Thinking About Relational Causality

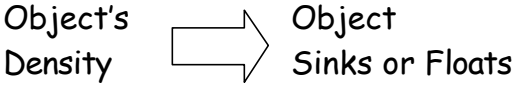
We often analyze problems by using a Linear Causality. Linear means "in a straight line." In linear causality, we say that one thing made another thing happen. You can draw a straight line between the two things showing that one thing made the other thing happen, like one domino knocking down another one. For example, we might say, "the density of the candle made it sink."

However, when scientists are explaining the role of density in sinking and floating, they usually use Relational Causality.

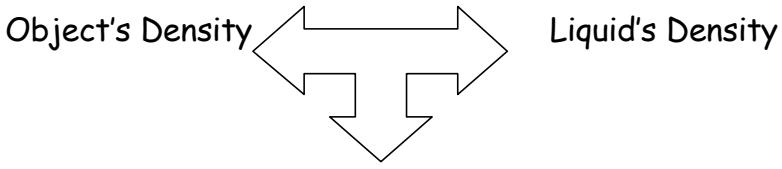
Recall the example about the two sisters. Two girls can be sisters but neither girl alone is the "cause" of being sisters. It is the relationship between the two that "causes" them to be sisters. You can make comparisons about the relationship. For example, you can say that one sister is older and one is younger but it only makes sense in terms of the relationship, in comparison to each other.

Now let's look at a simple example of an object that sinks or floats in a liquid. When scientists think about the role of density in sinking and floating, they think about the relationship of the density of the object to the density of the liquid. They compare the densities to see which is higher and which is lower.

Linear Causal Story:



Relational Causal Story:



object sinks/liquid floats or
liquid sinks/object floats

When it comes to density, the "cause" of something sinking or floating is not one thing. The cause is the difference or relationship between the two densities.