# Glossary of memory terms

Many of these terms are in common usage but many are defined through a systemized theory of memory systems that I put together. I have a great debt of gratitude for information discovered and discussed on [The Art of Memory Forum](https://forum.artofmemory.com/) and for Lynne Kelly who kicked off my obsession with getting the words right. – Doug Hoff

## A

action - one of the five visual data types defined in the SEA-IT set for composing visual sentences. The action of the subject is directed to the item. Most actions need a helper object.  
**Synonyms**: verb.  
Examples: shouts at, hits with a hammer, drives a car, rides a horse, types a letter.

**aggregation –** associating an independent memory image sequence in another memory image sequence.  
Synonyms: branching, containment, parent-child relationship, nesting, portal, Russian doll, zooming in, massive memory palace (MMP).  
**Examples:** memory image narrative associated to a peg system, files in a filing cabinet and documents in the files.

**anchor –** a dependency for traversal on a SEA-IT data type used commonly in a synced peg system to provide related data types to the main data type.  
Synonyms: pivot type, trigger type.  
Examples: The traditional PAO system uses three SEA-IT data types but is anchored on the subject where the association is made to another image, the number peg system uses and therefore is anchored on one data type of item-object but may include a few subjects.

**associate** – to store a memory image using an association.  
**Synonyms**: to tie, to link, to bind.  
**Examples**: a tie makes me think of a man with a suit, a man with a suit makes me think of a person doing business, doing business makes me think of making money, making money makes me think storing it in a bank, a bank makes me think of having armed guards with arm patches.

**association –** the logic between an image key and an image value by a consistent means.  
Subtypes: visual sentence, narrative, peg  
**Synonyms**: the glue, mortar, a pointer, a hook, storing an image value, a curtain-line between play acts, paired-linking.  
**Examples**: tie -> suit, suit-> business, business -> money, money -> bank, bank -> armed guards, armed guard -> stagecoach logo (Wells Fargo).

association memory image range – the number of memory images that are necessary to learn to use a visual memory system, used as a metric for visual memory system comparisons.  
Synonyms: breadth, system weight.  
Examples: the range of a peg system based on the alphabet is 26, the range of a 2-digit PAO peg system is 100 \* 3 or 300.

association point – the metric for an association used for system process efficiency.  
Synonyms: links.  
Examples: a peg of a cow placed in a location of a castle where the dwarves live has two association points.

**association strength** – the meaningfulness of the association.  
**Synonyms**: association value, link strength. association relevancy.  
Examples: A dog with a name and breed you don’t know, a dog from a breed you know, a dog that you have seen, a dog you have owned recently, or a dog you grew up with and the association with another memory image. Also, the dog must have a believable interaction with the other image to be strong.

## B

**background** – the common name in a method of loci for the terrain. see terrain.

## C

**chunking** – breaking up a large number of item into meaningful groups. Groups often follow rules such as the same number of items in each chunk or having a similar background.  
Synonyms: structuring, superorder.  
**Examples:** 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15 = (1,2,3,4,5), (6,7,8,9,10), (11,12,13,14,15).

**cognitive load** – the number of visualization points that can be placed in working memory at one time.  
Synonyms: mental load  
Examples: Albert Einstein writes on a whiteboard vs. Frizzy-haired, Albert Einstein wearing a wrinkled white shirt and somewhat short black pants and very worn shoes is laboring at the end of a physics formula…

**composition** – a memory image sequence is contained in a main memory image sequence and cannot be used separately making it dependent on the main image sequence.  
Synonyms: containment, parent-child relationship, nesting, Russian doll.  
**Examples:** fingers on a hand, locations on a memory object.

compound memory system – a fusion of two systems.  
Synonyms: double system.  
**Examples:** using a 2-digit PAO to visualize six digits and putting that image in a location with a method of loci.

## D

**data** – values that communicate no useful meaning.  
**Synonyms**: characters, digits, glyphs.  
**Examples:** M O 5 G 6 A 3 W 4 / 6 / 2 0 2 1 ( 2 1 6 ) – 2 3 4 – 5 6 7 8 7 p m a b a 1101100 1101100.

**dreaming** **–** a type of visual memory system where images suggest narrative logic driven by locations. The DTM profile is Terrain anchored data, narrative traversal, and dynamic maturity. One type of method of loci. **Synonyms**: talking trail.  
**Examples**: The street away from my home on my journey into the cold (heading north) begins with me packing a bag of treats (trees and objects) of a fence and maple trees which become chocolate mille-feuille pastries and green palmiers. I say good-bye to my tree family of a mother, father, and child, a grouping of three pine trees. The next step is where I pick up my fishing gear from three salesmen (also pine trees with fishing lure pinecones on the branches) who send me on my way.

DTM – (data type, traversal method, and maturity level) the qualities for a classification system of a memory system remembered as an acronym for datum. Memory images are based on a SEA-IT **data** **type anchor**, navigated with a **traversal** method, have a system **maturity** level, and include various rules, mostly for traversal, which must be described separately.

## E

**encode –** to transform a type of data into a different type of data.  
**Synonyms**: to encrypt, to cipher.  
Antonyms: to decrypt, to decipher.  
**Examples**: A -> 1, a -> 32, a -> aah.

encoding point – the mapping of a value that is used as a metric of system process efficiency.  
**Synonyms**: transformation count, translation.  
**Examples**: A = apple has one encoding point, A = 1 = tie has two encoding points, A = 01000001 = 65 = SH+L has three encoding points.

**encoding rule** – a description using variables and a result for transforming one data type to another non-image data type.  
**Synonyms**: to encrypt, to map.  
**Examples**: upper- or lower-case letters starting at A which encodes to one and increments by one until Z ends at 26, upper- or lower-case letters starting at A which encodes to a type of fruit or vegetable starting with that letter.

**encoding system** – a set of rules used to map one data type to another non-image data type.  
**Synonyms**: a set of mappings.  
Examples: The Major system, Ben system.

enhanced memory image– a memory image that uses enhancements to develop into a full visual sentence.  
**Synonyms**: rich memory image, easier to remember image.  
**Examples:** a ball -> a soccer ball -> a soccer ball hitting the goal keeper’s hand -> a soccer ball hitting the goal keeper’s hand in a Rio de Janeiro stadium.

**enhancements** - one of the five visual data types defined in the SEA-IT set for composing visual sentences. Enhancements are applied to any subject, action, item, or location from the SEA-IT visual components.  
**Synonyms:** window dressing, decorating, providing realism, increasing resolution or granularity, adjectives, adverbs. **Examples**: The profession of a person, the violence of an action, the size of an item, the weather in a terrain.

## I

**image components –** see SEA-IT.

**image key** – a memory image associated with one or more memory image values in any visual memory system.  
**Synonyms**: a location, an anchor point, storage point, data point, an encoded image, a locus (improper use).  
**Examples**: a ball (the key) rolls on a tile floor towards Albert Einstein (the value) and knocks him down,

**image value –** a memory image associated with an image key in any visual memory system.  
**Synonyms**: a link.  
**Examples**: Albert Einstein (the value) gets up off the floor and sees the ball (the key) that rolled over and knocked him down.

**index peg –** a peg system that uses each location to refer to another set of pegs. This system is used either to catalog a personal set of pegs or provide a category to other pegs.  
Synonyms: peg portals, category peg.  
Examples: 52 = a list of Albert Einstein’s memorabilia, 852 = physicist Albert Einstein.

**information** – multiple pieces of data that has an implied association so that meaning can be derived.  
**Synonyms**: field name, category.  
**Examples:** MO 5G6 A3W, 4/6/2021, (216)-234-5678, 7 pm, a ball.

**interpretation –** a type of visual memory system where images suggest narrative logic driven by subjects. The DTM profile is Subject-Action anchored data, narrative traversal, and dynamic maturity.  
**Synonyms**: improvisation, freestyle rap, fanciful tale, tall tale.  
**Examples**: A ball rolls over Albert Einstein in his classroom, who gets up and brushes off the crushed elves on his clothes. Paul Bunyan’s tall tales like [Babe the Blue Ox](https://americanfolklore.net/folklore/2010/07/babe_the_blue_ox.html). This is the House that Jack Built.

item - one of the three basic visual data types and therefore one of the five visual data types defined in the SEA-IT set for composing visual sentences. The action of the subject is directed to the item as in a sentence with a direct object. The item is just a subject who has been acted on and also may not need to be animated.  
**Synonyms**: noun, person, party, superhero, god, animated object, inanimate object.  
Examples: you, General Motors, Superman, Zeus, an angry orange, a sofa.

## J

**journey** **–** a type of visual memory system where images use relevant narrative logic driven by locations for traversal. The DTM profile is Terrain anchored data, narrative traversal, and static maturity. One type of method of loci. **Synonyms**: a trip, a memory trail, a songline.  
**Examples**: The Morning Star Ceremony songline, your daily routine in your house between rooms, a video adventure game’s completion path.

## K

knowledge – aggregated information that has value for making a decision.  
**Synonyms**: know-how, smarts.  
**Examples:** My license plate number MO 5G6 A3W will expire on 4/6/2021, call me on my cell phone at (216)-234-5678 at 7 pm about our baseball game.

## L

**location –** a specific physical object or recognizable area that belongs to a terrain. A location can have multiple memory images stored with it, if the images do not have a conflicting location. **Synonyms**: a place, a position, a station, a milestone, locus.  
**Examples**: In my living room terrain, there are places for memory images on my table, on the TV, on the fireplace mantle, at the mirror, and on the couch.

**locus, loci** (pl.) – (‘low-koos, ‘loh-chee – Google Translate) see location.

**lukasa** – a type of memory object visual memory system encoding knowledge on a portable object covered with beads or shells, enhanced by carvings, used by the Bambudye, the memory experts of the Luba people in the Congo, mostly during the eighteenth century.  
**Synonyms**: a memory board.   
**Examples**: [Brooklyn Museum lukasa memory board](https://en.wikipedia.org/wiki/Lukasa_(Luba)#/media/File:Brooklyn_Museum_76.20.4_Lukasa_Memory_Board.jpg).

## M

**memory image** – a recalled visual depiction of words usually containing a subject, verb, and direct object or of a thing without using words to represent it. **Synonyms**: stored image, stored key, stored value, a brick, imagines.  
**Examples**: a ball sits on the floor, a baseball hits the pitcher in the head, a gigantic ball rolls over the Empire State Building.

**memory image association** – a type of visual memory system with a single memory image associated to some information or knowledge.  
**Synonyms**: an entry.  
**Examples**: a simple association (AE = Albert Einstein) or a symbol (a group of stars = Leo the lion).

**memory image sequence** – a type of visual memory system with multiple memory images where one memory image triggers the traversal of the sequence.  
**Synonyms**: a movie, a story, a traversal of a memory palace.  
**Examples**: a narrative sequence (a baseball hits the pitcher in the head who pulls the ball out of his large rabbit ear and uses it to write on a blackboard) or a rule-based sequence (a baseball made of wood [1] hits a bearded pitcher on top of his ark [2] who falls over on to freshly mowed [3] grass).

memory image trigger – the memory image first in the sequence of multiple memory images of a visual memory system. Other sensory memories often trigger memory images. Also see anchor.  
**Synonyms**: activation, cue.  
**Examples**: the smell of your wife’s perfume, the first words of The Gettysburg Address by Abraham Lincoln “Four score and seven years ago…”, the opening chord to The Beatles’ *It’s Been a Hard Day’s Night*.

**memory grid**—a rote memory system attributed mainly to 12th century scholastic Hugh of Saint-Victor. Numbers in the boxes were the keys to the contents of the boxes. The system does not use an encoding system but depends on repetitious memorization using a process of chunking down to about five words and associating the chunks with numbers and positions in a grid. Essentially a basic palace system.  
**Synonyms**: chunking.  
**Examples**: https://forum.artofmemory.com/t/hugh-of-st-victors-memory-grid-system-a-quick-rundown/37903.

**memory object –** a type of visual memory system where images use relevant narrative logic driven by object features for traversal. The DTM profile is Item-Object anchored data, narrative traversal, and static maturity.  
**Synonyms**: Memento, souvenir.  
**Examples**: Stonehenge, lukasas, winter counts, quipus. The new statue of Einstein is outside of the Einstein ballpark in Elgin, IL. The hair on that guy reminds me of Albert Einstein with a part where a ball rolled through it.

method of loci – any type of visual memory system that use a Terrain data type to visualize information.  
**Subtypes:** dreaming, journey, palace. **Synonyms**: loci system, Cicero method, Roman room, journey method, memory palace, memory journey, memory spaces, mind palace.  
**Examples:** my kitchen and the shopping list items placed at specific positions in it.

**mondegreen:** a word or phrase that results from a mishearing of something said or sung.  
**Synonyms**: soundalike.  
**Examples**: (she) laid him on the green = Lady Mondegreen.

## N

**narrative –** a type of association where one memory image is associated with another memory image needing to be stored. Each memory image key is linked to a memory image value that then becomes a new key to the next memory image value. Without planning due to time constraints as in competitions, images are associated without much relevance leading to bizarre associations.  
Synonyms: the mnemonic link system, the chain method, a doubly linked list, cumulative tale, chain linking.  
Examples: Albert Einstein gulps down an energy drink in a can and sets it on a two-layer table. The can is so massive that it sinks into the table. Under the table, the can hits a seesaw sending Albert and his desk up in the air hitting the square light fixture (e=mc^2).

**narrative logic** – associations that have relevant meaning for establishing the connections between memory images. Actions, events, intentions, thoughts, beliefs, values, and feelings of characters, narrators, or other enhancing details that elucidate details not included in the narrative of words or things.  
**Synonyms**: plot, motivation.  
**Examples**: Why did the chicken cross the road?

## O

**object pegs –** a type of visual memory system where images are anchored to a set of ordered object features. The DTM profile is Subject-Action anchored data, rule-based traversal, and static maturity.  
**Synonyms**: number pegs, alphabet pegs, body pegs, object stencil.  
**Examples**: Shaper system. Association systems: A is for apple, B is for banana, etc. Adding a calendar object to remember a date, a ruler object for a length, a light bulb for brightness.

**ordered list** - A naturally traversable set of elements.  
**Synonyms**: sorted items.  
**Examples:** positive integers, any alphabet, places along a favorite walk.

## P

**palace** **–** a type of visual memory system where a building or any kind of background, suggest specific locations of a unique kind to use for associating other memory images. The locations of the background are tied together through a traversal rule. The DTM profile is Terrain anchored data, rule-based traversal, and static maturity. One type of method of loci.  
**Synonyms**: location pegs, position stencil, grid.  
**Examples**: A room using a cube traversal method, a path around your house using significant locations to store memory images.

**PAO system –** a person-anchored synced peg visual system used for long strings of numbers where three chunks of numbers, usually two to three, are encoded to sounds and visualized as a person for the first chunk, a person’s action for the second chunk, and a person’s object for the third chunk. The anchor is the person traditionally, so the action and object must be relevant to the person. Memory images composed of these three basic data types are usually stored in a palace. See synced peg.

**paired peg –** a peg system that associates one set of pegs with another set not through any of the data types but through the traversal type. Each set of pegs can therefore be used independently.  
Synonyms: Co-mingled pegs.  
Examples: 10 body pegs associated with 10 compass+high+low points, characters who are at locations but not associated with them.

**party** - any sort of person, group of people, someone in a role, or an organization, a fictional character.  
**Synonyms**: subject, rapscallion.  
**Examples**: Albert Einstein, famous members of the Prussian Academy of Scientists, a physicist, the Swiss Patent Office, my language helper dog Verbo.

peg – a type of association where one of any SEA-IT data type memory image keys in a sequence for a memory system with an order expressed by a traversal rule can store another memory image value. Each peg system has a primary anchor.  
Subtypes: object pegs, person peg, location peg (palace), index peg, synced peg, paired peg.  
Synonyms: handle, scaffolding, peg and hook system.  
Examples: lawn (52), Albert Einstein (52), Einstein’s front door in NJ, 52 = a list of Einstein’s memorabilia, the PAO system, 10 body pegs associated with 10 compass+high+low points.

**person pegs –** a type of visual memory system where images are anchored to a set of ordered people. The DTM profile is Subject-Action anchored data, rule-based traversal, and static maturity.  
**Synonyms**: PA system.  
**Examples**: PAO system, rapscallions, person stencil (like in *Inside Out*, 2015). My language helper dog Verbo will be my friend first, then yours, then one of my neighbors, but then we all get together, until I leave and he’s stuck with you who I don’t know too well now and finally visits all the neighbors (top to bottom and left to right).

**phantasmagoria** - a sequence of real or imaginary images like those seen in a dream.  
**Synonyms**: dream.  
**Examples**: : [The Sleep of Reason Produces Monsters](https://en.wikipedia.org/wiki/The_Sleep_of_Reason_Produces_Monsters#/media/File:Francisco_Jos%C3%A9_de_Goya_y_Lucientes_-_The_sleep_of_reason_produces_monsters_(No._43),_from_Los_Caprichos_-_Google_Art_Project.jpg) by Francisco Goya.

**puzzle –** a type of visual memory system where images suggest narrative logic driven by object features. The DTM profile is Item-Object anchored data, narrative traversal, and dynamic maturity.  
**Synonyms**: Crime scene, riddle, brain teaser.  
**Examples**: **Q:** You can touch me, but I can’t touch you back. You can see me, but I only reflect you and can never reject you. What am I? **A:** A mirror.

## R

**recall –** to restore the original information that produced memory images.  
**Synonyms**: to remember.  
**Examples**: a safe with a gallon plastic container that holds water and 2% cream = a grocery list for Safeway to get a gallon of 2% milk.

Roman room - a type of palace visual memory system with one background only.  
**Synonyms**: multi-feature object, one-room adventure, one-path trail.  
**Examples**: your living room with random objects sitting in it.

**rule -** a formal description of a decision made by using a set of variables and ending with a result for each unique combination of variable values.  
**Synonyms**: if-then statement, algorithm, policy item.  
Examples: if x is > 3 and y is < 5 then go right, if a word is alphabetically higher in value than the compared word and neither begin with a symbol then place it after the first word.

rule traversal - a type of traversal system where one memory image needing to be stored is associated with a set of pegs. Each peg is a key that can link to a memory image value.  
Synonyms: peg system.  
Examples: person pegs, object pegs, palace.

## S

**SEA-IT –** an acronym for the five main visual data types that create a complete visual sentence. They are:

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

**Subtypes:** subject, enhancements, action, item, terrain. **Synonyms**: image components, visual components.  
**Examples**: Frizzy-haired (E) Albert Einstein (S) is writing formulas (A) with chalk on a blackboard (I) in the front of a classroom (L).

**sentence –** see visual sentence.

**songline –** the visual and auditory system of the indigenous Australians of journeys developed out of generations of dreamings to store knowledge about their land and people. Lynne Kelly’s *Songlines* goes into depth about these memory systems.  
Synonyms: journey.  
Examples: https://www.deadlystory.com/page/culture/Life\_Lore/Songlines.

**soundalike**: a visualization of word sounds by related sounds to create a better memory image.  
**Synonyms**: substitute word, audionym (Dean Vaughn), keyword method, homophony.  
**Examples**: Washington = washing a ton of clothes.

**story –** a type of visual memory system where images use relevant narrative logic driven by subjects. The DTM profile is Subject-Action anchored data, narrative traversal, and static maturity.  
**Synonyms**: Ceremony, liturgy, literature, film, sequential art.  
**Examples**: The Iliad, The Godfather, the Latin Mass, the Bayeux Tapestry, totem poles.

subject - one of the three basic visual data types and therefore one of the five visual data types defined in the SEA-IT set for composing visual sentences. The subject initiates action against an item. The only difference between a subject and an item is that the subject must have the capability to perform an action.  
**Synonyms**: noun, person, party, superhero, god, animated object.  
Examples: you, General Motors, Superman, Zeus, an angry orange.

subtizing - the ability to quickly grasp how many items there are in your visual field without counting.  
**Synonyms**: visual perception chunking.  
Examples: seeing five fingers on a hand, not being able to know in a glance there are nine nails on the floor.

**synced peg** – a set of pegs that have one or more related set of pegs based on the anchor peg type. The PAO system is the main type of synced peg system.  
Synonyms: matched pegs.  
Examples: the PA system, the PAO system, the PAIL or COAL system.

**system maturity level –** expresses the level of certainty that the knowledge to be stored in a memory system will not be changed in the future and the system will not be altered. New information is initially stored in a system based on experience and then gradually uses traversals from a creative description to a more believable narrative style and finally into understood rules that must be followed. The type of system may get more complex over time as other systems or other rules are blended in. The system may be at a maturity level from a completely known set of information, or a static system used for teaching, or continually changing set of information and improving system, or a dynamic system used while learning and creating the system.  
Synonyms: stability  
Examples: countries of the world for my first memory palace became a great place to store information about the foods of each country in their own palace where restaurants and chefs were also added.

## T

**tautology** - saying the same thing twice in different words.  
**Synonyms**: synonym.  
Examples: First president and George Washington, the apple state and the state of Washington.

template – a set of pegs added to any memory system that creates a compound memory system.  
**Synonyms**: stamped features, feature set, information kit, stencil.  
**Examples**: a Terrain rule where a memory image of a monument and surrounding grounds stores a person on the base of the monument, the dates stored in the base, and the location and events in the grounds = a History stencil. **Use**: Napoleon born 1769 in Corsica = on top of a monument is a man climbing a pole to get away from a lion with one hand in vest, the base is a duck in a ship sailing in the grounds filled with apple cores.

terrain – one of the three basic visual data types and therefore one of the five visual data types defined in the SEA-IT set for composing visual sentences.  
**Synonyms:** location, background, the context, the environment, a theme, a stage, scenery.  
Examples: your house, the Colosseum, the soccer field next to the school, a shopping mall, a hospital, a church building, a park, under the ocean, a long time ago in a galaxy far, far away.

**translate** – to transform a type of information into a different type of information.  
**Synonyms**: to map.  
Examples: English word to Spanish word, written word to visual image, narrative to song.

**traversal rule** –a rule for recalling the order of the pegs used in storing a sequence of memory images.  
**Synonyms**: direction, increment method, peg order.  
Examples: alphabetic, numeric, small to large, left to right, low to high pitch, clockwise.

**traversal method** – a connection of memory images so that all of them can be completely recalled.  
Subtypes: narrative, rule.  
**Synonyms**: completeness test, linking path.  
**Examples**: a fairy tale, an imposed sequence, hiking trail.

**traverse** – recalling an memory image based on a known memory image using a rule.  
**Synonyms**: changing focus, following the narrative, moving from link to link, traveling to the next location.  
**Examples**: seeing a sea of apple cores and then recalling the duck sailing the ship on the sea, then recalling the man choking the duck inside his vest.

## V

visual memory system – a method to store information in memory images anchored on a SEA-IT data type, with a traversal system, a system maturity level, and using various rules. The DTM (datum) of the system is an acronym that stands for the three qualities to classify a system.  
Subtypes: interpretation, story, person pegs, puzzle, memory object, object pegs, dreaming, journey, palace.  
**Synonyms**: memory system.  
Examples: PAO system, songline.

visual sentence – a group of associated visual images that allow the maximum amount of detail aiding recall. The basic visual sentence follows the English structure of subject-verb-object and includes enhancing detail for the subject, item and a terrain, also known as the SEA-IT data types.  
**Synonyms**: a movie frame, a snapshot, rich image, enhanced image, subject-verb-object, compound image  
**Examples**: Frizzy-haired Albert Einstein is writing formulas with chalk on a blackboard in the front of a classroom.

visualization – creating a memory image using a visual memory system.  
**Synonyms**: a memory.  
**Examples**: a grocery list for Safeway to get a gallon of 2% milk = a safe with a gallon plastic container that holds water and 2% cream.

## W

wisdom – aggregated knowledge that has value for helping other people make decisions.  
**Synonyms**: governance, strategic decisions, fables.  
**Examples:** License plates are best renewed a month early, you should get in some extra baseball practice on bunts because of the pitcher that you are going up against, The Tortoise and the Hare.