# Memory systems theory

## Data types

## Traversal

## Purposes

The difference between the two styles of visualization systems in the bottom chart are distinguished how the system is used. If the knowledge that is being stored is known beforehand, then it is what I used to call a system for storing or using the information for **long-term use including teaching** others based on using a memory system as keys to provide storage locations for the knowledge. People impose a rational order on top of their knowledge, or you could say a top-down system. It’s more of a rational or scientific approach.

The other style of system is the bottom-up style where information is stored and used as it is acquired and blended into a system. When too many pieces of information or values are needing to be stored and used, they must be understood and chunked using the imagination to provide a way to organize it. It is a way to immediately respond to all the input in way that involves a **learning or creative** process as new pieces of information are blended in. The ordering can change and there is an expectation of using the system for short-term timespans. You could call this the analytic or creative approach.

# Visual memory systems summary

## Four visual data types (PAIL):

* Party (person, group, organization, role, living thing, fictional character)
* Action (a strong verb)
* Inanimate object
* Location

## Visualization systems by traversal

|  |  |  |  |
| --- | --- | --- | --- |
| **Units / traversed by** | **single association** | **narrative sequence** | **rule-ordered sequence** |
| **Things in words** | Sentence | Story | List |
| **Things** | Symbol | History | Journey |

## Visual system structures by purpose

|  |  |  |
| --- | --- | --- |
| Type / purpose | **Using and teaching (repeatable)** | **Creating and learning (dynamic)** |
| **Sentence** | **Logical sentence**. Subject performs relevant action with relevant object. | **Random sentence**. Any subject acting in any way with an object. Competition. |
| **Story** | **Story interpretation**. Imaginary subjects and actions perform narratives on objects to achieve an outcome. Fable, myth, book adaptation, novel, short story. | **Improvisation**. Subjects and objects follow narrative logic with relevant actions without knowing an outcome. Competition. |
| **List** | **Pegs**. An ordered list of subjects performs relevant actions to a sequence of objects. Often reduced to objects only. | **Pattern**. Seen as a whole, a group of objects suggest an order for imaginary subjects or actions of a sequence. Rapscalion. |
| **Symbol** | **Feature**. A natural or created part of a background is associated in a relevant manner with an object. Monument, memento, icon, tag. Method of loci without a traversal rule. | **Projection**. An object acts on a natural or created part of a background for an imaginary reason. |
| **History** | **Adventure**. An existing background controls the narrative logic to the actions and objects. A method of loci with a narrative backing. An finished design of a dreaming. You are standing in an open field west of a white house, with a boarded front door. There is a small mailbox here. What does the mailbox do? Plays, dance, lyrics to a song. | **Dreaming**. A background is the result of a narrative of locations with imaginary actions and subjects to achieve an outcome. People or gods did stuff here to this object, who and what was it? Songlines. |
| **Journey** | **Marked path**. An ordered set of locations within a real background are associated with actions and objects. A method of loci that follows traversal rules. A performance of an art form, movie. Genealogy. “Location pegs.” | **Art form.** An ordered set of locations using an imaginary background develops out of imaginary subjects doing actions on a group of objects. Memory objects, lukasas, winter counts, quipus. |

## Common traversal rules

* **pre-existing path**
* **sequence** (alphabetic, numeric, etc.)
* **peg system** (imposed sequence)
* path by proximity, alignment, contrast, or repetition of elements.
* small to large
* 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):

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

## Sound systems by traversal

|  |  |  |  |
| --- | --- | --- | --- |
| **Units / traversed by** | **single association** | **melodic sequence** | **rule-ordered sequence** |
| **Notes** | Interval / chord | Melody | Composition / song |

## Sound system structures by purpose

|  |  |  |
| --- | --- | --- |
| Type / purpose | **Using and teaching** | **Learning / composing** |
| **Chords** | **In key**. Subject performs relevant action with relevant object. | **Out of key**. Any subject acting in any way with an object. Competition. |
| **Melody** | **Interpretation**. Imaginary subjects and actions perform narratives on objects to achieve an outcome. Fable. | **Improvisation**. Subjects and objects follow narrative logic with relevant actions without knowing an outcome. Competition. |
| **Composition / song** | **Development type.** An ordered list of subjects performs relevant actions to a sequence of objects. | **Motif/riff based.** Seen as a whole, a group of objects suggest an order for subjects or actions of a sequence. |
| **Symbol** | **Feature**. A natural or created part of a background is associated in a relevant manner with an object. Monument, memento, icon, tag. Method of loci without a traversal rule. | **Projection**. An object acts on a natural or created part of a background for an imaginary reason. |
| **Note based repertoire** | **Adventure**. An existing background controls the narrative logic to the actions and objects without knowing the outcome. A method of loci with a narrative backing. You are standing in an open field west of a white house, with a boarded front door. There is a small mailbox here. What does the mailbox do? | **Dreaming**. A background is the result of a narrative of locations with imaginary actions and subjects to achieve an outcome. People or gods did stuff here to this object, who and what was it? Songlines. |
| **Chord based repertoire** | **Marked path**. An ordered set of locations within a real background are associated with actions and objects. A method of loci that follows traversal rules. Meter | **Music form.** An ordered set of locations using an imaginary background develops out of imaginary subjects doing actions on a group of objects. Plays, movies, dance. Lukasa, winter counts. 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)

## Taste/smell systems by traversal

|  |  |  |  |
| --- | --- | --- | --- |
| **Units / traversed by** | **single association** | **flavor sequence** | **rule-ordered sequence** |
| **Ingredient** | Recipe | Meal | Tasting |

## Taste/smell system structures by purpose

|  |  |  |
| --- | --- | --- |
| Type / purpose | **Using and teaching** | **Learning / composing** |
| **Flavor pairing** | **Classic dish.** Subject performs relevant action with relevant object. | **Experiment.** Any subject acting in any way with an object. Competition. Food show. |
| **Meal** | **Standard fare**. Imaginary subjects and actions perform narratives on objects to achieve an outcome. Fable. | **Haute cuisine**. Subjects and objects follow narrative logic with relevant actions without knowing an outcome. Competition. |
| **Brigade de cuisine** | **Flight**. An ordered list of subjects performs relevant actions to a sequence of objects. | **Tasting menu**. Seen as a whole, a group of objects suggest an order for imaginary subjects or actions of a sequence. |
| **Symbol** | **Feature**. A natural or created part of a background is associated in a relevant manner with an object. Monument, memento, icon, tag. Method of loci without a traversal rule. | **Projection**. An object acts on a natural or created part of a background for an imaginary reason. |
| **Chef** | **Adventure**. An existing background controls the narrative logic to the actions and objects without knowing the outcome. A method of loci with a narrative backing. You are standing in an open field west of a white house, with a boarded front door. There is a small mailbox here. What does the mailbox do? | **Dreaming**. A background is the result of a narrative of locations with imaginary actions and subjects to achieve an outcome. People or gods did stuff here to this object, who and what was it? Songlines. |
| **Fast food kitchen** | **Marked path**. An ordered set of locations within a real background are associated with actions and objects. A method of loci that follows traversal rules. | **Art form.** An ordered set of locations using an imaginary background develops out of imaginary subjects doing actions on a group of objects. Plays, movies, dance. Lukasa, winter counts. |

## Common traversal rules

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