

# What to expect when you're expecting:

the role of unexpectedness in  
computationally evaluating  
creativity

Observer-centric creativity evaluation  
vs  
Artefact-centric creativity evaluation

Novelty occurs when an artefact violates expectations about the scope of the domain

*P*-novel vs *H*-novel

Transformational creativity occurs when a novel event forces a restructuring of knowledge about the domain

*Impact vs Likelihood*

Surprise occurs as a response to confident violated expectations.

*unexpectedness given ...*

*...release date* (Maher and Fisher 2012)

*...classification* (Macedo and Cardoso 2001)

*...attribute relationships* (Grace, Maher, Fisher and Brady 2014)

# Expectations of what?



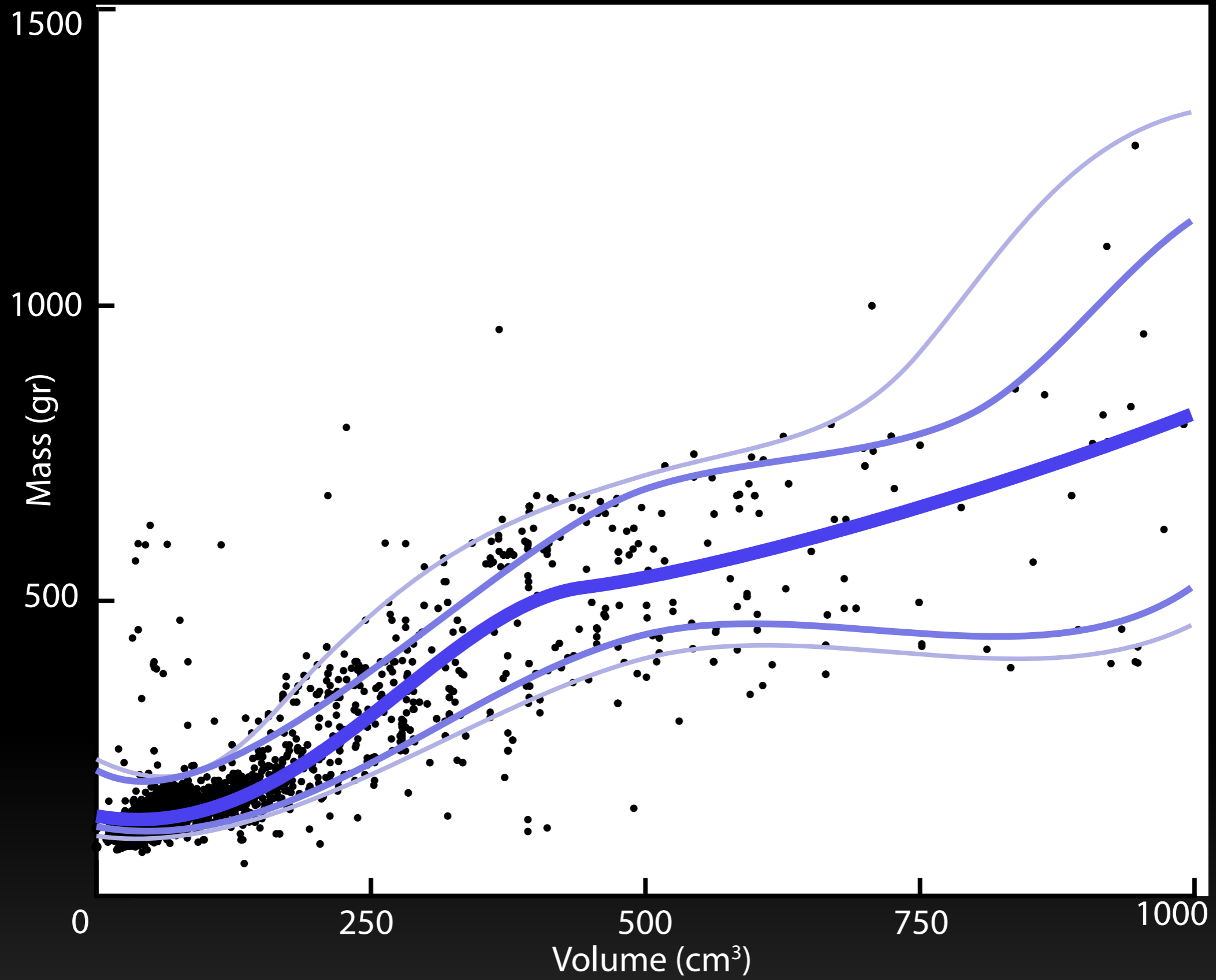
Is the expectation creativity-relevant?

*"I did not expect that artist to be the creator of this."*

What about the artefact is being predicted?

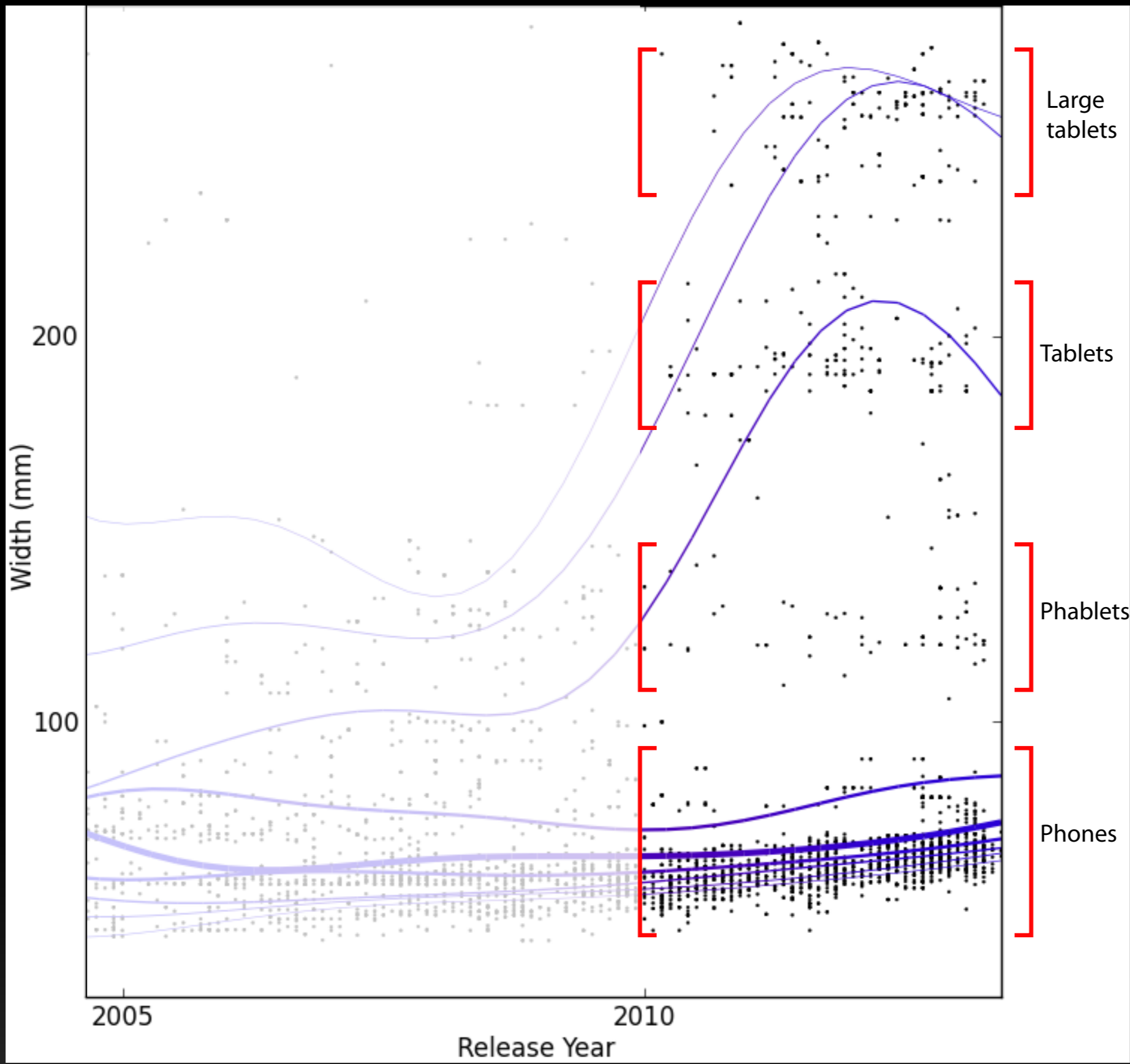
*"A mobile phone will fit in the palm of my hand"*



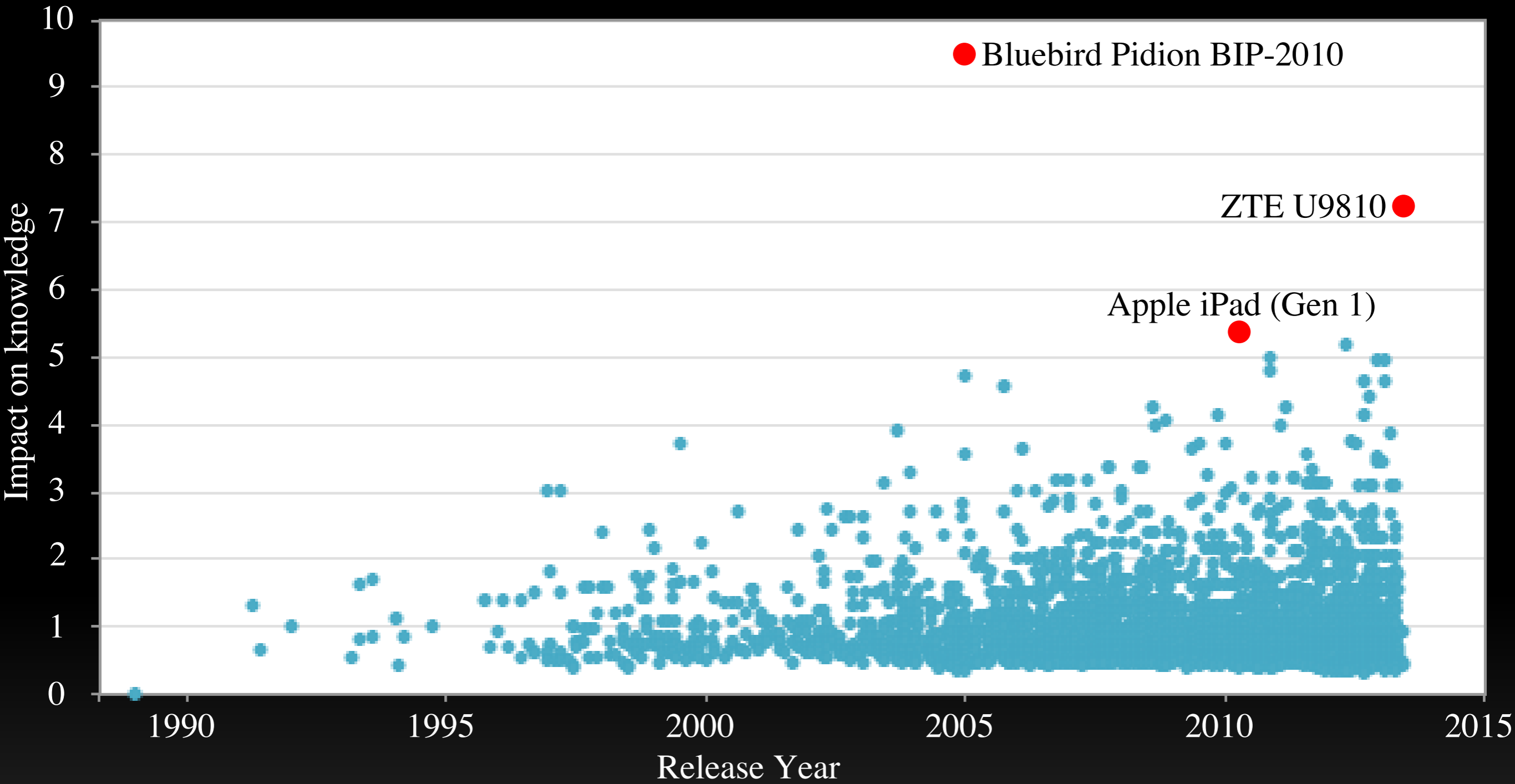


Do the expectations apply to the entire creative domain?

*“Smartphones have apps”*

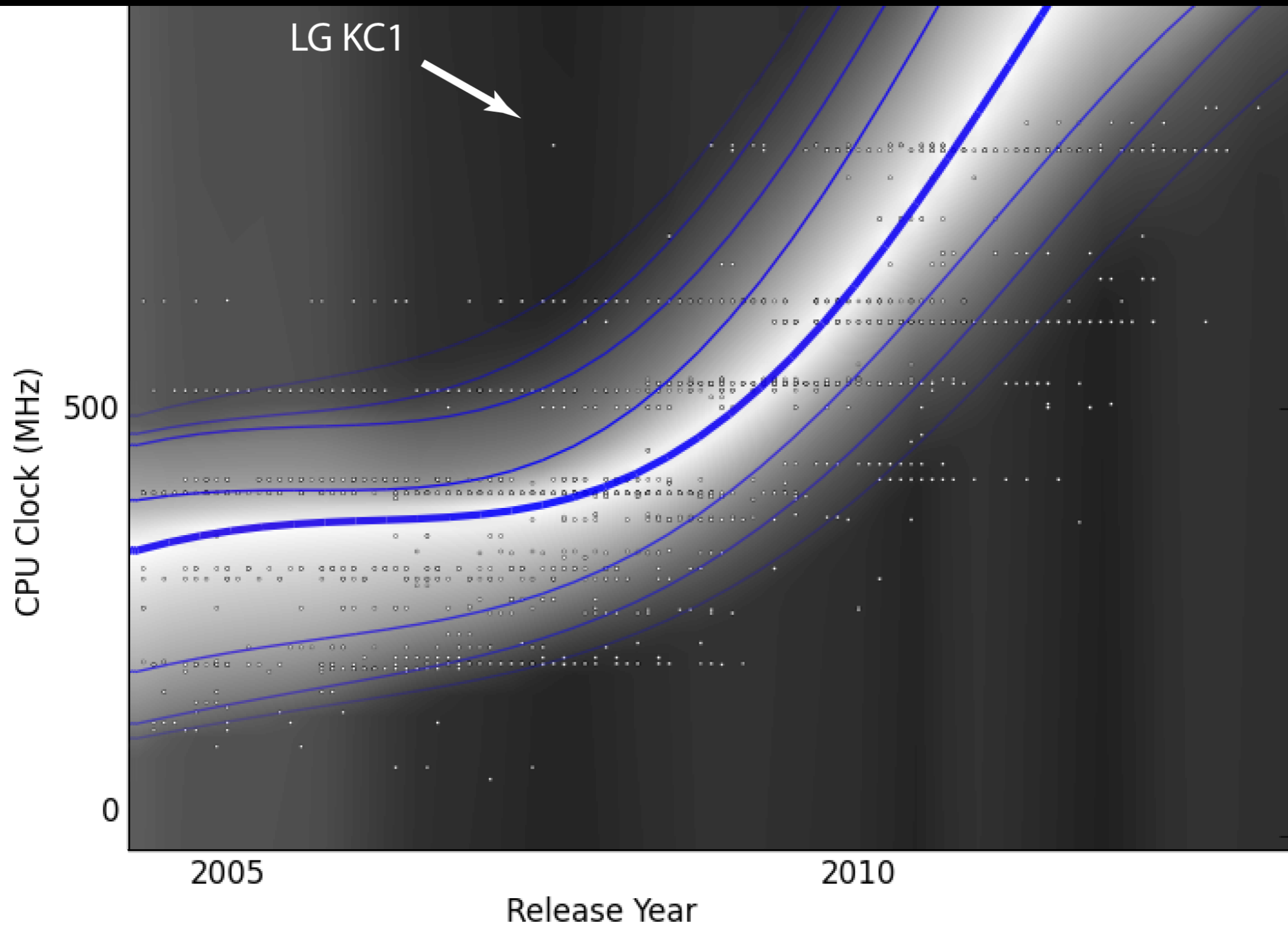


How is unexpectedness measured?

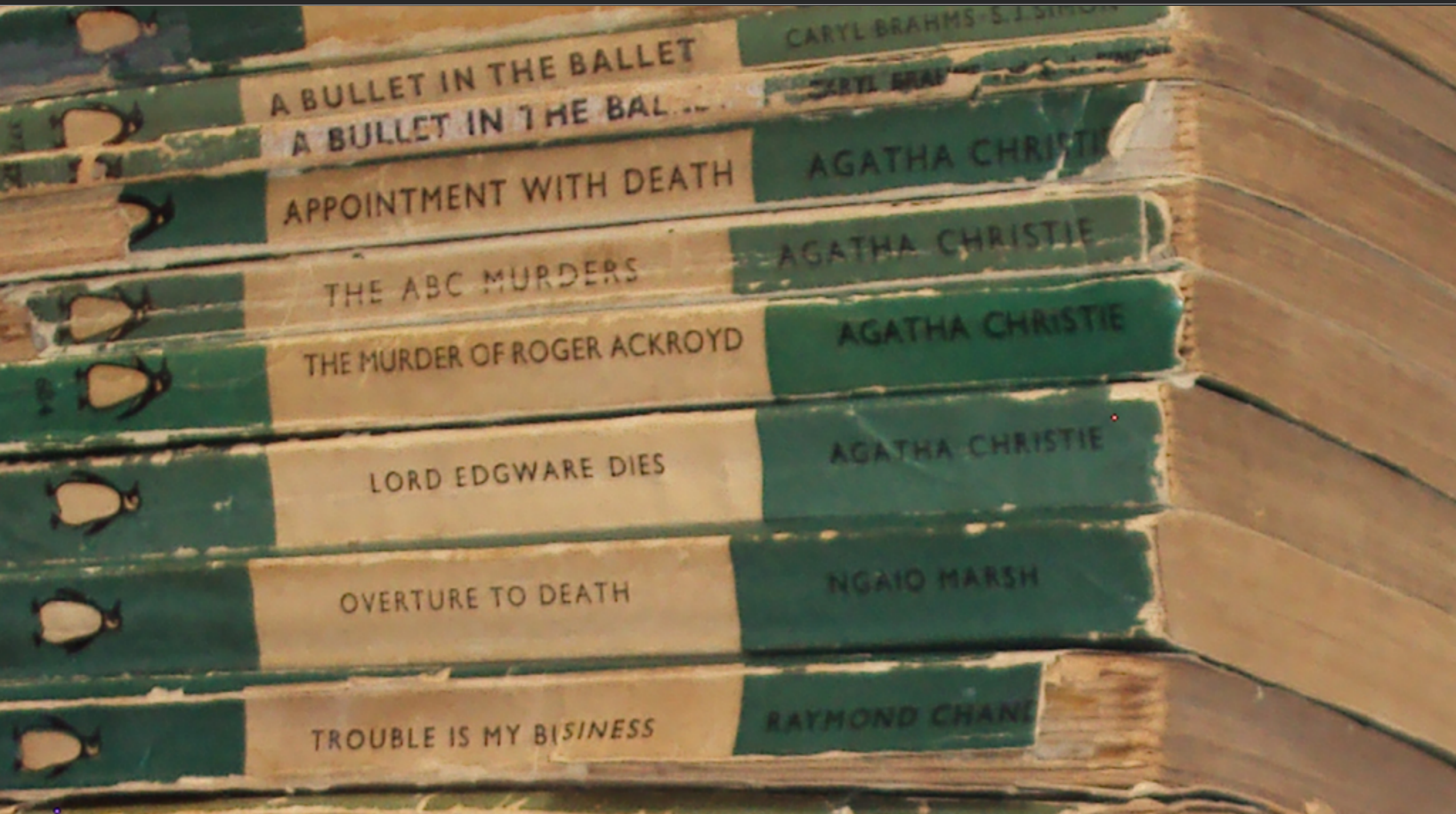


Are the expectations temporal?

*"It was ahead of its time"*

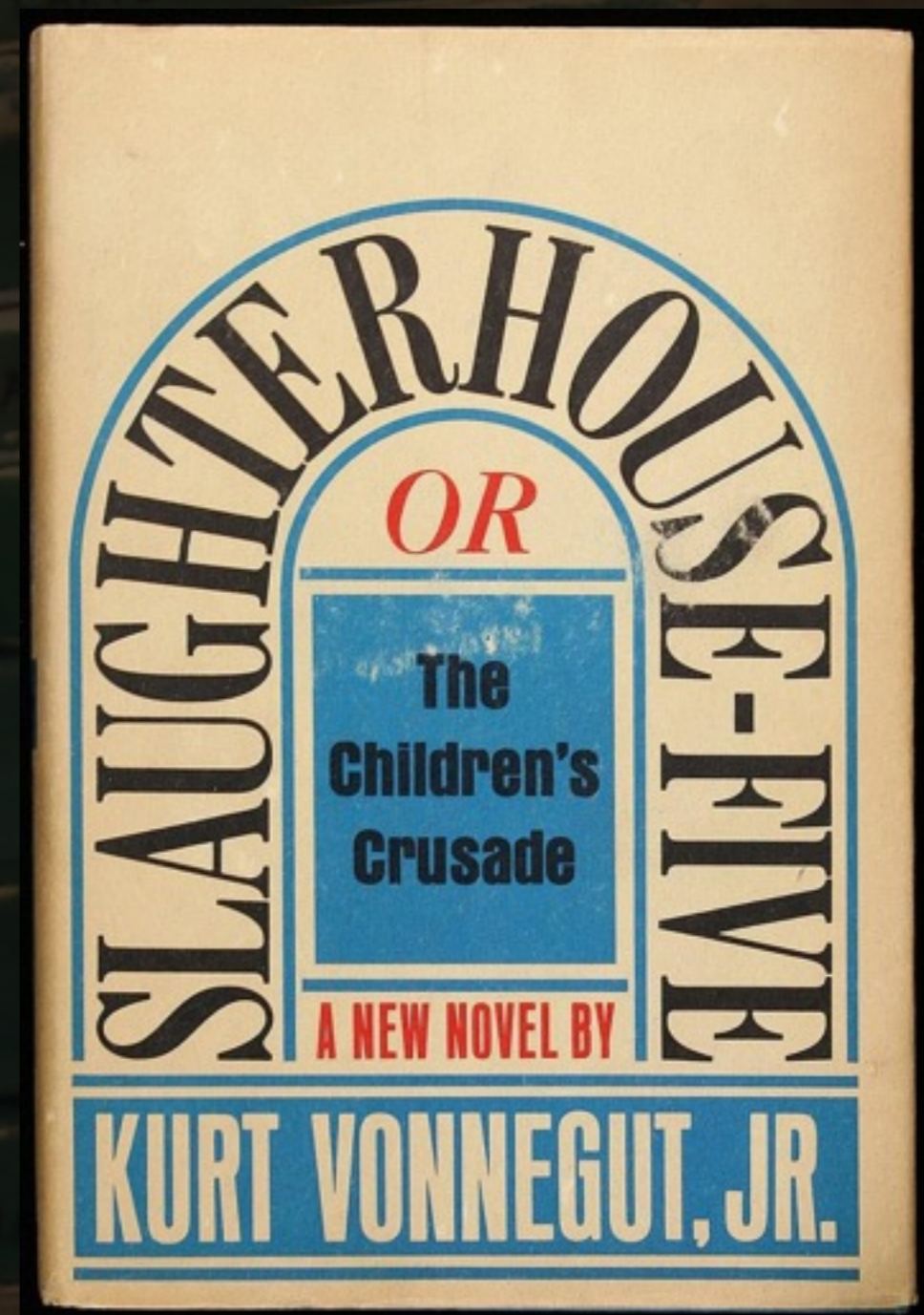
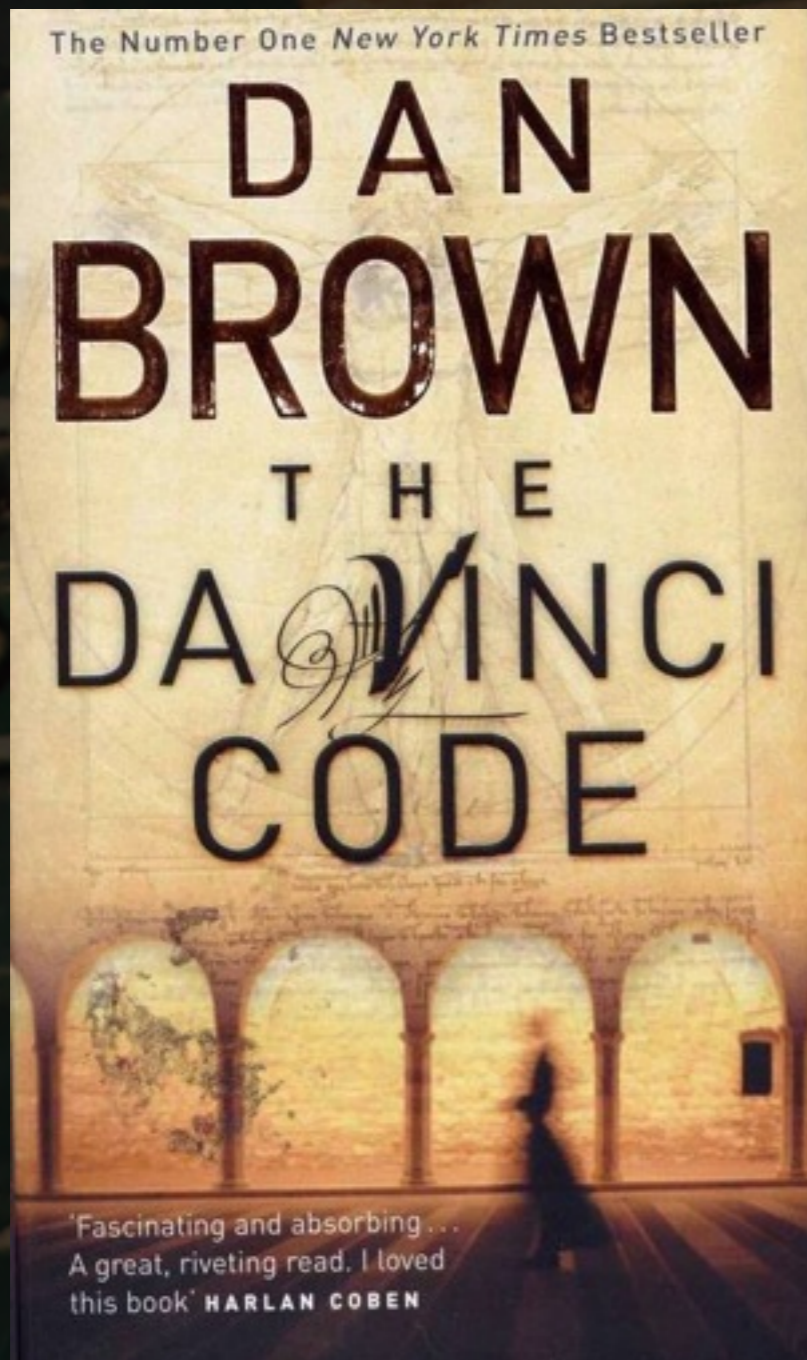


# Literary unexpectedness

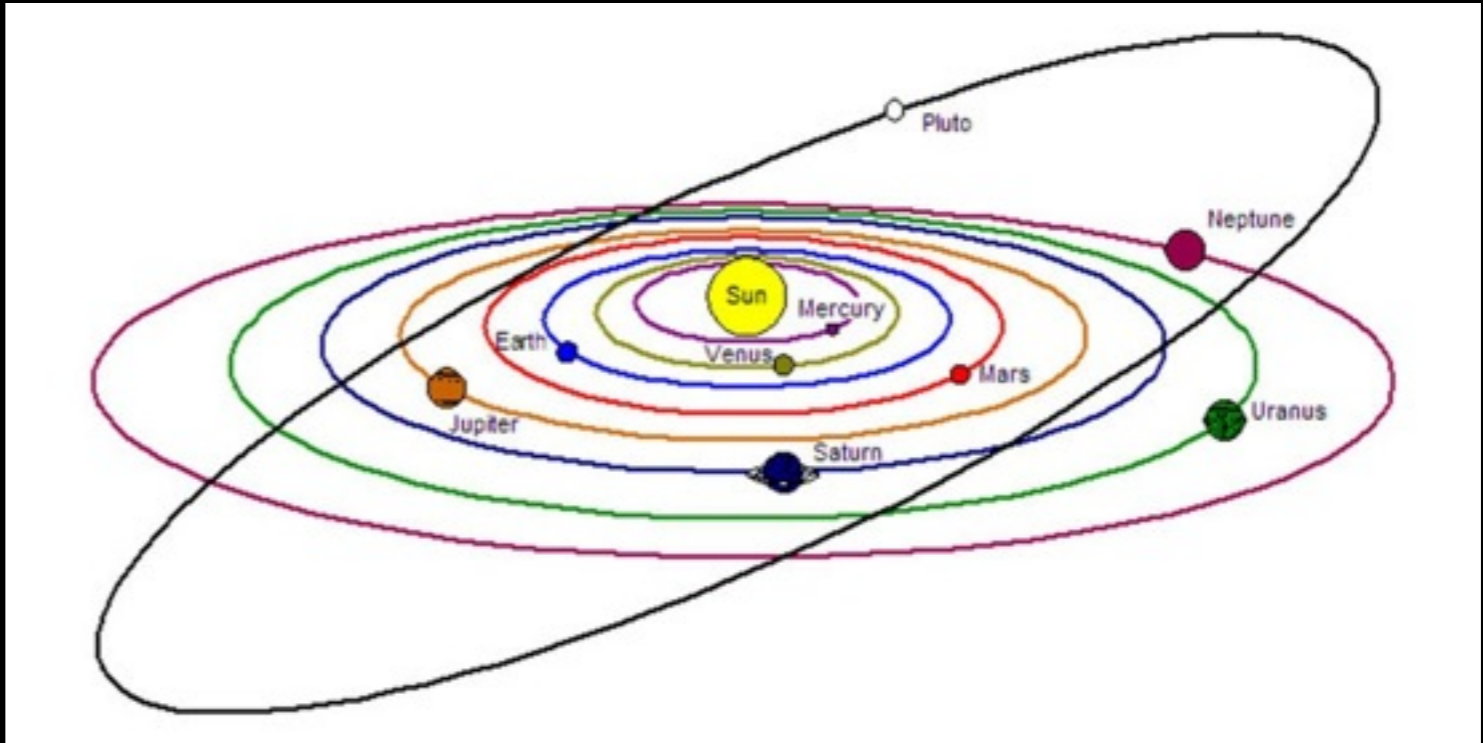
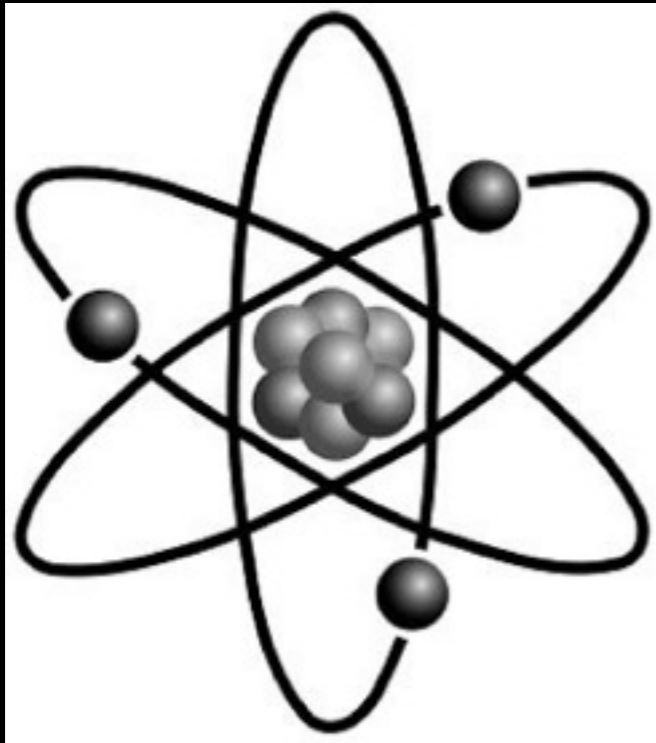




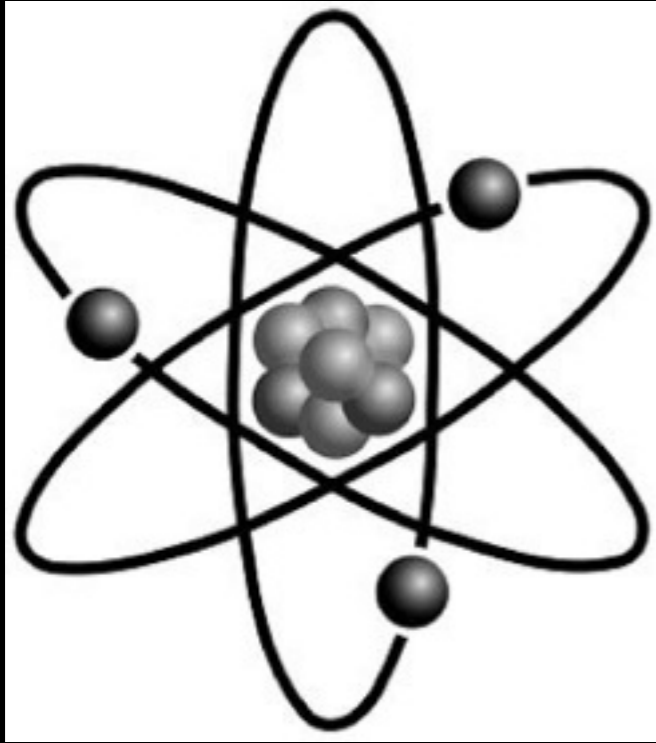
# Literary unexpectedness



# Analogical unexpectedness



# Analogical unexpectedness



# Scientific unexpectedness



Expectation should not subsume other factors, but it can help operationalise them.

Observer-centric evaluation requires social embedding to evaluate “H”-creativity.

Workshop on evaluating creativity at DCC:

“Computable Design Creativity Metrics”

[tinyurl.com/computablecreativity](http://tinyurl.com/computablecreativity)

# Design unexpectedness



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