

Working with Vāyus, Prāna and Prānāyāma in Yoga

Received October 7, 2017

Revised October 12, 2017

Accepted October 13, 2017

Key words

Prāna, vāyu, prānāyāma, self-perception

The paper deals with the practical implementation of the terms *prāna* and *vāyu* in teaching yoga. Different yoga schools and traditions use various terms such as *vāyu*, *vāta*, *prāna*, *pavana*, *samīrana*, *anila*, *māruta*, *śvasana*, *prabhañjana* while highlighting the importance of the subject of *prānāyāma* and for describing the related techniques and their effects. The paper gives the different meanings and understanding of terms *vāyu*, *prāna* and *prānāyāma*. The author deals also with the psycho-physiological mechanisms related with the doctrines of *vāyu* and *prāna* in relation to *prānāyāma*.

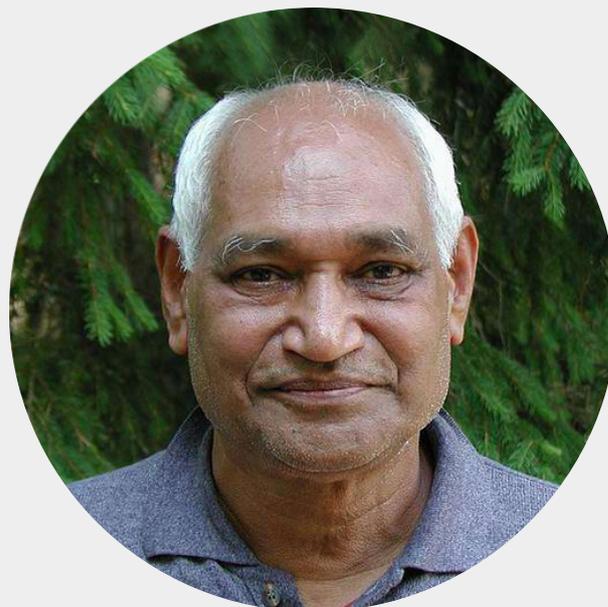
1 Introduction

The computer sciences refer to *Basic Input-Output System* (BIOS). The bio-medical sciences refer to *Sensory-Motor activity* and *networking* in the nervous system. There is reference to the terms *vāyus*, *prāna* and *prānāyāma* in traditional texts on Hatha and Tantra yoga.

For a novice and the beginner in yoga, activity of *vāyus* could be understood as neuro-muscular activity and/or psycho-neuro-muscular actions involving motor nerves and motor areas in the brain and the spinal cord. Stimulation of various receptors (exteroceptors/tele-receptors, internal receptors, visceral receptors, vestibular receptors) giving rise to sensations leading to knowledge of different kind could be understood as the activity of *prāna*. The concept of *prānāyāma* could be viewed as increasing the depth, intensity, quality and subtlety of the knowledge and the database related to the Self in relation to the spiritual (*adhyātmika*) yoga [1].

In modern sense of the term, the science, philosophy and practical aspects of traditional yoga education programs are based on subjectively experienced knowledge about the existence and survival of the human being and the life as a whole in different environmental conditions. Those who got this knowledge tried to communicate it to those who didn't have the same or similar kind of knowledge. Being based on the internally aroused sensations, in the initial stages, the teachers and students encounter lot of difficulties in communicating their subjective feelings and knowledge to each-other clearly and effectively in the objective framework of the modern education systems.

Different yoga schools and traditions use various terms such as *vāyu*, *vāta*, *prāna*, *pavana*, *samīrana*, *anila*, *māruta*, *maruta*, *śvasana*, *prabhañjana* while highlighting the importance of the subject of *prānāyāma* and for describing the related techniques and their effects. Moreover, these terms are used indiscriminately, as synonyms (Gharote and Devnath 2005) and many times in an obscure language. The terms *vāyu*, *prāna* and *prānāyāma* are used with different meanings and understandings in different yoga traditions and in the same tradition with reference to context as has been presented in *Yoga Kosha* [2]. Relevant and important matter has been summarized below.



About the author

Mukund Vinayak Bhole, M.D., D.Sc. is a retired research director of the Kaivalyadhama SMYM Samiti, Lonavla, India, the first Yoga Research Institute on the globe. He holds M.D. in physiology and D.Sc. in yoga, and was granted a number of distinctions for his tireless work in yoga. Dr. Bhole works and teaches in a number of Asian and European countries since the early 1970-ies. Presently he has started cooperating also in an EU project on consciousness and creativity. His main area of interest is research into *prānāyāma*. His email contact is mv35bhole@gmail.com.

Different meanings and understanding of the term *vāyu* (*Yoga Kosha* 1991, *Gorakshasatakam* 1974, *Hathapradipika* 1985):

- a) Breath (*svāsa-prasvāsa*) – the air (wind) breathed in and out during breathing;
- b) *Prāna* – energy moving to and fro inside the body and which could be taken to any part of the body including the head and held there for shorter or longer time;
- c) Autonomic reflex activities involved in sustaining life (*vāyavāh dashadah*, plural);
- d) States of consciousness (*chitta-avasthā*) arising out of actions, activities and behavior patterns;
- e) Functions of five sensory and five motor organs (*jnānendriyās* and *karmendriyās*);
- f) Constituent material substance of the Nature (Universe) and the Individual (*vāyu* as *mahābhuta*);
- g) Area of the body (from naval to nose) under the influence of *vāyu* (*vāyusthāna*);
- h) Nourishment reaching all parts of the body/being (oxygen or something else?);
- i) Muscular action (contraction–relaxation);
- j) Constitution of individual (*vāta prakṛuti*), humor (*vāta dosha*) and behavioral tendency (*rajo guna*);
- k) *Vāta dosha* in *Āyurveda*.

Different meanings and understanding of the term *prāna* (*Yoga Kosha* 1991, *Yoga Sutra* 2007, *Gheranda Sanhita* 1978, *Gorakshasatakam* 1974, *Hathapradipika* 1985):

- a) Respiration;
- b) Breath or vital air that moves on continuously throughout the body;
- c) One of the five *vāyus* (other four being *apāna*, *samāna*, *udāna* and *vyāna*);
- d) Autonomic reflex functions involved in preserving life;
- e) Functions of the *jiva* (living being), *jivana*;
- f) Nerve currents, motor impulses;
- g) Something (nerve impulses related with the activity of the vertebral muscles) rising up the back;
- h) One of the ten *vāyus* supposed to be residing below the *kanda* (bulb).

Different meanings and understanding of the term *prānāyāma* (*Yoga Kosha* 1991, *Yoga Sutra* 2007, *Gheranda Sanhita* 1978, *Gorakshasatakam* 1974, *Hathapradipika* 1985, *Bhagavad Gita* 2014):

- a) Pause in breathing;
- b) Whole process of inspiration–expiration and suspension of breath in different ways;
- c) Practice that leads to supreme realization;
- d) Alternate nostril breathing using thumb to close one nostril and the ring and little fingers to close the other nostril and to use these three fingers to close both the nostrils;
- e) Inhalation (*puraka*), exhalation (*rechaka*) and suspension of breath (*kumbhaka*) during the of yoga;
- f) Contemplation on different aspects of goddess Gayatri – “a” during *rechaka*, “u” during *kumbhaka*, and “ma” or goddess Saraswati during *puraka*;
- g) Raising *apāna*, mixing it with *prāna* and carrying the blend to the head;
- h) Simultaneous cessation of *prānagati* and *apānagati*;
- i) Balanced state of *prāna* and *apāna*;
- j) Steadiness of vital air.

In the absence of proper exposure and understanding, it is quite possible that anyone will get confused and disoriented after reading these descriptions and people will run away from the practices based on these concepts. Realizing the need to present such an important subject in simplified language, an attempt has been made to present some of the above-mentioned terms in modern medical language with the intention of using them in a practical class for the novice and the beginners in yoga.

2 Simple Basic Physiological, Psycho-physiological and Physio-psychological Mechanisms

Since infancy, most of our psycho-motor learning and education takes place through three types of gross body movements, which are not related with breathing in a direct way: (1) loco-motor, e.g. movements of arms, legs, and vertebral column; (2) balancing, e.g. standing on one leg or toes, top-sy-turvy positions, rail-walking, etc.; (3) movement against the force of gravity, e.g. lifting the leg/arm, high jump, etc.

These movements can be seen and observed by other persons [3]. The performer can see them in a mirror as is done

by body builders, dancers, actors, weight lifters, etc. In yogic language, *indriya-prāna* is used to get the knowledge. If desired and required, they can be photographed and video filmed for records, validation, verification and comparison. The performer can also subjectively feel these movements from inside the body without using the sense organs and get experiential knowledge which is totally different from the objective knowledge. Directly, these movements are not related with breathing. However, breathing can get influenced by them, if performed till exhaustion by working beyond capacity. Yoga competitions as a sport activity are based on the evaluation of these movements by the judges. Yoga demonstrations also utilize these body movements. However, working with breath during *prānāyāma* assumes different characteristics. It is held in high esteem in traditional yoga.

Soon after birth, we start to breathe. Natural breathing is spontaneous and involuntary. It involves (1) expanding or opening type of body movements related with the phase of inhalation or breathing-in (*svāsa*), and (2) retracting or closing type of body movements related with exhalation (*prāsvāsa*).

The new born baby does not remain conscious of these body movements related with breathing nor other kinds of body movements nor the movement of air (breath) during its breathing. It can be easily ascertained by an intelligent baby sitter observing the baby. The medical world knows that the pressure changes taking place in the abdominal cavity due to the movement of the thoracic diaphragm are manifested as the movements of the abdominal wall observed during natural-spontaneous-involuntary breathing in resting condition. However, unlearned people are not aware of this fact. They feel and strongly believe that the air movement is responsible for the abdominal movements during breathing. This wrong belief/conviction requires to be corrected before proceeding on the path of *prānāyāma*.

Crying of a new born baby involving breathing and most of its physical movements are involuntary and reflex in nature. We slowly learn to control, modify and use breath and breathing in different ways with or without awareness ("mindfulness"). We do not receive systematic training and education about the "mechanics of breathing" and how to work with it in an intelligent way, even though we do learn to speak, to sing and to modify and control spontaneous activities such as crying, laughing, shouting, screaming, sneezing, hiccup, coughing, etc.

Commonly conducted training and educational programs involving breath and breathing by non-medical people

give importance to "gaseous exchange" (O₂-CO₂ exchange) along with various volumes, capacities, reserves, ventilation, breath-holding time and ability to inhale and exhale as completely and as quickly as possible in the shortest possible time. Modern yoga literature, teaching and research are no exception to this approach. Even the modern yoga teachers do not seem to be working with the "mechanics of breathing" in yoga classes while working with *prānāyāma*.

3 Working with Vāyus, Prāna and Prānāyāma in Yoga

For practical training purposes *vāyus* could be understood as the neuro-muscular activities which are mostly involuntary in nature and/or psycho-neuro-muscular actions which are mostly voluntary in nature. Acquiring knowledge because of the sensory activity could be understood as *prāna* for training and education in yoga.

The three types of body movements not related with breathing and the two related with breathing are looked upon as five major or primary *vāyus* (neuro-muscular movements) in yoga. They are employed in daily life to carry out different actions and activities to earn livelihood and sustain life. Other types of (gross or subtle) movements are reflex in nature and they become evident when the systems come into action to overcome disturbances in our state of being, such as sneezing, yawning, belching, hiccup, coughing, etc. They are called as *five minor* or *subsidiary* or *secondary vāyus* in yoga. The working of these *vāyus* (motor activities) giving rise to knowledge (*jnāna*) through the sensory activity could be understood as *prāna* in yoga training.

The knowledge acquired through the functioning of the sensory organs (tele-receptors or exteroceptors) and/or by way of feed-back from the skeletal muscles, joints, ligaments (kinesthetic perception) is also termed as *prāna* in yoga. It can get related with objects, events, phenomenon, etc. in the external world outside the body (*bāhya ākāśha*). We also get knowledge from inside the body (internal world or *antarākāśha*) because of the functioning of the internal organs (visceral activity giving rise to visceral awareness) and the state of the skeletal muscles (proprioceptive awareness).

In yoga, breathing is recognized as the only (?) vital activity which can be easily sensed, monitored and modified by a conscious person. In traditional yoga, the training and education in relation to *prānāyāma* involves working with the "mechanics of breathing" rather than "gaseous exchange". It is connected with the doctrine of *prānic body* (*prānāyāma kośa*)

described in various Upanishads and with the doctrines of *nādishuddhi*, *kumbhaka*, *lotuses*, *chakras* and *arousal of kundalini* in Hatha and Tantra yoga.

We are expected to get the knowledge about the "mechanics of breathing" and the "flow of breath" (in-breath and out-breath) through "its touch inside the body" (*antah sparsha*), the pathway (channel or *nādi* or *mārg*) followed by the flow of breath and the speed of its movement (*gati*). The whole practice constitutes getting knowledge leading to the understanding about the working of the *vāyus* (neuro-muscular activity) with the help internal sensory activity (*prāna*) and to increase the depth and subtlety of this knowledge and understanding (*prānāyāma*) through regular practice (*abhyāsa*; see Vimuktananda 1977). It ultimately results in guiding the practitioner to "self-realization" because air as breath has no form, smell, touch and the spontaneous natural breathing is involuntary in nature. The tactile knowledge is obtained from inside the body whose nerve supply is different from the nerve supply of the skin.

4 Psycho-physiological Mechanisms Related with the Doctrines of Vāyu and Prāna in Relation to Prānāyāma

As mentioned above, gross or major body movements (neuro-muscular or psycho-neuro-muscular) have been postulated as *vāyus* [4] and the knowledge of these movements developed through the sensory activities has been postulated as *prāna* in relation to the practice of *prānāyāma*. Hatha and Tantra yoga texts also mention *minor* or *subsidiary vāyus* [5], but not *prānas* [6]. The *minor vāyus* can be understood as reflex actions as a result of disturbances in the body functions. As mentioned above, there is no unanimity in respect of psycho-physiological functions ascribed to these *vāyus* and *prānas* in different schools and books on yoga and Āyurveda and as maintained by different experts.

Modern writings on these topics can be questioned from the practical and experiential objectives to be achieved according to the traditional teachings in yoga. Therefore, slightly different view point has been advanced here for the consideration of those who would like to learn yoga by doing and experiencing.

Five main *vāyus* (verb) – different "processes":

1. **Prāna vāyu** – physical, physiological and/or psycho-physiological movements involved in "taking-in" or receiving material things such as solids (food), liquids (water) and air/wind (breath), etc., and/or thoughts and feelings, etc.;
2. **Apāna vāyu** – physical, physiological and/or psycho-physiological movements involved in "giving-away" or "bringing-out" or elimination of material things such as solids (stools), liquids (urine, sweat, tears) and air/wind (breath), etc., and/or thoughts and feelings, etc.;
3. **Vyāna vāyu** – physical, physiological and/or psycho-physiological movements involved in transporting material things, thoughts, feelings, etc.;
4. **Samāna vāyu** – physical, physiological and/or psycho-physiological movements involved in maintaining balance and equilibrium;
5. **Udāna vāyu** – physical, physiological and/or psycho-physiological movements involved in upward direction against the force of gravity.

Five *prānas* (noun) – different "states of consciousness / awareness":

1. **Prāna** and **prānic activity** – neural and/or musculo-neural activity giving rise to the feeling, knowledge and a state of awareness/consciousness of receiving or getting something. In short, "awareness of addition" for the Self;
2. **Apāna** and **apānic activity** – neural and/or musculo-neural activity giving rise to the feeling, knowledge and a state of awareness/consciousness related with giving away, elimination, forgetting, etc. In short, "awareness of deletion" for the Self;
3. **Vyāna** and **vyāna activity** – neural and/or musculo-neural activity giving rise to the feeling, knowledge and a state of awareness/consciousness of linear movement or circulation. In short, "awareness of linear movement" for the Self;
4. **Samāna** and **samāna activity** – neural and/or musculo-neural activity giving rise to the feeling, knowledge and a state of awareness/consciousness related with balance and equilibrium. In short, "awareness of balance (*Samādhi?*)" for the Self;
5. **Udāna** and **udāna activity** – neural and/or musculo-neural activity giving rise to the feeling, knowledge and a state of awareness/consciousness related with upward movement (physical plane) and/or journey (mental plane). In short, "awareness of upliftment (*ujjāyi, uddiyāna, utthāna*)" for the Self.

5 Conclusions

Traditional yoga education puts emphasis on getting knowledge (working of *prānas*) of the actions and activities (working of *vāyus*) during the yoga practices. Practices should not be mechanical in nature. Upanishads (Nikhilananda 1963) mention the sequence as *kriyā-jnāna-upāsana*, i.e. activities (*kriyās-vāyus*) should give rise to knowledge (*jnāna-prāna*) and working with that knowledge (*upāsana-prānāyāma*) should

lead to habit formation reflecting in behavior patterns (being and becoming). Bhagavad Gita mentions *karma-jnāna-bhakti*, i.e. actions (*karma-vāyus*) should give rise to knowledge (*jnāna-prānas*) and working with that knowledge (*bhakti-prānāyāma*) should lead to devotion or commitment in life (being and becoming).

Notes

Those readers who will try to practice according to the guidelines given in the text, are requested to send their experiential observations to the author of the article and/or the editor of Spirituality Studies.

- [1] The nature of the knowledge gained and understanding developed in "material yoga" (*bhautika yoga*) and "transcendental yoga" (*pāramārthika yoga*) is of a different kind.
- [2] *Yoga Kosa* refers to *prāna* on pp. 223–224, to *prānāyāma* on pp. 225–226, to *vāyu* on pp. 290–293.
- [3] These movements are used in playing games, sports, swimming, body building exercises, dancing, and daily actions and activities for procuring food and drinks, working with office/factory/household machines, instruments and apparatuses involve along with the activity of sense organs. It is possible to carry on with these movements while continuing breathing (controlled or uncontrolled) and/or during breath-holding.
- [4] *Five major vāyus* are *prāna vāyu*, *apāna vāyu*, *vyāna vāyu*, *samāna vāyu*, and *udāna vāyu*.
- [5] *Five minor vāyus* are *naga*, *kūrma*, *krukala*, *devadutta*, and *dhananjaya vāyu*.
- [6] However, the text, *Shatapatha Brahman*, mentions that the activity of five sensory and five motor organs (*indriyas*) could be experienced in terms of five *prānas*.

References

- Gheranda Samhita*. 1978. Lonavla: Kaivalyadhama SMYM Samiti.
- Gharote, M. L., and Parimal Devnath, eds. 2005. *Kumbhaka Paddhati of Raghuvira*. Lonavla: Lonavla Yoga Institute.
- Gorakshasatakan*. 1974. Lonavla: Kaivalyadhama SMYM Samiti.
- Nikhilananda. 1963. *The Upanishads*. London: Allen and Unwin.
- Hatha Yoga Pradipika*. 1985. Munger: BSY.
- The Bhagavad Gita*. 2014. Sivkasi: Srinivas Fine Arts.
- The Yoga Sutras of Patanjali*. 2007. Lonavla: Lonavla Yoga Institute.
- Vimuktananda. 1977. *Aparókshanubhuti*. Calcutta: Advaita Asrama.
- Yoga Kosha: Dictionary of Yogic Terms*. 1991. Lonavla: Kaivalyadhama SMYM Samiti.