Images are the strongest supporters of memory

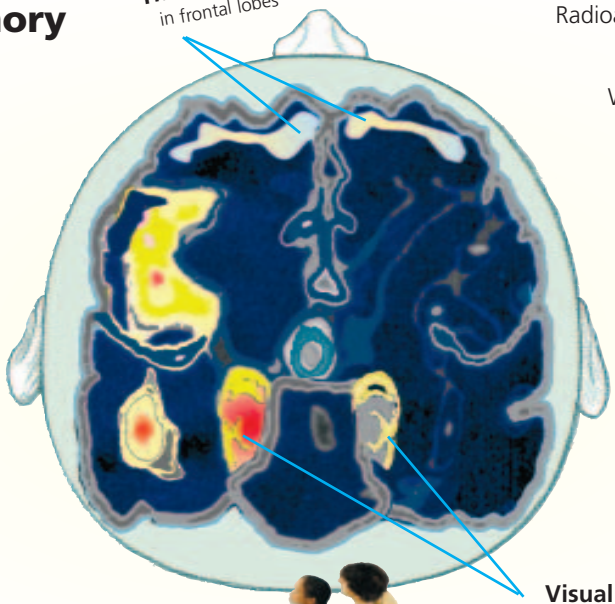
The neurological basis

Recalling the meaning of difficult words engages three parts of the brain besides language.

Not only does more blood flow into the memory-centre and the think-centre, but strikingly enough, especially to the visual memory ...

The American researchers Squire and Raigle concluded in 1991 that:

'to remember effectively, the memory of the image is more important than the understanding of it.'



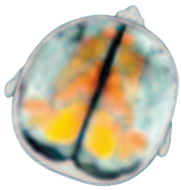
Photograph of the brain during memory exercises.
Radioactive fluid reveals the parts activated, computer enhanced.

What the eyes see becomes 'visible' in our visual cortex. In 1999, S. Kossyln established that the visual cortex is also activated when you try to imagine something with closed eyes.

Moreover, in 2000 monitoring revealed, that the brain recognises much more in the visual cortex than it makes us aware of. This often happens seconds before activating our *think-centre* in the frontal lobes at the front of the head.

When we think about something, the brain calls up images from the visual memory, which help jog the long-term memory.

Visual cortex with visual memory



Visual information processing in the brain

Image memory: endless capacity

People with super memories can repeat long lists of numbers by translating each number into an imaged object.

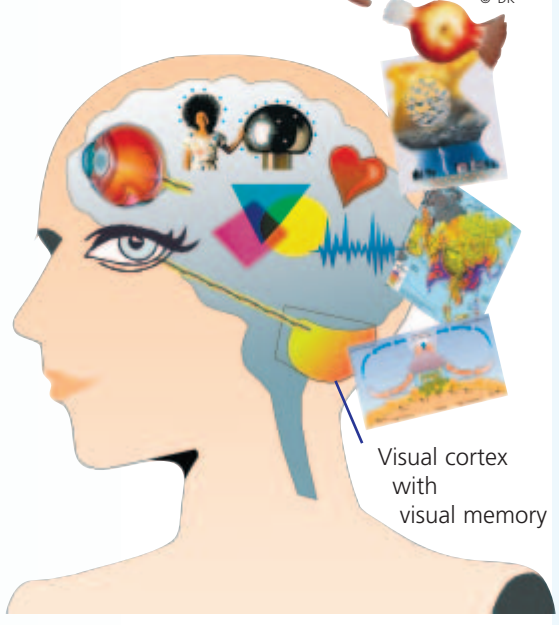
Sherashevsky, a Russian, tells us that as a child of two or three he could recall Hebrew prayers by converting the sounds into various clouds and specks. These he could later translate back into words.

However, remembering so much proved a burden to Sheverahevsky: it is better when the memory selects critically – keeping the mind clear as it does for normal people.

Brain scans of 'miracle counters' in Japan show that their visual memory is highly active: complex calculations are made with their mind's eye on the traditional wooden abacus they used when learning to count.

Our *thinking activities* are also based on images. What is familiar requires less concrete images than what is new. Familiar elements are recalled from the long term memory in simplified abstractions; only if necessary will the 'think-centre' retrieve more concrete images.
New information is often processed in visual images. If information comes aurally we often will make our own images. We do so in our visual cortex, where our visual memory is located.

Images can be compared to indexes in a filing system: they open the memories stored behind. Just think about something from your primary school days. This small exercise might also demonstrate that effective remembering depends more on the memory of (mental) images than on the understanding of them.



Clarity is not enough: beautiful images motivate people and are more easily recalled.

Literature: *The effects of visual object priming on brain activation before and after recognition*, T.W. James e.a. (Un. Western Ontario) in: *Current Biology 10, 2000; Advances in neuroscience 1950-2000*, W. Maxwell Cowan in: *Visions of the Brain, a progress report on brain research*, The Dana Press 2001; *Human Memory, Theory and Practice, Revised Ed.*, Oxford 2000; *Brain story - Unlocking our inner world of emotions, memories, ideas and desires*, S. Greenfield, BBC Worldwide Ltd, 2000

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