# Classification of memory systems

## DT profile

The classification of a memory system can be made in two broad categories:

* the data type the memory image uses to connect with others, and
* the traversal style.

## Data type connector

Each type of memory system builds a stored memory structure from many data types. But in each system, one data type is used to be a connector between the visual sentences. The narrative type carries the type along through multiple visual images. The peg system is indexed on an ordered set of a particular data type with a selected rule such as alphabetic, numeric, or a custom one.

## Traversal style

Traversal is a method by which you can make sure that all images in a related group will be recollected in order as they were stored. It is an ordered path from one memory image to another.

There are three types of traversals:

* no traversal (each memory image is independent)
* narrative traversal (each memory image depends on the previous memory image)
* rule traversal (each memory image is ordered by a memory image component rule)

If there is **no ordering** of memory images, then each memory image would be retrieved independently from any other memory image much like a dictionary is used to look up word definitions. Even though it is ordered, the word that follows is neither useful or in any way associated with the previous word and no one would be interested in knowing all the words that start with a certain letter (at least someone disinterested in pushing the limits of a mnemonic system).

The **narrative traversal** is a way to connect one memory image to the next by creating some imaginative logic that associates the two commonly found in literature and performing arts. The first memory image could be considered a key to the following value of a memory image. But then the value becomes a key to the next memory image. This system is sometimes referred to as a doubly linked list for the ability to traverse forwards and backwards in the chain.

The **rule traversal** method uses a pre-selected set of memory images to which memory images can be associate to. Any kind of data type can be used if the order is followed consistently so that the images can all be covered when being traversed. Traversal rules are unique to each type of memory system.

## Outline of study

1. Visual mnemonics
   1. Visualizing words
      1. Metrics
         1. Stickiness
            1. Relevance
            2. Familiarity
         2. Low mental load
            1. Simplicity
            2. Conciseness
      2. Data types (SEA-IT)
         1. Subjects
         2. Elaborations
         3. Actions
         4. Items
         5. Terrains
      3. Techniques
         1. Related meaning (semantic)
            1. Same data type
            2. Different data type
         2. Related sound (phonological)
            1. Same data type
            2. Different data type
         3. Related shape (orthographic)
   2. Visualizing letter sequences
      1. Shape of letters
      2. Embellishment with rote memorization
      3. Grouping letters to form words
   3. Visualizing word sequences
      1. Acronym
         1. Simple, non-semantic
         2. Simple, semantic
         3. Embellished
      2. First letter substitution
      3. Syllable substitution
   4. Converting digits
      1. One-step processes
         1. To decimal
         2. To word of same length
         3. Related sound
         4. Related data type
         5. Related shape

# Visual memory systems summary

## Image data types (SEA-IT)

* **Subject** (person, group, organization, role, living thing, fictional character).
* **Elaborations** added to the **subject** (tools, costume, expression, shape, size, body features, superpowers), the **action** (speed, scope, severity, associated emotion, associated item), the **item** (texture, size, color), or the **terrain** (weather, plants, animals, time, water and geologic features, domiciles).
* **Action** (a strong verb causing an effect on the item).
* **Items** being acted on that are preferably animated but can be inanimate.
* **Terrain** or location.

Using all five memory image components creates a vivid image more easily remembered. It can also be called a **visual sentence** since it is directly related to the construction of a sentence in English. An association from a memory image can be made to any part of the visual sentence. But the tie to a subject, its elaborations, or its action is usually tied to all three.

The simpler the system is, the less components are used. Systems that associate consistently with a component are anchored to that data type or sometimes a rule is used to provide anchor guidance.

Some data types may evolve to be other data types depending on the need of the memory image. Inanimate objects are easily animated to be subjects and even a location can spring forth a type of character to activate a memory image.

## Visual systems by DT profile

The basic visual systems have been classified by their data type connector and the traversal style. Each data type can include some form of elaboration. Systems can be combined to form a compound visual system. Systems can be internal or external and have varying levels of maturity of development.

|  |  |  |
| --- | --- | --- |
|  | **Narrative** | **Peg** |
| **Subject** | **Story**. Images use relevant narrative logic driven by protagonists for traversal. Ceremonies, literature, films, sequential art. | **Person pegs**. Images are anchored to a set of ordered people. PA and PAO systems, person pegs. |
| **Item** | **MacGuffin**. Images use relevant narrative logic driven by objects for traversal. The Maltese Falcon, Holy Grail. | **Object pegs**. Images are anchored to a set of ordered objects. Number pegs, object templates. |
| **Terrain  (method of loci)** | **Journey**. Images use relevant narrative logic driven by locations for traversal. Songlines tied to Country. | **Palace**. Images are anchored to a set of ordered locations. **Location pegs**, grids, henges, lukasas, winter counts, quipus. |

## Common traversal rules

### Person or Item

* **alphabetic**
* **numeric**
* small to large

### Terrain

* **pre-existing path**
* **alphabetic**
* **numeric**
* path by proximity, alignment, contrast, or repetition of elements.
* front to back
* left to right
* top to bottom
* external POV outside to inside
* internal POV low (starting near your feet) to high
* external POV high (starting near your head) to low
* internal POV: inside to outside
* clockwise (north, east, south, to west or 12, 1, 2, etc.)
* 6-sided die - turn right, rotate forward

# Musical memory systems summary

## 5 sound data types (PILTD):

Interval / chord?

* Pitch (frequency, note, scale)
* Intensity (volume)
* Location
* Timbre
* Duration-Length
* Key

## Auditory systems

|  |  |  |
| --- | --- | --- |
|  | **Static** | **Dynamic** |
| **Key** | In key. | Out of key. |
|  | Recording. | Interpretation. |
|  | Song. Composition. Melody. | Motif/riff based. |
|  | **Note based repertoire** |  |
|  | **Chord based repertoire** | Music form. |

According to the Oxford Companion to Music[3] there are several ways of developing a theme. These include:

* The division of a theme into parts, each of which can be developed in any of the above ways or recombined in a new way. Similarly, two or more themes can be developed in combination; in some cases, themes are composed with this possibility in mind.
* Alteration of pitch intervals while retaining the original rhythm.
* Rhythmic displacement, so that the metrical stress occurs at a different point in the otherwise unchanged theme.
* Sequence, either diatonically within a key or through a succession of keys.

## Common traversal rules

* low to high pitch
* slow to fast tempo
* soft to loud intensity
* simple meter to complex meter

# Taste/smell memory systems summary

## 4 taste/smell data types (FLAP):

* Flavor/scent
* Location
* Aesthetic (presentation)
* Physical traits (texture, temperature, sizes, quantity)
* Chef style

## Taste/smell systems

|  |  |  |
| --- | --- | --- |
|  | **Static** | **Dynamic** |
|  | Classic dish. Brigade de cuisine. | Experiment. |
|  | Standard fare. Haute cuisine. |  |
|  | Flight. | Tasting menu. |
|  | Meal. | Tasting. |
|  | Recipe. Fast food kitchen. | Flavor pairing |

## Common traversal rules

* Sweet to sour
* Bland to salty
* Cold to hot
* Weak to strong intensity
* American or European order of dishes