

Hatha Sun Salutation
Movement, Voice, Meditation

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If you've been to a Yoga class, chances are you've performed a Sun Salutation or two. It's a great warm-up exercise or Yoga flow -- but how much do you know about how it allows you to influence the biochemistry of your brain?

Perhaps you think of mantra (chanting) as a solely mystical or religious practice. Would you be surprised to learn that it's actually a powerful tool to influence the functioning of your nervous system?

Read on, and learn practical methods in the use of mantra to deepen your Yoga practice as you explore the relationship between movement and mantra, between ancient Himalayan tradition and modern neuroscience.

I first encountered this esoteric practice at the place where the rugged Himalayas meet endless plains, at a small ashram (monastic community) on the southern bank of India's most holy river, the Ganga. Winter's white tendrils swathed the ashram tightly in fog each morning, a vivid contrast to the warmth of the sacred fire that we gathered around to chant in the hours before dawn. Soon, the swollen vermilion disc crested the silhouetted mountain ridge, and, as the first rays of the sun swept the sky clear in welcome of new day, we faced the sun and enacted this ancient dance, raising our voices in greeting.

All too soon, my path led away from the ashram, yet the beauty and clarity of the sun salutation practice remained etched upon my mind. The daily practice had left me feeling light and supple physically; my mind clear, stable, and peaceful. Questions lingered, nonetheless: What is the relevance of this practice? Does it work? How? What do all these mantras mean, anyway? Information, it seems, is quite scarce; Yogic traditions have been passed down verbally from teacher to student for generations upon generations. The physical practices of the sun salutation are well established in modern Yoga, yet it seems to me to have lost much of its ancient magic. I decided to investigate this practice deeply, through discussion with Yogis, by study of Yogic texts, and by approaching the practice through the lens of the western sciences. I combined this research with my own insights as a practitioner and dedicated student of Yoga; the document you are now reading is a manifestation of my journey, an embodiment of my hope to share the vibrancy of this tradition in a way that remains relevant and practical for the modern Yoga student.

The origins of the sun salutation practice are controversial and shrouded in mystery. Varying estimates place it anywhere from 80 to thousands of years old. The Yogis in India that I interviewed claim that it arose out of Vedic practices in ancient times, and I will work from that position.

The Indian subcontinent has a rich and varied spiritual history. I believe that the Sun Salutation has its roots in Vedic ritual, in the times before Hinduism and Yoga practice were codified by the Yoga Sutras, Bhagavad Gita, and other classical-era texts.

Imagine the scene, perhaps not dissimilar from my own experience: high in the Himalayan mountains, perhaps on the banks of an engorged, glacier-fed river, a number of Vedic priests gather around a sacred fire. In the hours before dawn, and as the sun rises, they chant rhythmically, invoking various primal forces as they offer sacrifices of rice, ghee, and nuts to the flames.

As the sun rises, they no longer offer edibles, but rather their bodies. Beginning to move rhythmically to the chant, a sacred dance unfolds: the sun salutation, a ritual offering of movement.

To make a sacrifice is to offer or release something, in exchange for something greater.

What did they hope to gain by offering their movement, their voices?

What might we hope to gain by offering the same?

First, we need to understand something of the ‘gods’ of Yoga.

We hear of many ‘gods’ that populate the stories, traditions, and altars of practitioners of Yoga and Hinduism: Shiva, Ganesha, Vishnu, Krishna, to name but four of many.

The word in Hindi is *deva*. This is commonly translated as ‘god.’ Although it is the popular translation, it is also relatively inaccurate and hampers understanding. When Europeans first brought back stories of India, they told of the many colorful gods in that far-off land. However, this is a European interpretation: Christian explorers contrasting their religious tradition with the apparently polytheistic Indian one. In fact, Hinduism isn’t a cohesive religion in the way we might expect, being comprised of nearly 80,000 ‘subgroups’ with distinctive practices, lacking organization around a central orthodoxy.¹ This focus on the diversely populated Eastern pantheon overlooks a subtle distinction; all the thousands of gods recognized in India are but avatars, manifestations, of one universal force.

A *deva* is not an independent, embodied “god,” but rather an explanation of one of the forces of life. The *devas* need not be thought of as ‘superhuman’ individuals with magical powers, but rather as facets of human experience. They are numerous precisely because the needs of each individual must be met; there is no ‘one-size-fits-all’ understanding. Every person will perceive their connection differently.

“Hinduism is often said to be a religion of millions of Gods, and it is indeed a religion of diversity. ... The concept of multiple deities can be overwhelming to an outsider. ... [But in Hinduism,] it is considered natural that as humans we respond to those deities that meet our individual needs. ... The principal aim of any puja [ceremonial showing of respect for a *deva*] is this feeling of personal contact with the deity.”¹

Each *deva* is a state of mind; an archetype, a portrait of a human quality, a way of understanding and thinking about an aspect of the mind by means of personification (this is a view promoted in part by the renowned Sri Aurobindo). A *deva* is not an external actor, but rather a mirror in which we may glimpse ourselves.

***What is a god?
A god is an eternal state of mind.
-Ezra Pound***

The sun salutation is comprised of 12 movements, connected with 12 chants. Each represents one particular *deva* (a manifestation of the sun, which is itself a manifestation of universal energy), one particular quality of the mind. This sequence of movement and voice is a way of paying respect, recognizing the value of that state of mind. To deeply respect something or someone is to fully understand it.

What is a ‘Sun Salutation’? To understand more deeply, trace the linguistic clues left in the construction of our language.

***Salutation - Latin:
Salutare → to pay respect***

So a ‘Sun Salutation’ is a ‘paying of respect to the sun.’ To unpack this more, look at the word ‘respect:’

***Respect - Latin:
re ‘back’ + specere ‘look at’ → ‘to look back at’ or ‘to return the gaze of’***

Thus, it is equally valid to say ‘Looking to the Sun’ as it is to say ‘Sun Salutation.’ I don’t necessarily mean physically looking; we can employ the mind and imagination to examine the characteristics of the sun, equating and contrasting these qualities with our own human experience.

Performance of the sun salutation, then, is to show a willingness to understand certain aspects of our minds. It is not accurate to say that Yogis are worshipping some external, sacrifice-demanding entity; they are, instead, seeking an understanding of their own existence, a careful scrutiny of the qualities that we can all embody. By creating a projection of a quality or state of mind and giving it a name and a story, we can put it in different scenarios. We create a container into which we can pour a piece of ourselves. We can examine it from different angles. We can let it teach us. We can ask it questions, and think from a new perspective, creating a personal relationship. Through this practice, we may clearly glimpse our own potential, allowing ourselves to consider what is possible.

How does the Sun Salutation affect change?

Neuroplasticity is a concept that describes the ability of the brain to change and adapt its structure in response to repeated behaviors, environmental changes, and experiences. The brain is not a static organ, it changes on an anatomical level to adapt to varying circumstances. There are three main ways that the Sun Salutation influences the brain: the physical positioning (*asana/posture*), breath, and emotions. *(Note that there may be more, but I am focusing on that which can be supported by current science.)*

To explain how the physical position of the body can affect the physiology of the brain, allow me to introduce **Amy Cuddy**, social scientist at Harvard.²



She's made quite a name for herself with a recent series of experiments that examine how body position affects hormone levels, brain chemistry, and emotional state.

It's well established that our body language is a powerful tool for communicating with others. Amy's research takes this further, showing that our nonverbal communication actually has influence on how we act, think, and feel about ourselves. Our brain chemistry, including the balance of hormones and our decision-making process, is impacted by the position of the body.

Participants in the study were told to assume either 'high-power' or 'low-power' postures for two minutes, and their hormone levels were measured before and after. Both groups were also given the opportunity to gamble afterwards as a method of gauging their confidence and optimism. The 'high-power' positions, characterized by spreading the body

out, opening the arms and legs, and increasing the physical space taken up by the body, led to a dramatic increase in testosterone (a hormone related to assertiveness and confidence) and decrease in cortisol (a stress-inducing hormone). Those who struck 'high-power' poses also showed an increase in willingness to gamble.

The 'low-power' group, on the other hand, experienced exactly the opposite effects. Folding the body and making it smaller, crossing the arms and legs, and taking up less physical space led to a decrease in testosterone, an increase in cortisol, and a decreased gambling rate.

Even if you are feeling depressed, powerless, or insecure, Amy presents evidence that body movement can induce feelings of confidence, assertiveness, and happiness, and even improve abstract thinking ability. Acting powerful, or imitating the body language of those who are feeling confident, can reconfigure your brain and change your emotional state. The body changes its position naturally to mirror our emotional state, and by mindfully changing that position, the brain will follow!

"Fake it until you become it!"
-Amy Cuddy

[Watch the full talk on TED.com](#)



Although Yoga positions were not tested in these experiments, there are striking similarities.

Consider the second position of the sun salutation sequence, *urdhva hastasana* ('raised hands position').

Compare this with one of the high-power poses that Amy has studied, common to racers as they cross a finish line:³



You will notice some striking similarities: arms raised overhead, head and chest lifted, leaning back slightly .

Amy offers evidence that this victory-pose changes the balance of our hormones significantly in only two minutes, making us feel more confident and less stressful.

If this body position had such striking effects in the lab, why not on a Yoga mat?

This is one of the gateways we have to work deeply in our bodies, an unused door that we can easily open to affect change. This is not unique to the sun salutation sequence - many Yoga poses would have this effect - but I think the sun salutation strikes a careful balance between poses that increase confidence, such as backbends and chest-openers, and poses that encourage calmness, humility, and introspection, including forward folds and prone positions. In this way, the sun salutation not only works all the major joints and muscle groups, but also stimulates a wide array of emotional or attitudinal positions. In the same way that you can direct the body to take a certain posture, or *asana*, you can create and maintain certain attitude or 'posture' of the mind - a mental or emotional *asana*.

This concept is not novel in esoteric Yoga teachings: many of the more advanced *asana* (posture) and *mudra* (gesture) techniques involve holding a certain attitude, thought, or visualization. For example, a Yogi might hold an emotion such as gratitude for the duration of a meditation, or visualize the sun while performing the sun salutations. Western science is now beginning to validate and show the benefits for these practices. Yoga accesses a two-way communication system between our bodies and minds.

***"Our minds change our bodies, and our bodies also change our minds."
-Amy Cuddy***

Emotion as a Skill+

Have you ever thought of emotions as skills, like math or carpentry or being good at your job? I commonly encounter the belief that emotions are something that "happen to us" as a result of external stimuli, something we have little responsibility for; the only course of action perceived an uncontrollable reaction.

It takes practice to have emotional stability and understanding. Yet we say, 'I want to feel like me! I don't want to fake my emotions by pretending to be something I'm not.'

Would you refuse to learn French because it will make you someone you're not? Would you decide not to practice golf because you'll just be 'pretending' to be better at golf than you really are?

Of course not! How can we expect to grow without making effort? We're not born with skill or talent. They must be learned. If we want to grow in emotional maturity, we must likewise learn through mindful practice.

When we learn a new skill, we're not pretending to be someone we're not, the skill becomes part of us. We *become* skillful.

Practicing Yoga with a willingness to grow stronger and more flexible not only physically, but mentally and emotionally as well, will open you to a whole new realm of possibilities. Amy's studies show that you need not be aware of the process for it to work - her subjects were not made aware of the methods or focus of the experiment. Yet when intention and practice align, we invite powerful change.

Become emotionally skillful. We are all shaped by our emotional experiences, yet we are the authors of the context in which emotions arise. You are not the recipient or 'victim' of emotions - you give them life, you are both the one who creates and the one who experiences.

Mantra and Emotion

In common usage, 'mantra' means 'chanting' or 'words.' Allow me to remind you of what I said above: that *asana* or posture is not only physical. Chant is one of the ways that the mind can be directed into a certain attitude or pattern.

The basic format for the sun salutation mantra is:

Om + deva's name + ye/ya + Namaha = 'Om Mitraya Namaha'

'Om' is considered by Yogis to be the primal sound of existence, a name for all of the universe. It describes the processes of creation, maintenance, and dissolution that allows our universe to function, the flow of birth, life, and death that living beings experience.

'*Namaha*' is of the same Sanskrit root as '*namaste*,' conjugated in the third person. While *namaste* can be translated as 'I recognize and respect the manifestation of the divine within you,' *namaha* is 'I recognize and respect the manifestation of the divine within [him/her/name].'

'*Mitra*' is the *deva* of universal friendliness. *Mitra* is that quality within humans of perfect friendliness, of nonjudgement; universally warm, open, and affectionate to all beings.

'*Om Mitraya Namaha*,' then, can be interpreted as 'I acknowledge the existence and value of my own potential to be unconditionally friendly, harboring no animosity towards any being.'

To make this acknowledgement, to pay this respect to a piece of ourselves, is to bring it into our lives. By seeing ourselves as friendly, we start to *feel* friendly. If we feel friendly, we start to *be* friendlier in our lives. We create and solidify neural connections, making it easier to slip into this state of mind effortlessly. The mechanism at work here is most likely *homosynaptic plasticity*, a term used in cognitive science to describe increases in synaptic strength through repeated use and activity in a certain area of the brain.⁴

By practicing a certain feeling, we strengthen the synapses responsible for this state, much like physically exercising muscles. By practicing this mantra and cultivating an attitude of benevolence, the brain will change through the process of neuroplasticity, and you will *become a friendlier person*.

One of the important benefits to the projection of 'friendliness' onto the *deva, Mitra*, is that we now have an object for the feeling. Simply saying 'I am a friendly person!' is less effective than actually practicing friendliness, than 'exercising' the synapses through repeated experience of this emotional state. Conduct your own experiment by deciding to be amiable towards everyone you meet, opening doors, smiling, helping freely, etc.

On the Yoga mat, we can practice by cultivating a personal relationship with *Mitraya*. True practice of the sun salutation is not just saying the words and doing the movement, although these are necessary components. It all comes together when you *feel* a connection of friendship during the practice, as if you're reuniting with a good friend after a long separation.

Yogic teachings use the concept of *Ishvara* to describe this personal relationship. One of the most influential texts on Yoga, the [Yoga Sutras](#), instructs Yogis to commune with *Ishvara*, the personal *deva*, an instruction to cultivate a personal relationship with a highly individualized conceptualization of the divine that resonates with that specific practitioner. * We can offer our friendliness through a personal connection with the divine as a way of practicing. There's no need to wait for an opportunity to be friendly in your life, or to wait for someone to compliment you before you start feeling friendly. Externalising and personifying this avatar of our own inner potential allows us to learn how to become skillful with our emotions in a sort of 'training' environment. We can practice friendliness by creating an amicable relationship with our own quality of *Mitra*.

The literal translation of 'mantra' is 'to free the mind.' By practicing with mantra, you can liberate your mind from harmful habits, false perceptions. Mantra is a practice of becoming skillful with the mind, so that it may avoid the common traps of negative habits, patterns, and perceptions while strengthening the pathways in the brain that you wish to experience more often.

Breath

Breath is an important part of yoga practice. A whole branch is given to the breath in [Patanjali's Ashtanga Yoga](#) system. It is the fourth limb, following *asana* (posture), implying that it is as beneficial and perhaps a more advanced technique than physical movement. Of great importance, in my opinion, is combining these two techniques into one interwoven practice. Breath supports movement and life in the body, while movement and openness of the body allows the breath to flow easily.

According to Alan Watkins, a neuroscientist at Imperial College of London, one of the primary benefits of chanting is that it creates a very rhythmic pattern of breath, which changes the electrical signals produced by the heart. These signals, which are communicated to the brain, enhance the functioning of the frontal lobes. The frontal lobes are thought to be responsible for emotions like sympathy and empathy, the ability to coordinate complex, multi-step tasks, or being able to simultaneously consider many complex co-existing possibilities.

Watkins collaborated with the Dalai Lama, monitoring a number of Tibetan Buddhist monks through a full 24-hour period. He measured physiological changes as the monks chanted, meditated, and practiced. He found that when the breath lowered to a threshold of 6 breaths per minute, there were powerful physiological changes to the heart and brain.⁵ 6 seems to be the magic number, as these results were not observed at faster respiratory rates. The average adult takes between 8 and 16 breaths per minute when at rest.⁶

Breathing techniques (of which mantra is one) are a powerful tool for accessing subconscious parts of the mind. Deep, full breathing activates the parasympathetic nervous system (PNS), while shallow, rapid breath tends to trigger the sympathetic nervous system (SNS). The SNS is connected with our 'flight-or-fight' danger response. When activated, it triggers a flood of hormones including adrenaline and cortisol, while simultaneously diverting blood away from the organs and innervating the limbs and sections of the brain related to survival. The PNS is the compensatory system, responsible for feelings of openness, relaxation, calmness.⁷ Activation of the PNS improves the workings of the organs, diverting more blood and resources to the digestive system and toxin elimination.

Although we're not frequently in dangerous situations that require us to run for our lives, the SNS is very active in most people. It's an automatic process activated by feelings of worry, fear, and stress. Having a rushed day, stressing about a project at work, or having a negative social interaction can all activate the SNS. Over time, this response becomes overactive and dominant, and we never destress. A variety of ailments develop, including high blood pressure, anxiety, and muscular tension.

According to a recent U.S. military report, breath training led to "improvements in mood and working memory in high stress" situations in soldiers.⁸ Although your life is probably a far cry from the battlefield, many of the body's stress responses are similar. The practice of yoga can improve everyday experience by increasing functional mental skills (focus, memory, awareness, etc) while training the body and mind to remain calm in the heat of stressful situations.

The deep breath and lengthy, sustained exhalations necessary for chanting strongly activate the PNS, thereby provoking a relaxation response. The relaxation response has many benefits including: lowering of blood pressure and heart rate, reduction of muscular tension, improvement in the functioning of the organs (via blood perfusion), and activation of non-essential parts of the brain, such as those responsible for abstract thinking, awareness, creativity, empathy, and learning.

The heart rate naturally increases during inhalation, and decreases during exhalation. This is a phenomenon called Heart Rate Variability (HRV), and research has shown that it reaches an optimal level when breath stabilizes around 6 respirations per minute.⁹ The characteristic breath pattern of chanting, in which exhalation is several times longer than the inhalation, activates the PNS more than deep, even breaths.

During meditation, alpha brainwaves increase, leading to a state of relaxed awareness. Along with the activation of the frontal lobes as discussed earlier, brain scans of meditators show that activity in the right parietal lobe decreases. This part of the brain is related with

our sense of space and time, and decreased activity here suggests a mechanism for the 'timelessness' and 'spaciousness' that meditators often report feeling.¹⁰

This leaves us with a question: is regulation of the breath the main benefit of mantra? Can I just breathe deeply without chanting all this Sanskrit? Dr. Lawrence Edwards shed some light on this question when he measured physiological patterns in those sitting quietly versus those repeating mantra. His data show that while sitting quietly, heart rate 'fluctuations are erratic and [heart rate variability never reaches] optimal synchronization.' When silently repeating the mantra 'Om Namah Shivaya,' 'the wave-form becomes more regular ... and HRV is optimized ... immediately.'¹⁰

Although the mechanism for this effect is not clear, this shows that mantra may be more beneficial than simply sitting quietly and breathing deeply.

Taking the time to learn the sun salutation with the mantras now can have surprising benefits. A recent study suggests that it is more effective to know a mantra and self-direct practice rather than participating in a guided relaxation or meditation; meditators showed 'decreased frontal activity during externally guided word generation compared to internal or volitional word generation.'¹¹

Meditation, especially meditation through mantra, is a complex subject that is just beginning to be discovered by modern western science. Nonetheless, many researchers and health-care practitioners are finding the benefits of meditation and mantra techniques quite effective in the treatment of acute conditions including high blood pressure, anxiety, stress, and pain management. The sun salutation sequence represents an affordable, accessible, and, most importantly, effective way to

When I go to the gym, I hear a lot of labored breathing, grunting, and big sighs releasing breath that was held during exercise. This is a sign of extreme physical tension! Through use of the voice, Yoga stretches and strengthens the body from the inside as well as the outside.

Try it: do some push-ups. Then do the same exercise while singing or talking. Notice a difference? This experiment will dramatically highlight unconscious patterns of holding the breath or physical tension while you move. When you first learn the sun salutation sequence, coordinating movement, breath, and relaxation may be difficult - don't worry, ease will quickly pervade the practice.

The Sequence

Movement begins with exhale, at the sound of 'om.' When the mantra is completed, stay in the position for inhalation, beginning the next movement with exhalation and mantra. Exhalation is 5-6 times the length of the inhalation.



Begin by standing in a neutral position, big toes together, hands at the sides. Focus your mind, allowing thoughts, worries, concerns, to release.

Pranamasana - Respectful Pose



Physical posture: Find a neutral position, spreading the soles of the feet wide on the ground, big toes touching. Palms meet over the sternum. Direct the gaze forward and down, tucking the chin slightly as the crown of the head elongates towards the ceiling.

Mantra: ‘*Om Mitraya Namaha*’

Meaning: ‘I acknowledge the existence and value of my own potential to be unconditionally friendly, harboring no animosity towards any being.’

Deva: *Mitra* is the avatar of unconditional friendliness towards all. *Mitra* does not offer friendliness only to certain people, to those who have proven they ‘deserve’ it, but to every being. There is no place for discrimination, nor conditionality. There are no grounds for the refusal of kindness and compassion, nothing that would provoke *Mitra* to become unfriendly or distant. *Mitra* gives freely, without concern for who or what or why. *Mitra*’s prominent placement at the beginning of the series underscores the teaching that kindness and compassion is the foundation for the practice of Yoga.

Attitude: Friendliness. Palms are together in traditional Indian greeting, a warm recognition of an old friend. Head is nodding forward slightly in greeting and respect. Allow a diffuse, kind regard to radiate from you, encompassing all things without concern for reason or cause.

2. Urdhva Hastasana - Raised Hands Pose



Physical posture: From *Pranamasana*, extend the arms overhead, palms facing each other. Slightly arch the back, lifting the head and chest upwards. Allow the shoulders, neck, and chest to remain open by widening the hands if necessary.

Mantra: ‘*Om Raviye Namaha*’

Meaning: ‘I recognize my inner vitality and joy; my ability to express that joy through my actions.’

Deva: *Ravi* is the quality of glowing vitality and radiance. This is inner energy, charisma, health. A common compliment we give each other is, ‘My, you’re glowing today!’ *Ravi* is that tangible effervescence. When we are happiest, we feel as if we’re full to bursting. Nothing could contain this feeling. To embody *Ravi* is to feel this way at all times, without a catalyst. Uncaused joy bubbles to the surface of your consciousness in a steady stream. We feel joy here at the beginning of the sequence, establishing a foundation and framework for the deeper contemplations later in the sequence. Infuse these feelings of joy and friendliness into every subsequent position.

Attitude: How does the runner who wins a race feel in that moment? Victorious, confident, radiant. Allow yourself a smile or joyful laugh as you extend your arms overhead, enjoying the warmth of your inner glow.

3. Uttanasana - Intense Forward Fold

Physical posture: Fold forward from the hips, bringing the palms to the shins or to the ground beside the feet and elongate the crown of the head towards the feet. The navel and rib cage pull close to the thigh. Bend the knees slightly if you feel pressure in the lower back or pain in the hamstrings.



Mantra: 'Om Suryaya Namaha'

Meaning: 'I acknowledge that the motivation and inspiration for radical change and positive action is already within me, an infinite spring waiting to be tapped.'

Deva: *Surya* is the source of energy, of inspiration. *Surya* is one of the most commonly used names for the sun in Indian culture. All activity, all growth on Earth is powered by the energy of the sun. Likewise, our own activity is fueled by an inner drive and motivation. All change and improvement begins here. Acknowledging *Surya* is the first step to finding and tapping into that limitless wellspring of energy. Some people, like Mahatma Ghandi, Mother Theresa, or Albert Einstein, seem to have infinite energy, while others among us drag through each and every day. This gap is spanned by *Surya*, the fountain of inspiration; a word which literally means, 'to breathe in.' Allow yourself to be filled and animated by the life-giving breath of *Surya*.

Attitude: Forward folding suggests humility, calmness, reflection. Recognize here how far you've come and reflect on how to move forward. Go inwards to the source of inspiration and energy to bring vitality and beneficial change to your life. We exhale fully in this position, breathing out the stale and old, to make room for a fresh inhalation, a new inspiration.

4. Ashwa Sanchalanasana (L) - Horse Rider's Pose

Physical posture: Keeping the palms on the ground to either side of the feet, step the left leg back into a lunge position. Look forward or up, being careful not to force the neck backward. Sink the pelvis towards the ground while keeping the back leg straight.



Mantra: 'Om Bhanave Namaha'

Meaning: 'I am willing to let go of my ignorance and bring the light of understanding to my mind.'

Deva: *Bhana* is the sun, source of light and dispeller of darkness. Metaphorically, this is equated with the light of knowledge and the darkness of ignorance. *Bhana* is that aspect of ourselves which is learning, growing, bringing the light of understanding to the dark corners of our minds. Darkness has no substance, being the absence of understanding. Our false ideas and misconceptions have no power of their own, no vitality. In the presence of knowledge, they disappear without a trace, as shadows vanish beneath the midday sun.

Attitude: Gaze upwards towards the forehead, looking to the third eye, source of vision and knowledge. Be willing to learn, to change your perspective on life as you grow. Open every part of your mind to the light of knowledge, pursue understanding to dispel the shadows of ignorance, to brush away stale thought and old habits.

5. Adho Mukha Svanasana - Downward Facing Dog



Physical posture: Step the right leg back to meet the left. Legs can be hip width apart or more depending on the flexibility of the lower back (wider foot position will put less pressure on the lumbar spine). Press back, lifting the pelvis towards the ceiling to make an inverted 'v' shape. Heels stretch towards the ground and the chest moves towards the legs. Open the shoulders to bring the arms away from the neck, and gaze towards the navel or knees.

Mantra: 'Om Khagaya Namaha'

Meaning: 'I recognize that I am interconnected with and indivisible from all people and things.'

Deva: *Khaga* is the all-pervasive essence. Some piece of *Khaga* is present in all things; every leaf absorbs sunlight. *Khaga* represents that part of us which is interconnected with everything else. From the perspective of quantum physics, atoms and molecules are constantly being exchanged, there is a constant flow between what we perceive to be our bodies and that which is 'external.' Where do we draw the distinction, if there is no solid barrier between 'my body' and 'not my body'? *Khaga* highlights this porous boundary, this constant interchange. At a macro level, food enters our body, and becomes our body. This food is, itself, a mixture of minerals, water, sunlight, atmosphere. Constant motion maintains life.

Attitude: Gaze towards the navel, the center of your body, and take a contemplative perspective. Looking inwards, you nonetheless can perceive small fragments of the entire universe. How do you draw boundaries in your life? Are these distinctions 'real'? Where are the openings, the pores in these borders?

6. Ashtanga Namaskara - Eight-Limbed Salute



Physical posture: Allow the knees to bend, coming into contact with the ground. Squeezing the elbows in close to the rib cage, lower the chest and chin straight down onto the mat. Look forward. The pelvis remains lifted, creating a mild backbend. The 'Eight Limbs' that give name to this posture are the only points of contact with the ground: 2 hands, 2 feet, 2 knees, chest, and chin.

Mantra: 'Om Pushne Namaha'

Meaning: 'I will respect and nourish myself, body, mind, and spirit. I will be a support to others by being generous mentally and emotionally.'

Deva: *Pushan* is that which nourishes. Our physical bodies are nourished by food, but also by our efforts to take care of them. Treating the body as a machine, taking it for granted, is an expression of arrogance. Return to wonder, to humility. Practicing Yoga, eating healthily, sleeping well, and being respectful of the body's needs provides it nourishment. We need emotional and mental nourishment, too. Rest and relaxation are important, of course, but so is stimulation. 'To nourish' encompasses more than simple 'feeding,' it has linguistic associations with supporting, allowing growth, and cherishing something. To realize *Pushan* in your life is to seek out situations and experiences which challenge you and encourage you to grow on all levels. *Pushan* fully manifests when you feel fully supported, and extend that stability to those in your life by being kind and generous. Generosity isn't necessarily material; you may give of your time by smiling at a stranger; you may give of your heart by fully accepting and respecting someone for who they are despite your preconceptions.

Attitude: To nourish our bodies and minds is to serve them. In this prone salutation position, be humbled by the amazing systems that comprise the body and brain. Offer gratitude to these parts of yourself, and consider how you can support them through your actions and decisions. This position reminds us to cultivate humility and gratitude; the master is truly a servant. By contemplating the needs of the body and brain and acting on them, you will ensure a healthful existence. By being receptive to the needs of others, you will help cultivate a strong community and bring joy to the lives of many.

7. Bhujangasana - Cobra Pose



Physical posture: Pressing back through the palms (in case of lower back injury/pain, walk the hands forward or come onto the forearms), slide the body forward so the pelvis and legs rest on the ground. Point the toes backwards, away from the body. Lift through the arms to raise the abdomen, chest, and head from the mat. Look upwards, towards the ceiling (if you have an injury or pain in the neck, look forward, keeping the cervical spine straight.) Allow the breath to expand the body in all directions simultaneously.

Mantra: 'Om Hiranyagarbhaya Namaha'

Meaning: 'I am committed to healing on every level, releasing that which is causing imbalance in my life.'

Deva: *Hiranyagarbha* is the 'gold colored one.' This is representative of healing, of the burning of impurities and toxins until only the pure, shining gold of health is left. Communion with this *deva* is to open oneself to healing. The entire system of Yoga is aimed at healing of the body, heart, and mind. By contemplating *Hiranyagarbha*, we may understand the steps we need to take to regain or ensure health. Health encompasses all levels, including a body that functions well, a balance in the emotions, and a mind that can accurately perceive truth.

Attitude: As you expand your body in all directions, so expand your mind. Identify areas of illness or imbalance in your life, and reflect on the path to wellness. Visualize or feel the golden glow of healing envelop you, supporting you on this journey.

8. Adho Mukha Svanasana - Downward Facing Dog



Physical posture: Lift the pelvis towards the ceiling, pressing back into an inverted 'v' shape. This is the same position as #5. Legs can be hip width apart or more depending on the flexibility of the lower back (wider foot position will put less pressure on the lumbar spine). Heels stretch towards the ground and the chest moves towards the legs. Open the shoulders to bring the arms away from the neck, and gaze towards the navel or knees.

Mantra: 'Om Marichaye Namaha'

Meaning: 'I will awaken from my illusions, no longer pursuing that which is valueless. I will see and appreciate the value in all people and things.'

Deva: *Marich* is the master of illusions, the one who awakens us from dreams. To dwell in illusion, to dream, is to place value on and identify with that which is impermanent. All situations, all possessions, all objects will change. Their source remains, steady and permanent. *Marich* directs our gaze, our understanding, away from the illusory and ephemeral, towards that which is eternal and real. To base our happiness, our joy, our peace on that which changes is to invite disaster. If your job makes you happy, and one day you lose it, what then? If your physical prowess is the foundation of your life, and one day you're in an accident, or become ill, what then? Do not renounce pleasures from life, deny your experiences; allow *Marich* to guide you to drinking from the fountain itself, rather than the runoff. Find the source, the divine essence in all things, and rest in that calm center. To become free of illusion is not to reject our life, but to embrace it fully, finding joy equally in all things.

Attitude: We gaze inwards again, towards the navel, symbolically bringing our awareness to the internal. Offer your willingness for your vision to be cleared. The dying man in the desert crawls towards the mirage with single-minded focus, ignoring the clear, cool spring at his feet. Release your striving towards mirage, and drink deeply from the essence of every moment.

9. Ashwa Sanchalanasana (R) - Horse Rider's Pose



Physical posture: Step the left foot forward between the hands to a lunge. If this is difficult, lift the left arm slightly to create space for the leg as you step forward, then place the left palm back down. This is the same position as #4, on the opposite side. Look forward or up, being careful not to force the neck backward. Sink the pelvis towards the ground while keeping the back leg straight.

Mantra: 'Om Adityaya Namaha'

Meaning: 'My life is a precious gift, an expression of interdependence.'

Deva: *Aditya* is the son of *Aditi*, cosmic mother. *Aditi* is the source of all the *devas* and all physical matter in the universe. In Yogic metaphysics, the female aspect (represented here by *Aditi*) is the source of tangible matter, power, life, while the male aspect imbues consciousness, intelligence, and light, that which is intangible. Note that this is an archetypal male/female pair, and all humans fall somewhere between, probably slightly closer to the male side, as we have more consciousness than other aspects of manifest existence, such as plants, rocks, celestial bodies, or animals.

Recognition of *Aditya* comes with the realization that our existence is a natural part of the universe, interdependent with everything else. We are 'children' of *Aditi*, the universe. Our bodies, our brains, function according to natural laws and circumstances; nothing operates independently of the whole system (*Aditi*). Physically, our bodies are made up of bits of matter: food, minerals, water, atmosphere (breath), chemicals. Our minds also function in harmony with the workings of the universe. Time is an excellent example - we perceive a solid, linear flow of time and organize our minds accordingly, yet science suggests that time is relative, structured by the movement in space and gravity. Our brains would be unable to function independently of gravity and magnetic fields.

"...for us physicists believe the separation between past, present, and future is only an illusion, although a convincing one."-Albert Einstein

Attitude: Reflect on your place in the world. Everything you have, your existence here, is interdependent with the Earth, with the universe. Gazing again towards the third eye, see the threads that connect all things. Feel gratitude for your life, the support you receive from *Aditi*, the mother.

10. Uttanasana - Intense Forward Fold

Physical posture: Step the right leg forward to meet the left, big toes touching. This is the same posture as #3. Leave the palms on the ground beside the feet, or place them on the shins, and elongate the crown of the head towards the feet. The navel and rib cage rest close to the thigh. Bend the knees slightly if you feel pressure in the lower back or pain in the hamstrings.



Mantra: 'Om Savitre Namaha'

Meaning: 'I will bring my actions into balance with my goals.'

Deva: *Savitur* is the one who impels, who organizes and directs. At this point in the sun salutation, we have encountered energy, grace, understanding, intelligence, and more. Yet these qualities mean little without organization, without a common direction. *Savitur* is sometimes represented as a charioteer, reigning in and giving a purpose to that which might otherwise be diffuse, abstract, undirected. He directs energy and effort to purposeful ends, steering the mind. *Savitur* counteracts distraction, apathy, or lethargy, yet also understands the value of rest, relaxation, and negative space. In the Rig Veda, a classical text, *Savitur* is praised as the master of both mobility and immobility, a reference to bringing harmony between life and dharma (truth). He invigorates life (the movable) while at the same time anchoring us to truth (the immovable).

Attitude: When all actions are aligned with one goal, success is swift. When effort is scattered, diffuse, little progress is made. effect on direction and purpose, seeking the organizing force which gives meaning to action. How do you direct your actions? For many, this is the quest for money, power, safety, or companionship. For the Yogi, all actions lead to true perception.

11. Urdhva Hastasana - Raised Hands Pose



Physical posture: Lifting from the hips, return to a standing position, hands raised overhead. This is the same as posture #2. Slightly arch the back, lifting the head and chest upwards. Allow the shoulders, neck, and chest to remain open by widening the hands if necessary.

Mantra: 'Om Arkaya Namaha'

Meaning: 'I give thanks for the perfection of my life. I learn and progress from every experience, those that may be perceived as 'bad' as equally as those which I may consider 'good.'

Deva: *Arka* is 'the praiseworthy one.' The word *Arka* also means 'crystal.' Crystal is a metaphor for perfection, clarity, beauty. *Arka* recognizes the perfection in everything and everyone. Even that which seems to cause only suffering, darkness, contains perfection, as it creates a need, an opening for light. Without suffering, we would never have the motivation to continue towards our goal. *Arka* knows that every action, every situation, contains the essence of the divine. Good cannot be separated from bad, they cannot exist independently as they are defined by their relationship. When you commune with *Arka*, you take a step back from the constant judgement of right and wrong, good and bad, happiness and suffering, recognizing the flawless where before we had only seen the flawed. We can learn and grow from every experience. Symbolically, this is placed near the end of the sequence, one of the final steps before true perception is attained. From this vantage point, we can see the value of all our efforts, and feel the way that the sequence to this point has supported our understanding and practice.

Attitude: Again raising our hands in victory and joy, we recognize that which is joyful in all things. Cultivate a perspective of equanimity. All experiences are equally valuable, our essential teachers. The peace of *Arka* is in the knowledge that all happenings and beings are equal in the sight of true vision. Find the inherent beauty in what you see; good, ugly, bad, beautiful are just ideas that we have grafted onto the world. Having chosen to see the bad, choose instead to reinterpret and see perfection. Acknowledge that which is praiseworthy in yourself, and give thanks for it and to it.

12. Pranamasana - Respectful Pose



Physical posture: Straighten the back, bringing palms together over the chest. This is the same as position #1. Direct the gaze forward and down, tucking the chin slightly as the the crown of the head elongates towards the ceiling.

Mantra: 'Om Bhaskaraye Namaha'

Meaning: 'I trust in my inner wisdom.'

Deva: *Bhaskar* bestows the wisdom of enlightenment. At the end of the sequence, we return to the beginning. The wisdom granted by *Bhaskar* is the knowledge that we have had this wisdom within us the entire time. Our practice is but to acknowledge what is already within, already deeply seated. We have the opportunity to contemplate the cyclical nature of existence, making the decision to remain within the cycle or move on. Metaphorically, this refers to the Yogic concept of reincarnation - we reach the end of one cycle, and begin anew, each time growing. Yet at some point, we must cease our striving and simply bask in peace and light. *Bhaskar* brings this to our attention, leaving the decision to us.

Attitude: Contemplate cyclical existence. On the level of everyday life, we often find ourselves in endlessly repeating patterns of thought or interaction. Caught in a whirlpool of momentum, we must decide when to break free and float in calmer waters. The choice is given in every moment, and awareness is the key to freedom. Newton's first law of motion states that an object in motion will stay in motion unless it meets an equal, opposing force; likewise with our minds and lives. Expect the patterns of your life and your thought to repeat themselves unless you take action. *Bhaskar* provides the knowledge of abiding in perfect stillness.

Note: These twelve movements form one complete sun salutation. To repeat the sequence, move first into a neutral position by bringing the hands down to the sides and begin again at #1.

Recommendations for Practice:

The sun salutation is sufficient for a stand-alone Yoga practice, or it may be used to supplement your ongoing practice. I recommend practicing daily to ensure progress both physically and neurologically. Begin by repeating the sequence a few times; 3 is sufficient at first. As you strengthen, increase the number of repetitions as time and ability permit.

If you wish to use the sun salutation as the basis of a Yoga practice, set aside at least 20-30 minutes for practice. Aim for completing 12 - 24 repetitions daily. According to Yogic tradition, sunrise and sunset are the most beneficial times to practice due to the calm, peaceful atmosphere. In addition to this, I also highly recommend practicing the sun salutation throughout the day.

Make the sun salutations a regular habit, performing one or two once an hour or every couple hours to experience benefits. Throughout the day, our bodies tend to get tense and painful, and our minds are often overworked and stressed out. Interspersing the sequence between your daily activities will refresh and rejuvenate you, both physically and mentally, by allowing you body to stretch and your mind to relax. Contrary to popular belief, diffuse, semi-active relaxations like watching a movie or browsing the internet do little to relax the mind. Intensely focusing on something calming and peaceful (performing a sun salutation, or taking a moment in nature) is a very effective way to stay creative and energetic throughout your day.

If you have a 10-minute break at work, for example, use this time to make 1 or 2 repetitions of the sequence. By peppering this Yoga practice throughout your day, you will help release pain and stress while forming new mental and physical habits exactly when it's most important. If you feel worried, anxious, overwhelmed, or in physical pain, **practice the sun salutation with mantra immediately. Do not wait until you get home or your next Yoga class.**

Fill whatever time you have available. A quick practice could take as little as 2 or 3 minutes. If you have more time, take advantage of it. Incorporating this practice several times throughout the day, whether or not you have a full practice session, whether or not you plan on going to the Yoga studio after work, will have powerful results, allowing the body and mind to relax and recharge frequently.

Yours on the path of Yoga,

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Citations:

1. Quote from non-contiguous passages, pages 28-36. Huyler, Stephen. *Meeting God: Elements of Hindu Devotion*. Yale University Press, 1999.
2. Amy Cuddy, TED Talk 2012. Photo credit ted.com
http://www.ted.com/talks/amy_cuddy_your_body_language_shapes_who_you_are.html
3. Photo credit: [cnn.com](http://www.cnn.com)

✦ Although I do not cite any specifics, my thinking as conveyed in the section 'Emotion as a Skill' is influenced by my work in professional therapeutic contexts, plus psychological models as expressed in the C. Terry Warner's *Bonds That Make Us Free*, Marshall Rosenberg's *Non-Violent Communication*, and Buddhist and Yogic esoteric explanations of how emotions emerge from the mind.

❁ This is the fifth of the Niyamas of Patanjali's [Ashtanga Yoga System](#), *Ishvarapranidhara*, which translates as 'devotion to the personal divine.'

4. <http://neuroscience.uth.tmc.edu/s1/chapter07.html> provides an accessible introduction to the technical concepts of neuroplasticity.

5. Alan Watkins, interview on BBC Radio 4 / 17 July 2011

6. 'resting breaths per minute'
<http://www.nlm.nih.gov/medlineplus/ency/article/007198.htm>

7. These effects may be due to activation of the frontal lobes. Watkins reported this, which is corroborated by Davidson, Et. Al.: 'We report for the first time significant increases in left-sided anterior activation, a pattern previously associated with positive affect, in the meditators compared with the nonmeditators.' This study also provides evidence that meditation boosts immune system function. Full study at:
<http://www.ncbi.nlm.nih.gov/pubmed/12883106>

8. This is a lengthy review of research. Relevant citations appear throughout the document, specific quote appears on page 27.
<http://www.dcoe.health.mil/Content/Navigation/Documents/Mind-Body%20Skills%20for%20Regulating%20the%20Autonomic%20Nervous%20System.pdf>

9. 'Heart Rate Variability': Bernardi L, Sleight P, Bandinelli G, et al. *Effect of rosary prayer and yoga mantras on autonomic cardiovascular rhythms: comparative study*. BMJ. 2001;323(7327):1446-1449. Referenced in citation 6.
10. This entire article is relevant; for brainwave patterns, see especially figures 1 & 2, reference 17; for heart & breath entrainment, see figures 3 & 4, reference 21.
Edwards L. [Meditation as medicine: benefits go beyond relaxation](#). Advance for Nurse Practitioners. 2003;11(5):49-52.
11. Crosson B., Sadek J. R., Maron L. et al. *Relative shift in activity from medial to lateral frontal cortex during internally versus externally guided word generation*. J Cognitive Neurosci 2001; 13: 272-283.