

## Awakening the Intelligence of the Body

An article written by Arthur Kilmurray

Asana practice is a means of exploring the myriad possible interactions between the musculo-skeletal system and the earth's gravity, and experiencing the effects of those interactions on physiology and consciousness. As we understand better the nature of these interactions, we can continuously refine the sensitivity of our explorations, leading to a more subtle experience of the interconnections among body, breath and consciousness. This process, the awakening of the intelligence of the body, increasingly tunes us in to the life force that is the foundation of human experience.

Asana practice may be thought of in part as a process of re-connecting the conscious mind to the kinesthetic experience. Learning to crawl, sit stand, walk and run are, at first, challenges which must involve a growing infant's conscious mind. After these basic challenges are met, kinesthetic stimuli generally are processed sub consciously, and the brain becomes occupied with more intellectual tasks. The kinesthetic intelligence is adequate to propel the body through its daily tasks, and thus is not further refined. In yoga, the attention of the conscious mind is drawn back to the muscles and joints so that this kinesthetic awareness (the intelligence of the body) may become more and more sophisticated. For example, as the intelligence of the skeleton develops and is made conscious, we learn to sense the center of each joint, and to become aware of exactly how the bones are articulating with each other across each joint. From these awarenesses come the ability to move from the center of each joint, and the ability to maintain the most stable configuration of the bones possible. The muscles may be made intelligent enough so that we can sense the flow of energy released by a working muscle and learn to increase or =decrease this flow in a rheostatic fashion (just as a dimmer switch can vary the intensity of illumination coming from a light bulb.)

Yoga can seem like so much groping in the dark, at times. Having a sound intellectual model is like having a flashlight and a map. A basic under-

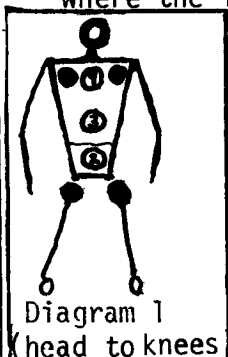
Standing of the anatomy and kinesiology of the musculo-system can provide numerous clues on how to reconnect the conscious mind to kinesthetic experience. A word of caution is in order here, however. An intellectual model must not be mistaken for reality. Reality can be experienced but not understood in the intellectual sense. The practice of yoga begins when the thinking brain becomes silent, allowing consciousness to expand into new spaces. The mind must remain open, unhindered by preconceived notions. The intellect can suggest experiments, ask questions, plant seeds, but must then step a back to allow the experience to flow. When consciousness is totally integrated, these two processes occur simultaneously. The intellectual analysis flows along in complete harmony with the non-verbal intelligence. But this is a difficult state to attain. So we must be careful not to get caught up in the world of ideas and thus lose contact with the areas of consciousness we are trying to rediscover. The following model is a suggested starting point for the exploration of the musculo-skeletal intelligence. Translate the ideas into the direct experience of the life force flowing through you. You may find that the new experiences stimulate new ideas which help to create more new experiences, in an ever increasing spiral as consciousness expands to infinity.

Our investigation of the ideal body begins with a look at the nature of the musculo-skeletal system. This combination of nerves, muscles, bones and brain cells allows the body to creatively interact with the constant downward pull of gravity. This non-verbal, non-intellectual form of consciousness is seen manifested in most animals grace and ease of movement. Humans have often developed physical, psychological and emotional overlays to the nervous system that interfere with the normal functioning of this natural kinesthetic intelligence. The results are bodies that are either still and rigid, or loose and floppy, accompanied by minds that function in a similar fashion. Asana practice slowly breaks through this negative programming to reunite the conscious intelligence with the kinesthetic sensations of the musculo-skeletal intelligence. This reawakening can then expand into other non-verbal areas of the brain beyond the neuro-muscular one.

A closer look at the musculo-skeletal system reveals two separate but completely interrelated components. The skeleton (comprising bones, ligaments and cartilage) is the solid stable framework, designed to support the body's weight and channel the downward pull of gravity through the bones and joints. In a totally intelligent body, the muscles work harmoniously to generate a standing wave flowing around the framework of the bones. This pattern of energy is in harmonic resonance with the earth's gravitational field and thus taps into a powerful energy source. This is one way of understanding the word "grounded". The primary wave is generated in a downward movement of intelligence through the legs (or arms in inverted poses) toward the center of the

earth. This instantaneously results in a rebounding action moving through the body in the opposite direction. To keep the wave flowing, the movement of intelligence must be continuous (mind, breath, and body flowing together), and the bones must be aligned to channel the flow in the proper direction (along the length of the spinal column). The correct, stable position of the bones, in combination with the fluid flow of intelligence through the muscles, produces an asana. The joints of the body are designed to allow numerous possible configurations of the bones in relation to gravity, and one of the challenges of asana practice is to maintain the flowing intelligence in extreme and unusual bone positions (Paripurna Matsyendrasana for example).

Although the muscles and bones ideally serve different purposes, their actions are inextricably intertwined. Intelligent (i.e., efficient) interactions of these two systems have no wasted energy. There should be no muscular tension, no inappropriate or unnecessary muscular activity. Thus, the ideal body moves as if only the bones are involved, and movement is inhibited only by the normal limitations of the joint structures. Because there is a certain degree of balance and symmetry to the skeleton, certain key points in the body may be thought of as distribution centers, points where the intelligence of the skeletal and muscular systems intersect (see Diagram #1). These are points from which we can move and control the body.



Further analysis can help us to locate these centers. Functionally, we can divide the body into two distinct units, the appendages and the torso. We may think of the arms and legs as the creative components, which generate the wave pattern of the asana. The torso, the core of which is the spinal column, may be seen as the receptive component. Thus, the spine passively lengthens (is unblocked) by the flow of intelligence created by the appendages. Silence of the mind comes when there is minimum disturbance to the nervous system. Because the spinal column is a major component of the nervous system, it follows that the spine should be disturbed as little as possible. Asanas should not be done actively from the spine, but should allow the spine to be long, soft, and silent. The major kinesiological centers lie in the torso and correspond to the second, third and fourth chakras. The second chakra, located in front of the sacrum in the center of the pelvis, is where the intelligence of the legs intersects the intelligence of the spine. This is also the approximate center of gravity of the body, a point of tremendous strength and stability, and the primary center from which movement is created. The intelligence of the arms intersects the spine at the fourth chakra in the center of the chest. This secondary creative center becomes the primary center during inver-

ted poses, but generally follows the lead of the second chakra. The third chakra is a receptive one kinesiologically, harmoniously connecting the two creative centers by allowing a free flow of postural energy between them. A large number of people use the third chakra as the primary point from which movement is created, which tends to constrict muscles in the area and restrict or even block the flow of energy here. This psychological holding results in lower back problems, and chronic tension in the diaphragm, which in turn affects breathing and causes inefficient functioning of the digestive system.

As each arm and leg can act independently, there are secondary distribution points for each appendage. For the legs these are the hip sockets. The ball and socket joints allow tremendous range of movement and therefore require maximum flexibility and awareness, so as to steer the flow through all possible configurations. Because the shoulder girdle is highly mobile, being attached to the torso only at the sterno-clavicular joints, the secondary points for the arms may be thought of as lying halfway between the pectoralis muscle and the scapula. By including the whole shoulder girdle in all movements of the arm, the chronic tension that is often carried in the deltoid and upper trapezius muscles can be released.

These seven points, three along the spine and one for each arm and leg, may be visualized as key distribution centers for the wave patterns in all the asanas. All movements are circles, spirals, or variations thereof and these points can be thought of as relay stations to keep the waves flowing and/or to steer them in different directions. The Sanskrit word chakra translates as wheel, indicating the circular nature of the movement through these centers. The joint structures of the hips and shoulders also point out how this rotational component is added to the wave pattern by the appendages (the arms and legs are rotating one way or another in every asana).

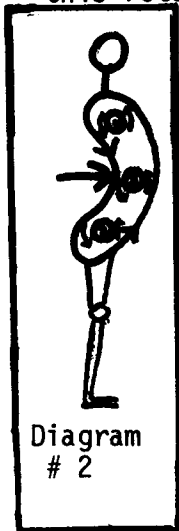
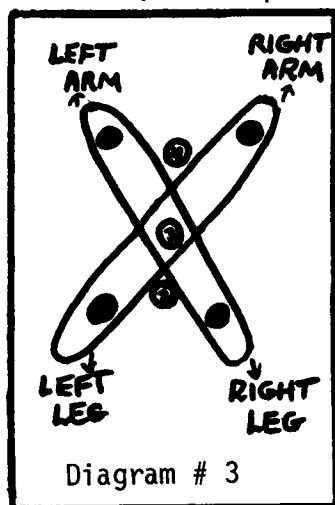


Diagram  
# 2

The alignment and relative positioning of the centers is crucial to the smooth flowing of the wave. The activation of one center must not upset the alignment of the bones. Unfortunately, this is a common occurrence in asana practice, especially along the spine. As mentioned previously, many people attempt to create movement from the third chakra. This will produce a situation as in Diagram #2, distorting the correct alignment. In the correct action, the chakras are like pulleys that transmit the flow, but do not actually move in space while doing so. The second chakra action should anchor the tailbone down toward the earth without disturbing the neutral position of the pelvis or the normal lumbar curve. It also activates the lower abdominal muscles below the navel (the

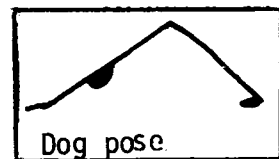
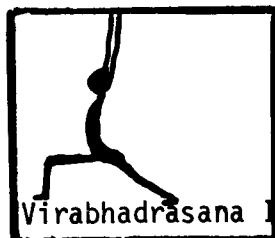
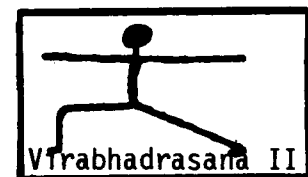
abdomen above the navel should be passive) to awaken the Hara. The third chakra must align itself between the second and fourth, along the line of gravity, not allowing the flow of postural energy to affect the diaphragm. The back diaphragm opens with the breathing and the ribcage widens and lifts. The fourth chakra action lifts the sternum, descends the shoulder blades, and expands the upper chest.



The third chakra not only links up the second and fourth chakras, but also can be seen as connecting the arm and leg centers (see Diagram #3). This connection produces a diagonal component that stabilizes the spine in asymmetrical positions. (This can be experienced in the Salabhasana position. Lying on the stomach, first lift both arms just away from the floor, and then elongate from the arm centers parallel to the floor. Release the arms and do the same with the legs, elongating from the hip joints, parallel to the floor. Now, to develop the diagonally stabilizing intelligence, elongate the right arm and the left leg at the same time. Repeat with the left arm and right leg. This action plays a fundamental role in many of the Sirsasana variations.)

One way of bringing our conscious intelligence into key energy centers is through the use of creative visualizations. These are consciously created images that communicate directly with non-verbal regions of consciousness. This way of working is difficult and subtle, yet very powerful when practiced accurately. In asana practice, creative visualizations connect the conscious mind to the musculo-skeletal intelligence directly interacting with gravity, by channelling the mind along the structural energy pathways which the ideal body would be experiencing. The gravitationally stimulated proprioceptive centers are located in the non-verbal area of the brain, and thus respond well to images. Literal, verbal suggestions tend not to work so well. Although there are an infinite number of images that can be used, all are similar in evoking a sense of flowing. For example, the images of a fountain or waterfall can be useful in backbends. In all poses, we may think of the spine as "growing" out of the pelvis. The action of the arms in asana is often compared to the movement of the wings of a bird. By studying the kinesiological energy pathways of the ideal body, we can learn to create images that tap directly into these already existing energy channels. The more precisely the images correspond to the movement or opening we wish to create, the faster and more accurate will be the body's response.

Begin to practice these visualizations on a simple level by focusing on one energy center at a time. Feel the action of the legs in Tadasana, and visualize the flow of energy down into the floor. Angela Farmer uses the image of planting the feet, of growing roots down into the earth. The same flow pattern in the legs is maintained in Uttanasana and Urdhva Dhanurasana. In many of the other standing poses, the bone positions of the right and left legs are different. Practice visualizing an equal flow of intelligence down through each leg, in spite of the asymmetrical positions.



The action of the arms can also be practiced in the standing poses. In Virabhadrasana II, create a flow of intelligence from the heart center into each arm center, along the arms, and out through the finger tips. Just as a flag can fly fully extended when carried by the wind, allow the arms to fly, carried by the flow of your intelligence. As this is not an act of the will, the arms feel softer, lighter, and more alive. This arm action should remain the same in different relationships to gravity, as experienced in Utthita Trikonasana and Parivrtta Trikonasana. In taking the arms over the head, as in Virabhadrasana I, grow the arms up toward the ceiling by releasing out of the arm centers. If done correctly, the neck and upper trapezius muscles will stay soft while the arms remain active. Again, the flow patterns remain the same in all relationships to gravity. Practice this action in Virabhadrasana I, Virabhadrasana III, Adho Mukha Svanasana, and Adho Mukha Vrksasana (handstand). In dog pose and handstand, the arms have become lift generators by interacting with the floor. The downward movement of energy from the arm centers creates all of the inverted poses. Practice visualizing the downward flow and rebounding lift in headstand and shoulder stand.

As you become familiar with the arms and leg centers, you can begin to connect them in your visualizations. This flow is across the body, connecting right arm to left leg and vice versa. This can be practiced in symmetrical poses such as dog pose and headstand, but becomes more obvious in the asymmetrical poses. Try to connect the back leg to the bottom arm and the front leg to

the top arm in Utthita Trikonasana. Connect the back leg to the front arm and the front leg to the back arm in Virabhadrasana II. In Virabhadrasana I and III, extend the arms out from the leg centers and really feel length come into the spine. If you practice the headstand variations, notice the stability that this cross body pattern will bring to the revolved and one leg positions.

In all twisting poses, visualize a spiraling wave pattern flowing up from the creative centers: the heart center for the inverted twists and the pelvic center for all others. In the inverted twists, the pelvis contributes a secondary spiral that harmoniously joins the heart center spiral. Conversely, in the other twists, the heart center contributes a secondary spiral to the primary spiral of the pelvis. It is common to see the primary and secondary roles reversed in the twisting poses. Watch for this in your practice. Do not actively twist the spinal column. Allow it to receive the wave created by the arms and/or legs.

Allow the flesh to always feel fluid. Overworking the muscles will harden them, damming the pranic flow. Use an anatomy chart of the muscles and bones to aid in your visualizations of the key energy centers. By observing the direction of the muscle fibers, you can begin to get a feel for the direction of the flow patterns of the muscular intelligence. Visualize the muscles as always lengthening, in spite of what your logic might say about the action of muscles. Let your mind stay open to experience your own internal flow patterns, your own rhythm. This is where the real joy of yoga practice begins--when you are no longer just repeating someone else's directions.

There may be regions of the body that are so dull and blocked that direct physical stimulation is needed to bring about kinesthetic sensation. This is especially true for new students or those not used to working with visualizations. For these situations, stretching and/or strengthening exercises can be devised to find key energy centers, and stimulate dead or dull areas. By using the ideal body energy pathways as a guideline, the entire body can be mapped into regions of intelligence and ignorance. This information is quite useful in planning a strategy for asana practice. Take, as an example, the idea presented earlier of controlling the arms from a point in between the pectoralis muscle and the scapula. If we have no sense at all of moving from this point, and creative visualizations are not helping, we can practice various arm and shoulder movements and chest openers to explore the area.

Look as well at the hip joints. There is so much untapped potential there that you really cannot devote too much attention to them. On the surface

level, intelligence must be brought into all muscle groups that cross the hips. Explore the hamstrings, the adductors, and front groin muscles. Do you always stretch the same areas of the muscle? How many different fibers can you come into contact with? (The ligaments must also be explored.) Do you have more range internally rotating, or externally rotating the hip joint? Do you know what poses push you to your limit at each possible position of the hip joint? From what point do you move the legs? From where do you control the arms? How much scapular movement do you have? Do you jam your shoulder joints when trying to open the armpits? The answers to all these questions will indicate where you should be focussing your attention. It may take weeks, months, or even years to bring direct intelligence into the correct but by having the map of the body as a guide, we always have some sense of where we are going and what we are looking for.

The precision and level of detail that Mr. Iyengar has brought to the study of hatha yoga has opened up a whole new world of ideas and concepts. But we must be able to use these wisely, moving beyond the level of thought to the level of refined experience. Technical details are important, but are not an end in themselves, and can get in the way of a deeper experience of the practice of yoga. Yoga is alive, dynamic, and flowing; it is not dry, static and detached, which the intellect tends to be. From chaos comes the harmony of fluid movement. From this harmony comes the stillness of the mind. From this stillness flows the intelligence of the universe.

ABOUT THE AUTHOR: Arthur Kilmurray is the President of the B.K.S. Iyengar Yoga Association of Northern California, and a certified Iyengar Yoga teacher. He has studied in India with B.K.S. Iyengar, and has also studied extensively with Judith Lasater, Ramanand Patel and Dona Holleman. He teaches yoga in San Francisco.

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## **To Stretch Or Not To Stretch: Soft Tissue Injury and Yoga**

An article by Jean Revere, D.C.

The practice of Yoga has profound effects on all the tissues of the body. This article will investigate the effects of Yoga (and exercise in general) on some of the soft tissues of the body, including tendons, ligaments, and muscles. We will look at how a "normal" range of motion is determined and maintained by each body, how range of motion can be safely maximized, how movement helps to tone soft tissue, and the effects on soft tissue when range of motion is exceeded.