

BIOETHICS

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College of Human Medicine
Center for Ethics and Humanities in the Life Sciences



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SERIES



Tom Tomlinson, PhD

Director, Center for Ethics and Humanities in the Life Sciences

introducing

Sebastian Normandin, PhD

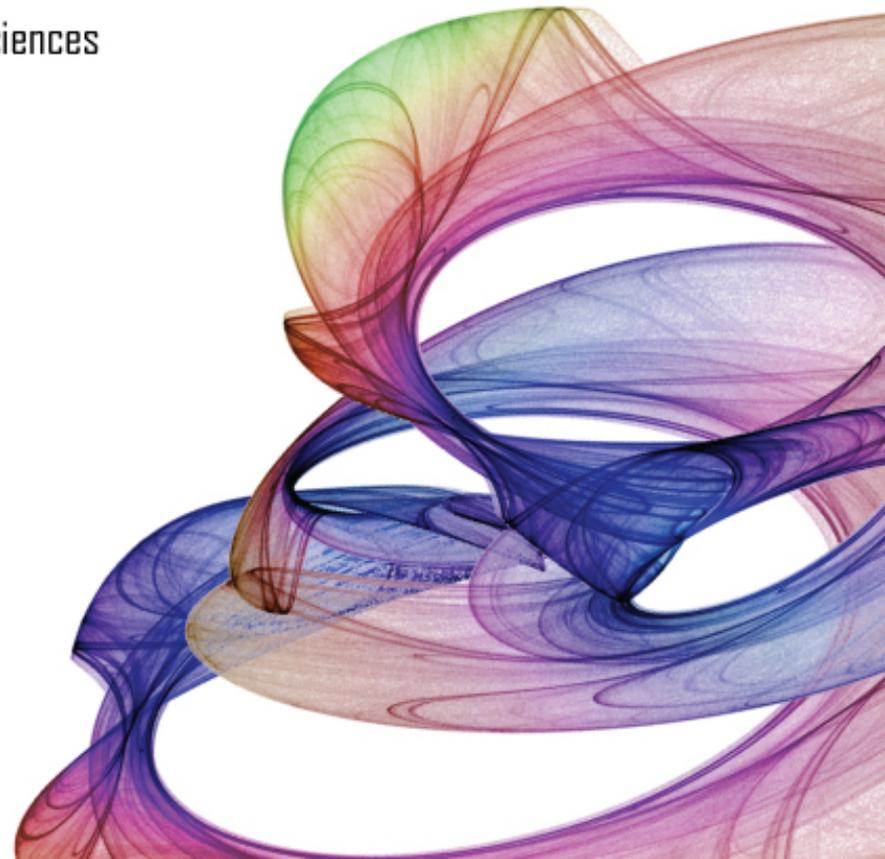
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*“Enlightened” Breath:
Breathing and Biomedicine*

Sebastian Normandin, Ph.D.
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- "man's emergence from his self-imposed immaturity"
- "It is so easy to be immature...If I have a book to serve as my understanding, a pastor to serve as my conscience, a physician to determine my **diet** for me, and so on, I need not exert myself at all."
- "I need not think, if only I can pay."

Immanuel Kant, "What is Enlightenment?" (1784)

- "*Diaita*" (from Greek: "way of living")
- Broader concept than modern "diet". Offers us the possibility of considering the cumulative effects of regimes, practices, or routines on health and wellbeing.
- Diet of course important. By so is attitude, career, environment, habits, lifestyle, stress-levels, etc, etc...
- Considering breath in context of *diaita* – away from reductionism, towards more holistic, practice-based understanding.

Diet? Or *Diaita*...

What is Breath? Breath is Life!

- Breath associated with life and life energy is all human cultures. Association central to various medical systems. Idea of ***vitalism***.
- Concepts that mean both life and breath include *Qi, Prana, pneuma, ruagh*.*

*Other Examples: *Ka* (Egypt), *Umoya* (Zulu), *Elima* (Congolese), *Baraka* (Sufi), *Spiritus Santus*, *Mana* (Figian), *Ni* (Sioux), *Manita* (Algonquin).



Qi

Breathing Deeply: Breath and History



"Ka": Life Force

"Ba": Egyptian soul, both associated with breath

- Breath and breathing practice associated with spiritual ritual in many traditions; Buddhism, Hinduism, Taoism.
- Taoism: The Taoist philosophers “practiced regulation of respiration, taking deep breaths, holding them as long as possible, and exhaling very slowly.” [*Qigong*]
- *Vaya*; Hindu: humoral air and Vedic deity.
- *Prana*; breath, mind, soul, “character”.



Breath, Practice and Spirituality

- **Yoga:** Word [And yogi] derived from the Sanskrit *yug*, meaning “to join”. (Likely the root of the English word “yoke”).
- Originally referred to the idea reigning in, or getting into a harness. (We can easily imagine this with respect to certain positions in the practice of yoga!). Also within the word is the concept of *union*. Central!
- Key Point: Breathing is only bodily function that can vacillate between autonomic and conscious control.

“Breathing is unique in its dual nature: like other vegetative functions, it needs no conscious input to maintain proper operation. Yet in a moment breathing can be taken over by the conscious mind, limited only by survival safeguards. As yogis know well, this aspect of breathing extends the domain of voluntary motor control farther than any other body function. However, breathing is also a loophole through which we can compromise an essential biologically regulated function.”

C. Gilbert, “Breathing: An Essential Component of Bodywork,” *Journal of Bodywork and Movement Therapies* 20 (1998): 64.

Yoga: Breath and Control

- ***Pneuma*** was a fundamental concept in the healing systems of western antiquity (e.g. Galen [influence of Stoics], Hippocrates), and connects us to a more holistic understanding of breath.
- Anaximenes; world made up of various concentrations of the element air. World “breathed”. Air thus also held the body together.
- Human “nature” and “nature”. Etymology: *anemos* (wind); *animus* (spirit); *anima* (soul). *Psyche*, *psychien*, *psycho*, *psychros*, etc...
- Renaissance: Macrocosm-Microcosm. *Anima Mundi* (Paracelsus).
- Contemporary: Lovelock – Gaia hypothesis. Earth as living system.



Πνεῦμα

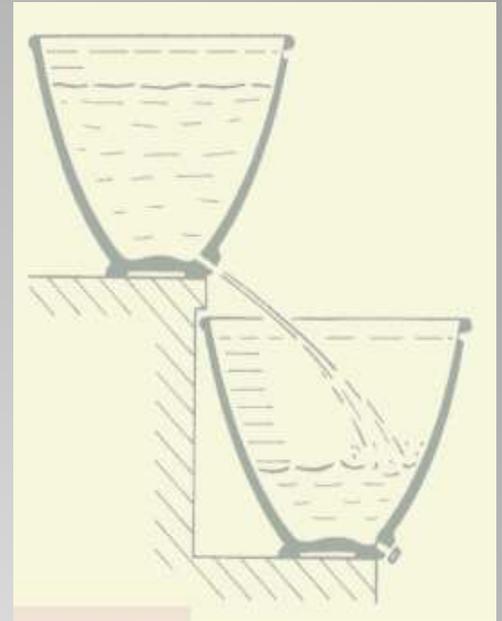
Breath and the Holistic Turn

-- Empedocles (ca. 490-430 BC) offers one the more "scientific" explanations of breath in classical era.

-- Likens process of breathing to a *clepsydra*, or water clock.

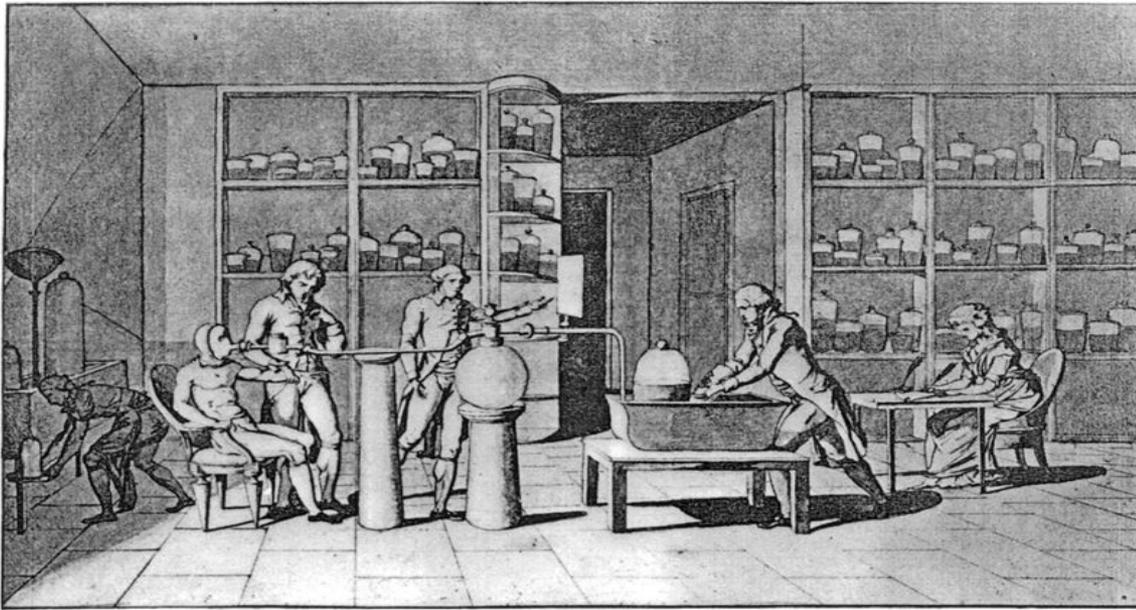
-- For Empedocles, breathing was a process driven by pressure; porous tubes in the nostrils allow air into the body while preventing blood to get out. Raises questions about vacuums and "the void" (Democritus).

-- As blood moves away from the tubes air comes in, and is pushed out when blood returns.



Clepsydra

Empedocles and the "Mechanism" of Breath



Lavoisier's Experiments in Respiration (ca. 1770s)

-- da Vinci and Vesalius produced detailed anatomical drawings of the lungs, but had little clear idea of their function.

-- Robert Boyle.
Air pump and vacuum.
Illustrate the essential nature of air to life.

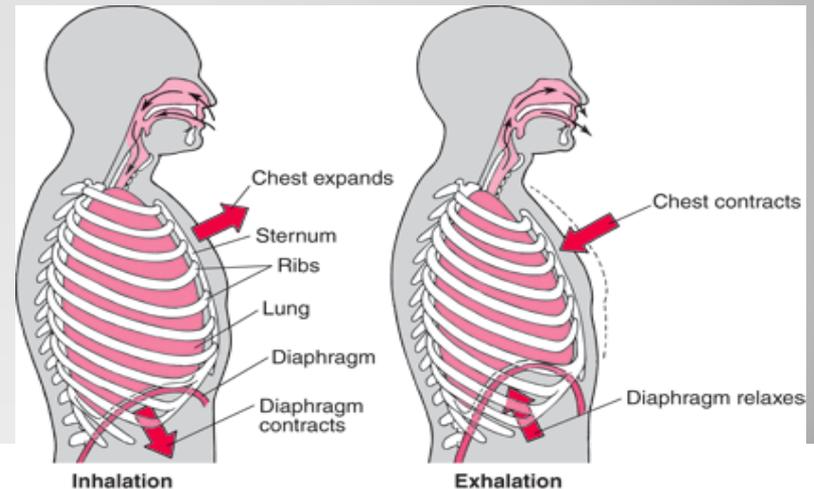
-- William Harvey (in *Lectures on the Whole of Anatomy* [1653]) highlighting the centrality of the lungs and breathing:

"Pre-eminence [of the lungs]: nothing is especially so necessary neither sensation nor ailment. Life and respiration are complementary. There is nothing living which does not breathe nor anything breathing which does not live."

Anton Lavoisier (late 18th c.). Experiments developed the function of respiration. Relationship btw. respiration and combustion.

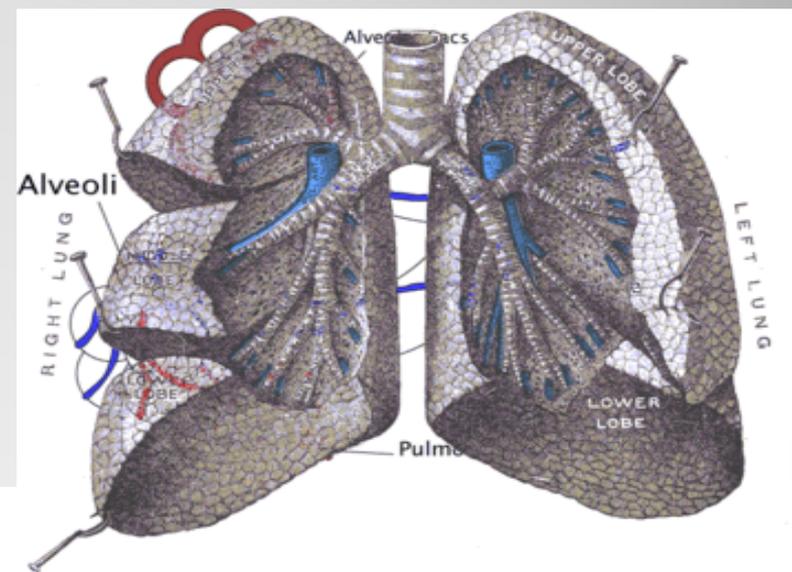
Breath, Medicine, History

- Breath is our most basic embodied function!
- Breath...“is our first form of environmental relationship,” and “flows from a pre-reflective essence of our embodiment.”
- Normal respiration rate: 22,636 breaths per day (a measurement developed through ancient meditative practices). Works out to hundreds of millions of breaths in a lifetime. Breathing rate about $\frac{1}{4}$ of rate of heartbeats per minute.
- Breathing “types” and “styles”: Thoracic vs. abdominal; mouth vs. nose; proper and improper use of breathing muscles; lung aeration.



The Breathing Body (I)

- Two elements: Breathing [muscular action] and respiration [exchange of CO₂, oxygen, etc...]
- Blood flow is greater with deeper breathing – 0.07 l/m with clavicular, 0.66 l/m with thoracic, and 1.29 l/m with diaphragmatic breathing. Thus, the deeper and more fully the lungs are used, the greater the ratio of useful air exchange in all the various tissues of the lungs (bronchi, alveoli, capillaries, etc...).
- Deep breathing literally saves breath by slowing respiratory patterns and increasing volume of air per breath from 500cc to up to 3000cc. The diaphragm is particularly important in this process. Strongest muscle in the body -- pump-like action actually changes the size of the chest cavity. Air delivered by diaphragm and chest varies through the day. Bed rest requires about 8 quarts of air per minute; Sitting, 16; walking, 24; and running, 50.



The Breathing Body (II)

-- Transcending the physiological [exercise is not enough!]:

"The prescriptive physiological approach to health of exercising a particular number of times a week, at a pre-determined maximum heart rate, was derived from the early dominance of the medical school of exercise that grew out of physiology laboratories in economically developed countries such as the USA, the UK and Australia some 50 years ago. This may effect physiological changes in aerobic capacity and fitness, and even prevent elements of disease where mechanisms are primarily biochemical. However, it offers a very limited perspective on the centered, harmonious feelings of breath-coordinated movement, or the effects of exercise on mental and public health, where it is the individual and/or social experience of the exercise that provides the key."

-- Increasing popularity of breathing practices and mindfulness: The National Center for Complementary and Alternative Medicine (2007) reports that "12.7% of American adults use deep breathing exercises for health purposes."

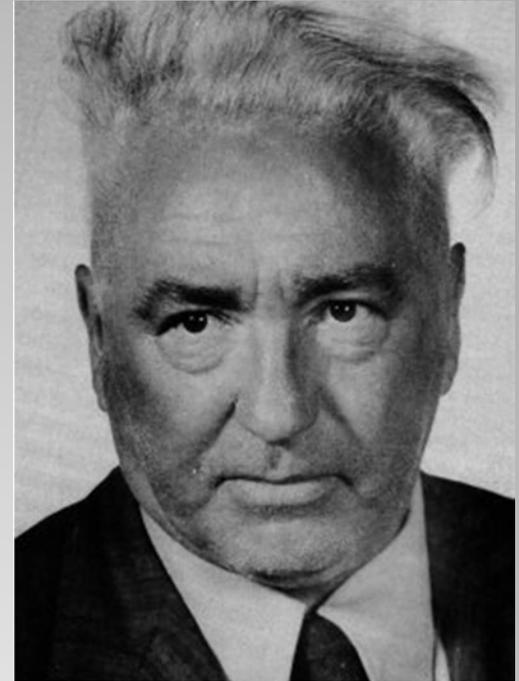
Breath Psychology and Practices

- At root, psychology should be intimately intertwined with breath. Etymology – “psychology”. Study or use [*logos*] of breath, consciousness, soul [*psyche*].
- Breathing therapy and “breath psychology”. Importance of eastern influences. Begins as part of the cultural exchange [influence of eastern spirituality] that characterizes the late 19th/early 20th century.
- Elsa Gindler (1885-1961): Pioneer in breathing therapy.
- Importance of holistic perspectives in this period (Gestalt, etc...). Use of breathwork voice and performance.

“Breathwork”: Breathing, Medicine and Therapy

Reich on eastern breathing practices:

"They necessitate the overcoming of emotionality altogether, pleasure as well as suffering. This is the essence of the Buddhist ideology of Nirvana. This ideology also provides an insight into the breathing exercises of the Yogis. The breathing technique taught by Yoga is the exact opposite of the breathing technique we use to reactivate the vegetative emotional excitations in our patients. The aim of the Yoga breathing exercise is to combat affective impulses; its aim is to obtain peace. That the Yoga technique was able to spread to Europe and America is ascribable to the fact that the people of these cultures seek a means of gaining control over their natural vegetative impulses at the same time as eliminating conditions of anxiety."



Wilhelm Reich (1897-1957)

-- Student of Freud. More focused on body – idea of "character armour"; build-up of stress and effects of repression noticeable. Developed theory of "orgone energy" (focus on sexuality). Particularly interested in the use of breath and breathing to pinpoint emotional blocks and provide emotional release.

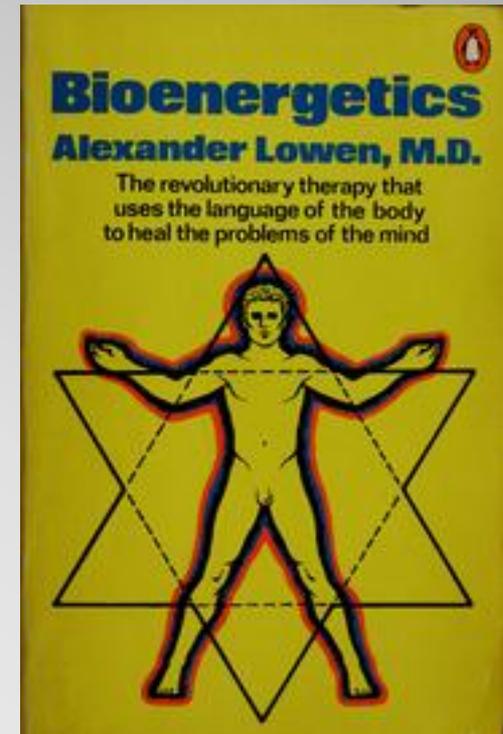
Wilhelm Reich and Breathwork (and Yoga?)

-- Alexander Lowen; *Bioenergetics* (1975). Idea of bioenergy (kind of vitalism) with a focus on the importance of breathing. Influence of Reich. Reich's advice to Lowen: "Breathe, breathe, breathe."

-- The Buteyko Method: Russian physiologist Konstantin Buteyko. Controversial therapeutic prescription in the 1950s and 60s involving nasal breathing, breath retention and relaxation.

-- Particularly direct at younger patients suffering from asthma.

-- Effectiveness of the procedure is heavily debated.



Other Trends: Bioenergetics and Buteyko

"The term '*anapanasti*' does not mean, as is generally interpreted, *mindfulness established on in and out breathing*. Actually it means *mindfulness established on an object all the time with each in and out breath*: initially one establishes mindfulness on the breathing itself, then on different kinds of feeling, different states of mind, then the characteristic of impermanence [...] and finally on relinquishment, which is the ultimate objective of the practice."

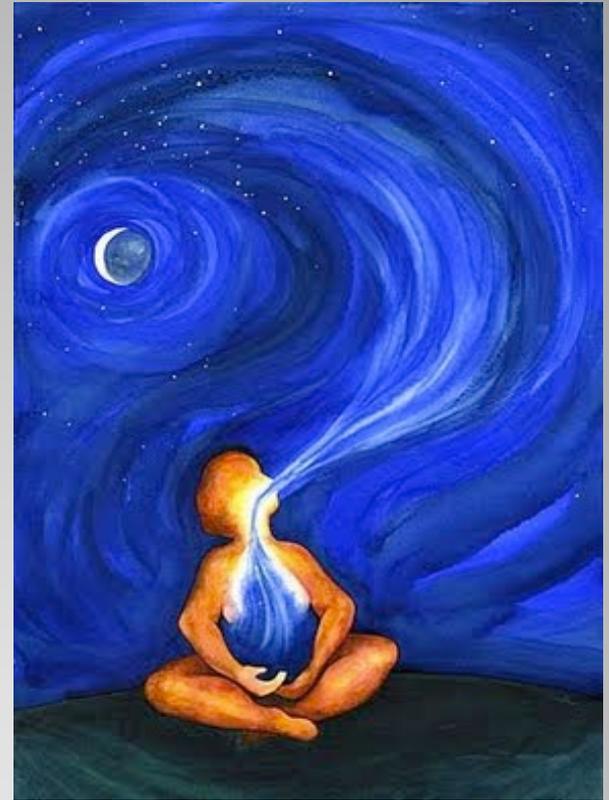
- Relinquishment: We take hold of breath – become conscious of it and try and master proper practices – in order to let go.
- As Kant says in regards to enlightenment: "Rules and formulas, those mechanical aids to the rational use, or rather misuse, of his natural gifts, are the shackles of a permanent immaturity."
- Breathing and mindfulness become one. Two-sides of the same coin. Awareness of breath reminds us to be mindful. And awareness of mindfulness reminds us to breathe.
- William James: "I am as confident as I am of anything that, in myself, the stream of thinking (which I recognize emphatically as a phenomenon) is only a careless name for what, when scrutinized, reveals itself to consist chiefly of the stream of my breathing."

Anapanasati: "Mindfulness of Breath"

- Mainstream practitioners have caught on to breathing and mindfulness practices largely for their promise in dealing with the twin plagues of modern life – anxiety and stress.
- Mindfulness has particularly caught on in the medical mainstream; As of 2012 over 120 centers in the U.S. alone offer mindfulness programs, and NIH-funded studies of mindfulness have gone from two in 2000 to 128 in 2010.
- In many ways, mindfulness is merely the beginning of a good self-care practice. Put another way, one could say it lies at the heart of a well-considered *diaita*.
- **But...**Mindfulness and breathing practices not only an awareness of self and health. Can have a deeper meaning! Connect us to a richer, organic, holistic reality...

Mindfulness Goes Mainstream

“Conscious breathing means focusing your attention on the perpetual exchange that is taking place between your personal body and the extended body of your environment. You exchange ten billion trillion atoms with your surroundings with every breath you take. The atoms you inhale every day have traversed the bodies of living beings across the universe and across time. Within you right now you have carbon atoms that once inhabited the body of a Cheetah in Africa, a dolphin in the South Pacific, a palm tree in Tahiti, or an Australian Aborigine. Ultimately every particle in your body was stardust, created at the dawn of the universe. Your breathing is a continuous testimony of the law of Giving and Receiving.”



Mindfulness Towards Enlightenment

"To some extent the rigid distinction between ego and environment is equivalent to that between mind and body, or between the voluntary and involuntary neural systems. This is probably the reason why Zen and yoga disciplines pay so much attention to breathing, to watching over the breath (*anapanasmriti*), since it is in this organic function that we can see most easily the essential identity of voluntary and involuntary action. We cannot help breathing, and yet it seems that breath is under our control; we both breathe and are breathed. For the distinction of the voluntary and the involuntary is valid only within a somewhat limited perspective. Strictly speaking, I will or decide involuntarily. Were it not so, it would always be necessary for me to decide to decide and to decide to decide to decide in an infinite regress. Now the involuntary processes of the body, such as the beating of the heart, do not seem to differ very much in principle from other involuntary actions going on outside the body. Both are, as it were, environmental. When, therefore, the distinction of voluntary and involuntary is transcended within the body, it is also transcended with respect to events outside the body."

Alan Watts

-- Coming into deeper contact and convergence with our surroundings, and dissolving the boundary between "self" and "other"...First step towards enlightenment...

Breath, Mindfulness and Breaking Barriers

-- **Advaita** ("nonduality"). Key concept from Buddhist and Hindu thought. Central to an enlightened approach to breath.

-- Unification of the two senses of "enlightenment" [one rational and conceptual, the other instinctual and experiential] also helps us bridge other dualities. (i.e. Mind and Body, thinking and being, rational and emotional, etc...)

"This is the way I always feel when I give a lecture. I don't want the audience to be outside, to observe, to listen only. I want them to be one with me, to practice, to breathe. The speaker and the people who listen must become one in order for right perception to take place. Non-duality means 'not two' but 'not two' also means 'not one.' That is why we say 'non-dual' instead of 'one.' Because if there is one, there is two. If you want to avoid two, you have to avoid one."

Thich Nhat Hanh



"Enlightened" Breath and "Nonduality"

-- Going beyond initial appearance. Truly seeing. Beyond the superficial levels of our perception. Central Buddhist principle of awareness and enlightenment...But also quintessentially western Enlightenment?

-- Michel Foucault, "What is Enlightenment?" [A response to Kant]:

"The critical ontology of ourselves has to be considered not, certainly, as a theory, a doctrine, nor even a permanent body of knowledge that is accumulating: it has to be conceived as an attitude, an ethos, a philosophical life in which critique of what we are is at one and the same time the historical analysis of the limits that are imposed on us and an experiment with the possibility of going beyond them."

-- Buddhist scholar D.T. Suzuki was once asked, "What it is like to be enlightened?" He said, "It is just like ordinary, everyday experience, except about two inches off the ground."

-- Enlightenment [in both senses] doesn't require a change in perception – i.e. a new set of inputs. What it represents is a change in perspective; a change in how one interprets what may once have been seen as "everyday experiences"

"Enlightenment" or enlightenment?

- In "What is Enlightenment?" Immanuel Kant challenges us to "dare to know" (*Sapere Aude!*). He goes on to say: "'...have courage to use your own understanding!' – that is the motto of enlightenment."
- But is knowledge (knowing) and understanding the same thing?
- One might argue that it is important to make a distinction between these two, and yet also unify them, and this is what I have attempted to do with regards to breath.
- A very interesting Buddhist conception of the difference between knowledge and understanding:

"Guarding knowledge is not a good way to understand. Understanding means to throw away your knowledge. You have to be able to transcend your knowledge the way people climb a ladder. If you are on the fifth step of a ladder and think that you are very high, there is no hope for you to climb to the sixth. The technique is to release. The Buddhist way of understanding is always letting go of our views and knowledge in order to transcend. This is the most important teaching. That is why I use the image of water to talk about understanding. Knowledge is solid; it blocks the way of understanding. Water can flow, can penetrate."

Thich Nhat Hahn

Knowledge and Understanding (And Breath!)

- "If full breathing is complemented by conscious intent, felt bodily sense, imagery, gesture, movement, dramatic re-enactment and reconstruction of events, a new, more meaningful and adaptive personal narrative and way of life emerges."
- Breath practices have the potential to restore and maintain health – **physical, mental, spiritual**. Can help us heal and restore our connection to ourselves and to others.
- One finds the opposite to be true as well – holding our breath can suppress painful feelings, and restricting the depth of breathing reduces the intensity of feelings. This happens through muscular tension, which prevents a more open and spontaneous movement. According to some (Reich, etc...) this can lead to a build-up of stress and help contribute to the development of illness and disease.

"The Buddha said that wisdom can come only from the abandonment of selfish craving, or desire. One who abandons that desire attains Nirvana, which means supreme peace and liberation. In Sanskrit, Nirvana means to blow out, to exhale the breath. Its opposite, desire, is to breathe in. Now, if you breathe in and hold it, you lose your breath; but if you breathe out it comes back to you. So the point is: If you want life, do not cling to it, let it go."

Alan Watts, *The Way of Liberation*

Waiting to Exhale?

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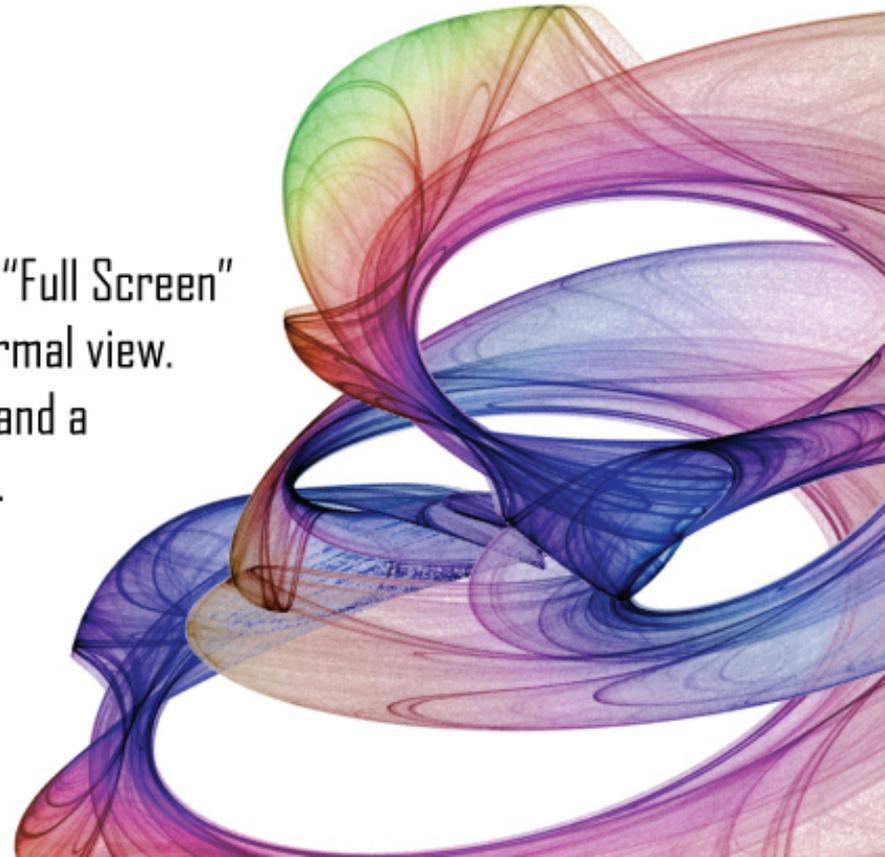
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