there is something very wrong with thinking in categories and classifications. Many people accept the idea that this kind of thinking is at the core of abstract thought.

Douglas Hofstadter argues … argues that analogy is at the core of thinking.

The problem with categories is that they create artificial boundaries that are too crisp. But we know that when we master any subject that there is a distinct fluidity between concepts.

Analogy making employs the tacit knowledge gained through experience to adroitly navigate between similar and competing concepts. A master has an intuitive feel of the vocabulary he employs to create expressions that have previously never been heard. Christopher Alexander introduced the idea of generative languages where he articulated the mechanisms of open-ended generation of architectural designs. The difference between analogy and categorization is the difference between a generative process as compared to a descriptive process.

Biological brains feel their way through their realities. Something feels like red because our interactions with that thing feels the same as if it was red. We do not see the color red, we feel the color red.

Analogy making is the interplay between the iconic and the indexical (see Peirce). We land on each relevant sameness and make cognitive leaps between relevant distinctness. Analogy making is that just-in-time thought process that connects thoughts together.

I conjecture that the same process that an animal employs for navigation is the root of analogy making. Unlike animal navigation that connects what is perceived to internal concepts, analogy making internal concepts with each other. Indeed this capability is critical for any creature that needs to follow a complex conversation. You cannot converse if you can't analogize!

100 years ago Charles Sanders Peirce (pronounced 'purse') introduced his method of triadic thinking to William James. Peirce believed it to be the core of all his insights. William James however never understood it!

Peirce triadic reasoning is the core of thinking about emergent phenomena.

Emergent phenomena is difficult to grasp because it appears like magic. In simple terms, the interactive behavior of parts leads to an emergent behavior of the parts. Think of the phenomena of 'rubber-necking' as an emergent one.

Peirce's triadic thinking connects the parts with the whole in a systematic way. When one first hears about firstness, secondness, and thirdness, it sounds extremely weird. But baked in the approach is an explicit expression of how concepts progressively constructed. The problem with symbols (or even categorization) as a starting point is that it never expresses how a mind actually arrived at a symbol.

C.S.Peirce's writings are all about a meta-level evolutionary process. The method always begins with firstness. That is something that is (well) first and by itself. Firstness is defined as the characteristics of being first!

It is here where I will lose most of my audience. It's perhaps also the point where William James also lost the plot! But let me assure you that if you ever want to seek out the 'big picture' of intelligence then you aren't going to find it without knowing Peirce.

Decades of functionalist thinking that neatly places concepts into pigeonholes have left us with a fragmented and inconsistent model of intelligence. What we have collectively ignored is the evolution of signs as described by Peirce's semiotics.