each term in the list is presented using the preferred name, and it's a fixed list, which means there are precise rules in place for any changes. We have the same type of controlled vocabulary on the PMA website when you search the collection.

The most common interaction people have with a taxonomy is through the internet. They pop up when you shop at Amazon and filter your selections using a list or when you use Google search. For each of these, you are using a tool built on multiple taxonomies which contain relationships between terms in those taxonomies. These more complicated taxonomies are called ontologies or knowledge graphs.
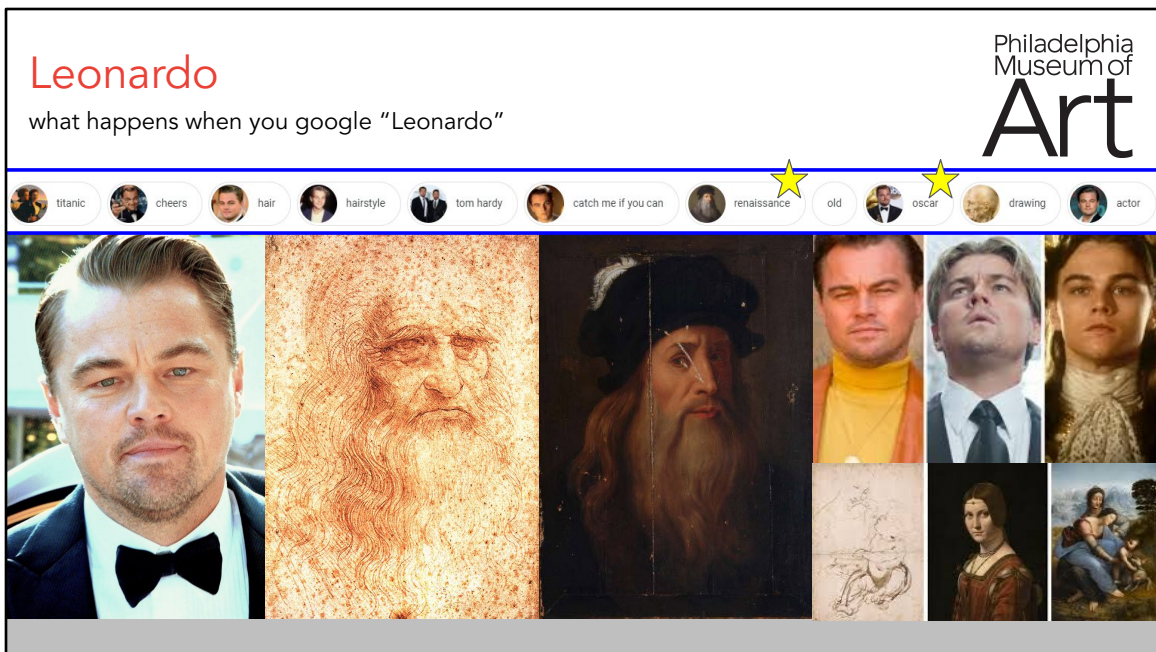
Bree Midavaine:
For example, let's do an image search using the keyword Leonardo, the initial results focus on the two most famous Leonardo's! At first it may seem this is only because the keyword is part of their name. Although that can be part of it, it doesn't explain all the results that are returned. If we look at the image results most of them are of Leonardo DiCaprio…as they should be (he is probably the most relevant result and it is a good assumption by Google). Mixed in with all those images of DiCaprio are him in various movie roles, but also a number of works of art of the other famous Leonardo…DaVinci, including a self portrait, as well as the Lucen portrait of him by an unknown artist

And then the part that most interests me is the bar of "other stuff" that is at the top of the image. That blue box there. Where did that information come from? At a very basic level all of these results are based on relationships created in a taxonomy used by Google. Renaissance and Oscar are my favorites in that list because it means Google knows that one of these more likely Leonardo's you could be searching for is a Renaissance artist or an Oscar winner, even though you didn't actually search using those keywords. Google "knows" this because that data is part of the taxonomy…or knowledge graph in this case. Those are relationships created between two terms and two categories of people. Those in the Renaissance and those who have won

Oscars.

Paul Baumann:
*Taxonomy #3 (blue and green) Promised*

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Museum of
Art

Paul Baumann, *Taxonomy #3 (blue and green) Promised*, 2007, BP0030,
http://paulbaumannart.com/taxonomy/taxonomy-early-works/1.

Juliet Vinegra:
But what about the art? How are we going to use this here?

Bree Midavaine:
Because I think it is beautiful, I'll share with you an artist, Paul Baumann, who uses taxonomy, particularly of color as the central motif in his work. Beyond being an inspiration for art, taxonomy is important to museums. Remember Roxie Laybourn? What she did helped create a whole new field of study that didn't exist before.

Here at PMA the purpose for managing taxonomies is similar, only we want to organize data and art information rather than birds. For me, personally, my goal is to work with everyone here to analyze and connect our museum's collections data and information to all types of museum resources to improve discovery of institution wide content. I look at the data, information and resources we produce around our art collection. Where do we put it? What happens to it after we create it? How do we find it? This includes content created by Curatorial, Education, Library & Archives, Publications, and more. Then I help guide best practices for how we describe our resources holistically. I ask questions about whether we need standardization, or

vocabularies, I help apply structure to our data and build relationships between our data, information, and resources. This work can then be used to integrate our systems, break down those silos, and build on and improve our current discovery systems. This will allow everyone here to create new research and ways of looking at our objects that didn't exist before, and have access to available resources from all departments.
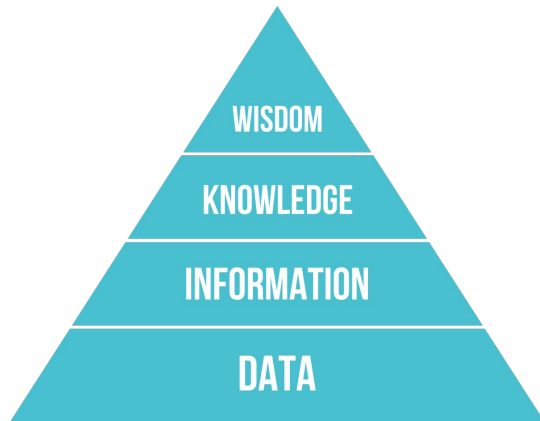
Juliet Vinegra:
Could you explain taxonomy and its link to knowledge management?

Bree Midavaine:
Knowledge management is the process of creating, sharing, using, and managing the knowledge and information of an organization. It refers to a multidisciplinary approach to achieving organizational objectives by making the best use of knowledge. The initiative I'm a part of here at PMA is called the Art Information Commons. A commons has traditionally been a place where members of a community gather together and share resources all to the benefit of that community. Knowledge management has similar goals.

To help understand how managing our knowledge can be advantageous. We look to DIKW theory, which is a way of thinking that is foundational to knowledge management work. It is represented by the infographic on the right. It helps us to understand what happens when we make apply organizational principles to our data, so we can move from only having data to gaining wisdom from that data.

Let's look at this like we are baking something. Data--the foundation is the collection of facts—the ingredients in our recipe. They don't mean anything yet but we know they exist.

Information is the who, what, when, where—or data that has been organized into an

understandable pattern...the actual mixing of the ingredients together into something that we can now recognize as batter and that we can bake it.

Knowledge is the how—how is this information connected to other information? Its added meaning to information by creating relationships between pieces of information. When we bake the batter and finish the decorations according to the directions we now know the batter is a cake…not brownies but a cake. But what kind of cake?

Wisdom is the why—or what kind of cake is it? These are the harder questions we ask of our data. It is knowledge applied in action. Or if we EAT the cake we now have more information we didn't have before…how it tastes…it's vanilla cake. We can only ask these hard questions when our data is un-siloed and we have better access to it.

Like making a cake, taxonomies can be used to move from data to wisdom. A basic taxonomy can be the link between data and information. Moving from information to knowledge is done through the work of relationship building in ontologies (or those more complicated taxonomies). Knowledge to wisdom is assisted by making all that new information accessible. Actual work of wisdom or new ideas is done by all of you using the tools developed with these for better search and access.

Q&A

# For More Information

https://artinformationcommons.github.io/
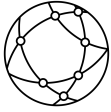
juliet.vinegra@philamuseum.org

bree.midavaine@philamuseum.org

Thank You!

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