

## INTERNATIONAL COFFEE ORGANIZATION

### POSITIVELY COFFEE PROGRAMME

#### **GOOD THINKING - MEMORIES!**

**We have just celebrated the Millennium and amongst many other activities, there was one celebration to mark the start of the Century of the Brain. A new encyclopaedia has also just been published on the use of the brain, and in the early 90's so many people were interested in the power of memory that the first World Memory Championship was held.**

#### **So, what do we know of the brain and its role in thinking and memory?**

Whilst we all worry that our memory is inadequate, there is increasing evidence that our memories are far better than ever we thought. It might decline with age but only if it is not used. Like breathing, when all is well, things run so smoothly that we hardly notice what our memory does for us each day. Everything we do throughout the day is a function of our memories and it is only because the occasions when we forget are so rare, that we notice it so much!

From the time when we were first aware of using our mind to cope with our surroundings, we have acknowledged the powerful advantages of a good memory in society. The Greeks in the 6<sup>th</sup> Century BC were the first to develop physical rather than spiritual ideas about the memory. It was thought at that time that memory was a mixture of light and dark or heat and cold and as long as the mixture remained unstirred, the memory would be perfect.

It was Plato in the early 4<sup>th</sup> Century BC who introduced the Wax Tablet Hypothesis and this theory was accepted until relatively recently. Plato's theory was that impressions were made on the mind in much the same way as on wax and there they would remain until time wore them away. A smooth surface was therefore equivalent to complete forgetting.

At this stage memory was not linked to any particular organ of the body and it was not until Aristotle nearly a hundred years later attributed to the heart, most of the functions now associated with the brain. He also developed the concepts of associating ideas and images that is accepted today as being of paramount importance to memory function.

Little new thinking happened during the next 500 years until in the 2<sup>nd</sup> Century AD, when a physician called Galen, put forward some ideas that linked memory to the function of the soul and that the soul was located in the brain. This idea was rapidly taken up by the Church and there was little done, even by the great thinkers, such as Descartes, to oppose this doctrine until the 17<sup>th</sup> Century.



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It was only with the development of new areas of science in the 18<sup>th</sup> and 19<sup>th</sup> Century that the links between electrical forces and brain functions began to emerge. Further advances in technology and biochemistry enabled research to demonstrate by the late 1950's that RNA, a complex molecule derived from DNA, is involved in much of our ability to think and remember

Modern research has taken a further step by suggesting that it is possible that each brain cell in itself can act as a mini-brain. The brain is enormously complex and offers researchers and scientists some very exciting work as they begin to understand the incredible potential of the memory.

#### **How does coffee affect memory?**

Memory can be divided into Short Term Memory (STM), working memory (the part that is using active information) and Long Term Memory (LTM). Coffee helps mainly with STM and the working memory when normal amounts of information have to be dealt with

Coffee helps to improve alertness, attention and wakefulness and by that means it facilitates learning. In other words, coffee helps optimise the energy sources you have for learning\*\*.

It also compensates fatigue by increasing the level of alertness. The benefits are found mostly during the course of a long exam or test, when you get tired.

#### **Will coffee lead to better focussed attention when studying?**

Yes. Drinking coffee helps to focus your attention to the main task, when there are many things around needing your attention. It draws attention to what you need to learn and leads to less distraction although doing different things at the same time may in itself be stimulating enough.

However, drinking more will result in over- stimulation and that may impair your learning and attention.

#### **Is it sensible to drink coffee while doing exams?**

Doing exams is an energy - and attention demanding activity; coffee may help to sharpen your mind, assuming that you are a regular coffee drinker. Since, coffee is used as a mood optimiser, it may help to find the most appropriate state of mind to make a success of the exam.

If you are not a regular coffee drinker, then coffee may not be your best choice. So, in that case, stick to the drink you are accustomed to.



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**If I feel my concentration is fading, is coffee helpful in refreshing it?**

Yes. Although concentration is also a question of putting effort into what you are doing. If your concentration slips away, take a break with coffee and this change of mind may help you to concentrate again.

\*\* Learning is defined as the acquisition and storage of information.

