

**THE KEY TO AWARENESS**  
**ZONAL RESPIRATION**

PRAGMAYOGA SERIES

VOLUME 1

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## CHAPTER 1 - THE YOGA OF THE TRIPLE BODY- INTRODUCTION

### WHAT IS PRAGMAYOGA?

Pragmayoga could ordinarily be called "practical yoga", a system of yogic and meditational techniques that are simple and easy to learn. The Greek word "pragma" means "done" and is the source of the English words "practical" and "pragmatism". The name "Pragmayoga" carries the sense of doing something useful, something immediately applicable to practice. All traditional schools of meditation work with both mental and physical energy, but they differ in the relative emphasis they place on these. Some techniques are purely physical, such as Pranayama or Sufi dance, others engage in repetitions of verbal mantras, or in performing prostrations. Rinzai Zen and Tantric methods rely on mental faculties, on koans and complex visualizations, and they require considerably less physical effort. Even less extreme in bodily demands are Mahamudra or Soto Zen or Advaita, where one merely has to stay in a state of **awareness**. The term "awareness" is often contrasted with "**mindfulness**", but they are essentially the same thing: when you are mindful you are aware, and when you are aware you are mindful. For our purposes both words essentially refer to the same thing, and so "awareness" is what we use in this book.

In striving for awareness through traditional yogic methods we meet with the difficult task of stopping the ceaseless flow of thought. Pragmayoga, on the other hand, requires very little mental work because it employs nothing more than setting up and manipulating simple muscular frameworks in the body. The tools to achieve this make use of spontaneous and inborn behaviors to manage body relaxation, respiration and the movement of the eyes. Having these under one's control, the mind can quickly achieve awareness, or mindfulness, and also a diminishing or even cessation of thought. As long as the muscular frame is kept in mind, the state remains steady. In addition to its main topic, zonal respiration, this book offers many details on general yogic and meditational techniques.

This book presents ways to control and regulate the mind and body. The approach described is entirely new to both Eastern and Western traditions; it is a composite of the two, which for the first time brings together the traditional body-mind knowledge and practices of the East with the modern scientific approach of the West. What is presented here is entirely valid in both worlds and it is bound to become the source of a new scientific field. This new yoga opens for you easy routes to mental control through physical methods arising from innate design of the body-mind. True, Indian Prayanama prescribes methods of breathing for gaining mental control that are completely physical, thereby circumventing the difficulties of cerebral meditation. However, the exercises it prescribes are not nearly as simple and effortless as those offered by Pragmayoga. From the East comes the knowledge that the body, like some mechanical device operates as a single organ, whose many different and seemingly separate parts never perform

independently, and where if one part becomes active, all the other parts also go into action. An example: when you smile it is not only your lips that take on a curve, but the eyes open wide, the eyebrows and forehead lift, the jaw opens, the lower ears stretch backward, the chest expands, and if you begin to laugh, the head and the upper body bends forward or backwards. There are many other instances of such linkages between parts. In other words, the body is **monosomatic**, (Greek for "one body"), it is a monolithic, holistic machinery, in which all parts act together, as the gears in a clockwork, creating a larger whole. The parts move at different speeds and with different levels of force, and this absence of simultaneity obscures their unity. This monosomatic structuring of body-mind has always been recognized in the East, but it has never been explained; without detailed knowledge of anatomy that was not possible. While the body is itself monosomatic, it is only one part of a greater monosomatic unit, the body-mind.

In West, on the other hand, we have at our disposal precise knowledge of anatomy and an exact description of the mechanical musculo-skeletal structure of the body, and therefore we can join the two separate worlds, putting aside the usually metaphorical and generally vague instructions of the Eastern traditions, and replace them with rigorous scientifically supported explanations of yogic and meditative phenomena. This becomes possible when we carefully observe the connectivity between mind and muscular behaviors within the body. That it is not beyond our abilities to understand the inner workings of the body was expressed by the yogist and scholar C. C. Chang in Evans-Wentz, W.Y.: Tibetan Yoga Oxford UP, 1958, p. xli. He wrote: "a master of yoga can project his consciousness to each of the various organs and parts of the body, and, independently of them, observe their innermost functionings. In this way, yoga can undoubtedly contribute greatly to psychology and physiology in the Occident, and ought therefore to receive scientific attention." In other words, exact analysis of the body in meditative, that is, tranquil states can precisely reveal bodily parts, locations and processes. This is strongly supported by the fact that instructions in reflexology define points on the surface of the body and of appendages that correctly relate to internal organs. Knowledge of these connections could not have been simply guessed, they could only have been discovered by seeing into the body. We should emphasize that one does not necessarily need mastery of yoga to see the inner body, but only appropriate instructions.

Pragmayoga describes in considerable detail the mechanical design of the indivisible body, and most importantly it introduces for the first time an entirely new and quintessential concept: that the body-mind consists of three important interactive subdivisions, the action of which is normally hidden, and which constitute our physical-mental being, the Trisoma, or the Tripartite Body. When the working cooperation among these three divisions is less than perfect, the harmony between body and mind is distorted and remains unbalanced. It is through appropriate handling of the tripartite body that we can most easily take control of the body and mind. (More on this in Chapter 2 The Trisoma.) The trisoma can be consciously manipulated once we locate it and recognize how it works and find its control points. This allows keeping the body-mind under

discipline, where neither part can slip from our attention. In everyday life either our minds or our bodies take precedence throughout our actions, but it is only when they appear in appropriate proportions that we can remain balanced, and stay at rest in both the body and the mind. Gaining such balance, or equalization is necessary to succeed in yoga and meditation.

It is important to underscore the fact that Pragmayoga reveals existence of the Upper Visceral Body, or UV. This is a framework which has never been known and described in Western science; it is a unified assembly of organs, specifically, those of vision, breathing and feeding. Our experience of living seems to be located in this region. Correctly employing this composite organ is an absolute essential in yoga and meditation. More on this below. The methods of Pragmayoga will be useful for persons who practice yoga for general health and mental comfort, and for those more interested in deeper meditation. Above all, the methods offered can be applied outside of formal sitting, at moments in the midst of everyday life. One can stop any activity and for a short time successfully harmonize the body-mind. This refreshes and also trains one to gain increasing awareness by repeatedly coming back to the practice.

Some of this information, such as the importance of posture and breathing is not new to either Eastern yogas or to the holistic traditions of the West, but in these systems the role of breathing and posture has not been described in practical and scientifically exact terms. Breathing seems simple, but it is really a complex process, with many contributing factors and variables, all of which need to be considered before correct breathing can be steadily practiced and maintained for any length of time. Respiration organized according to body divisions, or the system of Zonal Yoga, is the most basic method of Pragmayoga, and it forms the main subject of this book. Other techniques, including the yogas of the eyes, of the tongue, of the hand, or the Trigramma, the three-letter, or three-sound based system that can give immediate control over the body-mind, need to be covered in other books.

### **Geometry in yoga and meditation**

In addition, Pragmayoga demonstrates how our body-mind employs geometric elements in its most basic organization. All the workings of the body can be best understood as a system of simple mechanical movements performed by parts of the body, a process that can be described and explained in terms of geometry and engineering. And so operations of the body-mind can be clearly seen and controlled when this system is mapped in terms of points, lines, triangles, squares, cubes, and so on. The mind is not a receptacle in which things appear, but rather, the mind consists of the things themselves, and so when you see a geometrical shape you, in part, take on an aspect of that shape. A scribble and a smudge on the wall make little impression, but when it is framed, bounded by a rectangle or a square, it becomes a piece of art. The presence of the frame alters our conception. There are at least two good examples to illustrate role of geometry in our existence.

First, the basic postures of formal yoga and meditation make direct use of geometry to manage the body-mind. Perhaps the best known form of the various lotus postures is the siddhasana. Here the body conforms to the simplest geometrical forms it is able to take, a triangle and the line. The three vertices of the triangle are the buttocks and the two knees, each resting on the floor. The triangle is the simplest and most stable form in any construction, and so offers the ideal format for balancing the body. The perfectly centered torso resting on the pelvis creates a linear force. The upper torso plus the arms and hands resting on the knees represent another triangular element. Zen master Sekida wrote that in "the correct Zazen posture the buttocks and the knees form a triangle", showing that such structuring is recognized in yoga and meditation, see Sekida, Katsuki: *Zen Training*, New York: Weatherhill, 1975, p. 40, fig.7.

If you look at the various classical Padmayana positions, you will see that in all of them the body structures itself as lines, triangles, and quadrangles. For example, sitting with straightened legs while holding on to the feet presents a rectangular base. Standing on the head with elbows supported on the ground forms triangle. Lying flat on the ground, with arms by the sides and legs close together projects the body as a line. True, these geometrical shapes are nothing more than ones that offer physical balance, which would be necessary if one is to maintain them, but that is also why they are effective in mental control. This is because once the entire body is reduced to a simple fundamental shape, and because the body and mind cannot be separated, consciousness is also channeled into its simplest state.

Second, consider the mandalas, or meditation diagrams, which directly touch the geometrical organization of the mind: their basic design is a circle with a square inside it, and this graphic composition stabilizes one's consciousness. The design can become very complex by adding more of these two elements into the picture, still the ability to hold the mind comes from perceiving these two simple shapes. Recall that all kinds of visual signs, symbols emblems, or flags rely on these, as well, and they succeed in arousing our attention and feelings. Perhaps this is why our very concepts of life and of the physical universe are expressed as geometry. Experience appears in a "space", in a "place" and you feel that your own self exists in it, at a central point, at the "here" and not at the "there". Time appears as if flowing out from us, with the past behind, the present here, and the future forward. Consider various other concepts: honesty is "upright", "straight", while dishonesty is "crooked". All formal sports and games are structured within fields, rectangles, squares, circles, and so on. How our minds work with simple shapes is most evident in that we can readily recall and even internally see flags, signs, flowers, but have problems clearly mentally visualizing more complex things, such as faces.

Equally evident of the fundamental role that geometry plays in our minds is the way shapes and directions of handwriting differ among speakers of different language families. The reason behind this is the fact that writing emerges from thinking, speech and hand movements, and so it is rooted in both mental and physical behaviors. Sumerian

cuneiform signs were first written vertically, and later became horizontal, starting on the left side. The Egyptian hieroglyphics ran left to right, or down, in contrast to the scripts of the neighboring Semitic peoples, where Hebrew or Arabic go from right to left. Whereas the Hebrew script is chiefly angular, the Arabic is rounded. This may have historical roots: during times when the Arabs in the region were still relatively isolated, the Hebrews and the surrounding lands were frequently invaded and mixed with foreign linguistic elements. The ancient Greeks initially wrote back and forth, changing direction at the ends of lines, but later on, they, along with all other Europeans wrote passing from left to the right, and employed a mixture of squarish and round letter shapes. The Chinese script consists of both angular and curved characters, proceeding left to right or vertically down, while traditionally the pages of books were turned from right to left. The various Indian scripts use a mixture of squarish and rounded shapes.

As for handling of writing instruments, the Chinese hold the brush in a special way curling the palm around the brush, whereas the Japanese hold it between the fingers, just like Europeans, and while they are masters of Chinese calligraphy, people of other nationalities do not seem to ever truly master that skill. We can add to these differences the direction for reading the titles on the spines of books. The titles of books in English start from the top, whereas in several other languages, in German, Hungarian or Tamil, for instance, they run from the bottom. Chinese and Japanese books traditionally place titles in a vertical column. This is not accidental—the ease of turning the head to read upward or downward varies with speakers of language groups. Of course, at times a short title on the spine of a large book may be horizontal in all cases. While such differences in ways of writing are taken to be culturally determined, they are, in fact, brought about by the power of linguistic factors over body and hand movements. These contrasts provide good examples of the Language Rule: the speech producing engine is set up somewhat differently in each type of language, hence the differences in their pronunciations, and this determines how various parts of the somatic body are manipulated most efficiently. For more on this see the Language Rule below.

Our body mechanism for movement works the same way as the one in a marionette. The solid blocks and sticks in a puppet are moved about by strings, while in our case, the various hard bones are pulled in different directions by the muscles. When no force is applied the marionette comes to a resting position, a state of relaxation in which every part hangs freely. As for us, except when lying down we cannot fully cease spending energy to at least oppose the force of gravity pulling us down. However, if we place the body into its best balanced position possible, it can relax to a significant degree even when standing or sitting. The minimal energy required to maintain such a well equalized state inherently seeks its resting state and will take on the simplest form possible, just as small amounts of water gather into rounded drops. The body behaves exactly this way: its muscular framework is always attempting to find the simplest possible shape, one that is balanced, one that requires the least energy for whatever state or task is at hand. And the simplest

essential forms are geometric, frameworks consisting of points, lines, squares, circles, triangles, spheres, and the like.

## **Frames**

We probably need to exactly define the terms frame (or framework) because what the concept represents is necessary for understanding your body kinesiology and its control. A framework, or simply a frame, is the physical essence of a structure, one that provides its strength, basic minimal interrelation of anything constructed from two or more parts. For example, a building consists of a frame made of wooden beams, bricks or concrete to which the walls, floors and ceilings are later added. The body has a frame as well: the bony skeleton and the musculature which manipulates it. The muscles of the hand constitute a frame that can handle objects. There are conceptual frames. A government is based on a constitution, a family is tied together on the emotional links between its members, a business or an army is organized on a command structure, and so on. An immediate example of a framework can be seen in the game cat's-cradle. There the frame consists of the fingers and the string, and its form changes each time a new string pattern is created. However, in yoga and meditation we are not so much interested in the structure of a stable frame, but in a dynamic one. In the case of the cat's-cradle this refers to the forces which move and hold the fingers and hands to generate and manipulate the framework. Body movement, like any motion describable in engineering and physics deals with dynamic forces, which execute its actions. The components of such frames are the forces and stable points against which the forces support themselves. So, for example, in standing, sitting, walking, thinking, speaking, it is the choice of muscles and their actions that form the frames. The frame of a smile includes among other things, a spreading and upward turning of the edges of the lips. The framework of breathing includes all the muscles that produce the phases of inspiration and expiration. It is a fact that when you engage in any movement, what you feel is not the framework of bones and muscles, but the forces activating them. Such elements like *chi* and *prana*, presented in Eastern traditions are dynamic forces, hence they cannot be defined as material things.

Pragmayoga effectively makes use of such frame shapes, which can be created not with mental effort but with mere muscular actions. As soon as the body framework conforms to one of essential frames, or shapes described in this e-book, the body-mind becomes stilled. This brings us considerably easier and clearer tasks than ones we meet in traditional meditations. Even the counting of breaths, a standard beginner's training practice, can be ineffective for many persons because while it tries to focus thoughts on the single target of respiration, it already involves thinking, words, sounds and muscular breathing action, four very different processes going on at the same time. And when these faculties are not satisfactorily combined, then the very thought of counting is soon lost.

Geometrical shapes are integral to Zonal Yoga, the practice of zonal breathing, and to all the other yogas presented in Pragmayoga. We should note that the employment of points,

lines, planes, blocks, circles, spheres and spaces is, of course, not entirely unique to Pragma yoga, the fact that the body-mind can be mastered when conceived as a geometrical structure is well documented in the use of the intricate system of nadis (lines), chakras (points and circles) and other shapes advanced in the Indian Parayanama tradition. The Taoist and Tantric yogas operating with channels and lines and various round shapes, like cauldrons, including the so-called "tanden", describe the same elements, but they present them in differently laid out constructions. This variance can once again be ascribed to the effect of the Language Rule, (see below).

### **Monosoma in yoga and meditation**

As mentioned above, the monolithic physical body-mind is a machine that performs biologically engineered movements, and whose parts work together in precise coordination. When one part moves all the others also move in various ways. While we are normally not necessarily aware of it, mental contents always have corresponding bodily behaviors; as long as the body moves so does the mind. Try to think while turning the head in various directions, or repeatedly move part of the body, as if hammering or conducting an orchestra. This is the reason we are placing so much emphasis on the idea of body-mind monosoma. The body is always a part of your total experience. When you are sitting or lying still and quietly, with the body in an inactive state, and without mental concerns, it is the quietness of the body that allows the mind to come to a rest, to slow down the flow of thought. Due to monosoma, the reverse is also true, a tranquil mind quiets the active body. Even in some schools of Western science and philosophy it has been proposed that the body and mind cannot be separated, as they are two parts of a single entity, tied together whether in action or at rest.

### **Monosomatic anatomy**

When we consider the body in general we think of it as a single unit. But when we feel it we hardly ever attempt to sense or visualize the entire body. More frequently it is only some part or parts that we hold in momentary consciousness. On the other hand, during movement, especially in physical activities, we can without any conscious effort handle the different moves in a concerted way, because they automatically cooperate and need no instructions. The unity of the body is also expressed by the way its parts are anatomically tied together. The body is enveloped all around by a covering of the skin layers. Further in lie the bundles and sheets of muscles, all of which are likewise sheathed by thin white coverings, or fascia, that we can see in raw meat. The muscles are either directly or through their tendons attached to bones or to one another, while all adjacent bones and joints are strapped together by strong ligaments. All are thus physically tied together; there are no independent parts. In addition, the network of the nervous system spreads through the entire regiment of body parts, further uniting them. Although one originates in the ectoderm and one in the endoderm, the body's outside and inside walls are not separated: the skin does not end at the openings leading into the body, but rather, it turns

inside and continues as the inner walls of the feeding and respiratory channels. It is like the undivided skin of a doughnut, or of a torus in topology. The skin of the face passes over the lips, becoming the lining of the mouth, and continues down into the stomach and through the intestines all the way to the rectum, where it once more turns to the outside and continues as skin. The inner and outer linings are a single organ.

### **Examples of bodily and mental monosoma**

The idea that the body is not separate from the mind is the most essential tenet of Eastern traditions and of the holistic schools of the West. Working near the end of the 19th century, the noted American psychologist and philosopher William James, continuing investigations by European researchers, had come to the same conclusion. For example, he was describing the muscular connection between the eyes and thought when he wrote: "In myself the 'backward retraction' which is felt during attention to ideas of memory, etc., seems to be...an actual rolling outwards and upwards of the eyeballs, such as occurs in sleep..." (James, William: *The Principles of Psychology*, New York: Holt 1890, vol. 2, p. 436, reprinted by Dover Publications 1950).

### **Examples in everyday life**

As we have said above, even without considering that the body and mind are inseparable, the body by itself, considered purely as a biological machine, is a single whole monolithic system. This is a well established idea, and while it is not often emphasized, in everyday life we need no scientific equipment to subjectively validate this for ourselves. We cannot, in any way help being machines. The idea does not demote the human level of existence; movements are necessarily mechanical and our bodies are designed to fabricate movements.

### **Body monosoma**

There are many obvious examples of the monosomatic nature of the body. Examine just the arms, for instance: in jumping the arms automatically swing upward at the same time as the legs extend their push downwards; in tilting the body forward, the arms move backward to maintain balance; the arms swing back and forth when we walk, as do the legs. Or twist one arm with some force, along its length, from the shoulder down while you walk in a straight line: you will find yourself veering off the line. As for motion and breathing, these are two perfectly linked in the performance of dancers, acrobats, or singers engaging in any kind of dance, motion or music. In addition to larger body movements they move their arms and hands in ways most appropriate to each action, offering the least resistance to motion and respiration. They take on and maintain special body frames that enable them to perform for a time without getting seriously out of breath and stopping from exhaustion. Such activities would soon overwhelm persons who lack the necessary training.

The precise coordination of arm and leg movement can be seen in a simple experiment. If you are an English, or other Northern language speaker, when you walk your arms automatically swing with small amounts of force in synchrony with the leg strides. However, if you keep the arms free, loosely hanging, your leg mobility becomes reduced. Conversely, for speakers of a Southern language, such as Indian, causing the arms to swing with small but definite force curtails walking, whereas loosely hanging arms, swinging through a smaller arc assist it. This is true, also for speakers of Oriental languages, but to a lesser extent. For the latter two groups of speakers, if while walking, the hands are clasped and pressed at the back of the neck, leg movement is once more impeded, whereas the same action actually speeds up walking for the speaker of English and related languages.

We can cite another easily observed example of body monadism: if you turn your head to the right without blinking, the eyes do not immediately respond, but after a brief pause they blink and also turn to the right. In this case again, the results between language groups offer contrasting opposites. It is interesting that language connected factors in monosomatic body behavior, such as the ones mentioned above, account for much of the characteristic gaits and other typical body motions that contrast among varying geographical groups. See Language Rule.

The mirroring of neuromuscular action is evident in an interesting experiment. First make sure the arms and hands are genuinely relaxed. They can be hanging, or resting in your lap, or on a table. Place your attention on the right hand and quickly flick your thumb, or any finger. Now turn attention on the left hand. Notice how the left thumb jumps on its own. This mirroring action works at any joints, at the wrist, and so on, but the heaviness of some body parts this involuntary motion is resisted by the load weight.

We can mention here two more examples that show both monosomatic behavior and contrasts between speakers of different language classes. There is mirrored behavior observable in how the arms rotate at the shoulders and the reflexive action by the muscles of the eye lids. If you cross your arms over the chest your eyes will want to open wide if you let them act spontaneously, but if you cross them behind your back, they will tend to close. This applies to Northern speakers, for the Southern group the results are the exact opposite.

There is a monosomatic connection between your oral actions and your speed of locomotion. There are three dynamic frame settings for the mouth and tongue when you eat: taking food into the mouth, or ingestion, chewing, or mastication, and swallowing, or deglutition. In the first mode the mouth is open, in the second one it closes and opens, in the third one it is firmly closed. If while walking you generate and hold the ingestion setting, your legs will move with greater ease than when generating the setting for mastication, and will be slowed when you hold the frame for swallowing. Again, this is

true for the Northern speakers and the opposite occurs for the Southern ones. See below: 1A. The Language Rule.

### **Body-mind monosoma**

Instances of body-and-mind monosoma abound. Here is an obvious case of body-mind unity: we know that standing at strict attention causes an amount of physical and mental tension, but that the discomfort of that state is relieved by standing at ease. A more subtle case is the following: if you pay absolute attention to something, looking at an object without thinking, just watching it, then the mouth loosens its normal tension and the jaw slightly drops. Consider yet another instance: close your eyes and think of some past event. You can observe that for speakers of English and for those of related languages, the eyes focus backward inside the head, whereas in thinking of the future the mental gaze is directed forward. Eye movements are inseparable from mental events, they are tied together as integral components of thoughts. This is the action observed by William James, as cited above. However, speakers of various other languages will conceive of the future and of the past in directions exactly opposite to those just described. The reason for these contrasts among speakers of various tongues is covered in the section below.

### **THE LANGUAGE RULE - DIFFERENCES IN TRADITIONS -WHY?**

It is important to consider that there are certain small anatomic differences between populations, between different racial types, nations and ethnicities, and that these various groups speak different languages. This affects the entire behavior of the body, especially that of the UV and its most mobile and active component the composite oral-nasal-laryngeal structure. This region determines both the shape and size of the oral, nasal and laryngeal tracts, and consequently, the pronunciation of a language or dialect. That is, the authentic native pronunciation of any language is a particular setting of the muscular structure of the tongue and its associated parts in the oral region. These anatomic divergences among groups provide specific abilities, as well as limits to speech movements; certain sounds will be articulated in different ways, others may not be pronounceable in an another language. This is because it takes only a small change in the mouth, like settling the tongue just a bit up or down or forward or backward, to change the way sounds come out. In learning to speak a foreign language or when imitating someone else's voice we try to make such alterations. The uniqueness of language pronunciation is evident in that all ethnicities can perform the same body motions, but they cannot well imitate each other's accent.

All these differences can be understood because they are organized in a very orderly fashion: they follow what we can call the Language Rule. This concept is very important in yoga and meditation because methods of practice should always take into account one's native language. When it is applicable to yogic action, the readers will reminded of the rule. The details of the physiology behind the Language Rule are technical and are not

covered here, but the many examples of its effect on speech and meditation can be described. The famous Chinese Zen koan sound, written in English as "wu" (which should, in any case, be pronounced without the "w", more like English "oo"), became in Japanese Zen the sound "mu". Why did the Japanese, who are exceptionally careful to maintain traditions, not keep the original sound? Because the "oo" sound as it is pronounced in Japanese is very much forward in the mouth (technically it is a high rounded vowel, similar to French "u" or German "ü"), unlike the Chinese one (which is a low back vowel), and does not in the least generate the meditative quality that a low back sound would. It is the very backness of "oo" that gives yogic quality to the sound. The Japanese, therefore, chose a version that for a Japanese speaker would give the same effect, which is "mu". To a large extent the self-awareness component in such meditation is the "m" sound, while the "u" vowel creates the space in which the perception of the self appears.

The Indian tradition, similarly, makes meditational use of "m", "u" and "o" in different sound combinations, for example, in "hum" and "om". In the Tibetan tradition "hum" has been changed to "hung". For people in the Middle East, in the West and in other parts of the world such sounds are not quite right; they need their own particular versions of yogic sounds to get the same results. Meditation techniques that use sound include mantras, various syllables, as in Taoist self healing utterances, or letter symbols vocalized visualized in mandalas.

There is plenty of other evidence of the influence of the Language Rule on aspects of the unity of language and the mind. The so-called "diminutives" are formations of words expressing smallness or delicacy, especially applied to children, adults or things that elicit affection. While the diminutives relate to the exact same emotion in the various languages, they are expressed by completely different sounds and when one sound generates such feeling in one's native tongue, it does not do so in another. For example, the Russian "babushka", means "granny", where "baba" is "grandmother" and "-ushka" is the affectionate diminutive suffix, but in English "-ushka" attached to a noun does not produce that same feeling. Similarly, speakers of all languages find great beauty in their own poetry, but this is not really sensed by speakers of other languages, and that is why translation of poetry cannot recreate what the original expresses.

Meditational effects caused by body actions also differ across regions. Gazing at outer or inner images is a basic tool of some Indian and Tibetan meditations, but is employed to a lesser extent in China and Japan. Nor were the unusual posture exercises of Pranayama yogas taken up outside of India. Chinese Taiji (T'ai-chi) features slow geometrical movements, whereas some Middle East yogas prefer energetic body movements, like turning and dancing. These linguistically and anatomically determined contrasts among peoples and cultures are one important reasons why so many schools have developed through time; we have Hatha yoga, Pranayama, Vipassana, Chan, (Rinzai Zen and Soto

Zen), Tantricism (Vajrayana), Tibetan Dzogchen and Mahamudra, Chinese Tiantai, Pure Land and Taoism, as well as Sufi, Jewish and Christian varieties of meditation, etc.

All these variations are thought to be rooted in culture, but they actually spring from differences in anatomically and physiologically caused body-mind behavior, a fact evident not only in meditation, but in ordinary life. Both the UV, with the speech mechanism built into it, and the somatic body are shaped by anatomy, and because the two are inseparable, anything dependent on the UV will also show up in the movements and behavioral details of the body. So, it is the monosomatic unity, the interconnectedness of the UV and parts of the body which hides behind the fact that hand and body positions also influence our taste, smell and aroma sensations. For instance, consider the ways of eating as they vary among cultures, like those that use cutlery as against chopsticks or simply the hand. Westerners use forks and spoons to eat, whereas the Indians prefer eating from the hand, and the Orientals use chopsticks. It is possible to find the cause. Being a Northern speaker, sit erect and make the motions of eating with a fork. Note the openness of the nasal and oral channels. Now repeat the action, but with palms closed, and you will notice those channels are now blocked. In the first case aromas can freely pass through the channels, whereas in the second case they cannot. It can be observed that if you are balanced the nasal ducts open if your hands and hands are stretched open, and therefore you can better detect smells. In contrast, the above experiment by Indian speakers will show nasal duct opening with palms closed, but narrowing if holding a fork. Incidentally, we lean the head forward and bring up the hands in blowing the nose; this is also an innate action that enlarges the nasal tract. On the other hand, when speaking or smiling one cannot detect odors.

The Chinese use of long chopsticks relates to the fact that they keep the main dish in one shared serving bowl into which persons need to reach. In Japan they eat from individual bowls and with short chopsticks. It is possible, that the differentiation between these two comes not from the way the meal is served, but in the fact that the Chinese and Japanese languages belong to two entirely different linguistic groups. The effect of the hand and fingers on aroma transport comes from monosomatic unity: the UV is the engine of speech, and so the particular pronunciation of a language class, a certain presetting of the UV, will also be a determining factor in the preferred positions and movements of the hand and fingers. This phenomenon lies behind to variety we find in the shape of drinking vessels. Different beverages are best savored in specifically shaped glasses and cups because the way the hands and fingers hold the vessel directs not only the way the mouth opens, but the entire tract of taste and aroma perception. Once food is in the mouth, since they influence the behavior of the tongue and of the oral cavity in different manners, the shapes of cuts and slices of meats or fruits, or of pastas and noodles, sandwiches or sweets, while, in each case, made of the same ingredients, offer us markedly different textures and eating experiences.

The differences in the cuisines of diverse groups must be absolutely indicative of their preferences. Apart from other causes, such as the locally available food stuffs and fuel resources, and apart from conditioning from early childhood onward, or even the climate, there is a subtle effect due to language. This comes about, to a large part, from the design of the nasal and oral tracts. The nasal channel is divided into several narrow corridors, the conchae, of which the uppermost one most directly opens to the olfactory nerves located at the top of the nasal chamber. This means that different language groups, in which the openings of the nasal channels operate differently, the potentials in sensing smells and aromas can also differ. Among language groups there are small differences in how the tongue is shaped by forces compressing and pulling it in various directions. Might this also determine the level of sensitivity the tongue would have for a particular taste? One can easily see that this does, in fact, happen in the case of influence by emotions on the shape of the tongue and its bias. For example, when you consciously feel happy, you also produce a smile, and your tongue tenses its frontal surfaces, its tip and its blade, which are the areas receptive to sweet taste. One can even generate some of the experience of eating some candy or desert. In simulating a range of sad emotions the sensitivity of tongue regions goes from salty, sour to bitter, down the sides of the tongue all the way to the back. In each case a particular tongue region becomes rigid. There is also a connection between taste and emotion and language. Words issued in anger, like curse words possess a bitter quality. Words used to designate tastes are similar; saying or even thinking of the words “sweet”, “salty”, “sour”, “bitter” bring about slight, but unmistakably specific taste sensations. This is true for words in general, so that “brave”, “flat”, “clarinet”, for example, each produce the associated body and mental perceptions. Take the word “clarinet” and note that you can easily project an visual space extending down from your mouth, and it is more difficult to visualize the shape of a drum. This implies that the names of musical instruments, and in fact, of any instruments or tools, perfectly suit the way they are held and handled, and the shape itself was designed so that we can most easily operate with them. Speaking of music, the musical qualities contrasting among ethnic divisions are governed by a particular oral setting in each group. It is not an accident that musical scales are pentatonic in the Orient and in Northern Asia, diatonic in the West and in Africa, and microtonal in India and the Middle East.

The oral chamber is likewise divisible into regions by way the moveable tongue is placed and formed: there can be space under and above and to the sides of the tongue, and depending on the shaping and position of the tongue, particular taste sensing areas of the tongue may be more or less exposed than another. We may suppose that when the sour taste surface lies exposed, markedly sour foods would be avoided and if the nasal passages were less open, a higher amount of spicing would be preferred. But tasting is more than what the sensors in the tongue receive. There is an additional sensation when we perceive tastes on the tongue. The tongue is surrounded by a tunnel comprised of the floor, sides and top of the oral chamber, and sensory nerves in these areas pick up strain and pull on those surfaces. When the front of the tongue tenses in contact with sugar, the tunnel

section at the front of the tongue also tenses, and this feeling becomes a part of the perception of sweetness. In the same way, bitterness felt at the back of the tongue is partnered with a constriction of the pharyngeal walls around it. And as mentioned about drinking, the way the shape of a cup affects both the hand and arm holding it, and the way the lips make contact with its edge modifies the taste and aroma experienced. Thus, when a given language shapes the mouth and nasal channels of its speaker, a certain set of tastes and aromas are emphasized or minimized.

The many ways people in various parts of the world handle objects is also not simply a matter of culture. The arms, hands and fingers link up closely with the UV, and because of this connection, any particular setting of the UV also influences how the arms and hands are positioned for action. Traditions stretch back a long way, improvements always come about, and so we can be sure that it is the most appropriate and most efficient practices that necessarily develop in time as cultural traditions. Westerners and Indians use knives in the kitchen, whereas the Chinese use choppers. At the same time, the Japanese, closely borrowing so much from the Chinese, prefer knives. Coming to the feet, we can easily observe that in European dance, be that classic ballet or traditional varieties, dancers move and turn on the balls of their feet and on their toes. On the other hand, in Asian dance they commonly engage the soles of the feet flat on the ground. Moreover, the hand gestures feature flattened palms and straight fingers, whereas in Western ballet the hands and fingers are notably fluid. These behaviors, once more, are not dictated by cultural differences, but by body-mind characteristics set by certain anatomical variations and by type of language—anatomy came before culture.

There is another area, involving both speech and body movement, where we can see similar cultural differences. The various language groups employ different modes of hand gesticulation to accompany their speech. These are, again, not caused by culture, but by somatic and UV framework settings. The mechanism of monosoma is the main factor: speech is a forceful action, both in respiration and articulation and phonation, to which the arms respond with equal energy. Why the arms? The reason is that the tongue, the hyoid bone and the larynx are all attached, and the hyoid bone is directly connected to the shoulder blades by the omohyoid muscle. This is a muscular strip that passes down the sides of the neck to reach the scapula. Thus, any speech movement in the mouth is also reflected in the shoulder blades, the motion of which then agitates the arms.

The most characteristic speech and hand movement among the Chinese is one where the palm faces upward and the hand moves forward, with fingers together, while in the West the palm is held more vertically, and the fingers are more spread out. As another example, the gesture that in other regions has the sense of "good bye", in Chinese gesturing means "coming over here". Speakers of Indian languages signal agreement by sideways tilting of the head, whereas most others speakers indicate "yes" with forward head nodding. These patterns of behavior, whereby each of the language groups react in varying ways when body positions and movements are applied to the UV is so regular and pervasive that it

can be formally recognized as the Language Rule. Another occurrence of the rule can be met in one of the basic techniques of Pranayama, as developed by speakers of the Southern language group. In this technique one breaths, for a period, through the right nostril and then through the left one. It can be found that breathing on the right side brings a feeling of warmth, while changing to the left side produces cold. However, when applied to Northern group speakers the opposite takes place.

The influence of body posturing, especially of the hands and arms is also clearly observable in the distinct modes of greeting in linguistic groups. The Western handshake is represented in Asia by bowing. Of course, bowing is done in Europe for special occasions, but not for general salutation among people. There is an interesting contrast between traditional Chinese and Japanese ways of greeting. In the Chinese tradition one places the hands together and raises them in front. The height reached depends on the level of courtesy dictated by social status. The Japanese perform bowing, with the arms in different positions per gender, and with the level of bend again depending on social hierarchy. In all these cases, it is the body and UV settings, and the Language Rule that determines the preferred methods: in friendly interactions one is cheerful and relaxed, and whatever configuration the arms and hands take must adjust the UV for that to happen. There is one version of traditional bowing that seems to be universal; here as you bend you bring the right hand to the front of the torso, while the left hand goes to the back. It can be observed that if both arms are placed in front or in the back breathing becomes impeded. Thus, such placement of arms is a matter of UV regulation.

The eyes are also involved in interpersonal actions. For the Northern group it is important to look into the eyes of someone you are talking to, whereas in Japanese, in the Southern group that is considered impolite. But one can easily observe that this is a matter of UV equalization. For the Northerner looking sideways or down while talking constricts breathing, while for a Japanese speaker the opposite is true. In each case the most comfortable state is taken up.

And now to come to the root of the matter: there are three language classes which differ in their impact on the body and on the UV. One of these is the family of Indo-European languages, which includes English, German, Scandinavian, Gaelic, as well as Slavic, Greek, Romance, Iranian and related languages. These speakers will get the approximately same results from particular yogic methods, whereas for the second group, the speakers of Asian, African, Arabic, and native American tongues the results found in the former group are different, often the exact opposite. The third group includes languages like Hungarian, Turkish and Turkic, etc., which feature the so-called "vowel harmony", and these will also meet with different outcomes. The first and the second group can be called, respectively, Northern and Southern, while the third one is the Middle group. On account of these differences certain yoga and meditation techniques need to be adjusted according to the language of the practitioner. It is most important to observe this rule in order to find the methods best suited to individual needs.

## **Gender differences**

There are differences in the innate, naturally determined movements of the male and the female body. It is generally recognized that certain arm and hand gesticulations give what can be called "feminine", or "masculine" impressions. It can be readily observed that the lower arms of women are turned forward more than those of men. As it is commonly explained, this feature increases the efficiency of holding infants in the arms, and it makes good sense. That their internal mouth organization is slightly differently is shown by the fact that girls and women have a problem in whistling. Women standing at ease, with one leg bent at the knees will point the knee toward the other knee, while men turn it the other way. Japanese etiquette requires that men and women perform bows in distinct ways. While males keep their arms by their sides, females bring them to the front of their legs. This may seem to be nothing more than a tradition, but then, traditions have to start from some source. The source lies with the Language Rule. The arm positions in each case are the ones that permit the freest respiration. This can be tested by Japanese speakers by taking a bow with arm placement appropriate for the opposite sex.

Another subtle contrast between gender determined physiologies is the way in which women seem more biased for sideways body movement, as in rocking an infant or sideways tilting the head in expression of love and sympathy. On the other hand, men are generally built for energetic physical actions, biased for forward movements, which is also prepositioning for defense and aggression. We can add here the fact that when astonished or frightened, women tend to bring their hands to the front or sides of their heads, an action not seen in men. Yogic observations make it clear that the female body is better balanced, with its mass placed more centrally, and less frontally, as is the case with men. In view of the monosomatic mechanism of the body, this difference can explain why whistling is not a female pastime. To whistle the lips are rounded and the tongue is placed forward; if the tongue is pulled back whistling no longer works. Forward setting of the tongue is apparently part of the forward bias in men. On the other hand, if the female body center is more centered, then so is the tongue, and then the ability to whistle is reduced. The centrally placed axis of women's body is likely related to their shift of body mass during pregnancy, and to nurturing afterwards, where much extra burden is loaded in the front. But this midway balancing of the body also presents greater predisposition for yoga and meditation. For one thing, women can be far more patient than men, without this quality they could not raise children. Considering such gender based differences, female practitioners should, in general, modify for their own use the methods taught by men.

## **CHAPTER 2 - THE TRISOMA**

### **The Triple body in more detail - The Trisoma**

The body-mind has three major subdivisions: the Upper Visceral Body, the Projection Body and the Somatic Body, which together form the three-part body, the Trisoma. Although they are hardly ever clearly recognized, the three bodies are constantly present in our lives. The parts can, ideally speaking, work together in a harmonious composition, but they are usually coordinated in less than perfect relationships. How to do so and make use of it is a major aim of Pragmayoga. When we understand how the three bodies work together their successful cooperation can be mastered.

The origin of the Trisoma, or the Triple Body appears to go back to the most distant eras in our evolution—triplicity is absolutely evident even in the very first steps of our embryonic development. We are made out of three parts from the very beginning. A single egg goes through divisions and foldings and eventually forms a three layered ball, giving rise to the three principal germ layers from which all of our organs and tissues emerge: the skin and nerves from the ectoderm, the bones and muscles from the mesoderm, and the digestive system from the endoderm. It may, therefore, not come as a surprise to find that triplicities are numerous not only in our body biology, but in the many triads or groups of threes existing in our mental concepts, in mythologies, tales, religions, elements that may have been born out of an inherent triadic structuring of the body-mind. (To view a long list of the numerous organs in our body that consist of triple layers or divisions see Appendix A – Triplicities).

### **Facial dermatomes**

One of the best representatives of such triads in our bodies appear on our faces. The entire skin over the body is divided into separate strips, or dermatomes, each with its own set of nerves. The face possesses a triad of dermatomes that are always active in our daily lives, faithfully reflecting our actions and emotions, and they are easy to locate and can even be employed in certain meditation techniques. Looking at an appropriate anatomical diagram will show how the top, or ophthalmic dermatome goes from the tip of the nose and running up the front ridge of the nose spreads over the eye lids, and continues to cover the forehead and about two-thirds of top of the head. The maxillary dermatome begins at the mustache area, includes the upper lip, and covers the upper jaw and stretches up over the facial front and sides of the nose to reach the temples. The lowest, or mandibular dermatome begins in the lower lip and extends over the front and sides of the lower jaw up to the temples, including a small part of the ears. The behavior of the facial dermatomes is in part subject to the Language Rule. The division most active in facial comportment for Northerners is the upper one, while for the Middle and Southern groups they are, respectively, the middle and low dermatomes.

### **The parts of the triple body**

Just as the body is built as a triadic system, so is the mind. Our body-mind, our very experience of life is structured as a composite of three parts. The triple body consists of

(a) the Somatic or outer body, (b) the Upper Visceral (UV), or inner body, and (c) the Projected, or space body. In the most general terms, it can be said that we live in all three regions. The somatic is one we physically feel, the UV is both felt and is the center of conscious experience, and the projected body is the spatial field of experience filled with its objects.

### **(a) The Somatic Body**

The somatic body is the physical entity, the musculo-skeletal structure that we can see, touch, and sense as our mass and weight, the machinery of our movement. The Somatic body is the one we are most familiar with; it needs no special description. It is composed of bones, tendons, muscles and their neural networks, it is our machinery of movement. Organs and tissues such as the lungs, glands, fluid vessels, and the like, which we cannot consciously control are also part of this system, and work together in a physical way; for example, the transport of air, of lymph, or of blood is directly driven by muscular actions. The somatic body surrounds the UV, and because of the mutual connection between the two, its activities have great influence over the UV. Bending, turning, compressing or stretching the somatic body immediately impacts the UV: the flow of respiration may be curtailed or enlarged, mental state and comfort may be affected. The actions of outward body stretching produce a pleasant feeling, whereas inward squeezing gives discomfort. For this reason, minding and controlling body posture is one of the most important components of yoga and meditation, and no less of everyday living.

### **(b) The Upper Visceral Body**

There is no feeling inside the brain case; it is in the UV, and not in the brain that we perceive experience. The UV is essentially the line of organs and structures through which air and food passes and basically consists of the organs and channels of mouth, throat, nasal passages, pharynx, esophagus, and the diaphragm. There is a concept of fundamental biological importance, that was published in 1972 by the American zoologist, Alfred S. Romer, a topic that has gained no interest in the scientific community, (see A. S. Romer: *The Vertebrate as a Dual Organism: The Somato-Visceral Animal*, *Evolutionary Biology*, Vol. 6, pp. 121-156, 1972). On the basis of clearly explaining how vertebrates, or animals with backbones have evolved at the earliest times as a dual organism, he argued for the existence of **two separate**, largely independent, although closely integrated bodies in vertebrates. He showed that what in Pragmayoga we call the upper visceral body is derived from the feeding tract and mechanism of our primitive sedentary marine ancestors, onto which another structure, that of muscles of movement became attached. Thus, the fact that we are made of two physical bodies is rooted in our most ancient precursors predating their evolution into fish. This duality has certainly been perceived by human beings; the contrast between body and the spirit or mind has long been a fundamental subject of religions and philosophies.

Our original vertebrate marine ancestor was a creature, very much like today's sea squirt (subphylum *Tunicata*). The members of this group, the earliest appearing animals with a backbone, are round or sausage shaped, ranging in size somewhere between a pea and a potato. In its youth, the sea squirt can swim, but in its adult stage it attaches itself to a rock and only eats, digests, excretes and reproduces. Anatomically speaking, the upper visceral body, or UV is the collection of organs that have evolved from our ancestor's feeding tract consisting of the mouth, the gills and the pharynx, which is the tube through which food travels to the stomach. The mouth takes in food particles into the pharynx, and the gills filter and retain the food particles from the water expelled from the pharynx through the gill slits. The UV has essentially developed from the pharynx and gills of our ancient forebears. Most of the bones and muscles of our head, neck and shoulder, as well as larynx and hearing organs were at one time parts of gills. Some of the original roles are not lost: whereas a gill bone and its muscles open and close a gill slit; the jaw does the same for the mouth.

Although the ancestral adult was attached to a rock, in its earlier larval stage it possessed muscles so it could swim to find a place for settling down. These muscles were, at one point in its evolution, kept in the adult, which then remained mobile, eventually evolving into the primitive fish. This is a well established biological tenet. In addition to those derived from the feeding channel, other parts of the UV arose from a group of body muscles lying immediately above and below the gills of fish. In us today these appear in the musculature of the head, face, neck and shoulders. More on this below. The significance in all this is that the UV constitutes our primary and innermost body-mind. It also happens to be far more closely connected to the brain than any other parts of the body. See cranial nerves below.

The reason for yawning has never been accounted for. Experts usually surmise it has to do with getting more oxygen, but that is the end of it. On the other hand, if we are aware of body duality, yawning is easy to explain. The musculature that was attached to the feeding organs, namely, the somatic body, is clearly connected with stretching. After a period of steadily holding a position we need to extend, stretch our muscles, so obviously there is a biological need to do so. Often, stretching initiates a yawn, and also the two can occur at the same time, a fact that emphasizes their connection. Muscles also have to relax at times, and after stretching a muscle feels relaxed. Do we consciously stretch the muscles of the UV? No, because we apparently don't need to, as it comes automatically. When we yawn the muscles of the head, face, neck, mouth, throat, ears, shoulders, esophagus, and diaphragm all stretch. Yawning is unconscious stretching done by the UV.

The tongue is the largest moveable component of the UV and the capital role it plays in the UV deserves emphasis. The tongue is not only highly sensitive, capable of extreme mobility, and is the essential organ of mastication, but it is also the agent of the most necessary function especially in the earliest phases of life: it is the mechanical tool of suckling. All newborn and young mammals share this function with us, so the importance

of the tongue, reaching back in evolution, is undeniable. Being a central component of the UV, the tongue can be used as a major tool of self-control and meditation. This topic will be covered in another volume of the Pragmayoga series.

Once we are aware of the role of the UV we can easily observe the monosomatic nature of the body-mind as we consider the effects of gravity. While we are standing or sitting in perfect balance, our body weight is equalized as best as it can be, as are the muscular forces present in the UV and the somatic body. But as soon as we turn or move in any way, the weight loads shift and the pattern of muscular forces needed for constantly maintaining the balance of the UV and body must rearrange themselves to compensate for the distortion. During such action we also temporarily disengage from thinking. When we perform a swift motion, or lift a heavy load, or bend down to pick up something, for those brief moments our minds produce no thought. Because the UV is the engine not only of feeding, but of respiration, and is directly joined to both the somatic body and to the brain, whenever any state of the body and UV is altered, both respiration and mind become affected, and therefore, the somatic body and the UV must make some changes to regain their balance. As long as the body is in motion, respiration is, to some degree, curtailed and opposed, and this problem requires constant

regulation and equalization of the air flow to keep it steady and as relaxed as possible. Such equalization takes place automatically: all stances and movements are balanced through reflexive correcting movements by some parts of the body. Due to its intimate connection to the brain, the state and balance or imbalance of the UV directly impacts the state and contents of the mind, and this fact is the most evident example of the monosomatic unity of the body and the mind.

### **The Anatomy of the Upper Visceral Body**

The UV is composed of the structures through which our air and food passes into and through the body, and it basically consists of the organs and channels of the mouth, throat, nasal passages, pharynx, ears, esophagus, and the diaphragm. Here we must add that, most importantly, the eyes, while developmentally, that is embryologically, are not parts of the upper visceral system, they are intimately allied with it and must be always be considered as working members of the UV. In addition, a group of muscles, called the hypobranchial muscles, are also parts of the UV. These include the muscular covering of the face, head, ears and neck, as well as the outermost layers of the shoulders, of the upper chest, and of the upper back. You can imagine it as a single piece of covering that drapes these regions. This sounds complicated, but fortunately, controlling solely the eyes and the respiratory channel is sufficient to gain control the UV. It is not often realized that because of the aforementioned collaboration between the eyes and the UV, if the eyes remain tensed, no amount of controlled and tranquil respiration can be achieved; to successfully regulate breath and the body-mind it is absolutely necessary to attend to the eyes as much as to respiration. It is worth remembering that as long as the eyes are first neutralized, the rest of the UV and the body will fall in line and relax. The connection between the UV and

mental state is taken into account in Taoist teaching where the eyes, ears, nose, tongue and body are labeled as the Five Thieves. The stolen article here is the so-called "generative force", which is the occult name for a particular projected zone in the abdomen. The first four thieves are all, of course, members of the UV, and separately listing them indicates their high rank in control and their independence from the somatic body (see Lu K'uan Yü, (a.k.a. Charles Luk): *Taoist Yoga*, New York: Samuel Weiser, 1973, p.28).

The ears are one of the primary sense organs, and attention to them can be useful in self awareness. The outer ear and the outermost section of the ear canal are innervated by cranial nerves, and when these receive slight pressure the mind's focus turns inward. This happens when you listen intently, for even if you target a sound far from you, your attention is centered in your head, which is the point from where you judge the direction of the sound. Moreover, if you touch, pull or bend your ears the same effect occurs. For those that can wear earplugs the entire outer audio stimulus is excluded and this powerfully internalizes the mind. When you listen to music or to speech with earphones, your perception appears to be entirely inside your head.

What is normally spoken of as the visceral tract is, in Pragmayoga, more accurately called the lower visceral tract because it refers only to the digestive system, which in yoga and meditation plays only a passive role, probably because unlike the eyes, ears, nose and mouth, they have little connection to the outer world. Still, as we know, all mental states, moods, and emotions can certainly have an effect on the lower viscera as much as on the upper one. The upper and lower visceral tracts are closely related. We may note that the dantian (tanden), a quintessential yogic element located in the abdomen, is actually a visual-respiratory projection of the central point of the diaphragm into that region and it in no way involves the digestive tract. Disagreements between various schools and authors about its exact location are due to differences in its projection, which is in part determined by the Language Rule.

It is a point to be emphasized that the UV is the only part of the body that directly connects to the brain, through the twelve pairs of cranial nerves, which emerge from the UV and enter the base of the brain. All other nerves uniting the brain and any part of the somatic body first go to the spinal cord and from there to the brain. The neural network of the UV is, therefore, closer to the brain than that of the somatic body. Such an immediate relation between the brain to the UV may explain why consciousness itself appears to be centered in the UV. Whatever happens in the brain, it is never felt there: we perceive our mind and our senses as being embedded in the UV. As far as we know, the American psychologist and philosopher William James seems to have been the only person to have clearly recognized this fact. Although without defining it in terms of exact anatomy he wrote: The "'self of selves,' when carefully examined, is found to consist mainly of the collection of...peculiar motions in the head or between the head and throat...I feel quite sure that these cephalic motions are the portions of my innermost activity..." (James, vol. 1, p. 301).

To further develop the significance of the UV, we should recognize that the UV is the channel that supplies our air, and knowing this gives us the key to correct breathing. It is quite simple: the flow of air to the lungs must remain free, otherwise the body undergoes stress, and because the mind and body work together, the mind is also affected by such tensions. For this reason the freedom of the UV, of the air channel must remain unimpeded. The general way to achieve this is to first relax the eyes, and then to make sure the UV is maximally released of any force, tensed as little as possible, and respiration should be mainly abdominal, powered by the diaphragm. All unbalanced tensions present in any part of the body or limbs that obstruct in any way the freedom of the UV, and therefore, of breathing and of eye movement, are to be released. If the UV is correctly balanced, then, of course, so is the body. For yoga and meditation the point in all this is that during moments when the UV is fully relaxed, free of distortions, with any remaining forces equalized, then thinking itself can come to a stop.

### **(c) The Projected or Space Body**

The projected body or projected space is not a solid, material thing, but rather, it is the field, or the space in which our experience appears. Still, it is something physical because it is a product of bioelectrical nerve signals running in mental circuits. Mental space, even when freed of thinking, is also nothing more than an experience, although it holds a status higher than that of its contents. All of our experience, which is a mixture of sense impressions, thoughts, memory, awareness and such, is a projection on the screen of our mental space. When you perceive a distant scenery, it is being projected as if it was out there, although the projection exists in the neural network inside the body. The scenery as much as a series of thoughts you may have is being broadcast in your mental space. An image or event called up from memory is a retrieval of a record from the past projected within the present. Whether the world is out there, or inside our minds has been one of the major problems of Western philosophy. That the experiences of our minds are a projection is obvious in the most elementary way. Namely, as everyone would agree, the past is gone, the future is yet to materialize, and so it is only the present that exists. And so our thoughts of the past or future are imaginary things, like movies projected on a screen.

The projected spatial field is the universe of experience, in which we physically and mentally exist. It is perceived as vision, hearing, touch, smell, emotions and mental content. Vision is its most important component simply because vision is the chief agent of projection. Both hearing and seeing are stereoscopically built and so they can locate and project objects at a distance, but it is vision that offers the most detailed and most precise spatial information. In a limited way, smell and touch can also tell us where a stimulus is coming from, but cannot match the resolution possessed by vision. When the eyes are perfectly relaxed, in a fully restful position, as when we fall asleep, the projected mental content becomes minimal. It is body motion that creates the mental contents, exactly as William James had proposed. It makes sense that it is during REM, or rapid eye movement in sleep, that the projection of dreams in mental space takes place. The eyes

need to converge and diverge in order to focus. This action by the eyes is easy to observe when sighting things outside of ourselves, but not so much when looking into our minds. Here the point of focus lies in inner space and the axes of the eyes come together at a place behind the eyes—we focus backwards! This is one of the reasons we seem to feel that thinking occurs inside the head. And just as in external views the angle of convergence depends on our distance from the target, in inner vision the convergence angle is related to distances in mental imaging. Such imagery relates not to spatial distance, but to placement in time. If you internally visualize a tree, it will appear ahead of you, however, because you will have superimposed on the inner mind the memory of an external scene from memory. There is no measurable physical space in the inner mental world; there is only the space of time. That such is the case can be readily observed. In the case of Northern speakers, thinking of an event far in the past creates greater backward convergence than one in the recent days or moments. Similarly, projecting the mind into the future makes the eyes converge forward to different distances depending on the location in time of the event. We can probably reason that this is why we perceive the past as being behind and the future as being ahead of us. This clearly supports the notion that it is muscular action that gives rise to and modulates our thoughts. Once again, the Language Rule enters. For the Indian group of Southern speakers inner eye convergence and divergence is more limited and curtailed, and this may account for the way time in India was conceived as being cyclic, rather than unidirectional, as in the West. These differences are caused by language determined muscular influence on eye rotations. For Chinese speakers the concept of direction in time differs from both the Western and Indian ones. Although Chinese has distinct words for "before" and "after", it also uses the word "up" to express the ideas of "before", "earlier", "first", "last", and the word "down" to mean "after", "later", and "next". Thus, here time is sensed to flow both horizontally and vertically. This is likely caused by the influence on eye convergence characteristic of the Chinese language, and seems to be linked with the fact that Chinese writing can run in either direction.

We cannot really be sure whether the eyes are ever in absolutely parallel alignment, because there are as many as seven muscles moving each, and these muscles, moreover, are tied to the face, to the UV and to body motions, not the least of which is ongoing respiration. Thus, when the muscle involved are relaxed the eye are not aligned in parallel, and although in a resting state, they would be focusing in some indistinct place within inner visual space. In fact, there are such points, as for example, the ones we target when going into the thinking mode. For this reason, even when not converging or diverging, the axes of relaxed eyes are always meeting at some point, without generating a visual image, and allowing us to stop from thinking. Such focus may lie at a point extremely far or extremely close. This action apparently happens during the brief moments that come between successive thoughts. Teachers of meditation have often advised us to examine such moments. Whereas it is hard to hold to such moments during normal behavior, it is possible under yogic control, as long as the eye-plus-UV apparatus is relaxed.

## **Projection**

The word “projection” means throwing, extending or casting something in some direction; the most common example we can think of is the projection of a movie on a screen, or in casting a shadow. Suppose you see a high mountain. It is, of course, outside the body and standing at a distance, and it is far greater than your head or eyes, yet the actual sensing of it occurs inside your eyes and your head. How does our mental perception of the mountain get out there and appear so grand? The mountain appears, it is projected out there at a given distance and at a given size in our mental space, and at that same time certain eye muscles pull the eyes backward, and turn each eye more toward the side, and to open wide the eyelids; all this done in order to take in the whole of the large image. This action, if you perform it independently on its own, with open or closed eyes, appears to make us inwardly experience a sense of largeness, and so it is not the mountain, but our body-mind that perceives the sense of majesty. The mountain provides only the large visual object; our minds generate the accompanying psychological empathy.

In the above scenario the image itself is located in the background of our attention, whereas our body and its relative size occupy its foreground. This is the framework which you feel in response to the envisaged magnitude.

On the other hand, you can just as easily sense your smallness in comparison to the mountain. Again, the source of this contrast is in the eyes. Now you still see mountain, but it lies in the foreground of awareness, whereas your body has moved to the background, and this setting generates a feeling of being small. This same process plays a role in any emotional state in relation to the outer world. Proceeding in a confident mood you feel enlarged, expanding outward; when worried you feel small and pressed inward. Exercises in various yogas, where the body is visualized at various sizes from minuscule to gigantic make use of this action. To sum up the above, there is an outer and an inner space, and each requires the appropriate focusing or convergence of the eyes. As far as the eyes are concerned, the difference between seeing an actual tree and a mentally visualized one is just that the eyes focus outward in one case, and inward in the other.

The projection of the self, of one's mental identity is the most basic projection. It is always merged with, and is always embedded in whatever other projection you are experiencing—you are never without your sense of self. However, additional active frames get superimposed on it during the course of our activities. When you are running or talking or eating, your own self is always there underneath it all. When speaking with another person, the space in which your self is projected will also incorporate him or her as a part of the projection, as if lines or strings of some mental material were running between two speakers. You feel a virtual physical tie between you and your partner because your UV and somatic musculature is, in fact, shaped and anchored in such a way as to include both of you. Since you cannot know someone else's mind, your interlocutor exists only in your own mind's projection, and therefore you perceive yourself and him or her as being

contained in a single envelope of awareness, within a single living frame. The “I-and-Thou” concept, expressed in the theologies of various religions, is such a projection of relationship between God and a person, wherein one continues a dialogue with God. Any belief that embraces this concept, even if worshipping an object, a mountain, a tree, or a statue engages in such “I-and-Thou” projection.

Sending projection into empty space is also possible and it is exemplified in such sensations as the oral cavity. In either a closed or open mouth, and without attention on the tongue, one can with minimal effort come to feel the space in the mouth. This is only air, in which there are no muscles or nerves to give you any information, and yet the emptiness can be clearly sensed. The agent that accomplishes this is internal vision: the eyes can focus in any space—after all, that is what they are for. Similarly, the faculty of hearing places the source of a sound in a certain location in space. The role of emptiness is recognized in the East; in Chinese acupuncture, for instance, there is a point on the side of the forehead that relates to the space contained within the thorax. In Tantric and Taoist traditions blank spaces play an important role and are called by such names as vacuoles, containers, vases, and so on.

Projecting living experience into inanimate objects also exists in us. It is common experience that when you place one object against another one, in touching the ground with a stick, or in turning a screw with a screwdriver, or in writing with a pen, you can clearly feel the point of the stick, or the tip of the screwdriver, or the tip of the pen as it intimately touches, becomes one with the target object. The place where we sense the contact is not in the least a part of the body, yet we absolutely feel it as if it were. Your hands and fingers project themselves into these objects. Tap on a table, and you can feel not only the small spot where your fingertip meets it, but the entire mass of the table: your sensation seems to be entering and spreading into hard matter. This is what Sri Nisargadatta Maharaj, the great Advaita teacher meant when he said that even stones are alive, see Sri Nisargadatta Maharaj: *I Am That*, The Acorn Press, Durham NC, 1982, p. 47)

What he stated is that because the perception of objects is an experience, just as the existence of your body and mind is an experience, that inanimate thing you hold in your mind is as much alive as you are. As soon as the stone enters your consciousness, it comes to exist, it is now alive in your consciousness.

To cite an instance of how our sensations are broadcast and extended outside the body into a lifeless material or space, consider that when entering into a dark but otherwise thoroughly familiar room, we reach for a switch to turn on a light, and succeed even without seeing anything. It is a replaying of body movements recorded and stored in our memory of motion that guides us; the memory of the movements becomes projected onto our inner visual space.

## **CHAPTER 3 - THE FOUR TOOLS**

There are four basic tools for gaining body and mind control. Employing them is essential for optimal relaxation, respiration, projection, body sensing and especially for locating and working with zones.

### **TOOL 1: RELAXATION**

#### **Equalization of body, UV and eyes**

Many forces, large and small operate in the body-mind at most times, pulling and pushing in different directions. There are the forces of gravity, body actions to counter gravity, body and limb movements, eye movements, respiration, and subtle muscular effects created by mental states. As an example, consider the number of forces that come into action in walking: the right body executes a step, while the left half keeps the body on the ground and balances the right half during the step. But both legs also have to be anchored to something, and that supporting base is the body. In addition to these three major parts, there are forces active in the three leg segments, in the numerous parts of the ankle and foot, and also in the muscles that hold the whole body upright. The arms swing with each step and so affect the shoulders, which pass on a more subtle, but still present pull on the neck and head. These forces work together with precision to keep stable the body center around which all the action takes place. But for the presence of a stable center, controlled physical activity would not be possible. Movement distorts the body framework, which always tries return to an undistorted state, and correction for distortion in body balance and breathing relies on automatic equalization. This process is essential in all ordered movements, whether biological or inanimate. The sun and planets equalize each other's pull and movement; without this the solar system would fly apart. Equalization is a necessary component of relaxation.

#### **Relaxation**

Successful yoga and meditation requires first and foremost the ability to relax. In relaxation we reduce muscular tensions to a minimum, and rather than consciously adjusting them, we let them automatically balance each other's forces. This way we allow them to equalize their competing forces affecting the whole body, and especially the UV. Simply stated, in order to relax, to make the muscles of the UV and of the body neutral we only need to cause them to feel soft and light. Forces in an active body, which normally balance each other against ongoing imbalance arising from movements, need energy to equalize at a relatively high energy levels. But when the body is in a balanced state, equalization can become minimal and the various mutually opposing muscles can relinquish most of their tensions to reach a neutral state. It is well known that after

exercising, the body feels light and rejuvenated. Apart from neuro-chemical processes, part of this effect may be that exercise, by making the entire body work united in perfect balance imparts equalization throughout the different regions of the body.

Most often we put emphasis on certain sets of muscles; in working at a desk much energy is spent in the upper body and the head, holding it up and moving it while the legs are largely immobile. Arm or elbow support for the torso on a table helps, but the head still has to be held up by neck and back muscles, maintaining continual tension, and so the equilibrium of the body is diminished. To correct we take brief breaks, lean back in the chair or do some stretching.

Whenever you are engaged in thinking a certain set of muscles, involved with the thought process are energized, usually at a very low level. Consider, for instance, the fact that when reading or writing you actually produce the words subliminally, with small, almost immeasurable stirrings in the tongue, or that in viewing an active or emotional scene in a movie your muscles and emotions empathize, coming alive almost as if you were participating in the action. Any mood you are in becomes expressed by your facial muscles. That is, whatever takes place in the mind, there is always an associated muscular response. This principle is what enables conscious control of limbs by wearers of prosthetic limbs. Bringing up in the mind-body a specific muscular action is enough to initiate that action. If muscular tensions and thought are inseparable, then absence of tensions produces an absence of thought. Relaxation of the UV and the somatic body is for this reason essential.

It is not necessary to tell anyone on how to truly relax, to become neutralized because everyone knows what it means, if only from the experience of retiring to bed and falling asleep. The best sign of a fully relaxed state is reached when respiration meets with the least restrictions, and the eyes stop moving. The reason relaxation often needs special instructions is that when up and awake it is very difficult for people to fully neutralize, because the role of the most important components, of the eyes and the UV have never been attended to.

The simple and well known basic method of vertically centering the sitting body and rotating the axis of the torso in small and gradually decreasing circles is a reliable way to achieve relaxation and equalization and it is feasible in many everyday situations if one is aware of certain facts. It should be remembered that most of our body weight and somatic actions are forward directed, and so is our visual frame. For this reason, when centering the body and mind we must add to our inner visualizing space the back of the head and body, as well as these spaces on the right and left sides. In this way the eyes also become centered. When we are centered, the duty of holding up the body falls on the erector muscles. Anchored on the top of the pelvis, these muscles run up on each side of the vertebrate column and its spines, as well as the back ribs, all the way to the neck. They are what keeps the body erect at all times, and when other muscles, including those of the UV

are relaxed, the erectors are the sole ones that perform any significant action. They can be isolated by relaxing the right and left sides of the torso. When we balance ourselves chiefly using the erector muscles, we free the UV of tension and so our body can become fully equalized.

There is another method to achieve relaxation practiced in yoga, where various parts of the body are separately released, letting them "sink" so-to-speak. To free up the entire body a sequential order should be followed. You would start at the head, or the feet, and as these are relaxed, and held on to, you relax the adjacent part and add it to the first one, and so on. Remember, all previously released parts must be held on to, in a relaxed state. Once you have reached the other body terminal, the entire system is relaxed.

This method can work well for equalizing the UV. Begin with the eyes, add the face, move into the mouth, pass into the tongue, and then into the larynx. Hold on to this frame. Then, this time moving backwards from the forehead, attach the top and back of the head, and finally the neck, shoulder and back parts of the trapezoid muscle. By adding the diaphragm to the above sections, the entire UV is neutralized. Attaching regions to one another in such a sequence can be performed as a zonal action, and this will readily access the meditative state. Any triadic zonal division may be used; for instance, the triad of head, or of the thorax, or of the whole body, and either flat or spherical zoning is applicable. But even when relaxation is accomplished, it is hard to successfully maintain the state for various reasons: respiration itself is an ongoing dynamic event, which alternately activates the mutually opposing muscle frames of inspiration and expiration. Moreover, the erect body is poorly balanced as it tends to tip forward. That is why the back tilts and sags, why the neck bends and the head falls forward, and the eyes, even if kept closed flit about governed by their automatic search for visual targets, in a behavior called saccadic action. All these inputs affect the UV since they are intimately connected with it and therefore with the mind.

### **Force in meditation projections**

The emphasis on relaxation should not hide the fact that application of force does play a role in some yogic techniques, as for example, in the Indian Hathayoga and Pranayama body and breath manipulations, or in the Tibetan method of heat generation. In these activities is breathing generally forceful.

### **The essential upper organs in relaxation: larynx and eyes**

The two body parts most basic to body-mind relaxation are the UV and the eyes. As for the UV, it is enough to control the larynx, as it is the highest ranking and the most central governing organ of the UV. The larynx houses the gateway, the rima glottidis, or simply, the glottis, a narrow slit through which air intake, our most immediate and essential resource must come through. Functioning as a valve it varies the width of the opening to

regulate the volume of air passing through, the way a faucet controls water flow. It is a rule of monadic unity that any body part with the greater rank in a framework causes ones of lower rank to follow what it does. Thus, once the larynx is set at its lowest energy state the rest of the tensions in the UV will also subside, unless opposed. The body-mind state has great influence on laryngeal behavior and so posture must also be kept in a low tension configuration. To release the larynx all the muscles pulling it in various opposite directions must be equalized.

The eyes have a primary role in mental control. They are our most forward instruments of perception, that of vision, the principal function enabling us to deal with the external world; for this reason they dominate our outward awareness. If the eyes are not released of tensions, the UV cannot do so, either. Conversely, as dictated by monadism, without UV relaxation, the eyes cannot relax. The importance of this notion is expressed when Taoist yoga classifies the eyes as being "positive" while the body is "negative". Ordinarily this statement may seem to be some mystical imagery—how could they be equal partners in balancing each other when their relative sizes are so disparate? However, this Taoist notion states the fact that the eyes precede the body in the order of the steps in relaxing the UV, and that the eyes can be considered to be antagonists of the UV, and therefore, of the whole body. Without releasing the eyes, the body cannot be liberated. In short, both the eyes and the UV plus the body must be equalized to liberate the mind-body.

In yoga and meditation the motion of the eyes has to involve not only the so-called "external" eye muscles which pull the eyeballs forward, back, together and sideways, but also the outer attachments, namely, the eyelids and the circular rings of muscles surrounding the eyes, as well as the lips and the entire face. The eyes are directly tied to the face by the muscles that raise up the lid, the levatores palpebrae. As long as the face is relaxed, it is easy to observe that whenever the lips move or purse or widen or open, the eyes and the surrounding facial areas respond with their own movements, and vice versa. The UV, on the other hand, includes the facial sheet and the eyes, forming a unit with them, and that is why the eyes need to be under yogic control. In addition to such primary regions, like the eyes and larynx, releasing the tensions of the tongue, neck, shoulders, upper chest, (all being parts of the UV) plus the abdomen, and even the hands and feet is essential. We should note that attention targeted on reflexological points can assist in relaxation, but here it is not pressure or massage applied by others, but one's own mental focus is the tool. To help relax the eyes, for instance, attention on the strip covering the base of the index and middle finger aids in releasing eye tension. This small region does not fill the entire lower head of the phalanges, but only the bottom (distal) part of that bulb. In fact, the distal end of all the three phalanges will serve to project the eyes. The Language Rule enters: for the Southern group the upper (proximal) part of the phalange's head offers this action. To summarize: when relaxation is wanted, we must first attend to the eyes.

### **Relaxing the eyes - the geometry of the vision frame**

The forces manipulating the eyes in focusing, both outwardly and inwardly, employ a quadrangular, kite shaped or diamond shaped framework. However, in executing action only three points appear distinctly, forming a triangle. The frame may be in the horizontal or vertical plane and has four vertex points. These points are in front, in back, on the left, and on the right. The right and left ones reside in the eyes, the front one is at the visual object, and the back one is inside the head. The exact location of the vertices depends on how far the visual target is and also on the body position. Then there is the matter of the agent and antagonist roles as divided between the points. Inner thinking places the agency on the back vertex, within the head; outer attention one places it on the outer vertex. The proportions of these functions working at any moment determine the proportion in which outer and inner modes are experienced. Such a configuration occurs when you look and think at the same. We should, perhaps, qualify this: the two modes cannot be simultaneous, but rather, they alternate at various rates determined by the train of thought.

If you are looking at a single word on a page or screen the dominant agent vertex is centered on the word, outside your head. Taking in more of the breadth of the page, the point moves between the object and observer. If you begin to think, rather than gaze, then the vertex in the head becomes the agent. Familiarity with this is helpful in visualization of meditational images: while gazing at an image with the outer vertex being the agent, draw its tension back into the vertex in the head. Reversing the dominance projects the image in the inner mind, producing a different quality of view. Importantly, the yoga of the eye works not so much with images seen on the outside, but with eye and UV muscle movements, and this fact would enable blind persons to engage in meditation. This quadrangular geometry can be modified in meditative exercises to become a cone; this occurs in chakra visualization. (See Chapter 6. Midzone respiration).

### **Relaxing the eyes - two aspects**

Relaxation of the eyes has two aspects: both the external eye muscles and the facial sheet need to be released of tension. The external eyes muscles are those that turn the eyeball in different directions (the superior, inferior and lateral recti, the levator palpebrae, as well as the two obliques muscles). The facial muscles consist of the sheet covering the front and sides of the head down reaching down to the top of the chest. The facials are also united with the muscles at the back of the head, neck and shoulders. These two groups are called the hypobranchial muscles of the UV, see Upper Visceral Body in Chapter 1 Introduction. Among the facial muscles most important in relaxing each eye is the circular ring surrounding it, the ocular sphincter (or orbicularis oculi), and the lid raising muscle, (levator palpebrae). Release all tensions of "seeing" in and also on the surfaces of your head. It is advisable to also relax the tongue: its tension and movement is closely connected to those of the eyes.

The following involves Northern speakers. To further demonstrate the power of the eyes over the mind, close and relax them, along with the face, tongue, etc. Now, gently draw

the eyes ever so slightly sideways and release them. The eyes settle in a resting position as a small backward release also occurs, as well. If this step in equalization is successful, you will enter a state of attention. If the eyes are thus slightly drawn sideways and also downward to become centered in the eye sockets, you enter the state of mindfulness. Pulling the eyes in the same way but somewhat upward produces a merger of the self with the outer world. As the Language Rule dictates, speakers of other groups need to engage eye movements in the opposite directions. In the slight sideways drawing the eyes and the mouth must be allowed to do the same. Remember that meditation teachers often urge you to smile; that action is a component of relaxing the eyes and the entire face.

### **Tips on eye relaxation**

Slightly turning apart the eyes sideways is a useful tool even outside of yoga because it helps to equalize the mostly forward directed line of everyday attention. Simply relaxing the open eyes causes a small sideways turn. Looking at a frontal picture of the skull, face on, we can see that the orbits or bony sockets of the eye are not round, but roughly rectangular, and that they are slightly slanted so that their outer sides lie lower than the inner ones. Again, the following applies to Northerners. Gently concentrating on the area just inside the outer sides of the rectangles will set the eyes in equilibrium. This needs no action by the eye muscles, specifically of the lateral rectus muscles, which pull the eyes toward the sides. Inside the head the cone shaped eye sockets extend back towards the brain and their inner ends point towards the middle, and thus the innate axis of the resting position of each eye lies slanted medially and backward. In the Southern language group the axes of the eyes, when relaxed, converge forward, and this seems to underlie the technique of focusing between the eyebrows to still the mind. In the Middle language group the eyes become equalized when they are slightly angled in either direction. In everyday life we constantly converge or diverge the eyes and so they are hardly ever in a resting position. Release of tensions in the facial sheet around the eyes in all directions is also important and it is useful to also release the muscles of the temples adjacent to the eye sockets. We have mentioned visual diamond frame above. Locating the central anchor point of this frame within the head results in perfect visual equalization. When this is done the task of relaxing the entire UV comes easily. Remember that the diamond frame may stand horizontal or vertical or at an intermediate tilt, or even as a combination of the two.

Observe both your breathing and the action of the circular eye sphincter muscles, the orbicularis oculi, surrounding each eye, and note that as you breathe the sphincters pull either inward or outward, depending on body position. This once again illustrates the strict interaction between the eye muscles and those of respiration; if the eyes and the surrounding facial sheet are not relaxed you cannot relax your breathing, and vice versa. Because the right and left halves of the body, including the head, are not exactly equal in size, the eyes fully relax when both they and the body turn to a slightly off-center position. The rotation is in the range of a few degrees, and normally we make no note of it.

### **The three fields of vision**

If you try to relax your eyes and meet with difficulty, it is useful to know that the eyes automatically settle in relatively stable resting positions when they focus at one of three specific distances, whether outwardly or inwardly. There is an ideal focus for close, middle and far distances. When you behold an empty blue sky or a very distant earthly view the eyes no longer converge on anything, and they move into one of these three focus positions. Therefore, as you neutralize them, draw the focus gently forward or backward, breathing with each movement, and you will fall into these points or planes in which the eyes will naturally settle. Make sure that in each of the three positions the eyes and facial muscles are allowed to change to fit the muscular configuration appropriate to the frame.

The larynx is a box-like structure made of cartilage, and it houses a valve or an opening, manipulated by several intricately organized muscles, through which we draw air into and out of the lungs. The larynx hangs inside the neck held in a place by several muscle strands, as if tethered by ropes arriving from all around it, from the skull, the jaw, the sternum, the scapula, and even the from the diaphragm. You can imagine it as a box hanging in the air attached by strings going to the four corners of a room. The esophagus is defined as the tube which transports masticated food down into the stomach, but it has so far not been recognized that the esophagus is one of these "ropes", which connects the larynx to the diaphragm, and thus it is a part of the UV. The important fact is that the larynx can be pulled in any direction.

When the forces of these surrounding attachments coming in from all directions are balanced, and equalized all around the larynx, then this entire sling supported framework with the larynx at its center is able to relax. This is a most important state to be aimed at in yoga and meditation. The sign of an equalized larynx is the extremely free flow of breath, one without the slightest blockage and with a sensation of physical release within the whole body. To give a precise meaning to this idea: the larynx can be made to perfectly harmonize with body positioning and movements. If you bend forward to reach something the larynx will receive pressure, and your movement will be constrained, and uncomfortable. This is why bending is no one's favorite activity. But if you keep the larynx relaxed it will be able to move automatically in way that continues to keep it equalized even while body movement takes place. Make sure to stay with the mental projection of the larynx, since as you lean forward, that organ will be projected out from its normal place—ahead or behind, depending on the Language Rule. Such control is the essence of Taiji and it is also what enables people to go on performing for a long time in professional dance, martial arts, sports, singing, and many other actions.

### **Crossed eyes**

The role played by the eyes in our body-mind operations is greater than we usually think. To see the outside environment the eyes converge aiming at some target point in front. How much they converge depends on how far the target is, looking at your fingertip close to the face makes you nearly cross eyed. When viewing mental contents, however, for Northern speakers, the eyes diverge, that is, they converge backward. The language rule is in place here! With closed eyes think of some event in the past, whether just a minute ago or many years back. Then, if you suddenly open your eyes you will find them backwardly crossed, that is, spread too far apart, and to regain the normal state they will now correct this by converging forward. The further back in time you go the further back the eyes converge. We can reliably tell when someone directly facing us is looking at us or is thinking of something: the axis lines of the person's eyes will turn slightly sideways, not fully aiming at us. The difference is subtle, but we are especially capable of discerning it because it is a mode of communication in primates and in other mammals.

### **Eye lid surfaces**

The body and its parts consist of layers of zonal divisions. An eyelid, thin as it may be, is composed of three such layers, or zones, organized as a zonal triad, consisting of the front, middle and inner layers. Which one is the chief agent in trizonal operation at any time depends on body-mind activity. The agent for outside vision is the front layer, the inner layer is the agent for inner vision, and in an empty mindful state the middle layer serves that role. This is one reason eye relaxation is so important; it allows the automatically appropriate projection of the lid zones. Holding to the outer lid, and trying to enter inner space will keep you from succeeding. Rather, it will cause you to remain tied to the outer world.

### **Focusing between the eyebrows**

Meditation techniques often teach placing attention between the eyebrows to concentrate and to settle the mind. This action involves crossing the eyes and can easily produce discomfort. To avoid this problem we must remember to first enter midbreath breathing, and then focus attention on the middle later of the eyelid. (Midbreath respiration is the subject of chapter 6.) Targeting should not be placed on either the outer or the inner surfaces of the region between the eyebrows because then we will not be perceiving the inner mental field. The target point between the eyebrows in this practice is not readily definable because projection, as determined by body position, places it not necessarily precisely between the eyebrows, but ahead or behind them. This method is best left to more advanced meditation as it can harm the eye muscles.

### **No looking - no thoughts**

The Chinese Taoist master Zhuangzi (Chuang Tzu) as well as the early Zen masters, like Huineng (Hui Neng) used to instruct people saying "just do not think!" But that is quite a

monumental task. Why? Because it is body movement that generates thought, whether it is verbal or visual, or a combination of the two, even in an otherwise relaxed person. There still is ongoing motion: the simultaneously proceeding actions of breathing, of unconscious subliminal articulations by speech organs, and by the constantly running innate (saccadic) movement of the eyes. Therefore, in order to stop thinking not only should respiration be regulated, but both the speech machine, chiefly the tongue and larynx, as well as the eyes must be released of unequalized tensions. First successfully neutralizing the eyes and the UV leads also to settling the speech mechanism, and consequently, will slow or stop the continuous flow of words arising in the mind. Doing so brings us to the ideals expressed by the first line of Daode Jing (Tao Te Ching), which says: "The named is the mother of all things". The term "named" appears to mean "word-thought", that is, thinking in words. In any case, we should remember that eye relaxation is essential in slowing the streaming of thought because it enables neutralization of the UV, the generator of speech action.

## **TOOL 2 - RESPIRATION**

We intuitively feel that the mind resides in the brain, however we have no experience that confirms this. We certainly feel as if mental activity takes place in the head, but this is only because the central point from which we experience sight, sound, taste or speech is inside the head. This is to be expected; the sensory organs, and much of the UV are located in and around the head. Trying to feel the brain we get a spatial projection somewhere inside the braincase, which is actually a sensation of the projected resultants of forces manipulating the eyes, breathing and the muscles covering the head. Except for sensations in the somatic body, our living experience manifests in the UV, and that is where our feelings, our "hearts", our emotions and our thoughts exist. If we reduce body tension, to a minimum, just enough to hold us upright, and also release the eyes, the remaining sense, that of presence, appears to be in the UV. The eyes, face, throat, velum, esophagus, and such are the parts that most often manifest in our bodily perceptions. If the UV is relaxed to an absolute degree, so that its forces completely dissipate, the UV collapses, the airway closes, and the mind becomes blank. However, we must stay alive and keep the UV functioning, so we breathe and accept the fact that mental content is dependent on UV activities.

Hearing, seeing, olfaction and taste are the main sensory functions of the UV. But in addition, effects of mental states and emotions of any kind occurring in the body are also mirrored in our breathing, in our facial and eye movements, all of which also take place in the UV. The same effects also reach the stomach and intestines as well, showing that both the upper and lower visceral systems work as one. As discussed in the chapter 2 Zones, using respiration as a tool you can easily locate zones, and direct its movement across and between zones. You can make zonal respiration an object of attention either as a physical bodily process or as a mental projection. The fact, that our mental existence is centered in and around the UV explains why its most essential function, that of respiration, is given so

much attention in yoga and meditation. Yogic methods of respiration are taken up in the chapters on zonal respiration.

The noted guru Ramana Maharshi said that breath and the mind come from the same source. What exactly does that mean? The UV governs the organs in the head and also those of respiration. But respiration hardly gets noticed by the mind unless you purposefully do so, because when you are seeing, talking, hearing or thinking, those functions fully engage your consciousness, while breathing goes on by itself. In contrast, if you concentrate on breathing, the other functions remain in the background for two reasons. One is that breathing is such a sizable muscular activity occupying all of the upper body and head, that it is easy to find and lock attention on it. Second, breathing can be performed in the upper, middle or lower regions of the UV, and as long as we slowly and with the least energy carry on breathing in the lower, that is, diaphragmatic one, the upper UV loses its prominence, and therefore thoughts do not arise as long as the focus remains on breathing. There is actually no "source of breathing and mind", it is only that both the mind and breathing are united in their connection to the UV, as is vision.

The whole train of respiration runs through the UV within head and the upper body, and because it is a large mass of muscles in motion, employing a good deal of force in an otherwise inactive body, it is the most noticeable physical phenomenon that can hold our attention. That is, when we are sitting in an immobile yogic position, respiration is still proceeding, and if we watch that process we are, in fact, watching the UV. If remain in such a state we can easily generate mental calmness.

### **Projection of breathing**

The perception of breathing can be projected into any part of the body or even outside of it. In other words, you can inwardly see breathing movement anywhere you choose: in your head, ears, mouth, throat, chest, abdomen, legs, feet, hands, and so on. This is possible because you are not actually observing the motion of the breathing muscles, but rather, you are seeing its projected image placed in some location by the faculty of the eyes. The perception of respiration is neither visual nor tactile in isolation—it is the merger of the two.

In our everyday activities we often breathe in ways that are counterproductive. In many cases, we stand or sit in less than perfect body, in distorted postures, causing compression on the breathing zones. This makes it harder for the respiratory muscles thus impacted to perform breathing, and they increase their forces and tensions to maintain the required respiratory flow rate. As a result of the raised muscular energy and compression, the zonal divisions remain clumped together and their borders are not clearly defined.

### **TOOL 3 – PROJECTION**

## **What is projection?**

Projection is the third tool we employ in meditation. What exactly is projection? When you look into the mirror and see yourself, you most definitely feel that your image stands on the other side of the mirror. How is it possible to see something where it does not physically exist? The place you perceive in the mirror is a projection, an act of casting something to somewhere. The projection of things is simply putting them in a certain place and order within mental space. Obviously, they could not all be in the same place, so objects and thoughts have to be placed apart, in their own specific placements within a organized arrangement. We can say little more because whatever we see in the great three-dimensional image of the world can only be understood as a projected mirage, a thing created from a tiny upside down picture spread over the retinas of our eyes.

Precise projection is the result of the connected actions of eye and breathing movements. When the musculature of both actions is merged as a single frame, a stable projected region or point appears. More simply, but less exactly put, when you unite your vision and breathing, you create projections that may consist of images, thoughts, emotions, memories or mixtures of these. Projection, thus, is any experience existing in body-mental space, and when it is under control it becomes one of the tools for locating zones. Projection is not a new idea in meditation, certain yogic instructions give directions to see breath or even the whole body, as well as elaborately constructed images outside one's physical body. Projecting an image is initially a muscular-sensory action; in the case of breathing you look inwardly at the muscular sensation of respiration movement, while allowing the eyes to relax. This lets the muscles of the eyes automatically set themselves to fit the frame of respiratory action and a merger of vision and breath takes place. You will now inwardly see your breathing. In contrast, if you wish to engage in visualization, then eye focusing is the primary agent, and breathing is what gets relaxed. A mixture of these two modes occurs in everyday life, for without uniting the two functions you cannot place your attention on anything.

## **Projection outside the body**

Anything you observe is projected somewhere, either inside the body, or outside, or partly inside and partly outside of it. When you are looking inwardly the projection is inside the body, but only as long as your body position is vertically erect, and as long as the eyes are focused on the inner mental field. Otherwise, with eyes turned on the outer world, or if any body part is tilted in some direction away from the vertical axis, the projection will be partially and even completely out of the body. There are many cases recorded in medical history where persons perceive their own body on the outside, usually during traumatic events. That projection does indeed exist was formally demonstrated by the noted scientist Georg von Bekesy. He attached pairs of vibrators on right and left arms of the subjects and by manipulating the electrical inputs he caused the subjects to feel the vibration within the space in front of and between the arms, (as cited in Karl H. Pribram: *Brain and*

*Being: At the Boundary between Science, Philosophy, Language and Art*, John Benhamins, 2004).

It is not easy to define space, but we all understand what it is. It is something we clearly experience, and it is perceived in several forms, as image, as sound, as touch. Even if we grope in the dark in some unfamiliar place, once the fingers touch a wall, a mental image of the distance between us and the wall is immediately created. Visual and tactile sensations are never separate. If you look at a table top in front of you there is also a knowing how much your arms would need to move to touch it. In general, whatever you focus attention on will become a projection in the mind. Vision and breathing are always part of the frame of consciousness, but they may not necessarily be in harmony and you need to attune them to each other. For instance, as mentioned above, to unite respiration and vision you should breathe very slowly as you allow your closed and relaxed eyes to find a place in the inner visual field where the tension generated by the motions of the two functions suddenly equalize, and the tension disappears. Your UV and body must be relaxed to achieve this, and you must allow both actions to run without conscious interference. To project a location within specific parts of the body or in the space inside or around the body, first focus inward vision on the desired site, and then let respiration merge with this image of the site. These happen to be projections of zonal centers, in which the mind comes to a rest. (More in the Midzone Respiration chapter.) We should remember that thinking itself is a projection. Thought of any body region causes the eyes to project it. For instance, if the eyes are first released, and you move your internal focus your wrist, the image of sensing the wrist will be projected. Thinking of any action, like raising an arm, presets the muscles for the action, and once sufficient energy is added the actual muscular action takes place. This is what enables manipulation of prosthetic limbs.

### **Where is a projection located?**

Projected mental content is located where the eyes focus. Viewing distant, as opposed to close targets converges the eye axes differently. The appearance of outer and inner mental vision is determined by whether the focus is toward the front or toward the back. The option is governed by the Language Rule, covered in Chapter 1. In visual perception the eyes automatically focus outwardly or inwardly according to where attention is directed. Action of certain muscles combines with visual data to create the experience of seeing things projected somewhere in consciousness space. Sound, smell or physical contact are also focused on by the appropriate organs, however the behavior of the eyes is always part of these processes. If you carefully attend to something using any of your non-visual senses, your eyes will also rigidly hold on to that internal or external target. Thus, when you perceive a sound you can easily note that the eyes fall into a specifically focused, or rather a defocused position, turning in the direction of the sound. If while listening to music you transfer your attention, and consequently, your eye rotation, to a visual object, the perception of the sound is diminished, it moves into the background. Two or more mental projections can be, and in fact, are apparently mixed since the mind, when not in

absolute concentration goes through a whole series of changeful scenes, sometimes more visual, and sometimes more verbal. However, these different aspects of perception do not occur at precisely the same time, but rather, they follow a sequence, melting and fading into one another, to become a single continuous experience, like motion picture frames.

The projected element, be that breath, body, thoughts or sights can appear anywhere. When a person is at rest and is positioned vertically the projection of the body occupies roughly the same place as the physical body. If you sit with fully relaxed eyes and UV, and then lean forward by just a few degrees, the projected body also begins to lean and the projected head will be forward of the actual one. That is, the entire projected image of the head neck and upper body lies along a continuous line, but the projection of the head is further out, while that of the stomach is still inside the abdomen. This is why the meditative state is gone as soon as we lose our posture or position, chiefly when the body and or the head slumps, or once we stand up. If you return to the initial position the state is regained, however, even without doing so one can find it again if one finds where the projection has moved. We should remember that a projected frame can change its angle in relation to the body, or can be moved entirely out of the body at different distances as determined by body orientation. During walking the projected, or virtual body, is usually out ahead of the us, mainly because we have to watch where we go, and also because focusing on far away targets relaxes the eyes and the UV. This is why yoga instructors always tell you to imagine you are on the beach.

The distance at which an inward projection appears depends on conditions such as where the attention of the eyes or respiration is directed, and what the position and tilt of the head, of the thorax, and of the entire body might be. In most everyday behaviors the projection is to some extent outside the body. Only in balanced and straight positions can the projection locate inside. For this reason it is quite possible that persons with physical impairments, with asymmetrical postures can successfully work at yoga and meditation using whatever body frame they possess, because even if the body projection lies outside the body, it can be accessed and controlled as long as the forces of the projection coming from various directions are equalized. For instance, if one is bent forward or sideways, the projection will be somewhere behind or on the opposite side, or at a distance from the body. The Londe series of Tibetan Dzogchen teachings employs a technique where the body is purposeful twisted and asymmetrically distorted in numerous ways during meditation, see plates 18-24 in Namkhai Norbu's *The Crystal and the Way of Light*, 1986, Routledge & Kegan, New York and London. Of course, unusual body shaping is also part of Indian Hathayoga, although keeping to perfectly symmetrical body positions. Needless to say, the mental practices of meditation, including Zen and Mahamudra, etc., that make no use of physical activities are always available to anyone.

### **Relevance of Projection in meditation**

The ability to work with projections enables you to discover and to be at home in the rich inner spatial world. Steady experiencing of special projections is what leads to spatial immersion, or the Indian dhyana, as well as concentration, or dharana. The difference between the two lies in the direction of projection. Outwardly directed, centrifugal expansion generates a space, while inward, centripetal compression reduces the space to a small size, which when minimized can achieve one-point concentration. Of course, one can also meditate on mental, rather than physical objects. In Lin Ji (Lin Chi or Rinzai) Zen the mind focuses on the koan, in a state of questioning, of doubt, which, at first sight, appears not to be a material thing. However, the state of questioning is also a muscular frame setting of the UV, and it is considerably easier to watch the state of muscles than to watch thoughts. Therefore, in practicing this method it is useful to first generate the sense of questioning, identifying the physical muscular forces that create that framework, and then to remain settled and locked in that framework. This will steadily grasp the meditative state required. One Rinzai masters described holding the koan, or the word "mu" as if it were "a red-hot iron ball...stuck in your throat", (see Kapleau, Philip: The Three Pillars of Zen, Boston: Beacon Press, 1967, p. 79.) These words conjure up not only a mental, but also a physical sensory experience. This Zen master recognized and advised that the feeling of pressures in the back of the mouth and throat is the physical counterpart, the readily perceptible manifestation of the koan. Whereas keeping to a state of mental questioning is difficult, holding a muscular setting is not.

#### **TOOL 4 - BODILY OR PHYSICAL SENSATION**

Buddhist tradition has emphasized that it is only in the human body that a being can attain liberation. The perception of the physical body is, therefore, a tool of yoga and meditation. We can always feel the body or one of its parts. Respiration itself is a bodily feeling, but here we are referring to the sensation of muscles, of body weight, of its mass and momentum, or the expanse of its outer layer, or skin covering. For example, the chest or a hand or any region can be distinctly sensed by placing attention on its surface layer, and that sensation can then be spread as a zone surrounding the body. Going inward projects the inner body zones, while going outward we enter the outer zones. More on this in the Midzone Respiration chapter, dealing with spherical-concentric zones.

### **CHAPTER 4 - THE ZONES**

#### **GENERAL OVERVIEW OF ZONES - WHAT ARE THEY?**

##### **What are zones?**

Zones in the body are regions, compartments, spaces closed in by borders. These regions can be body parts, sections of body parts, divisions of the breathing channel, etc.

Respiration, for instance, has three regions, or zones; at rest we usually center our breathing in the middle one, but can switch to the lower or higher zones. Zones have borders, so that during normal respiration you cannot flow into another one without spending at least some small effort to get through the barrier. When we take a full and deep breath we can continuously fill all three zones with air, but it takes much more muscular effort than what normal respiration requires. This relatively large exertion covers up the lesser one needed to cross the barrier. Zones can also be projected outside the body.

The traditions of the East have long known and have described a number of yogic anatomic systems, which are all geometrical in design. They present interconnected geometric structures of various kinds: Taoist yogas speak of cauldrons, stoves, cavities, all of which are variously shaped enclosures, of spaces within these, of centers, which are like points, and of channels, which are lines; Indian yogas work with circular chakras, nadis, or linear channels, bindus, or points, and so on. Zen teachings discard these complex elements, and rely only on the dantian (tanden, or hara), a point or space located in the abdomen. These are geometrically defined elements which can be best analyzed and made use of in terms of zones.

It is also clear that zonal divisions have been recognized in the Eastern traditions, but have not been expressed in an organized form. For instance, according to Taoist body mapping there are three horizontal (transverse) zones, namely the head, heart and abdomen, as well as three vertical (coronal) zones, the channel of function, the central channel and the thrusting channel. Different Taoist sources give alternate names to these elements. The geometrical nature of the body and mind was well known in the East, and it was only due to lack of anatomical knowledge that the system described in Pragmayoga was not earlier recognized. If the masters of meditation had been familiar with the inner body, as we are today, this book would have been written centuries ago. Zen also uses a verbal device, the koan, but that can also be treated as geometry. To explain this: mental and emotional contents come attached to specific body behaviors. The emotions of sorrow, joy, surprise, doubt, and so on, have corresponding facial and other muscular counterparts. The so-called "sensation of doubt", to be maintained during koan practice, is physically embedded in a muscular frame, and this frame generates the lines and anchoring points of interacting forces to create the sensation of puzzlement, of doubt. As for concentration, the action of powerfully focusing the mind has a name that comes from geometry: "one-pointed concentration".

### **The three nens**

The notion of separate compartments is well established in Eastern traditions, but never clearly defined in terms of triadic zones. For example, Zen master Sekida comes close, although he understands the compartments not as physiological entities, but only as mental ones. He describes three action stages of the mind he calls the three "nens". The

first nen takes in the world experience, and the second one "illuminates" and "reflects" on the first one, but neither contains the quality that the third nen possesses: being conscious of experiencing, (see Sekida, Katsuki: Zen Training, New York: Weatherhill, 1975. p. 109) His analysis is correct, and it can be made more precise: there are three fundamental zones of the body-mind: one that perceives the outer world, the second one applies attention on it, and the third one is the sense of the self. It is the self that experiences itself and includes the other two in its zone.

### **Zones in general**

In Zonal Yoga we are chiefly concerned with the zones of respiration, but it is useful to first become familiar with zones in general. Both zones and tripartite structure come into existence at the very beginning of our lives: the fertilized egg starts development by dividing in three planes and becomes a three layered ball. All tissues of our body derive from one these layers, namely, the endoderm, mesoderm and ectoderm.

The most general triad of the body consists of the head, body and limbs. The head, or the upper body, or the arms or the legs are, similarly, divisible in the same way, just as much as are the neck, or thorax or abdomen or the fingers, and so on.

Focusing attention on any zone and on any of its various divisions, projected in any of the three planes, may be employed in yogic and meditative practice, and in everyday life, as well. For example, you can target your attention on any zone of the head, be that the frontal, or upper, or central one. The same is true for the thorax, or the tongue, or the abdomen. You can concentrate on the hands or the lower arm or the upper arm, etc. Locking your combined attention and motions in a specific zonal plane makes your action in that zone precise and efficient. This is the secret of juggling; here the flight of thrown pieces takes place in one zonal plane. Here you look and throw inside a single zonal plane, and therefore the orbits of flying pieces remain in that plane.

To visualize the way the body can be divided in so many ways, and in three different planes, we can imagine a large cubical block made of sugar cubes. Now imagine a flat blade that can slide through this assemblage along the three planes, separating it in many different ways. We can easily distinguish and observe the three zones of breathing. Try filling with air the lowest area in the breathing space. This would be dominated by abdominal respiration. Now work with only the middle region, in chiefly thoracic respiration, and finally breathe in the highest register, at the top of the thorax and neck level.

### **CLASSIFICATION OF ZONES**

Zones are classified according to their shapes. There are three kinds: flat, linear and spherical. The last two forms need no explanation, but the term "flat" needs clarification.

Actually, such zones have the shape of a three-dimensional container, which can be of any shape as long as it has flat sides, such as a cube, a rectangular box, and so on, but it can also be a two-dimensional flat plane. After lengthy search no perfectly suitable term can be found that covers all such shapes, except when we consider that these forms have in common the flatness of their components. The linear zone is simply a one-dimensional line, reducible to a point by shortening it, while a spherical one is a sphere that can also be flattened to become a circle, which in turn, is reducible in size to a point. At this time only the last two types will be covered; linear zones are taken up in a separate chapter.

## **TYPES OF ZONES**

### **Flat and Spherical**

Zones in normal consciousness take on both flat and spherical shapes. The target of attention, that is, whatever one focuses on is in a flat zone, and the space of awareness that contains the target is the spherical one. Since we think using both shapes, both appear simultaneously, but their relative proportions depend on the nature of the thought. During thought or actions directed to the outside the sense of awareness and space seemingly disappears, but it returns in the blank moments between thoughts. Also see chapter 8 "The Two Shapes". If we engage in thinking it is the flat zone, in which the subject of thought resides, that appears within the spherical field of awareness. Similarly, when the mind is empty of thought, we are conscious of an empty space as a spherical zone, but there is in the background a flat zone, in which the perception of that space takes place. When you successfully merge the two they disappear and you enter the state of pure consciousness.

## **DIVISIONS OF ZONES**

### **Flat and spherical divisions of the body**

The Tripartite Body can be divided in three directions, that is, cut along the sagittal, coronal and transverse planes. Put in everyday language, the body can be segmented in three planes, into (a) right, center and left, (b) front, middle and back, and (c) top, middle and bottom zones. It is advisable to use the technical terms sagittal, coronal and transverse because there are no precise words in common language to refer to these planes. Facing a person you view the sagittal right, middle and left divisions; viewing a person, from the front or from any side shows the transverse top, middle and bottom segments. When facing a person you only see one plane: only the coronal front one is visible and the middle and back divisions are covered up behind it. Looking at the person's back you see the back coronal zone. All zones appear in one of these three divisions. Flat ones, forming triads of adjacent blocks are most easily generated. They lie side by side or above and below each other, as, for example, the three zones of respiration, or the triad of the voice pitches, or the high, mid and low voice registers of speech and general sound production. Spherical zones can be understood as containers within containers.

Both flat and spherical zones can be tools of meditation. Any body part, or the entire body may be yogically sensed or projected either as flat compartments or as spherical concentric nested partitions, like enclosures within enclosures. The entire tripartite body is a spherical nested construction consisting of the projected body, the somatic body and the UV. The somatic body itself has an outermost zone, starting with the skin; further in comes a middle, and finally the central layer of musculature. This is observed through inward projection, but you can also, by directing projection outward, create layers outside the body. This is not an occult phenomenon: in daily life, when dealing with the outer world the mind is projecting itself into the outer zones; outward perception requires outward projection. In happy moments outward projection from the UV lifts the spirit, while unhappy times generate tension inward into the UV. Smiling projects tension outward, anger presses it inward. This is one of the reasons why yogic teachings, as much as ethical religions, direct us to love rather than hate, not only for the sake of morality, but to live in a happier projection.

### **DIVISIBILITY OF ZONES AND TRIPARTITE DIVISION**

The bodily machine is divisible into large zones, and any of these, in turn, are also further divisible. Given segments may be large or small, and can take on various shapes, such as enclosures, or lines or points. This is why various yogic traditions can justifiably claim that there are innumerable channels, nadis and other projected elements in the body. Of course, only some of these are of high enough rank to be of practical significance in yogic techniques. Identifying, separating and correctly employing them is the key to successful body and mind control.

### **Subdivisions**

As mentioned above, any zone is divisible into three parts, and its subdivisions can further be divided into their own three partitions. The head, in transverse sectioning, for example, can be divided into the upper skull, enclosing the brain, a middle region with the eyes, nasal passages and ears, and a lower one encompassing the mouth and the jaw. The arms and legs each consist of three larger segments. The arms, for example, are composed by the humerus or upper arm, the radius-ulna or lower arm and the hands. Going further, the hands are constructed from three parts, the wrist, palm and fingers. The fingers, excepting the thumbs consist of three phalanges. As for the brain, its divisions into left and right hemispheres with different functions is an established fact. The left hemisphere deals with the verbal and the right one handles the visual agency of the mind. Is triplicity missing in this case? No, it is there: we have a central brain covered up between the two hemispheres. This makes sense in purely anatomic terms. However, this matter also manifests as a triplicity in mental functions. We are never wholly verbal or visual, but experience a mixture of various proportions of these functions. We are, in fact, conscious within a field that is a merger of the two halves. This region represents the mental middle part of a triad: the overlapping shared region where the left and right brains combine forms the middle

zone. This makes sense since it is in the central inner region of the brain, encircled by the two halves of the cerebrum, that our primitive neural actions of experience operate. The central brain is the old, or primitive brain, that was already working in lower animals, and it consists of the brain stem, that is, the medulla, pons, mid brain, thalamus and hypothalamus. It is important to remember that the cranial nerves which insert into the UV connect directly, without any intermediaries, to the brain stem, which handles the most basic biological processes such as respiration, heart rate, swallowing, vomiting, etc. Functions among these that we can consciously manipulate, such as breathing, are strongly connected with our mental states.

When appropriately relaxed you can experiment and witness something of the contrasting roles of the right and left brains. For instance, being a Northern speaker, stand or sit erect and shift your weight to one side and relax the other side, or else focus your attention on the left zone of the head or of the whole body, i.e., allow the eyes to settle in these consciously selected target areas. You will notice that thinking in words easily takes hold, while visualizing things come far easier when, instead, the right side is attended. The Language Rule applies, and handedness may also influence this effect.

The various other divisions of the UV are also tripartite. In anatomy the tongue is considered to have three parts, the tip-blade, the body and the root (or base), which are coronal (also called axial) zones. Furthermore, the tongue musculature can be also split transversely (horizontally) into top, central and bottom layers, as well as sagittally into left, middle and right sections. The neck or the muscular covering of the head are no different. However, it should be emphasized that although there are so many zones and so many possible arrangements of divisions and subdivisions, we need not trouble with this because only a small number play a role in yoga-mediation.

### **Tilting and rotation of planes**

A zonal plane lies in a truly horizontal or vertical plane only if the body is vertically balanced, in a state where the forces exerted by coactive muscles, pulling forward, backward, left and right are equalized.

Whenever the body, head or even the arms are tilted to any degree, the zonal planes also become tilted and they move out from the body axis to the some degree. For instance, if you bend forward, the various zonal planes of the head also undergo tilting, forming angles with the absolute vertical or horizontal axes. The same action also projects the zone to extend partly or even entirely outside of the body. You can notice that when your body or torso is erect your thinking is projected in a region inside the head or body, but if you lean forward the thought region will be outside the head. Both of these processes are responsible for the disappointing fact that when a meditator even slightly moves from a perfect position, or worse, gets up from a nicely working contemplative posture, the meditative state is immediately gone. What was lost can be regained by locating the

projection, somewhere partly or completely outside the body. Keeping the meditative state is possible, of course, if the path of the zone movement is continuously watched and adjusted while one changes body positions—but this can be difficult.

### **Further divisions: Multiple Zones and segments**

Eastern yogic traditions often speak of thousands or tens of thousands of channels and meridians and similar inner body elements existing in various planes. While this is true in daily life or in meditation we do not separately deal with the myriad elements because the body merges its sections to form larger groups. These then act together as a single piece, and these are the zones we usually employ. For instance, although each contains several sub-zones appearing on various planes, the entire head or abdomen can act as a single zone. Some zones are basic to normal practices, others are created for a brief time in executing special, usually more precise or stressful tasks. The zones worked with in Pragmayoga are those that come into action when the body-mind is balanced and settled in an equilibrium of forces.

### **ZONAL BEHAVIOR**

#### **Zonal behavior in everyday life**

Normal automatic breathing is quite complex. To begin with, it is working with three zones, and then there are four simultaneously interacting factors controlling respiration at any moment: (a) the option of the zone where breathing takes place, (b) where mental projection lies, (c) the type of projection, whether it is anchored on the central point of the zone, or on the space surrounding it, and (d) the degree body of equalization and relaxation. Any change in any of these variables produces a reflexive adjustment in the others, and so your breathing is always changing in one or all of its aspects.

Moreover, in everyday actions the zones or their segments are not kept distinctly separated, but are unified, or merged into a single working apparatus. Midzone breathing (discussed in its own chapter) is taking place, but because of unbalanced posture or a tense state of the body the zones are compressed and not clearly separable. The zones are still present, but as body, head, face and other parts continuously change their positions the zones flow and blend into each other without clear borders. For this reason the different functions performed by each zone are not clearly observable. These functions are covered below in the paragraph on zonal mechanism.

Where a particular zonal triad of breathing appears at any one time in the body depends on how the body, head, arms, etc. are positioned. In most cases we move about and are not settled in equalized states for long, so the composition and actions of the triadic zones go through constant transformations. The particular triadic zones that the breathing apparatus employs at one moment may be the three zones of chest, or the triad comprised by the

head, the throat, and upper chest, or else, two merged zones of the head against the merged thorax and the abdomen, and so on. A simple way to ordering and simplifying ordinary respiration is presented in the Midzone chapter.

### **What determines which planes we perceive?**

If zones can exist in three planes, what factor decides what plane we experience at any time? The answer is that it is body position, especially that of the UV that controls this option. As previously mentioned, if the eyes are first left completely relaxed, the UV will easily follow suit, along with the entire body. Because the eyes are the most important sense organ, and therefore play a primary function in the UV, we can define the choice of planes by defining the action of the eyes. It is the convergence angle taken by the eyes that decides what zonal plane becomes projected. This is not unexpected since projection is fundamentally visual. And it is a fortunate fact that when working with the eyes, we need to deal with only a single pair of organs, and not with the great many others spread throughout the body and the UV. Although there are two eyes, they always act together and so in this context they can be considered as one organ.

The relationship between eye convergence and projection plane is simple yet somewhat complicated. To observe the following the eyes should be closed and relaxed. If the convergence is parallel, with each eye looking forward, without focusing on anything, then the projection is coronal. This is the projection in which chakras are perceived. But eye convergence or divergence creates projections that are transverse or sagittal. What determines this is how far the eyes are converging or diverging. When you gradually either converge or diverge them, you will go through an alternating progression of these two planes. Furthermore, this is true for each of the three settings, forward, midway or back, that the eyes can take. The Language Rule is also active here! In yogic practice we must often pay attention to the plane of projection. The visualization of lines, or nadis, or channels comes about in the sagittal zones, whereas chakras appear in the coronal zones.

The tilting of the body, or any of its parts influences the automatically caused visual angles of the eyes, so you should remember that the appropriate body position and visual angle must be combined to enter a particular zonal plane. Attention to this fact is important in generating inner body projections or any other visualizations. If the body tilts the projected planes will also tilt and therefore will partly lie outside the body. It should be emphasized that the above described relationship of eye angles and planes projected shows clearly only when the body is set in perfect equilibrium. Otherwise, the addition of other agents, such as variations in eye angle, in body tilt, in location of the breathing center, as well as the Language Rule alters the projections. In daily life this effect brings about a continually changing mixture of planes.

An experiment can demonstrate the determination of planes by eye convergence. Being an English speaker (the Language Rule applies!) first you must set the body to be vertically

balanced, preferably sitting and breathing evenly. Except in a perfect equalization, other factors enter and they complicate the projections. Keep your eyes closed and slightly diverge the axes of the eyes so you become conscious of the sides of the visual field as much or even more than the frontal field, and then relax the eyes in that position, leaving them comfortably locked in the setting. The frontal and lateral fields should now be equalized, midway between frontal and peripheral views. At this time the projection of central sagittal zone will appear. With the eyes aimed straight ahead, so that the visual lines are parallel, the coronal zone comes about. Similarly, by focusing with visual lines converging we get the transverse zones. The amount of eye rotation can be minimal in all cases.

The above covers the Northern language group. For the Southern one, including Asian, African and related speakers, the visual axes produce, respectively, (a) sagittals when converging, (b) coronals when parallel, and (c) transversals when diverging. In the middle languages, like Turkish or Hungarian, etc., these differences are seemingly canceled as each eye is pulled in two opposing directions at the same time, so that the eyes seem to be practically parallel in all three cases. However, slight changes in balance bias, like tilting will produce sagittal or transverse projections.

### **Tripartite zonal (trizonal) mechanism - how it works in respiration**

Zonal divisions always connect and work together as a triad, and any zone is a member of some triad. Such a mechanically united triad can be called a trizone. Triads have a specific mechanical behaviors. It is essential to examine how this mechanism operates if we are to better understand the body-mind. As related earlier, the Japanese Zen master Sekida has explained mental processes in terms of trizones. To control the body-mind we need to understand how three part zonal units operate. The process, which takes place not only in respiration, but in other tripartite body and yogic functions, becomes observable when the body and the UV are neutralized. At that time, seeing it as a tripartite zonal activity we can easily understand the basic mechanics of respiration.

### **Two types of respiratory mechanics**

Flat and spherical trizones operate differently. Flat ones are comprised of three zones placed on either side of the middle zone. They are usually stacked vertically, but will tilt to various degrees as determined by body position. Spherical trizones contain nested zones, each surrounding one located within it. We experience the two modes according to mental behavior. When dealing with the outer world, looking, listening, moving, thinking, walking, when there is a definite object of attention. This includes consciously watching one's own breathing. However, when we engage with the inner world, but without visualizing it, and focus attention on nothing, observing respiration without any thought about it, in a state of awareness only, then the spherical trizone appears. This can also occur in brief moments between thoughts. And you experience freedom. The sphere, or

center of awareness still has a location, and can be projected in any yogic region, including the head, throat, chest, abdomen, or any other body part.

### **Flat zonal mechanics**

In the flat trizonal mechanics there are two outer zones, usually above and below, but at other times, on either side of the middle zone. The two opposite outer zones of a triad are the executors of actions; one is the active agent or moving force (usually called the "prime mover"), and the other one is its antagonist, which by opposing the active force gives controlling balance to the movement. In respiration the active, or agent zone is the one that inhales air, and the antagonist is, what exhales it and controls the rate of expiration. Note that if your breathing is thoracic, the agent zone is the top one, whereas in abdominal breathing the bottom one is the agent. As for the middle zone, positioned between the two outer ones, it acts as the stable base, or anchor holding the outer two zones together.

### **Agent-anchor-antagonist action**

The agent-antagonist coupling was recognized by Zen master Sekida when he noted that by opposing the forces of the abdominal muscles and the diaphragm we gain a tool for managing the mind. (Sekida, p. 56.) The seesaw is a good example of how the three zones in a flat trizone interact. The weights of the two children sitting at opposite ends represent the two outer zones and the central pivot is the mid zone. The outer zones are the actor and the antagonist, that is, they balance each other, while the central one makes the arrangement stable. Such use of zones appears in the Pranayamic method of breathing alternately through the left and right nostrils. The two sides are the agent and antagonist and the section lying between the two, the central plane running through the face, head and even the body form the middle anchor. Such organization of tripartite action has an evolutionary basis. The three part system is basic in vertebrate motion. For instance, the body is the stable mid anchor against which the legs and arms move. Similarly, in a swimming fish the body is center from which the head and tail bend away.

### **Spherical zone mechanics**

Zones in spherical trizones are concentric, they are located one inside another. The central zone is the antagonist, or anchor and the surrounding, or border zone is the agent. The middle region between the center and the border is the Midzone. Antagonist relationship between two opposing forces, anchored on a third one is an essential factor in physical movement. Such interaction by an agent-antagonist couple is built into not only body action, respiration, as well as meditation, but is universally present in all physical movements. Two adjacent zones, opposing each other cannot produce sensible action, because each one would have to brace itself on the other, and this would be like two people pushing each other while standing on ice.

This is where the middle zone enters the process: it provides the stable platform, or anchor, against which the two other forces on either side of it can brace themselves. Zonal triads are represented in Eastern tradition in many ways. One of the best known ones is the yin and yang concept. These are antagonists: one is positive, the other is negative. Here we see the divisions of a zonal triad: the agent and antagonist are the two outer zones, namely Yin and Yang, while the border region where they make contact is the middle zone. After merging the three become a single unity.

### **The three facial zones**

The three concentric spherical zones of the face are good examples of trizone action. They are prominent in directing consciousness. The outer and inner zones are concerned with the outer and inner world. If you look at a scene the involvement of the outer layers of the face can be felt as a tension in this region. The inner zones become the agent when you feel your self. The outer is served by the facial nerve, and the inner by the trigeminal nerve, both cranial nerves. It has been noted in physiology that these two distinct sets of nerves interconnect, but how they interact has not been discovered. The fact is that they merge and thereby create a middle zone. This merged area is the Midzone of the facial musculature, and acts as the agent when the mind is engaged in attention, when you are thinking. The three zones are always cooperating in proportions depending on kind of mental content, but in meditation if one settles in the facial Midzone one will empty the mind.

### **An example: the three zones of respiration located by their barriers**

Before we go on to locate breathing zones it is useful to understand details on the method. The perception of breathing movement in some body part is a matter of projection. When respiration movements and eye movements are merged and observed as a unified action, either vision or breathing can act as the agent. If vision is made the agent, then eye movements will project respiratory movement to the place one is internally looking at. Thus, first feel the region where you feel the forces of inspiration arising, in the thorax or abdomen, etc.; second, make eye focusing the agent, and finally watch as you move breathing up or down into the adjacent zone. (For topic of merger see the chapter Midzone Respiration).

### **Locating and passing the zonal barriers**

Zones are enclosed by barriers, or borders that oppose movement out of the zone. This is what we experience when inspiration automatically comes to a stop before it changes to expiration, which, in turn, ends when reaching its border limits. By finding their borders we can locate the space within zones. To observe this, you should slightly tense the breathing apparatus as you draw in air filling the upper chest starting at its top or bottom. Now release the tension but hold on to the filled region. This allows you to reach over to

the lower border, and then to draw air into the middle zone. Hold and relax the top and middle zone, and then repeat the action to arrive in the lower zone. If you have held on to each zone you will have identified and located all three zones of respiration. Alternately, start the process at the bottom zone. (The Language Rule applies!) By breaking through the envelope borders with only minimal force, that is, by gliding across the barrier, you can combine all three into a single envelope, centered in the mid zone. Note that slight spontaneous movements in parts of the body, (like blinking or head tilting or tongue movement, or small changes in posture, etc.) must be allowed occur in order to pass through the barriers.

### **Holding on to zones - zonal aggregates**

To successfully project a three-part trizone, it is most important to attach each zone to the next one in line, not letting go of the one(s) just passed. This is how a zonal aggregate is formed. In other words, when moving from one zone to another, you have to hold on to the projection of the previous zone. This can easily fail unless you prevent various parts of the UV from inadvertent, unconscious action. For instance, while you are passing through a zonal border, you will tend to blink. This will dissolve the frame you are trying to maintain because blinking is UV action. Therefore, avoid blinking and other unrelated UV motions. The reason for adding zones and holding them is simply that if you want to work with trizones, you need to have all three, contained in a larger aggregate frame, where each one is available to perform its role in trizonal action. If you do not store previously projected zones you are left, at any time, with a single one. The method of combining regions as aggregates is essential in Vajrayana, Taoist, Zen and other schools. For example, a sensation of warmth, of a liquid flowing down around the head and body, or visualizing geometric forms, or the undulating line of Kundalini is basically the act of merging adjacent zonal regions, and projecting them as various types of visual or tactile perceptions. The importance of aggregation was expressed in a simple way, and in a much more general sense by Sri Nisargadatta Maharaj: "The art of meditation is the art of shifting the focus of attention to ever subtler levels, without losing one's grip on the levels left behind." (Sri Nisargadatta Maharaj, p. 413).

### **The yogic use of the tripartite zones**

Distinguishing the zones and their actions in respiration, that is, by clearly projecting and observing them we acquire an important tool for mental and bodily control. Breathing in the way just described leads to quieting and equalizing of body-mind.

## **CHAPTER 5 - LOCATING ZONES**

### **Types of zonal shapes**

We have already seen an overview of zones, dealing with their planes, divisibility, and subdivisions, but apart from a brief mention we have not yet examined in more detail the forms zones can take. As mentioned, there are three types of zones: flat or level, spherical and linear zones. The term "flat zones" is a general one, because this simply means that the zone lies on a plane. A flat zone can be two dimensional, like a sheet of paper, or three dimensional, like a container with flat sides. Each of these two can take various shapes; a two-dimensional one can be a triangle, square, rectangle or a polygon. The three-dimensional one may be a cube, a prism, or a many sided box, etc. Spherical zones are three-dimensional and therefore do not lie in one plane, nevertheless, they can be flattened to become two-dimensional circles, or further compressed, mere points. Projected as circles in the coronal plane they are the so-called chakras. Finally, linear zones are the channels, or nadis of the Eastern yogas.

### **Zonal boundaries**

Zones are bounded by borders: as we breathe we find that both in inspiration and in expiration the movement becomes increasingly more obstructed as the limits, or borders of the zone are approached. In normal breathing inspiration and expiration do not pass through the zonal border, but switch roles as they reach the limits of their zone. But by breaking through the zonal barrier we can start a new breathing cycle, now operating in an adjacent zone. In taking a deep, full breath that fills both the upper, middle and lower air spaces we forcefully glide through the zones, so that their barriers are masked and are apparent only if you consciously observe the air flow.

### **Locating inner zones**

Most persons need little instruction on how to firmly project the mind inward; it is no more than going into the thinking mode. Still, some methods can be suggested here before going on to the next chapter, which present the main topic of this book, namely Midzone respiration. We are normally occupied with both the outer and inner minds using them in different proportions at any one time. Clear perception of zones always takes place projected within the inner mind. To experience this one must be in a state of equilibrium, with a UV, with quiet nasal breathing, with closed and relaxed eyes, with closed mouth and a relaxed jaw. The jaw, along with the diaphragm, is the largest and most powerful upper visceral organ, and it is one of the key actors in setting the intensity of one's bodily tensions and one's degree of relaxation.

### **The basic way**

The simplest method is just to first close and relax the eyes, and then the whole face. Cause the relaxation to flow into the rest of the body. When you reach full bodily equilibrium, the inner mental space readily appears. If this is not sufficient, there are several ways one can reach this goal, and these are covered below.

### **Another way, through breathing**

The best way to project zones is to breathe and view with inner vision the spaces in which breath moves. You can begin by establishing a balanced equilibrium, preferably while sitting, with the UV and eyes relaxed, lids open or closed, and with nasal breathing, etc. Do not forget the jaw. It should be kept in place without any force, allowing a small space between the upper and lower teeth, with lips barely touching each other, if at all. Breathe, but keep your attention on inspiration. With this done you should be in the inner mental space. The UV is perceived only by inner vision. Now project and hold one by one the head, the body and the legs, feeling as if you were breathing within them. This way you will be able to inwardly perceive the three largest zones of the body. With this done, move to the zonal triad comprised by the head, thorax and abdomen. Any of these zones can further be divided in thirds, such as the upper, middle and lower head, or upper, middle and lower chest, and so on. The same process of segmenting can be done with any body part.

### **Through head zones**

The head can be divided into three coronal zones, the front, middle and back sections. The front one stretches from face to ears, the middle one ends behind the ears, and the back zone covers the back of the head. Projecting and focusing on the middle zone balances the body and creates awareness. Attention on the frontal zone engages with the outer world, and focus on the back zone brings on the consciousness of self. This relates to Northern speakers, for the Southern group the outer zones reverse roles, here the frontal zone brings on self identity, etc. When not the entire mass of the head, but only its surfaces are divided, we are dealing with special zones, namely the facial dermatomes. These can be important tools in yoga and meditation, as they closely relate to the UV and mental states.

### **Starting from the skin**

To find zones of the whole body or of its parts we can feel the outermost surface, like the skin, surrounding them, and then, while inhaling and looking inward, go on to perceive the boundaries or layers of the zone under the skin. For example, locating the upper chest zone would mean keeping the eyes closed, sensing an area of the skin surface, and then holding to and extending the feeling like a sash all around the chest. Then while maintaining the perception, relax the UV and the eyes, and also breathe inwardly to project the inner space of the zone. This method can be made to work with any body region, be that the abdomen, the neck, or the head.

### **Finding transverse zones starting from a subdivision - from smaller to larger**

It is possible to locate a complete zone by first finding one of its subdivisions. For example, after having neutralized the UV and the eyes, you can begin to locate the upper

head zone. First sense its upper frontal sub-zone, which is just inside the forehead. To do this feel the outer surface of the upper forehead, and then, if necessary to assist, blink to move the sensation to the inner surface of the forehead, inside the head. This will put you in the upper frontal zone. Now all you need do is to hold on the front division and move down and merge it with the middle zone, and finally the back one. The act of holding on to this aggregate of three zones in relaxed attention, and then merging them expands the projection to become that of the entire upper head zone. Remember that if you are not vertically balanced, the projection will be partly outside the head.

### **The function of locking**

When you enter a new zone, when you take a new body position, even when alternating between inspiration and expiration, you can and usually do lock into that frame. Locking means that all the forces maintaining a particular setting become equalized, and so the state becomes neutral, and to exit the state additional newly directed forces must be brought on. When you strongly concentrate in everyday activities, your body more or less freezes, thus it gets locked into a certain setting. Therefore, when a yogic state of body and mind is reached, we have to lock into it in order to stay there. Locking is automatic in everyday behaviors and is an essential tool of meditation. The eyelids have two states: open or closed. Either one is stable, you can keep them in the chosen state automatically, that is you do not need to pay attention to the eyelids. Open eyes need to blink to moisten and to wipe, but a blink is momentary and the lids spring back to the open state. More on this in the Appendix, Eyes.

### **Method for locating zones through automatic eye focusing**

The method described here deals with the head, but similar techniques can be used with the thorax, or abdomen, etc. First, with eyes closed, breathing nasally, etc., think of some object, physical, like a person, or mental, like a word, and staying within that thought setting, bring the eyes to a neutral state. This allows the underlying state of attention to correctly focus the eyes to project on some region or point within mental space. Since the object or thought must necessarily be situated in a particular zone, you will now have located a particular zone. One or two light breathing motions will fully set the zone. The eyes and the body always try to reduce their energies to enter the most restful setting, to relax as much as possible; such a frame will always be centered in a specific zone. For this reason, if they are not subconsciously opposed, the neutralized eyes will automatically move to settle in a semi-stable zone. Of course, as long as you stay relaxed, respiration is also a positive actor in such zonal locating. The eyes and respiration always move together. Therefore, finding a zone can also be done by breathing in a given place, as inner vision will automatically watch the breathing action.

### **Ways to locate zones through their surrounding borders**

With eyes closed feel the outer surface of the brain case, covering all areas. Now relax the eyes, and create an imaginary plane, a floor to close off the enclosed space at its bottom. This will now automatically project the upper transverse head zone. Finally, you can add to this zone the middle and lower ones. Another method is to feel the entire forehead and extend the sensation all around the head at the same level. Blinking can help to initiate the action. However, do not copy the movement with your eyes. Instead, allow them to relax and so initiate the project the full upper head zone once you have completed encircling of the head. Observe that holding a full zone, consisting of an entire triad, is more stable than holding only a sub-zone.

While the above relates to the head, any other region can be treated this way. The reason for focusing on the head is that it is most directly perceivable and has many possible zonal divisions. As an example outside the head, close the eyes and fill with air one of the breathing compartments of the UV, either in the head, chest, or abdomen. Now let the eyes dwell in inner space and relax in that region. This action will project that particular chosen zone.

### **Alternation in ordinary breathing**

Alternation appears in ordinary respiration. Not only do zones in a trizone exchange roles as the agents and the antagonists, but at the same time they also appear in different planes of projection. Namely, if the muscular action of inspiration takes place in the chest and in a transverse plane, then, that of expiration, in the abdomen may occur in the sagittal or coronal one. While inspiration may be spherical, expiration will be flat, and so on. The Rule of Alternation is what prompts such behavior.

Thus, in ordinary breathing the zonal planes undergo change within a single breathing cycle. In addition, because the body and its parts are almost always moving their motions create further changes in alternation. For instance, the head, torso, arms, hands, or legs can at one time turn or bend in various ways in relation to each other, and each, having its own mechanically determined zonal preferences will then introduce its own setting into the combined action. Thus, at one moment breathing action may start in the upright head employing a flat zonal mode, while the upper body, perhaps slightly leaning forward, may finish the cycle in the coronal mode. It all depends on how the parts of the whole body are arranged at each moment.

In everyday activity the mechanical actions of the breathing zones are not clearly observable because the variously changing pressures and tensions throughout the body cover up what is basically happening. In meditation we solve this problem by reducing our breathing to its simplest and most easily observable form, the geometric one, which in respiration appears as the triadic zone. Regulated breathing is an essential of meditation: it makes one able to breathe in the physically and mentally neutral position and also to maintain that state. Successful yogic respiration needs to be controlled, it must remain in a

single respiratory zonal setting, that of the Midzone. This is the topic taken up in the next chapter.

### **Moving between zones**

Practice traveling between the zones, to clearly observe their borders and the spaces enclosed by them. Motion between the three divisions of a large zone is simpler than moving between it and other larger zones. That is, one can easily transit from the upper to lower zones of the head but to jump from the head zone to the abdominal zone requires some UV and body frame change. The above method deals with transfers between flat transverse projected zones, but moving between different flat zones and between flat and spherical zones are good exercises.

### **Centering in zones**

It is a fact that whatever yogic or ordinary everyday position we may happen to hold, the body exists as a framework that has a central point located in some particular zone. There are a great number of possible zones, but this is not a problem because only the optimal and optimally equalized triads are of any use both in yogas and in everyday life. These central points may, at one time, be at the head, chest, abdominal, or leg level, or at a subdivision of these, and can be oriented in any of the three planes. When you find the center of the middle zone of a triad most appropriate for a relaxed UV and body position, then a state of equilibrium will appear. How long such an ideal, neutral, equiposed setting can be maintained depends on how well we keep it steady and continuous, not allowing small changes in body position to upset it. If you cannot successfully project a zone that you wish to, see what other change in plane or positioning will help generate it. During meditation, in due course, the body begins to sag, the head tilts, the spine bends, the eyes move, and so all these unwanted movements should be repeatedly noted and corrected. In a Zen meditation hall monk monitors strike drooping practitioners with a stick, but since this service is not available to most of us, but we can be alerted to worsening body condition when we realize that our minds are wandering.

### **Where is the projection of a zone?**

The two halves of the body are not of exactly equal size, and so it is good to remember that due partly to this innate asymmetrical setting the projection of a zone may not readily appear when we look for a zone. A small turn of the head or body can correct this problem. In addition, if the body is not fully erect, projections display partly outside the body. When a zone is not easily found within or outside the body you can (a) just search around and find where respiration and inner vision naturally settle in mental space; or else (b) move the body or its parts in various ways, in smaller or larger steps, testing various places, until you find the one where the eyes can settle in full relaxation. Success is

indicated when the entire body-mind frame can stay quiet, with a sense of ease and freedom that is hard to mistake for anything else.

### **Locating zones in asymmetrical body settings**

When you are well balanced, the right and left, and the front and back sides of the body all participate in maintaining respiration. However, by natural design, your breathing moves to the side of the body that at that time is using more energy than the other one. If you stand supported only on the right or left leg, a position we often take, the vertical axis of the body extends only through one side of the body, and you will be breathing on that side. The same occurs in sitting or lying down. We typically fall asleep lying on one side, and this allows the other half to relax and assist in reaching sleep. Use of this asymmetry can help to locate zones. If you stand or sit chiefly resting on one side, in such asymmetrical setup the supporting side provides two forces, one to keep the body upright, and one to breathe. These forces are equalized, keeping you balanced, and they maintain an even rate of respiration. Just as importantly, the non-supporting side of the body can now afford to relax, and if you consciously move breathing action to this relaxed side, then it is very easy to locate zones of respiration and to travel between them. The low tension level in this side produces only weak barriers separating zones.

It should be remembered that when set in a balanced body, breathing with a somewhat increased force also reveals zones, bringing to emphasis not so much their spaces, but their borders. The use of force in yoga and in certain meditational techniques has never been absolutely excluded. Whereas Soto Zen teaches relaxation, Rinzai Zen, and especially Pranayama employs energetic modes of breathing. Speaking of force, we can mention that a light tightening of the larynx powerfully stabilizes the action of breathing, and therefore the UV, thereby reducing or even blocking other UV activities, such as thinking. This is what Zen literature refers to as "bated breath". In this practice it is easy to locate zones because their borders become strongly defined.

### **THE RULE OF ALTERNATION**

#### **Alternation**

Two distinct functions appear alternately during continuous movements, and this process follows a regular pattern which we can call the Rule of Alternation. The continuous exchange between right and left leg strides in our own vertebrate locomotion, or the right-left body undulation that propel fish, amphibians and reptiles are obvious examples. Recognition of this process is important in yoga and meditation. Later in this chapter we will further consider the rule of alternation in eye behavior, and more of this topic will be covered in the Chapter 10.

Typical everyday movements by the whole body and its parts are too complex to clearly show the Rule of Alternation, but at least one commonly observable action gives evidence to it. If you walk the usual ways both the arms and legs move oscillating forward and backward in the parallel sagittal planes. However, if you carry anything held up in front of you, using only one or both hands, like a serving tray, your arms may either swing sideways, or remain pointing forward. The option depends on the positioning of the arms and hands. If initially the arms stay forward, then raising them a small amount will make them swing laterally. But if you gradually further raise the arms another small amount they will stop swinging, and will continue these alternations as you lift or lower your arms. The same process occurs in the horizontal plane, when you draw or extend the arms towards or away from you.

This monosomatic map is built into bipedal vertebrates: when a large bird, like a duck walks on the ground, holding its wings closed, its back side noticeably wobbles left to right. The difference between us and the bird is that we keep the arms forward, while the bird compresses its wings and leaves oscillating to the body. Fold your arms and tuck your arms to your rib cage, imitating the bird, then your walking swings side to side. It is alternation that appears in the above examples. If we engage in only a single isolated movement the process of alternation can be easily observed. It can be demonstrated that various body parts automatically alternate positions or states as the body gradually changes its tilt, or its arrangement in general. Normally this process is hidden as the body framework is filled with energy and tensions, but it is observable if the body is relaxed. Sit comfortably and stop breathing, and relax the body, especially the UV, and then, still holding your breath slowly and gradually tilt the upper body, including the pelvis, so that the head describes a slight arc. Tilting only the head will give the same result. It is essential that you do not think or watch anything, especially the parts of the body featured in the experiment. Doing so would anchor them in place, making them unable to act independently. Rather, you should hold attention to the body as a whole. Starting this way very slowly and gradually tilt forward in slight increments and observe the situation at each step. The head and body should move as a single piece. As you carefully begin to deviate from the vertical, notice that the eyes converge (or diverge), the eyelids close (or open), the tongue moves backward (or forward), respiration becomes more thoracic (or more abdominal), and so on. Each body part should be examined separately. Which alternate appears at a particular angle of slant depends on body position, and importantly on one's native language. Whichever the case may be, as you increase the angle of tilting, as the top of the head moves through a small arc, the action that occurs at a particular angle of rotation will be the opposite of the previous one and of the next one. If initially the eyes converge, then tilting forward a little more will diverge the eyes, and so on. Each position is followed by the opposite position. This process is caused by the Rule Alternation. Without taking this rule into account one may find the opposite effect of what is expected in some yogic practices. Small adjustments of body and head tilt can solve such problems.

Alternation is the key to our ability to rotate our limbs. Observe the following: if you tense the back of the upper arm, the muscle, you can note that this tension, when traced, appears on the front of the lower arm and not on its back side. That is, the line of force twist as it passes the elbow. Similarly, the line of muscle tension from the back of the thigh continues on the front of the leg. The design makes possible to axially rotate the limbs as if it were a paddle, as when swimming with the breast stroke, or when forcefully pushing something to the side. The frontal, or pectoral fins of fish act precisely this way, they twist during the stroke cycle; this mechanism was never lost in the limb anatomy of vertebrates and it makes possible the large repertory of arm, wrist, hand and finger actions we can produce. The process of alternation is hardly limited to locomotion. It is a pattern we can clearly see in the respiration or circulation, where the directions of moving air or blood alternate. A case of alternation involving the eyes has been known in physiology, and is called nystagmus. When the head turns the eyes follow but then suddenly swing the opposite way, and this cycle repeats as the head rotates. Of course, the process is evident only when the eyes are relaxed.

An example of the role of alternation in yogic practice is the upward snakelike rotating ascent of Kundalini. The explanation is as follows. There are projected vertical and horizontal divisions as well as lines in the body. Around the spine they form linear bundles, as for instance, the five nadis in Pranayama yoga. Suppose an event, a point of tension appears in one nadi and it is then moved upward. Since alternation must take place in gradual yogic movements, the point does not travel upward in the same line, but ascends only after having jumped into an adjacent nadi. Thus, the point of tension will be now higher up, but in a different line.

As it continues up the column of five nadis, this motion describes a helical, twisting path. The advantage offered by Kundalini is that it makes upward travel require much less tension and less opposition to the UV, than would come from transiting straight up through a single nadi. Climbing a hill is easiest when you walk around it in a spiral path rather than in a straight line. Note, however, that such upward movement in a straight line is obstructed only for speakers of certain Southern languages. Creating a spiral route for going up vertical channels is not necessary for others. (The Language Rule once more!)

Zonal planes also change in an alternating pattern according to body position and tilt. For someone sitting in perfect balance, as in a cross-legged posture, a zonal plane being perceived may be transverse, or coronal or sagittal. If it is transverse, then, as a consequence of a slight tilt forward, either by the head or the upper body, the coronal zone appears. The next minimal angle change creates the sagittal one. The matter of native language applies here as well: these differences relate to the way certain meditation methods are preferred over others according to cultures and language types.

### **Experiments with eye lid surfaces**

We can here return to connection between place of projection and the eyelids. The eye lid has two layers of muscles: in the front this layer is part of the facial muscles (orbicularis oculis) that covers the lids, and in the back layer it is the muscle coming directly from the top of the eyeball, which raises the eyelid (levator palpebrae superioris). Although both are elements of the UV, they differ in that the frontal part plays a role in outward projection, while the inner part belongs to inward projection. The Language Rule applies; the experiments below are proposed for Northern speakers.

Perhaps the simplest way to enter the inner space and lock on to the inner eyelid is to close your eyes and start thinking of some subject, and then to stop the thought process, but without leaving the thinking mode. Another method is to feel your closed eyelids, not just a part of it, but the whole shell covering the eyes. Now direct sensation to the outer lid surface, and while holding on to this sensation, pull the eyes backward with only minimal force. At the moment when you feel a tendency to blink, your mentally projected perception immediately switches to the inner lid surface—and it helps to actually blink to do this. A slight backward pull of the tongue, or of the larynx, or of both will also assist in every case, as will certain physical moves, as for instance, taking a deep breath, or letting the upper body drop down on the pelvic base, or crossing the hands in the back, etc. Once you are settled in a fully equalized UV the inner lid is projected. But notice that projection on the outer and inner lid surface will come alternately with each blink. Both the inner and outer lid surfaces play a role in all cases, but one versus the other is the anchor in their antagonist coupling. With the Southern group the inner one dominates, while the Middle group holds to both the inner and outer ones. For these speakers merely thinking of the future as opposed to the past will change the projected surface.

We use the two lid surfaces for different functions. The outer lid acts as the agent in viewing the outer world and in blinking. The inner one is the agent in closing the eyes, in yawning, and thinking, and importantly, in viewing the inner world. In stable, well equalized yogic states the inner layer of the lid is the prime mover of action.

### **Alternation is built into automatic eye lid behavior**

Speaking of the switching between inner and outer eye lid projections introduces an important aspect of body behavior. True, the function of the lid is to wipe and clean the eye surface as well as to spread the moisture to cover it. In addition, during the downward sweep the inner lid muscle adjusts the curvature of the lid to match that of the eye lens; the lens surface extends out of the eye. But there is also a yogic connection in eye lid behavior. The eyelids tend to close or open when you perform small changes in body positions. The same subtle switching between inward and outward eyelid projecting, as well as between closing and opening the mouth also takes places when we make a change in bodily positions.

In order to go from non-thinking into the thinking mode we always have to make some bodily changes, in some parts of the body, most noticeably in the eyes and the UV. This seems to be one of the immediate causes of eye blinks, namely, to rapidly switch attention between outer and inner faculties. Of course, the two positions change so rapidly that we experience a combination, an average of inner-outer awareness. At times the two faculties are simultaneous: we look and we also think at the same time with equal energy. This is a moment when we are unable to comprehend. If you gaze intently at something on the outside or engage in deep attention or thought we stop to blink; we wish to stay in the required setting.

### **Breathing and alternation between eye lid surfaces**

When it comes to breathing, there is alternation between roles performed by lid surfaces. Which surface is the active or the stable element constantly changes according to body movement and position, but if the position is held to, regardless of which surface is active or stable, their roles will alternate between inspiration and expiration. It is interesting that during inspiration, which requires an amount of force, you dwell more in the outer mind, whereas in each expiration, which is an act of relative relaxation, you are more weighted in the inner mind. Note: the Language Rule applies here!

In turning to the full relaxation of the eyes we have to consider the lower eyelids, as well. The upper and lower lids form an antagonist pair. When the upper lid pulls upwards the lower one is the antagonist, and vice versa. In inspiration the upper lid may be active, while the lower one is active in expiration. It all depends on head and body position and Language Rule. Placing attention on this alternation is a good yogic exercise. Since they are opposing parts, the upper and lower lids can be merged and so equalized. This takes place when the eyes and the UV become fully relaxed; accomplishing this can be the first step in full body-mind neutralization.

## **CHAPTER 6 - MIDZONE RESPIRATION**

### **What is the Midzone?**

Trizones occur in all parts of the body, and every trizone has a middle zone. But there is a specific middle zone that is of greater importance than all the others. This zone is the middle zone of the central trizone of breathing in the body. It is the center of respiration. It is there at all times, but in ordinary activity you are unconscious of it, as it also merged with the framework of thinking. However, this special middle zone is easily perceived when you are perfectly balanced and your UV is relaxed. To appropriately distinguish it this middle zone will be called the Midzone, as a single word with initial capital. The Midzone can at given times be in the chest, whether standing or sitting. It can also be in

the head or any other part of the body, or outside of the body, wherever body position projects it. Breathing centered in the Midzone is what yoga and meditation requires, but it is just as useful to apply it in everyday life.

The Midzone is the geometric center zone of the respiratory framework. Every zonal triad has a middle zone, which is the stable bridge between the two outer zones acting as the agent and its antagonist. Up to this point we have dealt with trizonal mechanics in a flat projection, working with movement between upper and lower zones. However, respiration can be done in another way, employing the spherical mode, where we can draw in air from all around into and out from a spherical space. We engage in this kind of breathing whenever we are working with the inner mind, whether in ordinary or yogic actions. This is why Midzone respiration is the most effective yogic method of breathing, the one at the core of all meditative practices. When respiring in the Midzone you no longer breathe up and down or forward and backward across flat zones, but inward and outward to and from a center of a spherical space, operating a spherical zonal triad. As mentioned above, the location of the Midzone varies with body position and with center of respiration.

### **The Midzone triad**

We can ask: is there a tripartite mechanism here, and how does it operate? It is present here too, of course. The Midzone divides into its own three zonal divisions. They are spheres within spheres: the stable anchor base is the zone between the outer and inner zones. The movement in spherical respiration easily glides through the zonal borders as these are relatively loose and so barely noticeable. While you are breathing, it is the outer and inner zones that manipulate the airflow, while the middle zone, which you pass through, is barely perceived, unless you consciously do so. The agent in a triad is the zone which inspires. The antagonist is the one whose force counters the agent. The two opposing forces meet halfway, where they cancel each other's energy. This neutral region is the stable element of the triad; it is the central zone of the three-part Midzone. Settling in this center of the Midzone gives an experience of great tranquility.

### **Directions of breathing as related to samadhi**

Midzone breathing can move in two directions, from the periphery inward or from the center outward. The option depends on whether one mainly watches inspiration or expiration. Attention placed on the centrally (centripetally) moving breath is an instrument of concentration and it stops the thought process. Outward (centrifugally) moving breath is the instrument of mental space creation, of a sense of emptiness, a so-called "oceanic" feeling. This connects to the use of flat and linear zones. Flat zone respiration essentially projects awareness of objects and visualizations, while the spherical kind projects the space of awareness. When during Midzone respiration one simultaneously watches and holds on to the movements of both inspiration and expiration, then the awareness and the feeling of space combine which can eventually bring on total absorption. To go further,

perceiving breathing in more than one plane at the same time, can produce what usually called samadhi.

### **Midzone respiration and Chakras**

It can be observed that during Midzone respiration the breathing sphere can be compressed in a vertical or horizontal direction to give flat, one-dimensional transverse or coronal projections, and this is how zonal breathing creates the chakras. Any body region can be made a Midzone with its particular zonal triad, and so any of these are able to project chakras. However, not all of these places have yogic value, and only those at specific locations are the traditional chakras advocated in meditation. These include those centered around the eyes, or larynx, or heart, or abdomen, projected either transversely or coronally.

### **How to find the Midzone**

Persons practiced in yogic respiration, or those who are innately endowed will be able to engage Midzone breathing without any problems. For those to whom this is all new some methods are described below. Note that all the methods given here need the eyes to be closed and fully relaxed and allowed to move as the breathing action spontaneously directs them. Closed lids are the normal resting state of the eyes. It is only when your eyes are relaxed that you can notice how much the eyes are impacted by any body movement.

### **Where is the Midzone in the body?**

The Midzone can appear in various places in the body, depending on (a) respiration mode, whether it is thoracic or abdominal or both, (b) position and tilt of the body or any of its parts, and (c) where it is being projected, which may be anywhere in the body, including the head, thorax, abdomen, arms, hands, legs, feet, etc.

### **Methods for locating the Midzone**

1. Whenever you are mentally occupied, being conscious in the thinking mode, or absorbed in reading, or watching some for entertainment, you will be breathing in the Midzone and you can then purposely stay in it.
2. The next simplest way is to find the center of thoracic or abdominal respiratory movement, which point appears when one is fully relaxed, and then to just breathe centering all breathing movement on that point. Alternately, to find this center, stop breathing, hold still the body and the respiratory space, and search with your focus of inner vision until you find the spot where the eyes and the UV automatically relax.

3. The third way is to balance the body and then vertically inhale in two opposing directions. That is, draw air upward and downward into the upper and lower body space with gentle, and above all, equal force. This action will open a central space and immediately set you in the Midzone breath frame. Depending on the body position the line of respiration will follow a true vertical axis or else a tilted one. If you are not perfectly balanced, perhaps with head partly turned down or otherwise not erect, the zones will be projected slightly forward or backward. The same applies in sideways turned positions.

4. Another easy way is the traditional Pranayamic one. Here, keeping your eyes closed, you take in air from all around, filling up your entire body as much as possible. This equalizes the forces of the respiratory muscles and those of the whole body. The difference here is that rather than forcefully exhaling to complete the respiratory cycle in the prescribed way, you should, instead, allow the air to leave just by relaxing the UV, that is, release the entire breathing apparatus, as well as the whole body. Alternately you can release the UV, but not the somatic body. Be sure to keep the larynx relaxed during both inspiration and expiration. This method will also place you in the Midzone setting.

5. In this approach you start with a flat trizone. Perceive the upper and lower zones of the respiratory triad and draw air in upward as well as downward at equal rates into both regions. Up to this point this is identical with Method 3, but here an additional action is added. You should find that there is a border region between the upper and lower zones, where they overlap and interlock. Reaching this area stop and relax while holding the frame. Within the center of this overlap area the central anchor of Midzone is located.

6. In general, as long as the body-mind, including the eyes is relaxed and equalized you will always tend to breathe in the Midzone. At such times the Midzone, depending on body position, may be located in one of the various parts of the body, but the most effective ones are centered in some yogic region, such as the larynx, or abdomen, etc. In any circumstance, as long as the forces in your UV and eyes happen to be equalized for a brief period, you will be breathing in the Midzone of a particular body zonal region.

### **THE MID-BREATH POINT**

The mid-breath point is the central anchor point of a Midzone. Anchoring your respiratory movement to this point during Midzone respiration enables you to stay in the Midzone and so breathe in the best possible way. It would be useful to clarify the terms involved hereto avoid any confusion. The mid-breath point is the central point within the Midzone, the Midzone is the central zone of respiration, and Midzone respiration is an action. Once you are in the Midzone, the simplest way to find the mid-breath point is to search out the spot, which when found, suddenly releases all tensions not only in the respiratory system, but in the entire body-mind, bringing on a state of clear awareness.

A second method is to breathe slowly and attentively in the ordinary manner. Watch carefully: immediately before the in-breath approaches its highest point, there is a moment when the effort of inspiration wants to stop, ready to change over to expiration. If you now relax and center your respiration frame at this place and hold still, keeping a neutral state, especially that of the eyes, then your breathing apparatus will automatically centrally anchor on the mid-breath point. If breathing was primarily done in the thorax or in the abdominal this event will involve the upper or the lower zone, and so the midpoint reached will not be the one actually centered in the Midzone. To reach it breathe slowly and pull the present point downward (or upward), till the absolute central midpoint is gained.

### **The overlap**

In a third method to reach the midbreath point you start breathing in any flat zone you find convenient. Make sure not to let go of the zonal space. As you reach the upper border of the zone, pass through it, and move over the next zone. You should now be spread into two breathing spaces, and should be able to go back and forth between them. Alternating in this manner you can note that there is a region where the two zones overlap. Locking in this overlapping region you will also observe that the center of this zone becomes the mid-breath point of the entire Midzonal triad. This same procedure can be applied in spherical breathing. Indian yogas instruct us to place attention in places such as the head, the heart, etc., while Chinese and Japanese Zen favor the tandian (tanden) in the abdomen. To effectively meditate in any of these regions it is the mid-breath point that needs to be found.

Finding the midbreath point through the zonal overlap procedure described above is a merging or unification of the agent and antagonist body-mind zones that customary traditions describe in considerably more mystical ways. Sri Nisargadatta Maharaj has used simpler terms when he said: "They [the person and the witness] appear to be two, but on investigation they are found to be one. Duality lasts as long as it is not questioned. The trinity: mind, self, spirit (*vyakti, vyakta, avyakta*), when looked into, becomes unity." (Sri Nisargadatta Maharaj, p. 363).

It seems certain that D. E. Harding was speaking of the same idea of unification. He instructed us to project our attention inward and outward at the same time, and that in time this practice will open a new view, that of "your true Identity, your Presence-Absence, your Core and Source" (see Harding, D. E.: *On having no head*, Arkana: 1986, p. 52). He was giving us a general description of projecting spherical vision and breathing in opposite directions, or better, in directions all around, and thereby settling in the midbreath-point.

It is the midbreath point that makes mantras like "om", or "hum" actually work. The letters, that is, the sounds need to be united into one, not as a word but as a breathing

frame. The merger takes place in the midbreath point. The merger holds on to the mantra and lets it fill the mind. The way to do this may just be to imagine the sounds and using some intuitive method put them together, probably as many meditators do now and have done in the past. But the method can be made more exact. Starting with "o" breathe to reach the next zone and make this "m"; the same process is applicable to "mu". Then find the midbreath point within the overlap between the two and merge them there. One can use either linear or spherical respiration. Uniting more than two mantra sounds, such as in "hum", calls in a trizone where a "h", "u" and "m" appear as zones, and where "u" is the midzone, and the three are merged in the midbreath point. Mantras consisting of a sequence of syllables or words, such as "om mani padme hum" need a slightly more involved procedure, and these, along with other details are planned to be covered in subsequent volumes of Pragmayoga.

## **HOW TO BREATHE IN THE MIDZONE**

### **The Midzone triad—spherical respiration**

As discussed above, in Midzone respiration the opposing agent-antagonists forces are the inner and outer zones, while the middle zone is the Midzone, or the stable anchor zone. The Midzone can be regarded as the interface between the outer border zone and the inner core zone. Spherical respiration within the Midzone can be done in two opposing directions, inward (centripetally) or outward (centrifugally). Which one is more suitable at any time depends on body position. If, for example interiorly directed breathing does not work well, then in most cases making some minimal changes to your posture, or to body arrangement should correct the problem. Or else, you can simply change the direction from inward to outward and so get into the right state. If you are perfectly balanced, either outward or inward breathing are equally feasible. One method is to settle your respiration in the Midzone and then gently draw inhalation centrally while still steadily holding the whole Midzone frame. This places you in inward, centripetal respiration. Outwardly directed respiration will set you in the centrifugal version. Whatever method is used, Midzone respiration is the quickest tool for stopping the flow of thoughts.

In everyday life our respiration employs both outward ((centrifugal) and inward (centripetal) movements. Mental work, like thinking, speaking, waiting, etc. acts more centripetally, whereas non-mental assignments, like routine activities, repetitive manual work requiring minimal thought acts more centrifugally. Of course, the two modes work together in many actions; writing, for example, depends as much on thought as on movements of the hand and fingers.

The aim of meditation is to project consciousness in yogic points and spaces so that the body-mind is made still and empty of thought. Such action is always projected in trizonal frames, and is accompanied by mid-breath point breathing within a Midzone. A Midzone may lie in any location dictated by a particular situation, in the head, upper chest, thorax,

abdomen, and even the hand or the foot. In some cases the best place for the center of respiration is the middle thorax, as prescribed by Indian yogas, in the region that is usually called the heart, because this is the central spot of the upper body. If the center is in the head, the speech producing mechanism of the UV easily becomes involved, giving rise to words and eye movements, etc. But this option is appropriate for Northern speakers; the Language Rule is a major factor in determining the best location for the Midzone. A Midzone can be precisely projected inside the body. There are methods in Taoist yoga where attention is focused on various internal organs to manage their health.

## **EXPANSIONS OF THE MIDZONE - CONCENTRIC ZONES**

### **Ultra and minor zones**

The Indian Prayanama practice for controlling the mind speaks of enlarging, as well as decreasing our normal breathing space. This means filling, or else, emptying it as much as we can. However, finding the center of respiration is not emphasized, which makes this method less than precise. The same results toward to stabilization of the body-mind without spending much effort can be reached by Midzone respiration. At any rate, when a spherical zone is expanded or diminished, in order to settle in it, the zone arrived at must be made into the new Midzone.

Expanding centrifugally outward, passing through borders of the Midzone we enter a greater zone surrounding it, and this is the major zone. Compressing inward, centripetally, we arrive in the minor (or core) zone. We can conveniently lock in either one, as long as we allow the relaxed body and eyes to settle in an equalized state. This will also cause the central anchor point of the particular zone to come into service. Both the center point and the outer borders of major or minor zones can be located when we respire in them.

### **Breathing direction**

As we have mentioned, the directional movement of inspiration may be compressed towards the center, or it can be outwardly expanded. The central anchor appears in inspiration while the borders appear in expiration in a particular body position, but the opposite occurs in a different position. This variation is caused by the Rule of Alternation. In compressing and expanding the Midzone either the central point or the border can act as the agent; it depends on body position. In targeting the center point, we project concentration. Targeting the borders projects the space where thoughts subside and awareness arises.

### **Breathing in middle zonal layers throughout the body**

You can project triple zones and their layers anywhere in the body, and can project perceived breathing movement within them. Respiration should be centered in the

Midzone of any triad, which may be in the torso, or head, or abdomen or legs or feet, and so on. Here again we can see that the triadic geometrical nature of the body-mind can be repeated throughout the body and when this is done the projected contents of the body-mind become simplified, thinned out so to speak, so that you can momentarily perceive a silent background. It is something like the empty sky showing through transparent patches of clouds. Spherical breathing can be centered on targets other than body regions, like on the inner mental spot where we settle to start to think or to meditate. This would be a point, but the zones surrounding the point can also be engaged. For instance, in focusing on the koan “mu”, the space appearing inside the back of the mouth can act as the zone.

### **MERGER - UNITING THE TRIADIC ZONES**

When the three Midzonal spheres, or even the three parts of a flat zone, are merged into a single element, in a perfectly equalized state, whether in a normal, compressed or expanded frame, then the active, antagonist and anchoring relationships are still present and those relationships between their forces are what binds the zones together into a single whole. This compact of mutually binding oppositions quiets and slow down both respiration and the thought process. At this time triadic nature gives way to a monolithic one. Such merger is what lies behind the concepts where elemental triads, such as the Indian chidakash, mahadakash and paramakas, or Brahma, Vishnu and Shiva, or the three elements (the san chia, or body, heart and thought), the three treasures (the san pao, or generative force, breath and spirit) and the many other triads of Taoist yoga come together to create a great unity.

The fundamental concept of grammatical persons, “I”, “you” and “he” or “she” and “they” are construed with the three layers of the Midzone. The “I” is generated in the central core zone, the sense of you/thou is the merger of the “I sense” with the outer middle zone, and the third person is the combination of the “I” and the zone outside the outer zone. In other words, the concept of your speaking partner is a projection of that person within your “I” zone. The grammatical personal plurals, we, you, and they each projects into zones further outside. Incidentally, we should note that, as emphasized by teachers of meditation, the self is not the same as the sense of the “I”.

Unity created by merging is fundamental in our experience. In any motion the several muscles and groups must in some way unite in order to accomplish an action. Their forces combine into a single frame. Binocular vision is a good example. The two eyes perceive slightly different views of an object, but when these two are merged you obtain a single view, and most importantly, in three-dimensional perspective. There is yet another instance of merging that is especially important in yogic practice: inner vision must be united with breathing in order to control the body-mind, to breathe correctly and to stop thought activity.

### **Projecting smaller or larger body sizes**

Enlarging and diminishing the perceived size of the body can be accomplished by inward or outward spherical projections of the body, done by spreading or shrinking the merged eye and respiratory projections. This is the basis of yogic exercises whereby the body is made to feel minute or gigantic. It can be accomplished with either spherical or flat zonal projections.

### **Projecting smaller or larger cylindrical nadis**

In Tantric Vajrayana one has to locate a particular vertical axis in the thorax and then make it as thin as possible. This line, or nadi is itself a trizone, a conglomeration of concentric cylinders, or small tubes containing even smaller tubes. Thus, the method prescribed is a sequence of projections that become continuously narrower, and can be considered a special case of spherical projection.

Merging has many examples in physical and mental life. When you push a heavy object the whole body unites in the effort, not just the hands and arms. When you see a room full of furniture you can look individual various pieces, or else take in the whole room as one piece from wall to wall. Draw a number of dots covering a few square inches and observe how hard it is to behold the entire set of dots; the eyes shuttle about among them. Now draw a circle to enclose all the dots. Notice that now you can steadily focus on a them as a single visual object: a circle that happens to have dots inside it. The individual dots unite into a single entity as soon as they merge with the circle.

### **The essential triad**

The most essential merger is the one that unites vision and respiration. As we have seen, combining the movements of the eyes and of the breathing muscles is the basis of projection. These two functions are the two outer zones of in the fundamental triad of yogas. When these two are equalized, that is, they are of equal force, at a low energy level, then the UV, which is the middle anchor zone, will be released of unnecessary stress, and the mind can become quiet. You can rest or engage in careful thought in this state. However, if all three zones, including the middle one are merged, that is, when vision, breathing and the UV combine, as one into a single field of space or into a single point, then empty mental space arises.

### **Midzonal respiration in the three planes - the chakras**

Midzonal breathing can be projected in two dimensions, not as a sphere but as a circle, which can appear in any of the three planes. That is, a large enough circle may divide the body as front-back, right-left, or upper-lower parts. And of course, the circle can extend out of or be completely inside the body, and it can also be of any size. Transverse zones made from compressing a spherical zone from above and below become horizontal circles within or surrounding the body, and they are traditionally called chakras. In coronal

projection these appear as vertical chakras. When these circular shapes are projected in specific regions, like the larynx or the upper chest or the navel region, they are, in Indian terms, the visuddha, anahata and manipura chakras. A chakra is a two-dimensional projection in a Midzone. It is the dividing plane that anchors the two regions lying on either side of it, which are the agent and the antagonist. Being zonal divisions these circular fields can be projected in all three planes, so that a chakra can be transverse, sagittal or coronal. As determined by the Language Rule, speakers of different languages can find their own preferences among these.

Mergers can, and in fact, should occur in chakra meditation. A chakra basically consists of a circle enclosing a square, where either one, or both together may serve as the focus of attention. But the circle and square are concentric objects and so they can be merged to become a new Midzone. Within it we can settle on the midbreath point of the chakra visualization.

### **Location of chakras**

It should be remembered that a projection may reside inside the body or partly or completely outside the body. For instance, if the body or some of its parts are tilted, turned, then the chakra projection may be tilted, and located out in front of your face, or just outside the chest, or at the back of the shoulders, or half way out of the body, or at some distance in the front, and so on. When you have located the chakra, wherever it is, you can settle and remain focused on it. Therefore, if a chakra is not anchored within the body or is not level, then make adjustments of the body, UV, head and other parts. That is not to say that out of the body projections are not useful in yogic practice because these occurs in many everyday positions, especially in walking.

### **OTHER METHODS IN SPHERICAL MIDZONE RESPIRATION**

#### **Absolute Midzonal breathing**

Midzone breathing can be done in any number of locations in the body, like the head, throat, heart, abdomen, or even in the feet, legs, arms, hands, and so on. However, the ideal one is at the center point of the central zone of the fully equalized body. This is the absolute respiratory center, and is the most stable position. When the center is based in the head, as with the Indian sahasrara, or the Taoist celestial pool, or in various regions of the UV, such settings do effectively stops the flow of thoughts but since they do possess small bodily imbalances, these settings are not as easily maintained as the one anchored at the absolute center.

#### **How to target inner vision**

When you perceive breathing in some body part other than where respiration proceeds, you are projecting it. This is possible because once respiration movements and eye movements are merged, and vision is the agent, then eye movement will project breathing movement to whatever place they cause the eyes to focus on. However, if respiration is the agent, then its projection will be perceived where breathing actually occurs. Tilting of posture moves the midbreath-point out from body space. Unless you follow the projection, this universally causes loss of meditative state, and explains why keeping good posture is so important in meditation. Still, the outside projections can be employed in several activities, as in meditative walking, for example. In some Tibetan practices one has to project visualization and respiration in front of the body.

### **Tilting and alternation of projected planes**

The tilt of the body and of its parts determines in what plane Midzone respiration is projected. If at the moment you are in a sagittal projection, perceiving a chakra circle or a plane dividing the body part into right and left halves, then if you slightly change the angle of body axis, or its left-right rotation you will find yourself in a different plane, perhaps the coronal or transverse one. This harks back to the Rule of Alternation.

### **Other types of mergers**

If one is able to project a chakra circle in all three planes at the same time, then, just as zones, the circles can be merged into a composite, and this produces a cessation of thought and an extremely clear body-mind. Other methods to achieve this are to project lines from the mid-breath point up and down, forward and backward, or sideways, or combine two or all three of these. Or one can merge all the parts of the UV, or unite the two basic shapes, or other geometric forms, like cones, both covered in the chapter 8 The Two Yogic Shapes.

### **Shaping of projected planes and spheres**

Creating projected shapes plays a part of Indian and Taoist yogic teachings. Such techniques can be applied in both spherical and flat zonal breathing. The three-dimensional forms include containers, cauldrons, pools or other spaces. But since spaces can be reduced down to planes, lines and points, these become the Indian chakra fields, nadis, as well as the smallest point-like bindus, and their counterparts, the drops in Tantric Vajrayana. Such points can be obtained by reducing the sphere or the circle, giving rise to chakra centers. Linear forms can be produced by extending a point, or by connecting two or more points. Of course, a point or a line, just as much as a zone, can be also directly created without any preparation.

The fact that the mind, when appropriately regulated, generates and works with basic geometrical shapes demonstrates the way in which the mind is organized and why the

sense of geometry is so fundamental not only in human action and concepts, but in the behavior of animals as well. To name only a few instances, think of the highly measured precision in throwing or kicking balls in basketball and soccer, in shooting arrows, in calisthenics, in playing musical instruments, in knitting, and so on. Or look at nature: the exactitude with which the jet of water shot by archer fish strikes an insect on a limb, or the precision timing by monkeys swinging through trees, or the aim of a chameleon seizing an insect with its tongue, or the perfect hexagonal cells built by wasps and bees. Or look at nature to note the precision with which the jet of water shot by archer fish strikes an insect on a limb, the exact spatial calculations by monkeys and squirrels swinging through trees, the aim of a chameleon seizing an insect with its tongue, the perfect hexagonal cells built by wasps and bees, the polygonal symmetrical webs of spiders, the arches build by bowerbirds, and so on. By physically feeling the geometrical trajectories of specific actions can an archer, a ball player, a race driver, or anyone else calculate and execute precise actions.

## **CHAPTER 7- LINEAR RESPIRATION**

### **“Hourglass” and “spindle-shaped” zonal respiration**

So far we have been dealing with zonal breathing in its two-dimensional and three-dimensional aspects. But respiration can also be sensed as a linear movement, as when we feel the moving muscular tension through the airways, passing through the nose or mouth, the pharynx and the throat, down to the abdomen. This projection begins as a line and therefore, we are performing linear breathing. The employment of both linear and zonal respirations is found in many meditational schools, e.g., nadis, or lines, along with chakras in Pranayama, or orbits, channels along with cauldrons in Taoist practices, and so on. Everyday breathing makes use of this mode at certain times, as well. Let us remember that we are not speaking of the motion of a volume of air, but of the muscular sensation of breathing merged with inner vision, where vision is the agent. Triadic action is not absent in linear respiration. The frontal moving part is the agent, the middle zone is the stabilizer and the back zone is the antagonist. As stated above, linear breathing starts as a line, but continuous respiration directed strictly as a line is actually not feasible, and after its initial step the process is modified in two ways.

### **The hourglass mode**

There are two kinds of settings in linear breathing: the hourglass and the spindle shaped modes. Steadily ongoing linear respiration is not feasible—it is counterproductive to breathing and therefore also uncomfortable. If it is continued, it takes on a triadic three-zone form, creating a spatial volume somewhat like an hourglass or a barbell. That is, if you begin with linear breathing in a relaxed setting, but then let it follow its own preferred

way, the shape of the breathing volume will change and take such a form. The inhalation zone will spherically expand, growing narrower as it proceeds, when reaching the middle zone the channel nearly closes up, and then it once more expands as the exhalation zone at the bottom. The narrow passage is the compressed mid zone. These things appear only if you maintain traveling along the line. (At the next breath alternation occurs and the shape will become a spindle.)

### **The spindle shaped mode**

The spindle shaped mode is the opposite of hourglass mode. Here the outer zones are linear and the middle one is spherical. That is, inspiration follows a line, the middle part becomes a sphere, and the exhalation is linear once more. Remember that linear respiration can be a useful tool in yogic training, but is not an end in itself. As to the question, where do the two shapes come from and why do they alternate? The answer is that the breathing channel is essentially a peristaltic structure, where expanding and constricting sections alternate in a long chain as they follow each another. This is how material is moved through the intestines during digestion. The above two linear variants, each consisting of three parts, essentially differ according to where the triadic cycle starts: the hourglass mode begins with the expansion, while the spindle mode begins with the constricted one in peristaltic channeling.

### **Tilt of linear projection**

The tilt, or axis of the line depends on the body and head position, and on the proportions of thoracic and abdominal forces in respiration. The axes of two modes are perpendicular to each other. That is, if you are in the hourglass mode, with a horizontal axis, once you change to the spindle mode, the axis becomes perpendicular. This is another instance of alternation.

## **COMPOSITE LINEAR ZONAL PATHS**

### **Circular breathing as linear respiration**

This is from of linear respiration. Circular breathing is a fundamental method in Chinese Taoist yogas. Here one starts respiratory movement at the base of the torso, directs it up the back, turns forward and then continues down in the front to eventually return to the starting point, having traveled in a circular path.

### **Circular breathing in spherical respiration**

At the same time, circular respiration can also be considered a type of spherical respiration. In this case the circular line runs in the sagittal plane that divides the sphere,

and it acts as the agent plus antagonist, while the two hemispheres on either side are the stable base. The circle divides you into right and left halves.

### **The nature of composite circular movement**

In Pranayama, Taoist yogas and Vajrayana practices there are specific paths through which yogic attention—inner vision and respiration—is traced. The direction of the path, and its sections are linear. As we have seen, linear motion exists as an alternation of line and space, a sequence of hourglass and spindle shapes. In this way the traditional linear path has both thin lines and expanded spaces. Chakras, drops, cauldrons, lakes, palaces, and all such three-dimensional spherical regions are the open spaces, while the paths connecting them are lines. These elements can also be projected in two dimensions, as flat zones, giving horizontal transverse circles, as in the Tantric Vajrayana wheels, (which, however, having spokes curved as in an umbrella are not one-dimensional), as well as the knots, spherical drops, or vacuoles. Thus, movements and structures in these practices employ a mixture of the three zonal characteristics. With regard to circular projections the Language Rule divides the Southern group into two further subclasses: the Indian school visualizes circles in the coronal plane, in the Tibetan school they are transverse, while the Chinese school utilizes three-dimensional objects, such as containers, globes and spheres.

The literature available speaks of chakras both as fields and centers, and so does not clearly define chakras, but most often describes it as some kind of center. The approximate size of this center is not given. Going further, this center is situated inside a circle of petals and other two-dimensional elements. What the geometry of this structure represents is precisely a central anchor with its surrounding field.

### **The line of Kundalini**

The curling serpent of Kundalini in the Indian tradition practices a special version of linear motion involving alternation: it begins at the root of the spine, continues as a line to reach the lowest chakra or field, the muladhara which is a flattened spherical zone. As the movement ascends it repeatedly alternates between line and space. What moves is the line and it moves through a small spatial interval to reach the next point. This process repeats as Kundalini ascends. The progression alternates its direction on the left and right sides of each small sphere it passes. The movement can appear to be a three-dimensional spiral helix. The Language Rule is a factor here, for Northern speakers the diameter of the helix is larger than for the Southern ones.

## **CHAPTER 8 - THE TWO YOGIC SHAPES**

### **THE CIRCLE AND THE SQUARE**

To better understand body-mind organization, we will now consider a special and very fundamental feature of its design. Its respiratory-visual faculty, when merged, is organized and projected as two basic forms, two geometrical shapes, where one is angular, with corners, and one that is rounded, without corners. In general, we can just call them square and circle, or cube and sphere.

In everyday life these forms are not automatically perceived except during yogic observation, just because we are bombarded by all the other incoming impressions, compounding together the views, thoughts, the physical body, other persons, objects, etc. The shapes come into view when we look into our inner space. Observe that with eyes closed, and with UV relaxed, if you breathe in flat zones and you project breathing movement in a circular path, in either any of the three planes, the path is not circular, and turns at corners. However, if you employ Midzone respiration, then the path moves through a smooth circle. This quality of roundness is the basis for the circle in chakra visualization. The quality of angularity is the basis for the square inside the chakra circle. Which of the two shape occurs, thus depends on the way one breathes. The two shapes, square and circle are also revealed through the Rule of Alternation. In addition, we can also note the presence of trizonal mechanics and of space, or field, with a central anchor. More on this below.

To observe the forms, resting in full relaxation, and preferably with eyes closed, placing your attention on your eyes and your breathing, you can do two things: (a) engage your eyes to look inwardly and watch the space of your relaxed breathing as it appears in a (middle) zone. At inspiration the space will be spherical but at the next inspiration, it will be square shaped, following the Rule of Alternation. Or else, (b) watch the visual zone you see with your eyes, while also observing your respiration, and notice that the visual space also exchanges its shape with each breathing cycle. Also observe that with each inspiration and expiration the role of dominant agency alternately between breathing and vision. Moreover, the Language Rule also applies! In daily life, eye movement and breathing work together in constantly changing proportions, so the two shapes merge into a composite form.

### **The full dimensional range of the two essential shapes**

We have called the shapes the circle and the square, simply because these terms are convenient to use. It is the more accurate to describe the square as a quadrangle, or even

as a polygon with more than four sides. This occurs in certain yogic activities, for example, the various chakras include triangles, hexagons, and many angled polygons, in the form of flowers with petals ending in sharp points. In fact, on close examination the square is actually a trapezoid, which has parallel top and bottom sides, while its other two sides are slanted, one side more so than the other. Due to this fact the angle of one vertex is narrower, more pointed. However, rather than using the terms "quadrangle" or "trapezoid" it is simpler to generally refer to the angular form merely as "square", or "yogic square". We will consider here only the two-dimensional versions of these forms; the three-dimensional versions are, of course, the sphere and the cube. How are the two shapes represented in zonal organization? Answer: the squares appear in our familiar two-dimensional flat zones, or when expanded as the three-dimensional angular cubes or containers, while the two-dimensional circles, projected in flat zones can also be inflated into spherical zones.

Note: Our body-mind is a biomechanical structure, running according to physical laws; this fact is evident in that the yogic trapezoid shape is also one employed in physics and engineering, under the name "the parallelogram of forces". This is a trapezoidal diagram used to solve problems involving interacting forces.

### **Where are the points?**

Where do points, such as the central anchor points we have often cited, enter into this picture? The answer is that when any shape is very much reduced in size, for practical purposes, it becomes a point, cf. one-point concentration. Using the technical terms of physics and engineering, this point is the center of mass of whatever dynamic frame is at work.

### **The roles played by the two shapes - centers and fields of zones**

The two yogic shapes play an essential role as either: a) the bounded space, or field of the zone or as (b) the central anchor, or central point of the zone. The field is the area of the zone; the center is its anchoring midpoint. At any one time the field can be spherical or square (quadrangular), and since the two shapes can exchange their roles, as well as their places, each one, in turn, can become the anchoring midpoint. If one is the field, the other one is the anchor—they exchange their functions.

The most accurate way to present this system is to say that it is actually the field and its central anchor that are the primary elements, while the two shapes are secondary ones, superimposed over the primary ones. In other words, it is the field and the anchor point that will take on either of the two shapes. There is yet another aspect in generating the two shapes, namely the divisibility of zones. Each spatial spherical field has a small point-like quadrangle at its center, while each quadrangle has at its center a small spherical element. When a sequence of alternation takes place, an initial spherical field is reduced in size,

while its former cube center increases in size to become the new field, and now the small sphere takes its place at the center, and vice versa. Zones always possess these two elements. The center point is the anchor in a field and can serve as the target of one-pointed concentration. Of course, concentration can just as well be projected on the spatial form, but then it becomes diffused. Each mode produces a different yogic experience. The central point of a field serves as the target of one-pointed concentration. Nevertheless, at the same time, concentration can just as well be projected on the diffused spatial field. Each presents different yogic experiences.

### **How to find the center of a field**

Steadily hold the projected field and suddenly release the holding force. If you now expand the relaxed field outward, the borders appear, whereas in pulling inward, the anchor point comes into view. If you have remained relaxed the center anchor will appear as a tense spot in middle of the field.

### **The shapes of thinking and non-thinking**

It is useful to know that thinking always projects the square within the field, whereas non-thinking projects the circle around the central square. Thus, to stop thinking you should visualize the square or polygon present in the setting and move to the circle.

### **The “point” of awareness - the two shapes**

Sri Nisargadatta Maharaj said that the witness is merely a point in awareness (Sri Nisargadatta Maharaj, p. 344) and that the “[centre of consciousness]” is just “like a hole in the paper is both in the paper and yet not of paper (p. 34). This is not easy to comprehend, except if one sees it as an example of the relation between the two yogic shapes. Namely, the central square, the point of awareness can be the agent within the surrounding circular field of consciousness, but then it can release its dominant role and allow the contents of consciousness become the agent and fill the mind. In other words, the point of awareness is what brings conscious content into mental focus, but it is independent of it. This should be further clarified. If you set up a fully relaxed UV, with an equalized and balanced stance, you will easily enter mid-breath respiration. Remember, due to small distortions still present the mid-breath point may be partly out of the body.

At this point relax once more, and you will settle either in the center or in the field of a mental state where there is no thinking. The difference will be caused by details in body position. These two elements can now be further defined: the central point is the anchor, or center point, that generates pure attention, while the field is that of awareness. Sri Nisargadatta Maharaj did make a distinction when he differentiated a “witness” from “awareness”, and once acquainted with the zonal system we can understand the contrast.

## **The alternation between the two shapes**

Let us return to alternation of between the roles of the two shapes. Again, fundamentally, it is the field and its center that alternate, and when they do so they also exchange their shapes as well as their roles, and their functions as agent and antagonist. Alternation proceeds in a sequence of steps. Starting with the circle as the field and the small square at the center, in the next step the field becomes a large square and a small circle becomes the center. After this the field is again a circle and the square is in the center, and so on. And in their exchange of primacy what was previously the agent becomes the antagonist, and vice versa. Whenever body position or action undergoes a change, whether gradually or abruptly, the zonal system goes through steps of an alternation sequence. Respiration is a good example. If inspiration is spherical, then expiration is cubical, or the other way around. Speech offers another instance: it consists of a chain of phonemes which alternate between vowels, which open the vocal tract, and consonants which constrict it.

One tradition in Taoist yoga describes the dantian, (tanden), also called the alchemical cauldron, as a sphere surrounding a cube. This clearly speaks of a three-dimensional version of a circular field with a square anchor center. Each one can alternately come to the forefront by switching agent-antagonist roles.

## **Alternation and body tilting**

The direction that an alternating sequence follows depends on the nature of the projection; it may reach out of the body if one is not perfectly balanced. To illustrate this action: stop breathing, maintain perfect relaxed equilibrium, and with eyes closed, slowly and gradually tilt forward either the head or the torso. Watch the shape of the visually perceived breathing space. Notice that the two forms, rounded and square alternately appear as you gradually increase your tilt. The alternation differs according to projection of respiration. In the linear mode the shapes exchange forms as they proceed in a line; in the spherical mode they surround each other centered at a shared anchor point. You can also observe that as your body angle changes, certain other parts of the body will also alternate their settings at the same time. For instance, the eye lids will alternately want to close and open, and as long as you sufficiently relax the mouth, lips and jaws, the tongue will advance or draw back, and so on.

In this action the alternation of projected breathing shapes will follow a curved path moving away and also upward or downward from you. (Variations due to the Language Rule apply here). In most cases the bottom part of the projection stays in the body, however, depending on eye position, the image can be placed completely in exterior space. Sudden tilts or turns shortcut the sequential stepwise order and the body-mind frame simply jumps from one place to the other. This is common in daily life.

## **The body constantly goes through shape alternations**

Alternation occurs at all times in daily life. Even if you are absolutely immobile, some parts of your body are still moving: the eyelids blink, the eyes undergo automatic saccadic movements, and of course, respiration continues. This guarantees that body-mind alternation will go on, and so the thinking function will not come to a stop. In ordinary situations we cannot stop the flow of thoughts because the body conducting alternations even when otherwise quite still. In controlled yogic positions such movement is quite minimal, and so the mind can remain stable. This is why watching one's breathing is an effective technique. In the state of deep samadhi respiration becomes almost imperceptible.

In everyday body behavior, where all the above actions and many others are taking place, the shape alternation process is complex and varies in its rate. The only way to demonstrate alternation is to isolate and observe only a single movement. Watch the zonal action of respiration, for example, and note how the zonal shape exchanges between circle and square as inspiration and expiration proceed. If you watch, with closed eyes, the projected visual space, once again, you will see its shape alternating. This can become clearer if you stop after each motion for a second or so, to allow the frame to settle, to become firm, while you stay consciously observing the shape. Another isolated action to reveal alternation is to employ linear projection and watch the spindle and hourglass respiratory shapes progress along a path which eventually leads outside the body.

### **The underlying basis of alternation**

Alternation will be generated by any change in the force configuration in the body, that is, by body movement. Technically speaking, the process is the same as that found in an oscillator, where two different states switch back and forth. We can see oscillation in alternating electric current, or in the binary language of computers, with its "on" versus "off" states. Complex programs can be written for transistor circuits from sequences of on-or-off charges. The dot and dash alphabet of the Morse code applies the same idea. Sound is produced by alternating pressure in the air. Such a function is simple and it widely occurs in natural design. Alternation is an essential in the leg movements of vertebrates; our walking, climbing, breathing, or locomotion by fish and reptiles are obvious examples. There is a source for alternation at the level of muscle action: after each of its contractions a muscle fiber needs time to recover, and so performs a two step function: first it spends its energy, and then it regenerates it. Not only single muscles, but entire bundles of muscles go into action while others rest, and so on. Whatever the reason for the existence for alternation may be, it is something fundamental in way things run in our universe.

If alternation is always occurring how can you stop it and bring ceaseless mental activity to an end? The answer is: you have to merge whatever two alternating states you are observing. Both alternating shapes should be united with middle zone, and so generate a single element that lacks duality. To explain this merger in more detail we go back to the

three part zonal structure. During activity the agent and the antagonists pull against one another. But in normal life the two outer zones are never of equal power. Therefore, although the central anchor point is the stabilizing factor, it is not necessarily located half way between them, but may be closer to one or the other depending on ongoing activity. The earth and the moon, like most binary stars, are of unequal size, whereby the center of their combined mass is closer to the earth.

However, when the forces of the two opposing outer zones are equalized, their energies will meet at a central anchoring point (or the center of mass), and set up a new framework centered in the middle zone. The two antagonist forces cancel each other. The energy level will now subside in the structure. Alteration is eliminated by settling in the middle zone of a triad. On the other hand, this is only the union of the agent and antagonist; complete unity, the one-ness of a triadic zone is not reached because the middle zone is still in service as the agent. To attain full unity all three zones have to be merged.

## **PROJECTED CONES**

### **The cone shape**

As we have said, projections can take the form of exact geometric shapes, as when creating the circular chakras. But we can go further: forms can be developed, starting with the simplest to the more complex ones. Thus, in yogic projection a point can be enlarged into a circle, which in turn can be made into a cone, and a square can be changed into a cube.

Cones turn up as implements in yoga and meditation in several ways. A cone can be constructed this way: first settle in the center point of a projected circle, and from there draw a line upward or downward, ending at a point, at the tip, or vertex of the cone. (The preferred direction depends on the Language Rule!) If you relax at this time and hold on to both the base and the vertex you will allow them to merge with the space between them and so fill up the conical volume. It is easiest to project a cone inside the body, or in a part of it, like the head, the chest or the abdomen. The circle, then, is the cone base and the end point of the line drawn is its vertex. If you are in a balanced yogic position the cone will be vertical. In other positions the base, as much as the tip can be anywhere in the body. The size, direction or tilt of the projection depends on several factors including body position, breathing region, and Language Rule. Such a cone can enclose the whole body or else fall inside or outside of it, and can lie in any body region, be that head, throat, abdomen, leg, ears, tongue, and so on. The cone is actually a zonal triad, but attention directed on its shape and volume makes it harder to discern within it the three zones and their borders.

### **Alternation and cones**

If you equalize your body, while maintaining a cone shape, the cone expands and blurs its well defined geometry, and becomes spherical. An increase in the tension brings back the cone. This is another case of alternation: the cone, which has been playing the role of the square, now changes into the sphere.

## **Tummo**

Conical projection is essential in the Tibetan technique known as tummo, or heat generation, where the shape created is called a pot or a vase. This device is not exactly a simple cone, nevertheless it basically fills conical space with undulating sides. Production of heat in the abdomen is part of Taoist practices as well, involving the warming of stoves and cauldrons, although the exact form of these devices is not described to the degree as it is with tummo. The walls of the pot or vase are not straight, but follow curvatures which are created by muscular forces generating the shape of the breathing movement. Generating heat by projecting cones offers simpler instructions and actions needed. Moreover, since Pragmayogic methods employ relaxation, the amount of force involved is considerably less than in traditional methods and so permits lowering the level of mental activity.

## **Heat generation with cones**

Cones can generate body heat. First create a vertically standing cone inside or around the body or in any body zone. Whether the vertex is at the top or at the bottom depends on the language class (see next paragraph). Project a cone and hold the vertex and the base circle. Now relax the cone and settle in it. A sensation of warmth should now arise in the projected space. If you expand the space to reach outside the cone the conical shape becomes rounded and the level of heat increases. To do this you should maintain the shape while breathing focused on the center of the cone. The interesting and important fact is that cold can also be produced. How is this done? Simply by inverting the cone!

Another method makes use of the trizonal structure of cones. First visualize the upper and lower zonal divisions of the cone. Now locate the middle zone and hold your breathing attention on it, or in other words, perform Midzone respiration centered in the cone. This action will start to grow heat inside the cone. Heat building also happens if the cone lies horizontally, when the cone points forward, backward or even sideways. To project the form horizontally, when you are viewing a chakra, consider it to be the base of a cone, and then locate the vertex either ahead or behind the circle.

The option between generating warmth or cold is governed by the Language Rule and on the tilt orientation of the cone. The tilt of the body and of the cone brings on alternation, and therefore the following description applies only when the relaxed body is vertically balanced. For the Northern language group, which includes English, warmth arises when the cone is with vertex up and base down. Changing to base up and vertex down builds the

cold. For speakers of the Southern, that is, Asian and related language classes the opposite is true. For them vertex up and base down produces cold, while vertex down and base up is warm. In the case of the Middle languages, including Turkish and Hungarian we find that two oppositely pointing cones have to be joined; warmth is produced when the vertices meet, whereas cold appears when the bases are butted against each other. In daily life the configuration of body frames is constantly changing, and so the periods of innately generated warmth and cold are averaged.

### **Heat and cold in respiration**

It is a fact that you can feel heat and cold even as you breathe normally. The sensation appears more when you breathe through all three zones, so in normal respiration, engaging only one zone, the effect is not very noticeable. However, if you focus on two, or even better, all three air spaces, you can note that for the Northern group inspiration feels warm and exhalation is cold. The opposite holds for the Southern class. The effect must be observed when the body is centered, otherwise the breathing center, when set higher or lower will influence the results.

### **Conical projection in everyday life**

Conical projection is not a stranger in everyday life. While you breathe normally using a transverse zonal triad the three zonal boundaries are not well distinguished. This is because the zone divisions are not equal in size and shapes. However, if we carefully examine it we will find that in chest breathing inspiration starts in one zone as an open, approximately spherical space, as we expire the shape of breath travels to the opposing antagonist zone, where the space becomes thin and almost pointed. The opposite occurs in abdominal respiration. The entire respiration projection is shaped like a modified cone, an elongated drop. The form also appears to be one half of a vertically standing linear hourglass projection. Body position determines the proportions, direction and size of this drop shape. Observing this projection, whether it is horizontal and vertical, can be used to slow and stop thinking, as for example, in walking. In this activity you, as the observer are at the vertex, and the view ahead represents the base circle of the cone. This is only one case, of course, because there are many variables in walking. A feeling of heat and cold can also be experienced when attention is placed on other aspects of the body. One of the two halves of the body will sense cold or warmth, as will the larynx as opposed to the tongue, or breathing through the right nostril as contrasted with the left one. The Language Rule is a factor here, as well.

## **CHAPTER 9 - COMPLEX PROJECTIONS**

### **Varieties of complex projections**

Complex projections are those in which a number of zonal triads are projected together. There are two major types of complex projections: circular, or spherical and square, or quadrangular. The circular method creates nested zones, as they appear in spherical respiration, inside and outside the middle one. The other type can be called architectural or structural. In this mode two-dimensional and/or three-dimensional forms are combined in a number of ways. For example, zonal breathing generally means the vertical, that is, transverse division of respiratory space, into top, middle and low zones. But coronal and sagittal divisions are also possible, and the different projections can be merged to make complex structures.

### **Spherical projections of body size**

Projecting small or large body sizes was mentioned earlier. Here we can add that the various outer bodies visualized in Raja yoga or Tantric yoga are created with nested zones. Here the zones are not spherical, but rather, they take the shape of either the entire mass of the body or just the form of its outer covering surface. A virtual body is an exteriorly projected zone of the body, in which our body-mind sensations can be projected.

### **Geometric structural projections - Architectural projection**

Various complex yogic shapes can be composed by assembling simple shapes. These may be geometrical objects, like triangles, squares, circles, cubes, slabs, spheres, cones, etc., and may be joined together in both two-dimensional and three-dimensional structures to create crosses, cubes, stacks, and so on. The complicated visualized constructions of Tantric yogas utilize intricate structures composed of lines, circles, radii of circles, and small spheres.

In effect you are adding together, or merging various trizones and anything you may construct will be made of a number of trizones that have **merged**. The parts can be assembled in several ways. They can be placed on top of each other, or joined at their sides, or intersecting, or laid out in a single dimension, or constructed as larger composites in two or three dimensions, or as square or circular planes intersecting, bisecting each other, and so on. Two or more **zones**, each in a different plane, may bisect each together, as when a transverse circle crosses a sagittal circle. Eventually the parts of a complex shape always organize themselves into simpler forms, as larger zonal triads, which can ultimately be merged into a single whole. Doing so effectively increases yogic space. Moreover, this merging ensures that the mind, being locked in a geometric form, is kept from thinking. The greater proportion of the meditative activity is locked into a construction, the larger the mental space becomes. Note that as the size of a projection increases, the encompassing boundary is rounded out, and the form becomes more and more perfectly spherical.

## **CHAPTER 10 - BALANCE, POSTURE and MOVEMENT - AIDS TO BODY-MIND QUIETING**

The material in this section can be applied in formal or informal yoga and meditation. Informal meditation or yoga refers to momentary, brief sessions of mind settling and body releasing at certain times during everyday life.

### **MECHANICS - GEOMETRY OF THE BODY-MIND**

The key task in our yoga is to find the right body-mind geometry and so gain a degree of control over the mind. The reason is that when the complex network of muscular forces maintaining the body take on the simplest geometric shapes, the flow of thoughts can be brought to stop. The simple fact lying behind this is that it is body motion, muscular action that generates thought. This was recognized by William James, who, without any reservations summarized his conclusion as: "All consciousness is motor", (see James, *Psychology: Briefer Course*, New York: Holt, 1892, p.237). This idea, which is absolutely valid and can be readily demonstrated, has so far received only limited attention in scientific circles. Eastern traditions have, of course, always known of this fact.

The way physical forces arise and interact is geometrically constructed and that is what makes human and animal engineering possible. Forces move in definite directions, like a thrown pebble flying in a curved linear path, or like the concentric waves spreading out on water when the pebble hits it. Animal movements are more complicated, but are not different. When we examine how our body moves we find a construction of interconnected bones and muscles which are assembled to form a structure of levers and forces that activate them. Our motions are those of a complex marionette. Such a conglomeration consists of parts that differ in their degree of sensitivity and action potentials. Some seem to be coarser, like the motions of the legs, while others are more refined, like those of the fingers, eyes or the tongue, each capable of performing with great precision and delicacy. But, actually, the legs and feet can perform precise geometrical motions just as much! Think of standing on two legs that are really just two stilts, consider their physical accuracy in locomotion, their amazing mastery in ice skating, ballet, and sports.

These are complex actions; fortunately, even these motions can be precisely described in geometrical terms—as an organized system of forces, that ultimately reduce to points, lines, triangles, circles, and such. If we understand its geometry, how it is built, we can easily manipulate our bodies and minds. We can cite many examples of how deeply geometrical forms relate to the mind. Visual guides, including traffic signs, are always shaped as circles, squares, etc. Shooting targets feature concentric circles that focus attention to a central point, whereas if they were concentric squares, the angled corners

would draw the eyes away from the center. Circles and squares are combined in graphic mantras and chakras; here the squares stabilize the circles by holding them inside a frame. Or take the highly coordinated body behaviors we see in military parades: a block composed of persons stand or move, all at the same time, as geometric formations, or march and turn with identical steps, using only the minimal required movements. In fact, they appear as a single organism. Similarly, people performing in stage entertainment, or in stadium ceremonials move and swirl together as various colorful shapes, squares, triangles, etc. In ballet all turns and extensions follow precisely designed patterns that constantly maintain perfect balance. Hair fashions, as they evolve in time evoke particular geometric impressions and feelings, just as do styles of clothing. Someone clad in a Japanese kimono or in a Roman toga does not give quite the same impression as one wearing a modern business suit. When you get a haircut, no matter how minimal, you instantly gain a different, and a cleaner look. The edges of the hair are now even and the ratio of hair versus face surface visible changes in favor of the face. Or take beards and mustaches; these definitely present geometrically shaped objects which powerfully alter the perception of the face by onlookers. Beards and mustaches come in many varieties and each imprints a definite quality on the impression made by the wearer. The fact that these facial ornaments play a significant role in social interaction among primates, especially among the monkeys, and, indeed, throughout the animal kingdom, indicates the degree to which geometry is embedded in natural design.

Or consider the face, which when pulled or compressed in one way or another gives obvious information on the mental state behind it. The eyes, by themselves, growing smaller or larger by a very slight amount, even if the rest of the face remains without noticeable change, can exhibit shades of aggression or amiability, etc. A genuine smile can be told from a forced one by how much the eyebrows rise.

Precision in any action requires it to become instinctive, to need minimal mental attention. This can be seen when someone working in some trade is able to cut perfectly straight lines in paper or cloth, saw wood, or divide some piece into sections of the same size. A more common instance of this faculty comes up in everyday food preparation: everyone can cut vegetable or other food stuff into more or less exactly measured pieces. This shows how naturally the body-mind takes to geometry.

The simpler an organization is the more it conforms to geometrical forms. This is as true in the mind as it is in the physical world. Suppose you are looking at a page with seven different blocks of unevenly spaced hand written paragraphs. Your eyes and thoughts will struggle to comprehend the scattered material. But if you draw a box around each note, if you frame them, then your brain will organize the material far more readily. Fixating vision and attention on the numerous rows of small letters of uneven shapes and sizes, with spaces between letters, words and lines creates a sizable task for the mind. But if your visual and mental attention is anchored and held to a single larger image consisting

of a few geometrical boxes, you will more clearly mentally organize and recall the information on the page.

### **The unbalanced body and the UV equilibrium**

Except when we lie down our body and its parts constantly need to be balanced. Due to the ever present pull of gravity, we must at all time keep our weighty bodies from collapsing. But there is another ongoing, though less obvious, load on our muscles. It comes from the fact that the front and back halves of the body are imperfectly balanced. The head would tip forward, and so would the body if you would allow them because their halves in front of the vertebral column are larger than the ones behind it. The two halves are balanced only because we make an unconscious exertion to do so. This imparts an degree of ongoing stress on the body. The fact that we do all our manual and mental work in holding and moving the front half further increases the inequality of load. In addition, there is a less significant, though important imbalance between the right and left halves of the body. They are not exactly identical in size, which is most evident in that the two sides of the face look slightly different.

In daily life the muscles of the upper body are engaged in holding and balancing it, and therefore they are always in an energized state. But these muscles include those that perform upper body breathing, that is, cervical and thoracic respiration. If these are already engaged in movements and body balancing, they will partly oppose and therefore impede respiratory movements. A chest that is already tight performing non-respiratory work will also oppose its own breathing actions. Just reach out with your arms to feel how restricts breathing movements become restricted. Whenever you energize the body, bend or turn in any direction, breathing becomes harder. The inseparability of body posture and breathing is always present, but the tug of war between opposing agent and antagonist muscles can be greatly pacified when you equalize the antagonist forces in the body, and so minimize the total energy employed by the system.

### **Perfect centering**

In ordinary life our bodies are centering in relation to the outside view. You look straight forward, and the body responds by doing the same, thus, you are centered correctly according to your visual panorama. In such position total relaxation is not possible, since spending attention on some target requires energy to hold the head and to focus the eyes absolutely forward. On the other hand, when the purpose is relaxation, centering needs to be different.

The body as a single whole is asymmetric, and so are separately each of its parts, the head, neck, torso, etc. Each one has to be correctly rotated to allow the body to relax. But the feet or the pelvis, or the back of the body are generally attached to something, be that the ground, or chair or bed, so these body regions are then anchored and can turn only in a

limited range. If you sit your pelvic motion is restricted, while above and below it body parts can move more freely. So, we should note that it is the head that can most readily adjust to the asymmetry in anatomy. For example, if you place one leg forward or back more than the other, you can notice that the head will turn a little to compensate, and the direction of the head rotation will be according to which foot is involved. If the speech mechanism of the UV is disengaged in full relaxation, and respiration is lowered to the diaphragm, then complete centering automatically occurs. The left-right asymmetry can also be compensated by slight raising up of the left side. This means you neutralize that side and then activate the upward pulling muscles of that region. What is to be remembered is that in attempting to relax, all body parts should be allowed to turn as they prefer.

The rotation occurs around a central axis, the position of which depends on the state of the body and especially of the UV. Due to language differences, the yogic central axis is not the same in the various schools. One the other hand, with an ordinarily tensed body the centering axis falls outside the body. Thus, if you gaze at a building straight ahead, the visual space responds by doing the same, and you become centered correctly in your visual panorama. Due to matters determined by the Language Rule, the yogic body axis is not the same in the various schools. If the speech mechanism in the UV is disengaged by full relaxation, and respiration is lowered to the diaphragm, then an absolute centering is possible. Rotating about the center of the body, tracing smaller and smaller circles easily the vertical axis. The best way to do this is to relax the left and right sides of the torso and work only with the erector muscles in the middle. The erector muscles continue down from the neck to the pelvis on either side and in the back of the vertebral column. What is to be remembered is that to slow and diminish the thought processes one should allow the head, body, and the rest to find their true resting positions by allowing them to turn automatically.

### **Energized versus relaxed state**

Both of these two methods, that of either centering in a tense body or in a relaxed one, are valid. That is why in the various traditional schools we are told that there are two disciplines available for practice: one is mind quieting, or silent contemplation and the other is focusing or concentration. These are called dhyana and dharana in classical Indian yoga, or chih and kuan in Chinese Tiantai (T'ien T'ai), etc. The ultimate aim is to merge the two into a single entity.

The right posture brings about a balance between the loads and the muscular forces of the body, and allows the center of breathing to move to the abdomen. In those Eastern techniques where meditation focuses on the abdomen, centering in that region is recognized as the most efficient way to control the body-mind. As Zen master Sekida has

written that "when one takes up a correct posture the weight of the body is concentrated directly in the tanden", (see Sekida, p. 44).

### **Equalization and physical law**

Relaxation and equalization are processes directly related to the Second Law of Thermodynamics. This law stipulates that energy always moves from the region of higher energy level to one of lower level. Heat from the warmer object flows to a colder one, not the other way around; things up on a high shelf, loaded with potential energy fall down, not up; electrical energy in a battery runs from negative pole to positive pole. The movement of energy stops, however, when the two adjacent regions reach the same energy level. When the weights on either side of a balance are the same, the motion of the balance comes to a stop. Equalization is precisely such a balancing process. Forces in the front and in the back of the body hold it up and keep it from falling. If you lean forward your back muscles need to exert more energy to prevent a fall, whereas bending backwards places the greater strain on the front. But if you can stand erect, perfectly balanced, the two antagonist forces become equalized, with equal energy levels expended front and back.

The Second Law of Thermodynamics provides the way in physics for calculating the amount of work done by a machine. The greater the pressure difference between the heated steam in the boiler and the region of the colder engine, the more power, or work is delivered. Once the boiler has cooled down and the pressure is gone it can no longer move the pistons, and the amount of work becomes zero. Ideally, then, no work occurs if you equalize the forces in your body. Relaxation and equalization aims to take you as far as it is possible to achieve such a state. And since the thinking mind is stimulated by body movement, a body that stays motionless will also bring about an empty mind, as underwritten by the Second Law.

## **RESPIRATION**

### **Respiration and its relation to the UV**

We know of the great emphasis placed on correct breathing in yoga, mediation, and holistic approaches and even in everyday matters; consider the common admonition to take a deep breath to calm an agitated mind. It has been maintained by the gurus that breathing and mind come from the same source, yet the fundamental role of this unity has never been fully explained. The muscular system of respiration consists of a whole line of organs, the lips, the mouth, the nasal passages, the pharynx, the larynx, and all the muscles that take part in thoracic and abdominal respiration. The largest and most elemental muscle of respiration is the diaphragm. It is a flat sheet of muscles composed of three regions that meet at a common center, the sternal, costal and lumbar portions. The diaphragm belongs in the UV, but because its lumbar connection reaches only the lowest

ribs and the lower part of vertebral column, its action has no significant effect on the upper UV regions. When the body is at complete rest, either awake or asleep, the diaphragm and the low thoracic and lumbar muscles attached to it alone power the action of breathing. The antagonist role falls not to the upper UV, but to the skeleton. For this reason the upper body, all of its UV components, including the face, eyes, tongue, nasal passages, larynx, head, and chest are freed from all but the minimal respiratory duty and so can reach full relaxation. In such restful state the stimulus coming from these regions into the brain through the cranial nerves is greatly decreased.

If you inwardly focus on one of these parts of the diaphragm sheet it appears that the sternal, in the middle of the front, looks to the outer world, the costal portions, attached to the two sides of the thorax bring on the state of attention, and the lumbar portion projects the self. Incidentally, the left half of the diaphragm is lower than the right one. Equalizing all three is an excellent yogic tool for mind control. The diaphragm is exceptional; although it is part of the UV, it does not connect with the brain through the cranial nerves, but is served by the phrenic nerve, which is one of the cervical nerves coming from the spinal cord in the neck. However, the phrenic nerve is in contact with nerves going to parts of the UV, namely to the geniohyoid, sternocleidomastoid, trapezius, external ears, etc. Any movement by the neck, or any of the above muscles directly impacts the diaphragm.

The Upper Visceral (UV) system is the operator of respiration, hence its importance in yoga. As it was discussed, the UV is the part of the body in which consciousness appears to exist. The regulation of the UV is of the greatest importance because respiration must go on without any significant break, and must proceed at a prescribed rate. The breathing apparatus is highly sensitive to external pressure; the slightest obstruction to breathing needs to be immediately compensated and the body does this automatically. You can check this by slightly pressing the side of the larynx, or the side of the chest or of the abdomen, and observe that you must instantly put more force into breathing because its flow becomes curtailed. To best feel this effect the UV should be neutral, otherwise unconscious correction will already be in place.

One reason why in everyday situations we cannot slow or stop thinking is that the musculature of respiration constantly alternates between the two contrasting actions of inspiration and expiration, and so the UV, the body and the mind is also constantly moving and generating mental activity. If we attend to our breathing this problem can be largely solved. It bears repetition that recognizing the existence of the UV gives us the key to correct breathing. It is quite simple: the UV must be balanced and relaxed as much as possible, and breathing must be powered by the diaphragm. All tensions in any part of the body and limbs that in any way obstruct the freedom of the UV are to be minimized.

### **The jaw**

The jaws of animals can create enormous pressures, like those measured in crocodiles or hyenas, etc. Even in us humans, the jaw is a relatively powerful agent, a large piece of bone with strong muscles, and is, therefore, the most massive member of the UV. For this reason, it can initiate the setting the UV almost as much as can the eyes. The jaw hinge is a small but complex mechanism that switches the jaw position to suit respiration, feeding, speech, thinking, and different mental states. Jaw positions connect with various mental states. For example, during mastication, that is, when chewing food, attention becomes well focused. This is basic animal instinct: the world is dangerous and an animal must pay heed to it especially when occupied with eating. In our safer surroundings we humans, when eating, still listen, read or watch people and entertainment with full attention. It is also easy to observe that when we purposefully feel stupid and uncomprehending, the jaws open, locked in a certain position, and the tongue stops moving. Children often make such faces in playful grimacing.

In general, for relaxing the UV the jaw should not be locked, but should be allowed to drop a little to keep the front upper and lower teeth from touching. A good way to affect this is to whisper the consonant "h". Additional details on this topic are not offered here, but briefly, the hinge point of the mandible moves small distances to lock into frameworks appropriate for different actions and states. The important point is that in an equalized state of the UV the jaw takes to a specific position, and making use of this placement is a good tool in inhibiting the thought process.

### **Relaxing the diaphragm**

The largest muscle of the UV is the abdominal diaphragm. Releasing its tension starts the relaxation of the UV from the bottom up. This sheet of muscle, separating the contents of chest from that of the abdomen is not flat, but shaped like a dome. The lower edges attach to the ribs and to the lumbar vertebrae, and continue upwards against the thorax until they turn and spread centrally complete the dome. The back side reaches lower than the sides and front, and so the diaphragm, in a relaxed state, and at the end of expiration, is shaped like a helmet that fills the lower thorax. Perceiving the diaphragm this way makes it possible to relax it entirely. In inspiration, top of the dome descends and flattens.

### **Supporting the upper body**

Stresses and tensions in the upper body are transferred to the UV, which is enclosed within it. The effect can be reduced by releasing the upper body from the energy needed to hold itself up. Supporting the upper body with the arms or elbows on a table is one method; another one is to lean the torso against the back of a chair while sitting. Standing erect, leaning against furniture or wall offers the same assistance, as does standing at ease or resting one foot on a raised level. Any action that temporarily takes the weight off the torso is useful. For instance, leaning over the sink at certain angles, as we wash our face or brush our teeth, seems to leave the mind freer to think. It has been told that great

composer Beethoven, as he bent over to wash his hair in a basin, heard in his head unusually good musical ideas. This could only have meant that such a position relaxed his UV and allowed musical events to run freely. We can also recall that "The Thinker", the famous statue by the French sculptor Rodin, sits leaning forward and supports his head and upper body on his bent arm, the elbow of which rests on his knee. In short, when the upper body is freed from the burden of balancing the head and its own weight, then the active body center moves from the upper to the lower body, and the mind becomes quieted. Forward leaning tilts the angle of the laryngeal apparatus as well, so this region, which is the central node of the UV, is no longer subjected to the downward pull of gravity, and compression directed toward the stomach, but rather, it settles into a resting position, where the forces acting on it are equalized. A similar situation occurs when one views pages or a large map spread over a table, standing and leaning on the table with one's arms. Consider that while during active life the larynx is tensed, moving in vertical directions, during sleep the neck and larynx lie horizontally and are relaxed—that is the nature of sleep. It makes sense, then, that when one leans forward, the laryngeal region of the UV can relax to a significant extent. This can explain why in the padmasana lotus posture the head is turned down to place the chin against the chest: this position relieves pressure on the larynx. Thus, a certain amount of leaning forward either the body or the head will at any time reduce the tension in the UV.

### **More on forward tilt**

There is another aspect to body tilt, which involves not respiration but muscular behavior required for body balance. In everyday behavior we keep the body erect, and this is accomplished by the agent-antagonist opposition of the musculatures of front and back halves of the body. However, if we tilt the body forward, the situation changes. Now to counter the forward tilt the muscles of the posterior side of the body must engage more force. However, as the front and back sides are an antagonist couple, the front would also have to become more tense to match the forces in the back. In this case the chest would become so tight that breathing would be impaired. Nature solves this problem by shifting the frontal antagonist role from the front of the thorax down to the frontal muscles of the lower body, thighs, legs and feet, and these now act as the antagonist of the upper back. This temporary arrangement balances the entire forward leaning body. It is the lowest portion of any structure that supports all that is above it, this is why trunks of trees or piers of bridges are thickest at their bases. For the same reason, to avoid falling when we bend forward, the forces that maintain upright stance get transferred to the lower body, and this incidentally promotes abdominal respiration. If you relax the upper body, and tilt forward, the chest can also relax, released of its duty to oppose the back, and the UV within it can relax in turn. Hence, it is ready to be used to think clearly, hear music, or meditate. This physical effect is also what occurs in abject prostration, and that is why this action can be found in both religious and meditational rituals.

### **Loosen clothing constricting the abdomen**

Loosening belts or pant tops to prevent any constriction on the respiratory parts of the body has always been essential advice in yoga and meditation. Even the slightest pressure bearing on nearly any section of the throat, of the chest, or of the abdomen will obstruct breathing to a some degree and will thereby raise the tension level of the UV. During an obstruction, the body will seek to maintain the required flow of breathing, doing so at a higher energy level, and thus the mind will be less able to slow down. This is why avoidance of abdominal constrictions is always a basic admonition. As mentioned beforehand, you can test this: even lightly pressing a finger on the abdomen brings an observable obstruction to breathing, as well as a small but noticeable tightness in the throat and face. Pressure placed on the chest needs to be greater to show this effect because the bones of the rib cage will to some extent withstand compression. The larynx is an organ that is especially sensitive to external forces. The respiratory musculature of the thorax employs a complex interplay of several pairs of muscles and the airway is only freed from blockage when this musculature is in a balanced state. Returning to the subject of belts, they can actually be useful: once they are sufficiently loosened, but still forming a closed loop, they can stabilize the arms and hands when some of the fingers variously hooked into it.

### **Synchronized respiration**

Body movements and respiration have to act together in some way, as parts of the monosomatic whole, or else discrepancies between their separate activities would interfere with the flow breathing. Normally this is not evident, as the automatic coordination between the two keep adjusting as body positions and mental contents change. However, when the two functions are consciously harmonized yogic benefits ensue. Here is an example, applied to walking. Start inspiration just when you begin stepping, and continue on this way, always synchronizing breath and step motions using the same foot. You will find that inspiration regularly occurs when the right foot meets the ground. This makes safer relatively intricate actions, such as descending a staircase. But you cannot inhale every time you step, it would be excessive, so the two actions are matched in cycles—in various activities there is one inspiration assigned to a particular number of steps. How much breathing relates to body movement and balance can be observed when one stands on one foot for whatever reason, as in putting on a pair of pants, or when reaching out for an object. If one holds one's breath, or alternately, breathes and moves slowly and evenly, one stays balanced, but if breathing is not synchronized in any way, one totters. Tight rope walking is enabled by careful management of both steps and breathing.

### **Everyday Taiji (T'ai chi)**

The essential point to remember is that starting inspiration should be coupled with the start of body movement. Such procedure can be applied to any movement, and can be broadened to include hand, arm, and other bodily actions, even facial ones. In fact, such action can be considered something like "everyday T'ai-chi". Considering that such

technique is exactly what dancers in ballet and other formal dances employ, and that similar behavior is the basis of Taiji (or T'ai-chi), we could say that the yogic way to move about is to make movements as if we were dancing. This dictates certain bodily compartments, for example, that the shoulders be slightly raised and our support be placed on the balls of the feet. All this, of course, comes naturally when one takes on a dancing position. The crucial point is that the body and UV must be relaxed to make dancing or Taiji action effective. Note that the formal dances referred to here are those that have evolved as artistic traditions, not the clumsy maneuverings of modern popular varieties. It is important to remember that two actions are involved in graceful movements.

One has to hold and watch the movement of the relaxed body and limbs, and one also has to simultaneously focus on the center of breathing, and that this center should be allowed to move to wherever body motion dictates it to go. In other words, the flow of respiration must be continuously merged with movement. Performing everyday Taiji means that, for example, when you pass through a door and make a turn, your body bends and your arms move in smooth, graceful paths as you keep clear of the door frame, while the UV and your breathing are kept free of any opposing forces. Or, when placing a plate up on a shelf, as you lift the right arm with the plate, the left arm turns out toward your back, as if two wings were balancing each other. The fact is we do make such accommodations in our motions as the various body parts turn and tilt as we get about, but since the body is not relaxed, the behavior remains stiff and the balancing of the parts is not evident.

Any part of the body can participate in controlling its balance: the fingers, hands, wrists, arms, or the head alone will usually suffice: as we walk, bending just the fingers right or left will bias you to veer in one or the other direction. However, operating all the parts simultaneously is what creates fully harmonized motion, as in dance and Taiji. To see how powerfully such activity impacts on body movement, even without relaxing the body, if you steer an imaginary car or bicycle as you walk and make turns in a room, you cannot fail to notice that the virtual steering actually compels you to turn. The cause behind this lies in monadism—the motion of the arms and of the shoulder girdle is perfectly reflected in the legs and in the pelvic girdle.

### **THE EYES**

The eyes are our most vital instruments for perceiving the outer world. They lead and guide us faithfully, without our conscious attention. You get accustomed to walking about in your home, passing through doors and around furniture without thinking about it, focused on other things occupying your attention. Your eyes are guiding you at a subconscious level. Such automatic behavior comes, in part, also from innately learned repetitions of movement that the muscles remember and recall. Our bodies are organic robots that can manage themselves without us actually controlling them.

In fact, we do not personally generate our thoughts or body movements, they arise on their own! We merely perceive them as they continuously appear in our awareness. The most fundamental discovery of the Buddha is that body-minds are self running machineries which "experience" that they are alive. They are, rather, projections in a sort of space or field that constitutes existence itself; and it is that space or field that is alive and constitutes the self.

The importance of the eyes is evidenced in that, following the olfactory nerve, the eyes are the second most forward situated sense organs. They are not really external organs, but are the extensions or outgrowths of the frontal brain itself. Out of the twelve cranial nerves, all going from the UV into the base of the brain, four serve the eyes; like other primates and birds we humans are highly visual animals. As long as the eyes and eyelids are still and neutral the mind can slow down—that is how closely meditation and the eyes are related. It is good to remember that the first parts of the body to be released in relaxation should always be the eyes.

Eye movements are produced by the external eye muscles. The very small inner muscles of the eyes, which control the lenses, the iris and the optical fluid pressure outlets are not subject to conscious control. We can, however, consciously operate the external muscles, which include not only the upper and lower lateral rectus and the upper and lower obliques, ones that pull and rotate the eye in the sockets, but also the muscles of the eye lids, and the circular sphincters surrounding the eyes, the orbis ocularis, as well as the musculature of the eyebrows and of the forehead. In looking at the outer world the eyes converge frontally, whereas they diverge, that is, focus backward when seeing the internal one. Our eyes always relax as we fall asleep, and they do so also in meditation, once we have sat still for a certain length of time. This can vary since different persons are more adept at quieting themselves, or they may have had more yogic training. In any case, if one settles and stays in quietude, the eyes eventually also release their normal tension, clearing the mind of the most distracting input.

If you are not observing it carefully, the eyelids seem to have two distinct stable states: open or closed. Actually there are three—this is a trizone that has three settings: open, middle and closed. The open one needs no explanation, except that the open eyes must perform blinking in order to moisten and wipe the cornea, but a blinking closure is momentary and the lids spring back to the open state. The fully closed frame is generated when the lids remain closed without the least effort, a state that appears only when the eyes and face are fully relaxed, especially in sleep.

The third state is in-between: if the eyelids are controlled by an equal mixture of opening and closing forces, we enter the zone employed when being fully attentive. This is an important middle zone action and provides a valuable tool in meditation.

When the lids are in this state but the opening and closing forces are active even to a small extent, they unsettle this quiet middle setting. This happens in times when we stay attentive with closed eyes, as in patiently waiting, or listening perhaps for a sound. We also experience this state when we try to but cannot fall asleep.

To relax the eyes, whether they are open or closed, you must release any convergence and divergence. Doing this should allow each to turn somewhat toward the sides and so become centered in the eye sockets. The reason for this can be seen if you look at pictures of the skull transversely sectioned at the level of the eyes, and observe that as the bony eye sockets extend back toward the brain, they also converge and so at rest the axes of eyes are horizontally tilted as much as 90 degrees apart. Furthermore, the hypobranchial musculature, that is, the facial and associated head muscles covering the entire skull form a unified sheet and include the eye lids. The lids are in part extensions of the eye sphincters, and are in part the muscles that raise the lids, the levatores palpebrae, which originate from the top of each eyeball. This means that the eye lids are joined with both the face and the eyes. For this reason the lids play an important role in body-mind control. There may be an evolutionary bias for the outward turn of the eye sockets in that side vision is of great importance for many types of animals. At all times, especially when busy in some forward directed activity they still have to give careful peripheral attention to the possible approach of predators or rivals from the sides. This seems to be emphasized in the neural anatomy of the eyes: lateral turn for each eyeball is controlled by its single dedicated abducens nerve.

The Language Rule is a factor in releasing the tension of the eyes. For Northerners, when the eyes turn sideways, they are also retracted a slight amount, that is, there is a small sideways divergence, as well as a backward pull before the muscles can reach their resting position. The opposite is true for the Southerners: the small movement is convergent and forward. As for the Middle group either option is possible, but with smaller angles of rotation, as determined by the particular language.

A useful point to keep in mind is that both the sideways turn and the backward pull of the eyes should be very slight, just enough to reach an immediately adjacent position where the eyes can settle without effort. The setting of the musculature at this time also shifts from foveal view and so reduces the sharpness of the image. The fovea is the spot on the retina where visual perception is most acute, and the lens specifically focuses incoming light rays on it whenever we attentively look at a target.

It might be mentioned here that the eyes connect to respiration in a monadic way. When the UV is relaxed, and the body and head are erect, if you are a Northern speaker you can observe that the relaxed eyes converge with inspiration and diverge with expiration. For the Southern group the opposite is true.

The muscular frame of the seeing action forms a triangle, a structural truss which maintains the frame. The triangle has three vertices, one in each of the eyes, and one that is outside them. This third point changes as the visual target changes and therefore, it is not easy to find it because even as you look here and there, the third vertex also moves. Actually there is no need to search for it: if your UV is neutrally set the point will spontaneously appear. The two points in the eye are projected in the same particular plane, but the third one lies in a different one. It can be in front of, or above, or behind, or inside the head, and if you are tilted or turned, the planes are, of course, become twisted and off-centered. The third vertex has an antagonist also, and if all four vertices are projected a quadrangular

In our normal daily life we perceive in two spatial regions: in inner and outer views. But there is a third region, which emerges when the eyes defocus. These three regions form a trizone. It is the complete relief of tension in all their external muscles that permits the eyes to take this true unfocused resting positions. In this state with minimal tension, the eyes change their angle to perceive the middle zone of the triad. Once the eyes are successfully relaxed one can easily bring the rest of the UV framework, including the face, neck, shoulders and diaphragm to relinquish their tensions. When the UV is released the body will monadically respond by relaxing in turn.

The eyes can also move forward and backward, and this is also a factor in attending to eye behavior. But this is not a problem because when the eyes are neutral, and permitted to spontaneously settle in their natural places, then the axial and other placements of the eyes will also automatically follow. The same is true for eye convergence. If you suddenly open your closed eyes, while in an relaxed state, you can notice that your eyes had been in a crossed position, and they will now adjust to the normal convergence angle of open eyes. The eyes in a meditative repose are always crossed. This can be seen in the Buddhist art of Tibet, which traditionally depicts great masters with eyes open and also crossed. It is simple to show the effect: if you relax and permit the open eyes to diverge or cross, in a non-meditative state, your thinking instantly becomes subdued. The yogic cross-eyed rotation settles the eyes in one of three innate resting positions. These lie on along a line moving away us, forward or backward. Their positions depend on body postures. Of course, the Language Rule is a factor in eye behavior! (Also refer to the "three fields of vision", in Chapter 3. The Four Tools.)

At this time we should emphasize that consciously crossing the eyes, when this is not an automatically occurring action in a fully relaxed framework, can be harmful and is not recommended.

### **Light intensity and the eyes**

Sunbathing resembles meditation. People can lie motionless in the sun for long stretches of time, so obviously this operation settles the body-mind. Resting quietly is, of course,

one cause behind this, but there is also the sense of warmth evenly spreading over the body, which creates a balance between all exposed skin regions. Since the skin can be projected as a zone that envelops the body, equalization of the skin will also produce the equalization of the body. However, an important agent of the meditational effect in sunbathing is the light falling on the closed eyelids. It is possible for speakers of English and related languages to verify that intense light causes the eyes, whether open or closed, to move backward in their sockets, while darkness brings them forward. Moved backwards and also somewhat sideways the closed eyes reach a relaxed position, freed of eye convergence typical in looking at the outer world. (The Language Rule applies here: the opposite results exist for the Southern group.)

Also, because the eyelids are closed and appear as a sheet of uniform reddish glow, the visual field becomes empty of any target to focus on, and therefore saccadic motion ceases. After a time the eyes accustom to the perceived brightness and the visual field takes on a more neutral tone. These two facts greatly slow the procession of thoughts. Sunbathing is a form of meditation, but an unhealthy one! The sun worship of the Egyptian pharaoh Akhnaton may have been connected to this effect on the eyes. When the open or closed eyes have nothing to focus on and so are resting, the visual field becomes wide, taking in the peripheral regions. This is exactly what happens when a vast mountain, or plain, or the grand expanse of the star filled sky imparts in one a kind of majestic, divine feeling.

It is fortunate that the mental quality induced in sunbathing can be replicated in ordinary meditation when sitting with closed eyes and facing a table lamp, or any other source of bright light, such as a well lit window or a monitor screen. Ideally the lamp should have a 60 watt bulb, with an adjustable lamp shade turned toward the face, and can be about two or three feet from the practitioner, or at any preferred distance.

There is another effect dependent on the brightness of light, one involving the eyelids, as mentioned in chapter 3 The Four Tools. The eyelids are structured as a trizone, that is, they contain three layers of muscles, and each one differs in its involvement in particular projections. The dominant agent in the body trizone, when taking in the outer world is assigned to the outer layer of the body and therefore, to the outer layer of the eyelid, while the inward looking framework employs the inner body and the inner lid surface. Bright light striking the closed and relaxed eyes prompts the inner layers to act as the trizonal agent. The middle layer of the eyelid, when isolated and projected on, stops the thinking process. This is something that automatically occurs when the UV is relaxed, and this fact is essential in meditation. However, at normal times outer and inner mind activities overlap, being rapidly switched, so that all three lids are fluidly occupied. It is an interesting example of alternation, that the option whether the outer or the inner lids are the dominant agents in this trizone changes with each blink. If while keeping your eyes open, you think internally, and then attempt to switch your mind to the outer world, you will have to blink before you can do so. You cannot move from one state to the other

without the blink, because you are dealing with a change in the entire UV. To correctly locate and isolate eye lid zones it is important to release the orbicularis oculi muscles, or rings surrounding the eyes.

It is interesting that there are at least two other behaviors, not involving the eyes, in which thinking comes to a halt. These are of brief duration, and so not often noted. Nevertheless, we can easily observe them as they occur in yawning and in swallowing. The eyes also close at these moments; such action is apparently built into monosomatic design, we can see it happen in a frog as it swallows.

## **ARMS AND HANDS**

### **Hands**

Positioning of hands is important in yoga. This is because all parts of the body are mirrored, or represented in a most definite way in the hand and fingers. This fact forms the basis of holistic medicine, such as reflexology. It is less well known that the treatment succeeds only as much as the body-mind, and specifically, the UV of the patient is relaxed. That is, the mirroring between body regions is covered up if respiration is obstructed. When bodily tension is present the geometrical connectivity of regions is reduced, to a measure depending on the amount of tension. If you do not feel the reflexive effects of pressure or massage applied to the hands, feet or the body, it is because you have not sufficiently neutralized the UV. We know from experience how much the behavior of the hands relates to the mind. In daily life our arm and hand gestures are precisely matched with mental contents. Negation, doubt, agreement, and a host of other feelings are expressed both in words and in the movements of the arm, hand and fingers.

The role of arms and hands is, therefore important in body and mind control, and it has always been included in Eastern traditions, consider the Indian mudras, or hand signs. But outside of yoga, in any action where the body must be precisely manipulated, especially in ballet, sports, martial arts, music, arts, speaking, or whatever, the arms have to follow innately generated positions and paths of motion. In meditation the hands are stationed in various ways, depending on the Language Rule. In Indian yoga the arms hands and fingers can rest on the thighs with palms facing up or down, and with fingers forming particular shapes. In Oriental postures the hands are brought together in the lap, either laid on top of each other, facing up, as in China, or forming a circle, as in Japan. In the Chinese method, the left is placed over the right to equalize the inequality of the left and right halves of the body. Right hand over the left would increase this inequality.

The behavior of the hands and the emotional content of the mind evidently reflect one another: anger crunches the hands into a fist, the fingers wiggle if you are nervous; if you wish to relax you cannot do so until the hands and fingers are also released of tension. Placing palms together symmetrically in the central sagittal plane calms the mind and

imparts particular moods. In prayer the clasped palms bring a feeling of supplication and reverence. In India this same gesture is also the sign of personal greeting. In the West greeting is done with a handshake, which is also an act of placing palms together in the sagittal plane, but now between two individuals, and it still conveys an emotionally positive, friendly intent. Holding up the hands, facing forward, with elbows bent and forearms vertical imparts a feeling of reverence, surrender and worship; priests at the Catholic mass maintain their arms and hands this way. But it is also the sign of military surrender, where the height at which the hands are held is a measure of the level of fear prompting the action.

In Muslim worship the elbows bend and lift the palms to face the ears. Bringing the palms together, as in Western worship, would actually bring a discomfort to speakers of Arabic—the Language Rule! In both religions the prescribed arm and hand action bring the zonal center of the UV and of the body to the middle of the body. The difference is rooted in the UV settings of the language groups; in one case the UV needs to move slightly backward, and in the other it needs to shift forward. In Orthodox Jewish tradition one prays while one repeatedly bends forward following a small arc. The action results in keeping the larynx at the center point of the arc of bending, and this equalizes the UV, and offers the same benefit as tilting the torso when leaning over a sink, (see above Supporting the upper body).

In all these postures executed by the arm and hand combination, it is the hands and fingers that most affect the mind. The reason for this is that, as reflexology charts show, the fingers relate to the head, face, eyes, ears, neck and upper shoulders, which is to say, it is the UV that appears projected in them. The fingers, which possess a network of extremely sensitive nerves are matched by the equally sensitive organs contained inside the head. In other words, both the fingers and the UV are equally adapted to complex activities, and this seemingly enables a one-to-one correlation between the parts of fingers and the UV.

Still, the arms are almost as influential as the hands. As an example, crossing the arms behind the back helps to balance our inherently unstable front loaded posture. It also lowers the respiratory center and so lightens the load on the UV and on the mind. Placing hands on hips is a good way to support, or buttress the torso, thereby helping to release the UV. The way your hands are turned when placed on the hips, that is, whether they face forward or backward makes a difference, as does the space kept between the wrists and the body. These options depend on how other parts of the body are stationed at the time.

A fully relaxed hand is effortlessly closed, with fingers together, partly touching the palm. In a less relaxed state, as when the hands are loosely hanging aside the body, they are responding to the pull of gravity and also exist in a state of a tonic tension, a presetting that prepares the hand to instantly start any action. For this reason, they cannot be completely released. However, if the hand takes the form of holding a round object that perfectly fits into the curvature of the hand and fingers, then the hand becomes steady, and

the same feeling of balance is mirrored in the UV. This is why holding a ball, or bat, or any similar object that fits the cupped hand gives a certain sense of physical and psychological satisfaction.

If we grasp one hand with the other behind our back, either when we walk slowly or when we stand with feet slightly apart we feel comfortable. You can notice that the hand grasping the other one around at or near the wrist uses that same relaxed palm curvature. Many manually operated devices, like computer mice with rounded tops were designed with this in mind. Ultimately, in all these cases the hand behavior beneficially affects the UV. When the hands relax the fingers and the thumb loosely close up over a concave palm. When you hold things the hand is shaped the same way, but forces of compression come into play. Still, except when the object held sufficiently heavy, the grasp remains as light as possible. That is, in holding objects the hands apply only enough pressure to retain them. The level of force involved varies; a sheet of paper, a pencil, a book are not handled with the same pressure. Thus, when using a tool or a weapon the hands grip the handle with minimal necessary force. This happens with any kind of arm strike, whether with hammer, or bat, or sword, or boxing glove, because the dominant force in a strike should come from its base, the pivot of the arc of movement, namely from the shoulders. If the hand grasped with force the arms would not be able to swing freely. But at the moment when the hammer reaches the target, the hand grip tightens in order to transmit the force to the hammer and to prevent it from flying off. The center of the force, the center of the strike's mass, continuously has traveled from the shoulder to the hand.

Gripping something or clasping together the hands aids mental concentration, and it can even slow and diminish the thinking process. At a worldly level, this action imparts a feeling of security, of possessing. Infants, human or primate, innately grasp their mother's body or hair, or your finger if you offer it to them, and in return, it is also gratifying to hold an infant. This behavior demonstrates an innate drive to hold objects in the hand, like food, sticks, batons, tools, weapons, dolls, etc. The same ability enables us manipulate tools, to cook, to knit, to grasp Chinese hand balls, to count rosaries, and countless other actions.

As we have mentioned, the hands, as well as the feet, work in precisely engineered coordination with the head, body and mind, thus, the hand and fingers can render an important service in regulating the body-mind. Conscious relaxation of the hands can lower tension in the entire body because once the hands are genuinely released it is easy to relax the eyes and the UV. Therefore, relaxing the hands and the feet is absolutely necessary if we want to release the strains on the rest of the body. An efficient method for releasing tension either in the hands or the feet is to relax them together at the same time. In their mechanical actions the hands and feet each operate as trizones. There are three distinct zones to be relieved of tension; for the hands these three are the fingers, the palm and the wrist, and for the feet they are the toes, the mid sole and the heel. It makes releasing tensions easier if we start with one zone and continue from there into the others.

Which zone behaves as the agent in the trizone of the foot during walking depends on the speed at which we move and also on the inclination of the ground. The frontal zone, comprised of the toes together with the ball of the foot act as the agent whenever the walk is quick and moving uphill. The heel is the posterior zone and it plays the dominant role when we take tired or leisurely steps, and when are walking downhill. In one case we are somewhat tiptoed, while in the other we transport ourselves more on our heels.

The lotus asana and similar yogic postures prescribe specific hand placements. The reason is that all body regions are holistically reflected in the hand, as are mental states and actions. As you can see in holistic charts the various parts of the fingers represent the various parts of the head and therefore, of the UV. Treatments, like reflexology are based on this phenomenon. Although the topic is not covered in the present book it is worth mentioning here that there are three principal settings of the body-mind, and these functions, namely, perception, attention and the self are mirrored in specific groupings of fingers.

Arm and hand movements of gesticulation also play a significant role in speech production, as well as in the expression of emotions. The mind is only as calm as are the hands and feet: if the hands or feet are tense or fidgeting, then so is the mind. Of course, when you use your hands not in idle or nervous movement, but in some well ordered activity, perhaps in writing, drawing, typing, playing a musical instrument, and so on, then the body-mind is being run in an ordered manner. Apart from manual activity, when the right and left hands are joined in a resting position, as when the fingers are dovetailed, that is, crossed at their bases, you can notice the increased calmness that comes to you. The arrangement of the hands, either in everyday life or in yoga and meditation, is for these reasons important. The Language Rule is not absent here either; it determines for each language class the best methods in hand positioning.

Arm placement also directly affects the rotation of the eyes, and the results are subject to the Language Rule. If you are in the Northern speech class and are appropriately relaxed, and with eyelids closed, you can notice that separating or bringing together the arms is reflected by the turning of the eyes. With arms placed apart the focus is convergent, with arms together it is divergent. To allow the eyes to take a neutral position the arms should also be neutrally positioned. Arm placement in the various meditative poses prescribed by different schools of yoga serve that purpose. The automatic saccadic motion of the eyes, the continuous searching for visual targets is a survival function, and it normally impedes steadying the eyes, however once the eyes are neutralized, the saccades also cease. When paying close attention, whether to the outside world or to inner thoughts, the eyes likewise become stilled. Their ongoing motion would make concentration impossible. Eye rotations are also subject to the rule of alternation. For example, if you bend forward, they will diverge or converge depending on the angle of the tilt and on Language class.

### **Matching limb positions**

To attain equilibrium it is important to harmonize the limbs in two ways. There should be mirror symmetry either between the two sides of the body, or between the top and bottom parts. For instance, if the legs are spread apart, so should the arms be. If when sitting the right leg is placed forward, the left arm should move backward. If the left arm is raised, so should the right one be. If while standing the two arms are held straight up, then the legs should also be made straight pressing downward. This applies to all sections of the arms and legs, hands and fingers, and it relates not only to still positions, but also to physical movements. In parallel limb movements, as found in jumping, both arms strike upward in the same direction and with the same rotations of the joints, while the legs deliver a downward push in the same fashion. Alternating mirror movement arises in walking and running, where the left and right limbs move in opposite directions. In any case, in yoga and meditation it is important to keep the limbs positioned in the mirror formation. Any discrepancy between the required angles of the limb joints reduces body-mind equalization. For example, if we stand with legs apart, it is best to place the arms behind, crossing them. If we sit with legs apart, the arms should be treated similarly. If the legs are pulled back under beneath the chair we are sitting on, then the arms should reciprocate, being placed in the back. When the ankles are crossed, the wrists should imitate, and so on.

## **SITTING**

### **Posture-sitting on the ground**

In various parts of the world people traditionally rest squatting or sitting on the ground with legs crossed or even flat and stretched out forward. The lotus posture, or padmasana, is a specially developed form of sitting which may go back to prehistoric shamanistic practices, and it is an ideal way for balancing the body-mind in yoga and meditation. For some people, however, especially for those brought up in chair sitting cultures this posture is very difficult, and when taking on meditation this can stop them in their tracks. Fortunately, Pragmayoga can present easier methods for body-mind control. The advantage of the lotus posture, which has several versions, is that it balances the body in a number of ways. To begin with, respiratory action and the center of the body is lowered to the abdomen. Taking the versions where the arms and hands are placed on the thighs, not in the lap, the body is steadied in side-to-side imbalance by the buttressing of the arms. The hands and feet are locked and are immobile, and therefore attention to body movement is needed only for the upper body. Good posture aims for balanced body geometry. The lotus posture forms a simple geometric frame. The abdomen and the two knees form a triangular a base, while the upper body and arms form another triangle, supported on that base. When the hands are joined in the lap, the lotus posture still possesses a base triangle, but the upper body sits on it as a column. Alternately, the upper part can be considered as an upside down triangle where the vertices are at each shoulder and in the hands joined together.

While squatting for some length of time, people rest their elbows on the thighs or knees and this framework supports the upper body. Here we have another triangular structure, defined by three points: one in the body and two in the feet. Moreover, if while squatting in the same posture the hands are locked there is even greater support; here we see two triangular sets of points, the one as just described and another one with vertices located in the joined hands and at each knee. This structure is even more stable, which explains why such position can be maintained for long durations.

### **Geometry in other formal and informal sitting postures**

Besides specially formal postures like the padmasana, you can choose from several other options often described in books on the yoga and meditation. It is a matter of matching one's personal body and language based preferences. The various methods applicable to sitting, or to standing, given in this book can be used in informal, isolated moments of meditation. Zen masters and various other traditions have taught that you should always try to stay in a meditative mind; while that is not possible in everyday activities, proper arranging of body geometry is useful for brief occasions. When sitting in chairs we again find the best position if the body is set in a triangular frame. The two buttocks and a part of the back, or else, two buttocks as one and the two arms on the table, or if leaning forward while sitting, the pelvis and the two feet are the vertices of such a triangle.

The most important requirement of formal yoga and meditation is to quiet the body-mind. This is achieved when you sit still for a sufficient while, with the UV in equilibrium, and at that time you clearly know that you have entered a different experience, in which breathing has slowed, the eyes lie relaxed, and the body and the mind reach a repose. You need less time to reach this state as you advance in the practice.

### **Chairs**

Yogic methods are available in the midst of daily business, if only for brief times. But that is useful: repetition makes for learning. If you have remembered to apply yogic methods for half a minute, ten times on a day, when you come to a more serious session later on, your brain will have built a base to which you can more easily return. One can just as well sit in a chair, or armchair or even on a sofa and engage in mind control as long as these articles give good support and as long as you modify body position to ensure UV freedom.

Centering the torso by slowly rotating it around its central vertical axis through increasingly smaller circles can be applied when sitting in a chair. This does not mean you should be perfectly vertical, since for most people leaning the torso against the chair's back is more productive than sitting straight. But to get the best results other factors should be considered, such as the correct height, depth, width, and shape of the chair. These things determine how comfortably the legs, waist, head, limbs, neck, and the rest are supported, tilted, or bent and how well they balance one another. For example,

depending on the angle at which your back leans against the back of the chair or sofa, the legs and feet should be positioned in different ways to gain the best balance and freedom of breathing. When sitting in a chair, the legs may be pulled back under the seat, or placed vertically or slightly forward, or held together or spread apart, all depending on the rest of the body position, on how much you lean back on the chair, on the height of the chair, and so on. The horizontal angle between the thighs, that is, how far they are spread is another variable. Make sure the knees, legs, ankles and feet are each turned in a way to be free of strain. If a chair is too high for one's legs, then a stool of the right height, or other prop can be employed to raise the floor. If a chair is too deep, a hard pillow can help to bridge the gap. A load, such as one or more heavy, oversized books, or any other convenient object, when placed on thighs while you sit, will increase your equilibrium, as the force exerted on the legs lowers the breathing center, and therefore aids meditation.

Again, it should be remembered that when we sit in a chair no part of the thorax should push against the back of the chair, except at the approximate middle section of the back; pressure above and below this region will oppose the respiratory motions of the chest. More specifically, make sure that two specific sections of the back, namely, the higher (upper thoracic) and the lower (lumbar) part of the thorax does not contact the back of the chair—well designed chairs always leave gaps there and that is why they feel comfortable. As long as it is the middle of your back that is the support point, you will be able to breathe in either the upper or lower zone of the thorax.

Having an adjustable office type chair is of great advantage because seat height and back depth and angle can be modified to one's body size and posture. (See also crossing legs, below.) In the end it all comes down to how well you are adjusted for body equilibrium and freedom of respiration. However, ideal sitting postures are not absolutely necessary for yoga or meditation. If you are not sitting upright, but are slouching, then the point where the best contact falls is higher up, closer to the shoulder line. If you are leaning forward over a desk, then the point moves lower down. Thus, you can see that a particular body geometry modifies the requirements of the breathing frame. Well designed arm chairs, with arm rests at the correct height greatly assist in keeping the upper body free and relaxed by giving it a triangular support.

Tables also come in useful. Correctly resting the upper body with elbows or arms supported on a table or counter will release tension in the UV. For brief periods during informal meditation, holding on to the table edge, or any other means of buttressing the thorax will take the load off the upper body. Experimenting will show the best method for specific situations. For example, if the table is too low, you can add to its height by placing books under the elbows, or else lower it if there are drawers which can be pulled out to support the arms or hands. In whatever sitting position you take, always aim to make sure breathing flows unobstructed.

### **Sitting with legs crossed in chair**

Crossing the legs while sitting in chairs means placing over one thigh or knee a part of the other leg, which may be the thigh, or the knee, or the lower leg, or the ankle. Sitting with legs crossed is an almost automatic habit for many persons; it clearly makes one more comfortable. An observation can explain one important reason for this effect: crossing the legs, or more exactly, the thighs, brings down the bodily center of respiration so that breathing is primarily done by the diaphragm and the abdominal muscles and not by the thoracic muscles, and as a result the UV participates less in respiratory activity. In effect, crossing the legs replicates, to some extent, what is achieved in the lotus posture, even though there the thighs are open and it is the legs that are crossed.

However, equally important is another factor. Sit on a chair without crossing the thighs, so that the front edge of the seat is at about half way along the length of the thigh. Let the edge of the chair press up against the thighs. This immediately impedes abdominal respiration and breathing action shifts higher up in to the chest. Now move forward (or backward) so that the bottoms of the thighs are no longer pressing the seat edge, but are free of any contact. Notice that breathing effort lightens and descends to the abdomen. When one thigh is crossed over the other, the bottom middle of that thigh is elevated and kept from pressing against the edge of the chair, and therefore, respiration, along with the mind, enters a more equalized state. What needs to be kept free of pressure is one of the several muscles in the underside of the thigh, namely the biceps of the thigh or biceps femoris.

This muscle has an important role in body-mind control, and relaxing it greatly assists in UV equalization. For those interested in more detail: the biceps of the femur of the right leg originates as a tendon from the ischium (of the pelvis), grows wide into a bulky muscle that continues down the back side of the femur. Nearing the knee it narrows to become a tendon and turning outward it ends at the right side of the knee. The left femoral biceps runs the same way, but turns to end on the left side. An easy way to find the biceps of the thigh is to feel a particular point which feels "relaxed" at the outer side of the knee and then trace it upward. The outer head of the biceps of the arm behave exactly the same way: relaxing them imparts a sense of peace. Recall that the biceps of the arms and of the thighs both have two parts or "heads" running side by side. The Language Rule applies!

You can observe yet another effect in crossing the legs. Feel the weight of the arms resting in the lap before crossing them. Do the same with legs crossed and the arms will appear noticeably lighter! The Language Rule applies here too! In general, when sitting either normally or in yoga, we should always make sure the backs, or biceps, of the thighs are free of pressure. When we sit with legs crossed the body becomes distorted, and to compensate for this we turn the body slightly. This also needs compensation, so we finish equalize by positioning the arms in certain ways. One method is to bring them together, with the hands held in the lap, another one is to separate the arms and place them on the arm rests. In either case, the arms are not left by the sides of the body. The Language

## **Crossing the arms**

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## **ROTATIONS**

Rotations of body parts The segments of the body, head, neck, thorax, abdomen and limbs each turn at their joints in several ways to fit into our movements and postures. Adjustments of joints can be observed in some or all regions. Controlling these rotations is essential in balancing one's body posture, and in quieting the mind. Changing the relative rotations of body sections even by slight amounts brings significant improvements in control, a fact that is easy to verify. For instance, even if you turn only your wrist and otherwise remain still, there will be a change in breathing flow, and this means that if every part is balanced except one, yoga or meditation will not go far because one's breathing is impeded. It is useful to adjust each part in succession, starting down from the eyes and the head or up from the abdomen, but remember to hold on to the previous section in its adjusted state. The latest balanced area needs to be added to those already in place; think of building a house by stacking bricks—the ones below must always remain there to support the ones above. This is a very important principle in meditation, especially in creating geometric forms.

Exactly which way the head is turned is an important factor, and this depends in part on the position of the body, but the opposite is just as true: the roles are reversible. Start with the head facing forward and relax it and the neck. This will allow it to turn a very small amount. This is caused in large part by the need to balance the unequal sizes of the left and right halves of the body. Now allow the upper body to spontaneously turn, also by a small amount in the opposite direction, and notice the increased freedom of the UV. You can judge your success by noting how far respiration and mind becomes quieted. To summarize, it can happen that all of the body is properly set, yet still thoughts keep on flowing. In this case letting some part, especially the head, rotate just a little can make a difference.

## **Left-right rotation equalizations**

With regard to balancing/equalizing the forces in the left and right halves of the body it is useful to consider a certain fact. Because the two sides of the body are not exactly equal in size, in a fully relaxed position we turn very slightly to one side, usually the left one, at least for right-handed people. In everyday life we tend to rest in such an asymmetrical

position. This same asymmetry comes into play when we concentrate our attention to a sight, sound or odor; we turn the head slightly off-center. If you perfectly center yourself and then release tensions, you can notice small, barely noticeable turns that the head and body make to reach their lowest energy resting states. This rotation is performed by the rotator muscles of the spine. You should allow these minimal adjustments to take place to gain absolute relaxation and equalization. In such a case the mental space opens, and the process of thinking is minimized or even halted. But in a perfect symmetrically centered position, the relatively small forces necessary to oppose the natural inequality of the two sides generates focused attention, rather than an empty mind.

### **Head tilting**

The head is covered and filled with the musculature of the UV, and so when the head turns or tilts, the equilibrium of the UV is altered. When the head is held balanced, it can tilt forward or backward by a slight amount to settle in relatively stable positions. The base of the tilt is at the bottom of the skull. There are exactly three positions, forward and backward and centered (no tilt). Each position is connected with certain physical and mental activities. The Language Rule brings contrasts here, too. For Northerners the forward tilt occurs in outward action, looking into the future, whereas the backward one brings about mental action and looking into the past. The Southern group experiences the opposite. The centered head angle in all groups deals with attention, waiting and invokes the present moment.

### **VERTEBRAL CURVATURE**

The shape of the body as a whole, seen from either the front or from the side, displays several curvatures. In the side view, starting at the head, and going down the neck, shoulders, waist, thighs, legs, ankle, and so on, the curves alternately face forward and backward, that is, they alternate between concave and convex curvatures. When viewed from the front, the right and left contours of the body appear the same way.

This pattern is exactly replicated in the vertebral column. In the uppermost section of the spine, the neck vertebrae curve forward; the upper thoracic section bends backward; in the lower thorax the vertebrae arch forward; at the pelvis and sacrum they bend backward. The curvatures of the body outline and spine are shaped like waves. Another example of such outline appears on the sole of the foot, when seen from the side. The outline starting at the indented base of the large toe and continuing to the heel traces the same path as does the vertebral column described above.

The correct settings of these curvatures comes about when one is fully relaxed and centered; this is the ideal body posture in meditation. One way of doing so is to inwardly visualize, to feel, to trace the line along the naturally curving path of the vertebral column starting at either the head or the sacrum. In trying to feel the vertebral column some points

should be noted. What can be felt to touch as the spinal column right at the surface of the back is not the vertebral column, but the row of outer ends of the spines growing out of each vertebra. The vertebral column lies further in. At the abdominal region it stands almost in the middle of the body. The spines are shorter or longer depending on how much deeper column lies from the outer surface of the back. They are shorter in the neck and the lumbar region, and are longer in the thorax. A diagram of the skeleton will clearly show this. Tracing the central line of the vertebral column can be an effective yogic tool.

Sometimes yogic instructions talk of making the back as straight as a rod, or as a tall stack of coins. However, they are not referring to the vertebral columns, but to erecting various vertical axes that can be projected ascending in the body. These are the various nadis and channels, each with its own particular character, taken up in Pranayamic, Tantric and Taoist practices. Attempting to physically straighten vertebrate column is unnatural and dangerous.

## **ALTERNATION IN MOVEMENT**

### **The nature of alternation**

Nature has devised a structure that can move itself and can also transport other things. This structure is built like a sequence of alternating links in a chain. When used for locomotion the sequential row is a line of consecutive elements, each of which will alternately direct itself first in one direction, then in the opposite direction. There are many examples of this in biology, particularly in animal motion and food processing. It may be a case of right versus left alternation, which we see in the wavy locomotion of fish and snakes. We, vertebrates share this mechanism, but we walk with left and right steps. With insects like the inchworm alternation occurs between up and down. The mechanism is trizonal, two outer zones move, while the middle one is the anchor.

To transport things within the animal the same process goes on, as in digestion, where it is called peristalsis. The first segment of the tract shrinks and so presses out the contents, the middle segment passes it to the third one which opens to receive the material. The alternation is between compression and expansion. There is a special kind of alternation, occurring in sudden energetic movement, where one zone loads the force and the other one releases it, like pulling a bow before freeing the arrow. Here the arm and the bowstring are the links in the working sequence. In jumping we store up energy as we bend the legs, tilt forward, and raise the elbows to load power into the leap, to be released as the legs rapidly straighten.

Alternation is an essential in music. Rhythm consists of repeating sequences of beats, with a strong initial beat followed by one or several weaker ones, and this non-uniform pattern accords well with our enjoyment in hearing rhythm. Even if the beat is absolutely even, like the clicking of a clock, we mentally group them into phrases with accented first beats.

Hearing a rhythmic pulse actually lowers the respiratory center and also affects the rate of breathing. The regular alternation in beats reflects the steps in our own breathing, which has two beats, inspiration and expiration. The rate of our breathing changes with the rate of the pulse beat; a funeral march rouses a different mood than a festival march.

We can also observe that arm movement in playing musical instruments also exhibits alternation: each arm does something differently. The violinist's right hand draws the bow across the violin, whereas the left hand plays on the fingerboard along the long axis of the instrument. The guitar employs the same arm placements. On the piano the right hand plays the melody, and the left hand provides the base and rhythm. Linearly shaped instruments, such as flutes and trumpets place one hand ahead of the other.

True, this is how the instruments are built to offer the highest possible efficiency in playing it, but they could have been designed differently if such configurations did not also bring out in them the best sound quality, the best way to raise the pleasure sensation in the UV. Their present forms evolved to ideally suit our own biological design. More examples of alternation can be found in eating, where the jaws go up and down, in the pumping of blood circulation where pressure rises and falls, in speech, where vowels and consonants follow one another. Waves, whether in air, water or in electromagnetic radiation are phenomena built on alternation—this process is fundamental in the physical world.

### **Matching limb positions**

To attain equilibrium it is important to harmonize the limbs in two ways. There should be mirror symmetry either between the two sides of the body, or between the top and bottom parts. For instance, if the legs are spread apart, so should the arms be. If when sitting the right leg is placed forward, the left arm should move backward. If the left arm is raised, so should the right one be. If while standing the two arms are held straight up, then the legs should also be made straight pressing downward. This applies to all sections of the arms and legs, hands and fingers, and it relates not only to still positions, but also to physical movements. In parallel limb movements, as found in jumping, both arms strike upward in the same direction and with the same rotations of the joints, while the legs deliver a downward push in the same fashion. Alternating mirror movement arises in walking and running, where the left and right limbs move in opposite directions.

In any case, in yoga and meditation it is important to keep the limbs positioned in the mirror formation. Any discrepancy between the required angles of the limb joints reduces body-mind equalization. For example, if we stand with legs apart, it is best to place the arms behind, crossing them. If we sit with legs apart, the arms should be treated similarly. If the legs are pulled back under beneath the chair we are sitting on, then the arms should reciprocate, being placed in the back. When the ankles are crossed, the wrists should imitate, and so on.

## **Multiple rotations**

However, the hands, elbows, wrists, fingers, wrist, knees, ankles, the even the toes can also rotate, and when they do so the picture of limb postures becomes more complicated. These configurations involve modes of alternation and agent-antagonists balancing.

There are many forms of the Pranayamic, Taoist and Buddhists seated postures. In almost all variants the legs and ankles are crossed, whereas the arms, hands and fingers can be treated in several different ways. For instance, we find contrasting patterns of upper and lower limb positioning in the classical lotus postures of the Indian yogas. In the padmasana, or Buddha-posture, while the thighs are spread apart the corresponding upper arms are not, and whereas the knees are fully bent, the elbows are bent only slightly, and whereas the ankles are extended, turned outward, the wrists are bent inwards with the hands placed one over the other.

The lack of symmetry, however, is compensated by the way the various parts of the arms and hands configured. One example of this is in the siddhasana lotus posture. Here the legs and ankles are crossed, whereas the arms, in contrast, are spread placing the hands on the knees. However, here the fingers are held in a special yogic pattern, where the thumb and the index finger meet in a circle while the remaining three fingers kept somewhat straight.

An experiment can show just what role this pattern of fingers plays: sit and place the hands according to the shape just described, and observe how your breathing is lightened, but if you release the hands from this shape respiration is no longer free. The numerous other hand and finger patterns featured in yogas all serve in UV equalization in their own ways. Different hand positions, such as holding the palm facing up, keeping all fingers pointing upward, or placing one palm over the other, as in Zen, are all methods where parallel symmetry and alteration are in operation. To witness how we react to different hand positions you can conduct another experiment. Feel how during normal sitting keeping both hands palms down in your lap engages the back part of the shoulder, whereas palms up brings tension to the front part. The way the arms are turned about along their long axes is also important in body-mind equalization. The Language Rule needs to be considered!

## **WALKING**

In both everyday and yogic actions there are at least four functions that influence the body-mind: body posture and balancing, the alternating phases of in-and-out breathing, the interchanging inner and outer visual images, and the automatic eye movements, or saccades. Normally the mind continuously employs a mixture of these functions, and this activity generates thought. When in yoga we project them in the form of zonal triads and

make one function the agent of the triad, then that function, let us say, vision or respiration will mainly occupy the mind.

Positioning and balancing the body during walking is different from what we do when we are stationary. The reason is that just as when we ride a bicycle, the continuous forward motion stabilizes body momentum, as a gyroscope would. The energy is spent not in balancing but in pacing. During walking the conscious mind might focus on any function; we can view the scenery, or listen, or think, or be conscious of our movement, and so on. In sitting or standing meditation we merge eye movement and respiratory movement into a single projection, which may be located outside or inside the body. However, when we walk the eyes need to see where we are heading, and therefore, the dominant agent zone is the projection in front of us. The location of the visual center point will, at any time, differ due to several causes, such as body and head posture, speed of leg movement, etc. On the other hand, if we walk while engaged in thinking, the inner projection becomes the agent and the lookout function plays the antagonist.

Physical and mental geometry plays a large role in walking, and that is why moving in a straight line is important. When you make a turn the body becomes unbalanced, and the train of thought is disturbed. Unless you bend as you turn, you cannot concentrate your mind until you come into the straight once more. Of course, the impact depends on the radius of the turning circle; walking round in a small room is not the same as doing so in a large park. This is why confinement in a small space is quite punishing for both humans and intelligent animals.

But, again, this applies only if you keep to an erect stance. We automatically tilt and adjust the body as we go around corners. However, circling in a small room, you have to stay tilted all the while, placing constant load on respiration, and resulting in constant imbalance on body and mind. This is particularly evident if you keep turning place; it is impossible to start off a train of thought.

Of course, the impact depends on the radius of the turning circle; walking round in a small room is not the same as doing so in a large park. This is why confinement in a small area is quite punishing for both humans and intelligent animals.

Forward projection is practiced in the Zen walking exercise, where the eyes are to be fixed at about eight feet ahead on the ground. But, here again, the dominant agent is mental attention, while the visual attention is the antagonist. The Language Rule applies here: speakers of various language groups performing this exercise will project the focus at different distances; those of the Northern one will place the point closer than eight feet. There is an important point of connection between walking and respiration. It is often said that taking a walk does a great deal for quieting the mind and allows it to think more clearly. The reason is that when we walk the breathing center is lowered towards the abdomen, and therefore, the upper UV and the thorax become released from respiratory duties and so attain greater equilibrium. The legs are controlled by the lower sections of the spinal chord, and this means that the upper body and its nerves are relatively inactive. Therefore, the mind, less affected by physical actions transmitted to it through the UV, can more efficiently engage in thought or meditation.

### **Alternate and parallel limb movements and the Language Rule**

Grouping of the limbs, taken either as the left and right or the upper and lower pairs, are designed to move either in a parallel or an alternating mode, that is, in the same or opposite directions. Jumping is parallel, the left and right limbs move together, while walking is alternating, with left and right progressing at different times. The Language Rule applies to the two modes in several ways, as for instance, in which way the tongue is positioned: for the Northern group the parallel motion of jumping moves the tongue forward, whereas, walking presses it backward. If the tongue is pressed forward and you try to jump, your action will be impeded. The opposite occurs in the Southern group, while the Middle group positions the tongue slightly forward or backward, in either mode, dependent on the particular language. Whether in everyday situations, or in meditation, allowing the tongue to take its optimal position makes all actions efficient.

### **DANCING**

Dancing is universally practiced and enjoyed by human beings in all cultures. Looking from the yogic perspective we might ask how the body movements of dance affect the mind. Why does pleasure come from performing certain movements? First of all, both in walking and in dancing, respiration becomes abdominal, and so the upper body becomes light and can breathe and move easily. In addition, stemming from continually changing, non-static positions and movements taken by the lower body, it becomes easy to execute leg movements, and so the entire body, both top to bottom, feels light and supple; this imparts a pleasant feeling to the body-mind.

Why does this happen? An experiment can shed light on this. Dance slowly and observe: none of the arm and leg joints ever stay locked, the thighs and legs constantly tilt and turn, the feet never lie flat but touch the ground on the balls of the feet, rather than the heels (except in step dancing and some folk dances). The lightness and elasticity of the legs and the body are necessary, of course, because if they were rigid then flowing movement would not be possible. In fact, although it is less apparent, it is not only the legs and feet, but the entire pelvic girdle that gains mobility. This physical levity is one of the appealing aspects in walking, running or jumping, a fact so much in evidence with children and young animals.

Standing on the balls of the feet is a key to lightness of body. If you balance on tiptoes and breath fully in and out a few times, the arms become light and so does the body. This fact is amply demonstrated in nature: fast carnivores and their equally fast prey, as well as many other mammals, birds and reptiles that can run at high speeds, are designed to stand and move about on the toes and the balls of their feet, (or more exactly on the phalanges plus the distal end of the metatarsals). They are called digitigrades, those that "walk on their fingers". Others are flat-footed, or plantigrades, and these support themselves on their entire feet, as do primates, including humans. Elephants may seem to be flat-footed, but they also walk on their toes; the backs of their soles are raised by fibrous padding, and this lifts the heels from the ground.

However, when it is necessary to move rapidly, we also change to the digitigrade mode. Action in all body arts and sports shifts body weight over to the front of the feet, as we run, jump, climb, pedal, dance, bicycle, strike, throw, box, play tennis or Ping-Pong, and so on. Such positions allow a loosening of the upper body due to lowering of the breathing center, and therefore, not only leg movements, but those of the arms can be faster and more powerful.

The sensation of levity brought on by dance movements also relates to the topic of the back muscles of the thighs (see Crossing the legs). In dancing, where you repeatedly switch the weight of the body from one leg to the other, and balance on the balls of the feet, the biceps of each thigh are alternately freed of tension, and therefore during each step, the right and left halves of the UV, associated with those muscles, receive far less tension. The second factor that lightens the body is the raising of the shoulders. The arms are busy in dancing almost as much as the legs, and to be mobile the shoulders are lifted to allow free motion. It is, in fact, the entire shoulder girdle that gets raised. In any efficient movement both the shoulder and pelvic girdles are treated this way. Yet another enjoyable feeling in dance, where two persons hold on to each other in various ways, is the apparent absence of resistance in the partner's body against your own motions; this is witness to the fact that the partner's body is as light as yours, and does not oppose its own motions any more that it opposes yours. Turning in circles is basic to dance, and as it was mentioned in connection to walking, rotation abates thinking, which seems to be another source of good feelings.

In any position of the body specific movements come naturally, and we see these in everyday experience. Our arms swing when we walk; at the start of a swimming race the contestants prepare for diving by bending at the waist and holding their arms up and behind. Less common instances come up in cases such as suddenly losing balance; we fling and toss our arms to regain it. However, in many unusual body settings such responses impart physical grace. Dancing is built this way. If the knees are slightly bent, you can only walk in an awkward way; whereas the leg movements that you will be able to execute will be dance steps. The nature of the steps will depend on how the rest of the body and arms are configured, as well as on the Language Rule. For instance, if the arms are extended sideways at shoulder height, the legs prefer to step sideways. This is what you find in Greek, Turkish, Armenian and similar ethnicities, whether the performers hold their arms joined with the arms of others, or not. The Language Rule applies here; such side to side connecting is rare in most other world regions.

Dance also relates to alternation: in dance you are supported at any time chiefly on one leg, and only on one side of the body. But then, whenever one leg thus supports the body, the other one is released of that task and can move with greater ease. Note that putting equal weight on each foot, that is standing squarely on both feet, immediately blocks the flow of the dance movement. Since the left and right sides are alternately active and passive, a feeling of lightness is averaged for the whole body. A complete, rather than an average unburdening would, of course, be no longer dancing, but meditation.

Dance is most often accompanied by an ongoing rhythmic beat, usually featuring deep bass sounds. Both of these stimuli also possess, even outside of dance, the power to lower the breathing center and thereby relieve the head and upper body of physical tension. Observe that when you listen to low pitched drum beat, or other bass notes, your breathing center moves down. That is what greatly appeals in hearing drums, which, no doubt, were the first musical instruments. Different kinds of rhythms generate characteristic mental settings. Marching brings on a feeling of strength, a waltz suggests flying, popular contemporary dancing brings out primitive erotic elements, etc.

Geometry comes in here, as well: when you dance you move in geometrical patterns, describing paths made of lines, circles, rotations, and thereby you construct patterns of geometry innately embedded in body-mind structure. This reduces certain body movements to their most natural and simplest configurations, and the resulting behavior apparently offers another reason for enjoying dance. The Language Rule is a contributing factor in all our movements and that is why dance styles vary according to ethnically different regions. In some places couples dance facing each other, while in others they are placed side by side. Arms are more active in some, elsewhere the legs are the main agents. Vivid hand and finger movements are especially important in many Asian styles, most notably in Southeast Asia.

All this relates to Taiji which is a specialized form of dancing. Just as ordinary dance does, the slow choreography of Taiji likewise relieves much of the weight of the body and its inertia against movement. The agents that bring lightness to motion here are the same as in dancing, but they also minimize the energy expended by following the paths of least resistance to limb and body movement, as well as by synchronizing breath and movement. Such paths produce positions and motions that perfectly fit into body-mind geometry and so create bodily and UV equilibrium.

## **APPENDIX A – TRIPLICITIES**

### **TRIPLICITIES IN THE HUMAN BODY**

The following is a list of the numerous organs and processes that are triadic. Many more can most likely be found if the subject is further researched. The entries are grouped according to the body region where they are located. A fundamental role of triplicity in biological structuring seems more than evident in the number of examples we can find. This fact also strongly underwrites the existence of the Triple Body and its significance in yoga and in meditation. The UV (upper visceral system) exhibits an especially large distribution of triadic structures, owing to its complexity and refinement.

#### **GENERAL**

Three layers of the blastula (ectoplasm, mesoplasm, endoplasm) produced in the fertilized egg cell

Three regions of development in embryo: neural canal, notocord, digestive tract

Three regions of development in adult: spinal cord, vertebrae, digestive tract

#### **SKIN, BONE, MUSCLE, VESSELS**

Three layers of skin: epidermis, dermis, and subcutaneous connective layers.

Three layers of hair strands: cuticle, cortex, medulla

Three layers of connective tissue in muscles

Three types of muscles: striated, smooth, cardiac

Three major bodily structural materials: bone, cartilage, fascia

Three layers of nails: unguis, subunguis, stratum corneum

Three types of loose connective tissue: areolar, adipose, reticular

Three layers of arteries: tunica adventitia, tunica media, tunica intima

## **HEAD**

Three layers of head skeleton: dermatocranium, splanchnocranium, neurocranium

Three layers of scalp: skin, connective tissue, occipitalis frontalis muscle

Three parts of brain: forebrain, midbrain, hindbrain

Three facial dermatomes: ophthalmic, maxillary, mandibular

Three muscles of jaw: masseter, medial pterygoid, lateral pterygoid

Three parts of tooth: crown, neck, root

Three layers of the tooth: enamel, dentine, pulp

Three external ear muscles: anterior, superior, posterior

Three parts of ear: external, middle, inner

Three auditory bones: malleus, incus, stapes

Three ducts of the membranous labyrinth of the inner ear: cochlea, vestibule, semicircular canals

Three semicircular canal ducts: anterior, lateral, posterior

Three nerves serving vestibule: facial VII, vestibular, cochlear

Three branches of the trigeminal nerve: ophthalmic, maxillary, mandibular

Three kinds of salivary glands: sublingual, submaxillary, parotid

Three cranial nerves serving external eye muscles: optical, trochlear, abducens

Three pairs of external eye muscles: upper and lower recti, lateral recti, obliques

Three layers of the eye: fibrous tunic, vascular tunic, neural tunic

Three layers of tear film over the eye: lipid (oil), lacrimal (aqueous), mucoid (mucin)

Three vertical (axial) tongue divisions: tip-blade, body, root (or base)

Three horizontal intrinsic lingual muscles: superior longitudinal, transverse-vertical, inferior longitudinal

Three muscles connecting jaw and hyoid bone: genioglossus, geniohyoid, mylohyoid

Three pharyngeal muscles: superior, middle, inferior

Third eye, vestigial, from original three eye system)

Three layers of brain meninges: dura mater, arachnoid, pia mater

## **THORAX**

Three layers spinal chord meninges: dura mater, arachnoid, pia mater

Three parts of deltoid muscle: clavicular, acromial, spinous

Three layers of mucosa in all stomach regions

Three parts of stomach: fundus (or cardiac), body, pylorus (or antrum)

Three major types of cells in stomach fundus

Three layers of heart wall: epicardium, myocardium, endocardium

Three layers surrounding the kidney: true capsule, perirenal fat and renal fascia

Three layers of adrenal cortex: glomerulosa, fasciculata, reticularis

Three portions of the thoracic diaphragm: sternal, costal, lumbar

Three sections of iliocostal muscle: iliocostalis cervicis, iliocostalis thoracis, iliocostalis lumborum

## **ABDOMEN**

Three muscles of pelvic floor: coccygeus, iliococcygeus and pubococcygeus

Three layers of the wall of uterus: perimetrium, myometrium and endometrium

Three muscle layers of front (anterolateral) side of abdomen: external abdominal oblique, internal abdominal oblique, transversus abdominis

Three layers of muscular coat of stomach: longitudinal, circular, internal oblique

Three parts of small intestine: duodenum, jejunum, ileum

Three parts of large intestine: caecum, ascending colon, descending colon

Three layers of uterine tube: serosa, mucosa, lumen

Three tendinous interseparators and aponeurotic sheets of the rectus abdominis muscle

Three layers of urinary bladder layers: external, middle, internal

Three layers of testes: external spermatic fascia, cremaster muscle, internal spermatic fascia

Three layers of uterine tube: serosa, mucosa, lumen

Triangular middle (mediolateral) section of uterus

### **APPENDAGES**

Three segments of arms and legs: upper arm, lower arm, hand; thigh, leg, foot

Three segments of fingers and toes: metacarpals and phalanges

Three segments of foot: metatarsals (toes), arch of the sole, heel

### **MISCELLANEOUS and MEDITATIONAL**

Three phases of feeding: ingestion, mastication, swallowing

Three segments of alimentary canal where digestion occurs: stomach, small intestine and large intestine

Three segmented vertebrate body: head, body, tail

Three-segment minimal unit of peristaltic movement, cf. inchworm movement, crawling

Tripartite division, in speech, of vowels according to height and axial position

Three voice registers in music: soprano, tenor, bass

Three note triad chord, e.g., c-e-g keys on piano

Three note harmonic basis of Western polyphonic music

Three parts of insect body: head, thorax, abdomen

Three parts of insect thorax: prothorax, mesothorax, metathorax

Three parts of insect digestive duct: foregut, midgut, hindgut

Three pairs of legs in insects: front, middle, back

Three legged tripod motion of insects: three legs at a time move, other three support

Three layers of insect exoskeleton (body wall): epicuticle, endocuticle, epidermis

Three major types of bird feathers: filoplume, plumula, plume

Triplicity in vertebrate upper body: one head and two arms

Triplicity in vertebrate lower body: two legs and one tail

Triplicity (coronal) in vertebrate body: arms and feet on left and right sides plus body in middle

There is good basis for assuming that tripartite organization is a basic structural element in biological mechanics. Consider the triangle action in any muscle and bone lever in the body: two hinged bones pulled together by a muscle; just as in bivalves (clams): two plates with a connecting hinge muscle. Likewise, triads show up in plants as their three primary tissues: xylem and phloem, superficial epidermal layer, cortex (and pith).

Three colors of light, red, green and blue when mixed produce all other colors in our perception; as in color TV and computer monitor.

In holistics and meditation triplets are numerous, and with important practical applications. For example, you can easily verify that (a) with eyes relaxed, with lids either closed or else open, looking into distance, or up at the cloudless sky, with nothing to focus on, there are three distinct distances at which the eyes can focus and stay relaxed; (b) there are three ways to sense breathing—not the air flowing in the respiratory channel, but rather feeling the places where the cycle of muscular action of respiration is located. You can feel as if breathing either in the head, or in the chest or in the abdomen. Or, you can breathe in the upper, middle and lower parts of the head. These are, of course, appearances of zonal triads. Triads are universal in folklore, mythologies and religions, e.g., Brahma, Vishnu, and Shiva, or Shakti, Lakshmi, and Saraswati; the Three Lucky Gods (in popular Taoism), Taoist yoga's three passes, three treasures of essence, energy, spirit, and the three cauldrons (or dantians/tandens, or cinnabar fields); the three bodies of Buddha; Trinity and Three Wise Men of Christianity; the Three Moirai, Three Charites, Three Erinnyes, and Three Norns from Classical myths.

## **APPENDIX B – SUMMARY OF METHOD**

### **RELAXATION**

1. Relaxing and equalizing the eyes and the UV are essential; begin relaxation starting with the eyes.
2. Locate the UV - start from one of its center points, in eyes or tongue,

and continue into the outer and inner UV layers.

3. Relaxing the larynx is especially important.
4. Extremities of body must also relax: hands, fingers, feet, etc.

### **GEOMETRY**

1. Body motion creates thought, so body should be set at its simplest and most stable positions, conforming to a simple geometrical shape.
2. Always find the appropriate triangle (truss) to stabilize the body-mind.
3. Distinguish zones and center points, and know how to create merges.

### **RESPIRATION**

1. Breathing modes – distinguish the three modes: thoracic, middle and abdominal.
2. Be familiar with trizonal mechanics of breathing.
3. Use trizones to settle and center the Midzone.
4. Learn to consciously enter spherical respiration.

### **IMPORTANT POINTS**

1. The mind space is partly projected outside the body when the body is not balanced, and is then hard to locate.
2. Holding on to, merging zones together is essential in creating a trizone, they appear only if all three zones are perceived.
3. Eyes and RSP are united and as such are the fundamental tools of yoga and meditation.
4. The lotus position is the best but not essential, there are many alternatives.
5. Anatomically the body is not perfectly symmetrical.
6. Mind space is projected partly out of the body in unbalanced body positions.
7. The Language Rule is a factor in choosing methods because they often differ according to various ethnicities.
8. Always consider the Rule of Alternation and its control through very small adjustments.

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William James was deeply interested in understanding the connection between the body behavior and mind, and had discovered several of these through introspection, that is by looking within. All of these are presented in his book, but are not put together as a structured system. He was a champion of the monism of the body, i.e., monadism and had recognized things that are basic tenets of Pragmayoga, such as anchors, their hierarchical ranking, mergers, and superimpositions frames. Although he is ubiquitously cited in the psychological literature as well as in books on meditation, nothing of James' valuable insights have ever gained attention, let alone understanding. This can be done; see [http://www.garystong.com/WJames/WJ\\_Introspection](http://www.garystong.com/WJames/WJ_Introspection).

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Charles Luk had set himself to translate works of as many Chinese meditational works as he possibly could in his lifetime, and we owe him much gratitude. Besides covering Zen,

he presented material on all other schools of Chinese yogas. This one on Taoist methods is especially important because being written in cryptic terms; few have the patience to follow them. However, he has put the terminology into English form that is more understandable. Again, seen from the perspective of Pragmayoga, it all makes sense.

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