

## **Developing Sensitivity - the "Weber-Fechner Law" and it's relation to the Eight Limbs of Yoga:**

Simon Thakur, 2011

The Weber-Fechner Law is named after two scientists, (Weber and Fechner!) who, in the 1800's, described the relationship between human perception of differences and the magnitude of sensory stimuli. While research has since shown that the "Law" defined by these two is not entirely accurate in all cases, the principle still holds true.

The principle discovered by Weber was that a person can generally tell the difference between two weights if they differ by 1 or 2 parts in 30 - that is, if you are blindfolded and holding a 30g weight in your palm and I add anything heavier than 1g or 2g to it, then you will be able to feel the difference, but if I were to add anything less than 1g or 2g, like 0.5g or 0.1g, you won't notice any difference.

The important point is that *our ability to feel the difference is relative to the magnitude of the stimulus* - in this case the weight. It's not that you can feel 1g of difference! If you were holding 300g in your palm then I would have to add 10g or 20g or more for you to notice the difference, 1g or 2g difference would be imperceptible. If you were holding 30kg and I added 1g, or 10g, or even 100g, you wouldn't notice a thing, we would need to add 1 or 2 kilos for you to feel it.

Weber also found that people could visually tell the difference between the length of two lines if they differed by just 1 part in 100, regardless of the absolute length of the lines. So our ability to perceive changes or differences depends on the size of what we are trying to perceive.

This concept is of immense importance in the Yoga process, and it can even be seen as the guiding principle behind the systematization of Yoga into the "Eight Limbs" as described in the Yoga Sutras. It is quite possibly THE one most important guiding concept that is missing in the way most Yoga is taught and practiced today. It is exactly this principle which leads to the clear felt experiences of the subtle inner workings of the mind and body, that lead the ancient sages to their descriptions of "nadis" and "chakras" in ancient India or the systems of "channels and vessels" (meridians) in China. Without this understanding the eight limbs and Yoga generally can seem like a collection of separate but complementary practices, rather than as a clear system for progressing from the gross externalized awareness to the refined awareness capable of feeling into the deepest levels of the body-mind.

So let's have another look at the eight limbs:

1. Yama: nonviolence, truthfulness, non-covetousness, sexual abstinence (controversial!), and non-possessiveness. Basically: refraining from (or gradually reducing by choice depending on one's goals or stage of practice) the activities which tend to disturb the mind.

2. Niyama: cleanliness, contentment, discipline, study, and "surrender to god" (I'll leave that one alone for now as well). Again, basically: doing things which tend to contribute to peace of mind.

3. Asana: making the body stable and comfortable and letting go of tension.
4. Pranayama: letting the movement of the breath become slow and soft, feeling the connections between all of the different breathing processes and the fluctuations in the mind, gradually discovering the even more subtle inner movements of the body taking place "beneath the waves" of the breath.
5. Pratyahara: "sense withdrawal" in which the attention is no longer engaged with external sensory information or mental thoughts and images.
6. Dharana: repeatedly fixing the attention in one place (concentration).
7. Dhyana: keeping the attention fixed in one place in an unbroken stream (absorption).
8. Samadhi: total absorption of the mind in the object of focus to the point that the sense of oneself as the subject gradually fades and eventually disappears completely.

So, notice that in the Yoga Sutras, the one text universally recognized as being the most thorough and systematic description of the Yoga process, Asana and Pranayama are described as methods of reducing strong sensations that disturb the mind! There is no mention of spectacular gymnastics or healing of disease, no mention of fire-breathing or bellows-breathing - these are all supplementary exercises, useful practices but not the actual real work of Yoga at all. Why not? because they will not and cannot go to the very depths of the mind-body: **only by reducing strong stimuli can we make the mind sensitive enough to feel more subtle physiological processes and their connections to the more subtle functioning of the mind.**

Physical discomfort and instability are strong sensations. Reducing them allows us to feel more subtle processes taking place within the body. Once the external movements of the body have ceased and gross physical tensions reduced, the largest movements taking place with the strongest sensations will always be coming from the breath, and we will quickly become aware of the intimate connection between the fluctuations of the mind and the changes in the movements and sensations of breathing. Softening and slowing the movements of the breath gradually allows the mind to become sensitive to the world of even smaller inner movements constantly occurring within the body like the beating of the heart and pulsing of blood flow through the arteries and vessels, and attention to the spaces between the breaths and between the heartbeats will reveal a world of even smaller physiological processes taking place at a still subtler level: worlds of incredible depth and detail full of constant and rapidly flowing micro-changes in muscle and skin tone and opening and closing of tiny capillaries, all happening in response to the constantly changing external environment as perceived through the senses, the internal environment as perceived by the interoceptive sense, and the mental environment as different thoughts and degrees of "like-dislike" flow through the mind. This sensitization to the infinite world of inner movement (physiologists tell us that an average adult human body has approximately ten trillion living cells) naturally develops greater and greater levels of Pratyahara. Dharana-fixing attention in different parts of the body develops the sensitivity to inner changes and their connections to the changing mind-states even more (since the act of focusing attention increases the level of detail we can

perceive in the object while simultaneously inhibiting the intrusion of other sensory information into our field of awareness) and induces deeper states of Pratyahara, more refined and subtle breathing, and the ability to feel and adjust ever-smaller changes to the stability and comfort of the upright posture.