STORYTELLING WITH DATA

ENGAGING MEMORY

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There are different types of memories, we need to understand how they are engaged when we tell stories:

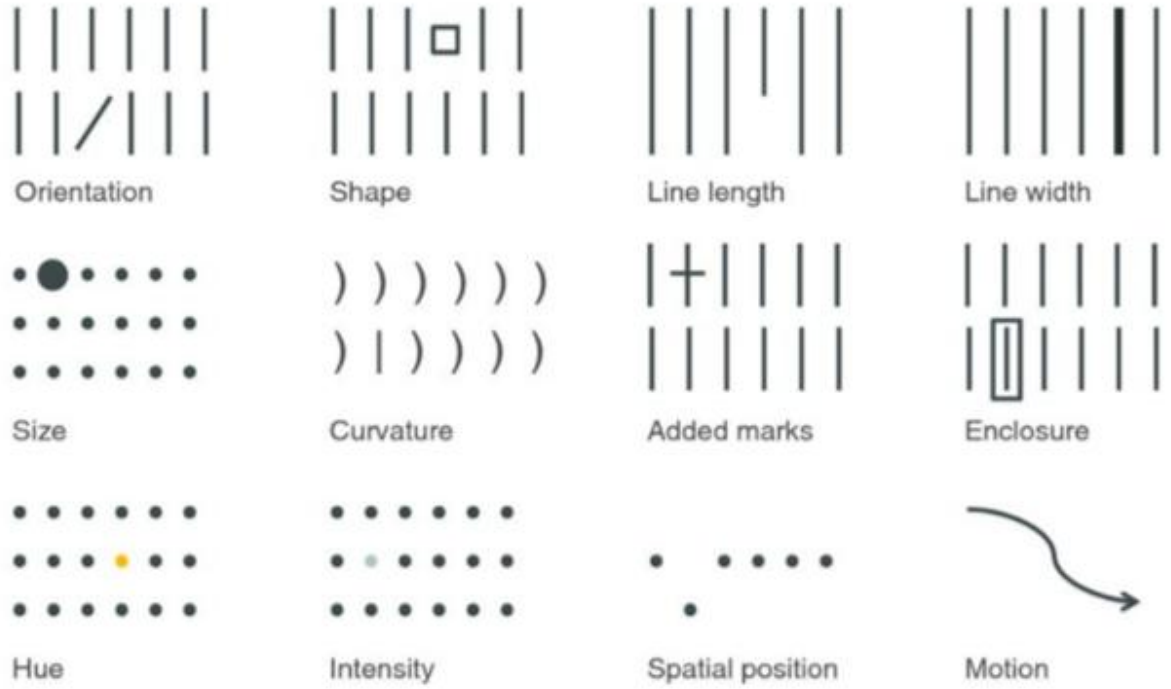
1. **iconic memory** – directs the eye
2. **short-term memory** – limits how many charts are found in dashboards
3. **long-term memory** – helps the audience remember what they saw

ENGAGING MEMORY

Iconic memory is the visual sensory memory (SM) register relating to the visual domain and a fast-decaying, high-capacity store of **visual info**.

Iconic memory is **brief** and provides a **coherent representation** for the entire visual perception.

It is tuned to **pre-attentive attributes**.



ENGAGING MEMORY

Short term memory can hold ~4 chunks of visual information at a given time.

When presented with more chunks (such as data points on a graph), chunks need to be processed **in and out of memory**.

Generally, we try to form **bigger**, **focused chunk hierarchies** (Gestalt).

ENGAGING MEMORY

Long-term memory is built up over a lifetime and is the basis for pattern recognition and general cognitive processing.

It is an aggregate of **visual** memory and **verbal** memory.

Images help us recall long-term memory, making the story "**stick**".

Context-providing text helps:

You have currently selected 28,711 ATIP requests totaling 6,597,612 pages of information

VS

ATIP Requests

30K	6.6M	230
requests	pages	pages/request

VISUAL PROCESSING

Perception is fragmented – eyes are **ever scanning**.

Visual thinking seeks **patterns**

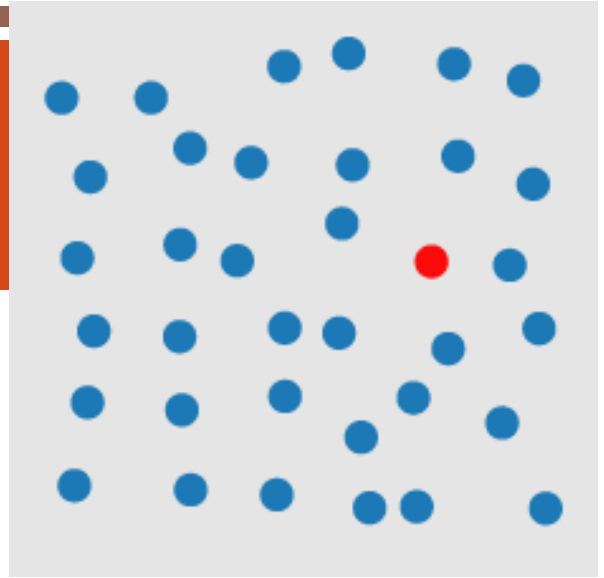
- **pre-attentive processes:** fast, instinctive, efficient, multitasking
  gather information and build patterns:

  features → patterns → objects

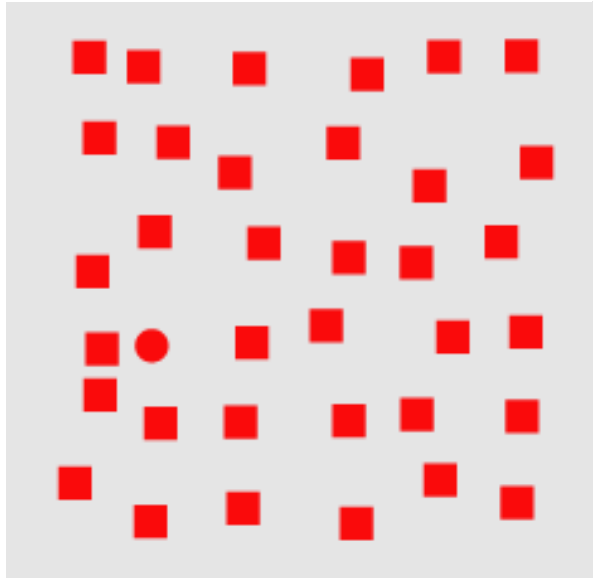
- **attentive process:** slow, deliberate, focused
  discover features in the patterns:

  objects → patterns → features

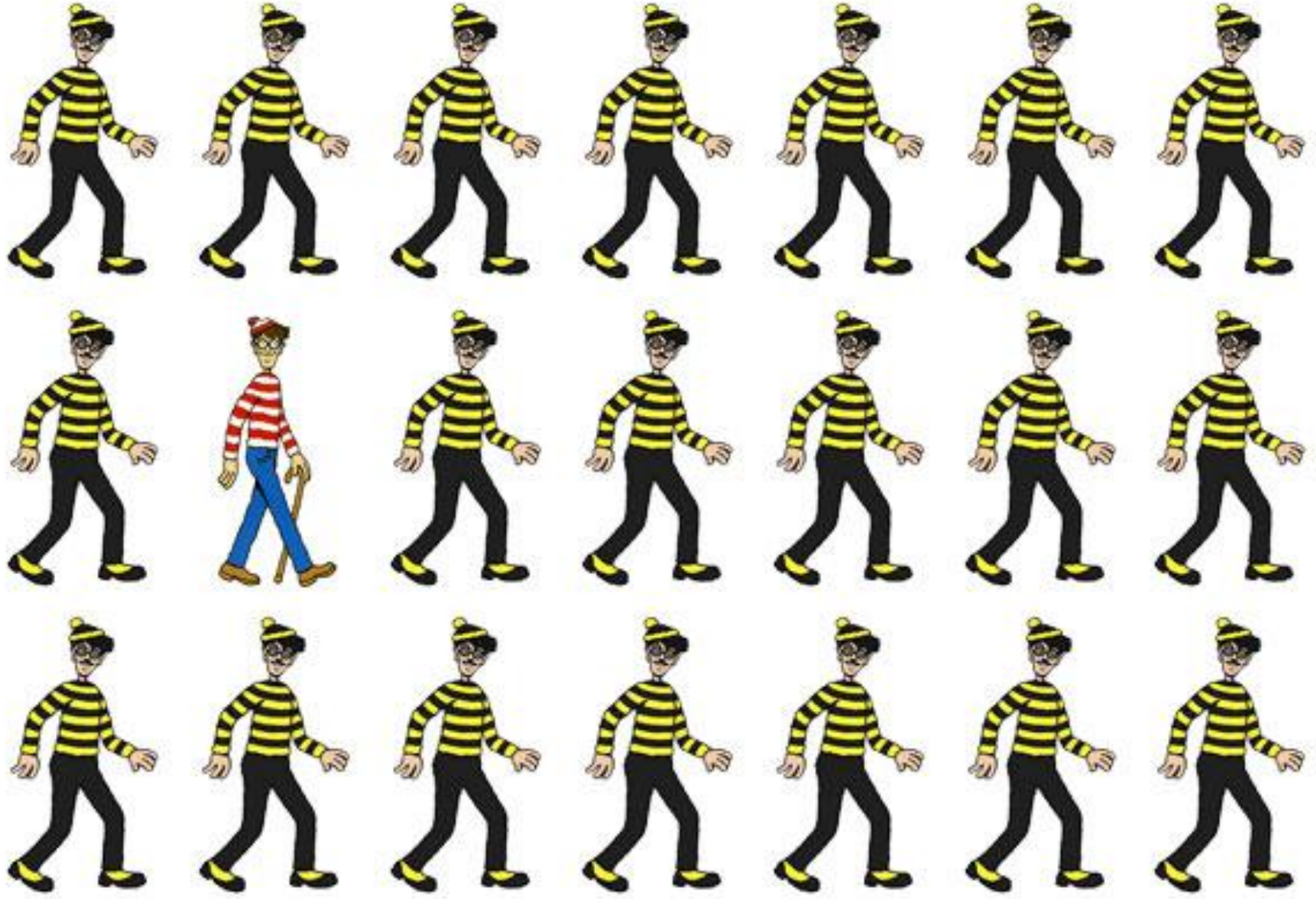
pre-attentive



attentive



[L. Groeger, A Big Article About Wee Things, ProPublica.com]



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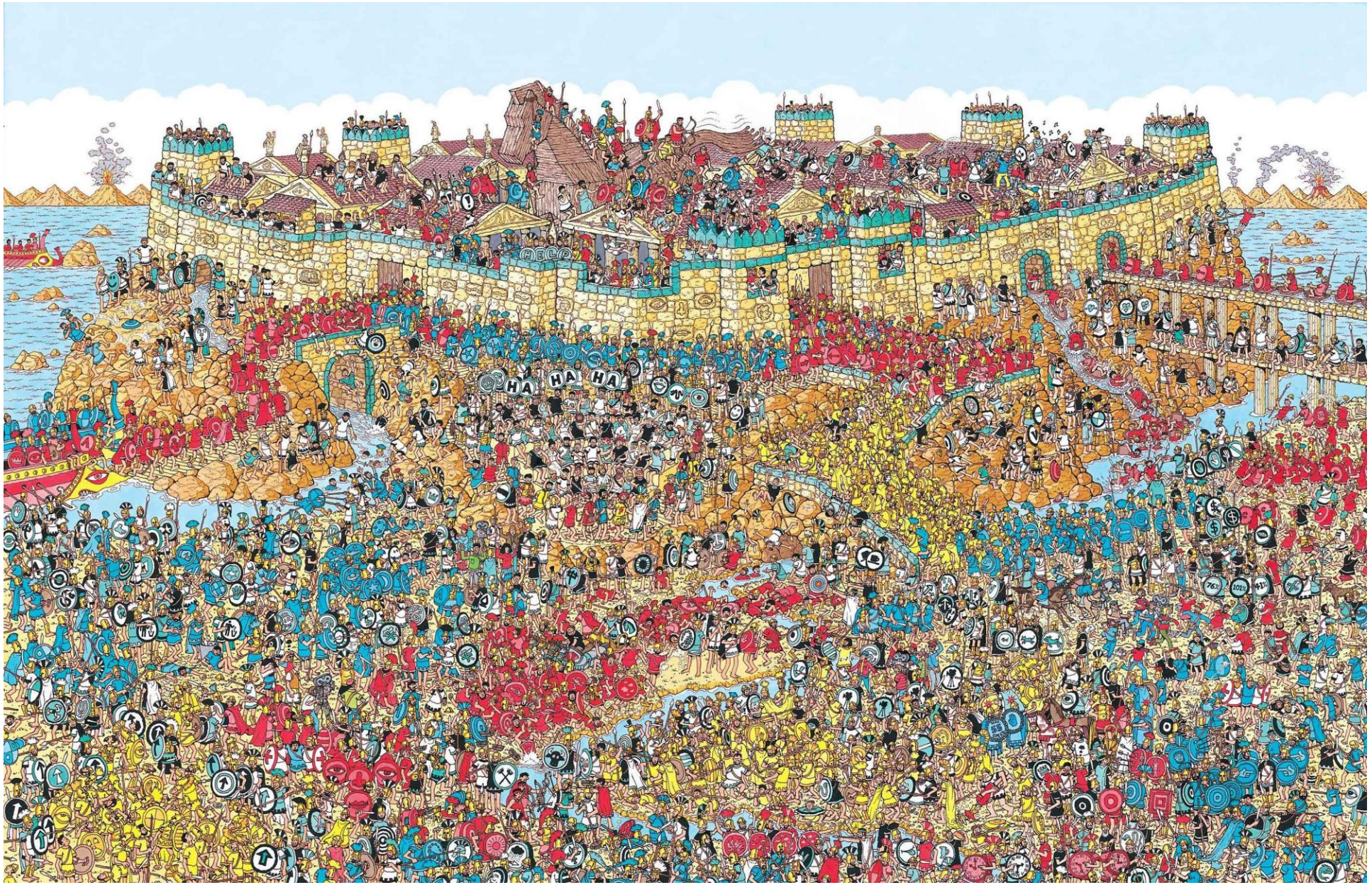

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