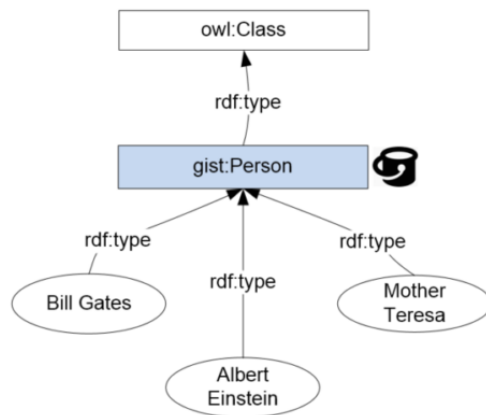# gist: Buckets, Buckets Everywhere: Who Knows What to Think
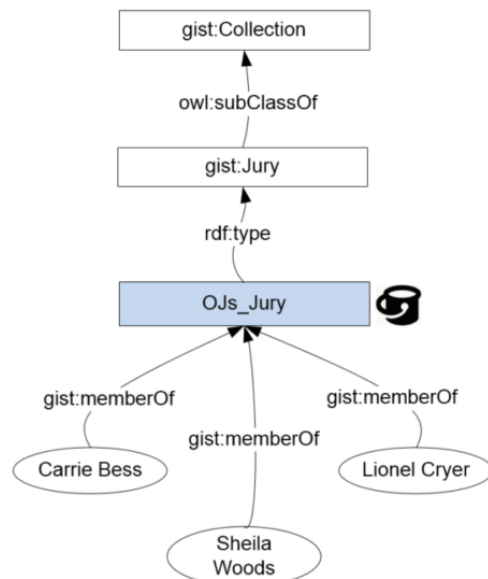
Michael Uschold, Semantic Arts

We humans are categorizing machines, which is to say, we like to create metaphorical buckets and put things inside. But there are different kinds of buckets, and different ways to model them in OWL and gist. The most common bucket represents a kind of thing, such as Person, or Building. Things that go into those buckets are individuals of those kinds, e.g. Albert Einstein, or the particular office building you work in. We represent this kind of bucket as an owl:Class and we use rdf:type to put something into the bucket.

Another kind of bucket is when you have a group of things, like a jury or a deck of cards that are functionally connected in some way. Those related things go into the bucket (12 members of a jury, or 52 cards). We have a special class in gist called Collection, for this kind of bucket. A specific bucket of this sort will be an instance of a subclass of gist:Collection. E.g. OJs_Jury is an instance of the class Jury, a subclass of gist:Collection. We use gist:memberOf to put things into the bucket. Convince yourself that these buckets do not represent a kind of thing. A jury is a kind of thing, a particular jury is not. We would use rdf:type to connect OJ's jury to the owl:ClassJury, and use gist:memberOf to connect the specific jurors to OJ's jury.

Individual of a Kind
- Bucket: instance of owl:Class
- Use rdf:type to put something in the bucket.

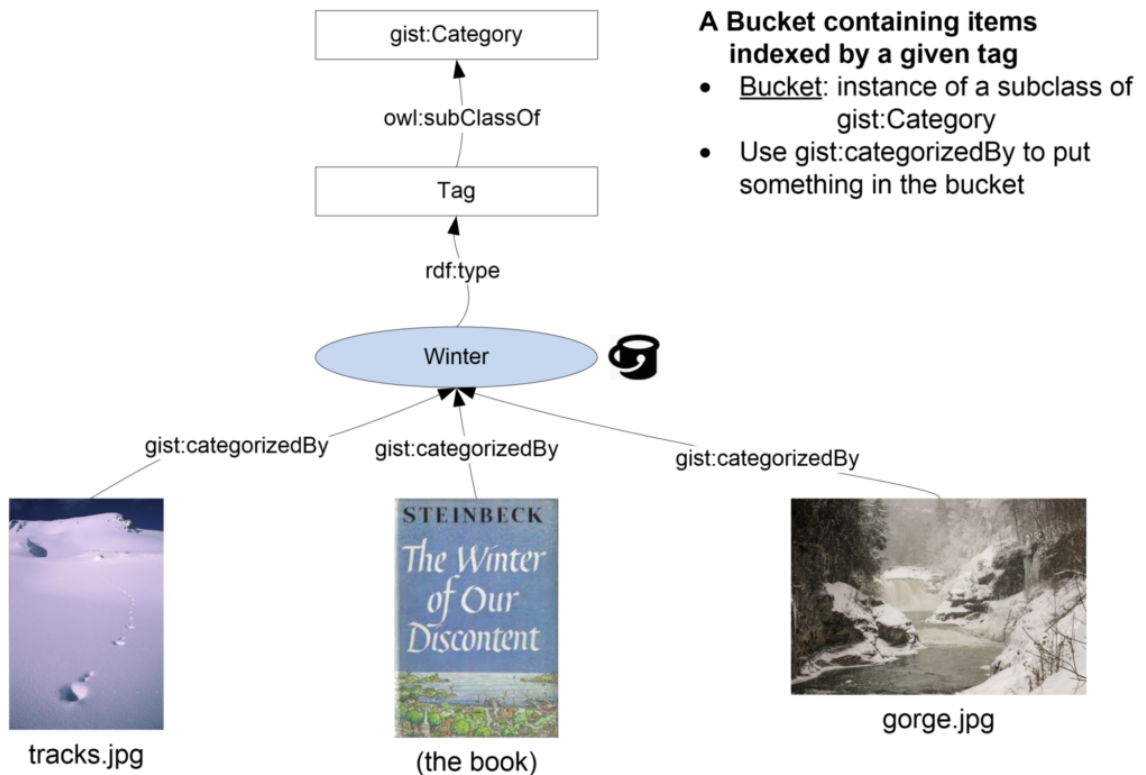**A Bucket with functionally connected things in it.**
- Bucket: instance of (a subclass of) gist:Collection
- Use gist:memberOf to put something in the bucket.

A third kind of bucket is a tag which represents a topic and is used to categorize individual items for the purpose of indexing a body of content. For example, the tag "Winter" might be used to index photographs, books and/or YouTube videos. Any content item that depicts or relates to winter in some way should be categorized using this tag. In gist, we represent this in a way that is structurally the same as how we represent buckets that are collections of functionally connected items. The differences are 1) the bucket is an instance of a subclass of gist:Category, rather than of gist:Collection and 2) we put things into the bucket using gist:categorizedBy rather than gist:memberOf . The Winter tag is essentially a bucket containing all the things that have been indexed or categorized using that tag.

A Bucket containing items indexed by a given tag
- <u>Bucket</u>: instance of a subclass of gist:Category
- Use gist:categorizedBy to put something in the bucket

Below is a summary table showing these different kinds of buckets, and how we represent them in OWL and gist.

Kind of Bucket	Example	Representing the Bucket	Putting something in the Bucket
Individual of a Kind	John Doe is a Person	Instance of owl:Class	rdf:type
A bucket with functionally connected things inside	Sheila Woods is a member of OJ's Jury	Instance of a subclass of gist:Collection	gist:memberOf
An index term for categorizing content	The book "Winter of our Discontent" has Winter as one of its tags	Instance of a subclass of gist:Category	gist:categorizedBy