Eidetic Memory

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An introduction to Eidetic Memory

Eidetic memory, also known as photographic memory, is a type of exceptional memory that allows a person to recall images, sounds, or objects with extraordinary accuracy and clarity. People with eidetic memory are able to visualize information in their minds with such clarity that it is as if they are looking at a photograph. They can also recall information from memory with great accuracy, even if they have only seen it or heard it for a short period of time.

Eidetic memory is a rare ability, and it is estimated that only about 2% of the population has it. Eidetic memory is most common in children, and it typically disappears by the time a person reaches adolescence. However, there are a few adults who have been able to retain their eidetic memory.

There is no one known cause of eidetic memory. Some scientists believe that it is a genetic trait, while others believe that it is the result of environmental factors, such as early exposure to learning and memory techniques.

Eidetic memory can be a very useful ability. People with eidetic memory can use their memory to excel in school, at work, and in other areas of their lives. For example, they may be able to remember long lists of numbers or dates, or they may be able to remember the details of a book they have read only once.

However, eidetic memory can also be a burden. People with eidetic memory may find it difficult to forget information, even if they want to. They may also find it difficult to focus on the present moment, because they are constantly bombarded with memories of the past.

Eidetic or photographic memory is popularly defined as the ability to recall images, sounds, or objects in memory with extreme precision and in abundant volume.

Eidetic memory as observed in children is typified by the ability of an individual to study an image for approximately 30 seconds, and maintain a nearly perfect photographic memory of that image for a short time once it has been removed--indeed such eidetickers claim to "see" the image on the blank canvas as vividly and in as perfect detail as if it were still there. Much like any other memory, the intensity of the recall may be subject to several factors such as duration and frequency of exposure to the stimulus, conscious observation, relevance to the person, etc. This fact stands in contrast to the general misinterpretation of the term which assumes a constant and total recall of all events.

Some people who generally have a good memory claim to have eidetic memory. However, there are distinct differences in the manner in which information is processed. People who have a generally capable memory often use mnemonic devices (such as division of an idea into

enumerable elements) to retain information while those with eidetic memory remember very specific details, such as where a person was standing, what the person was wearing, etc. They may recall an event with greater detail while those with a different memory remember daily routines rather than specific details that may have interrupted a routine. However, this process is generally most evident when those with eidetic memory make an effort to remember such details.

Also, it is not uncommon that some people may experience 'sporadic eidetic memory', where they may describe some number of memories in very close detail. These sporadic occurrences of eidetic memory are not triggered consciously in most cases.

Exceptional memory agents

Some individuals with autism display extraordinary memory, including those with autism spectrum disorders such as Asperger syndrome. Autistic savants are a rarity, but they in particular show signs of spectacular memory. However, most individuals with a diagnosis of autism do not possess eidetic memory.

Synesthesia has also been credited as an enhancement of auditory memory, but only for information that triggers a synesthetic reaction. However, some synesthetes have been found to have a more acute than normal "perfect colour" sense with which they are able to match colour shades nearly perfectly after extended periods of time, without the accompanying synesthetic reaction.
Controversy

Much of the current popular controversy surrounding eidetic memory results from an over application of the term to almost any example of extraordinary memory skill. The existence of extraordinary memory skills is reasonably well-documented, and appears to result from a combination of innate skills, learned tactics, and extraordinary knowledge bases (you can remember more of what you understand than you can of meaningless or unconnected information.) Technically, though, eidetic memory means memory for a sensory event that is as accurate as if the person were still viewing, or hearing, the original object or event. Almost all claims of "eidetic memory" fall well outside this narrow definition. A handful of recent studies have suggested that there may be a few, rare individuals who are capable of a limited amount of eidetic recall. This recall is theorized to be essentially 'unprocessed' sensory memory of raw sensory events (i.e. "raw" images devoid of the additional (usually automatic) perceptual processing, which in normal memory inseparably attaches to the image information about the object's identity and meaning). The documented eidetic abilities, however, appear to be far more circumscribed, and far less common than popularly imagined.

Marvin Minsky, in his book The Society of Mind, considered reports of eidetic memory to be an "unfounded myth".

An example of extraordinary memory abilities being ascribed to eidetic memory comes from the popular interpretations of Adriaan de Groot's classic experiments into the ability of chess Grandmasters to memorize complex positions of chess pieces on a chess board. Initially it was found that these experts could recall surprising amounts of information, far more than non-experts, suggesting eidetic skills. However, when the experts were presented with arrangements of chess pieces that could never occur in a game, their recall was no better than the non-experts, implying that they had developed an ability to organize certain types of information, rather than possessing innate eidetic ability.

Strong scientific skepticism about the existence of eidetic memory was fueled by Charles Stromeyer who studied his future wife Elizabeth, who claimed that she could recall poetry written in a foreign language that she did not understand years after she had first seen the poem. She also could, apparently, recall random dot patterns with such fidelity as to combine two patterns into a stereoscopic image. She remains the only person documented to have passed such a test. However, the methodology of the testing procedures used is questionable (especially given the extraordinary nature of the claims being made) and the fact that the researcher married his subject, and that the tests have never been repeated (Elizabeth has consistently refused to repeat them) raises further concerns. Recently there has been a renewal of interest in the area, with more careful controls and far less spectacular results.

A.R. Luria wrote a famous account, Mind of a Mnemonist, of a subject with a remarkable memory, S. V. Shereshevskii; among various extraordinary feats, he could memorize lengthy lists of random words and recall them perfectly decades later. Luria believed the man had effectively unlimited recall; Shereshevskii is believed by some to be a prodigious savant like Kim Peek. He used memorization techniques where he "arranged" objects along a specific stretch of Gorky Road and went back and "picked" them up one by one. He missed an egg once because he claims he placed it by a white picket fence and did not see it when he went back for it. This is an example of a trained memory rather than an eidetic or photographic memory.

Further evidence on this skepticism towards the existence of eidetic memories is given by a non-scientific event: The World Memory Championships. This annual competition in different memory disciplines is nearly totally based on visual tasks (9 out of 10 events are displayed visually, the tenth event is presented by audio). Since the champions can win lucrative prizes (the total prize money for the World Memory Championships 2010 is US$90,000), it should attract people who can beat those tests easily by reproducing visual images of the presented material during the recall. But, indeed, not a single memory champion has ever (the event has taken place since 1990) reported to have an eidetic memory. Instead, without a single exception, all winners name themselves mnemonists (see below) and rely on using mnemonic strategies, mostly the method of loci.

Claims of eidetic memory

With the questionable exception of Elizabeth (discussed above), as of 2008, no one claiming to have long-term eidetic memory has been able to prove this in scientific tests. There are a number of individuals with extraordinary memory who have been labeled eidetickers, but many use mnemonics and other, non-eidetic memory enhancing exercises.

Prodigious savants

Stephen Wiltshire, MBE, a prodigious savant. He is capable of drawing the entire skyline of a city after a helicopter ride.

Kim Peek, prodigious savant and inspiration for the character Raymond Babbit, played by Dustin Hoffman in the film Rain Man.

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