Why Meditation?

The psychological benefits of thoughtless awareness through Sahaja Yoga

Meditation cannot be deemed to be authentic if it does not lead to the experience of the fourth or Turyiya state, i.e. 'thoughtlessness' or thoughtless awareness. Meditation refers to an exercise where the thinking mind is relaxed and silenced so that the gap between thoughts is progressively widened. When in meditation we enter this gap between two thoughts, we enter a space of absolute presence, of present silence, of thoughtless awareness. This state is fundamentally different to the normal thinking state, where the content of our thoughts is always either the future or the past, but never the present.

Stress is caused by the thinking brain, either through thinking excessively about past experiences (causing trauma or experientially causal psychological problems) or worries about the future (future related feelings of stress). The 'here and now' state which comes from the practice of an authentic meditation leads to a witness state, where past or present life events, future worries and problems are perceived from a detached perspective, the perspective of the observer. Problems can be dealt with in a much more effective way from this distant and detached perspective than from the usual, emotionally involved, state of mind.

This detached state of mind, that is concomitant to the mystical meditative experience, has been denominated by western philosophers as 'serenity' or 'ataraxia' (the Greek word for a state of joyful indifference). It refers to a state that lies beyond the short-lived experiences of happiness or unhappiness, a state of ever-lasting serene joyfulness and detachment. It is this state of joyful detachment that makes true yoga a path towards freedom from suffering. Relaxing the thinking brain through meditation by entering the space of the present, the 'here and now', even if it is only for a few minutes a day, has been shown to have numerous beneficial effects to our health and physiological system. At a subjective level, this state of thoughtless awareness is experienced as highly peaceful, pleasant and relaxing. Questionnaires on quality of life have indeed shown that people meditating with Sahaja Yoga show a significant improvement in their quality of life (link: article: Spiro, 1996).

The physiological benefits of thoughtless awareness through Sahaja Yoga

At a physiological level, the state of thoughtless awareness has been shown to have numerous beneficial effects, especially on the parasympathetic and limbic systems. According to traditional yoga, there are seven energy centres in the body called Chakras, which correspond to the seven nerve plexuses: the pelvic autonomic plexus (Mooladhara Chakra), the aortic plexus (Swadhistana Chakra), the coeliac plexus (Nabhi Chakra), the cardiac plexus (Heart Chakra), the cervical plexus (Vishuddhi Chakra), and the optic chiasma (Agnya Chakra): (links to chakras.ppt?)The seventh energy centre is the limbic system of the brain, which consists of seven nerve nuclei which contains and integrates the control centers of the other six energy centers. (link to limbic.gif).

In the limbic system all of the six Chakras form this final integrative Chakra, the Sahasrara Chakra. Every Chakra thus has its corresponding alternative location at a particular location in the brain, which controls that particular energy center. Every one of these energy centers looks after the physical organs surrounding it, but is also responsible for the psychological processes which are connected to particular body organs. By using yoga mediation to energize this subtle system, which links both psychological and physiological properties, the body, brain and the mind become closely integrated.

This view of bi-directional interrelationships between body and mind is very different to the still prevalent Cartesian dualism of body and mind in our traditional western medicine, and can help to overcome conventional problems in defining the relationship between psychological and physiological processes. Physical damage to one of the Chakras in the body can have an effect on the controlling center of that Chakra in the brain (leading to concomitant psychological effects). These psychological problems can thereupon lead to psychosomatic disorders, which will manifest themselves in particular via those physical organs which are being controlled by the relevant regions of the brain.

Therefore, in yoga, body and mind are one, and are connected by this subtle energy system, which consists of many feedback loops between body energy centers and the energy centers of the brain. At the microscopic level, almost every receptor of every single cell in the body or the brain is folded in seven spanning loops (link to picture of seven spanning loops: Gilman, 1987, Dohlman, 1987, Fraser, 1991). This particular characteristic of all receptor types has again been postulated to be related to the seven energy centers in the body, reflecting mini-Chakras at the cell level (Mishra et al., 1989).

During a Sahaja Yoga meditation, a spiritual energy called the Kundalini, a coiled energy that resides at the base of the spine, raises through all the six centers of the body and enters the seventh center, the Sahasrara located within the limbic system. This energetic process of ascent activates and nourishes the parasympathetic nervous system, which in turn relaxes our bodily functions. It also gently nourishes the limbic system, the emotional and motivational center of the brain, which again relaxes the brain by reducing thinking functions. This parasympathetic-limbic activation is the underlying neurophysiological substrate of the enrichment of body and mind in Sahaja Yoga meditation.

Sahaja Yoga (SY) meditation thus claims to activate the parasympathetic-limbic pathway that relaxes body and mind (link to parasympathetic.ppt). According to this traditional yoga, the sympathetic nervous system is divided into a right-sided channel, which is predominantly coordinated by the left prefrontal part of the brain, and a left-sided sympathetic nervous system which is coordinated by the right hemispheric posterior parts of the brain (picture of Yin/Yang and brain). In our day to day lives we usually oscillate between these two 'functions of action' (activation of left prefrontal systems for action/thinking/future-planning/fight) and 'functions of inhibition' or retrieval (activating more posterior parts of the right hemisphere of the brain for inhibitory functions/memory/depression/flight).

This division of the sympathetic nervous system into 'fight and flight' mechanisms, with its different representation in the two sides of the cerebral hemispheres, is fundamentally in line with evidence from modern western neuroscience. In meditation, the parasympathetic nervous system is being activated, which, unlike the body-activating sympathetic nervous system, is responsible for bodily nourishment and recuperative functions, such as resting and restoration. The parasympathetic-limbic activation achieved through the meditation relaxes us by bringing us "into the center": the two opposing sympathetic functions are therefore synthesized into perfect balance and harmony with each other, giving us a more balanced personality.

Alterations in physiological parameters during Sahaja Yoga meditation

The relaxed state which one experiences subjectively in meditation is in fact accompanied by alterations in those physiological parameters which have traditionally been related to stress.
At the level of the physical body a series of physiological parameters have been shown to change after several weeks of SY meditation, supporting this postulated activation of the para-sympathetic nervous system.
1) Dilatation of pupils: The pupils of the eyes dilate, a sign of parasympathetic activation (Rai, 1993).
2) Decrease of pulse rate (Rai, 1993, Rai et al., 1988; link to Rai et al., 1998, 1997)
3) Decrease of the heart and respiratory rates (Rai, 1993, Rai et al., 1988, 1997)
4) Decrease in urinary homovanillic mandelic acid (Rai et al., 1988, 1997, Chugh et al., 1987, 1997)
5) Decrease of systolic blood pressure (Rai et al., 1998, Chugh, 1997)
6) Decrease in blood lactic acid (Rai et al., 1988, 1997, Chugh, 1997)
7) Increase in galvanic skin response (measure of decreasing sympathetic nervous activity) (Rai et al., 1991, 1988, 1997).
8) Decrease in the temperature in palm of hands and on top of the head, correlating with the experience of thoughtless awareness (Rai et al., 1991, 1988, 1993).
9) Increase in beta-endorphins: An interesting psychopharmacological study by Mishra et al. (1993; link to Mishra) from the McMaster's University in Canada, showed a 70% increase in plasma beta-endorphins in male subjects after SY meditation. The endogeneous opiates, b-endorphins, are known to have a role in body homeostasis. They strengthen the immune system, and are involved in the maintenance of a healthy psychological functioning. They can even combat cancer cells, which could explain so-called 'miraculous cures' in cancer patients after the practice of Yoga meditation.
All these measures indicate an increase in parasympathetic activation and a decrease in sympathetic dominance. Most of these parameters are typically elevated during stress, which is a manifestation of increased sympathetic activity.

Alterations in brain activation during Meditation

The electro-physiological activity of the brain changes through prolonged practice of Sahaja yoga mediation from typical fast waves during normal consciousness to a state of slow waves, similar but not identical to the sleep state (Matsuoka et al., 1990, Aftanas et al., 2001; link to Aftanas). The slow waves (the so called theta waves) are thought to be formed by the limbic system, which it is believed is activated during Sahaja Yoga meditation. Likewise, studies using high resolution brain imaging have shown that during meditation, activity in the frontal and other cortical brain regions (thought to be the areas that originate thought processes) are reduced, while activity in the limbic brain areas increases, especially in the hippocampus (Lou et al., 1999, Lazar et al., 2000), an area associated with the stress hormone cortisol.

The limbic system regulates emotion and motivation. It has traditionally been considered an evolutionarily lower brain centre than the cortex, which is responsible for higher level cognitive functions. However, the limbic system is essential for regulating our individual drives. Without this motivation no cognitive functions would be possible. Indeed, depressed patients, for example, with their lack of drive due to abnormal activation of the limbic system, suffer from cognitive and attentional dysfunctions. Without the battery, i.e. the emotional and motivational centre of the brain, all other functions the brain is capable of are bereft of their motivational charge and ultimately can not unfold to their full potential.

Meditation with its relaxation of the body and limbic system, provides the necessary energy sources for a full potential of cognitive functioning. Only when we are fully relaxed, motivated, satisfied and full of energy can we truly activate our full potential, whether it is cognitive or artistic. Interestingly, another brain region that appears to undergo increased activation as a result of meditation is the hippocampus, which is linked to the stress-related hypothalamus-pituitary-axis. Patients with post-traumatic stress disorder or depression show a reduced size in their hippocampi that may be related to increased stress-induced corticol levels (Bremner et al., 1998, 1999). An increase in hippocampus activation may thus be another indicator of stress reduction through meditation. Thoughts can indeed have a corresponding reaction at the physiological level. Anger, for example, has been shown to raise pulse rates and blood pressure and can even tear blood vessels, leading to heart infarction (Williams, 2001).

The therapeutic effect of SY meditation on disease processes

Several studies are being currently undertaken in Australia, Russia, India and the UK to show the therapeutic effect of SY on several physiological and mental diseases and disorders. The studies so far published have shown that :
1) Epilepsy: Several months of Sahaja yoga meditation reduces the number and the duration of epileptic attacks in patients with epilepsy. It has also been shown to improve the clinical electro-encephalographic pattern of epileptic brain activation (Rai, 1993, Panjwani et al., 1995, Usha, 1991, Gupta et al., 1991 (link to Gupta), Yardi et al., 2001)
2) Asthma: Patients with asthma and with hypertension have been shown to significantly improve with SY meditation. The improvement relate to a significant reduction in the number of acute asthma attacks and an improvement in\ their lung function (Manocha et al., 2000, Rai, 1993, Chugh, 1997).
3) Depression: A study in the UK has shown that several months of SY meditation significantly reduced the depressive symptoms in patients with major depression, as opposed to control patients treated only with behavioral therapy (link to paper: Morgan et al., 2001).
4) Drug abuse: Sahaja Yoga meditation has been shown to have impressive effects on reducing drug consumption in 501 drug abusers treated for a year with Sahaja Yoga meditation at the University of Vienna. 97% of chronic drug consumers stopped taking drugs, 42% after the first week of meditation, 32% after the first months. (Hackl, 1995).

5) Diabetes and Menopause: As yet unpublished studies from Melbourne University in Australia have shown beneficial effects of Sahaja Yoga meditation on diabetes and menopause.