

The Yogic View of Consciousness ^{HQ}



Donald J. DeGracia, Ph.D.

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PlaneTalk

About this and the other worlds



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Printed in the United States of America. There's a penguin on the television set. (4)

This book is dedicated to
J. J. Van der Leeuw
I. K. Taimni
and
Swami Krishnananda

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Introduction



Introducing the Introduction

Over the centuries, the *Yoga Sutras* of Patanjali have served as a kind of crystal ball that people look into and project their hopes, dreams, and metaphysics of reality. This is not to say that the *Yoga Sutras* contains no objective content. It teaches how to do yoga after all, and is grounded in an ancient India philosophy called [Samkhya](#).

But the objective content is elusive from our modern secular standpoint. The further in time the *Yoga Sutras* has extended from its origins, the more porous and diffuse its meaning has become. Nowadays, one can read almost anything into the *Yoga Sutras*. It can't be helped. One can reach only as high as one's arm extends. Similarly, one can comprehend only to the extent one's mind can stretch.

What is this book about?

The Yogic View of Consciousness began as an idea for a book that was to be entitled "Atom" based on the premise that the Greek word "atom" was related to the Indian word "atman". Both are indivisible things that are thought to describe the basic "stuff" out of which the world is made. An atom, which today is called a "quantum", is the materialist's basic unit of the world. An atman is a quantum of consciousness, and is the basic unit of the world to a Hindu. I thought they might be related and suggest a metaphysics whereby the world was constructed of units of consciousness. However, I spoke with an expert in Greek and Indian languages, [Nicholas Kazanas](#), and he assured me that the words are etymologically unrelated. Therefore, the title "Atom" got trashed. But the idea that the world is made of units of consciousness did not, and what was to be "Atom" is now the book you hold called *The Yogic View of Consciousness*.

The book began as a blog post (which is now Chapter 1) that was to provide a go-to reference for an email discussion group on consciousness studies in which I participate. Once the first chapter was written, it occurred to me to summarize the ideas in the form of the model described in Chapter 2, captured by the simple graphic below. This in turn led to Chapter 3, which discusses the implications of this model against other views of consciousness. This is where I had intended to stop writing. Therefore, the first three chapters are almost stand-alone. They can be taken as a broad overview and summary of the remainder of the book.

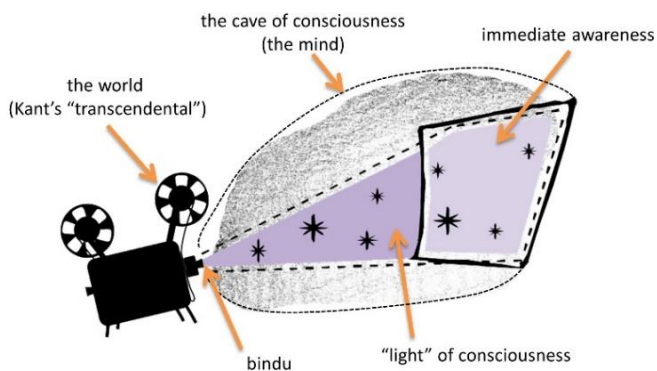


Figure 1: The meaning of this book.

However, once I had the model shown in Figure 1, I decided, what the heck, why not fill in more detail? Hence the remainder of the book steps through and describes each part of this picture. The flow of the book is as follows:

Chapters 1 – 3: Summary of the yogic view of consciousness and its implications.

Chapters 4 – 7: Describe various views of the Absolute, depicted by the projector (“the world”) in the image above.

Chapter 8: A segue chapter from the Absolute to the Relative brings mathematics into the discussion.

Chapters 9 – 18: An extended discussion of the bindu, which is the link between the Absolute and the Relative. The subtext here, which eventually becomes explicit, is the ancient question of the One and the Many.

Chapters 19 – 22: Describes the “cave of consciousness”, a reference to Plato’s allegory of the cave, which is a way to understand the mind in its totality. The main focus is on memory, what yoga calls *samskaras*.

Chapters 23 – 32: Translating the model into first-person experience. Yoga, like basketball, is a real activity people do. We may theorize all we wish about yoga and basketball. However, yoga and basketball only come to life when we *do* them.

The *Yoga Sutras*

On one level, the *Yogic View of Consciousness* is another commentary on Patanjali's *Yoga Sutras*... sort of. Technically perhaps it is not a commentary because I do not discuss each aphorism, nor do I attempt to explain things in the order Patanjali did in the *Yoga Sutras*. The book is a commentary insofar as the *Yoga Sutras* are the basis and genesis of the model in Figure 1, which is meant to encapsulate the theory of mind embodied in the *Yoga Sutras*.

What are the *Yoga Sutras*? They are a collection of 196 aphorisms that teach yoga. They are considered by most to be the first and last word on what is called Raja or Ashtanga yoga. However, the *Yoga Sutras* are extraordinarily cryptic and abstract not only in their meaning but in their origins as well.

Brief History of the *Yoga Sutras*

The history of India is spotty for a number of reasons. Ancient Indians did not try to record their history, as did, say, the ancient Greeks (hello! [Herodotus](#)). Further, when British imperialism enslaved India, several European scholars developed rather Eurocentric ideas about Indian history ([Max Müller](#) is perhaps the best known name in this regard). Many of these ideas have been brought into question by a number of recent discoveries, not the least being the discovery of [Harappan civilization](#) that peaked circa 2500 BC and has roots going back perhaps to 6000 BC. There is thus legitimate and substantial uncertainty establishing dates, times, and places for events in Indian history.

This does not mean nothing is known about Indian history. There is a lot known. The [Brahmanical and Buddhist traditions](#) date back at least 2500 years. During this time an immense literature of religio-philosophical thought was produced. This includes the [Vedas](#), [Upanishads](#), [Puranas](#), and [Tantras](#), as well as large literatures surrounding the various forms of [Buddhism](#). But because of the historical uncertainties, all of this floats in a historical vacuum, decontextualized, as it were, from the grounding in everyday life that knowledge of history provides.

The short of it is: we don't know when the *Yoga Sutras* were collected in their present form. We don't even know if Patanjali was a historical person. The details of the origins of the *Yoga Sutras* are uncertain. Nor is it clear if and how they were altered over the centuries. What we do know is that the extremely rich backdrop of Brahmanical and Buddhist thought provides the context of the *Yoga Sutras* and it is to be seen as part of these greater cultural movements. The methods in the *Yoga Sutras* are given in the context of a branch of Indian philosophy called *Samkhya*, attributed to the sage [Kapila](#). This book focuses much on unfolding the meaning of Samkhya concepts like gunas, Prakriti, and so forth.

In this regard, I am guided and inspired by the following passage from [Heinrich Zimmer](#)'s [Philosophies of India](#):

“We of the Occident are about to arrive at a crossroads that was reached by the thinkers of India some seven hundred years before Christ. This is the

real reason why we become both vexed and stimulated, uneasy yet interested, when confronted with the concepts and images of Oriental wisdom. This crossing is one to which the people of all civilizations come in the typical course of the development of their capacity and requirement for religious experience, and India's teachings force us to realize what its problems are. But we cannot take over the Indian solutions. We must enter the new period our own way and solve its questions for ourselves, because though truth, the radiance of reality, is universally one and the same, it is mirrored variously according to the mediums in which it is reflected.”

I take the position in this work that the West still does not fully appreciate the meaning of the concepts, and associated experiences, expounded in the *Yoga Sutras*. Even if we did understand in every aspect the secular history of the *Yoga Sutras* and related materials, we are still faced with the task of deciphering their meaning.

Commentaries on the *Yoga Sutras*

The *Yoga Sutras* are terse and cryptic. The [sutra style](#) is like the [genetic code](#). Both can be thought of as extreme forms of [information compression](#) that, when decompressed, reveal the information in its fullness. In the case of the genetic code, this reveals an organism. For the *Yoga Sutras*, the decompression method used over the centuries is a variety of commentaries that explain the meaning of each aphorism and how they are sutured together to unfold the logic and methods of yoga.

An excellent introduction to *Yoga Sutra* commentaries by [Edwin Bryant](#) is found at the [Internet Encyclopedia of Philosophy](#). The present work relies heavily on one particular commentary of the *Yoga Sutras* published in 1961 by [I.K. Taimni](#) called *The Science of Yoga*. Why this particular commentary is made clear below.

Academia and Yoga

When one looks presently at the intellectual landscape of academia, our hallowed (or hated, depending on one's outlook) universities, one sees an obvious dichotomy.

On one hand, you have the sciences (physics, math, biology, cognitive sciences, etc.), where the practitioners are extremely specialized in very narrow fields of inquiry. Their extremely narrow focus causes their thinking to contain huge [blind spots and holes](#). This, however, does not stop them from making pronouncements on topics they know little about, such as philosophy and religion. Perhaps the central feature that characterizes how they think is that they naively accept their ideas at face value. That is to say, these people actually *believe* the stuff they say amongst themselves. They are so ignorant of the history of thought in the world that they actually believe in “objectivity”, and they have, mostly unconsciously, made it their religion. This way of thinking has sunk to some real absurdities, giving rise to social phenomena like “global warming” (that was “global cooling” and is now morphing into “climate change”), or hostile attitudes between evolution and religion, and so

on. Later in the book I will discuss *scientism*, the attempt to make scientific ideas into something akin to religion, which is a consequence of the intellectual naivety of the last generations of scientists. [Elsewhere](#), I coined the term “**philosophical pygmies**” to characterize these people, and I will continue to refer to them as such throughout the present work.

On the other hand, you have non-scientific Humanities (i.e. history, philosophy, linguistics, religious studies, humanities, social sciences, etc.) where the practitioner’s take what I will call a “meta stance”, meaning that they seek to stand outside of or above (“meta”) what they are studying. This type of academic tends to be constantly skeptical, take positions that are always tentative, and never comes to any definite conclusions. This approach is laudable for exercising a necessary intellectual caution. On the other hand, if we are too cautious, we never accomplish anything. Studying their thinking reminds me of sliding around on an oily surface, or listening to a politician speak. These are the people who have given us “social relativity”, “multiculturalism”, “post-modernism” and similar viewpoints that have garnered so much love and affection amongst the population as a whole.

Portrayed in this fashion, the dichotomy is clearly a caricature. But it is meant to capture a serious phenomenon recognized decades ago by [C.P. Snow](#) in what he called the “[two cultures](#)”. By this he meant the divorce of the sciences from the humanities. Over the decades, the differences between the “two cultures” has amplified in [toxic ways](#) I won’t go into here.

It is the non-scientific group, the Humanities, who have monopolized the academic study of Indian thought. This is certainly not an intentional conspiracy to keep Indian ideas out of the sciences. Except in very rare instances, the science-side has simply seen no relevance in the Indian ideas for our scientific understanding of the world.

I.K. Taimni

This is where Taimni comes in. He was not a traditional academic with respect to Indic studies. One is hard-pressed to find reference to his work in the academic yoga literature. Taimni was a chemistry professor in India circa the mid-20th century. He was also a theosophist. He wrote several translations and interpretations of important Hindu works including the *Yoga Sutras*, the [Shiva Sutras](#) and the [Pratyabhijna Hridayam](#), the latter two works being part of the tradition of [Kashmiri Shaivism](#).

Taimni did something fairly unique in the literature of the *Yoga Sutras*. He put a scientific slant on interpreting them. He often used examples of known physical processes as a way to explain the meaning of a given aphorism, or concept behind an aphorism, or method described in the *Yoga Sutras*.

What this book is about, in large measure, is continuing what Taimni started. I take many of his ideas and expand on them. I discuss how current scientific understanding does or does not gel with what is discussed in the *Yoga Sutras*.

Why? What’s the point? Isn’t our modern science good enough as it is? Why

does it need help from something as esoteric as a (possibly) 2000 year old yoga text?

Straddling Both Sides

Well, the book spends a lot of time answering this question. The reason for describing the “two cultures” above is to provide a framework for understanding the approach I use here. On one hand, like a scientist, I take the yogic ideas at face value and believe they provide a serious and objective description of reality. Just as we take, say, Einstein’s General Relativity as a description of reality. On the other hand, I am also using the “meta stance” of the humanities, mainly to point out the limitations of our present scientific picture and exactly why it needs help from something like the *Yoga Sutras*. I flit in and out of the two mind-sets drawing on their strengths while pointing out the weakness of both.

With regard to the science side it occurs to me to say the following: **Science grew out of philosophy but science has not outgrown the need for philosophy.** However, because of the split of the “two cultures”, scientists are generally disdainful of philosophy. They are arrogant and proud, but their arrogance and pride simply masks their naivety and ignorance. They are ignorant of [social and psychological realities](#) that play them like chumps. It has really gotten out of hand. One manifestation of this is how the sciences are turning in on themselves in a hostile manner, as for example, in the debates about the relevance of [String Theory](#), or again, in the “[climate change](#)” arena. Science as it has been known in the West is in a state of degeneration, in large measure because it has rejected its humanistic roots and turned into something resembling religion more than classical science. It rejected philosophical thought and is now paying the price for doing so.

On the other hand, the slippery, non-scientific Humanities [endlessly go round and round](#) in mental circles and thus go nowhere. By being divorced from the hardcore technical material that makes up the sciences, they have become unanchored from the modern world. Their stance contains not a small trace of alienation from the modern world precisely because they don’t understand how the world works as discovered by our modern sciences. They are forced into the “modern classroom” but have no idea how transistors, the Internet, or LCD screens work, let alone [how science itself works](#). They have no idea how relevant their ideas are for controversies in math and physics, if they even know of such controversies. Some amongst this species of academic sees through the social order, and sometimes even their own minds, but they are powerless to act. The Humanities have become dissociated and disenfranchised from the heart of the action, and their bitterness at this fact is more or less obvious in everything they do.

Finally, on whichever side of the divide one falls, there is one factor that makes either side ill-equipped to deal with larger issues. Academics, as real living people, have their own agendas that supersede what is being studied. I won’t dwell on the [pressures placed on academics](#), other than to say I am subject to them myself so know them first-hand. The Humanists at least formally recognize these factors in all their post-modern blather that, for all its faults, is smart enough to recognize that we [live](#)

[in a society](#). But in spite of being aware of it, they are still forced to conform to it. On the other hand, the scientists are like rats in a cage, which they sense only in the most indirect of fashions because they are not intellectually equipped to even formulate their place in the social order. This expresses itself in the increasingly mediocre (and in many cases, [outright wrong](#)) output in all fields of science.

So here I criticize both sides and also draw on the best of what both sides have to offer. I focus this through the *Yoga Sutras* because it talks about phenomenon of relevance to the intellectual content of both sides.

Thus, perhaps the main use to which the *Yoga Sutras* is put in this work is to look into it as a crystal ball for answers to help re-unify an intellectual world that is currently in a state of schizophrenia. There is more going on than just this, but the remainder is apparent reading the text. Here in the introduction, I point out the “two cultures” problem because it flows as a subtext through the entire book.

Tone and Style

Given my critique of both sides of the two-culture divide, it is simply silly to conform to the limitations each side has placed in communicating their particular brands of information. There is a goofy affectation and pretense of appearing sophisticated and intellectual in academic communication. There is none of that here. When discussing the *Yoga Sutras* the intellect gets put in its rightful place as a mere tool, no more no less. We don't glorify hammers and saws so why should we glorify the intellect? The intellect has limits and these are brought to the fore in the present work. So, while this work is intellectual, it is also brash, sarcastic, humorous, humble, or whatever else is needed to convey meaning effectively. What I try to achieve is to be as straight forward as possible, even if it might offend the sensibilities of those who place style over substance. My response to that is: oh just grow up.

Business Stuff

Like some of my previous eBooks, *The Yogic View of Consciousness* was born as a series of posts on my blog [PlaneTalk \(https://dondeg.wordpress.com/\)](https://dondeg.wordpress.com/) which have been collected as this book and is being released for free into the internet wilds.

The digital PDF is intended to be the main version. It has live links to a variety of supplemental information, and the Reader is encouraged to take advantage of these to get additional information. In the Age of the Internet, the conveyance of information is different. In ancient times (before 1998) we had to use citations. Now, the internet allows the live linking of information in ways impossible in the past. Thus, not only do I link to other web pages, but to entire books, to videos on YouTube, and even to songs whose lyrics add additional overtones to whatever I might be discussing.

There are also print-on-demand versions available for people who like to hold real physical books when reading. These cost a nominal fee for the service of converting the PDF to a book. For those who choose to get a physical book, the internet links are obviously unavailable. Nonetheless, the book has been designed to

be stand-alone enough that one can read the text without the links and still fully get the intended meaning.

There are five “official” versions of the *Yogic View of Consciousness* being released:

1. **This PDF file.** This is the main version intended for wider distribution.
2. The series of blog posts on PlaneTalk, which [starts here](#).
3. [Lulu.com standard quality \(SQ\) version](#). \$39.99. Lulu “standard format” color printing option is substantially cheaper than the high-quality color printing. This is a really nice version. It’s nice to hold and the color images come out surprisingly well.
4. [EPUB version](#). \$8.99. For tablets, Kindles, etc.
5. [Lulu.com high quality \(HQ\) version](#). \$149.99. This is an expensive, high quality print option. The pictures are gorgeous though. Compared to my ~100 page books at \$39.99, the pricing is proportional and reflects the fact that *Yogic View of Consciousness* is almost 400 pages.

Please go to <http://www.lulu.com/spotlight/dondeg> to purchase any of my books.

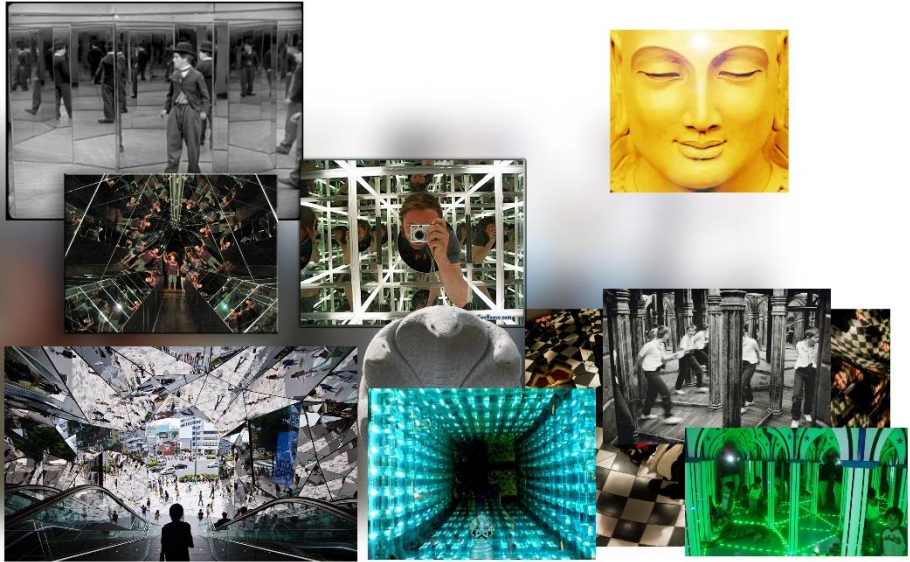
Finally, as with all my publically-available writings, I encourage you, the Reader, to get in touch and voice your thoughts and opinions about what I have written. As I like to say, fight, flatter, agree, or disagree as you wish. Again, this is the Age of Internet. We no longer need to sit by as passive absorbers of information, but can participate in two-way communication with media creators. Therefore, I encourage Readers to contact me by email, or post comments on [PlaneTalk](#). Each chapter has its own comment section on my blog where you can post and share your thoughts. The comments that have accumulated since posting the *Yogic View of Consciousness* provide an interesting on-going discussion that supplements the text, and you are invited to join in.

Yoga has become an integral part of the Western way of life. The assimilation is by no means complete. I hope my small contribution can add something to the ongoing assimilation of yoga into Western culture, to the ongoing rediscovery of the depth of ancient thought, and to the ongoing fusion of Eastern and Western cultures.

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Oct. 2015

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1: The Basics



Here we jump directly into the yogic theory of consciousness based on I.K. Taimni's commentaries to the Yoga Sutras of Patanjali, with some help from J.J. van der Leeuw.

Introduction

I want to describe the yogic view of consciousness as straight-forward as possible. I will do so by presenting a series of diagrams, with accompanying concise comments, and minimal elaboration. We begin with van der Leeuw's ideas and then present Taimni's ideas. Then I will wrap up with a general summary.

Here is an overview so you know where we are going:

According to van der Leeuw, our awareness of the external nature of the world is literally an illusion. This does not deny that the world exists. The seemingly external world is real, but it occurs, or is located in the "center of consciousness." However, our perceptions are somehow *projected* to create the illusion that the world is external and we are embedded in it.

Taimni explains this projection process as akin to how a mirror projects a virtual image. He introduces two important ideas. *Paranga cetana* is consciousness directed towards the projected image. *Pratyak cetana* is consciousness directed towards the center of consciousness from whence the projections issue.

These ideas are laid out below. In Chapter 2, I will elaborate on these ideas and try to present them in the most modern terms I am capable. But for now, let's just learn the main ideas first.

The World Image: Trapped in Consciousness

In *Conquest of Illusion*, van der Leeuw explains that our conscious awareness is a type of projection. To do so, he walks the Reader through a series of images starting from our common sense view of consciousness.

One must first overcome the illusion fostered by TV, movies, abstract thinking in general, etc. that we, in any sense, have a 3rd person view of things. As individual people we always have a 1st person view of the world, where we are at the center, and the entire world surrounds us. The following picture is meant to depict the world as we each see it:



Figure 1: The first person view of the world of consciousness.

What Figure 1 cannot do is depict what is behind our consciousness of the external world: our emotions, thoughts, memories, will, and self. The Reader will have to imagine those in the above picture.

Now we turn to drawings van der Leeuw used in *Conquest of Illusion*. Figure 2 depicts *primitive sense realism*, in which we assume that things as they appear in our consciousness are identical with the thing as they exist outside of our consciousness. Our consciousness is akin to a camera and records direct replicas of what is outside of us.

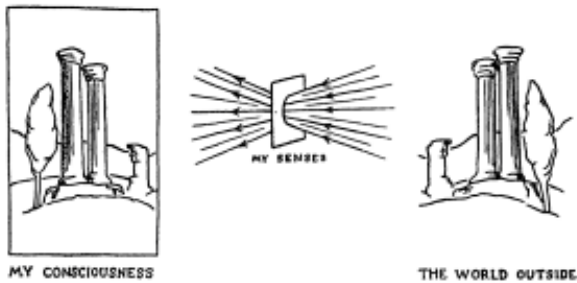


PLATE ONE:—PRIMITIVE IDEA OF SENSE PERCEPTION
The image in my consciousness a replica of the objects outside.

Figure 2: Primitive sense realism

Next, van der Leeuw expresses the scientific view by including the brain as a middle-man between things outside us and our awareness of things outside us. This view recognizes that stimuli convey to the senses information about the external world which enters the brain, and via some black-box process (symbolized by the question mark in his picture) causes consciousness of the external world. We could add [thalamocortical loops](#), gamma oscillations, and [quantum processes](#) to his picture, but the question mark would still remain.

Thus, Figure 3 goes beyond primitive sense realism because the brain is recognized to play a constructive role in generating the contents in consciousness. However, to use van der Leeuw's terms, we still do not know where the "blue of the sky" or the "green of the grass" enters into consciousness.

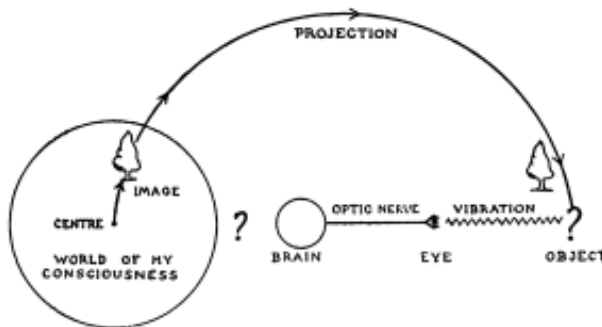


PLATE TWO:—PHYSIOLOGY OF SENSE PERCEPTION

Figure 3: The scientific view that the brain creates consciousness

However, van der Leeuw now questions that status of eyes, nerves, and brains:

“.. we must somewhat revise our conception of the process of sense-perception. In it the object outside was supposed to be unknown, but the vibration which it sent out, the eye reached by that vibration and the nerve and brain affected in consequence, were all accepted as known and familiar

quantities and never doubted as objective realities existing there, exactly as we perceive them. It was this ready assumption of the physical body as an independent reality existing without, which caused the gap between the last change in the brain and the image arising in our consciousness. This gap disappears when we realize that our physical body too, as we know it in its shape and colours, with all its qualities, is also an image produced in our consciousness by an unknown reality. Thus the situation becomes that shown in Plate III, where tree, vibration, eye, retina, optic nerve, brain and physical body in general, are one and all shown as images arising in the world of our consciousness.”

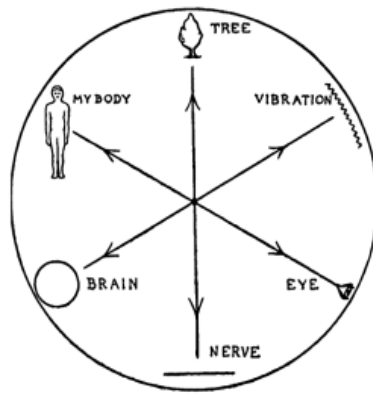


PLATE THREE :—THE WORLD OF MY CONSCIOUSNESS

Figure 4: Consciousness as a closed system.

Thus van der Leeuw comes to Plato’s Allegory of The Cave. We are trapped in the Cave of our consciousness: Everything of which we are aware—literally everything—occurs only inside of consciousness. This too is Kant’s view of things. We only know what is in our consciousness. What is outside of consciousness, outside of the mind, Kant called the **transcendental noumena** because it transcends our ability to directly access it. In this view, we are forever trapped inside of our minds.

The Centre of Consciousness

van der Leeuw next introduces the *center of consciousness*. This idea is not unique to van der Leeuw but is understood in yoga, where this center is called a *laya center* or a *bindu* (fear not! Chapters 9-18 explain the bindu in horrific detail)

The idea here is rather abstract. What is outside of consciousness is not found to be outside of the body where we seem to perceive it, but instead is found at the very center of consciousness itself.

The following image is meant to convey the relationship between the outer surface of our consciousness and the unknowable external reality (noumena) that exists outside of consciousness but projects itself into consciousness via the bindu.

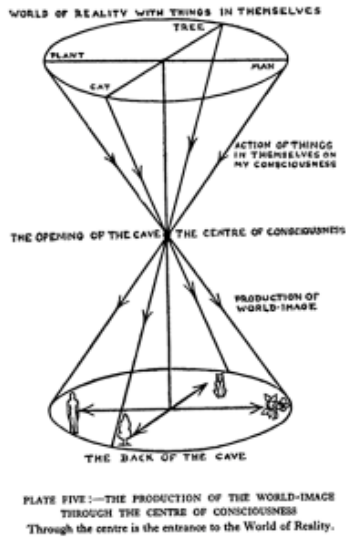


Figure 5: The inside and outside of consciousness meet at a point, the center of consciousness, also called bindu or laya center.

Van der Leeuw explains this figure:

“The relation of the real world to our consciousness and the image produced in it, is again shown in Plate V (Figure 5).... In it we see how the things in themselves, as they exist in the world of the Real [“world of the Real” is van der Leeuw’s term for Kant’s noumena, or just the plain old external world as it exists in itself—Don], act on our center of consciousness and, through it, are projected as images in the world of consciousness, thus forming our world-image. It is clear how, through our consciousness, **all things are as it were turned inside out**; instead of being aware that they act on us from within we gaze upon the image we have produced and wonder how it influences us from without. It has become our fatal habit thus to look outwards upon the images produced in our consciousness and to forget entirely that they are projected there by the action upon our consciousness of things in the world of the Real. Thus, we are only aware of our own world, and, like the prisoners in Plato’s cave, we are so used to gaze upon the back wall of our cave and see the shadows moving there, that we forget and even deny the possibility of turning round and knowing the reality which casts the shadows.”

A Quick Summary

Van der Leeuw begins with the view that the real world is “out there”, outside of our bodies. He then points out that everything we are aware of is inside of our mind. Everything: the external world, including the body, senses, brain and so on. This gets us to Plato and Kant, where we are trapped inside our consciousness. We

cannot know what the “real world” is because we can only know what is in our minds.

Then he brings in the yoga idea that our consciousness is not completely closed, but that it has a “hole” in it; a center of consciousness, bindu, or laya center. The world projects itself into consciousness through this “hole” INSIDE of consciousness.

It is a very strange and abstract idea. The only place one really finds the idea in Western thought is in Plato’s Allegory of the Cave. Something must project to make the shadows. In Plato’s Allegory, it is a fire burning at the cave entrance that light the cave to generate the shadows. According to yoga, the projection occurs from the laya center, which would be the opening of the Cave in Plato’s Allegory. But how does this work?

Outward Directed and Inward Directed Consciousness. How could such a process of projection occur? Taimni is the only author I have come across who directly discussed this issue. To understand what van der Leeuw described, we now quote extensively from Taimni’s *The Science of Yoga*. He begins by introducing the ideas of outward and inward-directed consciousness. [Note: All the bolding throughout is mine].

“The ... ordinary mind is...constantly and completely turned outwards. It is used to taking interest only in the objects of the outer world and this habit has become so strong that any effort to reverse the direction of consciousness and to make the mind withdraw from the periphery to the centre is accompanied by a mental struggle...”

“... These two tendencies which make the mind inward-turned or outward-turned correspond to **Pratyak** and **Paranga Cetana** (Figure 6)... This condition of the mind in which it is turned outwards and is subject to distractions is also called **Viksepa**. It is the normal condition in the case of the ordinary man and is taken as a matter of course by him because he grows up with it...But there is a mystery underlying this natural tendency of the mind to remain outward-turned....”



Figure 6: Inward (pratyak) and outward (paranga) directed consciousness.

“If we are to understand this mystery let us first consider the formation of a virtual image by a mirror. We all know that if an object is placed in front of a plain mirror an exact image of it is seen in the mirror and the image appears to be on the other side of the mirror at the same distance as the object is in front of it. The formation of such an image can be illustrated by the following diagram.”

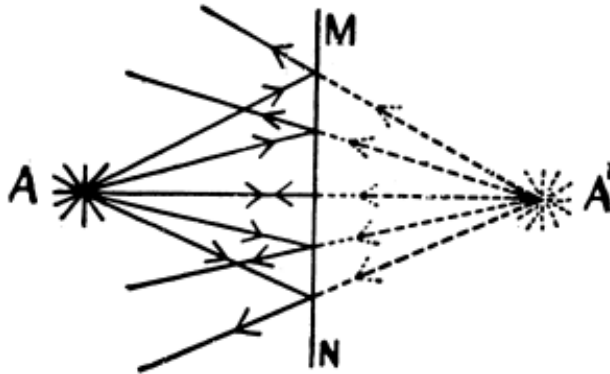


Figure 7: How a mirror creates a virtual image

“A is the object and A' is its image formed by the mirror MN. It will be seen that all the rays coming from the object and striking the mirror are reflected in such a manner that if the reflected rays are produced backwards they would meet at the point A' where the image of the object is seen. It is because the reflected rays all seem to come from the point A' that the virtual image of the object is seen at that point. It is easy to see that this virtual image is a pure illusion produced by the peculiar reflection of light rays. **But the important point to note in this phenomenon is that an object can be seen at a place where there exists nothing at all corresponding to it.**”

“In a similar manner the familiar world of forms, colours, sounds etc. which we see outside us and in which we live our life is formed by a mysterious process of mental projection. The vibrations which are conveyed through the sense-organs to our brain produce through the instrumentality of the mind an image in our consciousness, **but the mind projects this image outwards and it is this projection which produces the impression of a real world outside us.**”

“As a matter of fact, this impression of the familiar solid and tangible world outside us is a pure illusion. **The world-image we see is a virtual image in the sense that the objects we see outside us are not there at all.** Their appearance there is based on the external world of atoms and molecules and their vibrations which stimulate the sense-organs as well as on the inner world of Reality which is the ultimate basis of the mental image.

The mind brings about the interaction of spirit and matter and in addition projects the result of this interaction outside as a virtual image as shown in the following diagram:”

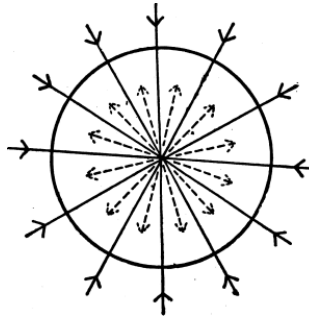


Figure 8: Projection from the center of consciousness of the world seemingly outside of consciousness.

“It is this projection outwards by the lower mind of what is really within which constitutes the fundamental nature of Viksepa and which lies at the basis of this outward-turned condition of the mind.”

“The fact that the world image which we see outside us is an illusion does not necessarily mean the denial of the physical world.”

Taimni not only gives us insight into van der Leeuw’s idea about the center of consciousness, but introduces the ideas of paranga and pratyak cetana, which makes van der Leeuw’s ideas intelligible. I note that Figure 8 is Taimni’s conception of what van der Leeuw shows in Figure 5. Note too the term “viksepa”, distraction, will figure prominently as we proceed to analyze these ideas.

General Summary

According to common sense, it seems like the world interacts with the body and conveys information into the mind and consciousness via the senses and brain. Under this view, we are compelled to determine where in this chain consciousness enters the picture. Kant showed it is an impossible task to do so. Anyone attempting to explain consciousness in such terms simply does not understand the importance of what Kant did. Not accounting for Kant should automatically disqualify anyone from playing the game of “guess what the mind and/or consciousness is”.

The yogic view of consciousness is the exact opposite of the common sense view. The world you perceive directly in your consciousness is the outer-most part of the *inside* of your consciousness. It is the end point of a chain of events that begin DEEP INSIDE of your mind.

The chain of events begins in the unconscious depths underneath your conscious mind. Way, way, way at the very bottom of your consciousness is a “hole”, the bindu. Something projects up into this hole, like light coming through a crack.

Whatever this something is, it projects up from the depths of the unconscious mind, is filtered through the subconscious mind, and finally *generates* the conscious mind.

In this fashion, your conscious mind is like a screen on to which a movie is projected. The “hole”, the bindu or center of consciousness is like the aperture of a projector, and whatever it is that is projected is like the movie reel.

You can imagine your immediate awareness as the inside surface of a balloon. The world you seem to perceive outside of your body is actually a projection of a “movie” on to this inside surface. The world that seems to be outside of your body actually exists on the other side of the hole at the center of your consciousness.

That is to say, the very center of your being is where the external world is located.

It is not outside of you. It is deep, deep, deep inside of you, inside your mind.

That is the yogic view of consciousness.

The yogic view is not beset with Kant’s problem. In the yogic view, there is no “transcendental” because the entirety of the external world is inside of you, access to which is hidden at the very bottom of your consciousness.

Final Thoughts for Now

What is the implication of the yogic view of consciousness? We will get into this in later parts of this book. For now, let us end with van der Leeuw’s profound description of the implications of the yogic view of consciousness:

“Let us then do what so few ever do in our hurried civilization—be alone and be silent. We should relax all effort, and renounce all sensation coming to us from without, still our emotions and our thoughts and sink back into the depth of our own consciousness, like a diver sinking deep into the cool dark waters.”

“When thus we sink back into the depth of our own consciousness we come to a state in which nothing seems to be any more, in which we ourselves seem to have lost name and form and all characteristics. We come to the great Void.”

“When we reach the Void within, the state in which nothing more seems to be, it would appear as if we were surrounded on all sides by a blank wall and as if it were impossible to proceed any further. Then comes the moment when we must break the habit of ages and, like the prisoner in the cave, dare to turn our faces the other way and find the way out of the cave, find reality, freedom.”

“We have to move in a dimension we did not know before; the prisoner in the cave never realized that there was such a thing as a world behind him and we can well imagine how, when first he strives towards freedom and ceases to contemplate his shadow-play on the back wall of his cave, nothing seems to remain to him and he too finds himself in the great Void.”

“The first part of our journey towards reality is the surrendering of our

world-image and the turning inwards until we reach the center of consciousness, the second is to pierce through that center and find the reality which, acting on that center produces the world-image in the cave of our consciousness.

“The experience of going through the center of consciousness and emerging, as it were, on the other side is very much one of turning inside out. In our ordinary consciousness we are turned outwards towards the world-image which we externalized around us. In going through our consciousness the entire process is reversed, we experience an inversion, or conversion, in which that which was without becomes within. In fact, when we succeed in going through our center of consciousness and emerge on the other side, we do not so much realize a new world around us as a new world within us.”

“We seem to be on the surface of a sphere having all within ourselves and yet to be at each point of it simultaneously.”

2: Basics Elaborated



I expand on the yogic theory of consciousness. First I express it as a simple model, and then I explain the features of this model in more detail.

Recap

We begin by summarizing the yogic view of consciousness using a metaphor of a movie projection. The text is meant to be read in conjunction with viewing Figure 1. We start with this simple picture and flesh it in as we proceed.

You can imagine your immediate awareness as the inside surface of a balloon. The balloon as a whole is your mind (the cave of consciousness). The world that seems to be outside of you actually originates from a “hole”, the bindu, which exists at the deepest level of your mind. The real world ([Kant’s transcendental noumena](#)) projects through the bindu into the mind. What is projected into the mind is the “light” of consciousness. In the mind, the light of consciousness is filtered, distorted, reflected, refracted, and so on, by the many structures in the mind. The distorted light of consciousness gets projected on the inner surface of the balloon, the screen of consciousness, and generates conscious experience there, or what van der Leeuw called “the world-image”. The world-image is your immediate moment-by-moment awareness.

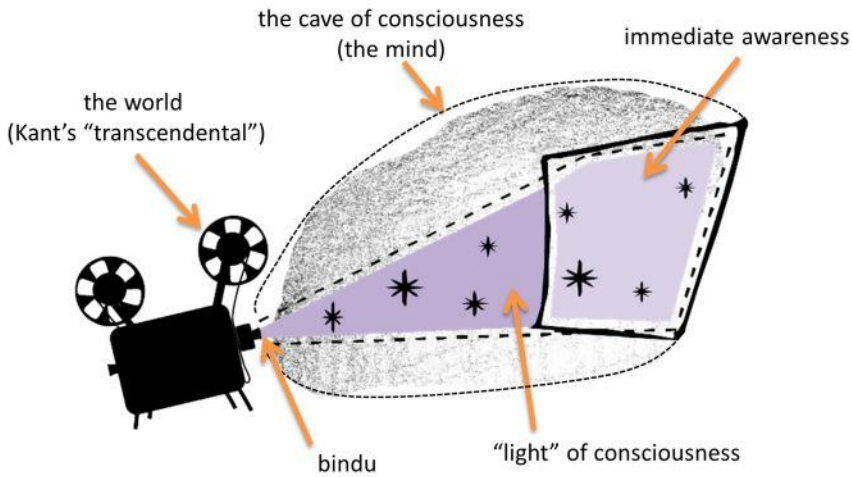


Figure 1: A Movie Projection metaphor to capture the essential features of the Yogic view of consciousness.

When awareness is directed to the screen, this is **paranga cetana**, outwardly directed consciousness, which is the normal state of most people. When the flow of the light of consciousness is directed away from the screen and back towards the bindu, this is **pratyak cetana**, inwardly directed consciousness. Pratyak cetana occurs naturally when transitioning between states of consciousness (such as falling asleep), but it can be perfected and voluntarily controlled by the methods of [Patanjali’s yoga](#). (I previously discussed a bit about pratyak and paranga cetana [here](#)).

This picture of the yogic view of consciousness is the yoga-enhanced version of [Plato’s Allegory of the Cave](#). The things we are aware of are “shadows” projected on a screen that *is* our immediate awareness. We have no direct awareness of the extent of the Cave, or of what lies in its depths, or of the bindu, or of the real world that does the projecting. They are the hidden foundations of our direct, immediate conscious experience.

Let’s step through all this in more detail.

The Real World

What is the nature of the world?

Here in the West, the plethora of philosophies and theories seek to explain the nature of the world in terms of one of, or some combination of, the shadows on the cave wall.

If the shadows involve the seemingly external world that we appear to be embedded in, we call the corresponding views materialism or [physicalism](#). If the shadows involve the mind, thought, or awareness, we call the corresponding philosophies [idealism](#), [panpsychism](#), or some variant thereof. If the shadows involve both the world and the mind, we call it [dualism](#).

There is a third type of theory that claims that nothing is explainable ultimately.

Examples would be the variations of [existentialism](#). Theories that explain the world as unexplainable are not really explanations. However, they do have the advantage of admitting to the futility of finding ultimate meaning in the shadows, and that is their value.

But in terms of views that claim a positive something-or-another is at the root of things, we are left with the materialistic and idealistic views. In general, these are considered to be opposites. Let me make this perfectly clear: **materialistic and idealistic views are NOT opposite.**

They are just two extremes of attempting to explain the nature of the world on the basis of the shadows on the cave wall. They are the same. Any distinctions between them are completely arbitrary because all they do is seek to explain reality in terms of the shadows that play out on the screens of our conscious minds.

What is the nature of the world from the yogic view? According to the yogic theory, your very consciousness, the “light” of your awareness *is* Brahman; it *is* the real world. Not any particular shadow: not this perception, not that thought, not this intuition, or that observation, or this deduction, etc. No. The only fact that matters is that you are aware of anything at all.

Your awareness IS Brahman. IT is the nature of reality. Brahman is like light, but instead of illuminating, it gives BEING. Everything else is but the play of shadows within this being.

Get to the Point

Reality, Brahman, consciousness, projects into the cave of consciousness through the bindu.

What the heck is a bindu?

To those not familiar with Hinduism and yoga, the idea of the bindu is completely alien. The bindu is not a theory or a mere idea. It is a reality experienced in advanced yoga practices (again, [see Swami J's article](#); I give a brief discussion [here](#)). The following discussion is only an introduction. Again, Chapters 9-18 are spent discussing the bindu.

The bindu derives from the fact of [samadhi](#), which is the extreme single-pointedness of the mind. The *Yoga Sutras* never explicitly mention the bindu. It is centuries later in [Kashmiri Shaivism](#), where the idea is codified. Aphorism 3-15 of [Vasugupta's Shiva Sutras](#) mentions the bindu:

बीजावधानम Bijavadhanam

Bija means “seed”. In this context it means “the seed from which the universe grows”. Avadhanam means “pay devoted attention to” or “remain one pointedly fixated on”. As with all aphorisms, this statement contains multiple layers of meaning related to its place in the “thread” of the *Shiva Sutras* (suture).

Aphorism 3-15 is generally interpreted as an instruction to focus with samadhi-

consciousness on the *source* (seed) of the universe. For example, [Bhaskara's translation](#) is: “Constant attention to the seed”. [Swami Lakshmanjoo](#) translates it: “Maintain breakless awareness of that supreme energy which is the seed of the universe.”

A Western mind favorably disposed towards these ideas is likely to interpret this “seed” as referring to some externalized agent, like God, or some other power that created the world. But in yoga, everything takes place deep in the consciousness of the yogi. Thus the aphorism can be interpreted as an instruction to the yogi to seek out the source of *his* universe, the bindu, which is the source of the yogi’s individualized consciousness. This is the interpretation Taimni gives:

“At this stage of Atma-jnana [Self-knowledge] the consciousness of the Yogi is centred in the centre of his consciousness, i.e. the Centre from which his mental world is projected. This point is called the manobindu in Sanskrit and is concentric with the Mahabindu.”

Thus the bindu is that which links the individual to the universal. The procedure to find the bindu was outlined in the quote by van der Leeuw at the end of [Chapter 1](#). He described [nirbija samadhi](#). The bindu can only be found in nirbija samadhi (Chapter 10 describes samadhi in great detail. Chapter 30 in even greater detail, so please hang in there).

The bindu can only be found by practicing yoga. This is why everyone from Kant through [Fichte](#), [Hegel](#), and Hermann Weyl (we discuss Weyl’s philosophy in Chapter 7) could not find an escape hatch out of the individual mind. Instead, they found various compromises to cope with the shadows. People like Nietzsche, Sartre, and their ilk threw in the towel and quit trying, which was the right thing to do. It is better to be neither right nor wrong rather than just half right, and therefore half wrong.

However, when we consider Plato’s Allegory of the Cave, one wonders if he learned something of the bindu from ancient India.

We Are Still Cave Men

Speaking of Plato, let’s now consider what the cave is. It is, broadly speaking, the mind. But when I say “broadly” I do mean broadly! We have to tackle the cave in two sections. When we talk about the cave of consciousness, we must recognize that it has a general structure, and also has specific contents. This section discusses the general of the cave. The next section will talk about the contents inside the cave.

It is good that the West knows there is more to the mind than what is available to immediate perception and direct introspection. However, the Western ideas are confused, controversial, and there are diverse viewpoints. Most of them focus on the contents of the cave so they are discussed in the next section.

Eastern thought also has a variety of approaches to the unconscious aspects of

the mind. Compared to the West these tend to be more systematic and comprehensive. Patanjali's system is a masterwork of the human intellect, for example.

Further, unlike Western views, the scope of Eastern thinking allows it to speak to the genesis of minds. This is expressed in a number of illustrative metaphors. The dew drop and the shining sea, the fire and the spark, acorns and oaks, and stuff like that. What these ideas mean to convey is exactly what was said above: our individualized consciousness is made directly of the same "stuff" as the Universal Consciousness (e.g. Brahman, Shiva, etc.).

There are many such descriptions, but we turn specifically to Kashmiri Shaivism (KS), which, in my estimation, is one of the most advanced and mature expressions of such ideas. A very [complex hierarchy of processes](#) is given in KS to account for the formation of individual minds.

In KS these processes are encapsulated in the general idea of a *constriction* of the universal consciousness into the individual consciousness. The property of constriction is expressed clearly in aphorism 4 of the *Pratyabhijna Hridayam* of [Ksemaraja](#):

४. चित्संकोचात्मा चेतनोऽपि संकुचितविश्वमयः ।

(4) *citisamkocātmā cetano 'pi
sankucita-viśvamayah*

According to [Taimni](#) this breaks down as:

- **citi** - the ultimate reality in its aspect of cit (mind, e.g. Sat Chit Ananda: Being Mind Bliss)
- **samkoca** - contraction, constriction, centralization
- **atma** - the individual Self, Monad
- **cetana** - pure consciousness (I have used the synonym *drisimatrah* in past writings)
- **api** - though, even if
- **sankucita** - in a contracted form
- **visva** - universe
- **maya** - full of

Here are two different translations:

"The Atma or the individual Monad is merely a contracted or centralized form of universal consciousness. Even though he is nothing but pure consciousness, this is obscured by the mental world of the individual which fills it." (Taimni)

“The individual (experient) also, in whom Citi or consciousness is contracted has the universe (as his body) in a contracted form.” (Jai Deva Singh)

What is being described here is a process of the universal consciousness constricting to form individualized minds. But what is constricted, and what is the process of constriction?

IK Taimni gives an intelligent discussion in *Man, God and The Universe*, which I briefly summarize. Metaphors like the spark from the fire, or a ray from the Sun fail to convey that what is constricted remains connected to the whole. The idea of a plant and its seeds describes how the smaller copy has the potential to be the same as the original, but again fails to convey the idea of a persistent connection.

A more modern metaphor to conceptualize the constriction process is to use [fractal geometry](#) and say the constricted form is a [self-similar](#) replica of the larger form. Then, the smaller remains an indelible part of the whole. In addition, the smaller contains within it infinite copies, as does the whole.

However, what all such metaphors lack is the recognition that, in some sense, the constricted form is illusory; that it is a projection akin to a virtual image inside a mirror. We come back to this below when we discuss the screen.

In summary, this constricted form is the Cave of Consciousness. It is the mind. And it is a deep and complicated cave that we now discuss.

Peeking Timidly Under the Surface

In the West, the ideas of the [subconscious](#) and [unconscious](#) minds have varying degrees of acceptance. At one end are uncontroversial “hard science” facts, and at the other end are ideas that provide the content to the mainstream’s idea of the looney bin.

It’s clear that the brain does things that never enter consciousness, like maintain balance and posture, keep heart rate and blood sugar constant, and other things considered reflexes. We know too of instincts: bundles of reflexes that can be modified by learning and experience, which we share with the animals. This level is pretty uncontroversial as this stuff goes.

When we get into the cognitive or mental unconscious, it gets fuzzier. It is certain that memories are stored in our brains that we are not conscious of all the time, but that we can access if we think about it (like imagine your Mom’s face), or if there are suitable cues. Perhaps the most important of these most-of-the-time-unconscious memory banks is language, which serves such a great role conditioning our moment-to-moment awareness.

But then it gets weirder. We can talk about unconscious “complexes” in a Freudian sense or the Collective Unconscious in a Jungian sense (the subjects of Chapter 21). At this point the physicists and neuroscientists get up and leave the room giggling. But psychologists and psychiatrists and other professions who worked regularly with people with “psychological issues” find these ideas

operationally useful. So, at minimum, something is going on, otherwise there would be no value at all to such ideas.

After this, it just gets plain weird. There are people like Maslow talking about peak experiences, and Terence McKenna describing DMT hallucinations that talk back to him, and Stephen LaBerge flitting around in the world of lucid dreams. There is some idiot out there who tells people to "[DO_OBE](#)". From the view of mainstream science, this stuff is the fringe and is tolerated because it is ignored.

On a broader historical level, [I've discussed](#) the two-level view that has dominated in the West about how the mind and consciousness relate to the link between man and God. This is the kind of stuff found in Nicholas of Cusa, Saint Augustine, or Leibniz. However, after Nietzsche, the only major player who kept up with this kind of "nonsense" was Hermann Weyl.

Sidebar: I really wish Weyl's [Open World essay](#) was available online; people need to read it. For those who don't know, the first sentence is: "*A mathematician steps before you, speaks about metaphysics, and does not hesitate to use the name of God.*" The second sentence makes my point: "*This is an unusual practice nowadays.*" That was in 1932. In Chapter 7 we'll see more of this essay.

Serious considerations that God has anything to do with the mind have long gone out of fashion in the West. People who talk about such things today are relegated to religious studies, humanities, and other such pens and stables that serve as "safe zones" for what is considered frivolous discourse in other quarters (hello, science, I'm talking to you!).

The above is a sketch of the broad landscape of ideas the West has about what the mind looks like underneath the surface of our immediate and direct awareness. It's very sad to say that this is what Plato's Cave has turned into over 2000 years of Western intellectual evolution. It is certainly a fine example of [de-evolution](#).

Boldly Going Where No Occidental Man Has Gone Before

The East has major ideas common to the various schemes of the mind's structure that I list here. I use the Hindu terms just because I know them well, but equivalent terms exist in the various schools of Buddhism, Taoism, and so on.

A list of elements of the mind in Eastern psychologies:

1. Perceptions and actions of the physical body ([Pancha Bhutas](#))
2. Emotions
3. The mind (manas), which is usually broken into two parts:
 - a. Thought conditioned by emotions and physical perceptions (Kama manas: lower mind/desire mind)
 - b. Thought conditioned by spiritual insight (Buddhi manas, higher mind).
4. An organ of meaning, value, and judgment. In yoga this is called *Buddhi*.

5. The ego, or individuality ([ahamkara](#) in yoga). This is often taken as the highest level of the mind, and is the natural, built-in feature that *defines* an individual mind. It is an explicit acknowledgement that the individual mind is a constriction of the Universal. Ahamkara, as a concept of individuality, stands in contrast to Western views that see individuality in terms of personality, personal history, and so forth, which are all features that generally would fall under the “lower mind” category in Eastern thought.
6. A soul. In Hinduism in general this is called Atman. In Patanjali’s yoga, it is called Purusa.

These ideas represent the *structure* of the cave of consciousness according to various Eastern schemes. The above list can be considered a description of the anatomy of the mind.

But it doesn’t stop here. In addition, there is a very rich understanding of altered states of consciousness. In the West, these ideas have been imported as things like Theosophy’s concept of the Planes of Nature and similar such schemes.

A typical Westerner who knows about and, for whatever reasons, accepts the idea of the Planes of Nature will tend to apply a Western gloss to the concept. They will imagine a very grand cosmology that expands the notion of the “real world” to go beyond the physical and encompass the nonphysical worlds. They will interpret the idea of the planes to mean that there are hidden subtler worlds in which we are embedded, in the same way that people accept that we are embedded in an external physical world that is outside of us.

However, this is a Western mistake. The planes are not outside of us. They are inside of our mind. The Planes make up the substructures of the mind. They *are* the depths of the cave of consciousness.

The Cave is a Layer Cake

There are many schemes of the Planes to choose from. Each has merits and they all map to each other anyway. Since I am focusing on Patanjali’s yoga, I will use the 4-fold breakdown of the inner worlds described in Patanjali’s *Yoga Sutras* (that I used in [Chapter 9](#) of *What Is Science?*). To remind the Reader, I repeat the table (I found this [nice web page](#) too).

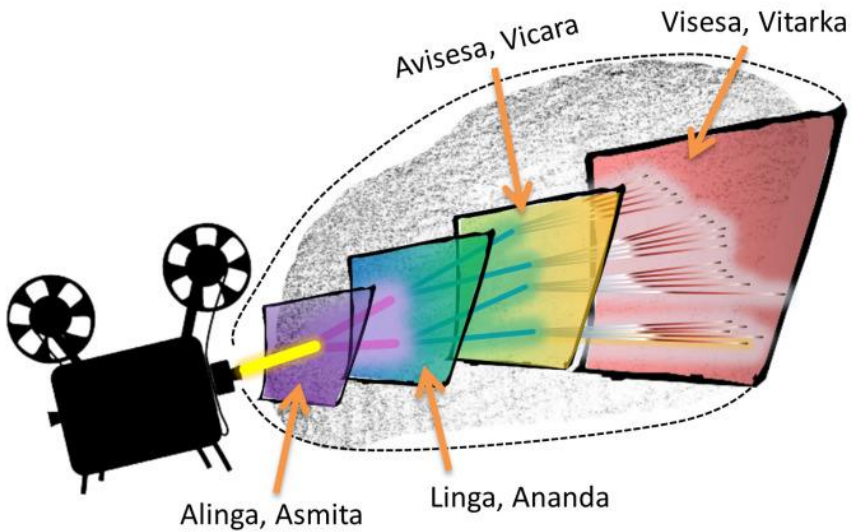
State of gunas	Corresponding state of consciousness	Meaning
Visesa	Vitarka	Specific instances
Avisesa	Vicara	Generic/archetypes
Linga	Ananda	Marked
Alinga	Asmita	Unmarked

These are layers or strata in the cave of consciousness. The surface mind is vitarka and it perceives gunas in the visesa state. Vitarka grows out of the deeper strata. When we dream, vitarka fades into the background and the screen of our

consciousness becomes vicara and we perceive the avisesa state of the gunas. This is as far as the typical Western person descends into the cave when they have a physical body.

Thus, there is **not** a straight projection from the bindu to the vitarka surface mind. Instead, the light of consciousness is filtered through these layers after entering at the bindu. It is a highly filtered and conditioned light of consciousness that eventually illuminates the screen of vitarka, or what we call “normal” waking consciousness.

Therefore we can update our graphic to include the four phases of the gunas as screens, or sieves, through which the light of consciousness is filtered.



The dividing of the light rays is my feeble attempt to illustrate how the pure light of consciousness gets filtered, or conditioned, as it ascends up through the Cave of Consciousness, eventually forming our normal waking mind (vitarka) of the physical (visesa) world.

Thus, the shadows projected on the cave wall in Plato’s Allegory are actually the complex patterns that the light of consciousness takes after being filtered and conditioned by the four layers of the cave of consciousness.

I am only pointing out the general structure of the Cave. The qualitative content of the four layers of the mind was discussed in [Chapter 9 of What is Science?](#) and will also be elaborated further ahead in Chapter 9 of this book where yogic cosmology is discussed in more detail.

Let’s now turn our attention to the screen idea.

The Screen

The light of consciousness “registers” on the screen. The screen in the metaphor

is meant to represent our moment-by-moment immediate awareness. It is the “surface” on which the shadows are projected.

It is a strange “screen”. Instead of just showing images, it also “shows” smells and tastes, the various forms of touch (somatosensation), sounds, emotions, thoughts, memories, and all kinds of weird little freak things that only pop up occasionally and without any obvious logic such as inspiration, insight, psychic experiences, and so on.

Understanding that the screen = immediate consciousness is a major key to understanding the yogic view of consciousness. The things mentioned in the previous paragraph are what make up your perceptions of the world, your body, and your conscious mind. It is exactly these perceptions that lead you to conclude that “you” are embedded in the “real world” that exists “out there”. It is what appears on this screen that serves as the substrate for all the plethora of philosophical meanderings in the West.

To repeat, this way of perceiving, meaning being aware of the screen, is called **paranga cetana**, outwardly directed consciousness. Recall Taimni’s ideas about mirrors in Chapter 1. It is asserted in yoga that all of these conscious experiences are “virtual images” analogous in status to the virtual image inside a mirror. They appear to be outside of “you”. [Allan Watts’ said](#):

“I can’t be honest because I don’t fully know what I am. Consciousness peers out from a center which it cannot see—and that is the root of the matter.”

He is describing **paranga cetana** in its bare-naked essence, a concept we relentlessly dissect as we proceed.

According to the yogic view, the light of consciousness projects itself in such a way to generate these virtual perceptions of a world that is seemingly outside of “you”, the you who is peering out from a center (the *bindu*) that you cannot see. Without the methods of yoga, this is the best one can do to make sense of the cave of shadows within which we are trapped.

A screen? Seriously? Where does this strange idea come from?

Her Screen (or Girls Love to Look at Themselves in the Mirror)

The idea of projection onto a screen is central to the yogic idea of consciousness. The idea is extremely abstract. It is described in aphorism 2 of the *Pratyabhijna Hridayam* of Ksemaraja.

२. स्वेच्छया स्वभित्तौ विश्वमुन्मीलयति ।

(2) *svecchayā svabhittau viśvam unmīlayati*

“This Reality emerging as divine power, by her own independent will unfolds the manifested universe on the screen of her own consciousness.”
(Taimni)

“By power of her own free will does She (Citi) unfold the universe upon her own screen.” (Jai Deva Singh)

This statement describes the creation of manifestation as the projection of consciousness onto a screen also made of consciousness. The Shiva-Shakti Tattva (discussed in [Chapter 10](#) of *What Is Science?* and again in Chapter 12) is implied in this aphorism. Recall the Shiva-Shakti Tattva is the primal differentiation at the root of manifestation. Brahman splits into passive awareness (Shiva) and active power (Shakti). The Shiva-Shakti Tattva is the first step in the constriction of consciousness that leads eventually to our individual minds.

It is bizarre that this process is described in terms of projecting onto a screen. How can we even get our head around this idea? An important clue is found in [Krishnananda's idea](#) that the seemingly external world is due to a “twist” or “kink” ([granthi](#), knot, in Sanskrit) in consciousness:

"This avidya, or ignorance, is a strange something which is a twist of consciousness, a kink in our mind, a kind of whim and fancy that has arisen in the very attitude of the individual towards things in general—which has been taken as the perpetual mode of rightful thinking. This ignorance or avidya is, really speaking, an oblivion in respect of the nature of things in their own status, and an insistence and an emphasis of their apparent characteristics, their forms, their names and their relationships...."

Let me reword this in the terms I am using in this essay (single quote for paraphrase):

‘This paranga cetana, this outwardly directed consciousness is a strange twist or kink of consciousness, a whim or fancy, which people take as the correct way to use the mind. However, it really is only a preoccupation with the shadows on the cave wall and therefore is oblivion with respect to the true nature of things. Paranga cetana, outwardly directed consciousness, gets us forms, names, relationships, qualities; the shadow-knowledge of the world...’

Consciousness gets “knotted up” and the result is the generation, or projection, of virtual images on a screen made of consciousness where the images are formed such that we take them as reality. But how does this work?

Maya

Kashmiri Shaivism (KS) provides a rich description of how this entire process works in its scheme of [36 Tattvas](#). I am not going to explain that here. People can read up on it as they wish. It is my interest to determine to what extent our modern sciences can be mapped to what is described in KS. This approach is not original with me. My main influence is I.K. Taimni who does this throughout his writings, especially in [Man, God and the Universe](#). Dr. [Maria Syldona](#) has also done [interesting work](#) along these lines too.

There is what might be considered a major bifurcation point in KS's 36 Tattvas and that is the *Māyā Tattva*. To quote from the [Wikipedia page](#):

“*Māyā tattva* is a very important stage in the process of manifestation. *Mā* means “to measure”; measurable means finite. From the infinite being that is *Śiva*, it creates the finite: the illusion of multiplicity, differentiation in multiple objects and limitation of objects. This process of manifestation is based on a series of multi-levelled reflections (*pratibimba*), creating a series of octaves or intervals.”

In [Experience](#), I equated maya with the generation of potential infinities, referred to as “the illusion of multiplicity” in the quote above. One way to generate such an illusion is to hold two plane mirrors up against each other. As we all know this generates a seeming infinity of reflections. But the virtual images are not real which is why we call them “virtual”. They reflect something that *is* real, but the virtual images are themselves not real.

In some analogous sense, the images—the qualia—that make up the contents of our immediate direct awareness are like the virtual images. They seem to be there. But according to the yogic view, they are just virtual images that are so filtered, conditioned, and compounded, that we are completely ignorant about the real thing that is being reflected.

Maya is not only infinite virtual reflections within reflections. It also has the weird property of seeming to have two sides, but only having one, like a Möbius strip. It seems both subjective and objective. Sometimes it is “on”, sometimes “off”. All the dualisms embodied in the Ying/Yang symbol, which, in my opinion, are most perfectly captured in the notion of a Möbius strip.

Maya is also associated with a strange kind of apparent motion. Allan Watt's half-jokingly called this movement the “[ennie-weenies](#)”. It is a spinning motion that folds back on itself in a fashion that cannot be adequately captured with words, like it is operating in a space of more than three dimensions. It appears to have the property of never completing itself and Watts's refers to it as a dog chasing its tail. In this sense the weird spinning movement seems to be the motion analog of the infinity of reflections in the mirror. In the mirror case you will never see all infinity of reflections. In the movement case, it never catches itself.



We can learn about maya by studying mirrors.

So three ideas seem relevant to getting at least some handle on maya in our modern terms:

1. Maya generates virtual images via a reflection process.
2. Maya seems to have two sides, but only has one side.
3. Maya spins in some weird, non-3D motion that never completes the circle.

There is some process occurring in consciousness by which it folds back onto itself and has the three properties listed above. This seems to be intimately related to the idea of the “screen” of consciousness, and also the process of paranga cetana, or the directing of consciousness towards these virtual images and believing that they are real.

As we proceed, it will be apparent that this conception of maya is linked to the Western classical problem of The One and The Many. How does diversity arise from unity? In subsequent chapters, we’ll address this from several angles, both Eastern and Western. To foreshadow, we will consider the generative power of counting (Chapter 14), the spectra generated by quantum mechanics (Chapters 16 & 17), Leibniz’ monads (Chapter 18), and modern views of networks, information, and memory (Chapters 18-22) to get a modern handle on the ancient Hindu idea of maya.

Summary

The yogic theory of consciousness is radically different than any Western view. First, it does not try to explain consciousness as caused by anything with which we are consciously aware. Consciousness is taken as the basic fact. We call this an “axiom” in the West. Further, none of this is airy-fairy intellectual armchair philosopher stuff, but derives from the experiences of advanced yogis who have left descriptions of what they have found in the depths of the cave of consciousness, as well as a variety of Western, non-yogic sources (the subjects of Chapters 24-31).

The yogic view starts from our normal conscious awareness. But instead of paying attention to the objects of perception, the shadows on the cave wall, the yogis went inward and downward, underneath surface consciousness. There they discovered the cave of consciousness and its various strata. At the very bottom, they discovered the bindu, the point where Reality projects itself into the mind, the cave. They figured out how to penetrate the bindu and see what was on the other side. There they discovered that consciousness is the primal reality of all things.

This is why in yoga, all real knowledge is self-knowledge. Self-knowledge is the discovery of what is under the surface of the conscious mind. Krishnananda said it beautifully:

“The practice of yoga is neither a religious tradition nor a profession of the academy. It is a way of living, a condition of our being, to put it very, very precisely. The condition of our being is the knowledge that is really worthwhile, and any other knowledge is an external growth which can be washed away by a bath with soap; therefore, it will not help us.”

That is the status of shadow knowledge: it is like dirt and will wash away with soap. It will not help us.

3: Some Implications



Here I discuss some obvious implications of the yogic view of consciousness.

Precedent

Feyerabend's book [*Against Method*](#) used Galileo as a focal point to study the era when Europeans began to understand that the Earth revolves around the Sun. Today, the Earth revolving around the Sun is so taken for granted that we can barely imagine how people could have believed otherwise. We are prone to think "ha-ha, how stupid those people were to think the Earth was the center of the universe...what a bunch of dummies".

But they weren't dummies. They were a product of their times. It takes knowledge of history and imagination to envision life in the 1600s. It takes insight to understand the radical shift in viewpoint that Galileo and his followers enacted. Feyerabend transports the Reader back to Galileo's time, and illustrates why people believed other than what we believe today. He demonstrates the amazing uphill battle Galileo and his contemporaries (Kepler, Bruno, et al) fought against the mainstream conventional wisdom of that time.

There are parallels with the shift in world view in Galileo's era and the shift in world view implied by the yogic view of consciousness. History repeats itself...again.

[Chapter 1](#) and [Chapter 2](#) summarized the yogic view of consciousness. The yogic view of consciousness claims that the external world is not external at all. It is internal. What we call the “world”, “external reality”, “objectivity” exists at the very center of the mind—of my mind, of your mind, and at the center of each thing’s mind.

Galileo undertook an uphill battle to convince a bunch of 17th century *know-it-alls* that the Earth revolves around the Sun. Imagine the uphill battle of trying to convince a bunch of 21st century *know-it-alls* that the world that seems to be external to our minds and awareness is in fact at the very center of our minds and awareness.

This then is the first great implication of the yogic view of consciousness: from the Western point of view, it is the biggest possible intellectual revolution one can imagine. It flies in the face of the seemingly overwhelmingly obvious fact that the world is outside of us.

Bad Evidence

The [conventional hagiography](#) of Galileo is that he convinced the world of his view by hard evidence: his telescope observations, his mathematical theory of acceleration, and so on. Feyerabend shows this conventional view is an oversimplified caricature that serves more as propaganda for modern science than as an accurate portrayal of historical facts.

For example, Feyerabend quotes descriptions where Galileo had telescope viewing parties to convince respected contemporaries of his observations. However, those events never went as desired. The guests did not see the heavens that Galileo claimed to see in his telescope. Further, there were contradictions in his story, and holes (“lacunae”, [remember](#)?). There were a number of what we would today call “technical issues” that were not at all in place, such as how ground glass lenses work.

If Galileo’s evidence was so bad, how did it stick and persist? A major factor at work was the “*zeitgeist*”; the spirit of the Age. There was an overall dissatisfaction with conventional wisdom, with the ruling powers, with the authority of the Catholic Church. There was the rise of secular city states. The fallout of the [Renaissance](#) was having wide-spread effects throughout European culture, and Galileo was but one example of that effect. His new science was part of a bundle of cultural change. This is one reason why all his “bad” evidence survived in the face of the intelligent rebuttals from the *know-it-alls* of the time: people were just sick of the *know-it-alls* and were ready for something different.

But it was not just cultural construction. There was truth underlying what Galileo and others like him described. These truths slowly emerged over the next centuries and here we are today. It is true that the Earth revolves around the Sun. It is true that the Heavens are made of the same stuff as the Earth. It is true that things fall with equal accelerations. It is true that math can describe the dynamics of nature, and so on.

Again, we can parallel the circumstances in Galileo’s era to today when we attempt to understand the evidence of the yogic view of consciousness.

Bad Evidence for Yoga

Just as Galileo could hand someone a telescope and say “look and see for yourself”, today I can hand you the [methods of yoga](#) and say “learn it and see for yourself”. This book culminates in a discussion of the yoga methods. The situation is similar to Galileo’s telescope, but the details differ in important ways.

First, the *know-it-alls* in Galileo’s day had it all figured out already, and had ready-made explanations as to why his new view was wrong and why the conventional view was correct. It is quite the same with yoga and the *know-it-alls* today. “Oh”, says the neuroscientist or psychiatrist, “it is not a perception of an ‘inner realm’ it is but a hallucination generated by your brain” (and the psychiatrist [sells you some pills](#)). Never mind the fact that there is [no explanation at all](#) of how the brain actually makes our subjective experience.

Or the physicists will say: “the external world exists: look how I can study and manipulate it”. Never mind the inherent limits of control set by quantum mechanics, relativity, chaotic dynamical systems, and even classical thermodynamics. Who *really* controls who? Never mind that these are all just perceptions and thoughts in the physicist’s mind and, like the neuroscientist, there is not even a germ of an idea, let alone a functional working definition, of how mind and perception link to the external world.

Never mind that you have post-modernists pointing out the [social power relationships of science](#), of which these are examples.

We are told again and again: “Don’t look at the little man behind the curtain”. Just let yourself be hypnotized and engulfed by the obfuscation: the mathematics, the complex technology, and the overwhelming vocabularies belonging to the initiates. Just relax, do what you’re told, and everything will be alright. And If not...here, take this pill.

Let the people who know only of the shadows tell us how it *really* is. Yeah, right, and I have a bridge to sell you too.

There is indeed evidence today for the yogic view of consciousness just as there was evidence for the heliocentric world view in Galileo’s era. However, this evidence is hard to come by because people have to do more than just learn a couple ideas out of a book and study some pattern of phenomena in their sensory experience in a lab class.

Secondly, in Galileo’s time, people were struggling to invent the new world view, the new vocabulary, and the new “supplemental disciplines” (as Feyereabend called them, such as optics to explain how telescopes work). Everything was rough around the edges, incomplete, tentative.

Unlike science in Galileo’s day, things are not rough around the edges with yoga. It is a full, complete, and well-described discipline, with thousands of years to back it up. A Western person today has to study completely alien ideas (samadhi, avidya, maya, vicara, sabda, artha, jnana, and so on: Hinduism in general) that are abstract beyond today’s literal-minded barbarism, and fly in the face of many preconceived notions. Many will not even try to climb this learning curve.

Third, there are the methods. To actually execute the methods, a person has to practice forms of mental discipline that make learning Gödel's theorem, or being a worker bee at the Large Hadron Collider, or sequencing a genome, or playing a Chopin sonata, seem easy in comparison.

Today's uphill battle is correspondingly steeper compared to Galileo's because the accessibility to the evidence is correspondingly more difficult... but not impossible. And that is the key.

You can read [DO_OBE](#) and learn basic pratyahara, or go study asana and pranayama techniques. Nothing is stopping anybody from learning the basics of yoga except the biases in their mind, and the attitude that one already has it all figured out. Or because they are [so stupid and ill-informed](#) that they think [yoga is just doing stretching exercises](#) on a blue mat.

The Current Zeitgeist

Similar to Galileo's time, the zeitgeist is becoming ripe for the transformation implied in the yogic view of consciousness.

Over the past centuries in Western Civilization, science replaced the Medieval Catholic Church as the self-appointed authority on the absolute truth of reality. And people are getting sick of it. At least the Church had an outward veneer of glory, self-respect, and the mystique and austere glory of God to back it up. At least, on the surface, they preached morals and good will (even though they didn't practice what they preached, which was part of why people got sick of them).

Today, we have a bunch of cutesy weirdoes representing scientism: kids in [tee shirts with half naked women on them](#); undersexed pop-culture, [comic book geeks](#) that got PhDs and treat Stan Lee as if he was Plato; nasty hate-filled old men like [Dawkins](#) who spew forth repressed fears from the depths of his rank mind.

Good going, you geniuses. That's the way to convince people of your greatness and glory.

People know and sense bullshit when they see it. The word "[scientism](#)" expresses this bullshit so that one does not need to swear. How do they say it? The gig is up. People see through the BS. The emperor is not wearing any clothes.

This is Not Your Grandmother's Solipsism

Where did the Emperor get such a beautiful suit? I would submit that the intellectual world in the West, for all practical purposes, went schizophrenic after Kant. The schism was between science and philosophy.

Everything seemed so simple [up till then](#): The Church was stupid and hypocritical. The Greeks were cool, they got the ball rolling, but they made some mistakes; nothing that couldn't be corrected. The mind of man perceived the world and could use reason to understand the truths of Nature's laws (or the truth of God's laws, because Nature and God were pretty much the same thing back then).

Then Hume comes along, kicking up a storm of doubt about reason and perception. Later he was topped off by Kant, who isolated about as precisely as can

be done (without the insights of yoga) the ambiguities between the mind, perception, and the objects of perception.

To briefly summarize what I [discussed elsewhere](#): Kant marked the formal split between science and philosophy. Science was all like: “Screw you guys, your dumb ideas aren’t helping us.” Philosophy cried itself to sleep in its pillow and never got over the divorce, and has been [mad as a hatter](#) ever since.

In spite of my flippant tone, the main point is deadly serious. Science adopted a naive realism about the link between the mind and perception and has maintained that stance ever since. There is nothing special about quantum mechanics or relativity in this regard. People still believe the double slit results or gravitational lensing are real things happening outside of their minds. And because they are philosophical pygmies, they [love the feeling of confusion](#) generated by the modern theories; it is their equivalent of marijuana.

Kant rediscovered Plato’s shadow-world of phenomena, and the outside of the cave, the noumena. But it was all just ideas—and difficult and imponderable ones at that. Even though other philosophers decoded Kant, it was too late. Science had already gone its merry way and was busy making railroads, steam engines, photography, telegraphs, and electric lights...and even figuring out that physicians should [wash their hands](#) between treating patients...geniuses.

Anti-Psychotic Medication

As strange and abstract and alien as the yogic view of consciousness sounds on first hearing, it solves all of these problems in one fell swoop.

The realists (e.g. scientists) are not wrong in a fundamental sense. There is a true objective world. We *can* understand it, at least to some extent. It’s just that materialists have been extraordinarily confused on this front, seeing as they have had their face in the shadows for the past several centuries. But even the shadows reflect truth, no matter how distorted and imperfectly. Science has [tapped into methods to extract little bits of truth](#) from the shadows. But they are always only little bits, here and there, disconnected. Scientism is just wrong because all the little bits don’t fit together. Those who force-fit the disconnected bits together into silly pseudo-religious conglomerations are not really the brightest light bulbs on the Christmas tree.

Kant and the idealists were not wrong either. We *are* trapped in our mind, trapped in the cave of consciousness. But the light that fills that cave is itself the living truth. And there is an escape hatch, an opening to the cave (the bindu) that allows the light of living truth to fill the mind and cast the shadows on the cave wall, the screen of our awareness.

I repeat: **materialism and idealism are not opposites. They are one and the same.** They are each preoccupations with different variations and subsets of the shadows. Both are right in their main intuitions, but both are fundamentally wrong for justifying their beliefs based on the shadows. Both sides have built their houses on quicksand. Again, when all is said and done, the existentialists were the smart

ones of the bunch for recusing themselves from the whole matter.

The yogic view of consciousness brings all this together in a coherent framework. The existentialists are right for not trying to find ultimate meaning in the shadows, because ultimate meaning is only found on the other side of the bindu, outside of the individual mind.

The materialists are right: there is an objective world. However, it is buried in the innermost recesses and depths of each person's mind, on the other side of the bindu. The Absolute *is* the objective world. It is not the shadows, not the immediate consciousness of phenomena which have numbed the judgement of the naïve materialists and realists for the past several centuries.

The idealists are correct: all phenomena is only our mind. They see the screen for what it is: our perceptions, our thoughts, our minds: the shifting tides of phenomena etching shadows in consciousness. The real world is inaccessible when one stares only at the shadows; when one is completely ignorant of the vast depths of the mind, of the bindu hidden therein, and the real world hidden in the bindu. The Western idealists simply did not mine deep enough into the mind to unlock its secrets.

Even at just an intellectual level, the yogic view of consciousness provides a type of anti-psychotic medication for the schizophrenia of the modern Western intellect. The question is: will it take this medicine? Will it try to get better?

The comparison with schizophrenia is apt. The schizophrenic [does not even know](#) she is sick. What need has she to take medicine? The voices in her head reassure her that everything is fine, while at the same time, the other voices in her head warn her of how the world seeks to violently rip her soul from her body.

4: The Absolute According to van der Leeuw



If the world we directly perceive is, in some sense, a virtual image like a mirror reflection, what is it a reflection of? The next several chapters elaborate on the idea of the "Absolute" in yoga, Hinduism, and Western thought.

Introduction

The remaining chapters will take the *movie projection metaphor* of the yogic view of consciousness spelled out in [Chapter 2](#) and elaborate each of its elements in more detail.

We begin by considering the “projector”, the real world of objective truth, which projects through the bindu and into the cave of consciousness that we call our mind. Hindus call the real world “Brahman” (among other names) and people in the West call it “infinity”, or sometimes “God”. As we shall see, no words can capture IT. But words, like everything else, can reflect IT with more or less clarity.

This chapter focuses exclusively on [J.J. van der Leeuw](#)’s description from [The Conquest of Illusion](#). van der Leeuw’s description of what is outside of the mind, what one finds upon passing through the bindu, is the best I have ever read. It is expressed in a way modern people can understand. Knowing his description, we are in a better position to understand other descriptions, which we will consider in Chapters 5, 6, and 7.

I want to say the following about how we should *interpret* van der Leeuw’s description. If one has the pretense of being intellectual, one ignores such

descriptions at one's own peril. The yogic view of consciousness makes clear the futility of studying the shadows on the cave wall, or as van der Leeuw calls it, the "world-image". van der Leeuw's description can, for all practical purposes, be taken as a scientific description of the ultimate experience in yoga, which is called there *Kaivalya*. If we seek to understand the nature of things without taking this experience into account, then we are fools.

First Pass through the Looking Glass

First we start with methods because the teachings of yoga are not speculative nor are they merely theoretical. We introduce the methods of yoga now but continue to build and refine our description of them throughout the book. Now is a first-pass introduction. By Chapter 10 we will be able to outline Patanjali's full recipe of yoga. Chapters 24-31 are dedicated to a highly detailed exposition of the yogic methods. We need to build into it in stages. While one can do basic weighing techniques and acid-base titrations in freshman chemistry, we are not ready to do radiation experiments. One must first build the proper foundation. It is exactly the same with the yoga methods, so these will be unfolded gradually. The final chapters of the book are dedicated exclusively to methods because they are the central aspect of yoga.

We begin with methods because the Absolute is not a mere idea in yoga. It is a description of the successful application of the yoga methods. *Kaivalya* is, at a first pass, a form of experience. *Kaivalya*, the Absolute, the objective truth, the Real World, is the ultimate experience, the end goal of yoga. How is this experience achieved? van der Leeuw's quote at the end of [Chapter 1](#) outlined the methodology. We can restate this in terms of the vocabulary we've developed to this point.

Yoga cultivates the voluntary control of *pratyak cetana*, or inwardly directed consciousness. When we transition from waking to sleep, from dreaming to non-dreaming sleep, we are spontaneously undergoing *pratyak cetana*. *Pratyak cetana* is the inward directing of consciousness. It is the light of consciousness moving in the direction of the bindu, as opposed to being outwardly directed towards the screen of consciousness, the outward state being *paranga cetana*.

What van der Leeuw described is the descent through consciousness via samadhi. This is called in yoga *pratiprasava* and we discuss it as such in Chapter 10. van der Leeuw skipped the details of descending through the four layers of *gunas* that make up the cave of consciousness. He only described the final stage: *nirbija samadhi*. In *nirbija samadhi*, the mind becomes maximally stilled: it is the maximum state of *chitta vritti nirodhah*.

He then describes "flipping inside out" such that the world that seemed external on the screen of consciousness was found to be fully and completely **inside** of consciousness (as elaborated below). The transition of "flipping inside out" is called **dharma mega samadhi** in the *Yoga Sutras*.

The *Yoga Sutras* can be interpreted to indicate that *dharma mega samadhi* is the "jumping between the moments of time" (I explain in my [10 types of samadhi blog post](#) and don't repeat here). van der Leeuw referred to this as "moving in a direction

we did not know was there”. The process of dharma mega samadhi is **exactly and precisely** the act of penetrating the bindu, thereby exiting the individual mind and entering the objective world. In the *Yoga Sutras*, the World of the Real is called “Kaivalya”. Kaivalya means “alone.” There is nothing beyond, beside, or outside of the infinite. It is Alone.

That is of the recipe to get to Kaivalya in outline form. As we progress we will get deeper into the details of Patanjali’s methods.

A Summary

It is always best to know where one is going. Here I give a summary of the subsequent sections. What I have done is make a “[Cliffs Notes](#)” version of [Conquest](#). I have isolated van der Leeuw’s main points and in this section try to express them as concisely as I can. The subsequent sections are quotes from his book that express these points. The below paragraphs are matched to subsequent quotes by letters.

The interested Reader should, of course, just [read the book](#).

- A. The experience of the Absolute cannot be contained in words or ideas. Eternal truth will always appear misleading and contradictory to the intellect. However, if these limits are vigilantly kept in mind, we can use words and ideas to try to convey something of the experience.
- B. When one passes through the bindu, one becomes all things in Eternity. There is no longer individuality of any kind, only an overwhelming unity of being.
- C. It is called the “Absolute” because: (1) it contains all that is, was, or every will be, (2) it is neither temporal nor spatial, but contains the fullness of space and time in their entirety, (3) there is nothing outside of it, (4) it contains no relational properties at all, only a complete and full unity, and yet contains the fullness of all possible relationships.
- D. The Relative is appearance of relationship, change, individuality, quality, and quantity. The Absolute is the Relative in its entirety. They are one and the same. A world-image is a relative realization of the Absolute. **The Relative exists only in and through a world-image** (this is bolded because it is a key insight).
- E. There is no reason, no cause, and no purpose for the Absolute. Its being is its own justification. Since the Absolute and the Relative are identically the same, there is no cause, reason, or purpose for the Relative.
- F. The Essence of the Absolute is the **Rhythm of Creation**: the eternal hiding and revealing of the Absolute as the Relative. The Absolute does not create, it is creation. The Absolute is pure Creation.
- G. - K. All problems in classical philosophy are false questions grounded in the mistake of assigning absolute significance to the relative relationships experienced in a world-image. These include: the mind/body problem, the problem of good and evil, the problem of free-will, the problem of justice, and the problem of the immortality of the soul.
- L. The world-image is neither real nor unreal. The world-image is each

individual's *interpretation* of things as they are. By itself, the world-image is but the meaningless passage of images and experiences. When understood in the light of the Absolute, it becomes our individual and unique realizations of Eternity.

Let's now hear how van der Leeuw expresses all this. I will talk at bare minimum until the end of all the quotes.

A. The World-Image, Words, and the Intellect

"It is in this mystical experience that the intellect is transcended and knowing becomes being. Far from being the vague emotionalism..., true mystical experience is a most definite reality."

"Beware of the man who claims to have solved the problem of life, who would explain its complexities and, with deadly logic, build a system in which all the facts of our existence may be pigeon-holed and neatly stored away. He stands condemned by his own claim. The child which sees wonder in all the world around it...is nearer to divine truth than the intellectualist who would strip a world of its mystery and takes pride in showing us its anatomy in ruthless dissection."

"It is impossible to describe the world of Reality in the terms of our world-image, which is the only language at our command..."

"...but when we have experienced reality we find ourselves placed before this choice—either to say nothing at all, recognizing that no words can express the Real, or else to attempt to convey something of reality in a language based on our world-image illusions, well knowing that every one of our expressions must be insufficient and thereby misleading, and that whatever we say must appear to be self-contradictory."

"The world of the Real...is That beyond and beside which nothing exists. In a way it is not even right to speak of a world which we enter. First of all it is not a world, secondly we do not really enter it and finally it is not really we who enter that world. No phraseology derived from the experience of our world-image can fit the Absolute, ultimate Reality. Down here we speak of a 'world' and the word immediately conveys a conception of a universe arranged around us, outside us, with spatial separation between its creatures and objects, changing, growing and evolving in time. In that sense the Absolute is not a world; if, however, we call it 'world' it is the one and only World that exists, which ever did exist, or ever can exist."

B. Who Experiences Kaivalya?

"When we emerge through our centre of consciousness, the Void in which there is no content of consciousness, and when we 'emerge on the other side,' we do not enter something which we are not, but we are That

which we realize on the other side of this centre of consciousness. We are It in its entirety, we are It fully and wholly, we are It in all its possible manifestations, in all that It is, has been, or can be, for in It time is eternity. Thus it is not really correct to speak any longer of 'I' or 'we'; we truly are That and lose for the time being all consciousness of being a separate creature, of being someone. That is why even the term 'consciousness' is no longer valid for the realization of the Absolute, the nearest expression we can use for it is 'being'."

C. The Absolute

"What right have we to give the name 'Absolute' to that which we realize when emerging through our centre of consciousness?"

...the outstanding reality of our experience in the world of the Real is the amazing fact that nothing is outside us. There is distinction between different beings, the things in themselves, there is multiplicity, there is all that which in our world-image produces the rich variety of outer forms and yet it all is within ourselves..."

"... what we experience is not something which differs in quantity or greatness or measure from the world image we know in our daily consciousness; it is not something greater, more glorious, more beautiful or more comprehensive, it is utterly and entirely different. Where our world image presents itself to us decked in all the rich variety of sense-qualities, with colour and sound, taste, smell and touch, with form and shape, with measures of space and time, with a multiplicity of separate creatures and objects, all distinct one from the other and dependent on one another, interrelated, this Reality which we experience shows nothing of all that. ...here in the world of the Real there is no longer a universe surrounding us, there is no longer separateness, there are no longer the qualities which form the garment of our world-image; we have become That which is pure Unity, containing all multiplicity, though not showing any separateness."

"Our world-image is thus the way in which we interpret reality. The many qualities of material objects, their distances and dimensions in space and their change in time, all that belongs to our interpretation, to our image. The tree in the world of the Real is not fifty feet high, its leaves are not green and smooth, its trunk is not rough to the touch and hard and it does weigh so many hundredweights. All these qualities are my interpretation of the tree in itself and are elements of my world-image. The tree in itself as it exists in the world of the Real may be pictured as a mathematical point, but there is that within it which, each time it reacts upon me, produces in my world-image a certain group of qualities of sound, touch, weight and certain measurements in space together with a certain change or growth in time."

D. The Relative

“In this world of relativity each relative thing is related to all else; there is not an atom in this universe of mine to which I am not related, even though I may not be conscious of the relation. I have no existence at all as a separate creature, though I may at times imagine myself as such; rather am I part of an intricate web of relativity in which all things mutually determine one another.”

“There can never be freedom for the relative, since every relative thing is at least partially determined by all else that is relative. Only the Absolute is free since there is naught beside It. There is no interaction between the Absolute and the relative; the relative thing can only be related to other relative things. Relation denotes relativity, and the Absolute has no relation to anything because It is all things. Its only relation to the relative is that the relative as a whole is the Absolute...”

E. The Mystery of Creation

“It is inevitable that man, contemplating his world-image and assuming it to be an objective universe, should ask what the origin of that world is, who made it and out of what it was formed.”

“... in all the questions concerning the first Cause, the beginning of creation, the matter out of which the universe is made, its origin and the relation of our universe to its Creator, illusions enter, especially the illusions of...time and of the objective reality of matter, and the questions can never be solved, being wrong in themselves.”

E (again). There Is No Cause

“The absence of all relativity, of all relationships denotes that which we call the Absolute; it is not dependent upon anything else because it is the Alone. ...If the unphilosophical mind were to ask: Why the Absolute? and Whence the Absolute? the unchanging Voice of that which is eternal and unchanging would give him the answer, could he but realize it. The Absolute is its own explanation, its own cause, its own fulfillment, and its own realization.”

“Here we have left behind us the world of relativity, we are the Absolute which is all relativity simultaneously and eternally. No longer do we now gaze upon a universe, the history of which enrolls itself in time; we experience as an ever-present reality That which, speaking our language of illusion, is all that is, was or shall be, all universes past and present, all beginnings and endings, all cycles of time and evolution. Yet the Absolute is not on one side and all the manifoldness of relativity on the other. Relativity is but the spelling of the Name of the Absolute, it is its very being, its constitution, its description, we might almost say its one characteristic.”

“It is therefore impossible to say that there is some reason for the presence of the relative in the Absolute, it is not present in the Absolute, it is but the Absolute, experienced in a different way. Thus there is no *raison d’être* for the relative, no origin or cause of it, it has no purpose and serves no end Words like origin and cause, purpose and end can only flower in the soil of illusion, they lose their meaning in the, world of the Real.”

“Of the relative as well as of the Absolute we can but say that its being is its justification, it is and it is all there is, it always was and never shall cease to be...”

F. Rhythm of Creation

“There is nothing, there never was anything, there never can be anything but the eternal Rhythm of creation, unchanging, containing all things. It is the Absolute, It is at the same time all relativity all that we think of as past, present, or future.”

“On the one hand, our normal consciousness, we can experience the fact of the limitation of the Absolute in the relative; on the other hand, in our experience of reality, we find the fact of the liberation of the relative into the Absolute. These two facts--the eternal limitation of the Absolute to the relative and the eternal liberation of the relative into the Absolute are not merely the fruits of intellectual reasoning or of logical proof, they are realities which we can experience in ourselves. Together these two basic facts interpret for us the mystery of Creation.”

“When we enter the world of the Real we not only experience the liberation from relative to Absolute, we become the eternal creative Rhythm which is the very Being of the Absolute, which is the Absolute itself.

“The experience of the Rhythm of Creation is the ultimate experience in the quest of Truth. In that ultimate experience we know that the Absolute is eternal creation, that creation is not an act, thought, or emanation of the Absolute but that it is the Absolute, its very being, ultimate reality, causeless, without beginning, end or purpose. It is the one Reality beyond which nothing is, there is no cause to which the one eternal truth can be traced, no final result which it can ever produce or accomplish.”

“The Absolute does not create, it is eternal creation; creation is its Being, its Name, its Nature, not even co-eternal with It, since it is not distinct from It. That is the ultimate mystery which has neither cause nor purpose.”

“...When we know the Rhythm of Creation as the very being of the Absolute, we can see the absurdity of those questions which ask out of what material the universe is made, who made it and how it was made. All these questions originate in illusion...”

“Truly this final mystery is awful and dark, yet its darkness is better than the light of our world-image and the awe with which it fills us is better than the self-complacent conceit of the intellect. It leaves us silent, for its simplicity is too great to be expressed.”

“It is a mystery, the Mystery of Creation, the ultimate Mystery, but it is no longer a problem since we ourselves are It.”

G. Spirit and Matter (mind-body dualism)

"Here we are no longer conscious of anything; we are all things. When, in the world of Reality, we experience things as they are, there is no trace anywhere of either spirit or matter..."

"There the entire distinction appears meaningless; it is but our relative being which, in our daily experience, makes us look upon certain things as being in themselves matter and upon others as in themselves spirit or Self. In the world of the Real we find no such differences, all things there are essentially the same, an atom of matter as well as a living being. They are all modes of the Absolute and their differences are not differences in being, but only in fullness of realization."

"...why then do some of them appear to us as spirit, others as matter, some as self, others as not-self, some as life, others as form?"

"It is the action of things in themselves upon us in the world of the Real which is objectivated in our consciousness as our world-image. ... we can characterize matter or form as the way in which a lesser reality *appears* to a higher. Spirit or life is the way in which a reality of higher order *appears* to one of lesser order. Spirit and matter are terms denoting a relation between different modes of the Absolute; as such they are exceedingly useful terms and have a very real meaning. When, however, we look upon them as objective, independently existing realities they become absurd and meaningless."

H. Good and Evil

"The words 'good' and 'evil' have no meaning whatever in the experience of Reality; we experience things as they are and cannot say of them that they are either good or evil in themselves, they are what they are and their being is their justification."

"...every point of the vast scheme of evolution certain things are right and fitting for the evolving creature, others are not... that which is right for the one is wrong for the other...conditions which are right for the infant would be absurd for the youth, and those which suit a grown-up man might well kill a growing child. Relativity reigns everywhere; what is right for one is wrong for the other, nothing is right or wrong in itself."

"Without exception, therefore, good and evil are terms denoting the relation of certain things, events or beings, to us at our present level of evolution."

I. Free-will

"When we escape from the tyranny of our time-illusion with its uncertain future and experience eternal Reality we realize how much the problem of the freedom of our will is bound up with our usual concept of time. In that illusion the thought can live that somehow we can choose one way or another, that we by our God-given free will can determine the future according to our choice. But when we enter the world of Reality we experience time as an eternal Present and the very thought of a past which is done with and a future which is not yet becomes absurd. As well might the wanderer along the road think of the road behind him as fixed and certain because he, the wanderer, has passed over it and of the road in front of him as indeterminate and uncertain because he himself has not yet reached it."

"The gradual evolution, growth and change which we experience in our lives is but our realization of that which we eternally are in the world of Reality... In that world of reality I am, even now, all that in my world-image I shall be in the future, and I am all this not in a vague outline, in principle, but in every detail which shall be."

"When we enter the world of the Real we do experience freedom, not the illusion of freedom which was 'to do as we liked,' to have our own way, to choose without compulsion, but a true Freedom in which we are free because there is nothing outside us to limit or compel. As long as in the illusion of our world-image we imagined ourselves to be separate individuals with a will of our own, surrounded by a world full of opposition and of other creatures with wills of their own, our demand for freedom was as impossible as would be the demand of a swimmer that the water should not wet him. In our very assertion of individuality, in our separateness we are unfree, since we are limited by all that which we are not, influenced, opposed, and compelled by the surroundings in which we live, by the character with which we identify ourselves."

J. Justice

"Unity in the world of the Real is such a very different thing from even our highest conceptions of unity in daily life. Here we always think of unity as a combination of things which are separate; in the world of the Real we realize that unity is not union... Unity is a fundamentally real thing; multiplicity is but a way of contemplating and experiencing that unity."

"In the world of Reality the demand of justice for the individual is

almost repulsive, it is so utterly impossible and incompatible with things as they are. In the blindness and illusion of our world-image we may fancy ourselves to be separate and distinct, yet, all the time, the fact remains that we never are separate, but are fundamentally and essentially one in being and reality. In that reality we not only share, we are the life of all creatures in a fullness of utter unity which is incomprehensible to our consciousness in daily life. The demand for justice is therefore meaningless in that world; it does not matter whether a thing happens to that part of reality which I call myself or to the part which I call someone else, all are one in utter unity..."

"How absurd would be the suggestion of injustice in the difference in place allotted to the different notes, in the fact that one note may form part of a majestic opening chord whereas another note is almost lost in a minor passage. The symphony is one and we cannot attribute separateness to the single notes or chords; they all are the symphony and the symphony is one. Each note has its meaning only as part of the symphony; the symphony is not a collection of notes grouped together into a unity, but every note is part of the symphony. The composition as a whole is the fundamental reality..."

Sidebar: This view does not mean we turn a blind eye to injustice and accept the inequities of life. His point is that, since all that exists is one unified "thing", then another's suffering *IS* my suffering. Unless I myself love to suffer, then I should do what I can to alleviate the suffering of others. That is the implication of his viewpoint. Sorry, just had to step in and avert possible misinterpretations.

K. Immortality

"We always seek in the wrong direction, we always want more time; we demand even endless time in our quest of immortality. Yet the infinitely greater Reality is ever ours to enter if we but will whereas the lesser claim is but an illusion, born of illusion. We do not want more time, we want eternity in which all time is; we need to strike out in a different dimension altogether. Instead of wanting ever more and more of our time-experience we should, at this very moment, pierce through the veil of time and enter eternity, which can be found in fullness at every moment of our time. Instead of yearning to go on to the next moment, the next experience in time, we should go into the moment, into the present, and here and now enter eternity."

L. Living In the Light Of the Absolute

"We speak of world affirmation and of world-denial. But what is that world which we seek either to affirm or to deny? It is the world which we see around us, the world which appears as an objective reality, distinct from the life within. But that world is only an image in my consciousness; it is but

my interpretation of Reality. It is true, I externalize that world image, believing it to be a reality outside my consciousness, but that does not make it the reality it appears to be. Neither can I say that it is all illusion, that it does not exist at all and that, therefore, it should be ignored and rejected in the practice of daily life. We cannot say of the externalized world-image either that it is real or that it is unreal; it is both real and unreal. It is real in so far as it is our interpretation of Reality, it is unreal in so far as it is not Reality itself, but only our interpretation. The illusory part of it is that we dissociate from our consciousness that which is only image in it and proclaim it to be independent reality."

"Our universe then is no objectively real world which we can either affirm or deny. The whole problem of world-denial and world-affirmation is but born of the illusion in which we place outside of our consciousness as objective reality that which is but image in it, caused by eternal Reality."

"When from the experience of Reality we return to the dream of our world-image we no longer identify ourselves with it, thinking it to be the only reality, neither do we shrink from it as from a world of evil, or ignore it as a mere glamour of illusion. We can now see it all the time as that which it is—the image produced in our consciousness by eternal Reality, our interpretation of things as they are. Such an attitude is neither world-denial nor world-affirmation, it is the contemplation of our world-image in the light of the Eternal."

"He who would live according to the world of the Real in the illusion of his world-image can only end his days in a lunatic asylum; he would be attempting that which cannot and should not be attempted. The interpretation of reality which we see in our world-image, is not the same as reality itself; the features of reality appear in a strange and distorted way in our world-image and we must not commit the philosophical mistake of thinking that we can transfer bodily the conditions of the world of the Real into our world-image. Could we do that it would no longer be our world-image, but the world of the Real. The Absolute can never be contained in the relative, yet he who has realized the Absolute will, living in the world of the relative, find his experience to be as a shining light illumining his way and giving peace in the midst of chaos and turmoil."

"In the light of that Reality the passing appearance gains a new meaning, a new dignity, which without the vision of the Real it could not have. Round us we see all the time forms that are changing, nothing abides, all is in a process of eternal becoming. These ever-changing phases are but meaningless if seen by themselves, they become full of a wonderful meaning when seen as our realization of eternal Reality."

Wrap-up

van der Leeuw was an optimist of human nature. When he says that one who has experienced Kaivalya, the Absolute, has the choice to say nothing at all, or say something knowing it will sound like self-contradictory nonsense to the intellect, he chose to say something. Clearly, he was optimistic that someone would get it.

As we see above, it does sound contradictory. The Absolute is but the Relative taken as a whole. They are one and the same. The Relative is how the Absolute appears from on the inside of a world-image. If "you" exit the world-image, the Relative as a whole forms the Absolute.

Actually, it all hangs together quite nicely. It is like a glove. If you pull a right glove inside-out, you get a left glove. If you pull the Relative inside out, you get the Absolute, and vice versa. It reminds me of that [trick in quantum mechanics](#) that requires a 720 degree rotation to get back to the beginning.

It is also reminiscent of the strange kind of dualities that String theorists are kicking around. van der Leeuw identifies what might be considered the most basic of all dualities: the duality of the Absolute in the Relative, and the Relative in the Absolute.

Unfortunately, we will never be able to mathematize it because math describes relationships (which is the entire subject of Chapter 8). Such thinking must forever remain metaphorical. The truth of the matter will always remain a mystery if the intellect chooses to stay confined to the world-image. But this is not a fundamental problem because as he says:

"It is a mystery...the ultimate Mystery, but it is no longer a problem since we ourselves are It."

Further, the Absolute, and hence the Relative, is characterized by one thing: the Rhythm of Creation. This is an idea that is very hard to understand. There is not something that creates.

There is only creation.

It is very abstract. If you don't want to spend years perfecting yoga, you can take a psychedelic drug a few times, and perhaps get a glimpse of this, the most basic and fundamental aspect of existence. I will just assert here that what he says is true. I too have [glimpsed this](#), what might be called the *fundamental tone* of reality.

We have all heard the cliché: "*the more that things change, the more they stay the same*". At a primitive level of understanding, this is what he is talking about. But it is more awesome and terrible than how this phrase may be interpreted from within the cage of our world-image.

Eventually, everything vanishes, only to be replaced with something unimaginable.

Worst of all for the intellect who clamors desperately for the security blanket of an idea to bring coherence and consistency to experience in the world-image:

There is no reason, no cause, no purpose. It just is.

If the experience of Kaivalya is not widely understood and accepted, humanity will forever muck about in the shadows with no satisfaction or resolution.

Then, after taking classical Western philosophy to task for not incorporating the experience of the Real, van der Leeuw leaves us with the most sensible of advice. He tackles the question of world-affirmation versus world-denial. Or said in more pragmatic terms, he tackles the very question of how we should live our lives.

I want to repeat this because it is very important when we are inside the world-image:

"He who would live according to the world of the Real in the illusion of his world-image can only end his days in a lunatic asylum; he would be attempting that which cannot and should not be attempted."

[Cantor](#), whose ideas we tackle in Chapter 14, should have heeded this advice. We cannot transport wholesale the Absolute into the Relative. As van der Leeuw says elsewhere in his book: sooner should a miser take his gold with him across the border of death.

What the experience of Kaivalya, the Absolute, gives, ironically, is perspective. The experience of the Real provides exactly the security blanket sought by those who spin and spin in their relative world-images trying to find ultimate meaning in the shadows.

Our experience as relative beings is not meaningless. It is our realization of Eternity.

I have thought an awful lot about what this means "*our realization of Eternity*". You should too.

From such a platform, we can settle down, organize our thoughts and actions, and perhaps do something right for a change, instead of running around like a bunch of idiots caught up in this or that delusion acquired from projecting relative shadows as if they were the Absolute.

In the next chapter, we use van der Leeuw's description as a springboard to discuss other ideas out there about the Absolute, or what is found on the other side of the bindu, outside of the world-image cast into our individual minds.

5: The Absolute According to I.K. Taimni



The previous chapter discussed van der Leeuw's description of his experience of the Absolute. This time we consider I. K. Taimni's thoughts. Then I grouse about the current crop of intellectuals...

Taimni's Description of the Absolute

The ideas we consider are from *Man, God, and the Universe* (MGU, from here out). Taimni's approach was to interpret familiar facts of our experience as metaphors of the Absolute.

The first two chapters of MGU are dedicated to expounding the Absolute. The book begins:

“The nature of the Absolute is the most enigmatic though fascinating problem of philosophy and religion and although the problem is bound to remain always unsolved by philosophy, it will continue to engage the attention of philosophers for all time to come.”

Note he states that the Absolute is a problem for philosophy and religion, not science or occultism. This is keeping with van der Leeuw's four classes of knowledge where mysticism and philosophy are similar in their concern with the Absolute, but science and occultism are means to study and interact with the relative (see [here](#), Chapter 3).

As is customary (and the intellectually correct thing to do), he points out the pitfalls and limits of trying to understand the Absolute:

“It is unknowable and yet the highest object of realization, unthinkable and yet the most profound object of philosophical enquiry.”

“Before we begin to clarify our ideas about the Absolute we must remind ourselves of the tremendous limitations under which we are undertaking this difficult but fascinating task. We are trying to understand through the instrumentality of the intellect a Reality which is not only beyond the range of the intellect but beyond the range of Buddhi and Atma and even beyond the range of the experiences of those high Adepts who can dive even deeper into the recesses of their own consciousness. We are trying to peer into a mystery which is called the Ever-Darkness and the Unknowable and can only hope that a faint glimmer of light from the deeper recesses of our being will be able to filter down into our minds...”

To get us started, Taimni provides a physical example as a metaphor, one we shall expound on greatly as we proceed. He talks about how a prism breaks white light into its constituent colors. This is meant to convey how the One (the white light) contains the Many (the rainbow of colors) in a homogeneous and integrated form. This is a variant of van der Leeuw’s idea that the Absolute *is* the Relative. To help us understand how alien the experience of Kaivalya is, he says:

“If there is an entity who has lived only on the side (of the prism – Don) of colours and has never been to the other side, he cannot have the slightest idea of what white light is like from his experience of different colours although they are all derived from white light.”

A strained metaphor, no doubt, but it conveys the general point [and I used it in *What is Science?* [see here](#) and scroll down to the image that looks like the [Dark Side of the Moon](#)]. One confined only to the relative world-image has no basis to know the Absolute exists or to know that it is the source of relative existence.

The Static Absolute: Zero and Infinity

He breaks his discussion of the Absolute into “static” and “dynamic” aspects. Chapter 1 of MGU is dedicated to the “static” aspect. He begins pointing out that the Absolute has no characteristics, no relative relationships of any kind.

To do this, he makes analogy to zero and infinity. We are acquainted with both math objects. Zero and infinity share the feature that we can assign no relative attributes to them. This assertion is obvious in the case of infinity, but less so with zero.

We incorporate zero into the number line, generating the illusion it is just

another number. But it is not a number. Having zero there creates all kinds of problems in math, not the least of which when we need to divide by it. It is a philosophical question actually: the issue of something and nothing. I'll simply assert now, and will discuss in future chapters, that zero is not a quantity, and nothingness is not a quality. The multifarious roles zero plays in math gives us insight into the *lack* of relationship between the Absolute and the Relative.

Taimni's discussion is particularly interesting because here a native Hindu speaks about a Hindu concept—zero—in a manner foreign to Western ideas, but in the manner that reflects the origin of these concepts in Hindu philosophy:

“Zero and infinity appear to be polar opposites. If we go on increasing the quantity of anything we approach the limit of infinity but never seem to reach it. If we go on decreasing the quantity we approach the limit of zero but again never seem to reach it. Between these extreme and unattainable limits are contained all possible magnitudes of the thing we can imagine.”

This statement taken by itself is ambiguous to people versed in modern math. In context, he is referring to the [calculus](#) concepts of [integration](#) for the limit to infinity and [differentiation](#) for the limit to zero. He links the calculus notions to geometry:

“The zero and infinity will thus be seen to be analogues of the point and space in geometry. Now, a wonderful thing about the ideal point and boundless space is that they appear to be the same ultimately and indistinguishable. If we imagine a point expanding ad infinitum it will merge ultimately into infinite, boundless space and then appear mysteriously again out of nowhere at its original position and in its infinitesimal form.”

This sounds a lot like [Nicholas of Cusa](#):

“The Absolute Maximum, with which the Minimum coincides, is understood incomprehensibly.”

We get into [weird continuum stuff](#) here. For example, how many points make up the smallest infinitesimal area or volume you can imagine? What is the difference in the number of points contained in an infinitesimal volume, a volume of one cubic meter, and an infinite volume? This kind of stuff did not go well with Cantor's mental health. Leibniz [was all like](#) "screw it, it's a non-problem". The Hindus, along with Nicholas, considered these "features" instead of "bugs".

Let's see how Taimni uses these "features":

“An extraordinary property of zero is that it can contain within itself a quantity of any magnitude provided that quantity is balanced by another quantity which is equal and opposite in sign.... the zero has the potentiality of containing within itself an infinite number of magnitudes from the smallest to the largest, all perfectly balanced, by each quantity being neutralized by an equal and opposite. “

“The significance of these extraordinary properties of zero can throw some light on the concept of the Absolute. They show mathematically how the existence of an Ultimate Reality, with the possibility of containing an infinite number of potential systems in any number and of any magnitude, is possible provided they are such that each separate item is balanced by its equal and opposite.”

And bingo, this is exactly how I used Taimni’s idea of the Absolute in [Chapter 10](#) of *What is Science?* He continues...

“The presence in an integrated form in the Unmanifest of all equal and opposite principles in a potential state naturally finds expression in the manifested universe in opposites called dvandvis or pairs of opposites...”

“...they are seen everywhere and sometimes in a very striking form if we look at life intelligently and enquiringly. The active and passive functions of volition and cognition, involution and evolution, spirit and matter, subject and object, descent and ascent, positive and negative electricity.”

Male and female, night and day, wave and particle, and so on...

He then introduces the consequence of the balancing of opposite forces:

“A state in which all possible principles, forces, etc. exist in perfect balance and equilibrium would not only be a void as shown above but would also be a state of perfect stability. According to modern conceptions of Science if such a state of equilibrium is disturbed in any way the disturbance will be followed by such changes and adjustments as tend to neutralize the disturbance and tend to restore the original stable equilibrium.”

From here he discusses [Le Chatelier's principle](#) from chemistry, the immune system as an example of [homeostasis](#) in biology, [Newton's 3rd law of motion](#) (action = reaction), and the [Law of Karma](#).

Thus we see the Hindu concept of zero. Zero does not mean *nothing* in the Hindu framework. It means *everything* combined in perfect balance. This reinforces the point I made in *What is Science?* that the origin of the concept of zero in Hindu

thought is ill-understood in the West. *Zero is one of the ways Hindus characterize the Absolute.*

To round out the story, I remind the Reader that one of the main points of my book *Experience* was to explicate the Hindu concept of infinity, which they take to mean “does not exist”. Repeating what I said there, because it has relevance here: To a Westerner, zero means “nothing” and infinity means “everything” (but this “everything” is impossible to define). To a Hindu, zero means “everything in perfect balance” and infinity means “illusion, mirage, does not exist”.

Taimni’s Description of the Cosmic Rhythm

In Chapter two of MGU, Taimni discusses the “Cosmic Rhythm”, which constitutes the dynamism of the Absolute. “Cosmic Rhythm” is Taimni’s phrase for what van der Leeuw called the Rhythm of Creation. The idea that the Absolute can “move” or “act” sounds self-contradictory on its face. But, hey, were talking about the continuum here, so that is no reason to stop us from proceeding.

He repeats the idea of the Absolute as “the perfect neutralization of opposites and harmonious integration of principles and states” and repeats the correspondence: zero is to infinity as a point is to unbounded space.

He then gets to his main point (deadpan drum beat; audience groans):

“...there must exist eternally an ideal Point in the unmanifest state of Reality from which all kinds of manifestation start.”

This point is intimately related to the bindu, but to elaborate here puts us ahead of ourselves.

“If such a centre exists it can exist only if it is balanced by its exact opposite. Now, what is the exact opposite of a point which can neutralize or perfectly balance the Point and thus serve to maintain the perfectly undifferentiated state of the Ultimate Reality? Obviously, boundless, infinite, empty Space.”

Yes, obviously. This is what I enjoy about Taimni: he simply asserts the most abstract things. It would be the height of absurdity, but for the context. He continues...

“Both eternal Ultimate Space and eternal Ultimate Point are recognized in Occultism and Hinduism. The eternal Ultimate Space which is referred to as the 'container' or 'vesture' of the Ultimate Reality is called Mahakasa... The eternal Point which serves as a centre round which manifestation takes place is called a Mahabindu.”

We come back to the **Mahabindu** in Chapters 12-14 because it is the source of the bindu in your mind and mine. The idea to focus on now is that a point is the decreasing limit of unbounded space, and unbounded space is the increasing limit of a point. As we see, Hindus are also intrigued by, and have their own unique take on the continuum.

Together, these four elements - the point, zero, unbounded space, and infinity - are the ingredients of Taimni's "static view" of the Absolute.

He then introduces the "dynamic" aspect by bringing in the idea of an oscillating pendulum. As a pendulum oscillates back and forth, so too does the Absolute oscillate back and forth in an eternal rhythm from the point to unbounded space, and back again. But it is not an external reality that is doing the oscillating, it is consciousness:

“...the Ultimate Reality is conceived as an oscillation of consciousness in which it alternately expands to an unbounded sphere of infinite radius and then contracts to an ideal point”

And hence he rationalizes van der Leeuw's idea of the Rhythm of Creation, whereby the Absolute experiences itself as the Relative, which in turn strives to experience itself as the Absolute.

The idea here is probably foreign to people not familiar with math, but not so much to those who know some modern math and science. While it sounds similar to the Big Bang/Big Crunch idea, it's not that. What he is saying is that if we get big enough, then we eventually become infinitesimally small. If we become small enough, we are infinitely big. Again, more like [Nicholas of Cusa](#)'s ideas.

Quick Summary

To summarize: The Absolute appears to us as zero from our relative standpoint. But it is not "nothing". It has everything within it, neutralized in a perfect balance. The Absolute projects itself via a point, which expands to infinity, and in doing so again becomes a point.

If we are willing to entertain these queer ideas, then the obvious question is: if it is in such a state of perfect balance, then how does it go out of balance?

Hard question. Short answer: I don't know. If I did know, I wouldn't be here typing this, I imagine. For the moment, let's stay focused on the idea of the Absolute.

Yes, of course. Any rational person would concede it sounds like so much nonsense. Therefore I am going to try to explain why it is not.

Some Comments on Taimni

I offer a defense of Taimni's ideas because, relative to the Western understanding of math, his ideas appear so simple as to be absurd. But relative to understanding yoga, for which the West is still foggy, his ideas are important and useful.

First, van der Leeuw described his actual experience of the Absolute. Taimni made no claim to have experienced the Absolute. Nonetheless, it is clear from his writings Taimni practiced yoga. Instead of first-hand experience, Taimni sought to intellectually express the Absolute, knowing that the task could at best be little more than a series of metaphors.

If any of my Readers think I know anything about yoga, I must point out that 80% - 90% of what I know about yoga and Hinduism, I have learned from studying Taimni. He was a tremendous pioneer making yoga and Hinduism accessible to Western people. Newton [made a comment](#) about standing on the shoulder of giants. Taimni is one of the giants whose shoulder I try to balance on. Therefore, I have decided it is worth the effort to try to decode what this man was saying, even if it sounds silly on the face of it.

Certainly, given the tremendous sophistication in Western mathematics, the above ideas sound naive. To someone sophisticated in Western math, but not sophisticated in Eastern thought and methods, the above sounds worse than “numerology” (i.e. the playing around with combinations of numbers and trying to extract some type of meaning from it).

The Big Bang Theory Kids

This is a weird phenomenon to address. Today there are thousands of Big Bang Theory Kids (BBT; this in reference to the [TV show](#)) who possess sophisticated understanding of modern math and its applications in science. On the other hand, this generation of intellectuals is so tangled up in the fine details that it is a classic case of “not seeing the forest for the trees”. I used the derogatory term “[philosophical pygmies](#)” to describe these modern science geeks. Their [pygmy stature](#) is due, at least in part, to the BBT Kids being the confused children of the divorced parents of science and philosophy here in the West (the divorce was discussed in [Chapter 3](#)).

I myself am one of the BBT Kids. Although not as knowledgeable as many, I’ve took a group theory course, know a little of the math of quantum mechanics, understand the Lorenz transform, and after reading Hermann Wyle, understand why General Relativity is more of a mystery than even quantum mechanics. Hell, I even made up my own math theory of cell injury. To cement my BBT Kid credentials: I love Stan Lee, Jack Kirby and Steve Ditko’s comics from the 1960s, collect comic book [art and statues](#), and get just as thrilled as any other nerd when Stan Lee makes his cameo appearances in the Marvel movies.

So, what is the difference between me and the thousands of my peers who would think the topics I discuss here are absurd? Two things I think. First, I love to study history and philosophy, *along with* science. Second, I have relatively more experience with altered states of consciousness, and have been driven to try to understand them.

Philosophical Pygmies

First the philosophy side: Unlike Herman Wyle, who could go between Hilbert

and Hume, Kant and Cantor, or Poincare and Plato in a hair's breath, the BBT kids can go between Stan Lee and Richard Feynman or Dan Dennet and Stephen Hawking (ugh, can't even do alliteration with them) in a hair's breath. The latter is a pretty deadly combination as an intellectual anesthetic, whereas Wyle was all hopped up on intellectual stimulants.

Given the absurdity to which modern Western philosophy appears to have descended in the 20th century, I defend the "shut up and calculate" mentality as strongly as anybody. I get, to the extent I am able, the [Bohr-Einstein debates](#). They are relevant because they encapsulate how quantum mechanics appeared to be the first serious departure from a realist ontology and epistemology in science; an apparent crack in the veneer, with some apparent Kant shining through. That is, if one is willing to let go of what makes science work. Bohr was not prepared to take this step and his position, which has become the dominant one amongst workers using this theory, has helped maintain science as something distinct from philosophy.

One the other hand, Einstein had a point too, but unfortunately, the baby was tossed with the bath water. Einstein was one of the greatest physicists to ever live, but he was a mediocre philosopher at best. The split between science and philosophy that occurred over the 19th century fully manifested itself in the 20th century. The result was a lot of wheel spinning and wheels being reinvented, which is still going on today. The juvenile philosophies being tossed around today ([here](#); with some antidote [here](#)) are as if someone rediscovered Newton's three laws and everyone thought it was just so cool. It is all quite silly.

The fact is, philosophically, not much can be said after Kant. Yes, yes, yes, I know there are critiques of his work (one [here](#)). These stem, at best, from others who can't accept that the shadows are indeed shadows, and at worst, from people that need to justify their university paycheck. But I am talking about Kant's major points. The major thesis of his transcendental idealism is about as air tight as this kind of stuff can get. If we do not know how to explore the depths of our consciousness, then we are trapped in our awareness, and we cannot directly access the "transcendental".

One avenue by which to see the truth of this assertion is that Western philosophy has had little of use to say since Kant, except the existentialists. "*God is Dead*" was the throwing in of the towel for the brighter light bulbs.

I was careful to say "not much can be said after Kant" because between writing *What is Science?* and now, I've read [Hermann Weyl](#). Now *he* was a good philosopher. He had useful things to say that took Kant's ideas into consideration, and in doing so provided a useful perspective of how this activity we call "science" fits into the larger intellectual scheme of things. I wrote about [some of this already](#). Chapter 7 will focus exclusively on Hermann Weyl's philosophy and what I will call his "scattered buckshot" approach as a workable solution to Kant's dilemma, which, as it happens, also offers an explanation of why science even works at all.

To get back to my main point, Einstein was expressing what can be taken as a desperate need for an intellectual security blanket. This is a double-edge impulse.

The yogic view of consciousness explains exactly why it is a double-edged thing. If you seek for this security blanket in the shadows of the world-image, you simply will never find it. So, the impulse can drive you nuts...or it can drive you to yoga.

That impulse *is* the Source, the Absolute, tugging on the consciousness, our consciousness trapped in the world-image, pulling us back towards It. This is precisely van der Leeuw's Rhythm of Creation acting within our immediate experience. If one does not have a clear picture of what is doing the pulling, then one struggles more and more, as if in a spider's web, and gets tangled and trapped more and more in the shadows of the world image. It really is that simple.

You can even see this in Kant. After realizing he was trapped in the mind, and seeing the futility of trying to grasp the transcendental, he nonetheless went ahead and tried to make a theory of knowledge and one of ethics based on some of the relative shadows. He just couldn't [leave well enough alone](#).

Later, Hegel, in response to Kant, saw something akin to this dualism thing Taimni described above, but instead of having the Eastern perspective that describes the escape hatch out of the mind, Hegel again spins and struggles in the web of shadows and goes nowhere. He comes to the idea of a "spirit" that "self-transcends" dualisms, his whole "thesis-anti-thesis-synthesis" thing, and bingo, he's all lost in the infinite staircase [I discussed](#) in *Experience*.

To repeat again (because as my undergrad physics Prof Dr. Chimino used to say, "Repetition is the key to success in learning...repetition is the key to success in learning... ", and so on): the futility of efforts such as these became clear to other smart people. People like Nietzsche and Sartre, and to a lesser extent, Heidegger recognized that *it ain't worth it*. Something's up here and rational, intellectual thinking is in no position to figure out what it is.

Very much like the position Bohr took, actually. Bohr was restrained enough to give this Impulse its due, but did not make the mistake of trying to mix it with the pragmatic considerations of scientific practice.

So, when we talk about the BBT Kids, we are talking about a bunch of people who have become numb to the impulse that Einstein was trying to express. Bohr was not insensitive to this impulse. I mean, come on, he had the Yin/Yang symbol on his [coat-of-arms](#). Bohr, in spite of whatever mystic proclivities he had, was taking the agnostic stance similar to the existentialists, under the firm conviction that this would be what was best for science as a discipline. The fact that you are reading this on the internet right now is proof he was correct.

Bohr did not throw the baby out with the bath water. He just reserved judgment and wasn't willing to mix things he wasn't sure about (the philosophical meaning of quantum mechanics) with things we was sure about (the technical meaning of quantum mechanics). Einstein didn't have the discipline to keep these separate, or alternately, had some degree of hubris in his personality and thought he could do what Kant, Hegel et al could not do.

Because the technical content of quantum mechanics is relevant to yoga, we'll come back to this topic more fully in Chapters 16 and 17.

And this takes us back to the BBT Kids. The BBT Kids are numb to all this. The impulse from the Absolute is there. It is always present. It's just a question of how it gets expressed. Instead of possessing the intellectual fodder that Weyl had, allowing him to respond to the impulse in a constructive fashion, the BBT Kids bandage over it. They fill it with fiction and fantasy. This is perfectly illustrated in Sheldon Cooper's seamless mixing of string theory with Game of Thrones, the real and the unreal, in the same breath. You see this right now in the so-called "[serious science](#)" being output of the current crop of philosophical pygmies.

Altered States

Not much needs to be said on this front. The general point can be made using one of my favorite sayings: *if you don't know what you're missing, you **don't** know what you're missing*. Think about it, you'll get it. And if you don't, altered states will be our focus from Chapters 24 on.

Wrap Up

So what does the second part of this chapter have to do with Taimni's ideas about the Absolute? It's the same tact I used in *What is Science?* Pound and smash on the wall of ignorance called "Western learning" and try to put it into a larger perspective. Fancy sophisticated math can never beat plain old simple truth. You *will* die, and that is a fact. As I get older and watch things unfold, the trajectory of Western thought looks more and more like a runaway train going over the edge of a cliff. Not that it matters per se. Anything is possible in the Maya, and who am I to judge?

The next chapter discusses criticism of the idea of the Absolute we have considered to this point.

6: The Absolute According to Gaudiya Vaishnavism



We discuss the personal and impersonal Absolute as described by the Gaudiya Vaishnavism branch of Hinduism.

Introduction

We now consider the branch of Hinduism known as [Gaudiya Vaishnavism](#) which is intimately related to the bhakti, or devotional, approach. These teachings convey a three-fold view of the Absolute. The Absolute as discussed by van der Leeuw and Taimni is considered impersonal. Gaudiya Vaishnavism sees the Absolute as both personal and impersonal.

Bhakti Yoga

Gaudiya Vaishnavism is a relatively new branch on the tree of Hindu thought. It was founded by [Chaitanya Mahaprabhu](#) in Bengal in the 16th century, interestingly, at the time modern science arose in Europe. Today Gaudiya Vaishnavism is perhaps best known by the [Hare Krishna](#) movement, which is one sect of, and one way to interpret Gaudiya Vaishnavism.

Gaudiya Vaishnavism is primarily concerned with **bhakti**: the one-pointed devotion to God. When people in the West speak of “emotionalism” in connection with mystical experiences (often in a derogatory manner), this is a nebulous and ill-informed stereotype of the bhakti tradition in Hinduism.

Patanjali gives the bhakti approach its due, not in a passing manner, but in a very serious way. In the *Yoga Sutras*, aphorism 2.45 explains:

४५. समाधिसिद्धिरीश्वरप्रणिधानात् ।

Samādhi-siddhir Īśvara-praṇidhānāt.

समाधि trance सिद्धि: success; accomplishment; perfection ईश्वर (to) God प्रणिधानात् from self-surrender; from resignation.

Which Taimni translates as:

“Accomplishment of Samadhi from resignation to God.”

Taimni’s commentary from *The Science of Yoga* is:

“...Patanjali not only points out the possibility of attaining Samadhi through Isvara-Pranidhana but also in subsequent Sutras shows that the path of Isvara-Pranidhana is practically an alternate and independent path of achieving the goal which is attained by following the Astanga-Yoga with its eight stages or parts.”

[Isvara-Pranidhana](#) means “surrender to God”. As Taimni indicates, it can serve as an alternative to the mental silencing of Patanjali’s raja yoga. Given the ancient origins of the *Yoga Sutras*, bhakti clearly predates Gaudiya Vaishnavism. The latter is a relatively more modern form of bhakti and has evolved its own synthetic understanding of the Absolute, informed by centuries of practice and experience.

Propensities for Experiencing the Absolute

The side-stepping of raja yoga by bhakti raises the practical question of the propensities of different people to experience the Absolute.

One would think the ultimate aim of yoga, the experience of the Absolute, would be the most difficult experience to achieve. However, as aphorism 2.45 indicates, this isn’t necessarily the case. Similarly, the [Shiva Sutras](#) acknowledge that some people are easily prone to experience the Absolute: the whole first book of the *Shiva Sutras* provides instruction to such people.

Therefore, diverse branches of Hinduism recognize the variation in people’s ability to experience the Absolute. This variation is explained in terms of reincarnation. If it is easy for a soul to experience the Absolute in this life, it is because that soul has paved the way in previous lives.

Since Westerners cannot yet cope with the idea of reincarnation, we can instead think of the ability to experience the Absolute as forming a [Gaussian distribution](#) analogous to, say, the ability to play piano. An average person has to practice a lot and put in considerable effort to become a good piano player. A small fraction of

people will never achieve proficiency no matter how hard they practice. Some small fraction will be born as musical virtuosos. Likewise, a small fraction of people will be born with a natural ability to experience the Absolute.

The Parable of the Poor Man

One expression of Gaudiya Vaishnavism's understanding of the Absolute is the following parable from the [Chaitanya Charitamrita](#) (translation from [here](#)).

“Once upon a time there lived a man who was very poor. His father had died in a strange land and could not tell him (his son) about his treasure. And the treasure lay hidden in the residence of the son.”

“Then there came a Sarvagna (one who knows all about everything, an astrologer), who told the poor man: “Why are you so wretched, you have got treasure left by your father?”

“Then the Sarvagna told the man how to get at the treasure; he said: “The treasure is in this spot,” and pointed out the place to the poor man.”

“Then said the Sarvagna: “Do not dig at the Southern side; the hornets and wasps will rise and you will not get at the treasure. Do not dig also at the Western side; there is a Yaksha (monster; ghost), who would prevent your getting at the treasure. Do not dig on the North side either, there is a large black serpent who would, if you disturb him, devour you, and you would not get at the treasure. Dig, therefore, on the East side, you will find the treasure after a few inches of earth.”

“That treasure is the treasure of Love of Sri Krishna, the Paramatma. The instructions of the Sarvagna are the teachings of the Vedas and the Puranas, by following which one may get (or be one with) Sri Krishna, and the Jiva is the poor man who was (or imagined himself) poor because he knew not that he had treasure.”

“The East side here represents our attachment to family, and the wasps and hornets-our children and relatives. It pictures the difficulties of a man of Karma to liberate himself. The Yaksha on the West is perhaps the bewildering metaphysics born of Ignorance which we mistake for Jnana. The Path of Jnana is very difficult, on account of continued obstructions from this Yaksha who guards the treasure on that side. On the North side lie that Black Serpent, our Lower Self, who is continually devouring those that try to enter Yoga Marga, the Path of Yoga. The only easy path for the weak is the Path of Bhakti, the Path of Devotion and Love, which purifies our lower nature and concentrates all our energies towards the Supreme Soul or Paramatma.”

“The parable is taken from one of the Shastras of the Vaishnaiva Sect of Bengal, who are not favorably disposed towards caste rules, and who

make Bhakti Yoga the greatest of all means for spiritual progress. They do not want Mukti, and hold it inferior to serving and loving Sri Krishna, whom they call Paramatma, and Radha, the Light of the Logos, the Para of the Gita. The highest aim of these Vaishnavas is to retain their full consciousness while remaining near Sri Krishna and Radha, loving and serving them, while loved by them in return."

Different Paths to the Absolute

The parable compares four approaches that seek to experience the Absolute. These are the yogas of devotion (bhakti), doing good deeds (karma), knowledge (jnana) and Patanjali's methods (raja yoga). As per the parable we see:

Bhakti is the "easy" method to the Absolute, consistent with Patanjali's assertion above.

The karma yogi – he who seeks enlightenment through good deeds – is found to be wanting because of the fickle nature of the world, which is expressed as being stung by hornets and wasps.

The jnana yogi seeks liberation through knowledge but runs the risk of being haunted by ghosts representing the "bewildering metaphysics born of Ignorance". This is the way of Western cultures and is the "wall of ignorance" called "Western learning" I repeatedly criticize. The West in general is trapped in the illusions of "metaphysics born of ignorance".

The raja yogi, one who follows Patanjali's methods, must fear the Black Serpent, a symbol of the lower self (the desire mind or kama manas), who is petty and self-aggrandizing, and whose selfish motives can at any time demolish the subtle balance of stilling the mind required by raja yoga.

It is the critique of raja yoga that is of interest here. The interpretation above is relatively mild: the yogi must guard against interference of the lower, desire-mind (kama manas). This is a function of [vairagya](#), dispassion, in Patanjali's methodology.

However, Swami Prabhupāda, leader of the Hare Krishna movement, has a [more negative interpretation](#) of the pitfalls of raja yoga which focuses on the *form* of enlightenment attained by the methods of raja yoga:

"The mystic yoga process is compared to a black snake that devours the living entity and injects him with poison. The ultimate goal of the yoga system is to become one with the Absolute. This means finishing one's personal existence."

This critique is much more serious. It compares the impersonal experience of the Absolute obtained from raja yoga to being poisoned. It is poison because one's essential Humanity seems to be lost in the impersonal Absolute. We see precisely the impersonal nature of the Absolute in both van der Leeuw and Taimni's descriptions.

How is this dealt with in Gaudiya Vaishnavism?

The Three-fold Absolute

If one has an extra 10 minutes, [here is a video](#) from a Gaudiya Vaishnavism follower (whom I shall dub "gulab jamun guy" as Indian readers may appreciate if they watch the video :)) explaining the three views of the Absolute. The discussion is interesting because it speaks to the experience of Kaivalya. Other expositions are provided in these links: [1], [2], and [3]. Here I merely summarize the main points.

Gaudiya Vaishnavism explains the three-fold nature of the Absolute in reference to the Hindu concept of [sat-chit-ananda](#). Sat is being or existence and is the formula being = consciousness (I wrote about this [here](#)). Chit is cosmic mind. Ananda is cosmic bliss. The term sat-chit-ananda is another way Hindus characterize the Absolute. There is analogy here to the Christian trinity of Father-Son-Holy ghost, but I don't want to dwell on that now.

There are three experiences of the Absolute corresponding to the three parts of sat-chit-ananda. The name of each experience and its correspondence with sat-chit-ananda is:

- Brahman = sat
- Paramatma = sat + chit
- Bhagavan = sat + chit + ananda

These three names are said to refer to progressively deeper experiences of the Absolute.

A metaphor is given of approaching the Absolute, as if it is a mountain, from a distance and getting closer. From the distance, one sees only the light (effulgence) of the Absolute, as one sees only the general outline of a mountain. This light appears impersonal. As one gets closer, one begins to discern details, which are the Paramatma. Paramatma is the non-difference between the Maya (the infinite diversity of forms of manifestation) and the Absolute. Finally, one gets to the mountain, to the Absolute, and sees an infinite being, an infinite person, Bhagavan, who the Gaudiya Vaishnavas call *Krishna*, the personal Absolute.

Brahman, Paramatma, and Bhagavan

The impersonal Absolute experienced as Brahman is free of all attributes, as described by van der Leeuw and Taimni. It is the paradoxical experience of all and nothing simultaneously. This experience is acknowledged by the Gaudiya Vaishnavism, but they interpret it differently. The Brahman experience is called *brahmajyoti*. Quoting from [here](#):

“The brahmajyoti, the nondifferentiated marginal plane, is the source of infinite jiva souls, atomic spiritual particles of nondifferentiated character. The rays of the Lord's transcendental body are known as the brahmajyoti, and a pencil of a ray of the brahmajyoti is the jiva. The jiva soul

is an atom in that effulgence, and the brahmajyoti is a product of an infinite number of jiva atoms.”

Thus, the Absolute, experienced as brahmajyoti is but the periphery of the experience. Note the terms "nondifferentiated character" and "atomic spiritual particles". This is reminiscent of van der Leeuw's description of how a tree appears in his experience of the Absolute:

"The tree in itself as it exists in the world of the Real may be pictured as a mathematical point..."

i.e. [monads](#). Thus, there is a kind of self-consistency amongst these diverse reports of the Absolute.

Paramatma is Brahman plus the Maya. Paramatma is that "part" of the Absolute involved in manifestation. Paramatma is the Absolute experienced in itself as Brahman (the impersonal), and also as immanent in manifestation. Paramatma is the true form of the myriad atma that make up manifested existence. It is the "Great Point" (Mahabindu) containing the infinity of lesser points (manubindu; monads). These are important concepts to which we return starting in Chapter 11.

An interesting aspect of Gaudiya Vaishnavism is its critique of other Hindu philosophies that contain the idea of maya, what they call **mayavadi** philosophies. Mayavadi views break the manifestation into an illusory part (maya) and non-illusory part. This is not universally accept as the following critiques of mayavadi indicate: [\[4\]](#), [\[5\]](#), and [\[6\]](#).

Finally, Bhagavan is the experience of the Personal Absolute. Gaudiya Vaishnavas invoke [chapter 11](#) of the Bhagavad Gita (also here [\[7\]](#), [\[8\]](#)), where Krishna reveals himself in his entirety to Arjuna. Krishna states in chapter 11, verse 54 (taken from [\[8\]](#)):

“But by the single-minded devotion I may in this Form, be known, O Arjuna, and seen in reality, and also entered into, O scorcher of foes”

If one has not read Chapter 11 of the Gita, or the Bhagavad Gita in its entirety, it is strongly recommended to do so. In my opinion, it is one of the greatest pieces of writing in all human history.

At any rate, we return to what Patanjali said above that bhakti, by itself, can lead to the Absolute. What Gaudiya Vaishnavism adds is that experiencing the Absolute in this fashion is the whole enchilada. Experiencing the Absolute as an infinite being is superior to the experience of the Absolute as van der Leeuw described it as an impersonal "force" of pure creation.

Impersonal Absolute

In the video linked above, gulab jamun guy rationalizes why the experience of

the impersonal Absolute is an inferior experience. The main idea is that the experience of the Absolute is conditioned by the means used to achieve the experience. Yoga is dominated by chitta vritti nirodhah, the complete silencing of the mind. As [one of the authors](#) linked above states:

“At the level of Brahman realization, one perceives eternal time in the form of the unstoppable present as past and future cease to exist. ...one identifies with the present moment and he enjoys his eternal self. Time, the Supreme Personality of Godhead, and the living entity merge. It is difficult to break out of this state of absolute inactivity. The living entities who have become one with the spiritual light emanating from the body of Shri Krishna may remain locked in the perception of sat forever.”

Clearly, the Gaudiya Vaishnavas consider this a rather bleak prospect. It is as if a moth is attracted to a flame and flits around it endlessly. Not a great metaphor, because we don't really want the moth to dive into the heart of the flame. With the experience of the Absolute, one wants to dive into the heart of the flame.

Wrap up

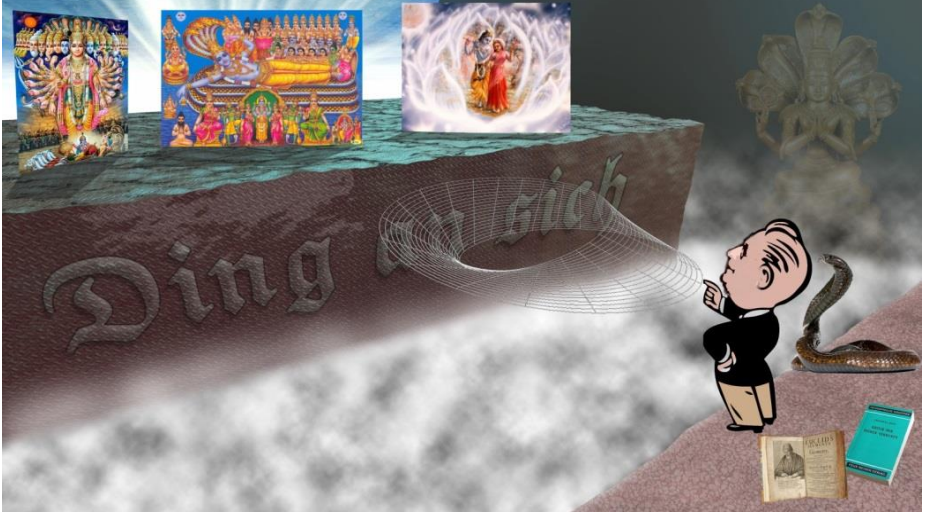
This chapter has drawn attention to the fact that Hindu ideas are by no means homogeneous. They possess an active, vital, and dynamic diversity. The ideas of Gaudiya Vaishnavism give rise to extremely rich stories and concepts. Many sound shockingly fanciful to modern minds. However, there is probably some truth in them as descriptions of altered states experiences in the deeper layers of consciousness. We'll address these issues starting in Chapter 25.

My main point is that the inhomogeneity of Hindu thought brings with it its own controversies, as illustrated above. I have no intention to attempt a resolution of these controversies, but merely to point out they exist. We are discussing the Absolute, and so it seems to me that a well-rounded presentation is in order, even if it is but a rough sketch.

I will say this much however. It is clearly logically contradictory that the Absolute can have different perspectives. There are good logical arguments on either side for which is more fundamental, a personal or impersonal Absolute. However, when we become preoccupied with the to and fro of discursive thought in this context, we must recall and heed the words of van der Leeuw and Taimni that the Absolute far transcends the mind. The thoughts of the mind with respect to the Absolute are less than a flea on the back of a flea on the back of a flea.

I conclude with what seems to me to be the essence of the matter. The controversies about the Absolute in the various forms of Hinduism are not whether the experience of the Absolute exists or not. The controversy is over what the experience *means*. If we could only be so lucky here in the West to have different schools of thought arguing over the meaning of the Absolute.

7: The Absolute According to Hermann Weyl



We close out discussing the Absolute considering the ideas of Hermann Wyle, who made important contributions to 20th century math and science. Wyle's views provide a natural fit with the yogic view of consciousness and illustrate the integration of science, philosophy, and religion. The example he sets should shame those modern-day scientists and philosophers who see only antagonism where Wyle saw harmony.

Introduction

I cannot do full justice to Weyl's thinking or contributions in one chapter. This is a long chapter as it is, given the few major points of his that I expound. When discussing Weyl—what influenced him, and the influences he exerted in math and science—we are entering ground that is well-trodden by Western intellectuals. There is a rich literature analyzing Weyl's many contributions to 20th century math and science. I acknowledge this literature but don't draw on it here. Instead, I allow Weyl to speak for himself, and interpret his comments in terms of the yogic view of consciousness.

Weyl was [neo-Kantian](#), meaning he accepted the basic premises of Kant's transcendental idealism, but also expanded and extended Kant's ideas to take into account the developments in science, math, and philosophy that occurred after Kant.

My intent is to show that Weyl's neo-Kantianism is not only consistent with the yogic view, but that the yogic view provides the natural framework in which to fit Weyl's ideas. All great Western philosophy ends where yogic understanding begins. Weyl stood at this threshold.

Misunderstanding the “Orient”

Before getting into specifics I want to discuss how Wyle misconstrued Eastern thought. Consider this comment from his *Open World* essay (1932):

“It is the great achievement of the Greeks to have made the contrast between the finite and infinite fruitful for the cognition of reality. The intuitive feeling for, the quiet unquestioning acceptance of the infinite, is peculiar to the Orient; but it remains merely an abstract consciousness, which is indifferent to the concrete manifold of reality and leaves it unformed, unpenetrated.”

I have not yet found if Weyl elaborates this point in other writings. If he does, please let me know. For the moment, it is all I have of his perception of Eastern thought, so it is difficult to know what he really meant. I can only assume he lumps together all the great Eastern traditions such as Hinduism, Buddhism, Taoism, and so on under the heading “the Orient”. Lacking evidence to the contrary, it will be my working assumption that he does. If Hinduism and yoga are included in his “Orient”, then Weyl could not be more wrong in his assessment.

First, Hinduism has actively pursued the contrast between the infinite and the finite as we have repeatedly seen. The [previous chapter](#) discussed three different views of infinity from the Hindu perspective. One may argue that Weyl meant fruitful for the development of mathematics. But the ancient [Indians had math](#) like the Greeks, so this interpretation doesn’t work. The ancient Greeks and Indians took math in different directions. But if Greeks gave us proof, the Indians gave us zero. Arguably, the Indian contribution has been more important to the development, and certainly the application of modern math.

Second, his statement that “Oriental” thinking leaves the “concrete manifold of reality” “unpenetrated” is incorrect. Weyl apparently had no idea that Patanjali’s raja yoga has as its main aim to “penetrate” the bindu (dharma mega samadhi) and thereby discover the very basis of “the concrete manifold of reality”.

Third, the statement “the quiet unquestioning acceptance of the infinite” suggests Wyle had no knowledge of yoga. Although Patanjali’s yoga is the stilling of the mind, in this stillness power of unbelievable magnitude is released. Yoga is hardly “quiet” when the gods stop and take notice of the advanced yogi who is in the process of “storming heaven” (*Yoga Sutras* 3.52, and see [\[1\]](#), [\[2\]](#)).

Finally there is no “unquestioning acceptance” of anything. Yoga methods derive from the deepest possible questioning into the nature of the mind, the Self, and the objects of perception. Yoga, in a sense, is [philosophical skepticism](#) taken to its logical extreme.

On the basis of the above quote, coupled with the fact that I have found no Hindu influence in Weyl’s writing (again, I am open to correction), we can safely conclude that Weyl knew nothing whatsoever of Hindu philosophy, let alone Patanjali’s raja yoga.

Therefore, I can assert that **Weyl came to conclusions almost identical to yogic ideas, independent of any influence of Indian teachings.** With this said, we can move on to his specific ideas.

Sidebar: I would be remiss if I failed to mention that Weyl's lack of Hindu influence stands in contrast to people like [Schopenhauer](#) and Erwin [Schrödinger](#), who openly acknowledged Hindu influence. Schrödinger was Wyle's friend and Wyle had an affair with Erwin's wife Amy for many years. So, while Erwin and Hermann had similar tastes in women, they apparent did not have similar tastes for Indian philosophy.

Weyl as a Kantian Dualist

Let's first review how Kant was effectively a dualist. Kant posited the dualism of phenomena verses noumena. Phenomena are the appearances of the world as presented to our immediate awareness. It is how the world appears to our consciousness, what van der Leeuw called the world-image. The noumena are the world as it is outside of our minds, the objective truth of the things-in-themselves. According to Kant, there is an unbridgeable gulf between phenomena and noumena, and we are forever trapped in our minds. For Kant there was no other way to know than through the mind, and therefore we can never know the thing-in-itself.

As I have stated repeatedly, yoga allows us to escape the Kantian dilemma. By mastering yoga, one can exit the mind through the bindu and thereby enter the Absolute. The experience of the Absolute is the solution to Kant's dilemma, precisely as [described by van der Leeuw](#).

How does Wyle fit into this picture? Wyle accepted Kant's terms of phenomena vs noumena. But he had a more sophisticated and modern understanding because of the 100 plus years between him and Kant. Weyl, of all the philosophers I have ever read, actually devised a workable scheme to circumvent Kant's dilemma.

This scheme is Weyl's very definition of science. Thus, Wyle could explain how it is that science can work even though Kant's dilemma is in place. Below we will call Wyle's method the "scattered buckshot" approach, an irreverent moniker that nonetheless expresses a serious idea.

That Wyle was able to overcome Kant's dilemma and simultaneously provide an effective working definition of science is a STOP THE PRESSES moment which appears to have escaped the notice of the Western intellectual world. Therefore either I am completely wrong in my assertions here, or people just didn't get what Wyle was saying. I will press on, and you Readers can judge for yourselves.

Because Wyle was able to circumvent Kant's dilemma, he had thoughts about the nature of the noumena, the real world outside our minds. We will see that he equated the noumena with the ideas of God and infinity. This brings him in consonance with the yogic view of consciousness.

Weyl, like Kant, did not know yoga and so Weyl had no idea that one can escape from the cave of consciousness. Thus, he inevitably left some issues unresolved and

was unable to infer the whole picture of the yogic view of consciousness. Nonetheless, this hardly detracts from the greatness of his insights, which are indeed great because of the depth of insight he was able to extract from contemplating only the shadows on the cave wall.

Weyl and Dualistic Consciousness

Paralleling the dualism of phenomena and noumena, Weyl saw consciousness as taking on two very different forms and thus had a dualistic view of consciousness. This is not the standard mind-body dualism, but is a dualism in the very nature of consciousness. This is described in the following quote from his essay *The Unity of Knowledge* (1954):

“...it is now time to point out the limits of science. The riddle posed by the double nature of the ego certainly lies beyond those limits. On the one hand, I am a real individual man; born by a mother and destined to die, carrying out real physical and psychical acts, one among many (far too many, I may think, if boarding a subway during rush hour). On the other hand, I am “vision” open to reason, a self-penetrating light, immanent sense-giving consciousness, or however you may call it, and as such unique. Therefore I can say to myself both: “I think, I am real and conditioned” as well as “I think, and in my thinking I am free.”...”

“And yet, nothing is more familiar and disclosed to me than this mysterious “marriage of light and darkness,” of self-transparent consciousness and real being that I am myself. The access is my knowledge of myself from within, by which I am aware of my own acts of perception, thought, volition, feeling, and doing, in a manner entirely different from the theoretical knowledge that represents the “parallel” cerebral processes in symbols....”

“I will not succumb to the temptation of foisting Professor Bohr’s idea of complementarity upon the two opposite modes of approach we are discussing here....”

His idea of the “double nature of the ego” is easily understood in yogic terms. Wyle identified the fundamental distinction between consciousness per se (“a self-penetrating light”) and the vrittis within consciousness (“a real individual man; born by a mother and destined to die”). He calls this the “marriage of light and darkness”: the light of consciousness per se, burdened by the darkness of our mundane, everyday life in the world with all our problems, ups and downs, uncertainties and frustrations, in short, the vrittis.

It is noteworthy that he uses the same analogy to light that yoga does to describe consciousness. He repeatedly sources this idea to the German neo-Kantian philosopher [Johann Gottlieb Fichte](#) and cites the following from Fichte (this is cited in the essay *Mind and Nature*, 1934):

“Translucent penetrable space, pervious to sight and thrust, the purest image of my awareness, is not seen but intuited and in it my seeing itself is intuited. The light is not without but within me, and I myself am the light.”

Thus also did Fichte bequeath to Weyl the notion that consciousness = being. This is precisely the yogic understanding: consciousness is akin to a light that gives not illumination, but being (for more on the yoga side of this, see [here](#)).

A couple other things deserve quick mention. First, Weyl’s sense of humor: too many people on the subway at rush hour. Cute.

Second, and quite importantly, Weyl refuses to invoke Bohr’s principle of complementarity. Recall, the essay was titled “The Unity of Knowledge”. Positing eternal opposites is not conducive to unity. How then does he propose to unify this “double nature” of our being?

Scattered Buckshot *Will* Hit the Broad Side of a Barn

He unifies consciousness by recognizing that, embedded in the mind of the “man born by a mother and destined to die” is the “parallel’ cerebral processes in symbols” whereby man can take a stab at, basically, guessing the nature of the noumena. Let’s see how this works.

Associated with the double nature of consciousness is the double nature of knowing. On one hand there is first person introspection, which is the intuition, the direct experience of Kant’s phenomena in consciousness (“my own acts of perception, thought...” etc.). Then there is our attempt to understand the noumena, which happens via “theoretical knowledge” expressed “in symbols”.

In my [essay on Weyl’s philosophy of science](#), I dwelt on his idea of the “free construction of the possible” using math and symbols. I repeat his quote used in that essay:

“In physics we do not a posteriori describe what actually occurs in analogy to the classification of the plants that actually exist on earth, but instead we apply an a priori construction of the possible, into which the actual is embedded on the basis of the values and attributes indirectly determined by reactions...But construction a priori must be joined with experience and analysis of experience by experiments. “

I assert that this quote reveals Weyl’s solution to Kant’s dilemma. We are trapped in our mind and have no direct perception of the noumena. In his essay *Mind and Nature* in particular, Wyle spends a great deal of words discussing that our immediate, first-person perceptions of the world cannot serve as a basis to understand the noumena.

For example, color we directly perceive, mass we do not. Color is useless for telling us about the noumena. But when embedded in a suitable mathematical framework, the symbol representing mass tells us something of this mysterious, unperceivable something—mass—in its relationship to other such symbols in the

construction, and thereby provides a perspective on the noumena.

Therefore, if our first-person “intuitions” cannot tell us about what is outside of our minds, then what are we to do? Here now is Wyle’s genius: **We make a guess**. If we guess enough times, the odds are that we will eventually get something right.

Wyle is too sophisticated to say “make a guess” so he says it like this (*Mind and Nature*):

“...it is left to the tact and genius of the inquirer to find the weakest point of theory which can most suitably be altered to fit the new facts. Scarcely any general rules can be set up in this respect, as little as for the weight to be given to the several facts (which we know or think to know), for the purpose of their theoretical interpretation.”

It is, I am sorry to say, a fancy way to say “guess”. Certainly it does not exclude educated and informed guesses, but guesses nonetheless. The previous two quotes are a long-winded and flowery way to say that physicists get around Kant’s dilemma by guessing at mathematical models of how the world works.

Sidebar: I note in passing his [dissing](#) of the philosophers of science, and I would ascertain [Popper](#) specifically, when Wyle said: “*Scarcely any general rules can be set up in this respect...*”

To get what he is saying, first, we need to understand what a scientific “law” is. It is simply some pattern of relationship expressed by the mathematical symbols. This is what math does: it describes patterns of relationships amongst symbols (a topic we directly tackle in Chapter 8). So, a scientific “law” is just some pattern of relationship amongst the objects in the math symbolism. Therefore, step 1 of Wyle’s “guessing algorithm” is: guess at the overall math pattern.

There is a second level involved too. Once we have an overall math pattern, that pattern gives rise to infinite solutions (“the possible”). For example, how many lines do you get out of the math pattern $y = mx + b$? You get all of them. The statement “ $y = mx + b$ ” contains all possible lines. You specify which line by giving values to m and b . The whole set of possible lines is what Weyl means by “*a priori construction of the possible*”. The specific line you get by specifying m and b is “*the actual is embedded on the basis of the values and attributes*”.

The second level isn’t really guessing per se, because the overall math pattern implies the infinity of solution. Nonetheless, when searching parameter space for fitting data, guessing certainly has its role in the process.

Then, given some interpretation of the symbols of the theory, the symbols can be linked to some aspect or another of our sensory experience, and thereby be subject to experimental test. As Weyl says above: “*on the basis of the values and attributes indirectly determined by reactions*”. The way he is using the word “reaction” simply

means “experimental setup”, as one can see if they read the whole essay.

Thus, although Weyl addresses this in fancy, flowery, sophisticated language, what he is really saying is that we can get around Kant’s limitation by using math, and making guesses at what we think the noumena is, until something finally sticks. It really seems appropriate to call it a “scattered buckshot” approach to science.

As is well-known amongst physics aficionados, Galileo gave us the method of using math to describe nature. There is no cause and effect, just pattern. Weyl’s philosophy is a retrospective take on Galileo’s method that embeds it in a Kantian framework. Galileo was a primitive sense realist who assumed that the senses show us the things-in-themselves. Weyl knew this was wrong and so updated the interpretation Galileo’s method. The amazing thing about Weyl’s analysis is it led him directly to the Absolute, as we see below.

Analysis of Weyl’s Scattered Buckshot Approach

As we all know, Galileo’s method works. This method allows us to get some kind of handle on what occurs outside of our mind. As to the relative value of this methodology, I discussed that in [What is Science?](#) and so won’t repeat myself here. People call this method “theoretical” physics, but it is really just making guesses in the form of mathematics. Again, they may be highly educated and well-informed guesses, but in the end, one guesses.

Don’t just take my word for it. Feynman understood this and you can see him say it out loud ([see his talk here](#)). Whether he got this notion from Weyl or not, I cannot say. He probably did not because it’s just the way these folks do their business.

It is worth mention that there is much more to this “shut up and calculate” thing than people suspect, as the present discussion indicates. It is by no means as mindless as some people would like to think. It is pragmatic, and at a certain level, it is humble because it accepts that progress occurs slowly and only in little chunks at a time. The method does not lend itself to grand philosophical generalizations, which Weyl notes thus (*The Open World*):

“One of the great differences between the scientist and the impatient philosopher is that the scientist bides his time. We must await the further development of science, perhaps for centuries, perhaps for thousands of years, before we can design a true and detailed picture of the interwoven texture of Matter, Life and Soul.”

So, the bottom line here is that: (1) Weyl acknowledged the limits of reason determined by Kant and in doing so he was able to (2) craft an “algorithm” (of sorts) that allows the “double nature” of our mind to find concrete means to link the phenomena of the intuitive mind to the world of noumena, of things in themselves.

It’s hardly a programmable or computable algorithm however, given that its main ingredient is guessing. I suppose it kind of resembles radioactive decay.

The link and the key to the whole enterprise is mathematics. Math, as a form of symbolic language, expresses patterns of relationship in the most pure form we here in the West can imagine.

It is interesting to note that Weyl's ideas have had little impact on the philosophy of science in the 20th century. Weyl's ideas seemed to have escaped the notice of the Poppers, Kuhns, and Feyerabends of the world. It's kind of funny then that Weyl's notions should garner serious acknowledgment here, in a discussion linking his ideas to the yogic view of consciousness, of all things.

Thus, Weyl has confidence that we can make links between the two worlds that Kant thought were forever separated. However, Weyl was hardly naïve on this front. He realized that, at best, we can make links here and there, but we can never wholesale transport the noumena into the phenomena. In this he is in complete agreement with the yogic view of consciousness, which leads us to Wyle's idea of the Absolute.

Whatever the Absolute Is, Science is Its Best Reflection Yet

This longish quote from his *Open World* essay expresses clearly Wyle's concept of the Absolute, of Kant's noumena. Please read it and we'll discuss it afterwards.

“The beginning of all philosophical thought is the realization that the perceptual world is but an image, a vision, a phenomenon of our consciousness; our consciousness does not directly grasp a transcendental real world which is as it appears. The tension between subject and object is no doubt reflected in our conscious acts, for example, in sense perceptions...The postulation of the real ego, of the thou and of the world, is a metaphysical matter, no judgment, but an act of acknowledgement and belief. But this belief is after all the soul of all knowledge. It was an error of idealism to assume that the phenomena of consciousness guarantee the reality of the ego in an essentially different and somehow more certain manner than the reality of the external world; in the transition from consciousness to reality the ego, the thou and the world rise into existence indissolubly connected and, as it were, at one stroke.”

“But the one-sided metaphysical standpoint of realism is equally wrong....”

“Knowledge is unable to harmonize the luminous ego (the highest, indeed the only forum of all cognition, truth and responsibility) which here asks in despair for an answer, with the dark, erring human being that is cast out into an individual fate. Furthermore, postulating an external world does not guarantee that it shall constitute itself out of the phenomena according to the cognitive work of reason as it establishes consistency. For this to take place it is necessary that the world be governed throughout by simple elementary laws. Thus the mere postulation of the external world does not

really explain what it was supposed to explain, namely, the fact that I, as a perceiving and acting being, find myself placed in such a world; the question of its reality is inseparably connected with the question of the reason for its lawful mathematical harmony. But this ultimate foundation for the ratio governing the world, we can find only in God; it is one side of the Divine Being. Thus the ultimate answer lies beyond all knowledge, in God alone; flowing down from him, consciousness, ignorant of its own origin, seizes upon itself in analytic self-penetration, suspended between subject and object, between meaning and being. The real world is not a thing founded in itself, that can in a significant manner be established as an independent existence. Recognition of the world as it comes from God cannot, as metaphysics and theology have repeatedly attempted, be achieved by cognitions crystallizing into separate judgments that have an independent meaning and assert definite facts. It can be gained only by symbolical construction.”

“Many people think that modern science is far removed from God. I find, on the contrary, that it is much more difficult today for the knowing person to approach God from history, from the spiritual side of the world, and from morals; for there we encounter the suffering and evil in the world which it is difficult to bring into harmony with an all-merciful and all-mighty God. In this domain we have evidently not yet succeeded in raising the veil with which our human nature covers the essence of things. But in our knowledge of physical nature we have penetrated so far that we can obtain a vision of the flawless harmony which is in conformity with the sublime reason. Here is neither suffering nor evil nor deficiency, but perfection only.”

And there you go. I suspect that the content of this quote explains why Weyl never caught on in philosophy of science, nor even as a philosophical position amongst practicing scientists, in spite of the wholesale adoption of Weyl’s contributions in both math and physics.

He uses the “G” word. Oh my!

Sidebar again: One of my favorite mean things to do is compare some modern person with a contrary view to the person under consideration. So, Dawkins thinks God is stupid. But what has Dawkins done scientifically compared to Weyl? Whose scientific contributions have been more important for the forward progress of science? Why then, pray tell, would one take Dawkins seriously about these types of philosophical issues compared to Weyl?

Note also how Wyle takes both idealism and materialism to task. They both suck. To Wyle, our very consciousness, the self-penetrating light, is of the essence of God, and the flawless harmony of the laws of nature are his proof of God’s existence.

Stare at that a few times: Weyl uses science as, effectively, proof of God. It's one thing when some uneducated kook says something like this. It's a totally different matter coming from somebody of the intellectual stature of Weyl. For any pygmies out there reading this: just think about it.

What else can explain the fact that the noumena, the transcendental, the world is a cosmos and not a chaos? As he says: "*the ultimate answer lies beyond all knowledge, in God alone...*"

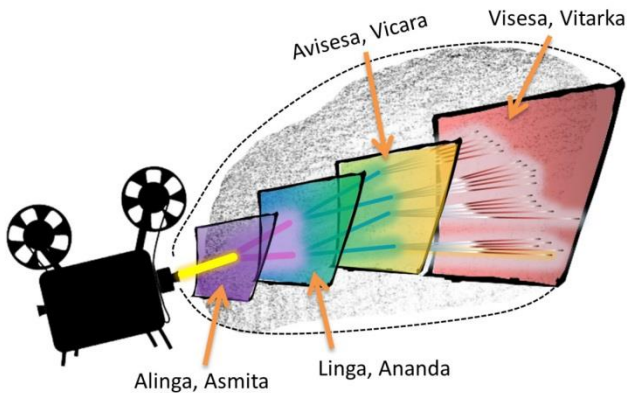
Umm...anybody? Does that sound like the Absolute to anyone else out there? Hello! Hello!?

Really, what he says has the same impact on me as van der Leeuw's words. It leaves me speechless, silent. All I can do is resonate with the truth contained in the words.

I Can Talk Again

Is what Wyle says science? Is it religion? Is it philosophy? It is a compound, a harmonious blending of all these perspectives. I have only presented the few choice quotes given above. The full impact of his thought needs to be felt by reading his essays in their entirety ([book here](#)).

I want to now wrap this up by bringing it back to the yogic view of consciousness. Recall our diagram of the projector, light, cave, and various screens:



Weyl clearly expressed the distinction between the screen (the "intuitive"; "a real individual man; born by a mother and destined to die") and the light of consciousness ("I am 'vision' open to reason, a self-penetrating light"). The screen is the darkness and consciousness the light in his "marriage of light and darkness".

He understood that there was an Absolute supporting the whole panorama of experience ("...this ultimate foundation for the ratio governing the world, we can find only in God"). And he understood that this foundation was the very source of our consciousness ("...flowing down from him, consciousness, ignorant of its own origin...suspended between subject and object").

What in this picture did he not understand? He didn't know about the various strata under the surface of consciousness. Weyl only knew of the world of visesa gunas and vitarka consciousness. He did not suspect that the light of consciousness, with its self-penetrating property, can turn around and flow back to its source. He never could have guessed at the property of pratyak cetana. Without the ability to descend into the cave of consciousness, neither could he in his wildest imagination know the literal realities of vicara, ananda, and asmita gunas.

Since he didn't know about the depths of the cave of consciousness, the thought that one could penetrate the bindu and *experience* the Absolute was beyond his reach.

In a way this is ironic because, in the history of the 20th century intellect, Weyl was a shining example of a mind open to the subtle vibrations from the depths of consciousness. He expressed them deeply and elegantly as math, science, and yes, philosophy. In doing so, he contributed in a most significant way to the world, to mathematics, and to the science that is our legacy today.

He obviously cannot be blamed for these omissions. He was a busy fellow doing the things he was supposed to do. It is amazing that he discerned as much of the yogic view as he did.

The Moral of the Story is...

Wyle serves as an example of the best that Western thought has to offer. He sought to discern the *interrelationships* of math, science, philosophy, and religion.

Wyle, and the fruits of his efforts, stand in stark contrast to the nonsense that passes for science and philosophy today. Today there is an abundance of disgusting ideas that see only division and conflict between math and science on one hand, and philosophy and religion on the other hand. Compared to the sublime ideas of Wyle, such ideas appear as but the childish psycho-babble of kooks. Such thinking is an affront to the memories of the great people like Weyl who bequeathed to us the intellectual legacy we hold now in our hands, minds, and actions.

When we see the depth of Wyle's thinking, it becomes clear that the current crop of philosophical pygmies has turned into the very thing they proclaim to despise. The two-bit pygmy philosophies being expounded today are exactly the kind of postmodern blather they declare to hate. It is the classic case of being so consumed with hatred for "the other" that one becomes the object of hatred.

8: Mathematics and the Relative



We now transition from discussing the Absolute to discussing the Relative. "Relative" means "relationships". Mathematics is the study of abstract pure relationships. Therefore we take a brief detour and discuss mathematics in the context of the yogic view of consciousness.

What Does Math Have To Do With Yoga?

In our discussion of the yogic view of consciousness, Chapters 4 through 7 elaborated on the Absolute. We are now at the turning point between the Absolute and the Relative. In upcoming chapters we discuss the bindu, the cave, and the screen of consciousness.

Please recall from Chapter 2: The bindu is point of contact between the Absolute and the individual mind. The cave of consciousness is the entirety of an individual mind. The screen, illuminated by the light of consciousness, is the immediate, first-person, subjective consciousness associated with a given mind.

The bindu is the transition point from the Absolute to the Relative. The mind, at all of its layers and levels, is the expression of relationship, where relationship is the essence of that which is relative.

Again please recall, the Absolute is the Absolute because it is not related to anything else; it is Kaivalya, alone. The Absolute is indescribable and ineffable precisely because our minds and intellect deal with relative relationships. Thus the Absolute will *always* be beyond the capacity of the mind. When we are confined to our mind, the Absolute will always only be an ideal limit we may posit. We can only understand it by recognizing that it is incomprehensible to us.

It sounds like a hopeless situation. But it is not. We saw in [Chapter 5](#) that Taimni linked the Absolute to the Western math concepts of zero and infinity. Western math does a pretty fine job of incorporating zero and infinity. In fact, it is safe to say that the vast bulk of Western math would not exist without zero and infinity. Zero and infinity stand as ideal limits approachable by a myriad of different relationships. In this sense then, the intellect makes quite good use of the Absolute without ever knowing exactly what it is.

If the Absolute, the Ever-Darkness as Taimni called it, is the greatest mystery, it is equally as great a mystery how the Absolute expresses itself as the Relative, how The One becomes The Many. Hinduism in general has a rich set of ideas to express this transition. These ideas are easiest to understand if we approach them as describing increasing degrees of relationship. Starting from the simplest conceivable pattern of relationship, the relationships compound upon one another, producing the inner layers of the cave of consciousness, all the way to the outermost periphery of reality, which is our first-person experience as limited human beings in the physical universe. The Relative includes the simplest relationship just this side of the bindu all the way to the myriad of relationships making up the physical universe, and everything in-between.

The West has developed a very precise language to describe relationships. We call it mathematics. Thus it behooves us to dwell on math for a bit before diving into the Relative. For those of you who hate math; hate instead your crappy math teachers. Math is one of the most important inventions of Western culture and the serious understanding of anything will intimately involve math. For those of you who know and love mainstream math, its importance goes way beyond mainstream ideas, as we now discuss.

The Best Definition of Math

I've read a lot about the history and philosophy of math. I will not try to impress Readers with my reading list. I am by no means an expert, but neither am I ignorant about these important topics. In large measure, my reading of Hermann Weyl is motivated by wanting to get deeper insight into the philosophy of math.

Therefore, it is ironic to me that perhaps the best description I've found of what math is comes from an unexpected source. I. K. Taimni in [Man, God and The Universe](#) discussed the relevance of math in the contexts of occultism, Hindu philosophy, and yoga. His entire discussion is informative. Here I quote only his main points:

“Fundamental truths of Nature are based on mathematics and are reflected in mathematical relationships...”

"Now, it is not only truths of the physical world which are reflected in mathematical relationships, but also those of the subtler worlds. By this is not meant that they can necessarily be reduced to mathematical formulae but that these truths can be grasped to some extent by the intellect with the

help of mathematics without direct realization in one's consciousness as is done in Yoga."

"Mathematics deals only with pure abstract relations without taking into consideration the contents of those things which are related to one another. It is obviously, therefore, concerned with the world of the Relative and not with that Ultimate Reality which we refer to as the Absolute. It gives us the foundation principles upon which the manifested universe in all states of subtlety is based, but it cannot touch the Absolute, for, in the Absolute, those different parts or aspects which are related in manifestation become so completely integrated and perfectly harmonized as to appear a void to the intellect." [Italics mine; 1st Ed. First reprint, 2005 – pg. 229]

It is amazing to me how, by having the yogic view of consciousness as a lens through which to see the world, otherwise confusing and complex issues, such as "what is math?" come clearly into focus.

Math as a Map

Let's expand on Taimni's concept of math and then, in the next section, on his notion of the scope of applicability of math.

He says math is the study of pure abstract relations. Taimni's conception of math is comparable to a map, like a map of a city or country. We do not confuse a map with the country or terrain the map represents. But a map can provide an overview of a place in a way in that direct experience cannot. With a map we see the whole and we see the relationship of the parts in the context of the whole.

But looking at a map is no substitute for going to the places represented by the map. When we travel to the places on a map, we experience all the richness of the various localities; we experience what no map can represent. Nonetheless, it is possible for the man with the map to understand better the overall structure of a region than someone who goes piece by piece over the land. But if the man with the map never travels the land, his understanding is only abstract and lacks any understanding at all of the vivid reality experienced by the traveler.

Most important in this metaphor: a map is not the place it represents. We do not, in everyday life, confuse a map with the place it represents. My [Rand McNally Atlas of the United States](#) is not the United States of America. It is a book on my shelf. The book and the landmass are two very different things.

Math is analogous. It provides "maps" of how things *can* be related, which is why math can be used to describe nature, which is one facet of the Relative. The mind is also a facet of the Relative, and therefore can also be "mapped" by mathematics.

Math describes patterns of relationships. But, as Taimni states, the math itself is devoid of content. The patterns are described only in the abstract. It is how we read meaning into the mathematical relationships that allow us to apply it to understanding the world.

It is precisely for this reason I criticized Max Tegmark for saying the world is a

mathematical object in [Chapter 9](#) of *What is Science?* If Professor Tegmark really believes the actual real world is a mathematical object, then he is confusing a map for the thing it represents. It is just that simple. Maps are not the world; they are things *in* the world. It is the same with math. I can point to math in the world, and I can also sweep my hand to indicate the World. They are clearly different things. There is nothing deep about Dr. Tegmark's position. Instead, his view only obfuscates and mystifies otherwise straight-forward issues by confusing maps for the things represented by the maps.

So, to summarize: math is the intellectual endeavor of describing the abstract patterns of relationship *that are possible*. Recall that [Weyl expressed this](#) as “the free construction of the possible”. That too is a perfectly good characterization, but somewhat obscure compared to Taimni's much more straight-forward description of math.

Over the centuries, a number of languages internal to math have evolved to describe different *types* of patterns of relationship: algebra, [abstract algebra](#), geometry, [topology](#), [analysis](#), [combinatorics](#), and so on. A professional mathematician is someone who learns these languages, the many patterns already discovered with them (at least in general outline), and who specializes in the knowledge of some specific area of patterns and relationships (number theory, abstract algebra, topology, analysis, etc. etc.), and whose “research” (“contemplations” is probably a better term) consists in finding new patterns of relationship amongst symbols.

Math and Science

Taimni's quote above offers a seminal idea. To my knowledge, he is the first I have seen to say very clearly that math applies not only to the physical world but also to the nonphysical worlds as well. In terms of precedent, and to give credit where credit is due, van der Leeuw in [Conquest of Illusion](#) hinted at this idea when he associated science and occultism with the study of the Relative (Chapter 3 therein). However, Taimni went the extra step and, as quoted above, explicitly said that mathematics “gives us the foundation principles upon which the manifested universe in all states of subtlety is based”.

His logic is, in my opinion, air tight: the inner worlds are of the Relative as much as is the physical world. In fact, the physical world is only the outer-most of the inner worlds according to the yogic view. I elaborated on the relative nature of the physical world in [Chapter 5](#) of [Experience](#), and we will go into it deeper in the next several chapters. Therefore, in principle, math can describe the patterns of relationships found in the inner worlds of consciousness as well as using it for describing the physical world.

Of course, few professional mathematicians are experienced with altered states. The closest I have found is Dr. Ralph Abraham [[here](#), [here](#)], some of whose ideas we discuss in Chapter 26. The main point to emphasize is that people interested in occult and esoteric topics have good reason to learn about and appreciate math.

However, up to the present, and in general, math has been used with great success only in describing the physical world. Math provides “tools” (intellectual tools) to describe all kinds of possible patterns of relationship. In turn, as we saw considering Hermann Weyl’s ideas, any given pattern can serve as a hypothesis as to how nature is organized. Using math to posit patterns of relationship in nature constitutes making a scientific theory, and in doing so, we are using math as a tool to do science.

Then one does experiments to determine if the math relationships (i.e. theoretical model) conform to nature or not. As Weyl emphasized in his writings, the trick at this stage is to give a suitable interpretation to the math formalism such that we may find points of contact with phenomena that occur in our sensory experience. Once such a suitable interpretation is found, then we may perform what is colloquially called an “experimental test” of the interpretation of the math pattern.

This is the act of shoehorning our sensory experience into the template provided by the math pattern. As Weyl’s view makes clear, so called “facts” stem from theory, and not vice versa. He says, referring to the meaning we ascribe to variables (or operates in quantum mechanics) in scientific theories:

“Thus we had better not commit ourselves to any definition and rather develop the theory as a symbolic construction with unexplained symbols and only at the end indicate in which way certain derived quantities may be checked by observation. The theory then becomes a connected system that only as a whole may be confronted with experience” (*Mind and Nature*, pg. 183, edited by Peter Pesic).

It is the pattern that is important. There are no individual facts; only the interpretation of specific elements in the context of the math pattern (called a “model” or “theory” by scientists). This is why Popper’s ideas about science got it generally backwards, and Thomas Kuhn, with his “paradigms” was better able to capture the essence of what is going on in science (which I [discussed in my blog post entitled “Karl Popper is Stupid”](#)).

If the interpretation of the math pattern and sensory experiences correspond, then someone gets a Nobel Prize (as [Plato said](#): “...they were in the habit of conferring honours among themselves on those who were quickest to observe the passing shadows...”). If not, then it’s back to the drawing board to either: (1) make a new theory, e.g. a new math map of the posited patterns of relationship of some facet of nature, or (2) find a new interpretation of the existing math theory.

Taking our considerations beyond the physical, as was discussed in *What Is Science?* (again, [Chapter 9](#)), since the inner planes are also of a relative nature, they too manifest patterns of relationship. It was discussed there that the inner planes have the general form of going from the specific at the outer fringes of physical existence to the progressively more general the deeper one descends. Math works as a tool of science, I contend, because math is a form of revelation of the more general

patterns of relationship found at the deeper levels of consciousness.

This view overlaps with the [Platonic philosophy](#) of mathematics (see [WikiP here](#) for an overview of all the different philosophical foundations of math). However, Taimni's view is informed by the yogic view of consciousness and, in my opinion is simply better because it is grounded in centuries of yogic experience. The "Platonic realm" of math exists, but it is not at all a world of pure math objects envisioned by the mathematicians. Math emerges into waking consciousness as subtle revelations of the patterns of relationship that exist at the avisesa and linga levels of the gunas, that are perceived directly by the yogi in the vicara and ananda states of consciousness. If that last sentence confused you, see [Part 9](#) of [What is Science?](#) or [Chapter 2](#) of this essay (or hang tight because it comes up in the next chapter!)

Thus is the intimate link between science and math. In broad outline, there is not much more to the issue. Relative means "being related to". Math is a language (or set of them), specialized for describing abstract patterns of relationship. Therefore, math can be employed as the basic "language of nature" because nature, manifested existence, is nothing if not ever-changing patterns of relationship (which were generically called "mirages", "vrittis" and "gunas" in [Experience](#), and what Plato called "shadows").

Wrap-Up

To bring this discussion to a close, let me make my main points. As we turn our attention to discussing the Relative, we can turn to ideas in mathematics to provide maps of the inner realities under discussion. In this we follow Taimni, who provides the following warning of approaching things in this fashion (*Man, God and the Universe*):

"By this it is not meant that they [the realities of the inner worlds - Don] can necessarily be reduced to mathematical formulae but that these truths can be grasped to some extent by the intellect with the help of mathematics without direct realization in one's consciousness as is done in Yoga. It is true that such a knowledge is bound to be skeletal or like a map. It gives only the relations and not the contents of the realities which it represents. These latter can be known only by direct experiences on the higher planes."

Thus, we get an idea of the relationships that exist in things that are otherwise inaccessible to people who have not developed the skills to go see these things for themselves in the depths of their consciousness.

A corollary to this view point is the following. Neither the Absolute, nor its manifestation in our experience as our very consciousness itself ([drisimatrah](#)) can be understood mathematically.

By our "very consciousness itself" I am referring to the light of consciousness in our model. Hermann Weyl identified it as the "self-transparent consciousness and

real being that I am myself”. Or, to use Fichte again:

“Translucent penetrable space, pervious to sight and thrust, the purest image of my awareness, is not seen but intuited and in it my seeing itself is intuited. The light is not without but within me, and I myself am the light.”

So, in all the following discussions, the light of consciousness is simply given. It is, and its “is-ness” is our being. It is our rope back to the Absolute (pratyak cetana) if we so choose, or it is the medium of our experiences in the realms of the Relative (paranga cetana).

But all the rest is vrittis, the waves and patterns *in* consciousness: waves, patterns, relationships, mathematics. These we can discuss with the relative language of mathematics.

People who believe consciousness (specifically, drisimatrah, the light of consciousness) can be mathematically modeled, or captured in some relative terms **are just plain wrong**. We can capture the relative patterns that appear within consciousness, and that is what science is, what math is, what art is, what philosophy and religion are, in fact what all human knowledge is.

As to our very consciousness, our “*self-transparent consciousness and real being that I am myself*”, it will forever be a mystery. But as van der Leeuw says:

“It is a mystery...the ultimate Mystery, but it is no longer a problem since we ourselves are It.”

9: Framework for Understanding the Bindu



Here we present essential background information before diving into the bindu. We review the yogic cosmology on which understanding the bindu is based. We discuss the essential yogic method - pratiprasava - which allows one to discover the cosmos described by yoga.

Overview

We turn our attention now to the bindu. As with the Absolute, the bindu discussions will spread over several chapters. No other author I have read discussed this topic as much as Taimni. Thus, he will serve as our intellectual guide as we traverse ideas alien to the Western mind, and relatively obscure even to the average Hindu, even though Hindu women routinely wear bindus between their eyebrows.

Up to now, I've described the bindu as a doorway between the Absolute and the individual mind, "buried" under all four strata of consciousness, and thus hidden from our 1st person conscious awareness. However, this view is not the whole story. The bindu is more subtle and abstract and is more than just a simple doorway between the Relative and the Absolute. I discussed this in the [2nd plane talk column](#), but here we will explore the idea much more in depth over the next several chapters.

Our goal now is to discuss background information for understanding the full scope of the bindu concept. We review **yogic cosmology**, and introduce the yoga methods underlying the bindu concept. As with all ideas in yoga, the bindu is not merely an intellectual concept. It is a reality experienced in altered states induced by yoga practices. The bindu is quite real, and it explains how yoga is even possible.

As such, the bindu is at the center of everything, quite literally, as we shall see.

Sources and Citations

Taimni and [Swami J](#) are the only two sources I have seen that discuss the bindu in any detail. Swami J's description is [here](#) and is an excellent overview of the topic in the context of traditional Eastern thought and yoga practices.

To my knowledge, Taimni first discussed the bindu in *The Science of Yoga*, but only in a minor way. By the time of [Man, God and the Universe](#), he dedicates three chapters (23-25) to the bindu, indicating his evolution of thought. The bindu is also discussed in his works on Kashmiri Shaivism: *The Ultimate Reality and Realization* (a translation of Vasugupta's [Shiva Sutras](#)) and [The Secret of Self Realization](#) (a translation of [Pratyabhijna Hridayam](#) of Ksemaraja). [Chapter 2](#) invoked aphorism 3.15 from the *Shiva Sutras*, where the bindu is described as a "seed".

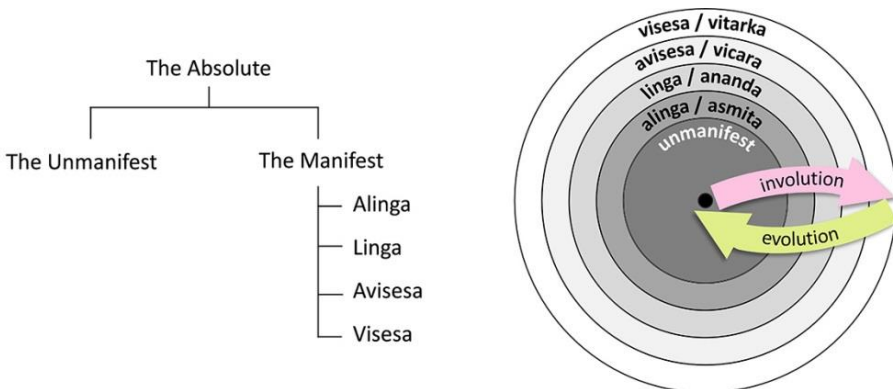
My goal is to draw from these various sources, and tell Taimni's bindu story. To tell this story, we need to know the overall context within which this story fits. That context is yogic cosmology, which it is the purpose of this chapter to explain.

The Big Picture

Taimni modernized and systematized ideas that ranged in age from the ancient Hindu Upanishads ([circa 3000 BC](#)) to the relatively modern teachings of Kashmiri Shaivism ([900 AD](#)). The big picture he synthesized goes like this.

There is one reality: The Absolute. The Absolute has two aspects, the Unmanifest and the Manifest. Using the [Samkhya](#) concepts from Patanjali's *Yoga Sutras*, we can divide the Manifest into the four layers of gunas and corresponding state of consciousness. Visually, we can flow-chart this on the left, and make the graphic on the right. Two notes about the graphic: (1) the black dot in the middle represents the Absolute, and is supposed to be just a point, and (2) the involution/evolution arrows are explained further on below.

Compared to my discussion of yogic cosmology in [Part 9](#) of [What is Science?](#), the diagram above is more complete. The new diagram contains the Unmanifest and



Absolute, in addition to the four states of the manifest gunas. Together, the Manifest + Unmanifest + the Absolute is the big picture required to fully understand the bindu. I will refer to this big picture as the Hindu “triple [ontology](#)”.

Overview of the Bindu Discussion

The bindu story I will build over subsequent chapters is as follows:

First, for an individual mind, the bindu provides a bridge across the various borders depicted in the diagram above. That is, the bindu is not solely located at the “bottom” of the mind as we have insinuated to this point, but in fact connects all the levels of the mind together.

Second, all individual minds form a [hierarchical network](#) corresponding to the natural systems we observe in our sensory experience. Each such mind has its own bindu. This network is linked via the bindus. That is, the whole of manifestation is one vast hierarchical network linked via the bindus of the various grades of mind that exist in nature. The only qualitative picture like this in the West is Leibniz Monadology. We can fortify all this with some scientific concepts and even some kooky, head-spinning transfinite number stuff.

The previous two paragraphs succinctly describe Taimni’s ideas. They also summarize the general theory of yoga. The only way to explain and make sense of yoga as a whole, and samadhi in particular, is because all of Manifestation is one huge interconnected network. In this network, the nodes are the variety of minds and the links are the bindus.

Bindus are not easy doors to open. Certain features operate spontaneously and generate waking/sleeping/dreaming, and life and death as we know it. To access the other features of bindus, one must use yoga methods or some functionally equivalent surrogate.

I say again: this whole business is quite abstract. So put on your walking shoes as we have a bit of distance to cover.

Yoga Cosmology in Brief

The diagram above provides a first pass outline of yogic cosmology. Much of the rest of the book will go into greater detail, so this section merely asserts everything as definitions. I’ll compare and contrast to analogous Western ideas if these exist.

The yogic cosmology is a **triple ontology** of the Manifest, the Unmanifest, and the Absolute. However, it is really a single ontology *perceived* in three ways. The single ontological category is consciousness. The triple ontology corresponds to different conditions of consciousness as follows:

- Absolute = consciousness perfectly undisturbed, at equilibrium.
- Unmanifest = consciousness partitioned by distinctions that perfectly cancel out.
- Manifest = consciousness in states of movement, or disequilibrium.

If it is a single ontological category—consciousness—perceived in three different ways, then why aren't I calling it a triple [epistemology](#) instead? Because epistemologically, the three categories only makes sense from a relative standpoint. Knowledge and acts of knowing do not exist as such in the Unmanifest or Absolute. Knowledge, knowing, epistemology is a relative phenomenon. From a relative standpoint, consciousness seems to exist simultaneously in these three states.

In contrast, the West is confused about ontology. Generally, it assumes a single ontology but doesn't know what it is. Idealism and physicalism are opposite ontologies to the Western mind. The world is made of mind or the world is made of matter. The West isn't sure which is correct. Maybe it's both: dualism. We'll spend a lot of time ahead critiquing this, so my comments now are introductory.

We discussed the Absolute in Chapters 4-7, so the general idea should be clear. The West doesn't have a clear equivalent to the Absolute. Historically, one may associate ideas of God or Infinity with it. But in the West, these are merely intellectual ideas. The Absolute in yoga is a real experience.

The Unmanifest was briefly mentioned in [Chapter 6](#), when discussing Gaudiya Vaishnavism. In Hinduism, it is a realm of potential from which the Manifest arises. Its chief characteristic is listed above: the pregnant co-existence of opposites. The Unmanifest is also an experience in altered states of consciousness. We will come in this book to call it **the Movement**, an ungraspable something-or-another, that is the immediate source of the Manifest.

The West also doesn't have a clear idea of the Unmanifest. There are various flirtations with the idea in the history of Western thought. One example from classical philosophy is [Hegel's](#) idea of "[spirit](#)" as the source of the dialectic. "Spirit" is a primordial something-or-another out of which opposites arise and manifest.

Since the appearance of quantum mechanics, physics has been forced to consider ideas related to the Unmanifest. The "[quantum foam](#)" or "[quantum vacuum](#)" approximate the idea of the unmanifest, albeit in purely physical terms. However, taking Weyl into account, qualitative interpretations of mathematical frameworks are a shaky exercise at best. Yet it is common practice in physics to consider the quantum vacuum as the source of the spontaneous appearance of [virtual particles](#). The quantum vacuum is a potential from which "stuff" spontaneously manifests.

The Gunas and Manifestation

The single ontology the West seeks to describe is, most often, equivalent to the yogic Manifest. Since the ancient Greeks, the West has been hell-bent on describing the Manifest, with only partial success. In yoga, the Manifest, taken as a whole is called Prakriti (the daughter of Shakti, the mother of the gunas). The Manifest is composed of *gunas*. There are three gunas called rajas, tamas, and sattva. There are four phases of the gunas called: visesa, avisesa, linga, and alinga. By "phase" I mean something analogous to the phases of water: ice, liquid, and vapor. A table helps organize all this.

Guna	Phases of the gunas			
	visesa	avisesa	linga	alinga
Rajas	visesa rajas	avisesa rajas	linga rajas	alinga rajas
Tamas	visesa tamas	avisesa tamas	linga tamas	alinga tamas
Sattva	visesa sattva	avisesa sattva	linga sattva	alinga sattva
Hindu meaning	specific	generic	marked	unmarked
Description	“physical” stuff	“mental” stuff	“spiritual” stuff	“divine” stuff

There is confusion as to what the gunas are. Hindus use the terms intuitively, and for the most part, correctly. But they are hard pressed to precisely define the gunas. In the academic study of yoga, authors recognize the gunas are in some sense analogous to the atoms of Western science. The gunas are the “stuff” of which Manifestation is composed. But the gunas are not elements, nor are they substances. I described the gunas in the [Introduction](#) of *What is Science?* and repeat the essentials here (good additional background [here](#)).

The gunas are the three main patterns of movement. They are energy manifested. Energy is called Shakti in Hinduism. Tamas is [inertial movement](#) that eventually comes to rest. Rajas is what we today call chaotic dynamics, [unpredictable movement](#). Sattva is [rhythmic movement](#), like in a light wave. In Samkhya, the world is not made of “stuff” it is made of patterns of movement: gunas.

I also [previously discussed](#) the four phases of the gunas. The phases go from specific to general in the following sense. Visesa means “individual instances of”, as in a specific tree, star, or person. Avisesa means “not specific” and is best translated as “archetype” or “template”. Avisesa overlaps in meaning with Aristotle’s concept of [essence](#). Linga means “marked”. Imagine a completed puzzle of, say, a forest scene. The lines demarcating the puzzle pieces are visible. You can see how the individual pieces fit into the whole scene. Thus, linga specifies the *relationships* between the archetypes. Alinga, unmarked, is the whole. Imagine looking at a photo of the scene instead of a puzzle of it. It is unmarked, whole. These are crude analogies, but convey something of the meaning of visesa, avisesa, linga, and alinga.

The four phases of gunas correspond to entire worlds, spheres, dimensions, or planes of existence (choose your term). The four worlds interpenetrate and interact in all manner of complex ways. The world of visesa gunas is the physical world. Avisesa gunas is, roughly speaking, the world of the mind. The worlds of linga and alinga gunas are ill-understood in the West. As a first pass, we can define linga gunas as the level of souls or spirits, corresponding to religious ideas of Heavens.

Alinga gunas is closest to the Western idea of God, as the source or plan for Manifestation. Thus, the general idea of God in the West is closer in meaning to alinga gunas than to the Absolute. The ancient Greeks and Medieval theologians recognized the alinga level in their concept of the [Logos](#), the divine plan that drives manifested existence. However, modern Western cultures have become simply-mindedly secular, and the sense of unity associated with the classical Western concept of God has, for the most part, been abandoned. In modern times the

vibrations of alinga gunas find expression in things like the desire for [Grand Unification](#) in physics, or (circa 1900) in Hilbert's (failed) [program to unify math](#).

I have covered these concepts very briefly. Again, the remainder of the book will continue to fill in details.

Running the Movie Backwards

Since the Absolute and Unmanifest (let alone the avisesa, linga, and alinga gunas) are not part of any commonly accepted modern Western views of things, we need to spend some time discussing how yoga can even claim they are a part of reality. We need to ask how one can know of such things. Is this all just airy-fairy fantasy? On what basis are these claims supported?

Yogic teachings claim the four states of gunas, the Unmanifest, and the Absolute are discovered in the inner depths of consciousness via advanced forms of samadhi. To better understand the yogic claims, we must digress on some physics thinking because yoga is the physicist's concept of "time reversible" with a vengeance.

[Time reversibility](#) can be understood simply. Imagine watching a video of a glass falling to the floor and breaking (or of a green ball smashing through a plate of glass). Then, watch the video in reverse and watch the broken glass shards ascend from the floor and reassemble into the glass. "Time reversibility" is just running the movie backwards.

Running the movie backwards is fundamental in physics. In relativity, quantum mechanics, and classical physics, one can replace the variable time, t , with its negative, $-t$, and still get sensible answers. This is a [deep principle in modern physics](#), and rests on mathematical symmetry arguments that I will not dwell on here (except to say that [Emmy Noether](#) invented this way of thinking, and Weyl also had a hand in developing this line of thought, of course among many others).

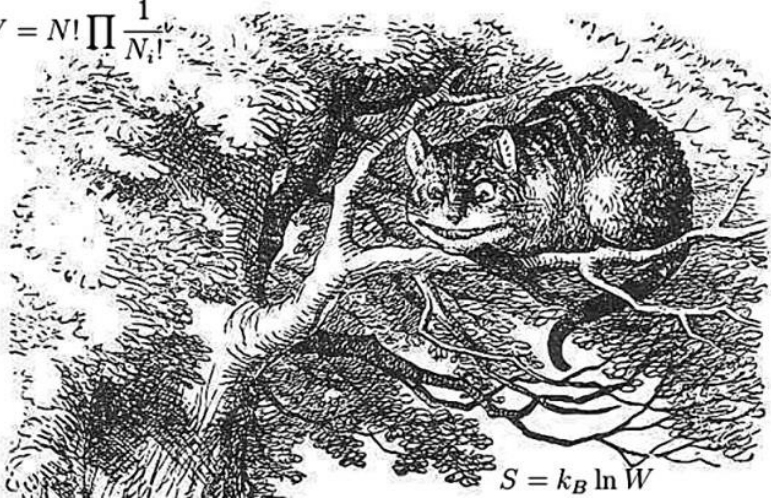
That time can be reversed in the fundamental theories of modern physics contradicts our experience that time always moves forward and never backwards. A broken cup does not "unbreak" and a burnt cigarette never "unburns" back to an unsmoked cigarette. Yet the equations of physics do not rule out either possibility.

Recall Weyl on math: "the free construction of the possible"; mathematically running time backwards offers no logical contradictions and so just pops out of the "free constructions". In fact, it seems to have an inevitability in the same sense that $1 + 1$ is inevitably 2.

The result seems absurd given our sensory experience of time. [Many people](#) feel there must be a defect with the physics theories. I used to think this was the case. However, as I have learned more of theoretical physics, it has become clear that this result is quite fundamental, and to eliminate it from so many functional theories in physics seems unlikely, although anything is possible. At the present time, physicists have reconciled the reversibility of time with the apparent [irreversibility](#) of the events we perceive in the following fashion.

The work of [Boltzmann](#) introduced statistical thinking in physics. This logically allows possibilities such as unbreaking a broken cup, or having a pot of boiling water

$$W = N! \prod \frac{1}{N_i!}$$



Modern physics is like Alice in Wonderland, with strange, improbable things hiding in its equations.

freeze to ice. These possibilities become extremely improbable statistical events. In this fashion, such “Alice in Wonderland” events can squat in the hinder regions of physical theories without getting in the way of using the theories to describe the stuff we actually do perceive in our sensory experience.

It perhaps seems like a cheap compromise. But it is the fact. Many smart people have tried to wiggle out of this seeming contradiction, but no compelling solution has yet been discovered.

You may ask: why are we even discussing this when the main topic is yoga?

It is because yoga has something similar going on. In fact, the yogic view suggests what is being described in physics is real and not merely an artifact of logic.

Pratiprasava: Going Back to the Origin

Yoga claims we can untangle the complexity of our mind backwards to the origin and source of our mind. Swami J has a nice summary [here](#) and I quote his opening remark:

“The process of Self-realization is one of attention reversing the process of manifestation, of retracing consciousness back through the levels of manifestation to its source.”

This is not just a modern thing, but is described in the *Yoga Sutras*. The [10 forms of samadhi](#) in Patanjali’s raja yoga are precisely this backwards motion of consciousness retracing itself to its source. Taimni, in *The Science of Yoga* says it thus:

“Samadhi does nothing more than reverse this involution of consciousness and this evolution or unfoldment of consciousness automatically reveals the subtler aspects of these objects.”

Involution and Evolution

And there are the terms “*involution*” and “*evolution*” that were in the above diagram. Let’s briefly define these. We saw in [Chapter 4](#) that van der Leeuw’s experience of Kaivalya revealed that everything is an expression of what he called *The Rhythm of Creation*:

“These two facts – the eternal limitation of the Absolute to the relative and the eternal liberation of the relative into the Absolute... interpret for us the mystery of Creation.”

This idea is not new or original with van der Leeuw. It is taught in Theosophy and, as we shall see, has roots in ancient Hindu ideas.

In a nutshell, involution is the Absolute *involving* itself as the Relative. Involution is the process whereby progressively more complex forms come into being to allow increasingly complex expressions of consciousness. Evolution is the Relative returning back to the Absolute (sit tight, I’ll compare this idea of evolution to the Darwinian idea of evolution below. For the moment, just learn the yogic ideas if they are new to you).

These processes are depicted by the arrows on the above diagram. Involution is initiated at the cosmic level. Evolution is initiated at the level of an individual human. The methods of yoga are designed to cause the return of a relative human being back to its source as the Absolute.

Here is one expression of this idea in aphorism 2.10 of the *Yoga Sutras*:

१०. ते प्रतिप्रसवहेयाः सूक्ष्माः ।

Te pratiprasava-heyāḥ sūkṣmāḥ.

ते they प्रतिप्रसव re-absorption; re-mergence; resolution into respective cause or origin हेयाः capable of being reduced or avoided or abolished सूक्ष्माः subtle.

Taimni’s translation:

“These, the subtle ones, can be reduced by resolving them backward into their origin.”

In the *Yoga Sutras* this statement is presented in the context of overcoming the kleshas. Overcoming the kleshas is a key aspect of raja yoga. The kleshas are discussed in Chapter 22. For now, [this page](#) is a good introduction.

The point of invoking this aphorism is that it illustrates the general principle of “running the movie backwards” employed in yoga. Taimni comments as follows:

“The phrase Pratiprasava means evolution or re-absorption of effect into cause or reversing the process of Prasava or involution. If a number of things are derived in a series from a primary thing by a process of involution they can all be reduced to the original thing by a counter-process of evolution and such a counter process is called Pratiprasava.”

[Ian Whicher](#), a scholar of the *Yoga Sutras*, in his *The Integrity of the Yoga Darsana* [has a similar interpretation](#):

“The important term, “pratiprasava”...refers to the... “counterflow” of the gunas into their source or state of “equilibrium”.

In short, we run everything backwards. We go from here and now back to the source of our being in the Absolute. We peel back, or unfold, the layers of the mind, one by one, until we return to the source. This is the purpose to which samadhi is put in raja yoga. This process of going backwards in the mind is very similar to the physics idea that t and $-t$ are interchangeable. Both sound equally absurd on the face of it. Both seem to completely contradict our experience. Yet there is every good reason to take both seriously.

Darwin was a Monkey

I want to offer only a few brief remarks comparing the cycle of involution/evolution found in Hindu, yogic, and occult teachings to Darwin’s idea of evolution by natural selection. It can be said simply: the process Darwin identified is a subset of what Hindus/yogis/occultists call involution.

In the yogic cosmology, involution is the creation of the entire manifestation including the creation of: elementary particles, atoms, universes (yes that was a plural), galaxies, solar systems, and all the complex forms found in solar systems, including, yes, living organisms. The evolution of biological life is but one small sliver of the involutory process.

So, there is no contradiction at all between the yogic cosmology and Darwin’s view of things. Yoga has no problem embracing biological evolution. At least in general. As presently specified in modern biology, there are some serious issues with the so-called “fundamental theory” of biology.

As usual in these cases where there is overlap between Eastern and Western ideas, the issue boils down to one of scope. The Eastern view is cosmic in scope. The Western view of evolution, well...not so much. Because biological evolution is seen in such restricted terms, it suffers as does any limited viewpoint: it doesn’t include the big picture. Then, all the attendant problems of myopia come into play.

Be that as it may, it is not my intent to dwell on this topic. I just wish to conclude with the following. Since Darwin’s ideas were put forth in the 1850s, there has been

a continuous conflict with Christianity that is not only intellectually superficial, it is just plain stupid. People that play into this idiotic conflict are themselves idiots, pure and simple.

When we are at the level of discussing the basic symmetry of time reversibility, or discussing Weyl's philosophical ideas, or the yogic methods that have the potential for a living human being to experience the Absolute, then such idiotic nonsense as Darwinian evolution vs Christianity has no place at the table. It doesn't even work as a joke or for comic relief. I feel yucky for saying even this much. I need to go shower now and clean this garbage off...hold on, I'll be right back.

Set the Table

The yogic cosmology is the intellectual background we need to understand what the bindu really is. Pratiprasava is the general method, or process, by which the yogic cosmology was discovered. The yogi goes stepwise backward, running the movie backward, so to speak: First learning how to go immediately under vitarka to vicara, then vicara to ananda, then ananda to asmita, then from asmita to Kaivalya.

Then, as we saw discussing Gaudiya Vaishnavism, the Absolute seems to have different grades of depth. From the diagram above, we can recognize that what is likely being described here is the penumbra, the transition zone, from the manifest to the Absolute via the unmanifest. The three "grades" of Absolute – Brahman, Paramatma, and Bhagavan – represent the depths through the unmanifest.

How do all these transitions occur?

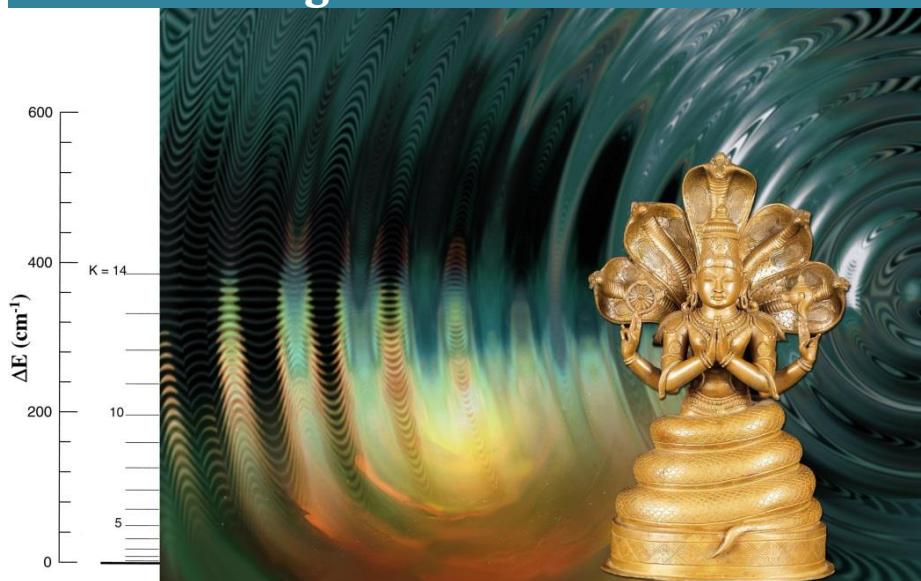
Through the bindu.

The bindu links all the various grades of gunas together, links the manifest to the unmanifest, and ultimately links the Absolute to the unmanifest.

The bindu is not a simple doorway at all.

Having set our dinner table with the appropriate background information, in Chapter 10 we will enjoy the ambrosial meal of Taimni's ideas about the bindu. I must, however, warn the Reader that ingesting these ideas will have psychedelic effects. See you there!

10: Revealing the Bindu



The previous chapter discussed pratiprasava, the return of consciousness to its source by absorbing the effects into the causes. We now discuss how this works. Pratiprasava occurs when the yogi uses samadhi to descend through the layers of the mind. The bindu is the “doorway” connecting the layers.

Scientism is Bad, M'kay

Via yoga methods, the ancient Indians discovered what I am calling “yogic cosmology”. It is possible to describe yogic cosmology in the abstract without reference to the methods. I did this in the previous chapter, which I justified as an introduction to the concepts. However, in general, it is a bad approach to describe things independent of their origins.

To make my point, consider a different example: the [Big Bang](#). We can describe the Big Bang as a creation story, omitting technical details of the telescope technologies, observations, and math that led to this picture in the first place. We can tell simplified stories for things like biological evolution, atomic physics, and so on.

We can reduce what are otherwise complicated technical issues into qualitative stories. It may be pedagogically expedient to tell a watered-down story. We have to start somewhere, right? However, once the basic concepts have been conveyed, the story must be revised to include the details, qualifiers, and points of uncertainty.

In [Chapter 3](#), I mentioned [scientism](#), where people make something akin to a religion out of the stories of science. Scientism can flourish when we abstract a story from the technical details. Scientism is bad for the following reasons.

Reducing complicated technical matters to simple stories reduces a composite thing to a false unity. The Big Bang is not a single story. It is a composite of many little stories, some of which are solid while others are weaker. When told as a unified story, the underlying pieces are blurred out and all the shades of grey eliminated. This leads to the misconception that the story as a whole is either true or false. This is bad because new knowledge grows out of the uncertainties in current knowledge. When these are covered over by simplifications, it hinders progress.

When the simple story is construed to be either true or false, this generates false controversies. Taking the Big Bang as a unified creation story pits it against the Biblical story in [Genesis](#). This is an apples-to-oranges comparison disguised as an apples-to-apples comparison. Such thinking is just a circus sideshow and contributes nothing to the matter on either side of the argument. A story abstracted from its natural context becomes a stage of false premises on which the mind can roam freely in philosophical speculation, unanchored from reality.

The result looks like a fried egg on the [mental plane](#). At the center of the [thought-form](#) is the original complicated technical matter, the composite of many little stories, understood as such by those who deal with it in those terms. Surrounding this solid core is an artificial penumbra of ideas, like a layer of unnecessary fat, or a big fluffy cloud, which has nothing to do with the original, other than stemming from oversimplifications and misinterpretations of the original. It all makes a big confusing mess.

Watered-down science stories get us scientism. If we water-down yoga stories, we'll get "yogatism". We can't speak of the Absolute, the bindu, the cave of consciousness, or the screen of consciousness without reference to yogic methods. If we do, our "yogatism" will become just another religion. We might as well just believe in the [Easter Bunny](#).

In fact, the West is already permeated by a type of "yogatism" where people think yoga is merely another form of exercise designed for stress reduction. This is a huge thing and gives yoga the same "fried egg" appearance on the mental plane as scientism does for science.

To avoid all this nonsense, I will not tell Taimni's bindu story as a form of "yogatism". We will go right to the source. The bindu stems from experiences in altered states of consciousness induced by yoga methods. The details are stated in Patanjali's *Yoga Sutras* so we begin there.

Samadhi Reviewed

I now retell Taimni's interpretation of the *Yoga Sutras*, given in his *Science of Yoga*. I will pepper original insights based on my altered states experiences where I can. The following has a lot of overlap with my [blog post on the 10 types of samadhi](#). That is okay. It doesn't hurt to hear these ideas more than once. My blog post

described the 10 types of samadhi but did not emphasize their proper context in yoga practice. Here I emphasize that context, which is the descent through consciousness. When this is understood, we get a first look at a fuller concept of the bindu.

Patanjali's yoga methods can be broadly divided into two stages:

1. Learn samadhi.
2. Apply samadhi to dive into the depths of the mind with the aim to experience Kaivalya.

The first stage, (explained in [Chapter 6](#) of [What is Science?](#)) consists of the eight-fold limbs: yama, niyama, asanas, pranayama, pratyahara, dhyana, dharana, and samadhi. Stage 1 culminates in learning how to perform samadhi. Recall that samadhi is the **fusion** of the observer and the observed, where the object in the mind and the first person self-awareness become the same. Here we review the standard understanding of samadhi. Chapter 31 goes into much greater detail and offers new ideas about the nature of samadhi.

There is nothing equivalent to samadhi in Western cultures. Even in Eastern cultures, a person who can do samadhi is rare. This is because samadhi is hard to do. It takes inordinate practice. One must be able to silence all the levels of the mind before samadhi is possible. One must commit and dedicate their entire life to the practice. It's not something one can do for an hour after work every day. This is why Ashrams exist. People committed to yoga need a cocoon to support their efforts.

Once mastered, samadhi is a way to use the mind that is incomparable to any form of normal thinking. In normal thinking there is an unavoidable dichotomy between the observer and the observed. Samadhi is a mental technique that replaces the dichotomy of observer and observed with a state where the two are unified. The next section gives a mathematical template of how this could occur. The unified state of awareness has been characterized by the term "knowing by being".

But, like normal thinking, the mind can take any form during samadhi. The form taken derives from the object of meditation, which is called a **pratyaya**. The pratyaya is a memory, held as a thought in the mind of the yogi. But it is not like a normal memory that we bring before our "mind's eye". In samadhi, the yogi's mind is highly purified, there is no awareness of externals (i.e. stage 1 above has been mastered), and most important, the yogi has fused with the pratyaya. Normally, "you", as the observer, "see" a memory as distinct from yourself. Even when we recall a memory, the observer/observed dualism operates. Not so in samadhi. In samadhi, there is no "you" and no observed memory. They fuse into one mental activity where observer and observed become indelibly one.

Samadhi and Saddle-Node Bifurcations

This section offers a mathematical analogy for understanding samadhi. We can make an analogy between samadhi and a saddle-node bifurcation. Consider the following excerpt from section 3.1 of Strogatz' [well-known text](#) on nonlinear dynamic that explains what a saddle-node bifurcation is (Figure 1).

3.1 Saddle-Node Bifurcation

The saddle-node bifurcation is the basic mechanism by which fixed points are *created and destroyed*. As a parameter is varied, two fixed points move toward each other, collide, and mutually annihilate.

The prototypical example of a saddle-node bifurcation is given by the first-order system

$$\dot{x} = r + x^2 \tag{1}$$

where r is a parameter, which may be positive, negative, or zero. When r is negative, there are two fixed points, one stable and one unstable (Figure 3.1.1a).

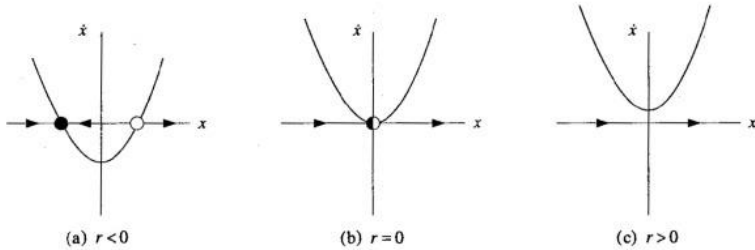


Figure 3.1.1

As r approaches 0 from below, the parabola moves up and the two fixed points move toward each other. When $r = 0$, the fixed points coalesce into a half-stable fixed point at $x^* = 0$ (Figure 3.1.1b). This type of fixed point is extremely delicate—it vanishes as soon as $r > 0$, and now there are no fixed points at all (Figure 3.1.1c).

Figure 1: Excerpt from Strogatz. Note $\dot{x} = \frac{dx}{dt}$

The idea of the analogy is simple. Consider the right fixed point (repeller) to be the observer (the yogi’s self-awareness) and the left fixed point (attractor) to be the observed (the pratyaya) in the mind of the yogi. Notice how the two fixed points approach each other, and then fuse into the same thing at the bifurcation at $r = 0$.

This analogy shows the dynamics of two seeming opposites fusing into one entity. In the math, the opposites are the attractor on the left and repeller on the right. In samadhi, the opposites are the observer, (the yogi’s self-awareness) and observed (the pratyaya) in the yogi’s mind. We can even associated the “flow towards” property of the attractor with the pratyaya (observed), which draws consciousness outward into paranga cetana. The observer then is the repeller, who pushes away from itself, expanding outward, again in paranga cetana.

The analogy suggests samadhi is a bifurcation in the mind. The vrittis of the yogi that constitute self-awareness and the vrittis that constitute the pratyaya are initially separate in the mind. The mental method of samadhi causes them to bifurcate and become the same thing. In Chapter 31, we’ll greatly elaborate on the idea that samadhi is a bifurcation of the mind, so please hang in there.

Also, notice Strogatz’ comment about the fixed point at the bifurcation being

“extremely delicate”, indicating that it is in a state of perfect balance, like being on a razor’s edge. Samadhi, the holding of the state of fusion of the observer/observed, is also likely to be a similarly delicate balancing act.

I have some intuition to make these statements because a similar phenomenon occurs in lucid dreams. In [DO_OBE](#) I call it my “lockmold”, which is a sense of how stable or unstable I “feel” during a lucid dream. The same analogy can apply to maintaining lucidity in the dream state. Here the opposite states are (1) the nonlucid state of dreaming, as against (2) being awake. Lucid dreaming seems to be a fusion of these two states into a composite state that is “extremely delicate” to use Strogatz term. I give a technical discussion of lucid dream stability in my [global workspace and dreaming paper](#).

To get really abstract, notice for $r > 0$, the system has an attractor at $+\infty$. Of course people don’t normally think of it this way, but as the flow diagram indicates, everything converges to $+\infty$. This would correspond to Kaivalya, the Absolute, where there is no observer or observed. Such thinking mixes the mainstream Western math thinking with the Hindu understanding explained in [Chapter 5](#).

Okay, analogy’s done; let’s get back to the main discussion.

Into The Depths

The following discussion is based on Taimni’s commentary to *Yoga Sutra* aphorism 1.17 in *The Science of Yoga*. This is the clearest expressions I have read of how the decent into consciousness works. It is also one of the best explanations of the 10 types of samadhi. I strongly recommend that you read the original. In fact, [here is the ten-page excerpt](#) from *The Science of Yoga*. You can read this in conjunction with my description. You will see I am only repeating in my own words what Taimni said there.

Learning samadhi is not the end of yoga, but the beginning. Samadhi is the main tool used to dive into the depths of consciousness in search of Kaivalya. One “sinks into the cool dark waters” as van der Leeuw put it. The fusion of self-awareness (observer) and the pratyaya (observed) functions as a metaphorical rope, allowing descent into the depths of consciousness. The descent into the depths is exactly the process of pratiprasava, the resolving of effects into causes, discussed in the previous chapter.

We now discuss how samadhi causes pratiprasava and thereby allows the yogi to descend to progressively deeper levels of the mind. Samadhi causes pratiprasava, by the release of artha, which causes the pratyaya to break apart into its constituents. Then, samadhi is applied to the constituents, then to the constituents of the constituents, and so on, until there is nothing left of the pratyaya. Between the dissolving of the pratyaya at one level and its reappearance in more basic form at the next higher level, there is an intervening transition where the bindu functions. Figure 2 illustrates all this. [In [What is Science? \(Part 6\)](#), I discussed the power (artha) releasing function of samadhi. Artha is also discussed in Chapter 32, in a way that builds on the discussion in Part 6 of WIS.]

sabija

	sambija		nirbija		Kaivalya
	samprajnata	asamprajnata	samprajnata	asamprajnata	dharma megha samadhi
conscious state	samprajnata	asamprajnata	samprajnata	asamprajnata	bindu
state of gunas	asamprajnata	samprajnata	asamprajnata	samprajnata	bindu
name of samadhi	samprajnata	asamprajnata	samprajnata	asamprajnata	bindu
aphorism	samprajnata	asamprajnata	samprajnata	asamprajnata	bindu
cetana	samprajnata	asamprajnata	samprajnata	asamprajnata	bindu
conscientious state	vitarka	vicara	ananda	asmita	
state of gunas	visesa	avisesa	linga	alinga	
name of samadhi	savitarka	savicara	"savananda"	"nirananda"	"savasmita" "nirasmita" nirbija
aphorism	1.42	1.44	1.44	1.45	4.29
cetana	paranga	paranga	paranga	pratyak	paranga
					4.34

Figure 2: Pratiprasava, resolving of the effect into the cause occurs during the samadhi descent through consciousness. The images representing the pratyaya (Shiva, etc.) are only suggestive filler and shouldn't be taken literally.

Figure 2 shows the stages of the descent into consciousness and the process of pratiprasava. The table there brings together a variety of information dispersed throughout the *Yoga Sūtras*. This is my diagrammatic equivalent to the following figure from Taimni, taken from his commentary to aphorism 1.17.

There are thus four types of samadhi in which there is a pratyaya present. When the pratyaya is present it is called samprajñata samadhi. In samprajñata samadhi, the pratyaya is present either at the visesa, avisesa, linga, or alinga phase of the gunas. The corresponding name of samadhi at each level is "savitarka", "savicāra", "saananda" and "sasmita". A given form of samadhi is named after the type of consciousness corresponding to a given state of the gunas.

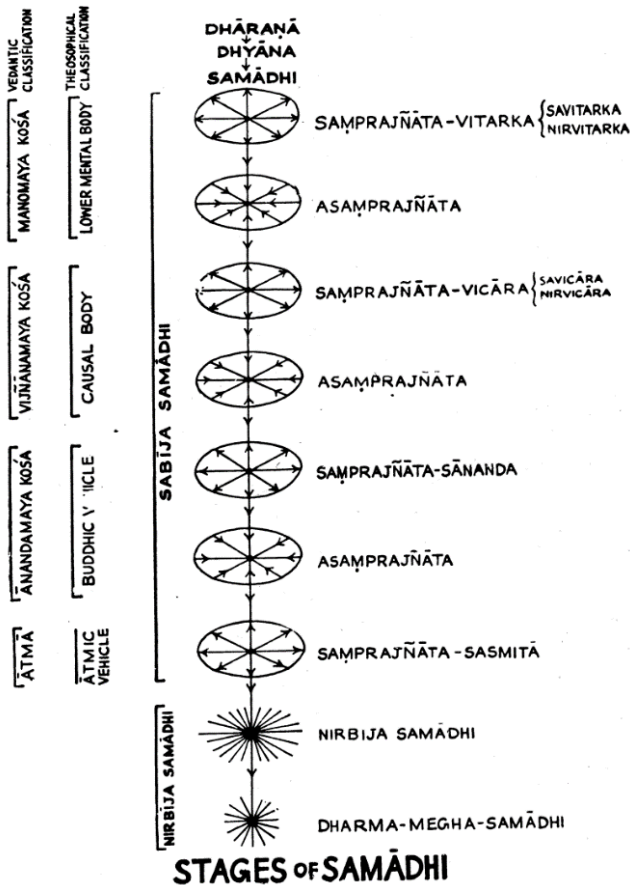


Figure 3: Taimni's equivalent to Figure 2 from *The Science of Yoga*.

There are four corresponding transition states collectively called asamprajnata samadhi. The four specific forms of asamprajnata samadhi are: (1) visesa to avisesa, (2) avisesa to linga, and (3) linga to alinga, and (4) alinga to nirbija.

The above account for 8 of the 10 types of samadhi described in the *Yoga Sutras*. Nirbija samadhi is the 9th, and dharma mega samadhi is the 10th. The last two were described by van der Leeuw at the end of [Chapter 1](#).

Nirbija is analogous to the forms of samprajnata samadhi except there is no pratyaya. Van der Leeuw described nirbija samadhi like this:

“...we come to a state in which nothing seems to be any more, in which we ourselves seem to have lost name and form and all characteristics. We come to the great Void.”

“When we reach the Void within, the state in which nothing more seems to be, it would appear as if we were surrounded on all sides by a blank wall and as if it were impossible to proceed any further.”

Dharma mega samadhi, like the four types of asamprajnata samadhi, is a transitional state. van der Leeuw described it thus:

“We have to move in a dimension we did not know before...”

“The first part of our journey towards reality is the surrendering of our world-image and the turning inwards until we reach the center of consciousness, the second is to pierce through that center and find the reality which, acting on that center produces the world-image in the cave of our consciousness.”

“The experience of going through the center of consciousness and emerging, as it were, on the other side is very much one of turning inside out.”

Dharma mega samadhi is the transition out of the relative and into the Absolute, and is the very last stage of pratiprasava. The effect has been fully absorbed into the cause, and consciousness now rests in the ultimate cause, the Absolute, the experience of which we have already discussed.

Asamprajnata Samadhi, Pratyak Cetana and the Bindu

The idea of the bindu derives from the experience of asamprajnata samadhi. First I repeat the Taimni quote from [Chapter 1](#):

“The ... ordinary mind is...constantly and completely turned outwards. It is used to taking interest only in the objects of the outer world and this habit has become so strong that any effort to reverse the direction of consciousness and to make the mind withdraw from the periphery to the centre is accompanied by a mental struggle...”

“... These two tendencies which make the mind inward-turned or outward-turned correspond to Pratyak and Paranga Cetana” (Figure 4)



Figure 4: The two directions of consciousness.

In [Chapter 1](#) the ideas of pratyak and paranga cetana were used to describe our ordinary minds. The ideas also apply to samadhi. You can see that pratiprasava is an alternation of consciousness directed outward to the pratyaya (paranga cetana), followed by the inward directing of consciousness (pratyak cetana) during asamprajnata samadhi. This is how Taimni says it:

“It will be seen, therefore, that in the progressive recession of consciousness from the lower mental plane to its origin, Samprajnata Samadhi with its characteristic Pratyaya and Asamprajnata Samadhi with its void follow each other in succession...”

“The recession of consciousness towards its centre is thus not a steady and uninterrupted sinking into greater and greater depths but consists in this alternate outward and inward movement of consciousness at each barrier separating the two planes.”

Thus, pratiprasava, the descent through consciousness is the alternation of paranga and pratyak cetana. It is more like breathing, in a sense, than diving. Let us consider what happens at the transition of asamprajnata samadhi:

“Now, in Samprajnata Samadhi there is a Pratyaya (which is called a ‘seed’) in the field of consciousness and the consciousness is fully directed to it. So the direction of consciousness is from the centre outwards.”

“In Asamprajnata Samadhi there is no Pratyaya and therefore there is nothing to draw the consciousness outwards and hold it there. So as soon as the Pratyaya (P) is dropped or suppressed the consciousness begins to recede automatically to its centre O and after passing momentarily through this Laya centre, tends to emerge into the next subtler vehicle. When this process has been completed the Pratyaya (P) of the next higher plane appears and the direction of consciousness again becomes from the centre outwards.”

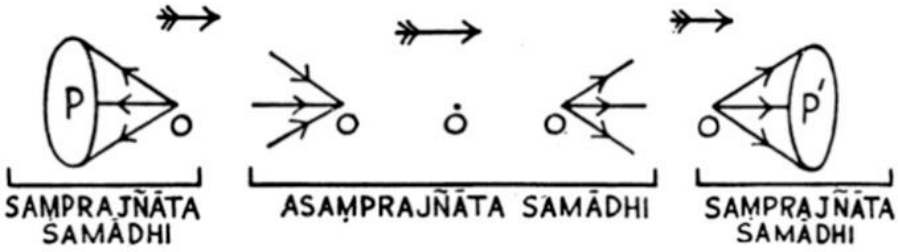


Figure 5: The bindu links the various phases of the gunas (or planes of Nature if you are a theosophist).

And there we go: the bindu. Taimni illustrates the transition process as shown in Figure 5. The very center, the “o” with a dot over it is meant to represent the bindu, which he calls a “Laya centre” in the quote above.

Taimni then describes what is in the awareness of the yogi during the transition of asamprajnata samadhi:

“From the time the Pratyaya P is suppressed to the time when the Pratyaya P’ of the next plane appears the Yogi is in the stage of Asamprajnata Samadhi. During all this time he is fully conscious and his will is directing this delicate mental operation in a very subtle manner. The mind is no doubt blank but it is the blankness of Samadhi and not the blankness of an ordinary kind such as is present in deep sleep or coma.”

“The void of Asamprajnata Samadhi is sometimes called a ‘cloud’ in Yogic terminology and the experience may be compared to that of a pilot whose aeroplane passes through a cloud bank....When the consciousness of the Yogi leaves one plane and the Pratyaya of that plane disappears he finds himself in a void and must remain in that void until his consciousness automatically emerges into the next plane with its new and characteristic Pratyaya.”

Here he is describing the traditional understanding of the transition between the phases of the gunas as passing through a “cloud”. This idea is explicit in the name “dharma megha samadhi” because “megha” means “cloud”.

These references to a “cloud” in the yogic literature are confusing, as are the distinctions between the 10 types of samadhi. As I said in the [10 types of samadhi blog post](#), Patanjali’s whole scheme is incomprehensible unless interpreted in the framework of the planes of nature. This framework is wholly lacking in the Western “yogatism” of exercise, and also lacking in the academic study of the *Yoga Sutras* in Western academia. Even in Eastern literature grounded in real yoga, the concepts are confused. In the *Yoga Sutras*, the planes of nature are described as states of the gunas. “Planes of nature” and “states of the gunas” refer to exactly the same thing.

This then is Taimni's concept of the descent of consciousness and pratiprasava. We can see that the bindu serves as the link connecting the different states of consciousness. It manifests during the transition states of asamprajnata samadhi.

The Bindu Is Real

I told you this was all quite abstract. And we haven't even gotten to the good stuff yet! In his later writings, Taimni refined his understanding of the bindu into something wholly abstract. We discuss this in the next chapter. For the moment I wrap up the above discussion.

We can see that the concept of the bindu comes from experiences in altered states induced by practicing yoga. It is not that one sees a little "hole" and somehow jumps through it. No, the idea stems from the alternation in the forms of samadhi, and specifically in the transitions of asamprajnata samadhi.

The experience of the bindu is described above as like momentarily passing through a dark cloud, where nothing seems to be for the moment. This is one way it can manifest, but not the only way. But the main generalization is that there is a dynamic transition state, and it is this that is referred to as the bindu.

I do not say any of this as mere intellectualizing. I have experienced the transition through the bindu many times in my projection experiences. In [DO_OBE](#), Chapter 2, there is a section entitled "On the Border between Waking and Projecting". This describes some of the experiences I have had of moving through the bindu. It is quite real, Folks. You can learn to take your mind through it. I am not going to repeat what I said in [DO_OBE](#) here, and you are of course free to go read it.

A First Model of the Bindu

I want to wrap up with an even more general picture than given in Figure 2. We can abstract what is described in the *Yoga Sutras*, as interpreted by Taimni. What we seem to be dealing with, at least in part, is like a transition between harmonics.

A good physical example of a harmonic transition is feedback with an electric guitar. If you don't know what I am talking about, [see here](#). Guitar feedback is aptly named because what happens is you get a positive feedback loop between the tone held on the guitar and the amplifier system. This puts additional energy into the guitar and causes a transition from the fundamental tone to one of its higher harmonics. As the feedback scientist in the linked video indicates, one can control and manipulate the system and control to some extent the harmonic that is amplified by the feedback cycle.

I will assert that the transition from one level of consciousness to another operates by a similar type of feedback mechanism, which in turn causes a transition to a higher harmonic of the system. In this case, the system is the mind itself. So, the higher harmonics of the mind are the inner planes, or, in yoga terms, the different states of the gunas.

In this way, the transition effected by asamprajnata samadhi is akin to a "quantum jump" from one tone to another. For the Reader educated in Eastern

thinking, you see how this moves us towards [Nāda yoga](#). It also begins to bridge the ancient Eastern understanding to our modern understanding of vibrations. There is nothing particularly original about what I am saying. [Cymatics](#), the study of how vibrations make forms and is a normal science. Cymatics is one small step the West is taking towards nāda yoga.

If I am making a small contribution, it is to point out that we can interpret Taimni's interpretation of Patanjali to indicate that the bindu is a harmonic transition. It's not a doorway, but, as a harmonic transition, a quantum jump. As such, it has the same functional effect as a doorway by causing something to move from one state to another.

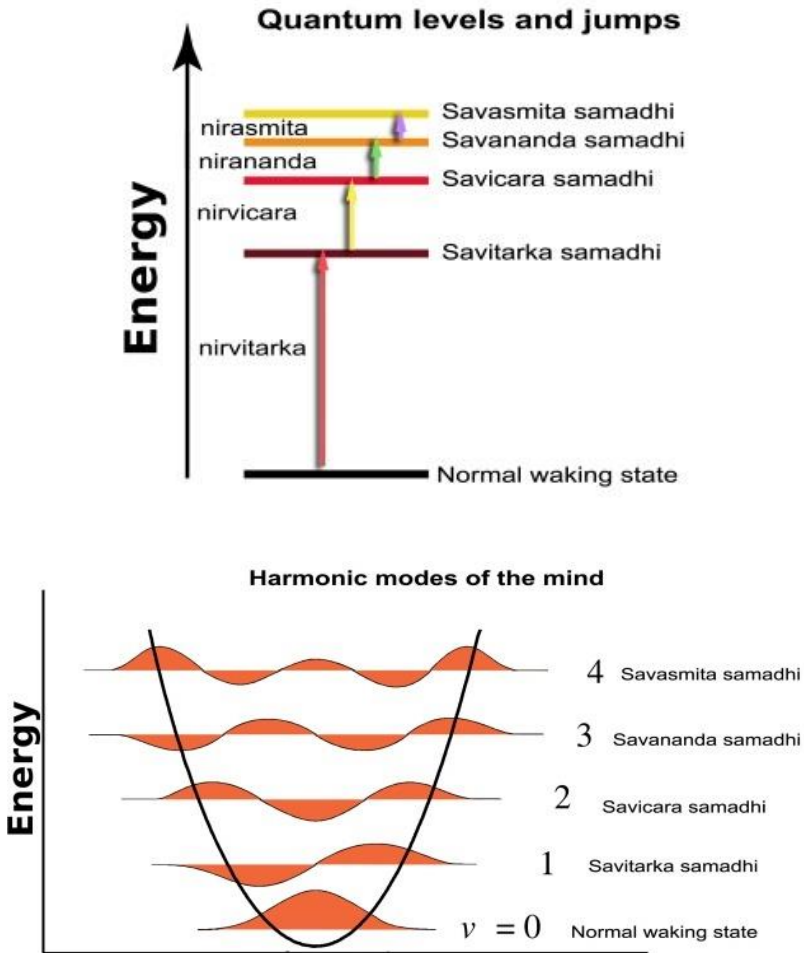


Figure 6: States of consciousness in yoga are like quantum levels of harmonics. Top shows it as a typical "energy diagram" where the modes represent discrete energy states. Bottom shows it as modes of vibration. Same difference.

Figure 6 is a picture for the right side of your brain (for you left-handers out there) that illustrates the various types of samadhi as harmonics (samprajnata samadhi) and harmonic transitions (asamprajnata samadhi). This diagram makes very clear that we can consider global states of the mind to be analogous to harmonic modes, and can therefore speak of "modes of the mind". From this view, our normal waking state is only one of the possible modes the mind can be in.

In [What is Science?](#) (very end, chapter 10) I spoke of how dissolving the pratyaya in samadhi releases power, **artha**, and how this power was used to propel the yogi into the deeper levels of consciousness:

"Artha released in samadhi is used only to move deeper into consciousness, to climb back up the potential well, to return to the state of equilibrium."

(I don't know, can I quote myself?)

We can see from the above diagram that the power released in the dissolution of the pratyaya acts like a quantum of energy and facilitates a "quantum jump" from one level of the gunas to the next higher level. In this fashion, through the progressive dissolution of the pratyaya, the yogi "bootstraps" himself up to the highest level of the mind - the state of nirbija samadhi - and from there makes the final transformation to Kaivalya.

Please be aware Figure 6 is presented in the spirit of what I described in [Chapter 8](#) about how math concepts can help us understand relative relationships as a map of inner realities. Figure 6 is not meant to be taken literally. As if it is even possible to measure such energy relationships of the mind in altered states of consciousness. Maybe one day, but not today.

So, we get two different views here of relative relationships. The onset of samadhi can be framed as a bifurcation, a fusion of two fixed points into one fixed point. And we can loosely envision the bindu as a type of harmonic transition or quantum jump.

Here we are not discussing the contents of these experience (this discussion commences in Chapter 24). But the patterns help give some insight to otherwise abstract things being described in the *Yoga Sutras*.

'Being is Awareness' is a Tautology

Ugh, we're not done yet. This is the last section...promise! I want to close talking about the implication of samadhi, then we're done...for the moment. Having said all the above, I want to comment about the pratyaya and the resolving process of pratiprasava.

In [Part 7](#) of *What is Science?* I discussed how the pratyaya has consciousness. Based on the above description, the pratyaya seems to be "only" a memory in the

mind of the yogi. This notion will only be reconciled in Chapter 32. For the moment, let's stick to the idea that the pratyaya is a special form of memory in the yogi's mind. Then, one can easily recognize that the yogi has only fused his consciousness with itself. Seen in this fashion, samadhi is a type of tautology where one comes to know oneself. However, this occurs in a way unlike any normal form of thinking.

Because samadhi is consciousness knowing consciousness, one should not think this is somehow less objective than when we perceive the external world via our eyes, ears and other senses. The eye and the ear, and the things perceived with them are also only forms of your consciousness. The difference between you and a yogi is you are deluded into believing that the ear and eye and the things perceived are somehow different from your consciousness. In this respect, the "normal" operation of the mind, waking paranga cetana, outward directed consciousness, is decidedly inferior to samadhi. Such delusion is not present or possible in samadhi.

In other words, the tautology that consciousness knows only itself exists in so-called "normal" perception and thinking, but it is masked, covered, confused, and cloudy. This condition is called "avidya", the ignorance of not realizing that consciousness only knows itself. It is called "viksepa", distracted. Consciousness is distracted by the vrittis, the patterns, within it, and thus cannot know itself. Avidya and viksepa are states of being caught up in the variety of patterns resonating and vibrating in consciousness, as the entire book *Experience* is dedicated to explaining. These are precisely the vrittis that yoga is meant to silence (chitta vritti nirodhah).

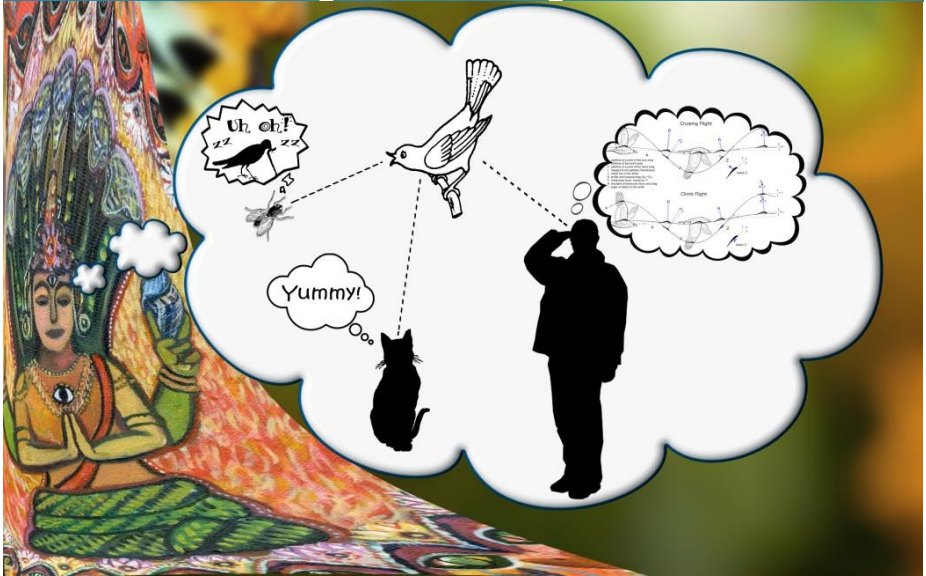
A main point of this whole excursion into the yogic view of consciousness is to explain how it is that there is no external world. It is a projection, an illusion, it is avidya. What you think is the "real world" outside of you, the *"gay spectacle of time and space with all its qualities"*, as van der Leeuw calls it, is just your consciousness. The real "real world" is the Absolute, and it exists at the center of your consciousness, and the center of my consciousness, and the center of everything's consciousness. This foreshadows what we discuss next.

The methods of yoga expose the tautology of consciousness and thereby allow one to directly experience this tautology. When the tautology of consciousness is experienced in its pristine purity, this is Kaivalya. There is only consciousness, alone; nothing else.

When the units of consciousness, i.e. you and me and everything else, come to be experienced in these terms, the fabric of All That Is becomes revealed to itself. The fabric is full of bindus connecting everything to everything else.

That is where we go next in Chapter 11.

11: The Bishop of Whoop Ass



The World is a network interconnected by the bindu. We begin our explanation of this idea here by disabusing ourselves of stupid notions of living and non-living matter, pretending we are a fly, and watching a Catholic Bishop kick Newton's ass.

“Once in a while you get shown the light in the strangest of places if you look at it right” [The Grateful Dead](#)

Quick Review & Overview

In [Chapter 10](#) we discussed how, within an individual mind, the bindu works as a harmonic transition or quantum jump across the borders of the various states (or realms) identified in yogic cosmology.

Here we begin the discussion of the 2nd important feature of bindus: they link all of manifestation together. I repeat myself from [Chapter 9](#):

“Individual minds form a hierarchical network corresponding to the natural systems we observe in our sensory experience. Each such mind has its own bindu. This entire network is linked via the bindu. That is, the whole of manifestation is one vast hierarchical network linked via the bindus of the various grades of mind that exist in nature.”

I will now “unpack” this summary. It won’t be easy because it gets very abstract. We will have to build the picture in stages over a few chapters. We start with the living and non-living.

It’s a Matter of Life or Death

The first prejudice that needs to be confronted is the deeply ingrained bias to think of some forms of matter as dead and others as being alive. To the Western mind, most of nature—rocks, planets, stars, galaxies, and so on—are “non-living” matter. It is an amazingly disproportionate view when only the smallest sliver of all known matter, biological life, is presumed to be “alive”, but everything else is not. It is one of those [lacunae](#) Feyerabend spoke of. Yoga does not contain such a distorted view of things.

As we have seen, yoga, and Hinduism in general, distinguishes the Absolute, the Unmanifest, and the Manifest. The basic distinction underlying this 3-fold cosmology is consciousness vs. form. The Manifest is all the *forms* of Nature. The Unmanifest is not formed, but has the *potential* to be formed. The Absolute is the source of it all, and is *beyond* the distinction of form vs. consciousness.

Let us focus on the Manifest. We have seen how the various forms of samadhi reveal the four realms of gunas: visesa, avisesa, linga, and alinga. Taken in total, they are called Prakriti, which is just another name for the Manifest. The gunas are patterns of vibrations; vrittis; waves; whirlpools (for newbies, I explain the gunas in the [Prelude to What is Science?](#)). All vibrations begin, sustain for a while, then decay (which I discussed [here](#)).

The gunas are the **form** side of things. Anything with the property of being born, existing for a while, then fading away are gunas, and are considered “material” to the yogic mind. This applies not just biological organisms, but to everything: a lightning bolt, a drop of rain, rocks, clouds, planets, stars, galaxies, universes (yep, plural again), and so on.

This logic extends to all four realms of the gunas and is not just confined to the “physical”. The “born/live/die” logic applies also to spirits, souls, minds, gods, heavens, and all things mental and spiritual. Therefore, these are also considered gunas, states of matter.

Thus, in the yogic view, it is not that some matter is living and some is non-living. No. All matter is the same: it is a pattern of gunas. It doesn’t matter if it’s an electron, a rock, an amoeba, a human body, or the Milky Way galaxy. It doesn’t matter if it’s your mind, your soul (technically called [ahamkara](#)), or if it’s a heaven-world, or the God Indra himself, or the trinity of Brahma-Vishnu-Shiva. Each and all are gunas.

This is a very different way to think about things compared to how we were raised to think about things. But it makes more sense than the [rigmarole](#) we’ve had shoved down our throats.

The gunas are the form side of things. They do not exist of their own accord. They are *caused* by consciousness. This is the Shiva-Shakti Tattva I spoke of in [the](#)

[last chapter](#) of [What is Science?](#) Consciousness is not just awareness, it is also power. It is the power that generates and fills the forms of the gunas. Therefore, every pattern of gunas that exists has consciousness inside of it, causing the pattern to be, causing the pattern to move.

These ideas stem from the yogic exploration of the deep layers of the mind, and beyond. But you can see them operate in your normal everyday life. You know that you are a form—a specific person. The form of which you consist is your physical body and your mind. Filling your body and your mind is your life and consciousness. You are an example of a pattern of gunas filled with consciousness.

This harkens back to my [blogs on the ungraspable and the graspable](#). Consciousness is the life side of things and is ungraspable. The gunas are the form side of things and they are the seemingly infinite patterns of relationship that make up manifestation. As relative patterns, they are graspable by our minds; at least to the extent our minds can accommodate a given pattern.

Let's wrap this up and bring it back to the main discussion. We are explaining the model of the yogic view of consciousness presented in [Chapter 2](#). In this model, the cave of consciousness (the mind), and the screen of consciousness (our 1st person awareness), are patterns of gunas. They are created, sustained, and illuminated by the light of consciousness.

Here is the equation. Here is our first major abstraction: a pattern of gunas filled by the light of consciousness = a mind.

All the things we see around us in nature are patterns of gunas. By practicing samadhi, it is discovered that each of these patterns is also filled with the light of consciousness. Or said simply: everything we perceive in Nature has a mind: a cloud, a raindrop, an electron, the Earth, Sun, Milky Way galaxy, and so on. Now, we don't seem to see the mind of the Earth, or of a cloud the way we can so obviously infer a mind in another person or in animals.

Here is the irony: we do see them. We see them all the time. There is no time we do not see them. It's just a matter of understanding what you are seeing from the correct perspective.

Imagine You Have the Mind of a Fly

Let's do an exercise to get into the right mind-set to elaborate on the above points and deal with future discussions.

Most of you have had a pet in your life; a dog, cat, bird. If so, you've lived with another creature and gotten to see first-hand how they behave and think. For example, as I sit at my desk and type, my cat Ashna often comes up asking me to pet her (sometimes demanding I do so!). Now, does Ashna understand the computer I am using? Does she understand what I am using it for?

Of course she doesn't. So you have to stop and wonder what it looks like from her perspective. Obviously, she sees the computer, and me sitting at it, but she does not understand the computer at all in the terms I do. One can get glimpses of what the computer means to her: it's something she can rub her body against when she is

happy, or lay behind when she is cold (seriously...she parks it at the back heat vents in the winter!). Sometimes she is jealous of the computer and how it competes with her for my attention.

Sometimes as I sit here and type I see an ant on the floor, or a fly gets in the house. If there is a fly buzzing around in the room as I type, what does he or she see? (Flies have gender, you know). How does Mr. or Mrs. Fly think about me sitting at the computer? Unlike Ashna, or any mammal that displays intelligence and behavior similar to our own, it seems harder to imagine what a fly thinks.

But we can get some insights. A fly obviously perceives its environment, as we all know when we try to swat it. The fly is motivated and driven by urges. It is hungry, hence trolling around the garbage can, or looking for a mate, or, most likely if it is in my room, it is looking for a way out, which is why it is mostly crawling on the window.

I do not question whether a cat, ant, or fly is conscious or if they can think. People who can't see that animal minds have a lot of similarity with human minds are either dead inside or just really stupid. It doesn't take much imagination to extrapolate our consciousness and behavior, not only to other humans, but to closely related mammals like dogs or cats. Then it's not too great a stretch to imagine what goes through the minds of flies and ants (and [bats](#)). People that try to argue that animals are not conscious simply engage in sophistry and can safely be ignored and, if you like, ridiculed too.

What is quite certain, however: the fly or ant is completely unaware of the human world in the terms we know it. The fly buzzing around me has no concept whatsoever of me as a human, my computer, you, the internet, or any human thing. Such things are, and will always be, beyond the ant or the fly's mind. Their minds are too small to grasp our larger minds, just like you cannot fit an ocean in a swimming pool. Therefore these creatures are completely blind to our human realities.

For the stuff we are about to discuss, you have to pretend that you are like the fly or ant here in my office. You have to realize that the world we perceive with our senses—the Earth, the Sun, the solar system, and the stars—is analogous to how an ant sees my computer.



Figure 1: She looks cute, but she's a devil when she wants something.

Yes, we see something, but like the ant or the fly, we have no idea of what we are really looking at. Of course we have our ideas as to what these things are. But these ideas are highly conditioned by our needs and motivations. In this we are not unlike my cat, or a fly. We see nature only within the limits our minds are capable. The computer is just an obstacle to the fly, certainly not a good place to lay her eggs. The World seems to be our oyster, but the fact is, we are just too self-absorbed to consider otherwise.

If you take this attitude now, you will fare better as we proceed with the discussion.

Of course, unlike any other animal we know of, we humans can imagine. Imagination is the source of all human invention and creativity. We are about to embark on a massive stretching of our imagination (as if the first 10 chapters weren't a little beyond most people's imaginations!).

The game begins when we look at the world around us and can imagine that we are like a fly that has only a very limited, self-centered view of the world it flies through. What we call "Earth", "Sun", "Galaxy", and "Universe" we see in much the same way as a fly sees my computer.

Baby Steps

Let's build into this slowly so we don't do a "[Scanners](#)" and blow someone's head up. We will now discuss the basic tenants of [Idealism](#) as our doorway into the considerably more abstract yogic ideas.

In the model of the yogic view of consciousness, the mind is a closed system but for the bindu. We spoke of the light of consciousness projecting through the bindu. What we now discuss is that light of consciousness is a composite stream made up of the consciousness of several orders of beings.

I told you this would get abstract.

The Good Ole Days

Let's go to 1710 via a little book called [A Treatise Concerning The Principles Of Human Knowledge](#) by the then Bishop of Cloyne, his Imminence Bishop [George Berkeley](#). The Bishop was quite critical of the rise of the [mechanical philosophy](#) in his day. He was a clever man, and quite adept at finding "[lacunae and contradictions](#)" in this new philosophy-on-the-block.

He saw these new-fangled materialists in much the same way as today's conservative academics, especially scientists, see the post-modern crowd as a bunch of illogical upstarts whose degenerate ideas and loose values will only bring ruin to the world. However, Berkeley was not a knee-jerk [reactionary](#) like people today. As history has shown, he was quite [progressive](#) because his insights were very fruitful in the development of Western thought.

Berkeley's first order of business with the mechanical philosophers was to [knock their heads together](#):



“If therefore it were possible for Bodies to exist without the Mind, yet to hold they do so, must needs be a very precarious Opinion; since it is to suppose, without any reason at all, that God has created innumerable Beings that are intirely useless, and serve to no manner of purpose... Since it is a plain Repugnancy, that those Qualities should exist in or be supported by an unperceiving Substance.”

To translate (as if it really needs it): it is repugnant to imagine a Universe filled with mostly dead matter that seems to serve no purpose whatsoever.

He then tells us what we all know already: we do not have a direct perception of the things in the world in the same way we have direct access to our own thoughts and perceptions. Note that when he says “Ideas” you can substitute “perception”, and when he says “Spirits” substitute “mind”. This allows a good interpretation of his meaning.

“...we cannot know the Existence of other Spirits, otherwise than by their Operations, or the Ideas by them excited in us. ...the Knowledge I have of other Spirits is not immediate, as is the Knowledge of my Ideas; but depending on the Intervention of Ideas, by me referred to Agents or Spirits distinct from my self, as Effects or concomitant Signs.”

We see here the very beginning of modern Idealism where the mind is seen as the middle man between us the perceiver (observer) and the concrete content of the world (perceived or observed). Yep, it was Berkeley what did done give us Idealism.

In this regard, recall Wyle’s quote from the *Open World* from [Chapter 7](#). An echo of Berkeley down the centuries.

“The beginning of all philosophical thought is the realization that the perceptual world is but an image, a vision, a phenomenon of our consciousness; our consciousness does not directly grasp a transcendental real world which is as it appears.”

Berkeley then points out that us “little spirits” contribute quite a small proportion to the total of things we do perceive:

"But though there be some Things which convince us, humane Agents are concerned in producing them; yet it is evident to every one, that those Things which are called the Works of Nature, that is, the far greater part of the Ideas or Sensations perceived by us, are not produced by, or dependent on the Wills of Men. There is therefore some other Spirit that causes them, since it is repugnant that they should subsist by themselves."

Back then it seemed repugnant to a thoughtful person that all the rest of nature just “exists”. Today we are just used to the idea. A bunch of dead matter just waiting for us humans to perceive it. Talk about hubris. Talk about being the center of the universe.

Sidebar: These materialists always talk about how each new scientific revolution further displaces us measly humans from the center of things. Well, the [pygmies](#) just don't get that their whole philosophy implicitly assumes that all existence *is* only for our perception, our study, our science. Thereby, hidden in the unseen cracks of their logic, they maintain we *are* the center of all things. What dummies.

After the above, The Bishop takes things to their logical conclusion: our thoughts and perceptions, our very minds, exist inside of God's mind. We not only directly perceive our own thoughts, but our perceptions of the so-called “external world” are actually us co-perceiving God's thoughts.

"Hence it is evident, that God is known as certainly and immediately as any other Mind or Spirit whatsoever, distinct from our selves. We may even assert, that the Existence of God is far more evidently perceived than the Existence of Men; because the Effects of Nature are infinitely more numerous and considerable, than those ascribed to humane Agents. There is not any one Mark that denotes a Man, or Effect produced by him, which doth not more strongly evince the Being of that Spirit who is the Author of Nature."

"He alone it is who upholding all Things by the Word of his Power, maintains that Intercourse between Spirits, whereby they are able to

perceive the Existence of each other. And yet this pure and clear Light which enlightens every one, is it self invisible. It is therefore plain, that nothing can be more evident to any one that is capable of the least Reflexion, than **the Existence of God, or a Spirit who is intimately present to our Minds, producing in them all that variety of Ideas or Sensations, which continually affect us**, on whom we have an absolute and intire Dependence, in short, in whom we live, and move, and have our Being."

The bolding is mine above.

Yeah, this is pretty serious. To translate into modern English, he says that we have our own little independent thoughts, but these are inside of a greater stream of thoughts. As is the characteristic Western way, there are only [two levels](#): us and God. But that's not the issue here. The issue is that the world we perceive is there because we literally perceive God's thoughts too.

Now, he is not meaning to imply we co-perceive the world the way God does. This is where imaging that you are an ant comes in. We can only understand God's thoughts within the limits of our mind's capabilities. We perceive God's thoughts the way an ant perceives our world of human stuff.

The new element Berkeley introduces to this picture is that our mind is inside of God's mind, and the fly's mind is also inside of God's mind. Both we and the fly co-perceive the world with God. And it's not just us and flies, but everything in Heaven and on Earth.

We have two more things to consider before elaborating the previous points in the next section. First, note this: "*And yet this pure and clear Light which enlightens every one, is it self invisible*". Remind you of anything? Remember Fichte?

"Translucent penetrable space, pervious to sight and thrust, the purest image of my awareness, is not seen but intuited and in it my seeing itself is intuited. The light is not without but within me, and I myself am the light."

Remember Weyl?

"I am "vision" open to reason, a self-penetrating light, immanent sense-giving consciousness"

Again, the echoes down the centuries. Finally, Berkeley adds the following for those people who don't get what he is saying:

"That the Discovery of this great Truth which lies so near and obvious to the Mind, should be attained to by the Reason of so very few, is a sad instance of the Stupidity and Inattention of Men, who, though they are

surrounded with such clear Manifestations of the Deity, are yet so little affected by them, that they seem as it were blinded with excess of Light."

This is what I was talking about when I said we see the World only through the lens of our self-interest, which itself is completely determined by the structure of our minds in the first place, the size of our "swimming pool" so to speak.

Fast Forward to 1969

Taimni says exactly the same thing as Berkeley. He didn't come to this conclusion from reading Berkeley, however. He came to this conclusion from his knowledge of Hinduism and yoga. This is from *Man, God and the Universe* (chapter VII, pg. 104 in my edition):

"Now, the important point to note in considering the world of the mind is that this world, in which we live and which alone we are aware of directly, is the result of the combination of two sets of phenomena which are interwoven but which we can separate to some extent if we do a little introspection. One set of phenomena is produced by the impact of the world around us on our mind, and the other set by the activity of our individual mind itself. The rising and setting of the sun and other natural phenomena, as well as the movements of people and things in our environment, produce a series of mental images which are independent of the activity of our own mind. But these images are mixed up with the images produced by our own mind, independently of the external world. So we see that these two sets of images, each having a different source, combine to make our total mental world throughout our life, generally without our being even aware of this fact."

"What is the source of these two sets of mental images? If we think carefully about the matter, we shall realize that the source of the former is the consciousness of the Logos, Who through the Universal Mind has produced the manifested world, which produces a constant impact on all individual minds. The source of the latter is the consciousness of the Monad who has a set of vehicles functioning on all the planes. These two streams of white light, passing through the prism of manifestation, produce their respective beams of coloured lights on the other side, and it is the mingling and interaction of these two beams in the field of our consciousness which produce our composite and complex mental world."

To bring it home, Taimni turns to his favorite metaphor, the white light passing through a prism:

"As this idea is rather subtle and difficult to grasp, one can imagine two

beams of white light having different sources and different intensities passing through a prism simultaneously and emerging on the other side as a mixture of two beams of coloured lights. The coloured beam derived from the infinitely stronger source is the Universal Mind; and the coloured beam derived from the much weaker source is the individual mind of the Monad working on the different planes.”

Minds Within Minds

To put this in modern terms, we are dealing with idea of a *carrier wave*. This is how radio and TV are transmitted over the air and how wireless internet is sent back and forth through our computers nowadays. (For a few good primers about radio transmission, see here: [1], [2], [3]).

To a first approximation, God’s mind is the carrier wave for our individual minds.

12: Through the Looking Glass



It's time to present Taimni's full picture of the bindu. It's time to go Through the Looking Glass.

Previously...On Plane Talk

In [Chapter 10](#), we discussed that the bindu is like a harmonic transition, allowing us to “quantum jump” amongst the different layers of the mind. [Chapter 11](#) introduced George Berkeley's idealism. According to Berkeley there is no such thing as a material world. Instead, God “excites” in our minds *Ideas* (roughly translated as “perceptions”) of the *appearance* of an external world. Our mind, our existence, is inside of God's mind. When we think it is also God thinking, when we see it is also God seeing.

The subsequent development of idealism had to back down from Berkeley's original grand (or absurd, depending on one's bent) conception. Kant could neither confirm nor deny the material world or God. Instead, Kant's legacy was the dualism of our immediate awareness verses a postulated transcendental world of “things-in-themselves”. By the early 20th century, the neo-Kantian critique plus 100 years of experience with science [led Hermann Weyl](#) to recognize that the light of consciousness can, in bits n' pieces, reflect the transcendental through the game of science where patterns in mathematical symbols are mapped to patterns in our sensory experience.

Idealism couldn't maintain what Berkeley had started. As Weyl commented:

“It was an error of idealism to assume that the phenomena of consciousness guarantee the reality of the ego in an essentially different and somehow more certain manner than the reality of the external world”

Of course he was quick to add:

“But the one-sided metaphysical standpoint of realism is equally wrong....”

Why did idealism essentially flop in the West? I suggest because it was forced to remain confined to the surface mind for lack of anything resembling yoga. Idealism provided no concrete experiences to back up its assertions. Thus, realism co-opted experience, hid the mind in a closet, and has dominated the interests of practical people ever since.

Meanwhile, starting around the time that Berkeley lived, and continuing until now, European cultures have diffused (perhaps “crashed” is a better word) into Hindu culture. Asymmetrically, Hindu thought has only slowly diffused into the West, a diffusion which is still ongoing.

Via this flow of ideas, we saw that Taimni came to the same conclusion as Berkeley. Taimni described two “streams of thought” in our minds: one originating from our self, the other from “the Logos”. Taimni drew these conclusions not from philosophical idealism, but from his [Westernized interpretation](#) of Hindu and yogic teachings.

Taimni, however, did not recognize only two streams of thought existing within our minds. There were other streams too. We now discuss these. I’ll tell the story in this chapter as a “[yogatism](#)”. Subsequent chapters will fill in the details to “un-yogatism” the story. Ready? It’s time to go [Through the Looking Glass](#).

Through the Looking Glass

The first thing we see as we step through the mirror is Taimni saying the following (*Man, God, and the Universe [MGU]*, page 205):

“...all states of consciousness right from that of the personality to that of the Cosmic Logos are hidden one within the other in a continuous manner behind the physical consciousness working through the human brain. All these states may be considered to be centred round the Mahabindu or the Great Centre from which manifestation of the cosmos takes place. The unity of the spiritual consciousness which is finding expression through the Cosmic Logos, Solar Logoi and the Monads can be represented diagrammatically by [the following figure] and all the Solar Logoi and the Monads may be considered as raying out from the centre representing the Cosmic Logos.”

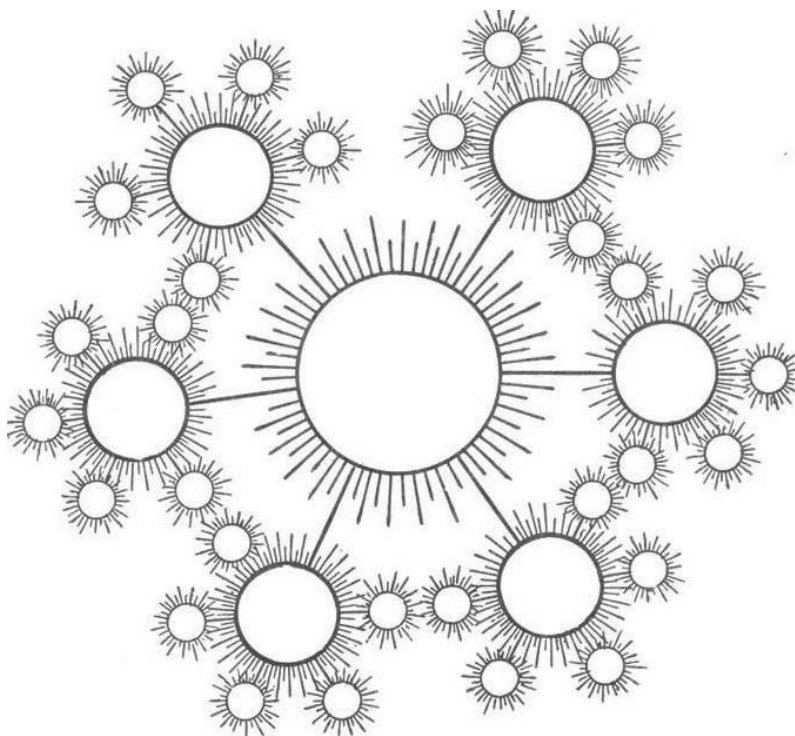


Figure 1: Taimni's picture of the structure of reality (also, the inspiration for the image for Chapter 4)

Figure 1 summarizes Taimni's view of the structure of the manifested existence. It is meant to illustrate sets of minds within minds within minds, where each circle in the diagram is a mind. The lines linking the minds are bindus. Not all the minds (circles) are shown; it would get too crowded and make no sense. The lines without circles at their ends should be imagined as having circles. And the lines should be as dense as are the real numbers on the continuum.

The image shows how the myriad minds form a hierarchical network. But it is a network of a very abstract kind. It all happens inside a single mind: the main one in the middle.

Each mind is a relatively discreet stream of consciousness. The lesser minds "bleb" off of the main mind via the constrictive process of [ahamkara](#) discussed in [Chapter 2](#). The diagram is meant to show how streams of consciousness exist inside of streams of consciousness exist inside of streams of consciousness. That is, it is self-similar like a fractal (we'll pursue this line of thought in the next chapter).

Berkeley's idea was that God "excites" our minds from the inside, making it appear as if there is an "outside". As you can see, Taimni quite simply trumps Berkeley by asserting that our individual minds are nested inside of multiple other nested streams of consciousness. Of course, Taimni wasn't trying to trump Berkeley.

It is likely he didn't even know who Berkeley was (Taimni was trained as a PhD chemist after all). Instead, Taimni was trying to express ancient Indian ideas in modern English.

This is Taimni's "big picture". If it seems weird to you, it is. If you don't get it, don't worry. We now start the process of breaking this picture down. This will spread out over the next few chapters. The place to start is with the big stream of consciousness at the center of all the action, the **Mahabindu**.

What the Heck is a Mahabindu?

Recall the [Hindu creation story](#): from the Brahmanda (cosmic egg) burst forth the Manifestation. This bursting forth, however, didn't happen out of the blue. [Stuff happened before](#) the Brahmanda. Going back to the very beginning, the story goes like this.

There was just the Absolute: perfect, pristine, undisturbed, infinite, zero. Then the most fundamental event of all occurred in the Absolute: a point (bija; seed) appeared. A point is nothing; therefore nothing occurred within the Absolute. Within the seed-point, a polarization occurred. The seed-point partitioned part of itself to one pole, and the opposite part to the other pole. $1 + (-1) = 0$ and the net result was still zero.

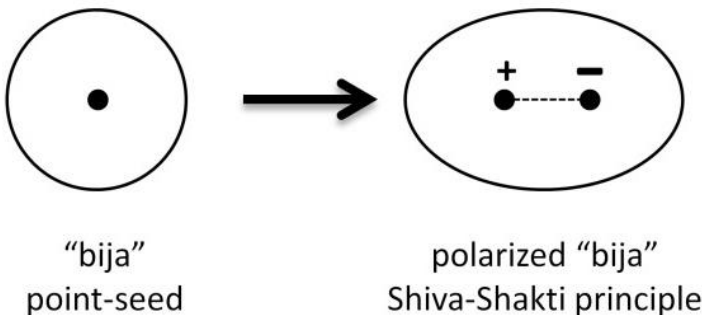


Figure 2: The most basic relationship in Hindu cosmology. A point, which is nothing, polarizes into positive and negative parts, which also add up to nothing.

The polarized bija is the primordial, meta-cosmic "Adam and Eve" known in Hindu thought as the Shiva-Shakti Tattva. These are unmanifested events because they equal zero. Shiva is the cosmic observer; the root of all consciousness. Shakti is the cosmic observed; the root of the gunas.

Even Hermann Weyl had a faint intuition of this process when [he said](#):

"...the thou and the world rise into existence indissolubly connected and, as it were, at one stroke"

These are the first events: The Mahabindu, then Shiva-Shakti. They precede

everything, are the root of everything. They are unmanifest because they equal zero. Everything comes from zero.

Then a bunch of other stuff happened, some of which is illustrated in the beautiful image below taken from the Gaudiya Vaishnavism tradition [discussed in Chapter 6](#). The top of the picture shows Krishna as [Bhagavan](#). Below is Krishna's creation in the form of Vishnu reclining in cosmic repose as infinite universes, each containing its own Brahmanda, emanates from Vishnu's being.

From Book 9, Chapter 3 of the [S'rîmad Devî Bhâgawatam](#), as translated by [Swami Vijnanananda](#):

“O Devarsi! The egg (born of Mûla Prakriti) that was floating in the waters for a period equal to the life period of Brahmâ, now in the fullness of time separated into two parts. Within that egg there was a powerful Child, lustrous like one thousand millions of suns. This boy came to be denominated afterwards by the name of Mahâ Virât...”

“...In his every pore countless universes are existing. So much so that even S'ri Krisna could not count them. If it were possible to count the number of dust particles, it is impossible to count the number of universes. So there are endless Brahmâs, Visnus, and Mahes'varas.”

Finally! The reveal of why I keep making “universe” a plural. A [wink and a nudge](#) to the [multiverse](#) while we're here, and look! (points)...there's [Peter Woit](#) rolling his eyes at the incredulity of it all.

Each universe has [its own Brahmanda](#). And...to make a long story short...here we are.

The seed-point that appeared in the Absolute, is what Taimni called the “**Mahabindu**”. It's not so exciting to visualize it. Imagine an infinite blankness. Now imagine an infinite blankness with an infinitely small dot in it. There you go: The Mahabindu. Not as pretty as the above picture.

Nonetheless, consider this: if you have an infinitely big space, and there is an infinitesimal point in it, then how big is the point? Let that bounce around in your mind as we proceed.

Thoughts on the Mahabindu

The Mahabindu is the “Great Point” or “Great Seed”, the cosmic source of both the unmanifest and the manifest. Taimni spent a great deal of words explaining the Mahabindu in *MGU*. I will not try to repeat nor quote all of it. Instead, I will offer a few comments about the idea.



No Western Equivalent of the Mahabindu

First, there is no idea equivalent to the Mahabindu in Western thought. The Christian concept of “God” corresponds to the alinga gunas of yoga. The God of the New Testament, the one Jesus was always going on about, is the Divine Unity from which all the diversity of existence springs. Christianity was never able to clearly intuit the distinction between alinga gunas and The Absolute.

Islam did. Mohammed understood this distinction. If one reads the Koran, it is clear that **Allah** is conceptually closer to the Hindu Absolute (Parabrahman). I don't know Islamic teachings well enough to know if they have an idea similar to the Mahabindu.

The [Big Bang](#) is **not** the Mahabindu, not even close. The Big Bang describes the emanation of the visesa level of gunas, the lowest, crudest level of manifestation. The product of the Big Bang, [physical space-time](#), is the lowest structural world that exists in yogic cosmology. Nothing in Western science even remotely approaches the ideas we are discussing now.

There is simply no widely-known equivalent to the idea of Mahabindu in Western thought. The Mahabindu is the point, seed, source, the nexus, whereby the Absolute begins the processes of transforming into the seemingly not absolute.

The Mahabindu is Right Here, Right Now

Second, the way I told the story above was as if it was history, as if it all happened in the past. This is not accurate. I only told the story as a creation story to make it go down easier on a first hearing, if this is all new to you.

The Mahabindu is not something that existed in the past and went away after doing its job. It exists right now. It is doing its job right now. The Mahabindu is the *source of everything*. It never did not exist and never will not exist. Time doesn't make sense when discussing the Mahabindu. Time is a limit of our mind, not of the Mahabindu.

The Absolute exists right now, as does the Unmanifest, and Manifest. Right now, you and I are sitting at the periphery of manifestation, sitting at the crudest level, using our vitarka consciousness to perceive the visesa gunas. The physical world is but the periphery of the entire show; the outer rim; an infinitesimally thin skin. What's going on out here on the periphery has very little impact on the Mahabindu.

One often hears analogy to the ocean in this context, as the following quote from Taimni conveys (*The Ultimate Reality and Realization*, pages 131-132):

“An example from ordinary life will make this point clear. An individual who is an ordinary swimmer who enters the waters of sea disturbed by a storm will see nothing but disturbance everywhere. But an expert diver can dive into the deeper levels of the sea and be in a perfectly tranquil environment in spite of the fact that a storm is raging at the surface.”

“Even if he comes to the surface and sees and feels the external disturbance he will not be disturbed mentally because he has experienced and knows that there is a perfectly tranquil region down below and he can retire into it whenever he wants. He is really conscious of the sea as a whole and while the disturbances at the surface affect him physically they do not touch him mentally.”

“In some such way we can imagine the manifested world with all its disturbances existing within the consciousness of the Logos who exists within it and yet above it.”

At the center of the storm where everything is calm, peaceful, infinite, Absolute.

Everything we know and experience stems ultimately from the Mahabindu. Everything we do in this life has an effect on the Mahabindu similar to how a little surface wave out in the middle of the ocean affects the ocean floor. Which is to say, barely; infinitesimally.

Top of the Morning to You

The quick run-down on yogic cosmology presented above is intended to illustrate that the Mahabindu is the top level of things. That is why it is called the “Great” (maha) bindu. The bindu that you and I have in our minds emanate from the Mahabindu, and are still intimately connected to it. The light of consciousness in our minds is an infinitesimal spark of what emits from the Mahabindu.

As is hopefully now apparent, I introduced the bindu in a very simple way in the early chapters by talking about it as a “doorway” between our individual minds and The Absolute. Now we have a fuller picture. In our minds, the bindu is a harmonic transition linking the inner layers of the mind. It is also the “doorway” through which the Mahabindu projects not only our personal existence, but all of existence. At the very end of yoga, during dharma mega samadhi, the yogi passes through the Mahabindu into Kaivalya, the Absolute.

But wait! There’s more!

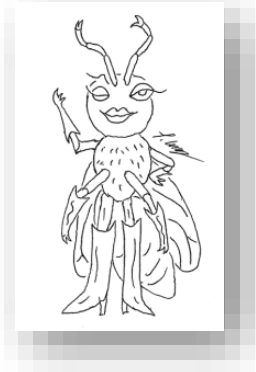


Where are we?

We need now to recall the discussion that our perceptions of the physical world are analogous to how a fly perceives our human world. The fly perceives us, certainly, but has no idea, nor could she ever have any idea, of human life in human terms. This is how it is when we look at the Earth, the Solar System, the Galaxy, and our Universe as a whole.

These are the main natural structures we perceive via our physical senses. We haven’t always perceived the Universe this way. The ancients knew of the planets, but, like the fly, had no idea what they were, other than just being little points of light “wandering” in the sky.

[Chapter 3](#) discussed the uphill battle that Galileo and his peers had, a mere 350 years ago, trying to convince a bunch of know-it-alls that the Earth is a huge, spinning, relatively spherical rock. Once the idea caught on, it was certainly a turning point in our perception of whatever this thing is we find ourselves inside of.



Once the heliocentric view caught on, the Earth and the solar system became Big Things. Our Big solar system appeared to float in an ocean of stars, which people came to accept were other suns, vindicating [Giordano Bruno](#), who previously was burnt at the stake for this and other heresies. Even Einstein saw the Universe as the sea of stars through which our solar system floated for a good part of his career.

[Edwin Hubble](#) was the tip of a spear that recognized that some of the “stars” out there weren’t stars at all. Instead, these “nebula” appeared to be made of millions or billions of stars. In addition, the stars around our solar system were found to be part of a greater structure. I am of course talking about [galaxies](#). This brings us up to about the 1920s. Not even 100 years ago. **Not even 100 years ago** people came to understand with certainty that stars form Super Gigantic Whirlpools called galaxies. It’s not that we live in a sea of stars. We live in a [sea of galaxies](#).

This is what we know today. Unfortunately, the story of where we live will not keep growing the same way it did in the past. We can [only see so far](#). We can only see as far as light rays have time to travel. This is called the “[cosmological horizon](#)” of the universe. If we happen to be inside of some kind of structure in which the galaxies are basic units in the same way that stars are basic units of galaxies, we will never be able to physically observe it. We may be able to mentally infer such a structure one day, but we will never observe it. Hence all the hoopla currently about “[multiverse mania](#)” [Please note, I am aware of the [filaments](#) of the large scale structure of the Universe. I am saying we will never see the whole structure of which these filaments are sub-structures.]

So, Western science has discovered, in its brief 350 year existence as a member of the Human Knowledge Team, that the Earth is a Big sphere-like rock, spinning around a Super Big Sun, all of which is part of a Really Super Big solar system. And this Really Super Big solar system is on the scale of being a grain of sand in the Massively Giant Really Super Big galaxy we live in called the [Milky Way Galaxy](#). And this Massively Giant Really Super Big Milky Way Galaxy is on the scale of a proton in this Unbelievable Outrageously Super Ginormous Massively Giant Really Super Big thing we call the “[observable universe](#)”.

Given **this whole picture is less than 100 years old**, I am simply shocked that so many [pygmies](#) out there are so smug and arrogant to think they understand where we *really* are and what all this means.

Well, here’s the punch line: Each of these natural systems we have observed, the planets, stars and galaxies, and the Universe as a whole (and what might be between galaxies and whole universes, which we won’t ever know physically), each of these is a LOGOS.

What the Heck is a Logos?

The term “[logos](#)” has its roots in ancient Greece. Click the Wikipedia link and see the ontological confusion surrounding this term. In Western parlance it is related to our modern term “logic”. Logic is a mental thing, a mental pattern, a “plan” perhaps. But yet, according to the ancient Greeks, it was also some type of a being—

they gave it the name “[Demiurge](#)”—that had something to do with creating something: the universe, reality, the “world”? As with most things Western, it’s not quite clear and a bit confusing.

The Eastern ideas are not so confusing, but clarity comes with increased abstractness. Logoi are beings, just like you, me, a cat, and a fly. They are the higher order forms of life in the Universe that we humans are simply not equipped to directly perceive as beings. A fly sees me, but has no idea, nor can it ever have any idea, that I am a being like it is. Likewise, in our physical form as humans, we’ll never be able to perceive or comprehend a logos.

In our perception of the physical world, one species of logos look like planets. Another species of logos look like stars. Yet another species of logos look like galaxies to our little human minds. And the biggest species of logos we can spot looks to us like a whole universe. Since we can only and forever see one of that type of logos, we should perhaps be respectful and call it *the Logos*.

As a human being, in the state of *paranga cetana*, with one’s consciousness directed outwardly, we simply cannot perceive these different grades of logoi any differently than we do. They appear to us to be the environment that we are *inside* of.

However, when one practices yoga and masters samadhi, one can travel through the realms of the gunas, the Unmanifest, and the Absolute. Then, one gets, to purposely use understatement, a different perspective.

Did you think the picture above of Vishnu literally sweating universes in uncountable numbers was just some fanciful creation of a human imagination? Well, I am sorry to disappoint you if that is what you thought. Not so. The image comes from what advanced yogis directly perceive in the depths of samadhi.

Van der Leeuw described as much:

“Let us then once again withdraw from the contemplation of our own world-image and turn inwards through our centre of consciousness, entering the world of the Real. In the world of the Real...all things there are essentially the same, an atom of matter as well as a living being. They are all modes of the Absolute and their differences are not differences in being, but only in fullness of realization...”

“In the world of the relative truly there is always greatness beyond greatness, and when we have reached the greatest, noblest we know or dimly apprehend, yet wider vistas open up before us and we see a greatness undreamt of at our previous level of understanding.”

He [presents these ideas](#) (Chapter 4 for you citation checkers out there) in much the same context I am using here. He is discussing the ascending hierarchy of beings within beings within beings, *inside of which we live*. This is always the vision of all those who have learned how to see it.

Wrap Up for this Chapter

So, yeah...this thing we are inside, that we call “the universe” and glibly act as if we understand it, is WAAAAAY more abstract and freaky than our little fly-like imaginations can grasp.

Like the snake shedding its skin, some humans have been able to shed the encumbrances of the lower forms of being human that we call “physical” and have had glimpses, via samadhi, into the *real* nature of this thing we are inside of. What we are inside of they call “The Absolute”. In this Absolute are all manner of levels that are completely invisible to our physical senses. What’s more, the different levels are living beings, like us. The Universe, the Relative Manifestation, is a vast hierarchy of minds within minds within minds, of conscious beings within conscious beings within conscious beings.

This is not to say or imply physics is wrong. Not at all. It is to say that the picture physics has concocted in its mere 400 years, and really in **less than 100 years**, is hardly the whole story. The physics story is missing essential parts like, say: “What is the mind?”, “How do minds relate to this physical universe we perceive?”, “What does it even mean ‘to perceive’?” and so on.

When these missing pieces start to get added into the picture, as the yoga methods allow us to do, it “disturbs” the rather smug, small, and prematurely confident picture of a ginormous universe of useless, “dead” matter that materialism, using physics as its bitch, wishes us to believe in.

Instead, yoga paints a picture of the universe that is both infinitely more terrifying, yet infinitely more comfortable than the “dead universe” of European materialism and modern physicalism. We live, move, and have our being inside of a hierarchy of minds. Here are the streams of consciousness running in each of our minds:

- Our own personal stream of consciousness
- The Earth’s stream of consciousness
- The Solar System’s stream of consciousness
- The Milky Way Galaxy’s stream of consciousness
- [Others we don’t know about]’s stream of consciousness
- Our Universe’s stream of consciousness

Each is a mind, inside of a mind, inside of a mind. All of the minds are connected by their bindus. The light of consciousness shining in our mind is also the light of consciousness of the Earth, the Sun, the Galaxy, the [unknown others], and the entire Universe.

This is what Taimni’s picture above is meant to represent.

Perhaps by now you think I am [batshit crazy](#). Nope, again, sorry to disappoint. Just abstract is all. I told you we were going Through the Looking Glass. You’re the one that followed me in here, so don’t blame me, I’m just the tour guide.

One last thought to drive home what has been said above. Do you know why God knows everything? It is because God sees out of the eyes of every creature and being that exists. God does not have some all-knowing book or computer data bank, or special “equation of the universe” that has every fact about everything programmed into it. It’s not like that at all.

No, God is there, present always and at each moment in your awareness, in my awareness, in my cat Ashna’s awareness, and in Mr. and Mrs. Fly’s awareness, and in all awareness wherever and in whatever form it is to be found. God co-perceives what all beings perceive, co-thinks what all beings think.

God sees out of everything’s eyes all at once.

George Berkeley would sob with uncontrollable happiness at this vision, and is probably doing so in Heaven right now.

Please join me in the next chapter as we begin to make sense of this seeming nonsense.

13: Minds Within Minds Within Minds



We now wish to see if there is a plausible path from where we ended in [Chapter 12](#) to something even remotely rational. The answer is yes. We'll use wave superposition and fractals on the intellectual side, and Leibniz on the intuitive side. However, don't forget we are still inside the Looking Glass. Things are still very weird and abstract, but we'll superimpose some sense over what otherwise appears as nonsense.

To quick review, Taimni not only echoed Berkley's original conception of idealism, but amplified it massively. Instead of just "God" projecting thoughts into our minds, our awareness is made of many simultaneous streams of consciousness. To repeat:

1. Our own personal stream of consciousness
2. The Earth's stream of consciousness
3. The Solar System's stream of consciousness
4. The Milky Way Galaxy's stream of consciousness
5. [Others we don't know about]'s stream of consciousness
6. Our Universe's stream of consciousness

This is a nested, hierarchical, fractal-like structure of waves, as explained below. This structure is the **inverse** of what is experienced in Kaivalya. Remember when van der Leeuw flipped inside out during dharma mega samadhi (end of [Chapter 1](#))? What we now describe is that "thing" as it appears on this side of the Mahabindu.

Let's think about our own thinking to get some orientation.

We All Know Everything

Taimni's quote from [Chapter 11](#) still has some mileage. I'll shorten it to get to the point.

“...the world of the mind...in which we live and which alone we are aware of directly, is the result of the combination of two sets of phenomena which are interwoven...One set of phenomena is produced by the impact of the world around us on our mind, and the other set by the activity of our individual mind itself. The rising and setting of the sun and other natural phenomena...produce a series of mental images which are independent of the activity of our own mind. But these images are mixed up with the images produced by our own mind, independently of the external world.”

Taimni is pointing out something similar to what Berkeley described:

“We may even assert, that the Existence of God is far more evidently perceived than the Existence of Men; because the Effects of Nature are infinitely more numerous and considerable, than those ascribed to humane Agents.”

Let's think of this in terms of the yogic view of consciousness. Pretend you observing the following scene. Via the yogic model, this means the scene is projected onto the cave wall (screen) of your consciousness.



Figure 1: A random scene you might perceive.

Where did this projection come from? Did you make this scene up whole cloth? Of course not. Most of it was “brought into” your mind by your senses. How much of this scene is the product of *your* mind? We can break it up into two scenes:



Figure 2: How most of what you perceive is not you.

As this illustrates, very little of what you encounter in your mind was put there by you. None of the “perception part” of the scene was put there by you, other than that you directed your attention to perceive it in the first place. What you put in the scene was a bunch of meanings, interpretations. Further, the meanings you put there were by no means all-encompassing. The main meaning “Mmmm, I’m hungry” is what led you to the scene in the first place. In this example, what is noticed is relative to the goal of satisfying one’s appetite. This is meant to illustrate the general fact that we see in a perception what we want to see in it, not the perception as it is in itself. And I’m not even trying to take Kant into account here. I am just talking about normal perception. You see what you want to see.

What this looks like from the yoga projection model is this:

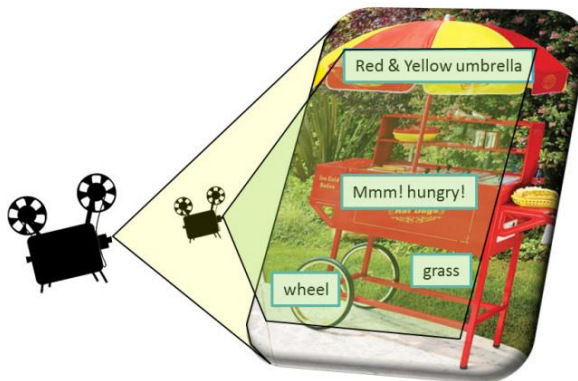


Figure 3: Who’s projecting the projector?

Something else projected the overall scene. You projected on top of the projection. The big projection even projected you. The light illuminating the scene came from the Sun. All the objects there, ultimately, came from the Earth. Some of the objects are still “earthy” like the grass and foliage—and you. Some of it is “earth” transformed by other humans, like the hotdog stand and the hotdogs.

So, in this scene, we see three of the streams running simultaneously: your mind, the Earth’s mind, and the Sun’s mind. These are the “dominant frequencies” of the scene, if you will. In the image above, the Earth and the Sun’s minds are lumped together into the bigger projector.

However, the other minds are there too, but they are deeply “buried” in the scene and not so obvious. The Milky Way galaxy’s mind is there too, holding our solar system in place, so the Sun can illuminate the scene, and the Earth can provide the setting for scene in the first place. The whole universe is implicit in the scene because it holds the galaxy in place to hold the Sun in place, and so on.

All of this perhaps sounds silly. The only reason it does so is because all you care about is eating the hot dog, and not paying attention to the other details of the environment. However, if you let go of your immediate self-absorbed needs, and become purely intellectual, it is apparent that any scene you encounter in your perception, just like the one above, implies the entirety of existence. We perceive everything, all the time.

Leibniz Knew This

Every single thing you perceive implies, and therefore contains, everything that exists. This is a consequence of the fact that everything comes out of the Mahabindu...but I get ahead of myself. Leibniz offered another way to look at what I described above. Let’s consider his idea of “confused feelings”. The following quote is from *Discourse on Metaphysics*, section 33, [Jonathan Bennett’s translation](#):

“We can also see that the perceptions of our senses, even when they are vivid, must necessarily contain some confused feeling. For since all the bodies in the universe are in sympathy, our body receives the impressions of all the others, and although our senses are related to everything, our soul cannot possibly attend to each particular thing. Thus our confused feelings result from a downright infinite jumble of perceptions.”

“In somewhat the same way the confused murmur that people hear when nearing the sea shore comes from the putting together of the reverberations of countless waves. For if several perceptions don’t fit together so as to make one, and no one of them stands out above the rest, and the impressions they make are all just about equally strong and equally capable of catching the soul’s attention, it can perceive them only confusedly.”

This is a key insight that seems to go unnoticed in Western thinking. Reductionism has blinded people to this reality: *one thing implies all things*. Leibniz' use of waves at the beach is a perfect example. If you go right to the shore, you can hear the sound of individual waves. If you back away, you hear only the composite sound of all the waves. Your senses are hearing every single wave, but your mind is not interpreting it as such.

Leibniz idea of “perceiving confusedly” is a very, very important idea we will continue to draw on to the end of this book. On the introspective side, it is the glue holding my argument together. In fact, Leibniz understood the implication of his wave analogy and he took it to its logical extreme. Each of our minds knows everything, all the time. In his words, from Paragraph 56 of his [Monadology](#):

“56. Now, this interconnection, or this adapting of all created things to each one, and of each one to all the others, brings it about that each simple substance has relational properties that express all the others, so that each monad is a perpetual living mirror of the universe.”

We will have much more to say about Leibniz and his monads as we progress, but for the moment, we've just brought him on stage to make the above points which I summarize as follows:

In every perception we have, the entire universe is present in, as he puts it, a state of “confused feeling”. There are different degrees of clarity. What is right in front of us, and to which we direct our attention, we experience relatively clearly. However, that small piece of reality on which we are focused, the focus of attention, is always supported by the rest of the universe.

Where does one perception end and another begin? They don't end. They all bleed one into the next. Each implies the whole of manifestation. What is not the focus of attention is the “confused feeling” Leibniz spoke of, where all of everything else just lumps together to form the nebulous background of the momentary focus of attention. This background becomes the subconscious and unconscious minds, the hidden substrates supporting the momentary focus on the screen of consciousness. In this manner, the perceptions of each being mirrors the perceptions of all other beings.

Can we do more with this than what Leibniz did? Of course we can. With 400 years plus of mathematics under our belts, we can express the relationships Leibniz was trying to convey more concisely. The relationships he was speaking about are today best conveyed in terms of how we understanding waves.

Elementary Wave Theory

Waves are well-known and elementary in math and physics (so to those of you who know this stuff, please just bear with me). First let's consider how a wave is described. Waves in general are easy to understand. They have three main properties: amplitude, frequency, and phase.

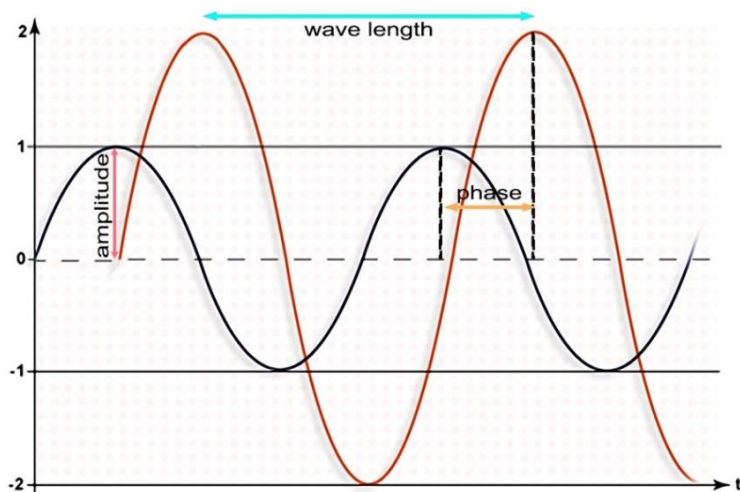


Figure 4: Basic wave terminology

Amplitude is how tall the wave is. For sound waves, the amplitude is how loud the sound is. The taller the sound wave, the louder it is. In general, the higher the amplitude, the more **intense** the way. The red wave has higher amplitude than the black wave. **Frequency** is how many waves pass by in a given amount of time (say 1 second). The more waves, the higher the frequency. We understand frequency as is pitch (for sound) or color (for light). One divided by frequency is **wavelength**. Higher frequency waves have shorter distances between the peaks. **Phase** measures how the peaks of different waves line up. The distance between the peak of the black and red waves is the phase between them. Phase is important because it plays a role in how waves add and subtract with each other.

Adding and subtracting waves is called [superposition](#). The formulas are easy, but unnecessary here. The pictures I calculated in Figure 5 allow you to intuitively understand how wave superposition works. Panel A in Fig 5 shows four different [sine waves](#) (for the geeks, the parameters are in the figure legend, but aren't important for the conversation). Wave 1 (red) has a high amplitude and low frequency. Waves 2 (green), 3 (blue), and 4 (magenta) have progressively decreasing amplitudes (heights) and increasing frequencies. So, wave 1 is like a loud, low-pitch tone, and wave 4 is like a quiet, high-pitch tone, and waves 2 and 3 are in-between.

The remaining panels show what happens when you add the waves together or, *superposition* the waves. Each panel lists which waves were superpositioned.

Panels B-D superposition two waves. Panel B shows adding waves 1 and 2. Panel C shows adding waves 1 and 3, and panel D shows adding waves 1 and 4. The point of showing these is to illustrate how the lower frequency wave (wave 1 in this case) serves to *carry* the higher frequency wave. The higher frequency wave “rides” inside of the lower frequency wave. The low frequency wave is then called a carrier wave, also sometimes called an “envelope”.

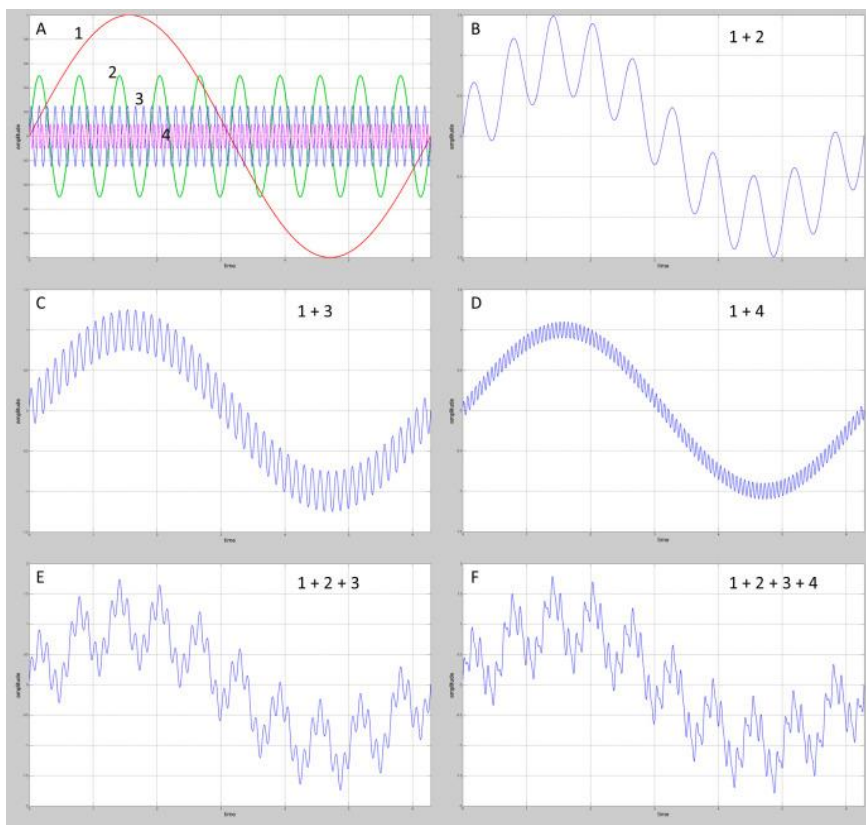


Figure 5: Waves calculated by $A \cdot \sin(w \cdot t)$ with $0 < x < 2\pi$. (A) Wave 1: $A = 1, w = 1$; wave 2: $A = 0.5, w = 10$; wave 3: $A = 0.25, w = 50$; wave 4: $A = 0.1, w = 100$. (B) – (F) Superposition of waves in panel A as indicated in each panel.

You can add together more than just one wave. Panel E adds waves 1, 2 and 3, and panel F adds all four waves together. The result is something kind of like a fractal: waves within waves within waves. Wave 4 is in wave 3 which is in wave 2 which is in wave 1. But it's not a fractal technically speaking; it's just superposition, adding waves together.

Fractals

If someone today doesn't know what a [fractal](#) is, they were either just born or they live under a rock. Let's quick review, just to put us all on the same page.

Fractals are shapes that have the property of having the same shape embedded in the same shape embedded in the same shape, in theory, *ad infinitum*.

Mathematically what makes fractals special is that they have dimensions that are not integers. Recall that a point has 0 dimensions, a line 1 dimension, a plane 2 dimensions, a cube 3 dimensions, and so on. The Koch curve below is a wiggly line and has a dimension greater than 1, but less than 2 (the actual dimension = 1.26186).

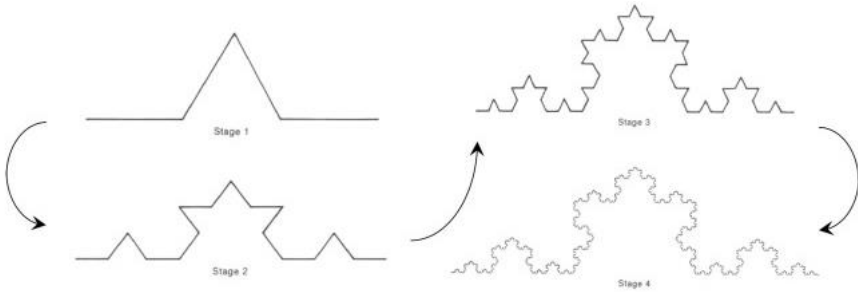


Figure 6: A fractal made up of triangles that get shrunk by a factor of $1/3$ rd and then placed into the middle $1/3$ rd of the bigger triangle. This fractal was discovered by [Helge von Koch](#) and is called a [Koch curve](#).

Fractals and Superposition

It doesn't take a genius to see that the superimposed waves in Panel F look like a fractal. Mathematically, they are not identical. However, conceptually, they have a similar thing going on: as you get smaller, you find new detail. For the wave you find the higher frequency, low amplitude signals. For the fractal shown, you keep finding ever-smaller triangles.

So, waves and fractals have places where their characteristics overlap. But they are also different and do different things. For one, waves move, as we all know watching water waves at the beach. Geometric fractals, like that shown, do not move. You can have fractal patterns vary over time ([typical citation here](#)), but this is not the same as a wave. Waves, as applied practically, are integer dimensional, unlike fractals. All the waves above are 1 dimensional.

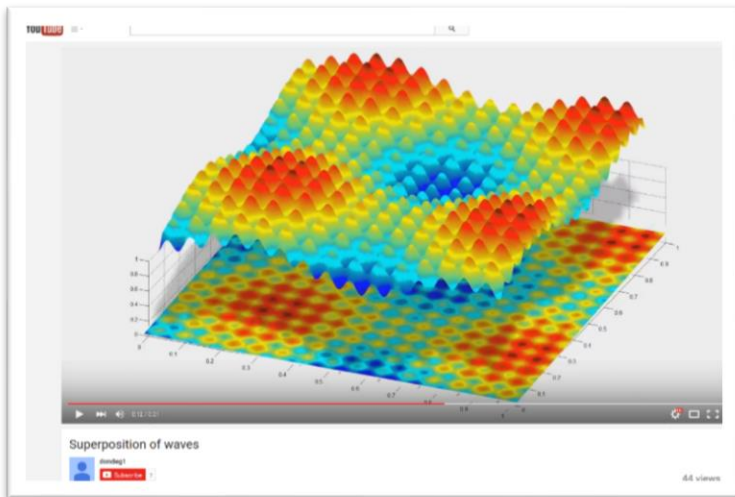


Figure 7: <https://youtu.be/hpABTtYTQyI>

To remind everyone that waves move, I calculated the animation in Figure 7 that shows movement of 2-dimensional waves, like on the surface of a lake. The animation shows low amplitude, high frequency waves “riding” within large amplitude, low frequency waves. This animation is also presented to help build some intuition for how the four levels of the gunas are related amongst themselves, which we get to ahead. To foreshadow: the finer gunas ride inside the courser gunas, just as found with wave superposition.

Math Wrap-up

The above is a cursory and very simple introduction to waves and fractals. It is good enough for our purposes here. We want to think of waves exactly as they are meant to be understood: as vibrations. The main thing we are interested in is that waves can superposition with other waves, generating complex *wave forms*. For fractals, we will think of them something like Russian nested dolls having the property of “things within things within things”, a property called “nested”, just like the dolls.



Figure 8: (Left) waves = vibrations. (Middle) fractal = things within things within things. (Right) superposed waves within waves within waves resemble fractals.

Using the logic of [Chapter 8](#), waves and fractals provide us math patterns—patterns of relative relationships—that we can use to provide a “map” of how the inner realities of the mind are organized.

With these notions, we can summarize the picture we’ve seen so far inside The Looking Glass.

Minds within Minds within Minds

Recall the very definition of yoga from aphorism 2 of Patanjali’s *Yoga Sutras*:

“Yoga chitta vritti nirodhah”

Yoga is the cessation of the **mind waves**. Yoga is the cessation of the whirlpools of the mind. It has always been accepted in yoga that the mind is a wave-like phenomena. Taimni modernizes these ancient notions when he said:

“The Divine Mind must act on the individual mind through a mental mechanism and it is the nature of this mental mechanism that we shall now consider in a general way.”

“Let us begin our study with the brief consideration of a natural principle which operates in the realm of so-called physical phenomena and which may be referred to as the object-image principle. According to this principle it is possible to convert one kind of physical phenomena into another kind of phenomena and back again into the original kind of phenomena through the instrumentality of an intermediate mechanism which works automatically.”

“Let us take a number of concrete examples to illustrate this principle. The sound waves produced in talking can be converted by the mechanism attached to a telephone into electrical impulses. These electrical impulses are carried along a wire and when they reach the receiving end are again converted into sound waves which are exactly similar to the original sound waves. Take another example. Music is broadcast from a transmitting station. An apparatus converts the sound waves into electro-magnetic waves which fill all space. Any radio which is tuned to those waves, catches them, converts them back into sound waves and we hear the music exactly as it was broadcast from the transmitting station.”

“This principle is utilized in many ways in scientific inventions of various kinds and can provide a clue to the mechanism of interaction between the Divine Mind and the individual minds. It shows how the ideas which are present in the Divine Mind may be reproduced in the individual minds but through the instrumentality of an intermediate mechanism. Divine Ideation may be considered to be like the broadcasting of music or pictures from a powerful transmitting station. The appearance of the mental images in the individual minds is like the reproduction of the music or pictures in the radio or TV sets.”

“There is, however, one point of difference which should be noted. The world image in the individual mind is not an exact reproduction of the Divine Thought, only a partial and frequently distorted reproduction on the spiritual planes and not even that on the lowest planes. This is obviously due to the limitations and imperfections of the individual mind. Even in the case of a radio we see that the quality of the instrument makes a great deal of difference. Each radio is sensitive only to certain bands of wave-lengths and can catch the electro-magnetic waves within those limits.” (MGU pages 426-427)

“God” is a giant radio transmitter buried in the depths of our subconscious mind, buried in the bindu, and our minds are like little receivers for these broadcasts. We can recast Taimni’s conception in terms of the wave ideas discussed above (Figure 9).

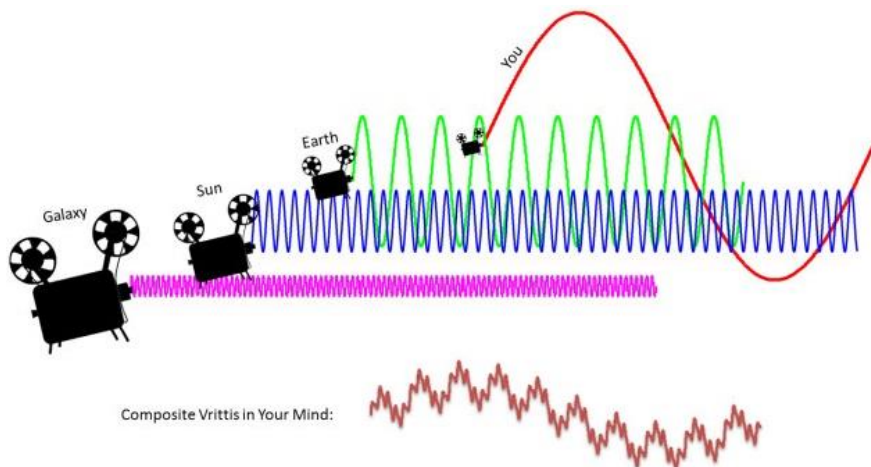


Figure 9: Our minds are composite “waves” of the vrittis of the minds of the higher order structures in which we are embedded: Earth, Sun, and Galaxy are depicted here.

What Figure 9 is meant to depict is how the Galaxy projects a “very fine” mental image. Our Sun is but one small element in the Galaxy’s mental projection. In turn, the Earth is one element within the Sun’s mental projection. And in turn, you and I are but small elements within the Earth’s mental projection.

The image above makes no attempt to accurately depict the relative scales of the wave frequencies. The difference between the scale of the galaxy and that of the Sun alone would render the Sun invisibly small. We are invisibly small compared to the Sun.

Again, our perceptions of these entities is analogous to how a fly perceives us. We perceive the images projected by these “Great Beings” into our mind only as the space and environment in which we seem to be. We have no idea, in general, that these images are projected into our mind by the thoughts occurring in the minds of the Great Beings we are inside of, and to whom we are but infinitesimal components. Much like how the bacteria in your gut relates to how it is inside of you.

Some Readers might be confused by the Galaxy projecting the small fast waves, and us humans projecting the big slow waves. This speaks to what wave frequency means in physics: the higher the frequency, the higher the energy. Figure 9 is meant to depict the relative frequencies, or energies, of the respective minds. The Galaxy is very high energy compared to us. It projects into our mind at such a high frequency/energy, that it is invisible to us, for all practical purposes.

The Sun is a microscopic element in the Galaxy. Our Sun is as significant to the Galaxy as that bacterium is in your gut. The Sun’s mind also projects a high frequency wave into our minds, but it is a low frequency relative to the Galaxy; and similarly with the Earth. But we perceive the Earth’s frequencies readily; they make up our perceptions of this whole planet on which we live, move, and have our being.



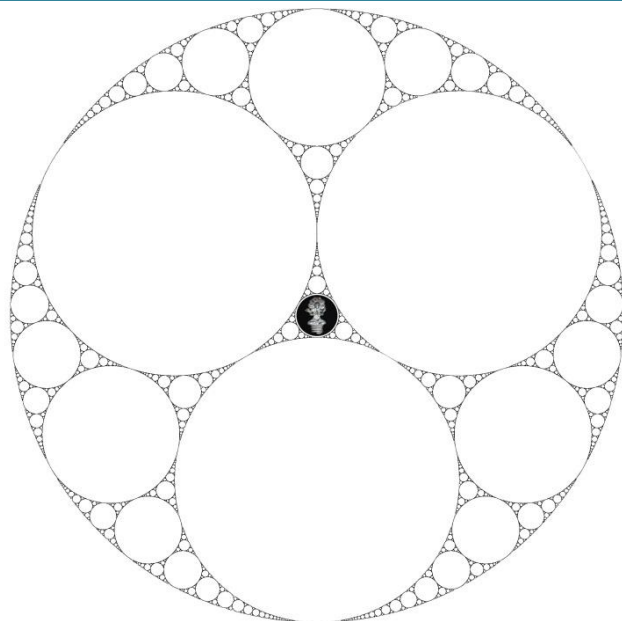
Figure 10: Our universe's 4-headed Brahman in awe at the other Brahman. I just love this picture for what it implies.

Our minds exist inside of the Earth's mind, which exists inside of the Sun's mind, and so on, all the way up to the Universe as a whole. And then, since this is Hinduism, and we are still in the Looking Glass, we can go past our single universe with its [lone four-headed Brahman](#), and into other universes, until the minds disappears into a mist of unknowing our very small human imaginations simply can no longer contain.

Yes, this is yogic cosmology. What were you expecting? The Hitchhiker's Guide to the Galaxy?

The next chapter continues our tour inside the Looking Glass, where we will frame this hierarchy of minds within minds within minds (and so on) in terms of Cantor's kooky transfinite numbers.

14: Transfinite Madness



The Mahabindu is the point that connects the Absolute to the Relative, connects zero to infinity. While Inside the Looking Glass, we fall down the Rabbit Hole.

Recap

The previous chapter ended on the completely far-out notion that our minds, both in their conscious and unconscious aspects, are not really “our” mind, but are composite entities, where the vast majority of what constitutes my (or your) mind is put there by other sources. We initially invoked Berkeley, who saw “mind” as a dual composite of “me” and “God”. We then brought in Taimni’s Hindu notion that directly linked the sources of “mind” to the natural structures that make up the Cosmos in which we find ourselves.

This all gets rather awkward to express in words, and so the following pictures were used (Figure 1). On the left is Taimni’s conception of the structure of reality. This picture derives from Hindu and yogic thought which, as a variant of Idealism, sees reality as mind. Not just mind, but minds within minds within minds.

The top level, the “biggest” mind, is the Mahabindu. Sub-minds “emit from” or “bud off from” the Mahabindu. These are the innumerable universes flowing out of the Absolute. Because a picture is worth a thousand words, here is another beautiful Hindu image of the Absolute/Mahabindu/Infinite Universes combination.

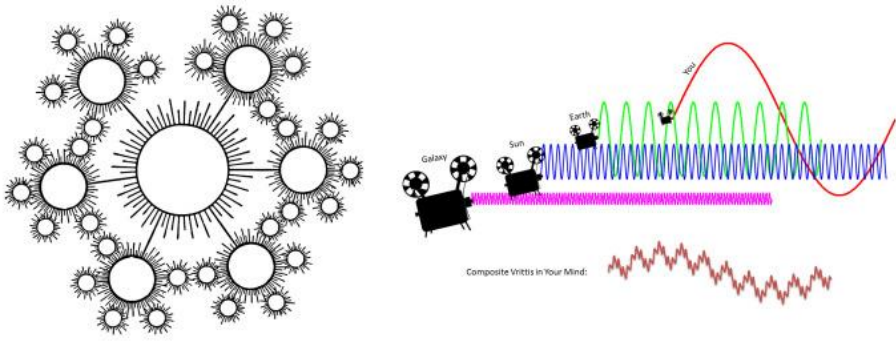


Figure 1: Left, Taimni's view of minds within minds within minds. Right, my interpretation of Taimni's mind-fractal.



Figure 2: Krishna and Radha as the Shiva-Shakti Tattva at the heart of the Mahabindu giving rise to uncountable universes via Virat or Vishnu, who instinctively emanates universes.

Within each universe are innumerable elements. At present, the most basic unit we can identify are the galaxies. Within each galaxy are innumerable stars, and around each star are innumerable objects.

We recall Alister Crowley from his *Book of Lies*:

“The Word was uttered: the One exploded into one thousand million worlds.”
“Each world contained a thousand million spheres.”
“Each sphere contained a thousand million planes.”
“Each plane contained a thousand million stars.”
“Each star contained a many thousand million things.”

Crowley’s is a characteristically Western way to describe it, where we are standing as less than infinitesimal specks immersed in the immensity of this inconceivably complex and gigantic structure. In short, an externalized view; what we see when we look *out* at it, when we are in *paranga cetana*.

Taimni’s view is the yogic view: what we experience when we go into the depths of our consciousness via *samadhi*. Here is recognized the *real meaning* of the deeper layers of the mind, the inner layers of the *gunas*. These are not just some stage set, or dead environment, in which countless living beings act out their life dramas. No, every level is a being unto itself, composed of innumerable microscopic beings, all consciousness within consciousness within consciousness.

This is called the *Bhavachakra*, the “Life Wheel”. Here are some graphic examples drawn from the rich Tibetan tradition ([click here](#) to see a few more):



All of these images are different ways to depict how our little lives, our little consciousness are cells inside of greater beings, inside of greater beings, inside of greater beings, and so on.

The West has come to see these images as Jungian symbols of myth and archetype, assigning to such imagery intellectual interpretations - sounds, words, *sabda*. There is value in such approaches, but such understanding barely scratches the surface.

Yoga reveals these images to be the living truth of our being. Taimni, [following his own advice about relative relationships](#), sought to express these truths in a more crisp and logical fashion, for the benefit of the intellect, by his diagram above. That is, Taimni is trying to intellectually explain what the images are trying to depict literally.

Each mind is a composite of myriad microscopic minds, the net effect of which is the mind of a given beholder. It is an ascending hierarchy: monads, solar logoi, galactic logoi, and so on, up to the universal logoi and beyond into the mists of The Unknown.

My diagram only adds that we may see the various grades of minds as analogous to wave superposition. Waves of mind, nested in waves of mind, nested in waves of mind. I spoke previously about this reality in my book *Experience*, in [Chapter 5](#). There I called it “*Getting Lost in Infinity*”. The Hindus call it *Manifestation*, also *Maya*; the Relative.

When we look out at the night sky and see (with our telescopes, that is) planets, stars, galaxies, and our universe, we are seeing the inside of *Manifestation* from our little simple human viewpoint, just like Mr. Fly sees Times Square in New York City.



Do you believe them?

Pulling Off the Band-Aid

I have stretched this out much more than I anticipated. In part, it is because I did not properly anticipate how difficult it would be to try to explain this vision of reality. But now I have said enough, I feel, and it's now time to wrap all this up. I want to bring this to its punch line. I'm going to do it abruptly now, like pulling off a Band-Aid in one quick swipe. Here's the punch line:

According to Taimni, Manifestation – all of this “minds within minds within minds” - occurs within a point.

Space and time are creations of minds. Harking back to van der Leeuw and his “world-images”, space and time are relative, not absolute, realities. Let’s toss some Leibniz into our salad since he was one of the first in the West to see this clearly ([Leibniz Clarke Correspondence](#), Leibniz’ 3rd paper; as usual, Jonathan Bennett translation):

“For my part, I have said several times that I hold space to be something merely relative, as time is, taking space to be an order of coexistences, as time is an order of successions.”

Behind the appearance of the vast, seeming-infinity of Universes within Universes within Universes is a *projection* projecting out of a point: the Mahabindu. It is not real as our minds fool us to believe when we are in the state of paranga cetana. It is but ever changing patterns of relationship. Prakriti. The eternal dance of the gunas.

Existence: The Ghost of Departed Quantities

If we wish to think of Manifestation as a “real thing” we may consider it to be a point that extends for a spatial measure of unit length [delta](#). And by “delta” I mean the usual definition: the smallest number greater than zero you can imagine.

Manifestation: Maya. It is certainly a surprise “*Gottcha!*” on George Berkeley, who was uncomfortable with [Ghosts of Departed Quantities](#). All we can tell George is: you win some, you lose some.

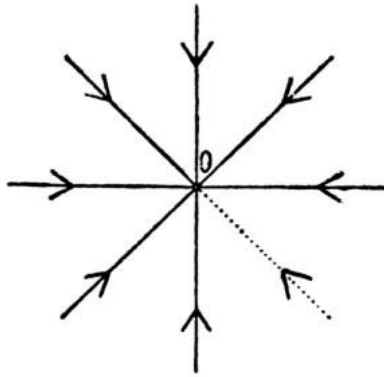
Let’s let Taimni speak on this for himself. Be prepared, it’s weird. We embark now on thinking in terms of math, of relationship:

“If the consciousness of each spiritual entity is centred in a point-and there are obviously an infinite number of such entities in the manifested universe, right from the Cosmic Logos to the youngest Monad-does it mean that these centres of consciousness are scattered throughout the vast space in which the physical universe seems to function? How then can consciousness be considered above space? How can these different units of consciousness have a common basis of underlying Reality? How can the infinite number of solar systems scattered throughout the universe be pervaded by the consciousness of the Cosmic Logos, and energized and controlled by Him?

“...The Occult conception of the relation existing between these different units of consciousness is based upon all these different centres of spiritual consciousness being centred in one Common Centre which we have referred to previously as the Mahabindu or “The Great Point”.

“But the Occult doctrine of all these different centres being rooted in a common centre will mean that an infinite number of points can occupy the same position, or can be contained in the same point. ...Let us see how.”

“The following figure represents a number of straight lines meeting at a point 0.”



“...Now try to imagine all the points, which by their movement produce the intersecting straight lines, withdrawing towards the point of intersection. What will happen in the ultimate stage when each point reaches its end? Each line is a separate entity and has its own point which traces it. This point cannot disappear into nothing when it reaches its ideal end. It must be present ideally and potentially at its terminus. But we have supposed that an infinite number of lines meet at the point of intersection. So all the points, which have traced these separate lines must be ideally present at the point of intersection. Please note the word "ideally" for in this lies the clue to the mystery. So, theoretically, the point of intersection can contain within itself an infinite number of points which have traced their separate lines in the same plane.”

The Labyrinth of the Continuum

I need to stop and interject here. Taimni is intuitively describing what was formally discovered by [Georg Cantor](#) and today is called [transfinite numbers](#), which grew from Cantor's "naïve" [set theory](#). This is an involved topic, one that is not cut and dry. In fact it is controversial to those aware of it. It involves paradoxes that sit at the heart of mathematics and therefore at the heart of the human intellect.

Cantor discovered what many consider a stroke of genius of a pivotal nature, but what others consider the height of absurdity. He was able to "prove" that there are more real numbers than integers. He did this by a simple math construction called a "[diagonal argument](#)". I will not explain it here. It is absurdly simple and you may follow the links to learn more.

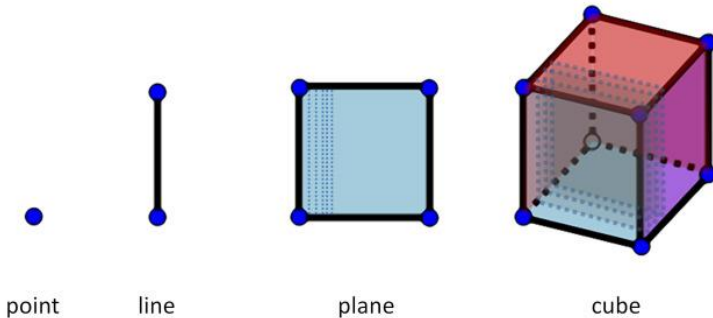
The bottom line is that Cantor appears to have shown that there are different *types* of infinity. The basic idea is illustrated by comparing the integers to the real

numbers. The integers are simply 1, 2, 3..., the familiar counting numbers. The [real numbers](#) are the integers, the [rational numbers](#) (ratios of integers, e.g. = p/q), the [irrational numbers](#) (numbers that are not ratios of integers e.g. $\neq p/q$), and the [transcendental numbers](#) (is not the root of an integer polynomial, like the number π), all taken together. Even if you don't understand the classification of numbers, it should be intuitive that adding these other types of numbers on top of the integers gives more real numbers than integers.

Cantor claimed that the *total number of integers* is a math object he called [Aleph-null](#), \aleph , which is the “smallest” type of infinity. He then claimed that the total number of real numbers, which traditionally had been called the “continuum” consisted of a “larger” infinity he called \mathfrak{c} , for “continuum”. He even proved the following math relationship showing \mathfrak{c} is greater than \aleph :

$$\mathfrak{c} = 2^{\aleph_0} > \aleph_0$$

The above provides background information that will allow us to see where Cantor took these queer notions. Consider the following figure of the simplest geometric objects:



We start with a zero-dimensional point. Then, take two points, and draw a one-dimensional line connecting the points. Then, take four lines and hook them in a square to make a two-dimensional plane. Then, stack a bunch of planes to make a 3D cube. Then we can ask the following questions: (1) How many points make up a line? (2) How many lines make up a plane? (3) How many planes make up a cube?

The answers should be intuitively obvious. It takes an infinity of points to make a line. It takes an infinity of lines stacked side-by-side to make a plane. It takes an infinity of planes stacked on top of each other to make a cube.

Now, let's take it a step further. If it takes an infinity of points to make a line, but it takes an infinity of lines to make a plane, then how many points does it take to make a plane? Again, the answer should be obvious: an infinity of points for 1 line *times* an infinity of lines to make the plane, or:

infinity x infinity points in a plane.

Intuitively, it just seems obvious that there are more points in a plane than in a line.

We can also ask: how many points make up a cube? Again: an infinity of points to make 1 line *times* an infinity of lines to make up a plane *times* an infinity of planes to make up a cube to give us:

infinity x infinity x infinity = number points in a cube.

Now, here is the weird part. Cantor was able to use his bizarre ideas to *mathematically prove* that the number of points in the line equals the number of points in the plane equals the number of points in the cube. In each case, a line, a plane, and a cube, the number of points making up these objects is c , the transfinite number representing the continuum. That is, there are NOT more points in a cube than in a plane, and there are not more points in a plane than in a line. In fact, the number of points involved is always equal, no matter how long the line, or how big the plane or cube. The [following comment from Wikipedia](#) about this topic states rather dryly what this means:

“Our intuition gained from [finite sets](#) breaks down when dealing with [infinite sets](#).”

Back to Taimni

So when we look at what Taimni is saying above about the rays of a circle approaching the center, he is discussing precisely the same type of issues Cantor discussed.

Before proceeding, it is important to emphasize that Cantor's mathematics described above is not universally accepted. Some find it repugnant. To again [quote Wikipedia](#):

“Poincaré referred to his (Cantor's) ideas as a "grave disease" infecting the discipline of mathematics, and Kronecker's public opposition and personal attacks included describing Cantor as a "scientific charlatan", a "renegade" and a "corrupter of youth."...Writing decades after Cantor's death, Wittgenstein lamented that mathematics is “ridden through and through with the pernicious idioms of set theory,” which he dismissed as “utter nonsense” that is “laughable” and “wrong”.

I present these quotes so that if you feel an aversion towards Taimni's thinking, then you can see you are in good company with the likes of Poincaré, Kronecker, and Wittgenstein.

On the other hand, if you are favorably disposed towards Cantor's logic, that kind of boxes you in to accepting Taimni's basic logic.

Finally, the way Taimni intuitively expresses the problem seems to me to better reveal the heart of the matter. Instead of asking how many points some Euclidean geometric object is composed of, Taimni asks about the very nature of the relationship between something and nothing. For a point is merely a nondescript mark, that “which is without parts”. In short, quantitatively a point is nothing, zero. Taimni is asking about the property whereby *nothing*, a point, becomes *something*, a set of rays emanating from the point.

Taimni is asking about nothing less than the age-old problem of [The One and The Many](#).

The One and the Many

Taimni continues...

“One might say that there is only one point at the centre, and the multiplication of points takes place after the central position is left. This will mean that the central point has divided itself into an infinite number of points which trace the different lines, and the same anomaly will thus appear in a different form. We are thus dealing here with a paradox which always appears when a mystery of the spiritual plane is sought to be comprehended by the intellect in terms of the intellect. The mathematical paradox we have dealt with above really represents the mystery of the One and the Many, i.e. the co-existence of oneness and separateness.”

“We have seen above how it is possible for an infinite number of spiritual entities to function in the realm of the mind from a single centre. Each entity, whether He is a Solar Logos or a Monad, projects His own independent mental world and functions in that world although He is rooted in a common centre. The common centre in the case of the Monads is the Centre of the Solar Logos to whom he is attached, and in the case of the Solar Logoi, the Centre is theoretically and mathematically possible and therefore there is nothing absurd in the idea of the centres of consciousness of an infinite number of spiritual entities like the Solar Logoi and Monads being rooted in the Common Centre or the Mahabindu of the Cosmic Logos.”

“The paradox of a number of points occupying the same position in space is seen in the correct perspective when we understand the true nature of ordinary space. Ordinary space from the highest point of view is an illusion. It is not something independent of the mind which conceives it. It is the result of the mental projection in the realm of the mind of a world from a centre of consciousness.”

“The mental worlds which are projected are worlds of different dimensions but not their source, consciousness, which as we have seen contains potentially all dimensions and can therefore be projected only through a point. Dimensions can come into play only when the threshold

of the point is passed, and pure consciousness emerges into the realm of the mind on this side of the threshold, just as colors can come into play only when white light passes through a prism and emerges on the other side of the prism.”

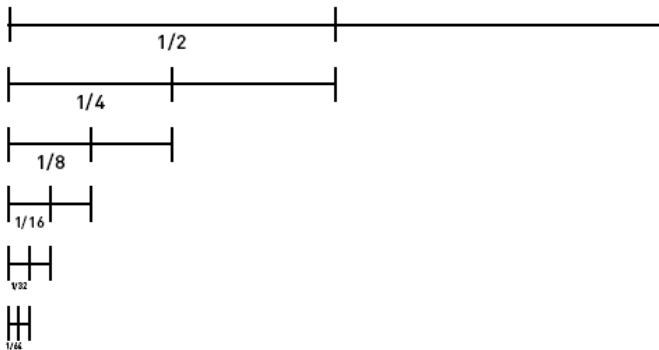
Whoa Nellie!!

So once again we are faced with the situation described in [Chapter 5](#): “*Taimni simply asserts the most abstract things. It would be the height of absurdity, but for the context.*” I defended him there and so won’t repeat myself. Instead, let’s try to decode what he is saying.

First, he is saying the Mahabindu is a point. By point, he means the classical Euclidean definition of a point as “that which has no parts”.

Then, he says, imagine spokes coming out of the point, but now follow the spokes back to the center and keep getting closer and closer. He is clearly using the math concept of a [limit](#).

A mathematical limit is a strange concept. The easiest way to think about it is to keep moving half way between a starting and ending point. Each step you take cross half the remaining distance. It is obvious you will never get to the end point because you can always cut the distance in half, no matter how small that distance is. This was one of [Zeno’s paradoxes](#).



Cut in half at each step and we never get from one side to the other.

There are a couple ways to interpret what Taimni is trying to do. One is mathematical, and the other is to try to link it to physics. On the physics side, there is the possibility that space and time are not infinitely divisible. However, given that we are talking about the Mahabindu, the limits of the physical visesa gunas simply do not apply. Therefore we will consider it from the abstract side of mathematics where we can indeed play at cutting something in half forever and ever infinity times.

Zero and Infinity Are Joined at the Hip

From this math perspective, Taimni expresses an important intuition in the above quote:

“Dimensions can come into play only when the threshold of the point is passed”

Taimni is expressing a very subtle idea. If something is zero, which is what a point is, then, when does it no longer become zero? When does it become something? Another way to state this is in the form of the question: what is the first number after zero? For people familiar with this quandary, they know there is no answer to this question. But for people to whom it is new, let's spend a minute thinking about it.

Normally, we count 0, 1, 2, 3, and so on. But there are numbers between 0 and 1, for example, $\frac{1}{2}$. We could write it in decimals: 0, 0.1, 0.2,...1, if we count in $1/10^{\text{th}}$ s. But why not count in $1/100^{\text{th}}$ s: 0, 0.01, 0.02, 0.03...1. Why not $1/1000$? 1/million, 1/trillion? Do you see the problem? What is the smallest fraction you can imagine?

Trying to imagine the smallest fraction is just like trying to imagine the biggest number. You just can't do it. For any “biggest” number you can imagine, you can always just add 1 and get a bigger number. Then invert the big number (i.e. 1 divided by the big number) and you get a small number.

Cantor side-stepped this whole issue by just asserting the existence of Aleph-null and c . The fact that he just asserted his scheme into existence is why some, like Poincaré or Wittgenstein, were (again to intentionally use understatement) “uncomfortable” with Cantor's thinking.

Nonetheless, what this illustrates is that the idea of the biggest number is related to the idea of the smallest number. If, theoretically, we had the “biggest number”, we just divide 1 by the “biggest number” to get the smallest number.

Taking this line of thought to its logical extreme, it shows us that zero and infinity are joined at the hip, you might say. We have to repeat Nicholas of Cusa here:

“Since the absolutely Maximum is all that which can be...And just as there cannot be a greater, so for the same reason there cannot be a lesser, since it is all that which can be. But the Minimum is that than which there cannot be a lesser. And since the Maximum is also such, it is evident that the Minimum coincides with the Maximum.”

Nicholas was smart. Unlike Cantor, Cusa removed the problem from numbers altogether and just spoke of the Maximum and the Minimum. They become qualities, instead of quantities. With Cusa, there are not different “sizes” of infinity, there is just a basic paradox that the Maximum *is* the Minimum, and there is only one instance of it. It is, in fact, the same solution discovered by the Hindus, which they call Brahman, or various other names.

Today there is a working concept in mathematics that corresponds to Nicholas' idea of the Minimum. I used it above: delta. The smallest quantity you can imagine

that is greater than zero. It is not a number. The whole thing doesn't make sense when you think of it as a number. Yet, in practice it works because one can just make delta equal to some really small number, and people use it all the time to solve real problems in math, physics, and engineering.

For our purposes, however, we don't substitute a number. We just use Cusa's idea of a quality that is simultaneously Maximum and Minimum. Call it delta. Imagine it is the first number after zero if you need to. Taimni refers to it above as the "threshold at which the point is passed".

We can thus interpret Taimni as follows: the unmanifest is the point, zero. The manifest is the threshold past zero, which is delta, or Cusa's Mimimum, which is also the Maximum. I stated it at the top: the absolute scale of Manifestation is delta, the Minimum, which is also the Maximum. Hopefully now I've fleshed in some meaning behind the statement.

This now is *my* assertion, *my* reading of Taimni: we can interpret Manifestation as having an absolute scale, and that absolute scale is delta. This, my friends, is the meaning I read into Taimni's "Mahabindu".

Absolute Scale? WTF?

Since this has been one of the longest chapters so far, let me wrap up for now.

The idea that there is an absolute scale to anything should send shivers up and down the spines of anyone who knows how stuff is measured in the real world. In fact, I probably sound like a complete nut job to people who know about this stuff when I use the term "absolute scale".

But my "trick" is quite obvious. The absolute scale is no number at all. It is a quality identified by Cusa as the Maximum/Minimum, and identified by Taimni as the "threshold past zero".

But if we follow Cusa's logic just one step further, we can then focus all this on how the Absolute, which is the antithesis of quantitative and Relative, can give rise to the Relative via this Ghost of Departed Quantities I am calling "delta". Cusa states it as:

"The Maximum is one."

That is not so informative. His quotes supporting this are rather long and twisted, so I will just summarize. The basic idea is that there can only be one Maximum. It is, by definition, the Greatest, the "Top", the "Big Daddy", whatever you want to call it. Since it is such by definition, there cannot be another like it. There can only be one instance of it (hint: it is Alone). So, from Cusa, we get a form of logic that was clearly expressed by a Westerner at the dawn of the modern age, but that never caught on in Western math. Instead, you got Cantor floundering in fantasies 400 years later. In the meantime, it has always been the logic of Hinduism. Here is the formula:

$$\text{Maximum} = \text{Minimum} = \text{One}$$

The Absolute Greatest is the Absolute Least is the only One of its kind. Brahman. If one is even slightly sensitive to understanding these ideas, it should give a new meaning to the term “*Holy Trinity*”.

What this means is our absolute scale of delta = Maximum = Minimum = One. And 1 implies division. 1 can be subdivided. And here is the genesis of all Relativity. Here is the Relative in the Absolute and the Absolute in the Relative. Recall this is where we began way back in [Chapter 4](#), when we spelled out van der Leeuw’s descriptions of the Absolute and the Relative.

Hinduism has always thought in this fashion. A lone Westerner, Nicholas, thought like a Hindu at the dawn of the modern age. Then everything just went its own crazy way in the West, as Manifested things are wont to do.

Where We Go From Here

Okay, we’ve now ripped the Band-Aid off. We have bottomed out on Taimni’s abstractions of what the bindu *really* is. We’ve gone full circle. Recall my initial definition of the bindu given way back in [Chapter 2](#): “...the bindu is that which links the individual to the universal.”

Now we can see in greater depth what this means. It touches on unresolved issues in philosophy and mathematics. It touches paradoxes at the center of the human intellect, paradoxes that have existed since Humans have used their minds to try to make sense of the World: What is the One and the Many? What is zero? What is infinity? What are we in relation to these things?

We have presented the Hindu answer to these questions, as filtered through Taimni’s writings, and pepper throughout with some Western contributions.

The bindu is the nexus between Absolute and Relative. It is the Source of Manifestation. It is the [Sphinx](#).

The next chapter closes out the bindu discussion by discussing how the “One” that projects through the point of the Mahabindu divides itself, seemingly to infinity, generating the vast spectrum of forms of consciousness that make up Manifestation. I’ll call this the *Spectrum of Becoming*. This spectrum is like a giant plate of spaghetti, all tangled up and plugged into itself forming a type of network that we can move around in when in the state of samadhi.



15: The Spectrum of Becoming



We near the end of our discussion of bindus by discussing how they are like a prism that breaks white light into a rainbow. The bindu disperses the unity of consciousness into seemingly infinite rainbows of consciousness, into minds within minds within minds, where each mind is a self-similar replica of the whole of Manifestation.

Chop Chop

The previous chapter got to the heart of Taimni's abstractions. He interpreted the ancient Hindu teachings using the modern vocabulary of mathematics by asserting that all the bindus were concentric with the Mahabindu. To repeat a snippet of the quote from last chapter:

“...it is possible for an infinite number of spiritual entities to function in the realm of the mind from a single centre. Each entity, whether He is a Solar Logos or a Monad, projects His own independent mental world and functions in that world although He is rooted in a common centre.”

The mind is a projection of the bindu. The mind is akin to a virtual reflection in a mirror. The source of the projection comes from the Unmanifest, and the Unmanifest comes from the Absolute. Manifestation is the **diffraction** of the Absolute through the bindu, where the One seemingly becomes the Many.

We previously defined the Hindu triple ontology of Absolute, Unmanifest, and Manifest as the three possible conditions of consciousness:

- Absolute = consciousness in perfect equilibrium.
- Unmanifest = consciousness partitioned by distinctions that perfectly cancel out.
- Manifest = consciousness in states of movement, or disequilibrium.

In [Chapter 12](#) we drew on the metaphor of the ocean depths:

“An individual who is an ordinary swimmer who enters the waters of sea disturbed by a storm will see nothing but disturbance everywhere. But an expert diver can dive into the deeper levels of the sea and be in a perfectly tranquil environment in spite of the fact that a storm is raging at the surface.”



The wavy and turbulent surface is Manifestation. It is also the surface mind. The depths correspond to the progressively deeper levels of Manifestation that bleed eventually into the Unmanifest. The depths corresponds to the Unconscious aspects of individual minds. Finally, the bedrock of the Cosmos is the Absolute, which is also the bedrock of the Individual Mind.

Macrocsm Microcosm

The individual mind is a [self-similar](#) replica of the Universal Mind. Analogous processes occur universally and in the individual. Let's consider how Taimni described this (*Man, God, and the Universe*, page 192):

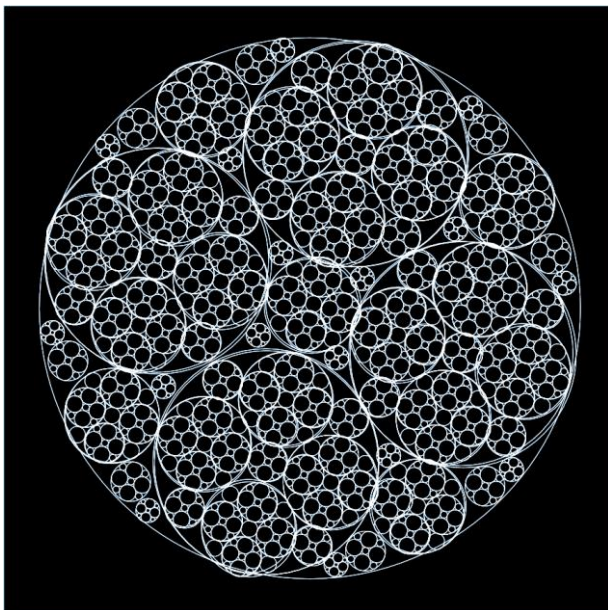
“One very interesting phenomenon which we find in manifestation is the reflection, at lower levels, of the realities which exist on the higher. The same realities which are found on the higher planes are seen in expression on the lower planes. The same processes which underlie the phenomena of Nature on the spiritual planes are seen at work on the temporal planes. The same laws which govern the unfoldment of consciousness and evolution of bodies in the spiritual realms are seen to be applicable to the unfoldment of mind and bodies on the lowest planes. This important fact ... has found expression in the well-known occult maxim “As above, so below”.

[This idea](#) is ancient in Western thought. It is the 2nd of the [seven Hermetic Axioms](#): *As Above, So Below*. In the context of Western magic and occultism, “*As Above, So Below*” is often interpreted as the correspondence between the macrocosm (God) and the microcosm (us). Again, the framework is [the two-level view](#) of things characteristic of Western thought.

In yoga, as Taimni’s quote indicates, it refers to the correspondence of events occurring on *all* the Planes of Nature. As I said a long time ago in [Beyond the Physical](#), nowadays this has a simple interpretation: the whole of Manifestation forms a fractal.

When we talk about Manifestation projecting through the bindu, the same general principle applies to the Mahabindu and all of Manifestation, to the bindu of our Universe, the bindu of the Galaxy, the Solar System, the Earth, us, and all creatures both great and small.

It is minds within minds within minds; bindus within bindus within bindus:



Van der Leeuw's One and the Many

How does the One create the appearance of the Many? The previous chapter presented Nicholas of Cusa's formula:

$$\text{Maximum} = \text{Minimum} = \text{One}$$

In the context of this rather queer equivalence, I made the off-the-cuff remark:

“One implies division. One can be subdivided. And here is the genesis of all Relativity.”

This is not my idea. I got it from van der Leeuw (*The Conquest of Illusion*, Chapter 4):

“When we consider the number one in arithmetic that number is a unity, it is entirely and homogeneously one. Yet we can also think of that number one as being composed of a vast number of fractions; we can divide it again and again into millions of fractions of different values until we are bewildered by the seemingly endless multitude of the parts. Yet, at the same time, the number one has not been touched at all in its serene unity; it is ever one, and yet at the same time it is ever these countless fractions; they are contained in it, hidden in it, present in it and one with it.”

The number 1 contains infinity in potential, in a way different from zero. Zero contains infinity in such a way that all parts cancel: this is the hallmark of the Unmanifest. The number 1 contains all fractions such that they always add to 1:

- $\frac{1}{2} + \frac{1}{2} = 1$,
- $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 1$,
- $\frac{1}{3} + \frac{2}{3} = 1$,
- and so on

The division may be “commensurate” as is $\frac{1}{2} + \frac{1}{2} = 1$. Or it may be “[incommensurate](#)” as for example: $\pi + (1-\pi) = 1$, where we get numbers that cannot be fully spelled out in decimal form and appear to be infinite to us. Leibniz had insight on this aspect of the Manifest:

“Couldn't God find a number capable of expressing exactly $\sqrt{2}$ or the length of the diagonal of a square?...If the order of things or divine wisdom demanded that God produce perfect squares, and he decided to meet the demand, he couldn't avoid producing incommensurable lines, even though

they have the imperfection of not being able to be expressed exactly—isn't that right? For a square has to have a diagonal, which is the distance between its opposite angles...It is evident that the irregularity of incommensurable lines arises from the very essence of the squares, and mustn't be blamed on God; it is evident that this incommensurability is not 'a bad thing that God couldn't avoid producing'. God could have avoided producing it by not creating figures and continuous quantities, but only numbers or discrete quantities. But that wouldn't have been the avoidance of 'something bad', because the imperfection of incommensurables has been made up for by even greater advantages: it was better to allow incommensurables to occur so as not to deprive the universe of all figures."

[\(Real-Life Dialogue on Human Freedom and the Origin of Evil translated by Jonathan Bennett.\)](#)

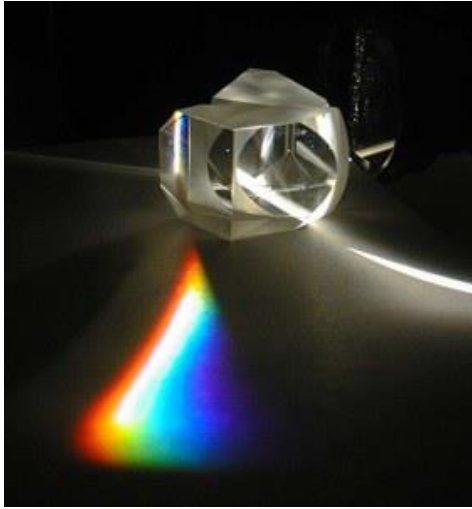
Thus, the diversity implied in 1 contains the rational numbers we can fathom, and the irrational numbers we cannot fully fathom. These are the infinite ways to divide the One into the Many.

Chasing Rainbows

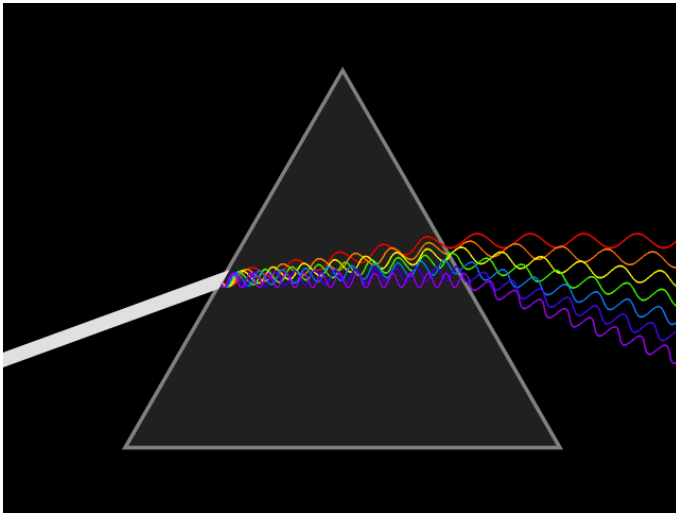
One is a complete and utter unity. But in 1 is *implied* complete and utter diversity. But how does the One actually become the Many? Imagine it as a process analogous to how white light is dispersed to form a rainbow. Again we consider Taimni (*MGU*, page 5):

“The first of the natural phenomena which we shall briefly consider is the dispersion of white light by a prism... Those who have knowledge of even elementary science are familiar with the experiment in which a beam of white light is passed through a prism and the emergent beam allowed to fall on a white screen. The image which is produced is not that of the original beam but we get a band of colours which is called a spectrum. If the original beam of white light was derived from the sun then there is also an invisible spectrum on either side of the visible spectrum which is called infra-red and ultra-violet. What has happened is that the beam of white light has been dispersed or differentiated by the prism and all the vibrations, visible and invisible, have been separated from each other, according to their wave lengths, forming a continuous spectrum. By putting another inverted prism in the path of the emergent ray it is possible to recombine or integrate them again into the original beam of white light. So the whole process is reversible.”

If you've never seen a picture of this before:



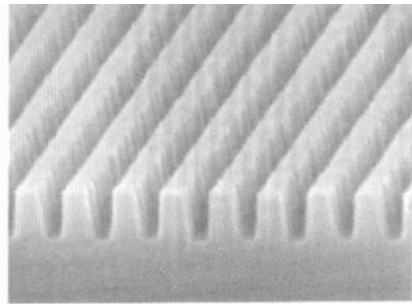
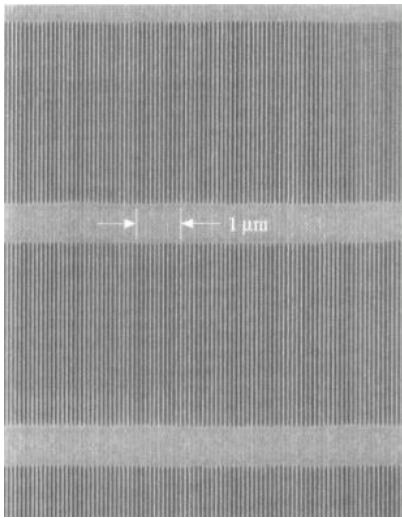
A prism works by refracting, which is bending, the light rays of different wavelengths as per the following animation (from the [Wikipedia entry on Prisms](#)):



While Taimni's intuition seems to be on to something here, we can up the ante and find a better metaphor that embeds more of the yogic view of consciousness.

Diffraction Gratings

There is another way to make rainbows from white light using diffraction gratings. A diffraction grating is a surface with hundreds or thousands of small grooves in it. Here is a microscope picture of a diffraction grating ([pic from here](#)). Notice how closely spaced the grooves are. There is less than one millionth of a meter between adjacent grooves.

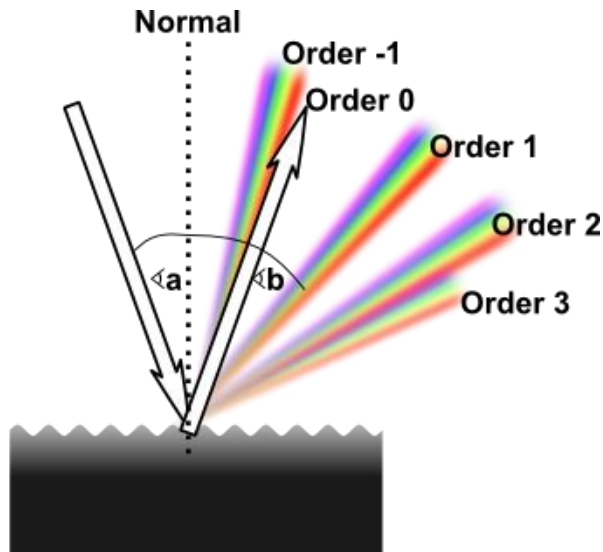


Electron microscope images of:
Left - grating
Right - grating “teeth”
One must notice the trapezoidal form of these “teeth” that is important for our estimation. We can clearly see the substrate beneath the “teeth”.

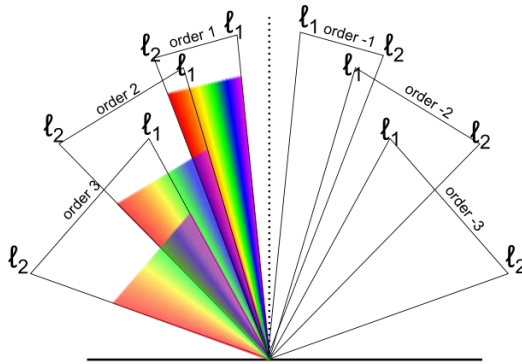
When you shine white light on a diffraction grating, it also makes rainbows, or more precisely, breaks the white light into its component spectrum.

Like its name indicates, a diffraction grating works by diffracting the light waves. [Diffraction](#) occurs when the light hits a physical obstacle. Some of the waves cancel and others add together (e.g. wave superposition discussed in [Chapter 13](#)), and the net result is a series of rainbows, as shown by the following diagram ([from here](#)):

One of the big differences between a prism and a diffraction grating is that you get many rainbows coming off the diffraction grating. These separate rainbows, as you can see, are called “orders”. They are like higher harmonics of the light interference patterns.



Here is another picture of the diffraction orders ([taken from here](#)) that shows the orders more vividly:



Taimni had the intuition that the prism could be used as a metaphor for the transition of the One to the Many by the refraction of white light into its component spectrum that we perceive as a rainbow.

If we use a diffraction grating as our metaphor, we get a harmonic series of rainbows coming out of the white light. This is reminiscent of the definition of the [Maya Tattva](#) cited before:

“...it creates the finite: the illusion of multiplicity, differentiation in multiple objects and limitation of objects. This process of manifestation is based on a series of multi-levelled reflections (pratibimba), creating a series of octaves or intervals.”

This is to say that the different orders of rainbows, of spectra, obtained from a diffraction grating is analogous to the different states of the gunas, the different orders of beings that make up the Manifested reality.

The Bindu Disperses Consciousness

Somehow the bindu must act like a diffraction grating. The intellectual skeleton of the argument goes like this: The Absolute, pure, unmoving consciousness is analogous to white light. Instead of containing different colored frequencies of light rays, consciousness is more like how the number 1 contains all possible fractions. The dispersive media is consciousness itself. When consciousness encounters itself, it breaks itself into the infinite fractions implied by its unity.

How could this even begin to work? Consciousness, when it moves, must fold back on itself and create structures analogous to diffraction gratings. Remember the term “vritti”? It means a whirlpool in consciousness.

Let me be perfectly clear. I do not know exactly how this could work. But I have speculative ideas that I now offer.

The following image is taken from Besant and Leadbeater's Occult Chemistry:

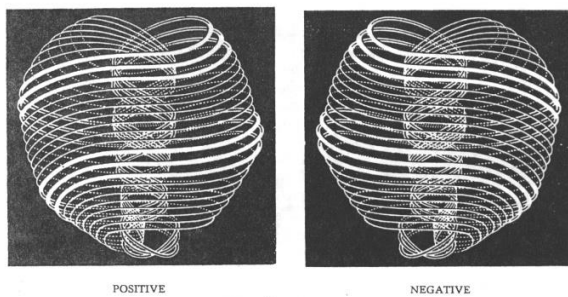
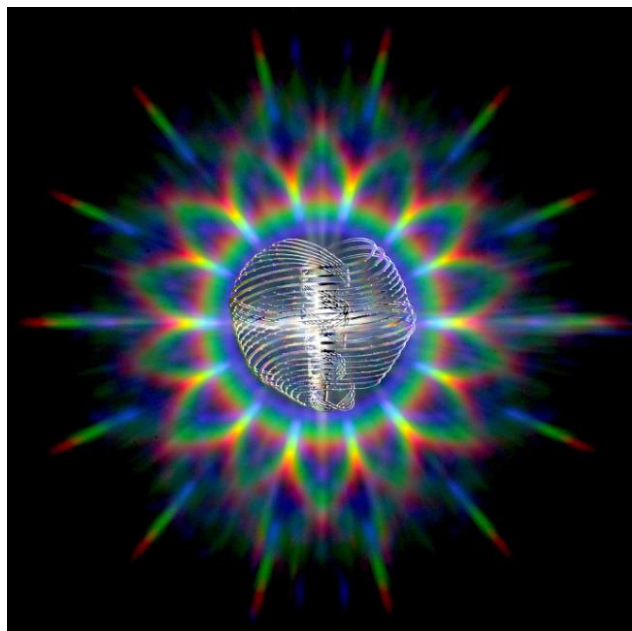


FIG. 3. THE ANU

As the label on the figure indicates, they called this the “anu”, also the ultimate physical atom, or UPA. Besant and Leadbeater claimed, by using siddhis they developed from practicing yoga, that this was the smallest physical structure that exists. For those interested in an extensive analysis of the UPA, Stephen Phillips has interpreted it in terms of modern string theory (specifically [see here](#). For his full discussion, [see here](#)).

It seems to me that all the bindus, from the Mahabindu down, must be consciousness folded back on itself to make structures reminiscent of the UPA. This is not to say that Besant and Leadbeater's UPA is the bindu, although it does not rule out the possibility either. What I am saying is that the UPA provides a model of a possible shape or structure that might act as something analogous to a diffraction grating for consciousness.



Pure consciousness, the analog of white light, wells up from the center of such a structure and then projects out of it as a spectrum, a rainbow, whereby the diversity inherent in the One manifests as a projection of the Many.

But it is not rainbows that project out on this side of the bindu, but conscious experience. The qualia that make up our experience of color, texture, the scales and harmonics of sound, the rainbow of emotions, the infinite diversity of thought, the myriad perspectives of buddhi, the infinite actions of atma, and the patterns of infinite Logoi making infinite universes.

I cannot but fall back on Leibniz immortal words from his [Monadology](#) when discussing this topic:

"If we could understand the order of the universe well enough we would find that it surpasses all the hopes of the wisest people, and that it is impossible to make it better than it is."

Tangent on Quantum Mechanics

Because quantum mechanics is relatively new on the landscape of Western thought, I want to briefly comment on how it fits in to all the weird yogic ideas I've been discussing.

As we have seen and I have repeatedly stressed, yoga is a set of practices for exploring consciousness, finding the bindu, penetrating it, and becoming the Absolute. Yoga has had better things to do than become preoccupied with the game of mathematics and how it can be used to trace out the shadows appearing in consciousness in the paranga cetana state.

The West developed science, the game of trying to trace out the shadows on the cave wall of our consciousness. The objects of perception appear to be quite solid and real, and it was perhaps natural to assume the outline of the shadows would be cut and dry.

However, quantum mechanics teaches that the lines tracing out the shadows are fuzzy. We cannot quite grasp the form of what seem to be individual objects. Furthermore, the seemingly individual objects bleed into each other, not randomly, but via complicated patterns of superposition, or what is nowadays called "entanglement".

What is quite amazing is that over the thousands of year history of yogic experience, a picture of reality formed that is qualitatively perfectly consistent with quantum mechanics. Everything involves waves and wave interactions. Waves cancel and amplify. They are here today and gone tomorrow: transient, elusive, Maya. Not just the objects of perception, but the mind itself is waves, vrittis, either in an active (kinetic) state or latent (potential) state. One cannot put their finger on these things; they are ultimately elusive.

Quantum mechanics is only weird because of the historical trajectory of Western science that assumed the objects of perception were solid and real. It is an uphill battle in the West right now for people to abandon the classical concepts of

realism and accept the implications of quantum mechanics. Again, I stress that classical realism is only a contingency of Western history. There was and is no inherent necessity for the classical Western concept of "realism".

Yoga never had a view comparable to classical Western realism. It is closest to Western concepts of idealism. But as we have seen, even Western idealism is primitive in comparison to yogic cosmology.

From the yogic view of consciousness, something like quantum mechanics is inevitable. It is in the very nature of the way the One transforms into the Many, which has been explained here by analogy to the formation of rainbows. What is being described is the general idea that when the Absolute reveals itself, it does so always and eternally as spectra, as

"...a series of multi-levelled reflections (pratibimba), creating a series of octaves or intervals."

In the context of the yogic view of consciousness, the following is all that can be said about the classical Western concept of realism: get over it.

Classical Western realism is what Patanjali called "*viparyayah*", which means (to use [Swami J's translation](#) of aphorism 1.6 of the *Yoga Sutras*; see also aphorism 1.8): "unreal cognition, wrong knowledge, misconception, incorrect knowing, not seeing clearly."

The disequilibrium that is Manifestation implies seemingly infinite spectra within spectra within spectra. Like waves on the surface of the ocean, forming, lasting for a moment, and then dissolving back into their source. They only appear to be but in fact are always becoming.

There is another aspect that classical realism missed too: The whole thing folds back in on itself, as we now discuss.

Circle of Resolutions

Had people listened to Leibniz at the dawn of modern science, the theory of the relativity of space and time might have come sooner than it did. To again repeat the idea Leibniz conveyed to Newton via Newton's crony Clarke:

"For my part, I have said several times that I hold space to be something merely relative, as time is, taking space to be an order of coexistences, as time is an order of successions."

Similarly, Leibniz had insight about the illusion of Big and Small. He expressed this poetically in his *Monadology*:

"67. Every portion of matter can be thought of as a garden full of plants or a pond full of fish. But every branch of the plant, every part of the animal (every drop of its vital fluids, even) is another such garden or pond."

Beings within beings within beings.

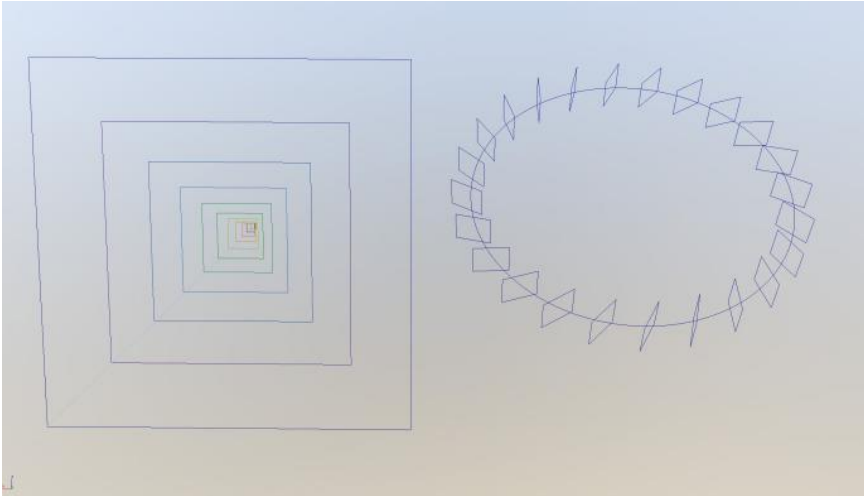
We can also get to this insight as another consequence of invoking Nicholas of Cusa's formula:

$$\text{Maximum} = \text{Minimum} = \text{One}$$

We touched on this in the previous chapter when speaking of *delta* as the absolute scale of this structure that is produced by diffracting the Absolute through the bindu. Using Cusa's formula, delta is the Maximum, and the Minimum, and it is One.

When located at any point in Manifestation, it seems to go off to infinity in both the large and small scales. However, if one was to increase their size to some ultra-large scale (or shrink to an ultra-small scale), Manifestation would again appear to go off to infinity at both the large and small scales.

This is to say, the orders of spectra emitting from the bindu, although they appear to form a linear scale of increasing and decreasing resolutions, would in fact form a circle:



The left picture shows a series of boxes, where each box is a scale of some significant natural phenomenon (electrons, atoms, molecules, cells, organisms, planets, stars, galaxies, etc.) suggesting how things seem to be bigger than us and smaller than us, forming a spectrum of scales of resolution that make up not only the physical plane, but all the planes of Manifestation.

The picture on the right is what is suggested by Cusa's formula. Here, all the boxes are equivalent. Manifestation only appears to get bigger and smaller to us because of our relative vantage point. In fact, it is a circle. It folds back on itself so that, really, there is no Maximum or Minimum, there is only One. In this way, any concepts of Maximum or Minimum become purely relative, as it should be in Manifestation. Manifestation closes in on itself. There is nothing outside of it. It has no outside.

Wrap Up

I've now said almost all of the main ideas I can about bindus. The connecting point between the Absolute and the Relative that is the center of our consciousness is abstract. There are infinite bindus; one for each mind. They are all concentric with each other. The minds are nested one within another within another, making the circular system of scales of resolution I've attempted to depict above.

The bindus link all of Manifestation into one unified structure. While all of this has sounded abstract and theoretical, it is ultimately practical knowledge. The picture of minds within minds within minds connected by bindus is necessary to explain how yoga works. If reality was not structured as I have described, abstract though it seems, yoga would not be possible.

I don't remember any promise from God that Reality would not be abstract. How abstract Reality is we discuss in the next Chapter where we tangent to discuss quantum mechanics in more detail.

16: Yoga & Quantum Mechanics I



Quantum mechanics **cannot** be used to explain the mind and consciousness, but it does provide patterns of relationship that give us deeper insight into the teachings of yoga. A key mathematical pattern underlying quantum mechanics is the Fourier transform, which can also be used to account for features of yogic cosmology.

Introduction

The previous chapter considered bindus as akin to diffraction gratings that break white light into orders of rainbows. This was intended to provide a metaphor of how minds within minds within minds project through the bindu, akin to how orders of rainbows project out of a diffraction grating. In this context, quantum mechanics (QM from here out) was brought into the discussion. I stated that QM only seems weird in the context of classical scientific realism but from the yogic perspective is quite natural.

Since QM underlies our present understanding of both light and matter, all this talk of waves, rainbows, light, etc. as analogies for understanding yogic ideas begs the question about the role of QM. Therefore, this chapter, and the next one, will be a digression on why QM is natural in the context of yogic cosmology.

Overview

QM began as a theory about light and atoms. However, it rapidly evolved into a *new and very general way to think about nature*. The shift to this new way of thinking was the dividing line between classical and modern physics.

QM introduced into physics the idea of [conjugate variables](#), or **complementary variables**, which also are called “**duals**”. This did not appear out of the blue, but evolved from an older mathematical method widely applied in physics called a **Fourier transform**. The new way of thinking about nature sees the logic of Fourier transforms playing a fundamental role in the behavior of nature. Part of our goal here is to outline what this means.

Recall that [Chapter 8](#) discussed mathematics as patterns of relationship. The Fourier transform is a pattern of relationship, one of great generality and beauty. It is applied in many domains of science and technology. Examples of technologies based on it include: radios, TVs, cell phones, microscopes, telescopes, and in a certain sense, all of QM. [We discussed](#) Taimni’s “broadcast station” idea that greater minds “broadcast” into lesser minds. The theory that underlies how radio and TV stations work is based on Fourier transforms.

Analogies between yogic cosmology and physical phenomena indicate that the pattern of relationship embodied in Fourier transforms is also applicable to the perceptions experienced in the state of samadhi. That is, similar patterns of relationship occur in yoga and QM. It is **not** that QM can be used to explain yogic cosmology. QM, as a theory of light and matter explains how light and matter work, not how minds works.

I want to be as clear as I can about this: **I am not invoking QM to explain anything to do with yoga, the mind, or consciousness**. I am saying that QM and yoga share similar underlying patterns of relationship. One of the most important patterns of relationship they share is embodied by Fourier transforms. Thus, the same deep generalities QM reveals about physical nature operate throughout the entirety of Manifestation.

As discussed in [Chapter 11](#), the basic distinction in yogic cosmology is **form versus consciousness**. It is the form side we are concerned with here. When wave concepts are invoked to explain a given form, somehow or another the pattern of relationship embodied by Fourier transforms is lurking in the picture. QM shows that the pattern of relationship embodied in Fourier transforms occurs in physical phenomena in a deep and ubiquitous fashion.

Analogous patterns can be found in yogic cosmology. Concepts such as the gunas, OM, the functions of the bindu, the types and functions of vrittis all partake of the fundamental pattern of relationship symbolized in Fourier transforms.

One wonders if William Blake realized how literal was his poetry (a shout-out to Andrew Rhodes for reminding me of this verse...):

To see a World in a Grain of Sand
And a Heaven in a Wild Flower,

Hold Infinity in the palm of your hand
And Eternity in an hour.

When similar patterns operate in different phenomena, this is the expression of “as above, so below”. Although causal interactions occur between the various scales of things, “as above, so below” does not seek to demonstrate such causality. Instead, it seeks to show that analogous patterns of relationship operate at different levels of Manifestation.

The discussion below goes as follows. I will: (1) orient the Reader to learning QM, (2) briefly review superposition, (3) discuss what a Fourier transform is, and (4) show how Fourier transforms sit at the heart of QM. Therefore, the present chapter amounts to a book report about QM. This can't be helped if we wish to have at least some modicum of depth to the discussion.

Why Quantum Mechanics is Difficult

This section is intended to help orient Readers who have vague ideas about QM. The factors that make QM difficult to understand fall into two categories: (1) legitimate scientific concerns, and (2) other stuff. Let's briefly consider two examples from each category.

Legitimate Science Concerns

1. QM was the culmination of about 300 year's prior experience in math, physics, and related empirical disciplines (chemistry, astronomy, material science, electricity and magnetism, etc.). To try to learn QM out of the blue without some knowledge of this prior history is unrealistic.

2. QM began as two independently formulated theories of atoms. In 1925 Heisenberg and colleagues published their [matrix mechanics](#). In 1926 Schrödinger published his [wave equation](#). Within a few years, these were realized to be two different ways to say the same thing. However, as stated above, something more fundamental occurred when QM came on the scene. QM gave rise to a new way to look at how nature works. This new way of thinking was then applied in a wide variety of diverse physical situations, leading to the explosive growth in our knowledge of physical phenomena during the 20th century and continuing now.

In a sense, the original QM is like the trunk of a tree. The prior knowledge in classical physics and the first two decades of 20th century physics were the roots of the tree. The new stuff to grow out of the original QM is like the many branches of the tree. If one is not aware of this tree-like relation then QM will appear incomprehensible.

The focus here, on conjugate variables in physics, is what Heisenberg et al. very consciously introduced into physics, and represents a clear dividing line between classical and modern physics.

Non-scientific stuff

1. Whole cottage industries of philosophy, metaphysics, and intellectual

speculation have wrapped themselves in the mystique of QM. Unlike what I said above about finding common patterns, these ideas instead try to use QM to *explain* all manner of fringe topics such as the mind, consciousness, parapsychology, “psi” (psychic powers). Additionally, there are fringe controversies in physics such as the many worlds interpretation, the collapse of the wave packet, and other such ideas. None of these fringe ideas affect the practical application of QM. The fringe physics bleeds into the speculative stuff. Taken together, they are like a big, dark cloud that surrounds and obscures the central scientific kernel of QM. The non-scientific topics range from interesting to stupid (leaning heavily towards the stupid), and they serve mainly to side-track one from understanding the nuts and bolts of QM.

2. The last factor is sociological. A good percentage of people enjoy being part of an “in crowd”. They also enjoy a feeling of power and authority and one-upping others. There is a certain degree of obscurity surrounding QM stemming from the expression of such factors by those who use QM in practical ways. Some of the more outspoken of these people get a sense of superiority out of using their “in crowd” language, showing people how smart they are, and other such petty psychological factors. These are the [pygmies I have mentioned previously](#), and they are prone to getting caught up in such nonsense. There is priesthood-like quality to all of this that runs hand in hand with the legitimate science mentioned above. When the practitioners revel in the obscurity and do not have the wherewithal to make things clear to laymen the result is [scientism](#) instead of science.

This is hardly a trivial observation. There is an ever-growing polarization between those lay-people who distrust all science, and those who blindly accept it like mindless lackeys. This stems in large measure from people who wish to be priests and others who wish (or do not wish) to follow priests. Let me sum this 4th point up with a quote from van der Leeuw:

“...it frightened away the investigating layman and made him feel that it was his fault, his shortcoming which prevented him from understanding its profound mysteries.... When a thing is clear [one] must be able to say it in simple and intelligible language. If he fails to do so and if many volumes must be written to expound what he might have meant, it is a certain sign that his knowledge was confused. Only imperfect knowledge goes hidden under a load of words.”

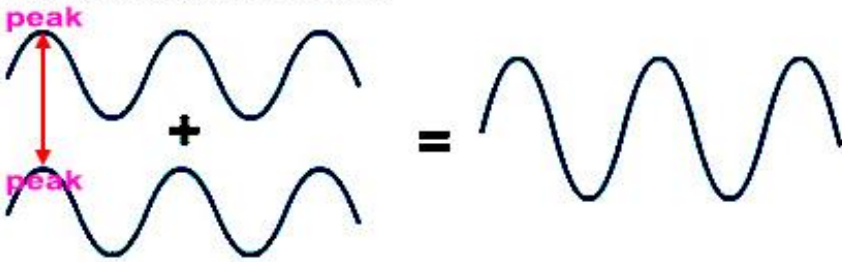
van der Leeuw was talking about academic philosophy in this quote, but the same can be said for any branch of learning, including QM.

One final comment: The science and math discussed below is mainstream and well-known to the relevant professionals. They will, I am afraid, be disappointed at the simplicity of my presentation. I shall indeed attempt to explain QM so that any educated person can follow along. There will be no formulas. I will use graphs and pictures to convey the intuitive essence of the ideas. Nonetheless, I will explain the technical features of QM, not fluffy sensationalism.

Wave Review

I introduced basic wave concepts in [Chapter 13](#). Recall that adding and subtracting waves is called **superposition**. Figure 1 shows simple examples of adding sine waves to give either constructive or destructive interference:

Constructive Interference



Destructive Interference

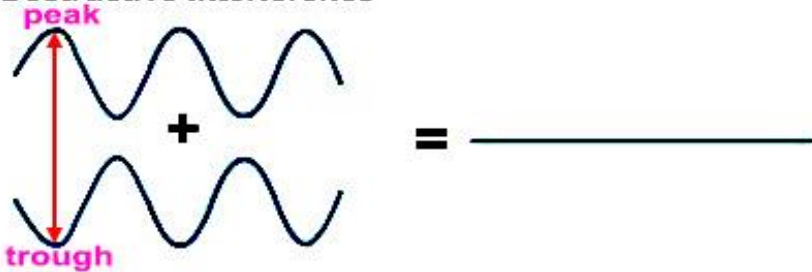


Figure 1: Constructive and destructive interference.

In the top, the waves line up perfectly peak-to-peak and trough-to-trough (are 100% in phase). When waves are perfectly in phase, they add together to give a new wave that is sum of the height (amplitude) of the original waves. This is called constructive interference.

In the bottom, the two waves are 100% out of phase because the peak of one wave lines up with the trough of the other wave. In this case, one wave acts like the negative of the other wave and they cancel each other out to give no wave at all, which is destructive interference.

Since the phase of the waves can result in something that looks like either addition or subtraction, people use the term “*superposition*” to refer to performing arithmetic on waves. From the humble beginning shown in Figure 1, waves can superposition in the most complex of ways, giving rise to complex ripple patterns, [interference patterns](#), rainbows, and other phenomena that are familiar to all of us.

Figure 2 shows some real-life examples of wave superposition. Superposition of waves is the main idea behind Fourier transforms.

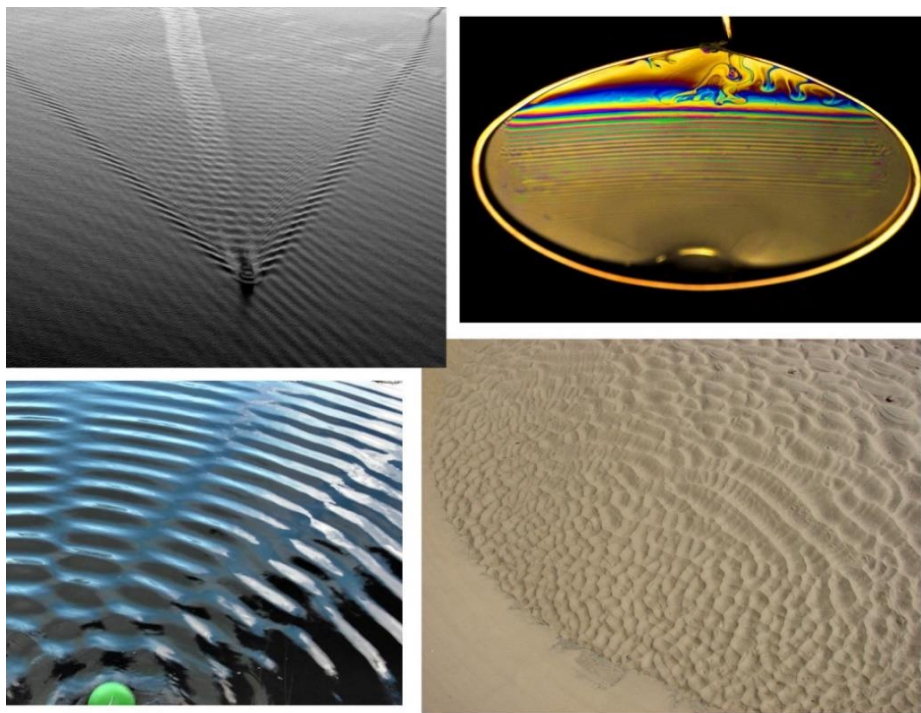


Figure 2: Wave superposition results in complex ripple patterns familiar to all of us. Going clockwise: (1) Wake of a boat interfering with water waves ([source](#)), (2) light refracting and interfering with itself to make rainbows, like an oil slick ([source](#)), (3) More water waves ([source](#)), (4), sand molded by water waves after the tide goes out ([source](#)).

Fourier Transforms

Fourier transforms were one of the many important mathematical accomplishments of the great French mathematician [Joseph Fourier](#). Fourier had the amazing insight that any arbitrary squiggly line, no matter how complicated, is the superposition of simple sine and cosine waves. He invented formulas linking the complicated line and the simple waves, and those formulas are now called a **Fourier transform**. Since this discussion is written for laypeople, we are not going to present the formulas. Instead I'll describe in words what the formulas do.

You can think of the Fourier transform like a little machine. You feed it an input and it spits an output back to you. It takes a complicated squiggly line as an input and then outputs the simple waves that make up the complicated wave. The simple waves are called **component waves**. You can also reverse the process. If you superposition the component waves, you get the complicated input wave back.

This is best illustrated by example, so consider Figure 3, taken from the [Wikipedia entry on Fourier transforms](#), that nicely illustrates a Fourier transform in action.

The input wave (red) is called a “square wave”. It can be constructed by superpositioning several sine waves (blue) of different heights (amplitudes) and frequencies. The last panel shows how to express the result of performing a Fourier transform on the red square wave.

The top panel is the input (the red square wave). The bottom panel shows the output. The output consists of the amplitude and frequencies of the **component waves**. The height of each blue line is the amplitude of one of the simple waves. The position of the blue line from left to right indicates the *frequency* of each wave: the further to the right, the higher the frequency.

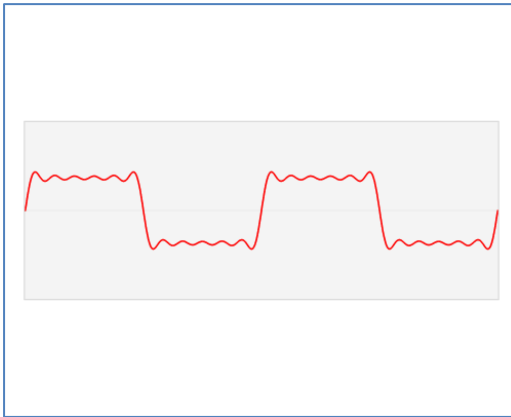


Figure 3: How a Fourier transform works (this is an animated GIF).

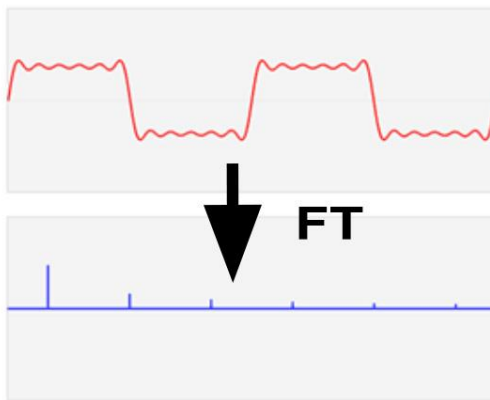


Figure 4: Input pattern expressed as an output of simple waves.

When the input wave depicts something changing in time, the output is the frequency of the component waves. The way people say this is a **Fourier transform converts from the time domain to the frequency domain**.

Because the output consists of many simple waves, each with its own frequency, people refer to the output as a **spectrum**. A rainbow is a type of spectrum. However, there are many, many different types of spectra. The Fourier transform is very general because it can output any type of spectrum.

Figure 5 is a real-life example of a Fourier transform operating on human speech ([taken from here](#)) that is intended to intuitively illustrate the link between the input time signal and the output frequency spectrum.

When we talk, we make a pressure wave that moves through the air. Since the pressure wave changes with time, it is in the time domain. The top of Figure 5 shows a speech pressure wave changing in time. This should be familiar to anyone who has opened a sound file in an audio editor.

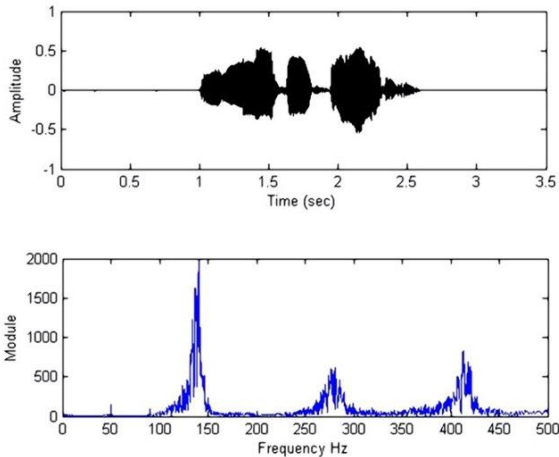


Figure 5: Fourier transform of a human voice showing the pitches (frequencies) making up the voice.

As you know, people’s voices have different pitches, or frequencies. Women generally have higher pitched voices than men, for example. The bottom figure is what happens when you perform a Fourier transform on the pressure wave. As you can see on the bottom graph, you get a series of three peaks at different frequencies of roughly 140, 275, and 425 Hz. These are rather low pitches and it’s a safe bet that this is a man’s voice.

This example illustrates what it means to take a time domain signal, feed it into a Fourier transform, and get an output spectrum in the frequency domain. In this example, the Fourier transform allows us to determine the pitches that make up someone’s voice.

Reciprocal Relationship of the Fourier Transform

There is a special relationship between the input signal and its output spectrum. It can be said like this: if the input is wide, the output is narrow. Alternatively, if the input is narrow, the output is wide. You can see this effect in Figure 5. Notice how

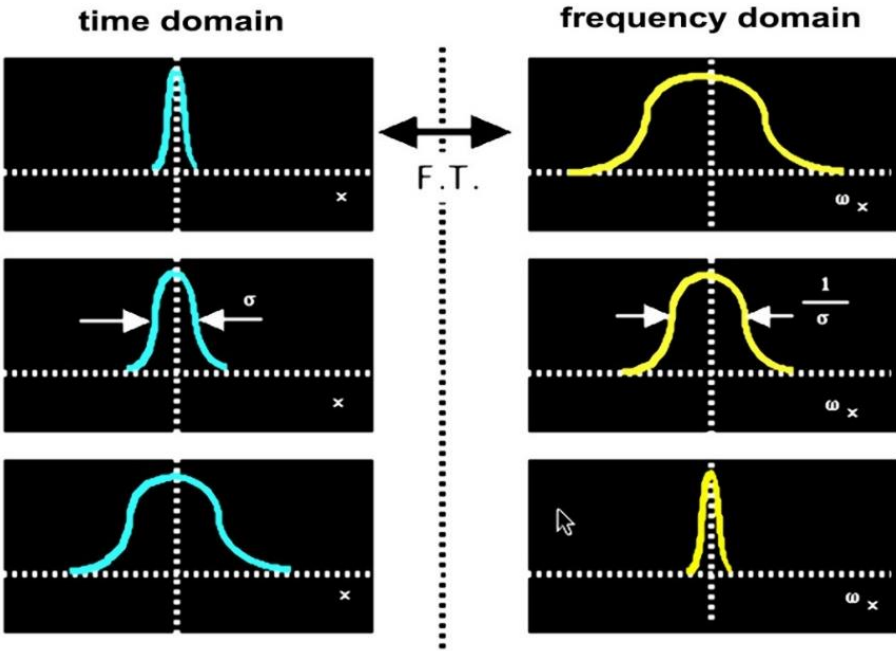


Figure 6: Narrow input = wide output. Wide input = narrow output.

wide the time signal on the top is, and how the three frequency peaks are narrower and not as spread out.

Figure 6 is a better example of the wide/narrow relationship. In the first row, the input is narrow and the output is wide. That means a short change in time gets Fourier transformed to a wide frequency spectrum. As you move to the 2nd and 3rd rows, the input gets wider, and the corresponding output, the frequency spectrum, gets narrower.

This is called a “*reciprocal*” relationship. If one side is one way, the other side is the opposite. If the input is narrow, the output is wide. If the input is wide, the output is narrow. I am stressing this because in QM this effect of the Fourier transform is called the “*uncertainty principle*”. As you can see, it is simply a consequence of the math pattern provided by Fourier transforms.

The reciprocal relationship between input and output is not magic. It follows directly from the mathematics. This is one disadvantage of not showing the math. If one understands the math, the reciprocal relationship is quite obvious and sensible.

Conjugate Variables

What the Fourier transform gives us is a **conjugate relationship** between the input variable (time) and the output variable (frequency) (think conjugate = conjugal = marriage = two sides of the same coin). The Fourier transform shows that they are **two different ways to look at the same thing**. The Wikipedia link on [conjugate variables](#) provides a perfectly nice explanation:

“Conjugate variables are pairs of variables mathematically defined in such a way that they become Fourier transform duals of one another”

Another way to look at it is that the input variable and the output variable **mutually determine** one another. If you know one of them, the Fourier transform automatically allows you to calculate the other one. This is the meaning of conjugate variables. It is this property that lies at the heart of QM, and whose vast elaboration makes up large swaths of modern physics and mathematics.

To conclude, we can summarize the features of the Fourier transform described above:

1. The Fourier transform takes an input and converts it into wave stuff, specifically into a spectrum, by using superposition of waves.
2. If one side (input or output) is narrow, the other side will be wide.
3. The input and output are two different ways to look at the same thing. They are *conjugate* variables.

Now that we have an overview of what a Fourier transform is, we can discuss how it is applied in QM.

Quantum Mechanics

Here is the main idea: **QM introduced the use of conjugate variables into physics**. This idea captures all that is seemingly weird about QM, and is what makes QM different from classical physics. Why this idea was introduced into physics is not something I discuss in detail here. You can read about the [double slit experiment](#) (which is briefly discussed below), or [atomic spectra](#) to see how empirical observations forced these ideas into physics. Nature was simply discovered to behave this way.

In QM the relationship between conjugate pairs is called the “[uncertainty principle](#)”. The term makes perfect sense in the context of physics. But it is an unfortunate term because it masks the fact that the conjugate pairs are related by a Fourier transform type relationship. The essence of QM is shown in Figure 7.

Figure 7 shows how the physical properties of position and momentum are conjugate variables related by a Fourier transform (technically they are “operators”, not variables, but that is unimportant for our present scope). Position is on the left and momentum on the right. I am purposely not specifying the thing whose position and momentum is shown because this relationship applies to all physical things.

As Figure 7 shows, either position or momentum can correspond to the wave side of the Fourier transform. If position is a single value, then momentum is on the wave side. If position is on the wave side, then momentum is a single value.

The wave side of the Fourier transform does **not** mean the thing we are discussing forms a wave. This is a **common misconception** of QM that light or matter can interchange between being a wave or a particle, commonly called the “wave/particle duality”. This is not the correct way to think about it.

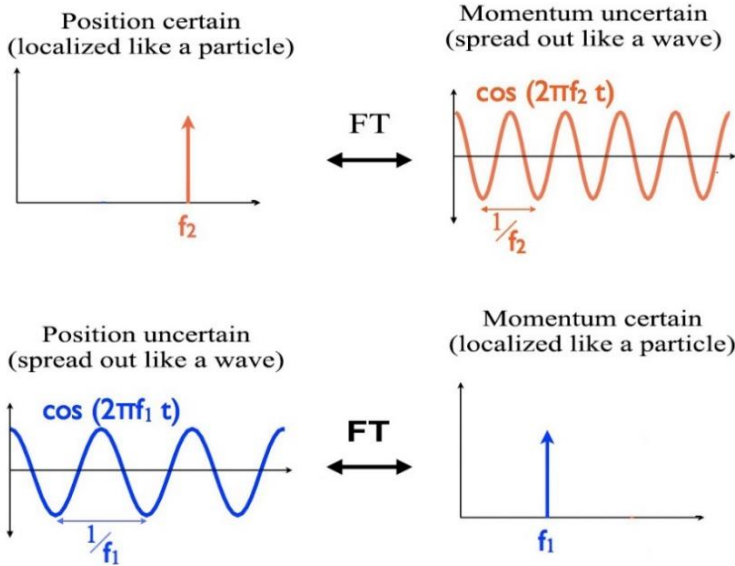


Figure 7: The skeleton of QM.

The correct way to think about it is to understand how the Fourier transform pattern is used to measure the number values of each conjugate properties.

One of the properties has a sharper value than the other. In Figure 7 this is depicted by the vertical line on the graph. For the top (orange) it is position, and the bottom (blue) it is momentum. In this example, the value for each is just a single number: f_2 for position and f_1 for momentum.

Then, the other member of the dual pair automatically takes on a *range of possible numerical values*. In this example, the possible numerical values fall on the numbers laying on the sine wave. This is why it is called uncertainty in physics, because the possible numerical value for the property can be any number that falls on the sine wave. Which number is it? It could be anyone of them, so there is a high uncertainty about the true value of that number. The wave pattern tells us the *possible values* of the thing's properties. It does **not** mean the thing is a wave.

There is nothing magical about this. It is simply how Fourier transforms work. Fourier transforms provide us a pattern to understand the conjugate properties of things in nature. Conjugate properties are called “non-commuting observables” in the technical lingo of QM.

Thus, QM superimposes the logic of Fourier transforms over nature. What this means is that conjugate pairs, like position and momentum, **mutually determine each other**. If you know one of them, you automatically know the other. If one is a sharp value, the other will necessarily be capable on taking on a wide range of possible values. That two variables can mutually determine each other by a Fourier transform type relationship is what distinguishes modern physics from classical physics.

Some Implications of Conjugate Variables

Thus, as you can see, there is no physical wave and no physical particle. There is only the Fourier Transform-like relationship between the conjugate properties of the system. QM tells us that we **do not know** what the thing really is. We cannot visualize atoms or electrons or photons. They neither are physical waves nor are they particles, nor do they interchange between the two. QM humbles us and provides a clear-cut example of the limitations of our minds (remember the "pretend you are a fly" discussion?). We simply cannot visualize these really small things. But we do know that some of the properties of these things are linked as conjugate variables by Fourier transforms.

Realizing that QM describes physical phenomena in terms of conjugate variables makes clear one of the weird counter-intuitive aspects of QM. In classical physics, the mathematical patterns used to describe a thing's properties like position and momentum do not have any effect on each other. Why should where I am located in space (my position) determine how fast I am moving (my momentum)? In our everyday physical experience, it doesn't *seem* like my position determines my momentum. This is a perfect example of Kant's (and others') idea that appearances are misleading. It may not seem like this is the case, but the fact is, this *is* the case.

As Figure 7 illustrates, if you are located at a certain position, then this is "hooked up" to the possible values of momentum (where the possible momentum values are spread in a pattern that looks like a wave). Said simply: *position and momentum determine each other*. They are no longer independent, as was the case in classical physics. This "linking up" of conjugate properties via a Fourier transform is the heart of QM and is absent in classical physics, and supersedes all other considerations in QM. Dynamics, force laws, etc. must bend to and accommodate this requirement (such "bending of the knee" is built into Schrödinger's wave equation).

How come it seems that our position and momentum are not linked up in our everyday experience? Way back when all this stuff was discovered, one of the main leaders in QM, [Niels Bohr](#) explained this. He called it the "[correspondence principle](#)".

Bohr's correspondence principle can be stated like this. For a single atom, or small group of atoms, we will see the effect of conjugate variables (such as having a specific position determining the momentum values). But as we add more and more atoms (or whatever small thing we are considering), we gradually wash out the effects of the conjugate variables.

As human beings we are made of gazillions of atoms. When so many atoms come together to form a human, or rock, or even a grain of sand, the effect of the conjugate variables gets washed out. How do they get washed out? The short answer is: nobody knows for sure. There are two main ideas about the link between the classical and quantum that are accepted by the majority of workers in QM. Bohr formulated his [correspondence principle](#), and there is a more modern idea called [quantum decoherence](#). However, there are those who have doubts and, like little

piranhas, are constantly nipping and biting at QM to find the answer.

The correspondence principle is technical and has to do with the math of quantum mechanics, specifically things called quantum numbers. When these are small, we experience the quantum effects. When they become large, the quantum effects become so close together that we can no longer make out the wave-like distribution of the numerical values of physical systems. The numbers get so close together they can be taken as continuous for all practical purposes.

Decoherence is also a technical concept. It can be thought of in simple terms as akin to how a mixture of oil and water separate out when allowed to stand undisturbed. The analogy is that “things” whose wave functions are initially hooked together (or mixed) separate out because of influences from the environment. Any system we design (an experimental apparatus, a technology based on QM) is not perfectly closed off from the world. The world impinges on the system and destroys quantum interactions that we may not even know about. The net result is that something that appeared blended together becomes separated.

Again, most people accept these ideas to explain how the classical and quantum are linked. But QM is only about 100 years old. It is still an open question whether or not we have the full picture. The math seems complete, but there are those who refuse to accept the cognitive dissonance this theory brings.

QM Summary

Let's summarize the main ideas about QM:

1. QM is the application of the Fourier transform pattern to physical phenomena.

2. As such, QM describes some properties of physical things to be related as conjugate variables, such as position and momentum. In the discussion of Fourier transforms above, we showed time and frequency were conjugate pairs. In physics, frequency is related to energy. Therefore, the time/frequency pair can also be expressed as a time/energy pair. There are many other such pairs too that I am not discussing here.

3. The properties symbolized by the conjugate pairs mutually determine each other, and their mutual relationship is given by a Fourier transform. One side will be narrow and the other wide (sometimes you get both sides about the same width, as in the middle example of Figure 6). In physics this is called “uncertainty”, but it is really just a consequence of the pattern of relationship embodied in a Fourier transform.

4. Since the Fourier transform is all about waves, then superposition sits at the center of how things behave in nature.

5. When things are very small (or relatively simple) we can see the effect of the superposition. In big things made of gazillions of small things, the superposition washes out and things appear to follow the classical laws of physics and appear to be continuous.

Double Slit Experiment

Let's end this extremely brief, extremely simple discussion looking at the double slit experiment that illustrates the property of conjugate variables shown in Figure 7. [Everyone agrees](#) that this experiment captures all the seeming weirdness of QM. From the perspective I am taking here, the double slit experiment simply shows the effect of the fact that position and momentum are conjugate variables, and must be linked by a Fourier transform, which means that one of them will fall on a wave distribution and therefore superposition will make interference patterns.

Here, electrons are allowed to pass one-by-one through a double slit apparatus as shown in Figure 8. The electrons are released very slowly so that they go through the apparatus one at a time. You would think the electrons would go through one slit **or** the other and make just two piles on the detector as shown in Figure 8, panel A. However, the answer you get is shown in panel B: even if the electrons go single file through the detectors, over time an interference pattern builds up on the screen.

I recommend you watch the following movie of this.



An animation of the double slit experiment. Click to see it on YouTube.

https://www.youtube.com/watch?v=PanqoHa_B6c

You can see in the movie how each electron is detected as a single point on the detector screen. This means that the position is well-defined (the particle is at a specific place on the detector screen). Thus position takes the narrow side of the Fourier transform. Therefore, momentum must fall on the wave side of the Fourier transform. Since the possible momentum values fall on the pattern of a wave, and the electron can have any of these momentum values, you get superposition of the various values of position and momentum. This causes interference fringes to form.

Why The Double Slit Experiment is Weird...To Classical Realists

This result illustrates what is “weird” about quantum mechanics. You can see from the individual dots that something that seems to be an individual particle is hitting the detector. However, if just a single thing passed through the slits, then how to explain the interference pattern?

One possibility is to imagine that the single thing going through the slit interferes with itself. But this would imply the thing was a wave, and goes through both slits at the same time, just like, say, a water wave would. But the thing hits the detector screen at only one place. If it was a wave it should “splash” widely against the screen, but that doesn’t happen. Since this explanation doesn’t work, perhaps we should get desperate and imagine, in a manner we cannot at all visualize, that the electron goes through both slits at the same time.

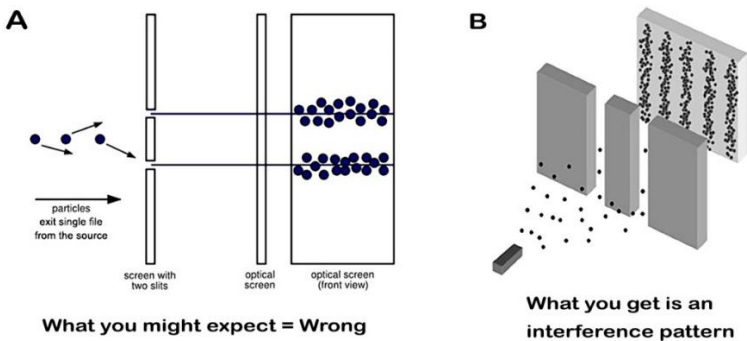


Figure 8: Double slit experiment. Based on intuition, you expect to get the answer shown in panel A, which is incorrect. Panel B shows that you get an interference pattern, even though the little things pass one-by-one.

In either case, it makes no sense to the typical Western intuition that has been conditioned by some 400 years of classical Western realism. Over the slightly less than 100 years that people have known this is how nature works, the paradox of it has driven many otherwise sane people quite mad by trying to visualize what the little object *really* is.

To repeat: QM teaches us that the little object is **not** something we can visualize. Our brains are just not wired to visualize electrons, photons, etc., as objects, just like our brains are not wired to visualize four-dimensional objects.

On the other hand, QM allows us to make precise statements about these little things. Some of the little thing’s properties are linked as conjugate variables by a Fourier transform. When one knows the math, there is nothing mysterious or foggy going on. It is all mathematically precise. If it was foggy and mysterious, we would not be able to harness the little objects to make computers, cell phones, MRI machines, and other stuff.

Results like the double slit experiment are only a mystery if one insists that the little objects are classical objects. Attempting to force this issue has nothing to do

with QM, and everything to do with bad and sloppy philosophy. Those who would superimpose a classical world over quantum mechanics are like spoiled brats who think they will get their way if they kick and scream loud and long enough.

The confusion that surrounds QM is highly ironic. It is little more than a form of petty anthropocentrism operating under the naïve supposition that the way our brains are wired to perceive the world contains all the possible ways the world can be. That is an extremely stupid position to take.

It comes back to Weyl's view of science, math, and the noumena. Math gives us possible patterns of relationship. Science measures stuff and figures which patterns best fit what is measured. In the case of QM, we got what we got. It is a window into the noumena. It does not fit our perceptions of how objects behave in everyday life. So be it. So what if the world is more complicated than our brain can conceptualize? I don't recall one of Moses's 10 Commandments saying: "The World Shalt Not Be Abstract".

The Disease of Interpretation

I want to close with an editorial about science involving an issue that is very acute in QM. The idea that some people like to be members of the priest class goes hand-in-hand with scientism. Chapter 7, as well as my [blog post](#) "*Why Does Some Science Work So Good? Part 1: According to Hermann Weyl*", explained Hermann Weyl's understanding of the link between math and science. Let's review his main insight:

“In physics we do not a posteriori describe what actually occurs in analogy to the classification of the plants that actually exist on earth, but instead we apply an a priori construction of the possible, into which the actual is embedded...”

Said simply, it means that people superimpose the patterns of relationships expressed by the various forms of math over how nature behaves. When it works, great. But this is all that is going on: we guess about some relative pattern, and then check it against our experience. When one does exactly this activity, one is doing science.

When one abstracts the picture away from the math, the experiments, and the details of matching them up, and instead seeks to make a belief system out of some relatively arbitrary qualitative interpretation, one is doing scientism. They are two totally different activities. Real scientists are busy doing science. It is those people who have aspirations of belonging to the priest class who do scientism.

Even though I have given a brief and simple overview of QM, the idea was to show how the math pattern of the Fourier transform sits at the beating heart of QM, and how it is interpreted with respect to physical phenomena. That is the meat-and-potatoes of the matter.

If you think it is possible to go beyond the math of QM, you need to turn to philosophy or metaphysics. However, then you find yourself digging for the treasure in the West, where the Yaksha of the “bewildering metaphysics born of Ignorance which we mistake for Jnana” will engulf you. (If you don’t get the reference, read [The Parable Of The Poor Man](#) section).

Having outlined the meat and potatoes of introductory level QM, the next chapter will discuss some points of overlap between QM and the yogic view of consciousness.

17: Yoga & Quantum Mechanics II



After our trip through the Looking Glass, we close out discussing bindus by looking at how yoga and quantum mechanics both agree that we can't know everything all the time.

The previous chapter explained how quantum mechanics (QM) draws on the mathematical pattern expressed by a Fourier transform and superimposes it over the behavior of very, very small natural system. The key insight to come from this exercise was the [Uncertainty Principle](#). Patanjali's *Yoga Sutras* had things to say about the ultra-small and about the uncertainty of things that help put the insights of QM in a larger context.

Aṇimā Siddhi

There is one aphorism in the *Yoga Sutras* pertaining to very small natural systems, and it seems appropriate to begin with it. It is 3.26:

२६. प्रवृत्त्यालोकन्यासात् सूक्ष्मव्यवहितविप्रकृष्टज्ञानम् ।

Pravṛṭṭy-āloka-nyāsāt sūkṣma-vyavahita-viprakṛṣṭa-jñānam.

प्रवृत्ति higher sensuous activity; superphysical faculty आलोक light न्यासात् by directing or projecting सूक्ष्म (of) the small; fine; subtle व्यवहित the hidden; the obscure विप्रकृष्ट the distant ज्ञानम् knowledge.

Taimni translates this as:

“Knowledge of the small, the hidden or the distant by directing the light of superphysical faculty.”

Here it is claimed that one who has developed relatively advanced skill with samadhi can perceive phenomenon not accessible to our physical senses. The list includes: (1) very small systems, (2) things hidden from physical perceptions (the “subtle”, e.g. the nonphysical planes), and (3) things that are far away—distant—from immediate sensory access.

This is an example of a siddhi obtained through yoga practice. I briefly explained in [Chapter 3](#) of [What is Science?](#) that siddhis are the “super-powers” obtained via advanced yoga practices. We’ll talk generally about siddhis in Chapter 25. For now, we focus on the siddhi in aphorism 3.26, dubbed *aṇimā*. Two sources that discuss *aṇimā* are: (1) C.W. Leadbeater’s book [Clairvoyance](#), and (2) Stephen M. Phillips book [Extra-sensory Perception of Quarks](#). I will briefly summarize each source.

Leadbeater claimed there is a small tube of non-physical matter served as an extension of the ajna or third-eye [chakra](#) that mediates these perceptions. He claimed that the snake present between the eyebrows on the [headdresses of Egyptian pharaohs](#) was a symbolic depiction of this subtle tube used for *aṇimā* perceptions.



While this interpretation may sound fantastic to those unfamiliar with it, there is an at least hundred year history in the West with whom these ideas are consistent. Studies of hypnagogia, lucid dreaming, and near death experiences (NDE) uniformly report the perception of [tunnel-like structures](#) that lead to “other worlds”.

I myself have experienced these perceptions many times, not because I am an advanced yogi, but because they occur even in lucid dreams. I will not detail these

perceptions here, and some mention of them was made in [DO_OBE](#). The perceptions indeed “feel” as if they occur between the eyes. They bear a variable relationship to one’s perception of their body image. Sometimes the body image perception ([somaesthesia](#)) is normal, and these visual perceptions appear as small point-like windows or tunnels in the visual field, much like Leadbeater described. In the case of lucid dreams and NDEs, the perception of the body image may be such that it “feels” as if one is inside of the tunnel-like structure.

That is all I will say here regarding the experiential aspect of *aṇimā*. Let us continue considering how this all may link to QM.

The Uncertainty Principle

Dr. Phillips described in great detail the Occult Chemistry investigations of Annie Besant and C.W. Leadbeater. Besant and Leadbeater claimed to use *aṇimā* to directly observe “atoms”. Phillips interpreted their work in terms of modern particle physics. If you are interested, you can see his work at the link above or [online here](#).

We discussed how the Uncertainty Principle of QM has its roots in the Fourier transform relationship whereby if we know one of the [conjugate variables](#) of the Fourier transform precisely (e.g. it has the form of a [Dirac delta function](#)) the other conjugate variable will inevitably be spread out over a sine wave.

According to the [Copenhagen interpretation](#) of QM, the Uncertainty Principle is a consequence of a micro-thing interacting with a macroscopic object. Measuring a micro-thing will alter the properties we are trying to measure. For example, if we want to know the position of an electron, we must use some kind of probe to detect the electron, usually a light beam of some type. In this case the light will interact with the electron and change both its position and momentum. The uncertainty cannot be avoided and is a natural consequence of the fact that a micro-thing must be probed to be measured. There is nothing mysterious going on here, it is all quite physical.

It is interesting to note that Phillips showed that even *aṇimā* perceptions affect the object being perceived. Phillips was forced to conclude that *aṇimā* consists of some type of force or energy that interacts with the micro-system and thereby alters its properties. Specifically, *aṇimā* somehow “bursts” the atomic system, which reforms in a different phase. By this logic he explains the differences between the Occult Chemistry observations of Besant and Leadbeater and those of mainstream high energy particle physics.

The Uncertainty Principle to the Nth Degree

What Phillips described with *aṇimā* is a special case of a more general situation described in the *Yoga Sutras*. We may consider this the yogic equivalent of the Uncertainty Principle. However, as I’ve said already, with the Eastern approach, things are taken to their logical extreme. Here is how the *Yoga Sutras* describes its “uncertainty principle” in aphorism 2.15:

१५. परिणामतापसंस्कारदुःखैर्गुणवृत्तिविरोधाच्च दुःख-
मेव सर्वं विवेकिनः ।

Parināma-tāpa-samskāra-duḥkhair guṇa-
vṛtti-virodhāc ca duḥkham eva sarvaṃ
vivekinaḥ.

परिणाम (on account of) change ताप acute anxiety; suffering संस्कार impres-
sion; stamping with a tendency दुःखैः pains (three causes mentioned above) गुण (be-
tween the three) Gunas वृत्ति (and) modification (of the mind) विरोधात् on account of
opposition or conflict च and दुःखम् is pain; misery एव only विवेकिनः to the enlight-
ened; to the person who has developed discrimination.

Taimni's translation is:

“To the people who have developed discrimination all is misery on account of the pains resulting from change, anxiety and tendencies, as also on account of the conflicts between the functioning of the Gunas and the Vrttis (of the mind).”

The East has very long traditions, reflected in this aphorism, of focusing on the basis of pain and suffering in life. We discuss the suffering aspect in Chapter 23. Here, we'll take a more depersonalized view and look at what is being said about the nature of things. The meat of this aphorism is that it describes **parinama**, which means “change” or “transformation”. Parinama is a very important working concept in yoga practice. What aphorism 2.15 is saying is that *everything changes*.

Underlying this aphorism is the theory of the three gunas: (1) tamas, or inertia, (2) rajas, or chaotic motion, and (3) sattva, or rhythmic motion (See [here](#) for more details about the gunas, or [here](#) too).

To briefly summarize: to the Hindu mind, all things are made of gunas, which are patterns of motion. What they call “Manifestation” is not constructed of objects, but of a great diversity of patterns of movement. All the patterns of movement are thought of as combinations of the three gunas. The gunas combine in a fashion analogous to how red, green, and blue, taken in various proportions, can generate all possible colors.

The gunas are in an incessant state of movement amongst themselves. Because of this, nothing in Manifestation is stable. Everything transforms into something else, more or less slowly or quickly. Two factors prevent the patterns of gunas from being stable. First, the very nature of the gunas is motion, hence they cannot be at rest. Second, the seeming stability of anything—be it a star, planet, mountain, whatever—is only apparent. Any seemingly isolated object is connected, networked, to all other objects. The activity of the remainder impinges on the apparent object, forcing change upon it.

The key idea here is that nothing in Manifestation is stable in time. If this is the

case, then how can anything be said to have a definite identity? Form implies transformation.

The changes are not arbitrary, however. An elephant does not magically turn into a building. The *Yoga Sūtras* offers up its own theory of how things transform. These ideas are found in aphorisms 4.2 and 4.3:

२. जात्यन्तरपरिणामः प्रकृत्यापूरात् ।

Jāty-antara-pariṇāmaḥ prakṛty-āpūrāt.

जात्यन्तर into another class, species or kind परिणामः change;
transformation प्रकृति Nature which makes, acts, creates; natural
tendencies or potentialities आपूरात् by the filling up or overflow.

2. The transformation from one species or kind into another is by the overflow of natural tendencies or potentialities.

३. निमित्तमप्रयोजकं प्रकृतीनां वरणभेदस्तु ततः क्षेत्रिकवत् ।

Nimittam aprayojakaṁ prakṛtīnāṁ varaṇa-
bhedas tu tataḥ kṣetrikavat.

निमित्तम् incidental cause अप्रयोजकं non-urging; not directly
causing प्रकृतीनाम् of natural tendencies; of predisposing causes
वरण obstacle भेदः piercing through; removal तु verily; on the
other hand ततः from that क्षेत्रिकवत् like the farmer.

3. The incidental cause does not move or stir up the natural tendencies into activity; it merely removes the obstacles, like a farmer (irrigating a field).

What is being said here is that things only change into what is latent in them in the first place. Furthermore, the cause of the change is inherent in the thing, not in the apparent outside factor (the incidental cause) that seemed to cause the change. All of this is well-known from first-hand experience. When we process iron ore, we do not obtain gold metal. When we burn wood, the ashes are not made of comedy. The seed of an oak tree does not bloom into a lilac bush. Nor does watering a seed cause it to become a tree. Watering is merely permissive for a change latent in the seed from the start. All transformation occurs based on the two "rules" listed above.

Knowing what is expressed in aphorisms 4.2 and 4.3, we can return to aphorism 2.15. Things are constantly transforming, not in an arbitrary fashion, but in a patterned fashion. Nonetheless, this incessant change means there is nothing in Manifestation to which one can anchor themselves.

The ever-changing pattern of gunas is called in Hindu thought "maya". Maya is the illusion that something is there when it is actually not, like a mirage. To seek permanence in Manifestation is maya because Manifestation is incessant

transformation. The very nature of Manifestation is an unceasing churning of patterns of gunas into other patterns of gunas. Maya is thus how the Hindu mind expresses its “uncertainty principle”. The Uncertainty Principle of QM is a limited special case of the much more general Hindu insights about maya.

How are these two ideas linked? Maya tells us that identity is temporary and transient. The Uncertainty Principle of QM tells us we cannot know simultaneously all of the properties of a micro-object (specifically it says this about non-commuting observables). These are different emphases on the same underlying idea.

Is knowing the properties of an object the same as knowing the essence of an object? This is an age-old question in Western philosophy that dates back at least to Aristotle. It has never been solved in philosophical terms. QM offers its own take on this ancient question.

Consider the following: My eye color, my height, the sound of my voice, etc.; these are examples of properties that I possess. Knowing them gives knowledge of me as an individual, as opposed to only having an empty template of a generic human for which we could fill in some hypothetical eye color, height, voice timber, etc. Similarly, the charge, energy, momentum, location, etc. are the properties of an individual electron. However, we cannot know these to any arbitrary detail. Thus, we have a template-like understanding of micro-things, but cannot know individual instances, not even in principle. Bohr, Heisenberg, and others of the Copenhagen school were quite definitive about this. It was this issue that bothered the classical determinists like Einstein and Schrödinger so much.

The Uncertainty Principle in QM prevents us from knowing individual micro-things, from knowing their identities as individuals. Maya tells us that individual things are only temporary appearances, and we never really know the essence underlying the many transformations of a given thing. That is, in fact, one of the central goals of yoga practice: to see through the myriad changes that define the superficial appearance of things to the underlying essence (called artha; Chapter 32).

The Uncertainty Principle of QM sets limits on our behavior. It forces us to act in certain ways and not act in other ways. Hinduism in general and yoga in particular have developed means to cope with maya. These means are expressed in aphorism 1.16 of the *Yoga Sutras*.

१६. तत् परं पुरुषख्यातेर्गुणवैतुष्यम् ।

Tat param puruṣa-khyāter guṇavaitṛṣyam.

तत् that परम् highest; ultimate पुरुषख्यातेः by or from awareness of the Purusa or the Self गुणवैतुष्यम् freedom from the least desire for the *Gunas*.

16. That is the highest *Vairagya* in which, on account of the awareness of the *Purusa*, there is cessation of the least desire for the *Gunas*.

Vairagya is one of the two faces of yoga, the other being abhyasa, the practices. Ninety per cent of yoga are the practices: yama, niyama, asanas, etc., the eight limbs of practice Patanjali describes. These are useless without the final 10% of vairagya, which is the impersonal, dispassionate attitude required of the yogi when undertaking the practices.

This is how yoga has come to recognize and codify the uncertainty inherent in Manifestation. As I stated [elsewhere](#), what we call “objectivity” in the West is but a pale reflection of vairagya. When one realizes that the forms of nature are like the ever changing winds, the ever shifting sands, one makes no attempt at all to grasp them. Seeking to grasp maya is the ultimate act of futility. It is identical to chasing after mirages of water in the desert.

QM implies realization analogous to what is codified in yoga as vairagya. However, the values implied by the term vairagya far transcend science. The greater society at large in the West is the opposite of vairagya. It rests on the delusions that it can grasp the ungraspable, tame the untamable, stop the ever-changing, ever-transforming gunas. As if life can be forever frozen in a block of amber. Because of this, QM has become the West’s [Pandora’s Box](#): an amplifier of illusions.

The Continuous and the Discreet in Science and Yoga

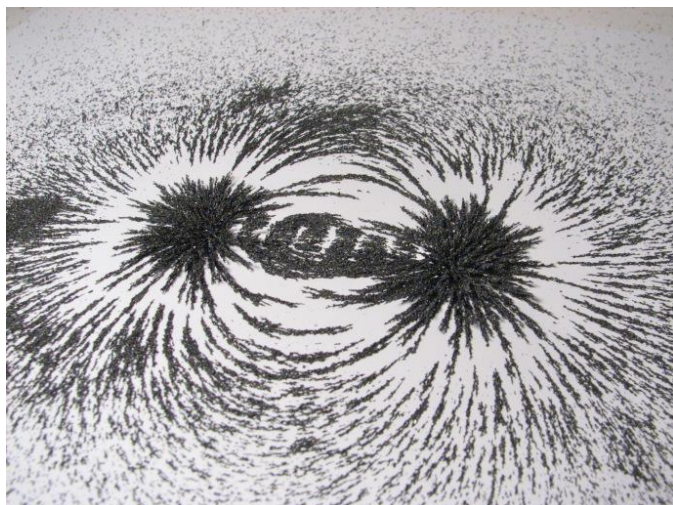
There are two other places where yoga and QM converge in an obvious way. This is with regard to the issues of (1) continuous versus discreet and (2) the philosophical problem of the One and the Many. These two problems are more related than it may seem at first glance. The One is, in some sense, continuous. The Many, like the numbers, are discreet. Continuous/discreet and One/Many are different ways to formulate the same problem.

Without going into great detail on the matter, most of 20th century physics up to the present is characterized by the inability to link QM with the other great theory of modern physics, Einstein’s General Relativity. There are mainstream ideas about this, easily accessible [via a Google search](#), and I will not discuss them here. Instead, it is enough to state that QM reflects the discreet nature of things whereas General Relativity is based on continuity.

Yogic cosmology is in general agreement with QM regarding the relative roles of the discreet and continuous. Yoga explicitly describes time as discreet, something physics is only beginning to explore seriously. I discussed this [previously](#) and will not repeat myself. We’ve seen that yogic cosmology divides Manifestation into four discreet “worlds” or “levels of energy”. These are the four phases or states of the gunas: visesa, avisesa, linga, and alinga, which I outlined in [Chapter 9](#). These give rise to four corresponding phases or states of the mind, described in [Chapter 10](#).

We see in our own direct experience how discreetness occurs in the world. Everything comes packaged as discreet things. Humans manifest as discreet human beings, trees as discreet trees. Manifestation presents itself as a kaleidoscope of seemingly endless discreet objects: Planets, stars, galaxies, grains of sand, atoms, electrons, and so on.

However, we have repeatedly emphasized that the seeming discreetness of things is only apparent. All discreet things are hooked together, are networked, via a myriad of forces that are not directly visible to our senses. We do not see gravity, we see the effects of gravity. Gravity serves to link the entire universe together in a giant network. We do not see the social bonds between people (as anyone who has ever walked into a room full of strangers is aware); we see the effects of these bonds. We do not perceive a magnetic field around a magnet, but can make it visible by its effect on iron filings.



Making the invisible visible.

In some sense, the invisible forces between apparently discreet objects are a type of continuity. Or we can frame this as a question: are networks discreet or continuous? It seems absurd on the face to ask this because networks are composed of discreet nodes. However, the links binding the nodes form a superstructure that links the nodes into a single unified structure, and thus a type of continuity.

In QM, the discreet objects like electrons and photons are seen as disturbances of the electromagnetic field. The field is a continuous object, but it produces seemingly discreet phenomena.

So we have this strange situation in Manifestation: both discreetness and continuity function and operate. We see discreetness wrapped in continuity, which itself is composed of discreet things at a smaller scale, which themselves are products of a continuous phenomenon, and so on. Discreetness wrapped in continuity wrapped in discreetness wrapped in continuity wrapped in discreetness...

The Continuous and the Discreet in Mathematics

These issues take us into the heart of major controversies in mathematics. Discreetness is easy to understand. It is the counting numbers we all know: 1, 2, 3...

But what is continuity? There are [several working definitions](#) of continuity in mathematics. The fact that there are many working definitions but no universal general formulation of continuity is an expression of the elusive nature of continuity.

[Chapter 14](#) discussed Cantor and his ideas of infinity. Cantor sought to bind the discreet and the continuous with his “sets”. He believed he could bind the discreet into the continuous by decree, by declaring that all the discreet numbers, taken as a whole, form infinity.

Instead, he set off a firestorm amongst those aware of his efforts. On one hand was Hilbert and his followers, the [“paradise” crowd](#). Slowly, the emptiness of their speculations has [become apparent](#). Hilbert’s useless [hotel](#) and the [multiverse](#) are much the same vacuous intellectual construct. The [detractors of Cantor](#) by emphasizing the discreet aspect of things, were able to shoot Cantor down in flames of paradox and contradiction, inadvertently giving us the computers we so value.

The issue has never been solved in mathematics. It will never definitively be solved. The relations between the discreet and continuous, rooted in the Shiva-Shakti tattva, are a bottomless well of insight that will occupy the mathematical mind until the human form of gunas is wiped from the face of Eternity.

The One and the Many

This brings us full circle in the discussion of the bindu in yoga. Taimni introduced the idea that the bindu is like a prism, diffracting the unity and wholeness of The One into the Many. We have explored that idea from various angles. We see that a similar idea sits at the heart of QM: the Fourier transform takes a single point (delta function) and “spreads it out” into a sine wave of infinite extent. QM, drawing on mathematics that came after Fourier (Lie groups, etc.), takes this “trick” to the Nth degree by showing how physical systems that appear to be composed of discreet particles in fact give rise to many different types of spectra. This whole way of thinking is one way to embody the problem of the One and the Many.

The cosmology of yoga and of our most respected modern science converge around this eternal paradox. Yoga answers it in an extreme way relative to the sensibilities of the modern Western person. Consciousness is one, infinite, continuous. Within it is the possibility to diffract itself into spectra of consciousness encompassing all possible levels of form and becoming. The Mahabindu diffracts consciousness into a seemingly endless series of minds within minds within minds.

The seeds of these insights are present in modern math and physics. But unless the physicists and mathematicians learn to transcend the merely sensory presentations of the mind, unless they begin to unlock the secrets of samadhi, they will forever spin their wheels in the eternally shifting, ever-changing gunas, jumping from vritti to vritti in the futile effort to capture mirages.

18: Monads, Networks, and Spaghetti

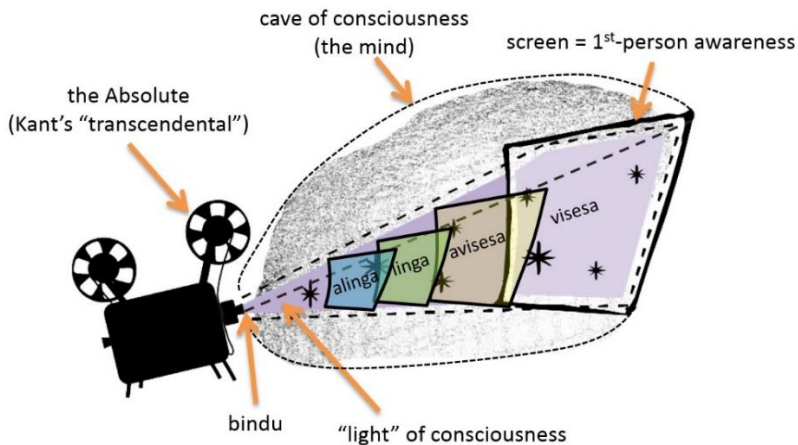


Manifestation is one giant interconnected network. Leibniz described this in his Monadology which is quite copacetic with the yogic view of consciousness. However, as we discuss here, Leibniz the optimist interpreted the network of manifestation differently than yoga is wont to do.

Review (Simple Version)

Before moving on, let's review and summarize. [Chapter 2](#) introduced a picture of the yogic view of consciousness by mixing the metaphors of Plato's Allegory of the Cave and how a movie projector works. In this picture, the Absolute is depicted as a projector that projects the light of consciousness into the cave of consciousness. The entirety of the cave is the mind. According to the Samkhya philosophy as used in yoga, the cave has four levels or states. The wall of the cave (a la Plato) is the screen of consciousness where our first person subjective awareness perceives the shadow-world of phenomena. This is the realm of visesa gunas where the world is perceived as consisting of many copies of diverse objects like stars, planets, people, plants, animals, atoms, molecules, etc.

The other three levels of the cave—alinga, linga, and avisesa—are the “deep structure” of the mind. For most people, this “deep structure” is the unconscious mind. But these states can be accessed by advanced yogic practices. [Chapter 9](#) discussed pratiprasava, or the recession of effects into causes. Pratiprasava is the withdrawal of consciousness backwards from visesa, to avisesa, to linga, to alinga, which then passes through the bindu (dharma mega samadhi) to the Absolute (or Kaivalya, “Alone”, to use the yoga term).



A central idea represented by the above image is that when consciousness projects from the Absolute to the screen, it is called **paranga cetana**, or outwardly directed consciousness. When the light withdraws backwards from the screen to the Absolute, this is **pratyak cetana**, or inwardly directed consciousness. The advanced yoga practices are in large measure the intentional cultivation of pratyak cetana.

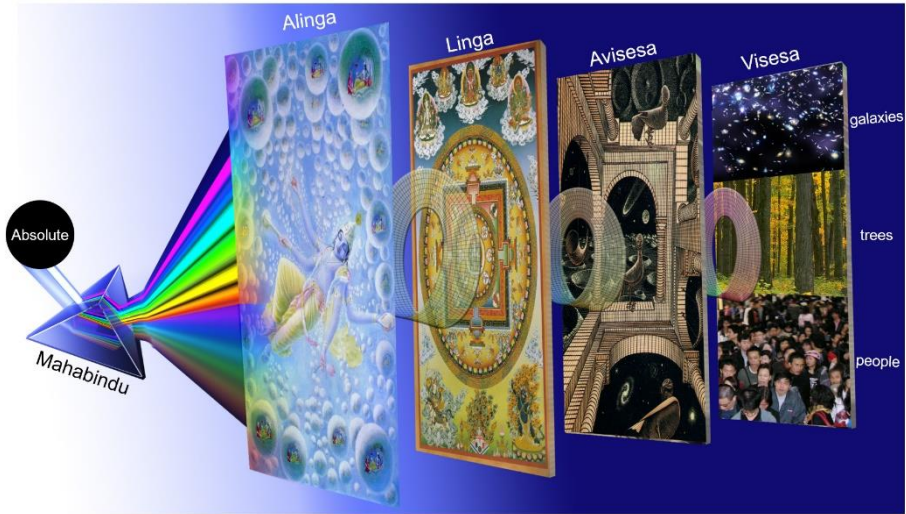
Review (Not So Simple Version)

Chapters 4 through 17 elaborated on the above picture and generated a considerably more abstract understanding of the yogic view of consciousness. Chapters 4-7 discussed various views of the Absolute. This was an exercise in irony because the Absolute is ineffable.

Chapter 8 transitioned from the Absolute to the Relative. “Relative” means “related to”. Western mathematics was presented as the language of choice for describing the Relative because math is the language of pure abstract relationships. Math provides many possible patterns of relationship which we can then use to describe the regularities we observe in the world around us (ala [Hermann Weyl](#)).

From Chapter 9 onwards, we discussed the bindu. Initially, the bindu was introduced as the “doorway” between the Absolute and the Relative, lying at the deepest level of the mind, and accessed by the most advanced yogic method: dharma megha samadhi. We soon found the metaphor of a “doorway” to be inadequate for describing the bindu. Instead, it was explained that the bindu bridges the four layers of the mind by acting like a harmonic transition.

Then things got really kooky when it was explained that the bindu is not just a passive bridge, but is the *mechanism* that generates Manifested existence. The four worlds of the gunas are projected out of the Absolute by the Mahabindu in a manner resembling a diffraction grating, producing a structure akin to rainbows within rainbows within rainbows. These various spectra of existence are not dead matter, but are minds within minds within minds etc.



While it's impossible to illustrate minds within minds, we can beef up our illustration of the yogic view of consciousness. The above image is a feeble attempt to illustrate how the Absolute diffracts into Manifestation. It is a slightly different way to depict the projector metaphor. It shows how Manifestation consists of the four phases of the gunas that go from the most general at Alinga gunas to the most differentiated and specific at visesa gunas. The phases of the gunas are connected via bindus, which I have depicted as Möbius strips that appear to have two sides but only have one.

What we call "mind" is called "ahamkara" in yoga. Ahamkara is the constriction of consciousness into a relative form, a seeming individual mind. However, separateness and individuality are illusions of the maya. Minds as we know them exist inside of greater minds, which are constrictions inside of even greater minds, and so on, bleeding off into a seeming infinite hierarchy of minds within minds. What a fly's mind is to our human mind, our human mind is to the mind of a solar system, which in turn is as such to a galaxy. This view solves the ancient riddle of The One and The Many, how the One expresses itself in seeming infinite forms, all conscious, all experiencing life, movement, the gunas.

There is one last item to discuss about this seemingly infinite hierarchy of minds. They form one vast interconnected network. All the grades of different minds are connected via the bindus. The Many is an illusion; Maya. There is only One. Whether experienced as the Absolute or the Relative, there is only an undivided wholeness. However, from our relative vantage point as limited human beings, this wholeness is veiled under appearances of variety and diversity.

This last topic is the most important because it explains the modus operandi of yoga, of how samadhi works. The Many is one vast interconnected network. Samadhi allows one to move through the bindus and thereby travel in the mind throughout this network. Thereby the seemingly limited relative human being can

transcend its individualized mind and experience life and consciousness through any mind in existence, and ultimately experience all minds simultaneously in the state of Kaivalya.

Some Mundane Examples

Before discussing the more abstract aspects of the network of Manifestation, let's consider a more mundane example. A dualism that plagued Western thought in the early modern period was that of force and matter. Matter is visible and tangible to our senses. Force is invisible and manifests only in its effects. Physics has identified four forces that move physical matter: gravity, the electromagnetic, strong nuclear, and weak nuclear forces.

Consider gravity. We do not directly perceive gravity, we only feel its effects as the weight of our bodies and the weight of other masses. Newton offered the idea that weight is a manifestation of what seems to be an invisible force, something like a magnetic attraction, between masses. As to the nature of this force, he offered no hypotheses. Einstein refined our understanding of gravity by explaining it as the bending of space-time by mass. Even with this more accurate and abstract understanding, gravity is still otherwise invisible except for its effects. It is similar with the other forces. We see their effects, but each force is an intangible something that causes tangible things to move.

Force is not only physical, it is also mental. We humans are bound together by invisible psychological and social forces. Whether the bonds of family or of nation, of religion, or common belief, whether the bonds of love or hate, these intangible forces are known only by their effects. The mental forces drive us into the myriad patterns of observable human behavior resulting in all the artifacts of culture and of our individual actions.

We appear to be autonomous, individual humans, but we are not. The tangible items we perceive in nature appear as separate and autonomous things, but they are not. We humans are linked together via social, psychological, and physical forces. Life is interlinked in a vast web of relationships of mutual dependency. Every mass in the universe is linked to every other mass by the force of gravity.

As van der Leeuw stated:

“In this world of relativity each relative thing is related to all else; there is not an atom in this universe of mine to which I am not related, even though I may not be conscious of the relation. I have no existence at all as a separate creature, though I may at times imagine myself as such; rather am I part of an intricate web of relativity in which all things mutually determine one another.”

So, even in our mundane perceptions, the world we experience is one unified thing. All the seemingly separate things are held together in various networks of

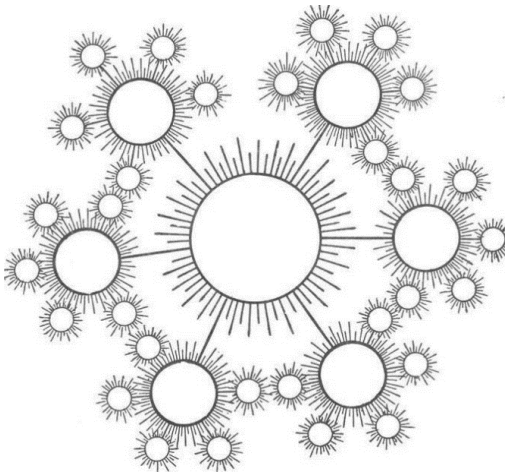
interactions operating at many different levels; physical, biological, social, and so on. The perceptions achieved via yoga methods only amplify and reinforce this observation, and drive home how total and complete the integration of Manifestation really is.

A Tale of Two Quotes

The yogic picture of the networked nature of Manifestation was summarized in [Chapter 9](#):

“This entire hierarchy (of minds within minds within minds) is linked via the bindus. That is, the whole of manifestation is one vast hierarchical network linked via the bindus of the various grades of mind that exist in nature. The only qualitative picture like this in the West is Leibniz Monadology.”

We’ve seen Taimni’s picture:



This image is meant to depict exactly what I said: manifestation is a vast network of minds within minds within minds. Taimni’s picture is that of a network. Networks are made of [two things](#): nodes and links (or vertices and edges). In Taimni’s picture, the minds are the nodes (circles in the picture), and the bindus are the links (lines connecting the circles in the picture). So this thing that Hindus call “Manifestation” is not just a fractal, it is not just patterns of motion; it is also a vast interconnected network.

Every mind is ultimately connected to every other mind, no matter how seemingly great or small the minds seem to be. Manifestation is just one thing. It is one gigantic interconnected network of minds. The Many is only an appearance, the One is the only reality.

There are two quotes I have used in the past that can be thought of as reflecting the two extreme ways to interpret this vast network of Manifestation.

First, Leibniz (*Monadology*):

“Now, this interconnection, or this adapting of all created things to each one, and of each one to all the others, brings it about that each simple substance has relational properties that express all the others, so that each monad is a perpetual living mirror of the universe.”

Second, as Readers of [What is Science?](#) have seen, is Swami Krishnananda (*The Realization of the Absolute*):

“Everything in the world is a network of unintelligible relations”

Both quotes recognize the network underlying manifested existence. Leibniz, ever the optimist, sees a type of perfection there. Krishnananda, in line with yogic values, sees maya and chaos. Let us discuss each quote in turn and see how the two views imply each other as a yin/yang thing.

Leibniz' Monads

For those who don't know what a monad is, this section is a very brief review of the subject. Leibniz developed the concept in answer to the ancient philosophical questions: (1) what is everything made of? and (2) what is the answer to the mind-body problem? Leibniz expressed his monadology in notes that were unpublished in his lifetime, but were eventually discovered and published under the name *Monadology*. The whole thing is 13 pages long. I suggest you [go read it](#).

What is everything made of? According to Leibniz, it is made of monads. What is a monad? It is an atom of mind-stuff or an atom of consciousness.

What is the answer to the mind-body problem? According to Leibniz, there is only mind. In this he was an idealist because he recognized that the world we perceive exists only inside of our minds. However, although he was a contemporary of Berkeley, he did not accept Berkeley's form of idealism. Unlike Berkeley, Leibniz accepted that the physical world exists independent of our human minds. However, this physical world is made of monads, or mind-stuff, or atoms of consciousness. In this, Leibniz was perhaps one of the first [panpsychists](#) in modern times in the West.

There is an immense amount of material written about the *Monadology*, mainly in philosophy. I will not pretend such erudition here. However, what is clear to me as someone trained in science is that Leibniz was trying to reconcile the dualism of force and matter mentioned above. His solution was the idea of monads. The idea was that an atom of consciousness, a monad, is where force comes from. Leibniz equated force with will power, hence force must involve something that is intrinsically conscious. Then, in ways he never tried to describe in any detail, he thought that the monads combined into ever more complex ways to generate

material substances. In this he foreshadowed our modern understanding from Einstein's work that matter and energy are equivalent (i.e. the famous $E = mc^2$).

Leibniz was a founder of our modern Western science. However, his contributions to calculus and classical physics were only a small proportion of his thought. The Monadology never made it into science. It was way too far ahead of its time. His idea of a “universal grammar” only found expression in 20th century science with the advent of computers. It is now recognized the Leibniz was the first to think of the idea of a general purpose programming language.

Fortunately, at least some philosophers have been (rightly) hypnotized and enamored by Leibniz' other ideas, such as the Monadology, and have kept his torch burning these past few centuries. Nonetheless, Leibniz's idea of monads never made a dent in the rise of modern science. Monads become relevant when we try to make sense of the yogic teachings. Hence my discussion here. With this brief background, let's continue.

Reflections Reflecting Reflections Reflecting Reflections...

As the quote above indicates, monads were postulated to have the property that each one reflects all the others. With this idea, Leibniz saw an infinite harmony in the monads reflecting each other. Conceptually, it is an elegant idea. Actually, it is much, much more than just elegant. As an intellectual idea, it provides the maximum concept of the unity of consciousness. Leibniz, as well as being a swell guy, was a genius of the first order. He always took a topic to its logical extreme.

Leibniz, [as emphasized by Greg Chaitin](#), was perhaps the first to stress the idea of getting the maximum out of the minimum (which takes on a new light when considered in the context of Nicholas of Cusa's idea of *Maximum = Minimum*). Nature will do the minimum action to give the maximum effect. Eventually this intuition became the precise idea of “[least action](#)” in physics, and has played a key role in our understanding of nature ever since.

Leibniz' idea of monads derives from the intuition of getting the maximum result for minimum cost. From the minimal idea that all monads reflect each other, we get a concept not only of maximum unity, but the maximum idea of how unity and diversity coexist.

Leibniz' *Monadology* surfaces with a vengeance when considered in the context of yoga. The idea that each monad reflects all other monads is the closest Western idea to the core teachings of yoga. The big difference between Leibniz' ideas and yoga is that Leibniz was being theoretical. Yoga is method and experience. Therefore we shouldn't be surprised if the empirical realities of exploring consciousness do not exactly fit his theoretical conception. What is amazing is how closely the monad idea corresponds to the yogic teachings.

However, the Devil is in the details. We must ask: What would it really be like to have an infinity of mirrors each reflecting each other? Even though the whole process is governed by lawful interactions, the end result will be a plate of spaghetti.

Krishnananda's Spaghetti

For Readers who may not know, referring to something as a “plate of spaghetti” is the modern way to say “[Gordian knot](#)”, which is to say, it means that things are so tangled up that it is hopeless to make sense of the situation.

Let's elaborate further on Leibniz' monads. First, there are an infinite number of them. Whether we use Cantor or Cusa's idea of infinity, it's still a lot of monads. Leibniz' concept of monads foreshadowed Cantor's transfinite numbers of aleph-null and the continuum we discussed in [Chapter 14](#).

Recall, Cantor made the bold (or absurd) step of putting all the integers together inside the same fence. How many integers did he put inside his fence? [Aleph-null](#) of them. Cantor then did a “trick” with all these integers. He asked: how many *subsets* of integers can be constructed? If you don't know, a subset is just a subgroup of elements, where each element is drawn from the total. For the integers, here are a few example subsets:

{1}
{1, 2, 3}
{10, 20, 30, 40, 50, 60, 70, 80, 90, 100}
{5, 17910}
{27, 55, 107, 1041, 2121, 11717, 71191119, 43933029911}
...and so on

You can make a lot of subsets from the integers. Cantor “proved” that the number of subsets of the integers = c , the continuum. Recall, Cantor believed in different sizes of infinity. Aleph-null, the total number of integers, is the smallest “size” of infinity. Cantor showed that the number of subsets of the integers, also called the *power set* of the integers, was infinitely bigger than the set of all integers. This is analogous to how there are infinitely more real numbers than integers.

Let's apply these ideas to Leibniz' monads. Imagine each monad is an integer. That means we have aleph-null of them. However, each one monad is reflected by all other monads. That is, each one monad gives rise to an infinity of reflections. So, then we ask: how many reflections do we end up with?

I am suggesting that the reflections of the monads are the same as the power set of the integers; they are the same “size”. Therefore, if we have aleph-null of monads, we end up with c reflections of the monads. And bingo, we are back in the continuum, which, to use understatement, is a bit of a mess.

We can carry Leibniz' idea one more step. When a monad reflects everything, does it then reflect the reflections? If the reflections form a power set of all the monads, AND if the monads can then reflect the reflections, then what order of infinity are we dealing with?

Do you see the problem? I can reduce it to one word: mess. Or three words: plate of spaghetti.

There is one final consideration. Manifestation is not static. Everything moves.

Everything changes. Therefore, if all things reduce to consciousness reflecting itself in myriad mutually reflecting beings, then the whole thing is slipping and sliding all over itself. The reflections keep changing.

To summarize: one of Leibniz' monads reflects all other monads, and therefore contains an infinity of reflections. However, reflections reflect themselves, so there is an infinite hierarchy of reflections within reflections within reflections. Finally, all the reflections are constantly shifting and changing. What would this "look" like?

I think Swami Krishnananda nailed it when he said:

"Everything in the world is a network of unintelligible relations"

[Monty Python said](#) about the Roman Empire: "As empires go, this is the big one". We can similarly say about Manifestation: "As messes go, this is the big one."

Now, this plate of spaghetti we get when considering Leibniz' monads are based on tenuous mathematical patterns that some have considered to be absurd. Krishnananda's position that the world is an unintelligible network is [based on traditional yogic considerations](#). As he says:

"Everything in the world is a network of unintelligible relations. Things are not perceived by all in the same fashion...The forces of distraction which constitute the individual consciousness are not of the same quality in everyone. There is a difference among individuals in their perception and thinking. It is impossible to have a knowledge of anything that does not become a content of one's own consciousness. Everyone is inside the prison of his own experience and knows nothing outside his consciousness. The world is rooted in the belief in its existence. The form of the world changes when the consciousness reaches the different relative planes of the various degrees of reality."

...and so on.

However, we don't want to give Leibniz short shrift. Leibniz struggled with the link between his monad theory and actual manifestation. He thought of monads as "metaphysical", but he was unclear and uncertain as to how this ideal metaphysical reality related to the world of phenomena we perceive with our senses. This confusion has perpetuated up to the present in all the commentaries of Leibniz.

However, this relationship is made crystal clear in yoga. It is the difference between the Relative and the Absolute. van der Leeuw quotes Plotinus' Ennead v. 8, 4, which is a vision of the Absolute:

"In this intelligible World everything is transparent. No shadow limits vision. All the essences see each other and interpenetrate each other in the most intimate depth of their nature. Light everywhere meets light. Every

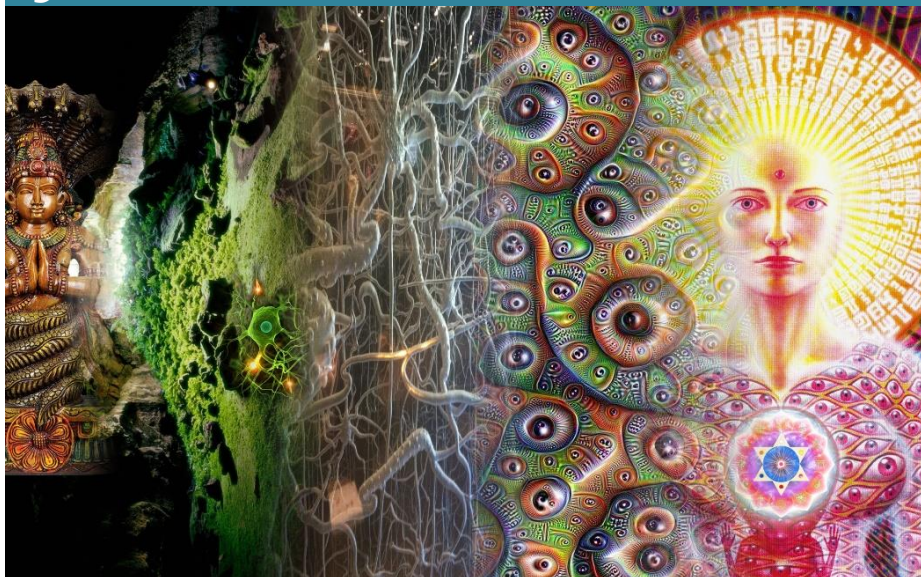
being contains within itself the entire Intelligible World, and also beholds it everywhere, every thing there is all, and all is each thing; infinite splendour radiates around. Everything is great, for these even the small is great. This world has its sun and its stars; each star is a sun and all suns are stars. Each of them, while shining with its own due splendour reflects the light of the others.”

Leibniz intuited Kaivalya, the Absolute, in his theory of monads. The stages from this pure state of the Absolute to the relatively chaotic manifestation are simply not spelled out clearly in the Western intellectual traditions. The yogic view of consciousness spells out the increasing hierarchy of complexity in the four states of the gunas. This notion is refined in the [36 tattvas of Kashmiri Shaivism](#).

The reflections of reflections fold and compound upon themselves until it becomes as Krishnananda so lucidly indicated: a network of unintelligible relationships.

These are but two out of the seemingly infinite perspectives on the Absolute. The trick to tie it all together is the idea of the “unconscious mind”, to which we turn our attention in Chapter 19.

19: The Cave of Consciousness



The Cave of Consciousness contains all those factors, processes, and structures that affect conscious experience without us being directly aware of them. The brain is the doorway to all of this. We discuss that much of what the brain does is not conscious.

Previously On PlaneTalk...

The last chapter discussed how Manifestation is one vast interconnected network. We considered two extreme views of what this network is. Leibniz saw a divine, pre-established harmony amongst an infinity of mutually reflecting monads. We determined that Leibniz' monads, if thought of in real terms, would look like a fun house of mirrors.

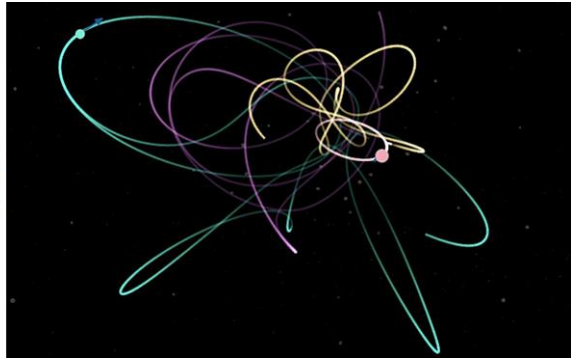
Krishnananda, on the other hand, simply [cut to the chase](#) when he characterized Manifestation as “a *network of unintelligible relationships*”.

We resolved this apparent contradiction by recognizing it was an apples to oranges comparison. Leibniz' monads can be interpreted as an intuition of Kaivalya, the Absolute. On the other hand, Krishnananda, drawing on Hindu thought, was referring to the Manifestation, where, as we see all around us, things indeed are quite messy and unintelligible.



The way each monad appears to all the others is different than how it appears to itself.

Even the “[harmony of the spheres](#)” is upset by [chaotic trajectories](#) when considering three or more heavenly bodies. Under the heading of “unintelligible” we can add, among other things, [quantum mechanics](#), [the unobservable universe](#), and [Gödel's theorems](#). To the smashing of the delusion of our omnipotence, Jerry Seinfeld would say: “[That's a shame](#).”



Everybody thought the planets moved so perfectly until [Poincare](#) did his thing.

Western mystical writings like Leibniz or Plotinus make a lot more sense when placed in the context of the Hindu triple ontology of the Absolute, Unmanifest, and Manifest. As we've seen, the Hindu ontology links the messy Manifestation to the ineffably perfect Absolute.

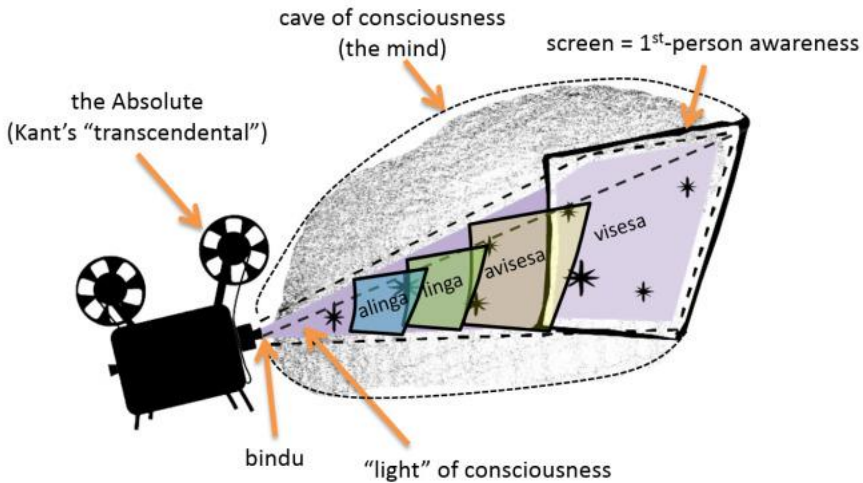
The link is made by way of the four phases of the gunas. Sattva, rajas, and tamas each come in four flavors named visesa (specific), avisesa (general), linga (marked)

and alinga (unmarked). Collectively, the four phases of the gunas can be identified with what in the West is called the *unconscious mind*.

The term “unconscious mind” is paradoxical. Why? Because we are talking about being aware of something—the unconscious—which, *by definition*, we are not aware of. However, the paradox is only apparent. There is an intimate relationship between the conscious and unconscious minds. This is tricky to express in words, but here we go anyway...

Overview

To parse out the relationship between conscious and unconscious stuff, let’s again consider the graphic of the yogic view of consciousness:

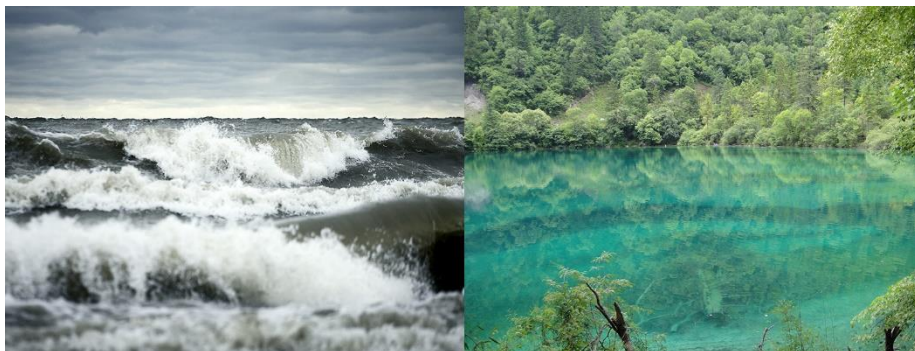


We already discussed the Absolute and the bindu. The light of consciousness is always just given: it is its own explanation. It projects from the bindu onto a “screen”, our first-person awareness. To get to the screen it must traverse the cave. In a simple-minded way we can think of the cave as the unconscious mind and the screen as the conscious mind.

An alternative metaphor we’ve repeatedly used is the idea that the mind is like a body of water. This is captured in a wonderful quote [from Vivekananda](#). Here, the surface of a lake is first-person awareness and the depths are the unconscious mind:

“[Chitta] is the mind-stuff, and Vrttis are the waves and ripples rising in it when external causes impinge on it. These Vrttis are our whole universe...

The bottom of the lake we cannot see, because its surface is covered with ripples. It is only possible when the ripples have subsided, and the water is calm, for us to catch a glimpse of the bottom. If the water is muddy,



Left: The normal surface mind, full of waves/vrittis. Right: Chitta vritti nirodhah.

the bottom will not be seen; if the water is agitated all the time, the bottom will not be seen. If the water is clear, and there are no waves, we shall see the bottom. That bottom of the lake is our own true Self; the lake is the Chitta, and the waves are the Vrttis.”

But where do the waves come from? Or, using our cave metaphor, what are the effects of the unconscious structures on the conscious mind? The unconscious structures are composed of the four phases of the gunas. The light of consciousness is filtered, diffracted, distorted, etc. by the unconscious structures in the cave depths.

Therefore, our first person awareness is *conditioned* by whatever is in the cave depths. Our conscious awareness is akin to *shadows* or *projections* of the structures in the unconscious mind. Which means the unconscious is *encoded* in our conscious experiences. Therefore, conscious and unconscious are not opposites. Each is contained in the other, like the yin/yang symbol.



To give an overview of where we are going with this, it's clearest to just show you my outline:

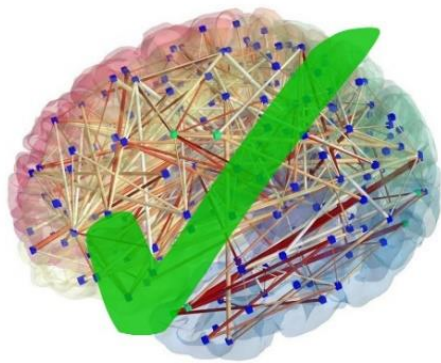
- 1) Relationships between conscious and unconscious processes
 - a) Brain function
 - b) Psychology
 - i) Freud & Jung
 - ii) Yogic samskaras
- 2) 2. General relationship between conscious and unconscious states

In this chapter, we'll discuss 1a in the outline, the current neuroscience view of the unconscious.

In the next chapter we'll use this understanding to look back at Freud and Jung in a way that accommodates modern sensibilities. Then we'll offend modern sensibilities by showing how yoga has had better ideas for millennia in its concept of **samskaras**. When I finish accommodating and offending sensibilities, I'll offer a general picture of how the conscious and unconscious minds mirror each other.

The Unconscious According To Cognitive Neuroscience

When people hear the term "unconscious", weird and nebulous things come to mind: Freud's [Oedipus complexes](#), Jung's [shadows](#) and [mandalas](#), [Dali's paintings](#), etc. The current crop of [philosophical pygmies](#) display little patience with these types of ideas. Therefore, it is better to gradually build into them by first considering more easy-to-digest views of the unconscious mind. Let's start off by looking at what we know about how the brain works.



Be vewy, vewy quiet...I'm hunting intewlectuals and don't want to tewwify them...

[Bernard Baars](#), a cognitive psychologist, presented his Global Workspace theory in his book [A Cognitive Theory of Consciousness](#). This theory provides operational definitions of conscious and unconscious mental processes that are based on observable human behavior and known brain function, and validated by laboratory and clinical experience. I've summarized Baars' model [elsewhere](#) and won't repeat myself here. Instead, I'll simply paraphrase Baars' definition of unconscious mental processes:

Unconscious processes affect consciousness without being directly conscious themselves.

This is a nice working definition. It captures the essentials needed to account for a wide variety of mental phenomena. Much of the action of our brain is unconscious. We do not consciously control our heartbeat, or even our breathing most of the time. You do not consciously control the nerves that release digestive enzymes from your pancreas to your intestine. These, and other vegetative circuits are hard-wired in our brains and will run even if the higher levels of the brain (e.g. the cerebral cortex) are destroyed. These factors, of which we are not conscious, nor do we generally control, are unconscious features of the nervous system that affect and condition consciousness.

It may surprise some people to know that even the voluntary activities are mostly unconscious. When you move your arm or walk, for example, huge amounts of neural activity occur in your brain and spinal cord of which you are completely unaware.

Similarly, when you see, hear, and otherwise sense the world about you, most of what the senses and brain are doing is invisible to your conscious mind. Conscious experiences of seeing, hearing, etc., are the end product of a chain of mostly unconscious events.

Being conscious is like watching a play, but never seeing any of the “behind the scenes” action that made the play in the first place. As J.J. van der Leeuw said:

“It is as if we were prisoners in the vast palace of our consciousness, living confined to a small and bare room beyond which stretch the many apartment of our inner world...In our consciousness we knew but results, we saw but that which rose to the surface and became visible.”

None of what I am saying is metaphysical or theoretical. Neurologists, for example, deal with brain-damaged patients every day. [They see first-hand](#) the consequence of “breaking” the “behind the scene” events that the nervous system performs (e.g. by stroke, head trauma, brain cancer, etc., etc.). We are totally oblivious of these aspects of brain function in our day to day behaviors.

Thus, regulation of the body, moving the body, and using the senses are mostly unconscious in their functioning, which is to say, we are not in the least conscious of *how* these things happen.

But it doesn't stop there. The “invisible” unconscious functions also occur at the level of thought and cognition, supposed hallmarks of being conscious. How, for example, can you read these words and make sense of them? Are you conscious of how you make sense of what you are reading right now? No you are not.

You are reading, and what you are reading simply makes sense. You do not have to stop and identify each letter individually, or consciously parse the meaning of every word, or determine how the words are strung together in this or that way to give a particular meaning.

Your ability to comprehend all this, mostly unconsciously and automatically, is not magical of course. You were not born with the ability, but learned it over many, many years. Nonetheless, it is built in to how the brain functions that effective learning becomes more and more unconscious and automatic over time with repeated practice. Now, after years of training, your reading comprehension happens automatically. All the behind-the-scenes activities occurring in your brain at this moment as you read these words is invisible to your consciousness. It is unconscious.

In The Beginning Was the Word

Let's consider the things happening in your brain right now, allowing you to read, of which you are not aware. In the Bible, first God spoke, then there was light. In our phenomenal consciousness, it's the other way around. Light carries written words to the brain. Most everything happening between the light and the words in your mind is unconscious.

Light is entering your pupil and hitting the back of your eyeball, your [retina](#). Do you see the light hitting your retina? Of course you don't.

In the retina, about a 150 million neurons per eye are releasing chemicals on each other, and changing the amount of electricity each contains. Do you see it? Do you see the chemicals being released and flowing around in your retina? Do you see the changing electrical patterns amongst the cells? Of course not.

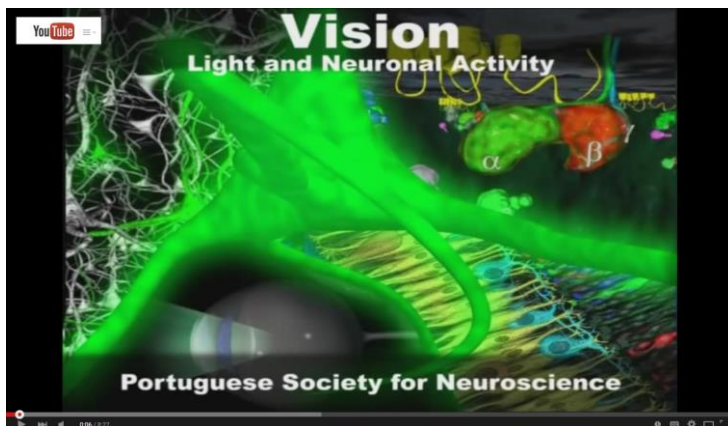
Next, complicated patterns of electrical currents are flowing in two wires (the optic nerves) that leave the back of your eye and go into your brain. Do you see the electrical current going up the wires to your brain? Of course you don't.

Then, the electrical impulses entering the brain causes all kinds of other electrical currents to form in the back of your brain (occipital lobe), in turn causing the release of chemicals that cause additional currents. It is all extremely complex. Do you see the currents of electricity flowing along the bramble of branches that make the neurons in your occipital lobe? No.

For the [right-brained](#) amongst you, below is an animation of the visual pathways I make graduate students watch each year when I teach neurophysiology. It is titled "Vision: Light and Neuronal Activity". Please take a look yourself.

What is shown in the animation is that, after activating the visual cerebral cortex, the electrical and chemical currents spread into other brain regions that interpret the original signal that came in from the retina. In some fashion that is NOT understood right now, the flow of electricity in a particular region called Wernicke's area causes the various patterns of lines you are looking at to become words.

Other brain regions recognize that the other visual stimuli, such as the device you are reading this on, are not words, and so push them out of the word processing pipeline. Are you constantly reminding yourself that your computer screen (or on the very off chance—pieces of paper) you are reading this on is not a word? No, that happens unconsciously and automatically.



<https://www.youtube.com/watch?v=AuL.R0kzfwBU&>

Not only do the lines become words, they also become meaningful. What you are reading on the screen are patterns of forms and shape that trigger patterns of meaning in your mind. Do you see the vast library stored in your cerebral cortex that link specific forms and shapes (i.e. words) with specific meanings?

Sidebar: What is the link between the flowing currents of electricity and chemicals in your brain tissue and what you actually see? This is called the *qualia problem* and there is no answer to it at present. The authors of the above video are rather cavalier when they speak of the brain “rendering” visual images. This is just hand-waving fluff, although the biology they show is accurate enough. As seen at the Wiki-link, no less a genius than Erwin Schrödinger believed the qualia problem cannot be solved...but I digress...

Tip of the Iceberg

Well, this becomes more interesting because, while you do not see it as a whole, you can direct your attention to any part of this library and make it conscious.

Consider this pattern of lines:

dog

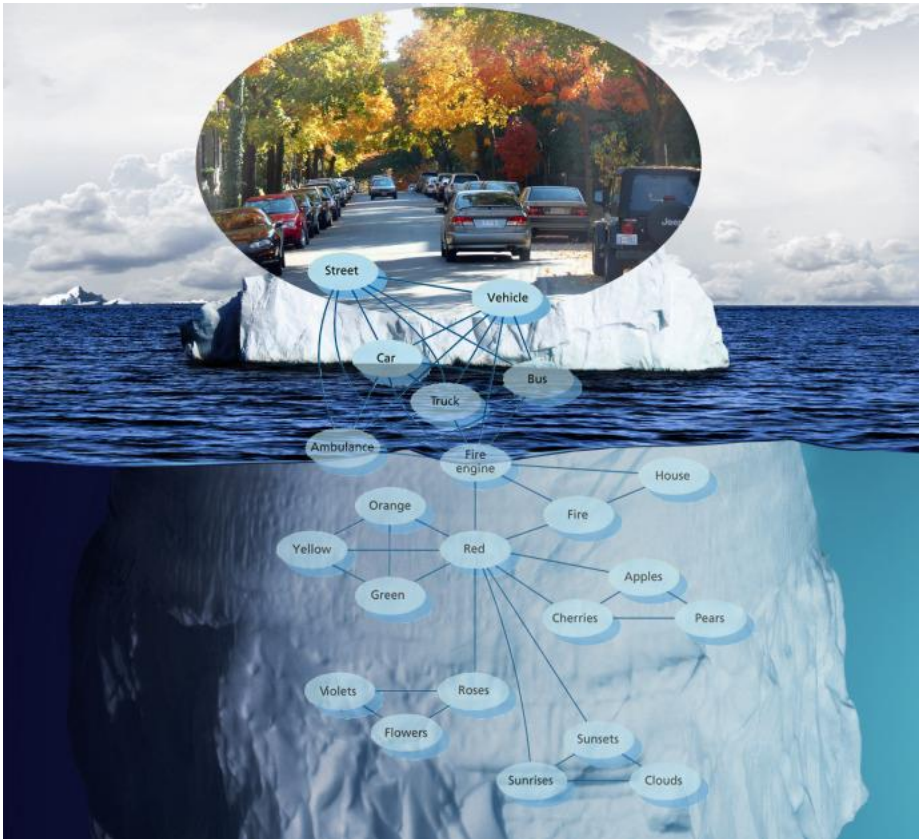
Now consider this pattern of lines:

happy

Now consider this pattern of lines:

ookey ookey bugga bugga

See how you can scan through this library at will? You can direct your attention to your “mind’s eye” and see whatever you wish in this library. But you certainly cannot see the whole library at once. What happens to the rest of this library when you are not aware of it?



Our awareness at any instant is that part of our personal memory network to rise to the surface and appear on the screen of awareness. The rest is submerged, making up part of the structure that exists in the unconscious mind.

Sidebar. You will also hear terms like “pre-conscious”, “subconscious”, or other such qualifiers used for information that you can voluntarily access but which is unconscious most of the time. Such terms may be useful in other contexts. For our purposes they are not useful. We will stick to simple black and white terms. If you are aware of something, you are conscious of it. If you are not aware of something it is unconscious to you.

It is not unreasonable to say that it becomes *unconscious*.

What the above exercise illustrates is that most of what happens as you read these words right now is invisible to your conscious mind. However, these invisible processes are, at minimum, conditioning, and at the extreme (if you are a hardcore materialist), *creating* your conscious perceptions.

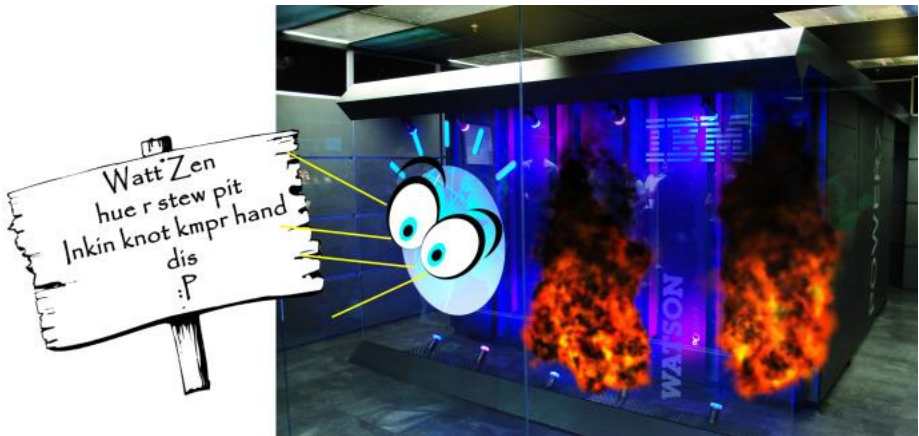
Therefore, *things of which you are unaware are affecting your awareness*. This is Baars’ definition of *unconscious*.

It is impossible to make a computer that reads like we do. Computers **cannot** read and comprehend like we can. They can be programmed to recognize patterns (see my [blog post](#) “*NVIDIA GPU Computing is Out of Control!*”), but that is it. There is no consciousness and no comprehension in a computer. A computer only mindlessly and mechanically follows some pattern programmed into it by a human. We humans still must recognize and interpret the patterns the computer isolates.

Therefore, even IBM’s famed [Watson computer](#) would get tripped up if you showed it this:

Thz cent sense kin nt bee red buy waaa sin bah t u r huuumin n kkkan rheed
it N ndr stndit.

How did you just do that???



Computers got nuttin’ on us!

Funny thing is, whatever processes are acting that allow you to read the silly sentence, you do all the time with emoticons and SMS shortcuts. This has to do with the fact that [semantics](#) and [syntax](#) are only loosely related. This is recognized in yoga by the terms *sabda* (“sound”), which are words, symbols, and syntax, and *buddhi*, which is the meaning in your mind (see [here for elaboration](#) on *sabda*, *jnana* and *artha*). Semantics and syntax are not the same thing. Sorry to all the [structuralists](#) out there...no system of symbols can ever capture meaning. The medium is *not* the message.

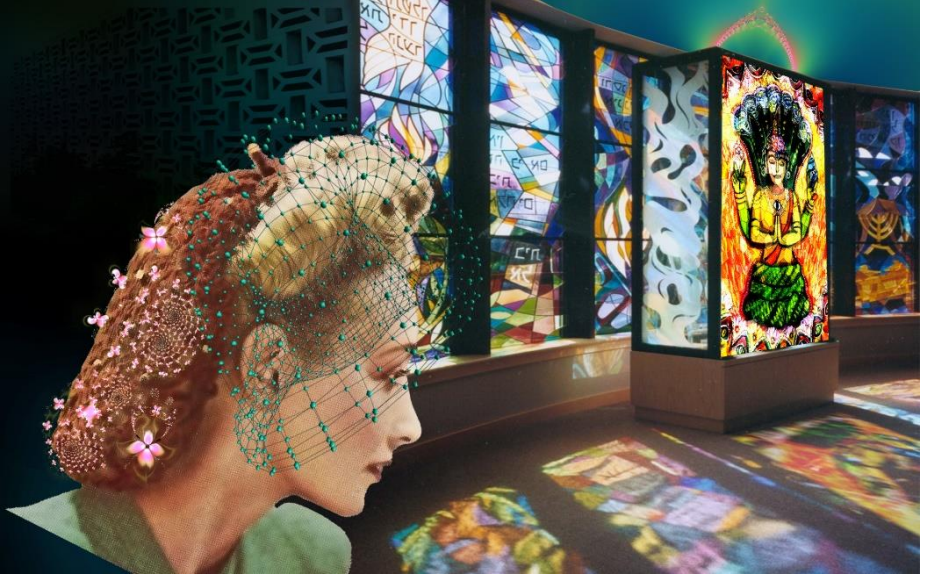
To summarize. Complex processes occur in your brain that ultimately allow you to associated meanings with symbols, particularly words, and string the symbols together into sentences, math proofs, pieces of music, etc. Then you can shoot these out of your mouth or fingers as fast as speeding bullets. In spite of the neuroscience alluded to above, we have only a crude outline of these processes. Details of essential processes are missing. The qualia problem is a huge [lacunae](#) sitting in the middle of

all this. Nonetheless, we can still look for patterns of regularity.

What is clear is that a tremendous amount of behind-the-scenes activity goes on. In other words, most of what language entails is *unconscious*.

The iceberg figure above begins to allude to the unconscious memory patterns that serve as screens or filters for our conscious experience. In the next chapter we delve even deeper into the unconscious memory patterns at work in our mind as we continue to explore the Cave of Consciousness.

20: Networks of the Mind



Memories in both the brain and mind are organized in nested hierarchical networks. This all seems rather conventional and boring until we start to inquire about how these memory structures link to our consciousness. What we find is we have not left the Looking Glass at all, but only gone deeper into it.

Overview

We're now exploring the Cave of Consciousness. The last chapter introduced the idea that our conscious behavior is molded by unconscious factors operating at many levels. Our body, brain, past experiences, and socially-programmed behaviors are obvious contributors. Buried under these, however, is the rest of the universe. Leibniz was essentially correct about everything reflecting everything else. In Kaivalya this is all goodness and light. In Manifestation it is so disguised in a most abstract fashion as to become hidden in what the West has come to recognize as the "unconscious mind". Yoga calls the hidden stuff [samskaras](#) and [vāsanās](#). We're still not quite ready to discuss Freud, Jung and samskaras yet; we'll get to that next time.

We're building a picture about the unconscious mind in stages. The previous chapter talked about how most of what the brain does is unconscious. In this chapter we link the unconscious to **memory**. The structures of the unconscious mind are memories. We now discuss the **structure and function** of memory. Memories form networks in our minds. These networks act like invisible screens, sieves, and filters through which are projected our conscious perceptions, thoughts, emotions, and actions.

The Neuroscience of Memory

The previous chapter introduced [Bernard Baars](#)' book [The Cognitive Theory of Consciousness](#). This book constructs a theory of the mind called the **Global Workspace theory**. It is a very nice theory, but I have no intention of going into all of it here (reads Baars' book if you want to learn the theory). There is, however, a key aspect of the theory relevant to the present discussion. Baars introduces an idea he terms "contexts". By this he is referring to higher order memory patterns found in the mind. Baars' idea explains the structure and function of memories and how they unconsciously affect conscious experience. Before getting to Baars' idea, it is helpful to first discuss the current understanding of memory in the neurosciences.



There are three types of memory commonly recognized in the neurosciences. These have been discovered through a combination of psychology studies, neurology studies of brain-damage people, and animal experiments. A quick summary is the following:

Declarative memories. These are our memories of things we know (called [semantic memories](#)) and of our past experiences (called [episodic memories](#)). They are formed in the brain by a structure called the [hippocampus](#), in association with other brain regions in the [medial temporal lobe](#). They are called "declarative" because we can declare them by talking about them. However, any animal with a hippocampus has declarative memories, but only humans can express such memories using speech. Damage to the hippocampus prevents formation of new declarative memories. Declarative memories are stored in the cerebral cortex, in those parts responsible for the associated function. That is, visual memories are stored in visual cortex, language memories are stored in [Wernicke's area](#), and so on. Destruction of cortex leads to loss of these memories giving rise to conditions called in neurology [agnosias](#), [aphasias](#), and so on.

Procedural memories. These are memories of how to move our (skeletal) muscles. Examples of procedural memories include walking, talking, riding a bike, driving a car, playing a musical instrument, any sport activity, etc. Procedural memories are expressed by actually moving muscles. There is no one brain region that causes them to form. Instead, the entire [motor system](#) in the brain and spinal cord contribute to forming this type of memory.

Working memory. This used to be called “short-term memory” in psychology. The term “working memory” derives from neurology, where brain damage that affects this type of memory has been studied by neurologists. The main brain region involved is the [prefrontal cortex](#). Working memory includes the ability to hold memories before our mind’s eye for short durations (on the order of seconds), but it is much more than just this. Neurologists have discovered that people with damage to working memory either: (1) get stuck on a task and cannot stop, even if circumstances change, or (2) cannot stay focused on a task for an extended period of time. It is even subtler than this, however. In everyday life we use working memory to establish a behavioral set. This allows us to carry out extended goals or to adapt to changes in our environment. When working memory doesn’t function properly, people can no longer effectively carry out goals or adapt to changing circumstances.

All three types of memory are [critical to our daily behavior](#). Dementia is the loss of declarative memory function, as seen for example in Alzheimer’s disease. Damage to procedural memories upset the ability to move properly, as seen in Parkinson’s or Huntington’s diseases. A number of conditions disrupt working memory, including stroke, chronic alcoholism ([Korsakov’s syndrome](#)), and head trauma, among others.

Strengths and Weaknesses

As with any scientific concept, there are strengths and weakness with this three-way classification scheme of memory. One weakness is particularly pertinent to our present discussion (My source here is [Cohen & Eichenbaum's memory theory](#)).

In neuroscience, declarative memories are associated with consciousness. We consciously recall them, and we have to be conscious to memorize them. Otherwise, we could learn by listening to books-on-tape when we sleep, which doesn’t work.

Procedural memories, on the other hand, are associated with unconscious, automatic behaviors like habits. As described in the previous chapter, we don’t have to think very much when we walk, or read, or even talk. We don’t have to think about the mechanics of these activities. The mechanics are invisible (unconscious) and thus allow us to focus on where we are going, the meaning of what we read, or what we wish to say. We reviewed reading in the previous chapter and saw that most of what happens, including at the cognitive level, is unconscious.

However, the simple associations of declarative/conscious and procedural/unconscious don’t work in practice. On one hand, we have to spend a great deal of conscious attention learning procedural memories. On the other hand, we saw with our [iceberg picture](#) that, once learned, many declarative memories sit in an unconscious state until they are consciously expressed.

Sidebar: Much can be said about how the brain is altered when learning occurs. This is the general topic of brain and [neuronal plasticity](#). There is no need to get to this level of depth here. However, there is one thing worth pointing out. The mechanisms causally linking the high level cognitive memory functions we are discussing here to the low level cellular and brain plasticity are **not** known. Things like the various forms of [potentiation](#), changes in [synaptic release probabilities](#), and [morphological changes](#) in neurons have all been identified. How this biology gives rise to the psychology is another facet of the qualia problem and will remain unsolved until the [qualia problem](#) is solved.

Hence the neuroscience categorization of memory is not the end-all-be-all, or the last word on what memory is in our brain and mind. This is where Baars' idea of "context" comes in.

Contexts

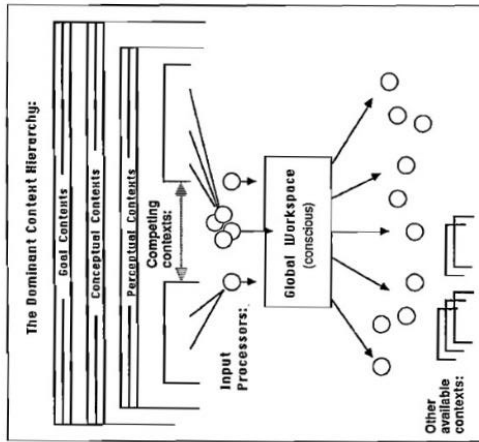
When Baars defined the unconscious as "*that which affects conscious experiences without being conscious*", he had an idea about memory that is more subtle and sophisticated than the neuroscience ideas reviewed above. He realized that, regardless of the type of memory, all memory begins with conscious attention and practice, and then becomes unconscious over time, until the memories invisibly frame our conscious experiences. These invisible memory structures that come to frame our conscious experience he calls "contexts".

With his idea of "contexts", Baars has identified a basic feature of brain function that went mostly unnoticed by the neurosciences through the 20th century and is still not widely appreciated now. Baars recognized that the brain uses consciousness to learn new information. As the information becomes learned, it somehow alters the brain so that the information becomes unconscious. In doing so, it alters consciousness experience.

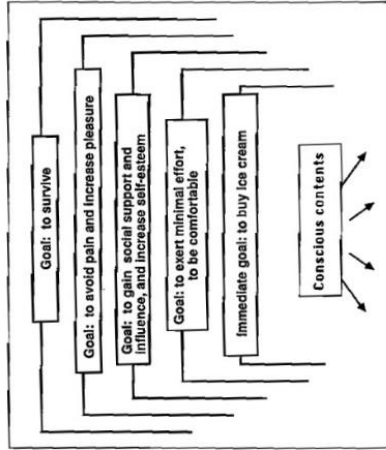
Allowing learned information to become unconscious makes consciousness more effective. More effective at what? At whatever it is the brain has learned. It doesn't matter if it is playing a musical instrument, learning science, learning a language, or whatever. One can even learn racism and prejudice. It just doesn't matter what the content is. When the brain learns something effectively, that something eventually becomes unconscious. When the information is unconscious, it automatically shapes or molds consciousness, making it much more effective with respect to whatever was learned. One learns to play the musical instrument more fluidly. One learns to do science more easily. One can be a racist more effectively by making it a habit.

How does this happen? Baars postulates that there is definite structure to how memories are organized in the brain and mind. The following are images from [The Cognitive Theory of Consciousness](#) illustrating how contexts unconsciously mold or shape conscious experiences.

General Idea of Contexts



Hierarchy of Goal Contexts



Layers of Language Processing

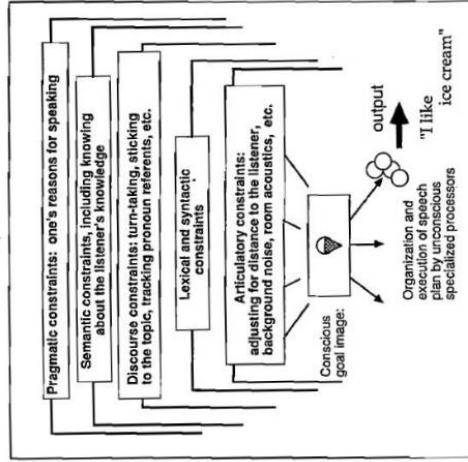


Figure 1: Illustrations of Baars' contexts. Taken from A Cognitive Theory of Consciousness.

The left panel of Figure 1 is a generic picture of how various memory networks form a hierarchical structure and compete for access to consciousness. The middle shows a specific goal context: the desire to buy ice cream. We can see that the goal to have ice cream emerges out of a series of increasingly general goals. Wanting ice cream springs from the goal to be comfortable, which sits in the goal to have self-esteem, which sits in the goal to avoid pain and increase pleasure, which sits in the goal to survive. As the goals get deeper, they are less conscious with respect to the task at hand, yet support the higher level goals. The right panel shows the same logic applied to language production. Here, the various layers of function combine to allow you to say “I like ice cream”. Again, all of this is mostly unconscious.

It is interesting to note here that we see again the pattern of going from specific to general, just as we saw with the *gunas* as described in the *Yoga Sutras*. This is not coincidence. We get into this correspondence deeper as we proceed.

Using ice cream as an example should not fool the Reader. On one hand, these ideas are meant to explain our normal everyday behaviors. On the other hand, the generality of the ideas allows them to be applied to every facet of human behavior, from something as mundane as eating ice cream to something as profound as painting the Sistine Chapel. And yes, even to explain how yoga works, which is, to remind you, where we are going with all this.

Memories Form Nested Networks

Baars’ term “context” is potentially a point of confusion because the word “context” has several meanings. He uses the word in a specific technical sense to mean “memory patterns that are unconscious, yet shape conscious experience”. To avoid confusion, we will use the term “memory pattern” or “memory network” in place of his technical term “context”. Let us consider in some more detail the structure that Baars posits for how our unconscious mind is organized.

Please note I am now using the terms “unconscious” and “memory networks” almost synonymously. Because of what Baars has identified, we can safely link memories to unconscious processes. The memory networks are mostly unconscious, except when they explicitly enter consciousness, which is relatively rare for any given memory item. Instead memory items function to frame consciousness as nodes or elements of contexts.

The organization of our memories is described by three words: [nested](#), [hierarchical](#) [networks](#). Baars scheme above shows how our memories form nested structures. The brain is the network par excellence. Combining what we know of brain network structure with Baars theory shows us the structure of how memories are organized. Pictures help. See Figure 2.

The various qualitative types of memory are relatively autonomous because they are localized to specific brain areas. Sensations are mediated by specific [sensory cortices](#). Emotions emerge out of the collective action of the [hypothalamus](#), [nucleus accumbens](#) (this is the “dopamine [pleasure center](#)” some of you may have heard of), [amygdala](#), and parts of the [prefrontal cortex and temporal lobe](#). Voluntary goal-

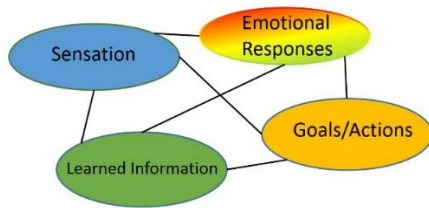


Figure 2: Simple pattern of networked memory subsystems.

directed behavior is mainly localized to the [prefrontal cortex](#). Learned declarative information resides in association cortices and higher order sensory cortices. However, all of the brain regions are interconnected via axonal tracts (white matter). Therefore it's [one big network](#) in the brain.

A slightly more complicated view of the organizational pattern is shown in Figure 2. It is the same drawing, just with some details filled in. Sensory perception involves the five senses everyone knows about, and a myriad of other senses that are not common knowledge (i.e. [glucose sensors](#) in your GI tract, or [blood pressure sensors](#) in your aorta). Emotions are always attractive or repulsive, but there are myriad shades of them. The semantic and episodic networks can be broken out and further subdivided way beyond what is indicated here. The nested structure of goals is illustrated by Baars' picture in Figure 1, but goals are also networked. Goals network amongst themselves (i.e. wanting a better life is, for many people, coupled to the goal of going to college, for example), and also linked to the rest of the mind's functions, like sensation, cognition, etc.

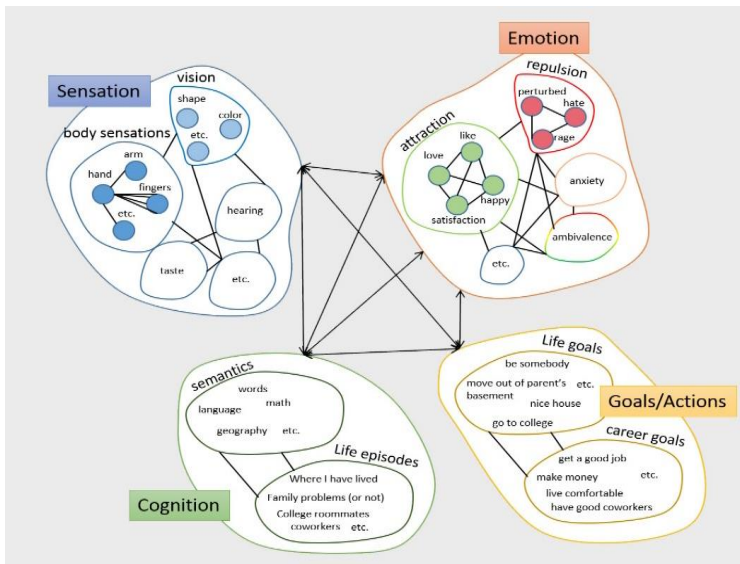


Figure 3: Slightly more complex pattern of networked memory subsystems.

I cannot illustrate the full complexity of this system. The diagram would be incomprehensibly complex if I attempted to depict every nested function and link. The point is to get a general idea of how our memories are organized. Again: nested, hierarchical networks.

How Does This System Work?

Having sketched the structure, let's now discuss the function of this system. First it is worth asking: what is this a system *of*?

Prior to the advent of computers, memory was more elusive to define. It could be understood as a representation of the past that exists in the present. This is true, but ambiguous, and not very precise. Today, we all know about information, and so we can understand memory easily. Memory is stored information. [Whoopy doo](#). We all have computers with hard disks and we have USB drives in our pockets. Today, everyone knows what memory is in very concrete terms.

Now, we can speak of "information patterns" stored in our brain and mind, but how these are concretely linked is, as I said above, not known. Again, the qualia problem. But the fact is, we don't need to know this to proceed in a useful fashion. We can talk about brain networks or mind networks as circumstances dictate. In the present circumstances, we are interested in the mind networks such as illustrated by the figures above. Thus, it is a system of nested, hierarchical information patterns.

Next we ask: what does this system *do*? This too was an elusive question until Baars put forth his theory. His theory is, in my opinion, our present best guess as an answer to this question.

The information structures that we call "memory" serve to filter, direct, shape, and mold, our conscious experiences. They are like stained glass that colors the white light passing through it. Our memories give shape and substance to the various domains in which we act. But the memories are mostly unconscious. But they mold our consciousness.

What this means is that our conscious experiences are a manifestation of the structures of the nested hierarchy of memories. It is a very strange idea, hard to express in words. Several different words come to mind: consciousness is a projection, a shadow, a manifestation of, a reflection of, an encoding of the unconscious information patterns.

What I am saying is that what is conscious and what is unconscious are intimately related. Like mirror images in a sense. It is a very strange insight. Normally conscious and unconscious are considered exact opposites. But they are not. Each contains the other.

Perhaps the most useful term is "encoded": the unconscious information patterns are encoded in our conscious experiences.

How deep does this go? We'll address this question in the next chapter, but let's make a first pass now.

As we saw previously, the structures of our brain give rise to seeing, to reading, and to language recognition. Where does the memory end and the biology begin? By

this I mean, we have unconscious memory patterns that allow us to recognize words and objects. These are clearly memories in the conventional sense. But other unconscious processes are due to the very structure of the eye and brain. Light interacting with the rods and cones of the retina is unconscious, but can it also be considered a memory? It doesn't seem like it on first hearing. Similarly, electricity flowing up the optic nerve is unconscious, but is it a memory? Again, doesn't seem like. But the electricity goes into the brain and activates patterns of electricity in the neurons there. Is this a memory? Well, now it seems like it is.

With a USB drive or hard drive we can clearly demarcate the storage medium from the information stored on it. However, it is not so clear with the brain and memories. In fact it is totally unclear. We know the mechanism of how information is stored on a USB drive. We have no idea whatsoever of the link between brain biology and mental experiences. We can pretend the brain is like a hard drive and simply stores information, but this is literally just making things up. We do not know how any of this works. The neural correlates of consciousness are just that: correlations. Every *real* scientist knows that correlation does not equal causation.

Therefore, we cannot simply assume that the brain is a hardware device that stores patterns of information analogous to our computer technology. In the case of the brain, the stored information (memories) alters the "hardware" (the brain) which in turn alters the "software" (the mind).

Where does the biology end and the information processing begin? What is the link between conscious and unconscious stuff? Where does the memory end and the physical process begin? All these facets of the system have one thing in common: movement. Otherwise known as "gunas" in yoga.

We are coming now to the heart of the matter of the Cave Of Consciousness.

The astute Reader will recall from [Chapter 10](#) the section entitled "'Being is Awareness' is a Tautology". There I discussed how samadhi is a fusion of the mind of the yogi with a memory in the mind of the yogi. We are positioning ourselves to understand that this is not as trivial as it seems at first glance. There is a strange link between conscious/unconscious and unconscious/memory that moves us into a domain of understanding that will take us quite out of the convention framework we have discussed in this and the last chapter, and move us back into the strange abstractions of yogic cosmology. But what we have accomplished in the meantime is to begin to link our normal everyday first-hand experience to the mysteries that underlie samadhi.

We are moving towards understanding the modus operandi of samadhi. Chapter 21 continues to expose this new level of strangeness.

21: Jumpin 'n Hoppin' on a Moonshadow



Our conscious experiences are an expression, or encoding, of a mostly unconscious, nested, hierarchical network of memories. How deep does this network go? Where do the memories end and the things we are aware of begin? We seem to be aware of a world of things and stuff. Yet all of this is known to us only because of the memory structures that unconsciously impart content to consciousness. It is a strange and elusive situation. Luckily, Leibniz helps us get a handle on it. Oh yeah, shout out to Freud and Jung.

Overview

We continue our exploration of the Cave of Consciousness. We are discovering that the Cave and the Screen are intimately interrelated. What is buried under our surface consciousness cannot be easily distinguished from the surface itself. What ties them together is *memory*. In this chapter we go deeper into the memories in our minds. There are two tasks to accomplish.

First, we want to tie the modern view of memory back to the classical psychoanalytical views of Freud and Jung. There are a few reasons to go through this exercise: (1) showing links between past and present views is aesthetically pleasing, (2) it illustrates the depth, ubiquity, and pervasiveness of memory on conscious functions, and (3), it will bridge our Western understanding to the abstract yogic ideas presented earlier about the inner worlds hidden under our surface consciousness.

Before we can tie all this back to yoga, we must undertake the second task, which is to elaborate on the idea that conscious experiences encode unconscious memory structures. The encoding is very abstract. However, taken in net, the encoding of the unconscious generates our normal surface consciousness. Realizing this allows us to begin to understand how samadhi functions to decode the unconscious memory structures hidden in consciousness.

How Deep Does It Go?

Having previously established that our conscious mind is shaped by a network of memories that is mostly submerged in unconsciousness, it is an easy downhill slide to Sigmund Freud and Carl Jung. We first give a general overview of Freud's and Jung's ideas. Each of these men wrote a lot, and much has been written about them by others. As with Leibniz, I will not pretend to be erudite about Freud and Jung, but just outline their main ideas.

Freud and Jung were karmically tied at the hip. Jung was a student of Freud. They had a falling out after working together for a while. Freud had a more confined view of the unconscious mind. Jung saw it in larger terms.

Sigmund Freud

Freud's big contributions were, first, to recognize the existence of the unconscious mind, and second, to attempt to elucidate its structure. The structure of the unconscious was captured in his trinity of id, ego, and superego. I am not so interested in regurgitating Freud's idea verbatim, but to explain them in terms of the memory structures we have already discussed and thereby show that Freud's ideas can be interpreted in terms that are quite sensible.

The id can be identified as all the unconscious biological and vegetative processes that operate at reflexive and instinctive levels in the brain; think [NTS](#) and [hypothalamus](#). Obviously these feed into our conscious mind and cause us to eat, drink, sleep, and have sexual desires, among many other things.

The ego is the personal memory network we have been discussing. Freud of course dwelt a lot on how past experiences can mess a person up. One may be tempted, in the Freudian context, to think only of the episodic declarative memories that encode our past experiences. However, we have seen that all the memory types are intimately networked and so, with one comes all. Thus, whatever limits Freud had in understanding memory need not confine our thinking. Most important, we revisit Freud with the understanding that memories are not just sources of pathology but, as we have been discussing, a core element of our conscious experiences.

The superego can be mapped to the interactions of the personal memory networks of many people, i.e. society. Our individual minds obviously do not function in isolation. The social interactions themselves form a complex nested hierarchy. We exist inside of nested social groups: family, community, state, nation, world, and whatever other clubs, in-groups, and [granfalcons](#) we may belong. The superego can be thought of as how a single individual copes within this milieu of

shared symbols, meanings, and behaviors we generally call *culture*.

Freud's major contribution was to package all these factors together into a new (for the time) concept: *the unconscious mind*. He recognized that most of the information contained in the id, ego, and superego constructs was buried underneath direct conscious apprehension. Being out of sight, these factors could make problems for individuals.

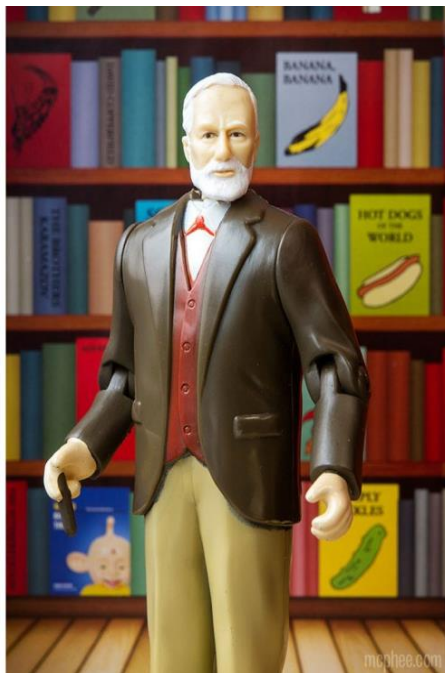
Freud identified how the personal memory network (i.e. ego) can form conflicts with: (1) itself, (2) with the biological network (id), or (3) with the larger social network in which it is embedded (the superego). Freud was fond of the conflicts between biology and society (id vs. superego) with regard to sexual desires. There is certainly plenty of conflict possible between these levels. Our current society, with its loose sexual [mores](#) does not obviate these

conflicts. It does provide bring them out of the unconscious mind and into the light of consciousness, and thereby vindicate Freud, at least in part.

The direction Freud took all this was to develop his particular brand of psychoanalysis, which, unfortunately, struck many as something resembling a cult. Although it made a big splash on the general culture, scientifically speaking Freudian theory never extended much beyond psychiatry. Meanwhile, as the 20th century progressed, psychology and the neurosciences passed Freud by. As we have seen, however, the general idea of an unconscious mind never went away. It eventually resurfaced in a tidier, more general package, of which Baars' idea of "contexts" may be the cleanest representative at the present time.

In sum, Freud recognized that the biological, personal, and social levels formed unconscious structures that affect the conscious mind. It was a big advance for the Western intellect at the time, and has since become ubiquitous in our understanding, even if not in the exact form Freud envisioned.

However, focusing only on the biological, personal, and social was a rather limited scope when considering human experience. Jung stepped in and took it all to the next level.



If you just can't live without him, you can get your very own [Freud action figure](#)! (Banana, hot dog, and pickle books not included).

Carl Jung

Jung took Freud's ideas and extended them to *deeper* types of memory structures. Freud's trinity of the unconscious mind was more contingent and specific: one's specific biological condition (id), specific life history (ego), the specific society one lives in (superego), etc. Jung's was a more general and *impersonal* view of the unconscious. Jung gave credence to something Freud did not take into account. We can call it, if so inclined, the [spiritual dimension of humanity](#).

Jung recognized that people's wills can sometimes reflect something deeper than just the contingencies of taking care of one's bodily needs, personal desires, and coping with society. Jung recognized a "divine spark" in humanity that drives it to constantly keep trying to transcend its limits. This urge of self-transcendence provides a nice working definition of the idea of "spiritual" that frees one from the airy-fairy mythology that surrounds institutionalized religions.

On this basis, Jung interpreted at least some of the knots and conflicts hidden in the buried depths of the mind as expressions of this self-transcending urge. Jung called this [individuation](#). This was *in addition* to the levels Freud identified. Jung did not wholesale reject Freud. He just had a larger view of the structures and functions that can form and operate in the unconscious mind.

In addition to the self-transcending urge, the other important contribution of Jung was his recognition of the [collective unconscious](#). The collective unconscious are structures and functions shared by all people, at all times and places, in their unconscious minds. He called these structures "archetypes" and made the term a household word. The idea traces back to Aristotle's "[essences](#)" or Plato's "[ideal forms](#)". Jung explored how many of these archetypes function in the human mind.

Thus, Jung took Freud's idea of "unconscious" and ran with it, plumbing its depths in a way that made even Freud uncomfortable; hence their falling out.

A point to note now, and to which we return: In addition to studying the waking mind, the study of dreams factored importantly in both Freud and Jung's approaches. Comparatively speaking, the study of dreaming has become constricted in scope in the current cognitive neurosciences, to the detriment of the cognitive neurosciences. The use of dreaming is clearly important in all this, and we come back to it later chapters.



A gratuitous image of Tarot cards to somehow suggest the archetypes.

Freud, Jung, and Modern Views of Memory and the Unconscious

Perhaps the key differences between the thinking of Freud and Jung is captured best by the difference between the specific and the generic. We can readily reconcile these today based on what we know of brain function. However, the implications of the generic features of brain function have by no means been tapped out. I now elaborate on this difference.

Let's recall Baars' definition of unconscious: *that which affects conscious experience without itself being conscious*. Obvious he did not make this up out of whole cloth. The idea goes back to Freud (and of course, Freud had [precedents as well](#)). Overall, there is a lot in common between Freud's and Baars' ideas. The personal unconscious of Baars' Global Workspace theory consists of essentially the same elements of id, ego, and superego, only expressed in more modern terms, and without the psychoanalytic overlay.

I commented earlier that Baars identified something that had generally been neglected by 20th century neuroscience, which is how memories initially require conscious participation but then become unconscious. This notion was implicit in Freud's thinking, but never impacted the neurosciences. Thus, this fundamental insight about the intimate link between conscious and unconscious functions in the brain and mind really only entered the scientific picture in very crisp terms with Baars' Global Workspace theory.

However, what has **not** made its way into current thinking about memory are Jung's insights. Archetypes and the collective unconscious are still much too far-out for the cognitive neurosciences. This is not to say there have been no inroads in a Jungian direction. A key point Jung emphasized is that there are generic features of the mind. This idea has continued to gain currency in the neurosciences.

For example, Penfield recognized this [in a clear way](#) by discerning two main aspects of cerebral cortical function. The first he called the "personal computer" which refers to innate (i.e. generic), genetically-programed functions, including the sensory and motor systems. One does not "learn" to see or move muscles per se; the functions are built into the very structure of the central nervous system. What one learns over time is how to use these built-in features of the brain. The second were "plastic" functions designed to deal with unique, specific, and contingent life events. This included the temporal lobe declarative memory system and the prefrontal cortex. Declarative memories, as we saw, encode one's specific life events. The prefrontal cortex with its working memory provides the ability to adapt in real-time to changing circumstances. These brain functions [have been labeled](#) as "promiscuous" precisely because they are not locked into genetically pre-programmed patterns of function.

Another example where generic properties of the brain and mind are emphasized is in [evolutionary psychology](#). Evolutionary psychology is premised on the idea that the features of the mind have evolved by natural selection because, well, brains (and the bodies they are within) are the product of natural selection. Evolutionary psychology talks about things like kin selection, the evolution of

language, altruism, and, in general, more down-and-dirty biological stuff that conditions how our minds function.

Because of the common emphasis on generic factors, there is an intimate link between Jungian and evolutionary psychology. Consider this quote from [Wikipedia](#) that nicely summarizes some of Jung's archetypes:

“Jung described archetypal events: birth, death, separation from parents, initiation, marriage, the union of opposites; archetypal figures: great mother, father, child, devil, god, wise old man, wise old woman, the trickster, the hero; and archetypal motifs: the apocalypse, the deluge, the creation.”

Birth, death, separation from parents, sex (implied by marriage), mothers, fathers, being young, being old: all of these are life circumstances encoded in our biology and common to all humans regardless of time or place. Or consider Jung's words:

“[It is] a mistake to suppose that the psyche of the newborn child is a [tabula rasa](#) in the sense that there is absolutely nothing in it. Insofar as the child is born with a differentiated brain that is predetermined by heredity and therefore individualized, it meets sensory stimuli coming from outside not with any aptitudes, but with specific ones.”

This is from the [Handbook of Jungian Psychology](#), page 75.

There are clearly intimate links between minds and biology. A central link functions, as Jung notes, at the level of heredity, which dictates the nature of what our brains are and can do, which in turn conditions how and what we think. Another quote from the [Wikipedia article](#) sets the tone for where I am going with all this:

“Stevens suggests that DNA itself can be inspected for the location and transmission of archetypes. As they are co-terminous with natural life they should be expected wherever life is found. He suggests that DNA is the replicable archetype of the species.”

Whoa, whoa, whoa! How did DNA pop into all this!???

What does DNA have to do with the mind and memory? Recall our definition of memory: *the storage of information*. DNA is clearly stored information. It is, in fact, [recognized in biology](#) that DNA is a type of memory. It is a memory of how to cope with a specific environment. The expression of that memory is a species.

But who or what *has* the memory? We are biased in our thinking to associate memory only with cognitive and mental stuff and therefore with an agent that *has* a memory. However, things that are not self-agents can have memories. Computer

memory is not intrinsically mental, and there is no agent involved. It is purely physical. We (stupidly) superimpose a mental overlay on what computers do. However, computers are not a great example because we invented them, and as an extension of us, it complicates the analysis.

On the other hand, DNA is a pristine example of memory in a non-agent context. That is, unless one goes the [Gaia](#) route and assumes the Earth is an agent of some sort. I've [already asserted](#) this is the case (e.g. the Earth logos), but I am not taking that tact at the moment. From just a simple physicalist's viewpoint, DNA is not mental. It is physical, and it is biological. The usual idea of evolution is agent-free. In this context, DNA is clearly a form of memory existing in the absence of agency.

So, the link between DNA and ideas like the collective unconscious straddles the link between impersonal natural processes and our personal mental experiences. DNA is present in (the nucleus of) every cell in our body and relates to the memory in our minds in an indirect fashion. Using terms I used before, DNA provides an unconscious platform that frames or molds conscious experiences, not only by generating bodies with brains, but also by coding for brain structures that allow the formation of memories.

Can we then consider DNA to be an unconscious memory that frames our conscious experience? In the most general sense, yes. How can we make sense of this? Well, we have to ask ourselves:

What would Leibniz say?



Back in [Chapter 13](#), I ran this Leibniz quote:

“We can also see that the perceptions of our senses, even when they are vivid, must necessarily contain some confused feeling. For since all the bodies in the universe are in sympathy, our body receives the impressions of all the others, and although our senses are related to everything, our soul cannot possibly attend to each particular thing. Thus our confused feelings result from a downright infinite jumble of perceptions.”

“In somewhat the same way the confused murmur that people hear when nearing the sea shore comes from the putting together of the reverberations of countless waves. For if several perceptions don’t fit together so as to make one, and no one of them stands out above the rest, and the impressions they make are all just about equally strong and equally capable of catching the soul’s attention, it can perceive them only confusedly.”

[Some people](#) have taken this quote, and others like it, to indicate that Leibniz was perhaps the first to describe the unconscious mind. I am certainly in this camp. Please allow me to elaborate.

Leibniz uses waves at the beach as his example. I could go with this example and talk about how a Fourier transform of the sound wave would begin to reveal the individual waves that make up the composite sound he refers to as “confused” (and you would understand to some extent because you read [Chapter 16](#)!). However, I think a better example to illustrate my point is tree rings.

We’ve all seen tree rings. They are very pretty. We can stain and shellac wood and make all sorts of useful and attractive things. However, we know that tree rings contain an enormous amount of information. “Hidden” in tree rings are the life history of the tree, the history of its environment, the chemical composition of the local atmosphere during the life of the tree, the law of radioactive decay, and so on. These things are not at all obvious from the pretty pattern we see when we cut a tree.

If we take what Leibniz is saying to its logical extreme, we can see that everything we are consciously aware of has hidden within it similar kinds of subtle and abstract information. The blue of the sky and a gorgeous sunset tells us about the nature of our atmosphere, the solar system, and atoms. The tides tells us about the Moon and the Sun. Lightning, which frightened our ancestors for millennia, held secrets that now power our human world.

What we in the West call “science” is us learning how to peer into our conscious awareness and reveal this hidden information. The world we sense outside of us is but the surface of something that runs very, very deep. The trick is understanding it the right way.

The same holds when we direct our attention inwards and peer at our minds. When something makes us feel happy or sad, this has hidden information about the



You're looking at everything.

kind of unconscious structures Freud and Jung discussed. When we imagine something, think a thought, or have a goal, each is the surface of a complex pattern, which, as we have discussed, is mostly submerged under our direct first-person awareness.

Hide N Seek

Stated simply: the unconscious is folded into, or hidden within, or encoded in our consciousness. van der Leeuw was not kidding when he said:

“There is nothing, there never was anything, there never can be anything but the eternal Rhythm of creation...On the one hand, in our normal consciousness, we can experience the fact of the limitation of the Absolute in the relative; on the other hand, in our experience of reality [Kaivalya], we find the fact of the liberation of the relative into the Absolute.”

What else is the “fact of limitation” but the veiling of consciousness by the unconscious? What is the “liberation of the relative into the Absolute” but the lifting of this veil of unknowing and revealing what is underneath? van der Leeuw is describing the process whereby consciousness becomes unconscious and then dispels the darkness to rediscover itself.

What we call “being conscious”, our first-person awareness, is a state where most of what is experienced is the unconscious in a deeply disguised and hidden form. It is mostly a state of darkness and ignorance because we do not consciously understand where it comes from or why it is. It is like the tree rings. We see

something and think we know what we are looking at. We superimpose simple-minded ideas over it. But we do not see what it *really* is at all. This is the nature of our conscious experience. This is what Leibniz was talking about.

Leibniz' "*confused feelings*" for which our "*soul cannot possibly attend to each particular thing*" is perhaps the most precise definition of the unconscious mind one can imagine. Once again, the Master nailed it.

What I am saying is there is a fundamental flaw in how we currently understand the idea of the unconscious mind. If we follow Freud and Jung and envision it as something that is the *opposite* of our conscious mind, we are misled in our understanding. If we go with Baars' idea of unconscious as "*that which affects consciousness but is not the direct content of consciousness*" we are moving towards a more accurate understanding. If we go with Leibniz' idea, then we basically hit the jackpot.

What does Baars' definition mean in concrete terms? It means what Leibniz says above. To say it in other words: we *misperceive* it. We perceive it "confusedly". Or to say it without the judgmental connotations: we do not decode the perceptions correctly. Like the tree rings, the perception is there: we are looking at it. We simply don't know how to interpret it correctly to extract out the information that is proverbially staring us in the face.

When we figure out how to interpret it correctly, we are rolling back the unconsciousness. More precisely, we are eliminating the "confused feeling". We are learning to decode the meaning of what is encoded in our conscious experience. We are coming face to face with the unconscious. We are banishing the darkness of our unknowing with the light of consciousness.

If we do this process using only our intellect and senses, we call it "science". If we apply the whole of our mind to the task, it is called samadhi. (That was just a one sentence rehash of [What is Science?](#) for all you summary buffs out there!)

22: Samskaras



We close out the discussion of memory networks considering the yogic notion of samskaras. Then we compare and contrast Western psychoanalysis and yoga. The history of yoga is thrown in to help illuminate things. This to set the stage to revisit pratiprasava from the first-person viewpoint.

Recap

Networks of memories, networks in brain tissue, Freud, Jung, DNA: what does any of this have to do with yoga? In short: everything. We [discussed pratiprasava](#), the dissolving of the effect into its cause, as the key process carried out by the yoga methods. What is the effect that is resolved into its cause? The memories. All of them. In yoga, these are called **samskaras**.

To get to where we are going, let's start by recapping Patanjali's yoga procedures. Yoga is *chitta vritti nirodhah*. Yoga is the silencing of the modifications of the mind (the vrittis). Why? So the seer can rest in its true nature (svarupa). How is this accomplished? Here is the algorithm described in Patanjali's *Yoga Sutras*:

1. Begin
2. Master [the eight steps](#) that culminate in the ability to perform samadhi. The eight steps are: yama, niyama, asana, pranayama, pratyahara, dharana, dhyana, and samadhi.
3. Samadhi is then used to silence the mind. The process of silencing the mind is pratiprasava, the recession of the effects into the causes.
4. Successfully silencing the mind leads to a state of pure blankness ([recall van der Leeuw](#): “we reach the Void within, the state in which nothing more seems to be...”). This state is the prerequisite to attempt dharma mega samadhi (put into context [here](#)).
5. Master dharma mega samadhi to recede through the bindu into Kaivalya.
6. End

The purpose of everything we have discussed to this point is to understand step 3 in the algorithm above. Step 3 is the meat-and-potatoes, the substance, of yoga. Step 2 refers to learning the necessary techniques. None of the eights techniques are ends in themselves. They are techniques whose sole purpose is to learn samadhi. Even samadhi is not an end in itself. It too is a technique that is to be used to carry out the main purpose of yoga, which is to silence the mind.

What does it mean to silence the mind? It does not mean making our surface consciousness blank. It means putting the samskaras in an inactive state.

Samskaras are the informational patterns taken by the gunas inside the Cave of Consciousness. In the broadest possible sense, samskaras are “unconscious” memory patterns. They are patterns of movement (gunas) that encode information (memory). Samadhi is the *method* and pratiprasava is the *process* used to decode these patterns from their unconscious, encoded, state into the light of consciousness. Bringing the patterns into the light of consciousness provides for the opportunity to dissolve the patterns.

They are transformed by *buddhi*, understanding. In this context, buddhi is called *viveka*, discrimination:

२६. विवेकख्यातिरविप्लवा हानोपायः ।

Viveka-khyātir aviplavā hānopāyah.

विवेकख्यातिः discriminative cognition; awareness of the distinction between the Self and the not-Self; awareness of Reality
अविप्लवा unbroken; unfluctuating; unfailing; incessant
हानोपायः the means of avoidance; the means of abolition; remedy; the means of dispersion.

Here are a plethora of translations from the [Yoga Sutra Study web site](#):

“Clear And Distinct (Unimpaired) Discriminative Knowledge Is The Means Of Liberation.” [Hariharananda Aranya]

“The uninterrupted practice of the awareness of the Real is the means of dispersion (of Avidya).” [I. K. Taimni]

“Uninterrupted discriminative discernment is the method for its removal.” [Vyasa Houston, Barbara Miller, Swami Satchidananda]

“Ignorance is destroyed by awakening to knowledge of the Atman, until no trace of illusion remains.” [Swami Prabhavananda]

“The means of destruction of ignorance is unbroken practice of discrimination.” [Swami Vivekananda]

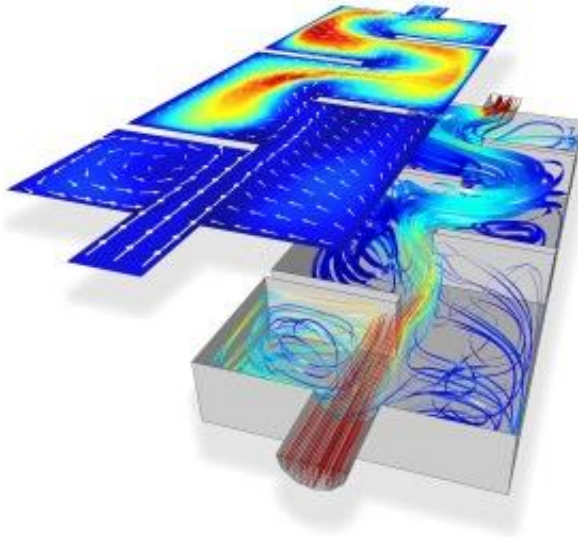
Or in the terms I used above: “the light of consciousness has the power to disperse the samskaras”. Just as the heat from the morning sun disperses the dew on the grass.

Using the classic metaphor of the lake, the samskaras generate the currents and eddies under the surface. The currents and eddies in turn generate the patterns on the surface. Waves do not cause themselves to appear on the surface of a lake. There is always some external reason causing the waves to appear: the wind, underwater currents, etc. It is the same with the mind. Things do not appear on the screen of consciousness willy-nilly. The factors that cause us to be aware of anything on our surface consciousness are collectively called “samskaras” in yoga.

As we discussed in the [previous chapter](#), our conscious experiences are encodings of unconscious processes. These processes form networks of relationships at the various levels: social, psychological, biological, etc. All of these flow patterns must be discovered, and then silenced, to stop the waves from forming on the screen. Chitta vritti nirodhah is impossible unless the patterns under the surface can be dissipated. The main purpose for learning samadhi is to descend into the Cave of Consciousness, discover the samskaras there, and dissipate them by the light of consciousness.

It seems daunting because there are many layers and types of memories. A “trick” used in yoga is to go one level deeper, see how the memories of the previous level are specific examples of some general thing, and then silence the general thing, thereby silencing the specific examples all at once. This is why there is emphasis on the idea of pratiprasava, of resolving the effects into the cause. If the cause can be found, all the effects are accounted for in one fell swoop. This is the origin of the idea in yogic cosmology that the four phases of the gunas go from the specific at the surface of things and become progressively more general as one descends in the Cave of Consciousness.

We now come to what I consider the big question of this book: How does all this work *in practice*? In this chapter we discuss prerequisites that will help us understand the answer to this question. In the next chapter we shift to the first person perspective of what it must be like to make the dive into the Cave of Consciousness.



Visualization of fluid flows. Patterns of movement similar to this were recognized millennia ago as gunas. The causes of the patterns of movement are called samskaras in yoga. Image from [here](#).

Karma

One will note that we are now on Chapter 22 and the word “karma” has not served any function at all in my presentation to this point. I have introduced and explained many Samkhya words which are of central importance to understanding Patanjali’s yoga. Karma has not been one of them. We are finally now at the place where I can briefly explain the meaning of karma in the yogic context.

This reason for this digression is that karma is one of the only Hindu words widely used in the West. People talk about having good and bad karma, and use the word “karma” somewhat synonymously with the word “[fate](#)”. One has an unexpected bout of good fortune and it is considered “good” karma, for example. Using the word karma in this fashion is not the Hindu meaning of the word karma.

Karma means “action” (i.e. see [here](#)). As such, it is an *effect*. The *cause* of any action is the associated samskara. The samskara is a memory pattern that causes one to act in a specific way. The action is the karma. The memory pattern causes the action. Therefore, one does not have “good” or “bad” karma. One has a variety of samskaras, all of which cause you to act in a variety of ways, and the way you act is your karma.

There are endless trivial example one can think of. You like chocolate cake. There is a memory (samskara) of enjoying eating chocolate cake. One then seeks to repeat the action of eating chocolate cake. It is one’s karma to eat chocolate cake. The true meaning of the word is nowhere near as dramatic as the Western misinterpretation of the word.

Even though this is a trivial example, it allows me to illustrate what I said above about how yoga finds the general pattern. In this example, the chocolate cake is secondary and not the important feature causing the karma of eating cake. It is the memory of enjoyment that causes the action. The underlying general pattern is:

X causes a pleasurable experience, therefore, repeat X.

X is the memory, the samskara. X could be anything: chocolate cake, a nice car or house, having a family, sex, having power, being taken seriously, getting revenge on your enemies. You get the drill. The samskara is the association of pleasure with action X. It sets up a positive feedback loop: one enjoys X, remembers this enjoyment, and then seeks to repeat it. The memory, samskara, of X causes the action, the karma, of X.

So, it's the samskaras that are important in all this. Karma is only a symptom of the memory that stimulates the action. Karma is a diagnostic marker of the underlying samskara.

The Kleshas

In their study of what is hidden under surface consciousness, yogis have discovered five general categories similar to the above example. In fact, the above example—pleasure—is one of the categories. All memories can be reduced to one of the five general categories, analogous to how the above example reduces a myriad of possible memories to the memory of having the pleasurable experience of X. The five categories taken together are called the **kleshas**. They are the roots of all the other samskaras. Sarasvati Buhman provided a [concise write-up](#) of the kleshas. I will summarize them here in my own words.

The word “kleshas” means “affliction”, as in having a disease, as in being afflicted with a disease. In this instance, the “disease” is being locked up in the Cave of Consciousness, of having the light of consciousness cut off from its source. Let's define exactly what the five kleshas are.

The first thing to realize is that the five kleshas form a chain of cause and effect. The first kleshas is the most general and the second derives from the first. The 3rd derives from the 2nd, and so on. It's easiest to just define each kleshas, then it is obvious how they are related:

Avidya – Avidya means “ignorance.” But not ignorance in the sense of a lack of knowledge that can be remedied by learning some piece of information. In terms I have used in this book, avidya refers to the constriction of consciousness into an individual mind, what I called *ahamkara* way back in [Chapter 2](#). Avidya is a state, or condition, whereby the universal becomes constricted into the individual, something we have discussed at length. My book [Experience](#) is a meditation on avidya.

Asmita – The consequence of the constricting of consciousness is the formation of “I”: the sense of being an individual distinct from other individuals. This is often translated as “ego”. But asmita is a very general thing, not the specific personality that, for example, Freud referred to as the “ego”, and which we framed as the “personal memory network”. Asmita is more generic than anything Jung discussed, let alone Freud. It applies to any seemingly individual thing from an atom, to a planet, to a rock, to a human being, to a galaxy, to an individual Brahma, no matter how many heads that Brahma has.

Raga – This is pleasure, an example of which was given above. In the sense used in yoga, it means “attraction”, in the broadest possible sense. Thus, for us humans, raga may link us to chocolate cake. For an atom of sodium, it may be the giving up of one’s electron to chlorine. For Andromeda galaxy, it is the irresistible pull towards our own Milky Way galaxy. Attraction, attachment: raga.

Dvesha – This is what happens when attachments go unfulfilled. There is pain. That is how we humans experience it. It’s mental anxiety, impatience, and so on. Dvesha manifests in many forms in our minds. However, the most general term might be “tension”. There is tension during the pursuit of pleasure, of raga. There is a temporary release of the tension of dvesha at the moment of raga. But since everything changes, the moment of raga passes, and dvesha returns. Dvesha is the natural state of things in Manifestation. All of Manifestation is in a state of tension, wound up, anticipating pleasure. Pleasure comes and goes, then dvesha, tension, returns.

Abhinivesha – Abhinivesha is translated as the fear of death. It is the consequence of the actions of raga and dvesha on asmita. The “I” becomes attached to the pleasures. Pain is the inversion of pleasure. Both attraction and repulsion are modes of interaction, are ways things can be bound together. The difference is only qualitative; both are states of being bound. The “I” becomes bound to the pleasures and pains. For us humans, being “bound” to pleasures and pains means we identify our “I-ness” with them. Then a whole complex comes into play where loss of the pleasures and pains is equated with loss of “I”. The net result is a huge tension called abhinivesha, which is the fear of death, or the desire for life and experiences. Another way to say it that makes it more relevant to yoga is that abhinivesha is the opposite of nirvana, extinction.

The Kleshas are described in aphorisms 2.3 through 2.9 of book II of the *Yoga Sutras* for those who might want to inspect the originals (see [multiple translations here](#)). I show only aphorism 2.9 here because it is interesting how Patanjali describes abhinivesha (again, from Taimni):

६. स्वरसवाही विदुषोऽपि तथा रूढोऽभिनवेशः ।

Svarasavāhī viduṣo 'pi tathā rūḍho 'bhini-
veśaḥ.

स्वरसवाही sustained by its own forces; flowing on automatically
विदुषः the learned (or wise) अपि even तथा in that way रूढः riding;
dominating अभिनवेशः great fear of death; strong desire for life;
thorough infiltration (of the mind); will-to-live.

2.9. Abhinivesha is the strong desire for life which dominates even the learned (or the wise).

It is worth considering Taimni's commentary:

“First, that this strong attachment to life which is universal is well established even in the learned. One may expect ordinary people to feel this attachment but a wise man at least who knows all about the realities of life may be expected to sit lightly on life. But as a matter of fact, this is not so. The philosopher who is well versed in all the philosophies of the world and knows intellectually all the deeper problems of life is as much attached to life as the ordinary person who is ignorant about these things. The reason why Patanjali has pointed out this fact definitely lies perhaps in his intention to bring to the notice of the would-be Yogi that mere knowledge of the intellect (Vidusah here really means the learned and not the wise) is in itself inadequate for freeing a man from this attachment to life. Unless and until the tree of Klesas is destroyed, root and branch, by a systematic course of Yogic discipline the attachment to life in smaller or greater degree will continue in spite of all the philosophies we may know or preach. The would-be Yogi, therefore, places no reliance on such theoretical knowledge. He treads the path of Yoga which alone can bring freedom from the Klesas.”

That pretty much speaks for itself.

What is worth mentioning in this context is that most Western conceptions *begin* at the will to survive. They consider this the bottom level of motivation. There is [Maslow's hierarchy of needs](#). Darwinian evolution doesn't really need a comment in this regard. Even Baars' model of goals in the mind bottoms out at “survival” (see the middle panel of Figure 1 in [Chapter 20](#)).

As we see, “survival” is the most superficial level of the kleshas. It is the end of the chain of cause and effect. Avidya, the constriction of consciousness, is the bottom level in the yogic cosmology. This is a big difference that needs to be explicitly pointed out.

In yoga, the kleshas are the root of the memory network. If we go with the [36 tattvas of Kashmiri Shaivism](#), the kleshas come into play just below the [maya tattva](#), since it is maya tattva that causes the constriction of consciousness in the first place, as we have discussed prior. Therefore, under the personal memory network, under Jung's Collective Unconscious, reside the kleshas. From abhinivesha emerges Jung's Collective Unconscious, from which emerges the Freudian personal unconscious, which we have framed in more modern terms with Baars' memory networks.

Let's explore further how the yogic ideas compare to our Western ideas.

Comparing Yoga and Psychoanalysis

I have not pretended to be erudite about Leibniz, Freud, and Jung. Too much is written by these gentlemen, and too much written about them, and I am a specialist of none of them. I imagine it must be similar when considering the psychoanalytical aspects of Patanjali's yoga. Someone somewhere must have written about it because the connection is too obvious. I however have not come across such writings so I apologize up front for omitting any previous efforts of which I am unaware. The one author I [have read](#) along these lines is [James Hillman](#) who, intelligently and sympathetically in my estimation, points out the parallels between Jung and Kundalini yoga. This section is kind of along the lines of a Hillman, but not exactly.

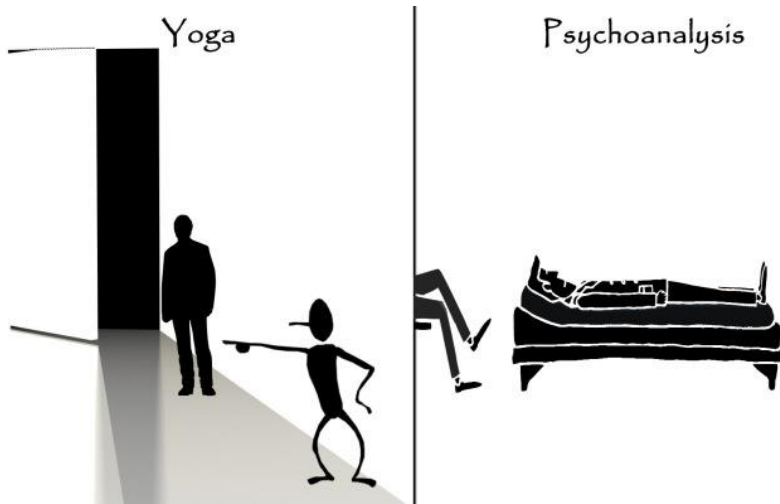
My main point is this. Freud sought to use the unconscious as a medical tool. The psychoanalytical approach involves the therapist and patient. Just referring to one of the involved parties as "patient" sets the tone to medical. But it also has a shamanistic quality. The analyst (shaman) is armed with tools and techniques to guide the patient (seeker of knowledge) through the unconscious mind, and help tease out problems and issues, with the aim of "healing" the patient.

However, in yoga, the person is expected to do this for his or her self. That is my point.

This is a big contrast between how the idea of unconscious evolved and was employed in the Western and yogic traditions. The analyst/patient relationship mirrored a shamanic type relationship between the spirit guide and the knowledge seeker. In Patanjali's yoga, there is a guru, but the guru is not a healer or physician. The guru/chela is more like a mentor/mentee relationship. The guru is trying to reproduce his or her skill set in the novice. The guru is a teacher in the normal sense of the term. The chela is an apprentice. It is a very different relationship than the psychoanalytical one of doctor and patient.

The domains overlap insofar as the guru is trying to teach the chela to navigate inside the mind. Thus, there is some overlap in the skills and techniques the guru may employ with the chela and what the analyst may employ on the patient. But the motivations, expectations, and end results are wholly and completely different.

The would-be yogi must experience the Cave of Consciousness for his or herself. One can be shown the door, but one must take the journey alone.



The differences between yoga and psychoanalysis for you right brained thinkers out there.

The Social Dimension

Which leads us to consider the social dimension underlying these differences. Freud had a relatively confined view of the end goal: to allow someone to be a healthy productive member of society. This is generally what medicine tries to achieve. Freud tried to make the mind analogous to the organs of our body. If everything is running smoothly and harmoniously (organs in the case of ordinary physicians, the mind in the case of psychoanalysts), this is considered “health” and, well...mission accomplished.

Jung saw all of this in broader terms. Jung recognized what I [elsewhere](#) called “the ungraspable” factor in life. Here I have referred to it as the “self-transcendent urge” (hat tip to [Hegel](#)). There is something that completely supersedes all our social conventions, mores, and norms. It plays through us, through our lives, and it must be given its due in a healthy, constructive fashion. Jung recognized that if this ungraspable essence isn’t given its due, it will come out anyway, possibly in violent and unhealthy ways. The healthy and constructive integration of the ungraspable, transcendental factor was his process of individuation. This is what Jung fostered and sought to achieve in his therapeutic methods. It is certainly a step up over Freud since it accounts for more of the human condition, leading to truly creative human beings instead of simple social automatons.

When we hold both of these approaches up against yoga, however, we see how limited both are. Yoga is “storming heaven”. No bars held, no quarter asked, none given. I [made the comment](#) that yoga is philosophical skepticism taken to its logical extreme. This is such an important idea that if the Reader truly understands this characterization of yoga, then I have been successful in saying what I am trying to say in this book.

Returning to the main point: in the 20th century Western tradition, the unconscious was framed as a medical thing, and there was a gulf between the “expert” and the “patient”. In yoga, no such thing exists. The guru is literally just a teacher. Reading the guru/chela relationship any deeper than this is, in my opinion, emotional sentimentalism. This is fine if one has such feelings, but they are expendable to the main issues at hand. In the end, [vairagya](#) is impersonal beyond anything the typical Western person can appreciate.

And that is the point: the yogi must learn to, first, discover, second, to stare down, and third, to defeat all of these things on his own. It is truly the embodiment of a warrior spirit.

This leads us to briefly consider the origins of yoga. It is, after all, an historical phenomena. It must have evolved in some specific social context, under myriads of social influences. Discussing this helps us increase the contrast between the Western approaches like Freud and Jung, and the teachings of yoga I am trying to convey.

Brief History of Yoga

Where did yoga come from? Short answer: no one knows for sure. Some of the key concepts of Indian yoga have the oldest records in Chinese literature that refers to Chinese practices. It is inferred that these made their way to India and were “Indianized”. However, there were also independent factors in ancient India that seem like plausible paths to the yogic traditions.

To outline these, this section is based on the book [The Origins of Yoga and Tantra Indic Religions to the Thirteenth Century](#) by [Geoffrey Samuel](#). Samuel attempt, with suitable intellectual conservatism, to reconstruct the rise of yoga in ancient India. Here is his summary from the end of the book. Please read it and I’ll elaborate afterwards:

“What we are dealing with in the Indic material has itself undergone radical transformations over the long historical period considered in this book. In the first half of the first millennium BCE we can perhaps see traces of two rather different kinds of system of initiatory knowledge, that of the Vedic priests and the vratyas on the one hand, and that of the proto-śramaṇa cults of the Central Gangetic region on the other. These traditions undoubtedly interacted in all kinds of ways in many regions and places in what was an, at least partly, shared milieu of ascetic practice, but it seems worth exploring, as I have done in this book, the possibility that their origins were distinct, and tied up with different cultural contexts. The Vedic system was for the most part a system of hereditary ritual knowledge passed down in Brahmin families, but there are also suggestions, in the vratya material, of a period of collective initiation for young men as a whole, based around ritual and military activity in the forest away from the settled community. If I am right in suggesting that the origins of the śramaṇa cults might be found in early initiatory cults in and beyond the Central Gangetic region, with resemblances to the West African initiatory cults that played a

significant role in the growth of wider social and political networks in that region in recent centuries, or perhaps to the early phases of the initiatory cults of the Hellenistic world, we can glimpse here the historical origins of these two different patterns and of their different emphases and approaches.”

He sees the origins of the yogic *social framework* (as against the methods and knowledge that constitute yoga) as the convergence of two cultures. The first is the Vedic peoples of Afghanistan and Northern India. This is a nomadic horse culture that values strong young men for their ability to fight in war. The culture is highly ritualistic as testified by the ancient Vedic texts. The second culture he places in the central Ganges plain and characterizes it as an urban and agrarian culture. Here the valued social type is the “wisdom-king” as typified by [Rama](#) in the [Ramayana](#). The values of this culture, as expected for an agrarian culture, revolve around reproduction, as opposed to conquest in the Vedic culture.

The [vratyā](#) were from the Vedic culture and were young men who banded together to raid neighboring tribes. It might be (very loosely) analogous to joining the army out of high school for a few years. The point was that this group, by their nature was isolated from society for a functional purpose. Samuel’s general idea is that, over the centuries and due to cultural diffusion, the vratyā ideal fused with the [śramaṇa](#) cults of the Central Ganges. The śramaṇa traditions were the forerunners of Buddhism and Jainism. These too were socially isolated, taking on functions for dealing with things that were necessary to urban society but undesirable, like disease and death rituals. Further, influencing both the vratyā and śramaṇa groups was the general philosophical and cosmological milieu of the Vedic (Brahminic) and Buddhist traditions providing the mental backdrop (what he calls the “*shared milieu of ascetic practice*”).

Samuel speculates that, over time, the vratyā and śramaṇa traditions fused to give rise to groups that were socially isolated yet contributed to society in useful ways by dealing with death and disease, and in general, by exercising magical powers over the elements that were of general use to society.

Then, somehow, by about 200 AD, you had things like Patanjali’s *Yoga Sutras* representing the mature form of variants of this type of social organization (This is said with the qualification that there is no certainty in dating either the *Yoga Sutras* or Patanjali. Based on a variety of lines of evidence, none of which is particularly secure, a date of the mid 200s AD seems not unreasonable, but is hardly undisputable). We could call these social forms “anti-social” in the sense they are appendages on the main body of society, accepted by the main body, but aloof from it at the same time. Aloof in philosophy and world-outlook, and aloof in practical matters of everyday life, in spite of intersections with the main societies. Even though not part of the mainstream of the culture, they were accepted, thrived, and played essential roles in the overall cultural framework.

Of course, he and his realm of scholarship could be completely wrong. It is

history after all, and we must remember that history is *reconstruction*, not fact. However, Samuel strikes me as a sensitive historian, plugged into the relevant intellectual communities, and constructing what, at the moment, are not unreasonable interpretations of what sketchy historical evidence exists at present.

To wrap this up, Samuel makes the plausible case that yoga as a social form arose out of a combination of two prior traditions, one of which was (broadly speaking) military in nature, and both of which were isolated from the larger society. This comes back to our concern about the difference between yoga and the psychoanalytic approach.

Psychoanalysis has its roots in [Hippocrates'](#) conception of the physician as the one who helps fellow human beings who are suffering. Yoga has its roots in a culture where the magician must stand alone on his own laurels and fight, whether it is to appropriate the goods of the neighboring tribe, or to ward off the spirits of death and disease in his community. Over time, the goal of yoga became that of storming heaven, of appropriating the Absolute.

Therefore, where the yogi goes, he goes alone.

This is a very different mind-set from that of the physician in the West.

Having set up the general background and context of the yogic adventure, we now approach the climax of this book. In the next chapter we start to think about yoga from a first-person perspective.

23: Yoga Now and Then



How did yoga go from its roots in ritual to being the way to storm heaven? Of course no one knows for sure, but I offer some plausible possibilities. The moral of the story is that any time we focus real hard on anything, we discover not the thing we are focusing on, but ourselves.

Introduction

We now move to the final topic of our Yogic View of Consciousness. We shall discuss yoga from the first-person viewpoint. Like the other topics, this will spread out over several chapters. To segue from the third person descriptive view I've been using so far to a first person viewpoint, this chapter discusses some more speculative history of yoga.

There is a lot of academic scholarship on yoga and its origins both in religious studies and in history. I've read only a very small fraction of it. Again, I do not pretend erudition on this front. It may well be that what I discuss below has already been described by an academic. However, based on what I have read, it seems unlikely. Academics tend to treat yoga, its methods and philosophy, as a strange, alien entity. I don't. I take the claims at face value as literal realities, something people in the social science and humanities are unlikely to do because they are [idealists](#), more or less overtly, and idealism has a hard time taking anything at face value.

Below, I further consider how yoga might have evolved from its roots in ritual to the amazing stuff Patanjali described. How did yoga transform from its roots in

ritual magic to the methods for accessing Kaivalya?

I suggest below that it is a relatively natural transition, not even specific to yoga. The general idea is that when we concentrate on anything long and hard enough, it is inevitable that we see past the thing we are concentrating on and instead focus on the act of concentrating, and thereby discover ourselves.

Why do Yoga?

Meanwhile, we are still making the transition to a first-person view of yoga. To do so, the first question to ask is: Why do yoga in the first place? What's the point?

Nowadays, the vast majority of people do yoga for things like exercise, health, mental well-being, getting what you want out of life, and so on. There is a real rainbow of motivations that stands in stark contrast to the single motivation taught in the *Yoga Sutras*. We already saw the motivation for yoga in [Chapter 17](#) when we discussed aphorism 2.5:

१५. परिणामतापसंस्कारदुःखैर्गुणवृत्तिविरोधाच्च दुःख-
मेव सर्वं विवेकिनः ।

Pariṇāma-tāpa-saṃskāra-duḥkhair guṇa-
vṛtti-virodhāc ca duḥkham eva sarvaṃ
vivekinaḥ.

परिणाम (on account of) change ताप acute anxiety; suffering संस्कार impres-
sion; stamping with a tendency दुःखैः pains (three causes mentioned above) गुण (be-
tween the three) Gunas वृत्ति (and) modification (of the mind) विरोधात् on account of
opposition or conflict च and दुःखम् is pain; misery एव only विवेकिनः to the enlight-
ened; to the person who has developed discrimination.

This is the expression in the *Yoga Sutras* of the classic Eastern philosophy realization made famous by [Gautama the Buddha](#) that all life is suffering.

[Chapter 17](#) focused on how this aphorism describes the incessant change of the gunas. We ignored the "pain and suffering" aspect there, but now we focus on it. This aphorism not only says everything is constant change, but that the *consequence* of constant change is that we are always in a state of anxiety or suffering. We saw in the [previous chapter](#) how all this is codified in the hierarchy of the kleshas. That's fine. But let's lump the kleshas together in terms of their net effect: **anxiety**.

Interpreting aphorism 2.5 slightly different: since everything changes, there is nothing in our first-person experience to provide an anchor on which to grab. There is no ultimate basis to life. Whatever you pick will eventually change. The people you cling to will eventually die. Any social institutions you belong to will transform into something else. Any beliefs you have will be forced to be updated in light of future experience. When all is said and done, it doesn't matter what you do because you are going to die.

Even if you starkly recognize and accept all this, it provides no solace. It tempers, but does not eliminate, the uncertainties inherent in the ever-changing nature of things. Knowing the truth of aphorism 2.5 does not eliminate the anxiety. If anything, it only highlights it.

Back in [Chapter 3](#), [existentialism](#) was briefly mentioned. I made the point that the existentialists were, if not smarter, then at least wiser than the materialists and idealists for recognizing that truth is elusive. What Patanjali says above is very similar to what the existentialists came to realize. Existentialists used words like nausea, absurdity, dread, and so on to describe our human condition. Nice guys. In [one of his essays](#), [Jean-Paul Sartre](#) was asked by a student what to do in life. Sartre says about this:

"We cannot decide *a priori* what it is that should be done. I think it was made sufficiently clear to you in the case of that student who came to see me, that to whatever ethical system he might appeal, the Kantian or any other, he could find no sort of guidance whatever; he was obliged to invent the law for himself"

That would make a fine TV commercial for academic philosophy. I joke. Maybe in a future essay I will discuss it in more detail, but for the moment I will just assert that there is a lot of overlap between Buddha and John Paul Sartre if you see past the superficial differences.

When we look in net, we see that Western thinking converged on the idea that Nature is to be controlled and conquered. This is how the West has come to deal with the kleshas. It is not a well-reasoned response, but an instinctive, knee-jerk reaction to deeply unconscious forces that have never really entered the collective consciousness of the West. Somehow, the incessant change that is life itself is to be fought, caged, and controlled. On the other hand, the great philosophies of the ancient East came to see Nature as pain and suffering. To me, this is a sign that the Eastern views are more mature than the Western views. At least they are willing to squarely look the problem in the face.

How'd It Come to This?

In the [previous chapter](#), we saw in our very brief run-down of the history of yoga that yoga evolved in a cultural context where it served definite social needs. The most primitive origins were rooted in ritual magic to deal with things like winning conquests, making sure the harvests were good, fighting disease, seeing the dead off on their journey in the afterlife, and stuff like that.

Over centuries, this activity evolved into sophisticated methods and philosophy, of which the *Yoga Sutras* is but one example. By late antiquity the goals of the mature forms of yoga had radically shifted from their roots in ritual magic to goals based on Buddha's realization that "all is pain and suffering". The goal of yoga became to escape all this pain and suffering. Obviously something changed between the most ancient [Vedic rituals](#) that go back circa 1500 BC, to Buddha a thousand years later

circa 500 BC. How could such a radical change come about? The following are some of my informed speculations.

What is ritual magic? It is not just the mindless chanting of sounds and moving one's body. It is **not** like being an actor who plays an acting role as an imaginary exercise. No. In ritual, the ritual performer believes in the ritual hook, line, and sinker. It is the **absorption** of the ritual practitioner in the ritual itself (citation note: this isn't my idea, I learned it in [Dane Rudhyar's](#) wonderful book [Culture, Crisis, and Creativity](#)). The ritual performer seeks to become **one** with the words, sounds, and movement-forms of the ritual. In this we can see perhaps see the earliest form of what was to later become samadhi, complete absorption, where even the Self is lost in the absorptive act.

Why is ritual magic performed? Ritual allows the **identification** of the ritual performer with some aspect of nature. One **becomes** that aspect of nature. Thereby (at least in theory) one can control that aspect of nature. Thus, the sponsor of the ritual could gain their desired ends (the rituals were always performed by the priest class for somebody else: king, rich guy, whoever).

Ritual thus contains elements of a primitive type of science and technology. The understanding behind the ritual is the science, and the ritual itself the technology. The goal is to control the forces of nature for some desired end (strong children, success in war, good harvest, etc.). In this, ritual magic is not so different from our modern science and technology.

One can envision two possible ways yoga branched off of ritual magic.

First, there may have been attempts to improve the technology of ritual. How can the magic be better, more effective? To solve this, one would need to understand how the mind, the main instrument of ritual, controlled the forces of nature. One would need to turn inward and investigate the ritual itself, instead of performing the ritual for its externalized purpose.

The second possible branch point may have evolved out of the intrinsic conflicts between the worldly goals of Vedic ritual and the other-worldly goals of the [Vedic philosophies](#). The ancient Vedas described myriads of rituals but they also contained the philosophical views that would later permeate all Hindu thinking, eventually to be distilled out in later works like the [Upanishads](#), [Mahabharata](#), [Bhagavad Gita](#), and [Ramayana](#).

The Vedas expressed primitive versions of maya, Brahman, Atman, and so forth, all of which would become greatly elaborated in the following centuries. These ideas are “other-worldly” in the sense that the physical world is secondary to these factors. The “other-worldly” factors are intrinsically more important. They **cause** the world. So to understand the world better, one must understand the “other-worldly” causes. One can envision a line of evolution whereby, over time, the rituals turned in on themselves, so to speak. Instead of performing ritual for worldly goals, rituals (forms of absorption) evolved whose goal was to contact the other-worldly forces behind the rituals.

These two possibilities, to improve magic per se, or having the Vedic

philosophies direct the rituals away from worldly and towards other-worldly goals, are not so different anyway. What is important is that the goals of ritual magic turned inward. This seems to be the critical step whereby bona fide yoga branched off from traditional ritual magic.

Just as scientists today seek to generalize on their previous views and develop ever more comprehensive and inclusive understanding, so it was likely to have been with the ancient yogis. To find ever more effective methods to control nature, it makes sense that ancient yogis would seek deeper and deeper to find the more general aspects of what they were doing. In fact, we see a similar thing happening today. Does not [quantum mechanics](#) force us to look inward and wonder about our minds and how they affect the seemingly external world? History repeats at a new level of the spiral.

Whatever caused ritual absorption to turn inwards, the fact is, it did. We today call it yoga. What is more important than how it came to be is what was discovered when absorption turned inward.

What was discovered was the ever-elusive nature of things. Everything changes, as the aphorism above clearly expresses. [We saw](#) where this led: the kleshas. Change starts from the ignorance of the way things are (avidya). The original sin is the Self. Abhinivesha is not much different from the fall from grace expressed by the [Adam and Eve](#) story in the [Bible](#). From there it was all downhill: loves, hates, and fearing to let either of them go. And here we are. [Yay!](#)

This had a big effect on the goal of controlling nature. What is the point of trying to control nature if it's always changing? Even you trying to control anything is just another example of change. Then something or someone else comes along and changes the change you made. It's an endless process of successive transformations. It leads to an ultimate insight: it is futile to seek to control nature.

Instead, the only thing one seems to be able to control is one's mind.

This little diversion has brought into relief the key motivation for yoga: we have no control over the changes that seem to happen outside of us. We do seem to have some control over what happens in our minds. How far can we control our own minds? That's where we'll pick up in Chapter 24.

24: The Only Way Out Is In

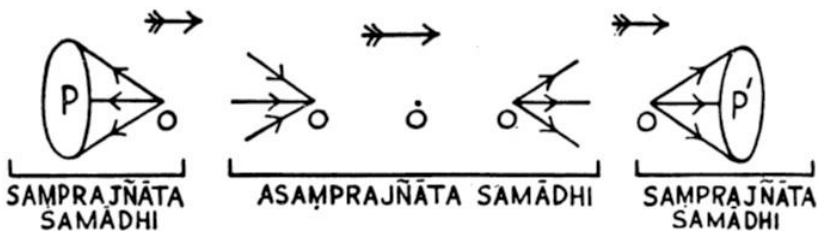


Here we consider why someone turns to yoga in the first place, and why *yama* and *niyama* are so important to yogic practice.

In and Out

In the last chapter we looked again at aphorism 2.5: all is constant change and therefore pain, suffering, anxiety are the net result. Or as I said there: since everything changes, there is nothing in our first-person experience to provide an anchor on which to grab.

But there is something kind of like an anchor. It is the distinction between *paranga cetana* and *pratyak cetana*. When this distinction is truly understood, it becomes the closest thing to an anchor in life that one can have when our consciousness is all twisted and distorted by the ever-changing *gunas*. Hence my constant raving about Taimni's diagram from *The Science of Yoga* as one of the most important images you will ever see:



This diagram illustrates the heart of the technology invented in ancient India to tame the human condition. It is the outward directing of consciousness, **paranga cetana**, which is the very problem itself. This is the condition of being aware of only the vrittis of our first-person awareness: thoughts, feelings, perceptions of our bodies and the world, having all our little goals, our priorities, our likes and dislikes. This is the kleshas we discussed previously. It is ahankara, the Fall from Grace.

We don't need to say "all is suffering" like Buddha did. We can take a less extreme view and recognize that pleasure is but the momentary assuaging of the constant tensions and pressures that fill our mind. Today we don't call it "pain" we call it "the rat race". The kleshas, at this moment in history, have taken on a kinder, gentler face. But this makes them all the more insidious for hiding their true nature.

The only way out is in. This is **pratyak cetana**: turning the flow of consciousness from outward to inward. This is the technology of yoga. It is not designed to solve physical problems in the physical world. It is the means to go beneath surface consciousness, to navigate and conquer what is discovered there, all for the end-goal of **freeing ourselves** from this condition.

But okay, life has its ups and downs. But isn't all this a little extreme? Well, let's think it through.

Viksepa and the Worldly People

Please recall way back in Chapter 1 where Taimni used the word **viksepa**. This is a very important word in yoga. It means "being distracted". Specifically, it means being preoccupied with all the vrittis bouncing around and reverberating in consciousness. Viksepa is the condition of those who do not practice yoga. This condition is a state of constant tension, of constantly being wound up, of constantly chasing after the promises of pleasure that the mind presents.

Yoga is the processes of progressively eliminating all the sources of viksepa, of distraction, and thus relaxing the mind. People who are caught up in viksepa believe they are happy. They are the *worldly people* and they are the ones that keep the wheel of life, death, and rebirth spinning.

This is a fundamental idea, so I will elaborate a bit. Two angles I'll consider are: (1) what it means to be worldly, and (2) psychoanalysis...again.

The Worldly People

Being "worldly" specifically means **paranga cetana**: having consciousness outwardly directed, knowing only the screen, the surface, of the mind. One may think of a worldly person as someone who likes to own fancy cars, big houses, or who wishes to acquire fame or power. These are not wrong, but just limited views. There is more to it than these kind of things. Anyone who identifies with any aspect or feature of manifestation is "worldly". Other examples include doing good deeds for others, being intellectual, or even being religious and hoping to go to heaven. All of these are viksepa, distraction, because in each case, the person is focused on the screen of consciousness and bases their goals from what is playing out on the screen.

That is the main generalization: if the person is driven by something experienced in the state of *paranga cetana*, then they are “worldly”. This way of thinking about it has the advantage of being applicable to all the realms of manifestation and not just apply to physical experience. My book [Experience](#) discussed the [Intermediate Zone](#) and its false allures and half-truths. M. Alan Kazlev has his excellent sites about the Intermediate Zone and the [Intermediate Zone Gurus](#). These are people caught up in the half-truths of the inner realms of manifestation. When we understand what *paranga cetana* means, we realize these people too are “worldly people”. In [Chapter 11](#), I said that, to a yogi, even the heavens and the gods are just patterns of *gunas*. As such, they are just distractions, *viksepa*.

Please recall aphorism 2.9. Let’s use Hariharananda Aranya’s [translation](#) for a change of pace:

“As In The Ignorant So In The Learned The Firmly Established Inborn Fear Of Annihilation Is The Affliction Called *Abhinivesha*.”

Even the “learned” still fear death. One who is learned in the ways of the world is certainly not practicing yoga. Let’s repeat what Taimni said about this:

“...mere knowledge of the intellect...is in itself inadequate for freeing a man from this attachment to life...The would-be Yogi, therefore, places no reliance on such theoretical knowledge.”

Just to be clear. When he says “mere knowledge of the intellect”, he means all intellectual knowledge about the world; the knowledge *possessed by* the intellect about every conceivable topic in the world. Again, let’s repeat what Krishnananda said about this type of knowledge:

“The condition of our being is the knowledge that is really worthwhile, and any other knowledge is an external growth which can be washed away by a bath with soap; therefore, it will not help us...”

Vrittis and Consciousness

What this all comes down to is this. The very first thing someone embarked on yoga must learn is to drop all distinctions and recognize there is only one thing going on here: *vrittis* in the mind. It is all just reverberation, waves, patterns, in our mind.

Yes, there are various levels, or types, of *vrittis*. Some we call “perceptions”, others we call “thoughts”, others we call “emotions”, some we call “imagination”, yet others we call “dreams”, and others we call “inspirations”. There are infinite ways to slice, dice, and categorize the pie of the mind. All of them are half right, and therefore are also half wrong. When all is said and done, there are only *vrittis* reverberating in consciousness.

I can make an analogy. A piece of iron seems very different from a pile of dirt, and both are very different from my hair or tooth brush. But in the end, all these things are made of atoms. Then, you look at the periodic table of elements, and see there are 118 (give or take) different atoms. But when you look close enough, you see they too are all the same thing: a very tiny hard core of a quark soup surrounded by a large “cloud” of electrons.

When we look at the world around us we see an incredible diversity of *stuff*. The diversity is just surface appearances, and underneath, it’s all the same thing.

Group →	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1 Period	1 H																	2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba	*	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	**	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Uut	114 Fl	115 Uup	116 Lv	117 Uus	118 Uuo
	*	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu		
	**	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr		

Same or different? How about variations on a theme.

The idea of vrittis is analogous. We inspect our mind in our first-person awareness and see there perceptions, thoughts, feelings, and so on. They seem to be very different types of mental stuff. But they are not. They are all just vrittis: changes. They are the various ways the mind turns, moves, and vibrates.

Yama and Niyama

This is where yama and niyama come in.

In [What Is Science?](#) I said that yama and niyama are to yoga what reading, writing, and arithmetic are to book learning ([Part 6](#) for the citation checkers out there). I will say the exact same thing here: **Yama and niyama are to yoga what reading, writing, and arithmetic are to book learning.** You can’t do yoga without the basics of yama and niyama. They are literally the floor board on which everything is based. Like anything else in life, if you build on shaky grounds, then your efforts are pretty much guaranteed to collapse. If you build on a solid foundation, then you have a much better chance for success. **Yama and niyama are the solid foundation on which yoga practice is built.**

Patanjali provides lists of what constitutes [yama](#) and [niyama](#). I won’t repeat them here. They are easy enough to find.

I will now say something that will be controversial to people who know yoga. *If you practice these lists without understanding why, then you are just spinning your*

wheels. Please allow me to explain by discussing what yama and niyama accomplish in general.

The short of it is this: yama is the turning away from things of this world, of getting rid of our worldly tendencies. The niyamas are the things you do to replace worldly tendencies. In other words: yama is the dissociation from the vrittis. Niyama is trying to find out what else there is.

If you look at the list of the yamas, they all have to do with treading lightly in the world, with eliminating your attractions and repulsions to things of this world. They deal with how to deal with raga (pleasure) and dvesha (pain).

The list of the niyamas have to do with developing **vairagya**, dispassion. The niyamas tackle the big problem at the root of it all: avidya. What begins to replace our worldly desires and aspirations? Replacing them begins simple but takes on as many forms as there are different people.

The common element is that one begins to realize that *things are not what they seem*. One begins to question and wonder about why the world doesn't seem quite right, and what that might mean. This is what "[skepticism](#)" means in philosophy. One quits taking things at face value. van der Leeuw brilliantly expressed the sentiment:

“Unawakened man knows only facts, no mysteries, to him things are their own explanation; the world is there and what else is there to know? Such is the animal outlook; to the bovine mind pastures may be good or bad, but they need no explanation. Thus unawakened man is content with the facts of existence--his environment, his food, his work, his family and friends are so many facts surrounding him, pleasant or unpleasant, but never in need of explanation. To speak to him of mystery hidden in his life and his world would not convey any meaning.”

It Snowballs Out of Control

This is a big deal. It is what separates armchair intellectuals and mere posers from someone in whom a true awakening is occurring. I referred earlier to how the self-transcending impulse that Jung (and many others, Hegel for example) recognized plays through our lives. Ultimately, this impulse is the Rhythm of Creation [van der Leeuw talked about](#). It is the Absolute pulling us back. It is present in everyone.

But it operates like a snowball going down a hill. It starts out slow, and only slowly picks up speed. But as it rolls, it grows and accelerates. Eventually it hits a threshold and becomes a landslide.

Thus is the gradation amongst people. In some, the ball has barely begun rolling. These are the worldliest people. They are the bovine minds that look at pastures as only good or bad. They are “content with the facts of existence”. As the ball gains momentum, people awaken to various degrees. It may manifest in a myriad of ways. People are driven to great achievements in the arts, religion, science, or philosophy,

great humanitarians. These are the various ways the impulse can surface as it builds up inside the cave of consciousness and begins to spill over onto the screen.

Eventually though, the rolling snowball turns into a landslide. When this happens, that is when one can rightfully be said to have entered the path of yoga. The effect however, is not what one might expect. The effect is perhaps best described by the term “**world-weary**”. When this impulse takes control of the screen of consciousness, a person begins to find the world and its various delights dissatisfying, empty, vacuous. The word “*maya*” comes to dominate perception. The energy of the impulse cannot find satisfaction in mere worldly activities, no matter how seemingly noble and great. The mystery of which van der Leeuw speaks above becomes all-consuming. Everything becomes a manifestation of this mystery.

Again, it takes on myriad forms. Each person encounters this in a different way. One size does not fit all. But one way or another, the path of yoga comes to such a person. Buddha had a story, Jesus had a story, and Mohammed had his story. They were all different. Each person’s story is meant for that person. My and your stories will not be their stories (although we can gain insight studying each of their stories). We each will find the path of yoga in our own way and in our own time. In this regard, it helps to accept Hindu views. It will not all happen in one life time. We will recycle on the wheel of *Maya* many, many, many times before we get to the point where we can clearly say we are on the path of yoga.

So, if we want to put ourselves in the mind of a yogi, we have to transcend whatever we think we are and we think the world is. Neither are what they appear. I said that yoga was philosophical skepticism taken to its extreme limit, and this is how it *begins*.

Mystery

Everything that was familiar becomes alien. Nothing makes sense anymore. One even becomes alien to one’s self. I will quote Weyl again because his statement takes on a deeper meaning in the present context:

“On the one hand, I am a real individual man; born by a mother and destined to die, carrying out real physical and psychical acts, one among many...On the other hand, I am “*vision*” open to reason, a self-penetrating light, immanent sense-giving consciousness...”

“*The man, born by a mother, destined to die*”... Who is this person? From whence and to whither? For what purpose? You yourself become part of the mystery.

Then there is “*vision*”—being—a self-penetrating light. I am. That much seems certain. Even Descartes got this far. Had Descartes clearly demarcated the light of consciousness from all the stuff going on in the light, he would have hit on the essence of *yama* and *niyama*. But he didn’t get this far. He thought God would not deceive us. Descartes, for whatever reason, couldn’t get to the *maya* insight and, as they say, the rest is history.

However, Weyl saw the mystery. Yoga codifies all this. The world no longer matters per se because it is a big ball of mystery. This is the essence of yama. This insight loosens the hold the world has on your mind. How can one anchor themselves to a mystery? It's like trying to grab the wind and hold on tight. Yama: sand slipping between your fingers.

What is this mystery, how do you solve it? This is niyama, this is where one's attention and concerns turn. This is what becomes important.

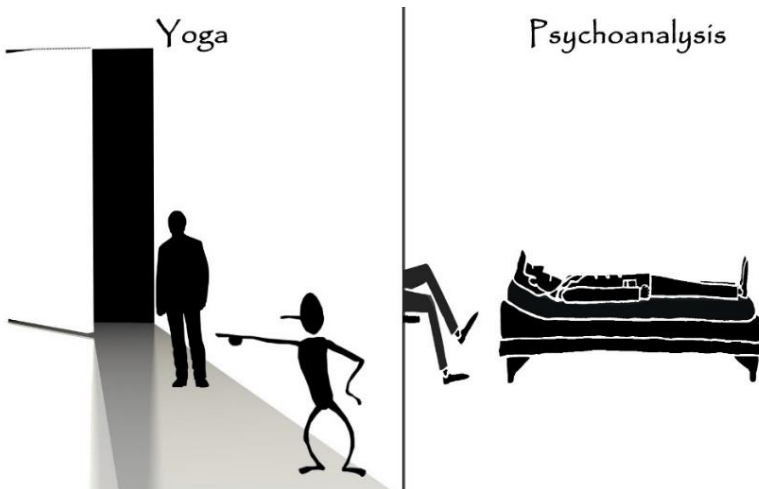
This is the floorboard, the solid foundation of yoga. This is the beginnings of vairagya, detachment. This is viveka, discrimination. This is the state of mind of the person who is ready for yoga. Again, van der Leeuw says it better than I ever could:

“It is everywhere around us, this wonder of life, nothing now is common or familiar, everything throbs with a mysterious life which is there for us to explore. The sacred enthusiasm of the investigator claims us, we desire to know as a starving man desires food, we cannot live unless we know; we will know if it must cost our lives.”

We will know if it must cost us our lives.

Help! I Need Somebody!

Which leads to our final topic. Let's again consider this picture:



Who do you think better understands the mystery? The guy pointing you to the door of self-discovery or the guy sitting next to the couch taking notes? Who are these people and why are they telling you anything? Who are you and why are you consulting them?

Obviously, a person is dissatisfied with something to go either route. But in the case of the couch-guy, what advice will you get? Will you be told you are an eternal

soul with a role to play in Eternity? [I think not](#). As mentioned in the previous chapter, the Freudian psychoanalytical approach wants to make your mind function in a “healthy” and “harmonious” fashion.

But what is harmony when everything is constantly shifting and sliding on itself? I already pointed out that the harmony of the spheres isn’t even there. Thank you, Poincare. Bodies age. Things decay. Change. What is “harmony”? It is, as van der Leeuw so clearly indicates, all but a series of relative conditions, each only meaning anything in relationship to all others.

And most insidious of all, the myth of “mental health” of mental “harmony” is an insidious deception that only breeds dependence. The goal hiding behind the Freudian impulse, behind the impulse of Hippocrates that lies behind even that, in the end, it is all about fostering dependence. Instead of “teach a man to fish”, it is feeding hungry people fish.

Sorry, but the world is not heathy and harmonious. You WILL die. That is a fact. Having an anxiety of death is not a psychological defect. It is an intuition of the kleshas. It is a constant reminder of the impulse that drives the Rhythm of Creation. It is a constant reminder that the Absolute, not you, is in control.

You are SUPPOSED to realize these things. This is yama. All psychoanalysis does is bandage over the symptoms and fill your mind with [pabulum](#). Meanwhile, the analyst bills your insurance company and goes off on his worldly ways. In short, you’ve been [pwned](#).

Here’s another angle to consider. That guy pointing you to the door. That is a social type that has been on the face of the Earth for thousands of years. Sure, it’s not perfect. Like everything else in life, there are cheaters and idiots and fake gurus out there. But that just reinforces the underlying dissatisfaction that drove you to this kind of stuff in the first place. Buyer beware and live and learn. Most important, not all gurus are cranks. There are many, many legitimate and sincere people at all levels on the path who are pointing to that door for no other reason than that they too know that ***the only way out is in***.

What about the psychoanalyst? He had his heyday for a few decades. Then changing trends and fashions replaced him. Nowadays there is no couch and no one sitting there taking notes. Instead, it’s someone writing you a prescription for a pill that will numb your mind. Numb your fear of death. Numb all your problems.

I explained a little about the history of yoga in the previous chapter. We saw that yoga evolved in a setting where it was okay to act outside of the mainstream of society. We saw that there is even some reason to think that the historical roots of yoga were a warrior culture that helps us understand the “storming heaven” mentality found in Patanjali’s *Yoga Sutras*.

There is nothing wrong with the Western ideal of helping people who are suffering. However, when you consider it from this angle, Buddha and Patanjali also help you deal with suffering, but in a very different way. The Eastern approach is telling you to get up off your ass and do something about it, and its giving you a prescription—yoga—of what to do. The Western approach has degenerated into

forms of dependency.

Even Jesus was on Buddha and Patanjali's side: "Teach a man to fish..."

Wrap Up

We've now covered yama and niyama. The only reason you go the yoga route is because there is a dissatisfaction in you. It is vague, nebulous, unformed. It expresses itself in all kinds of way: addictions to things and stuff, people, power, sex. It drives you to great achievements in the arts and sciences. You become the top of your field, or you don't. You go through all this, and in the end, you are not happy. The impulse doesn't stop. There is something driving us all from within. At some point one finds the path of the Jesuses, Buddhas, and Mohammeds of the world, and we discover that they felt the same thing.

This is yama and niyama. Yama: the world is an elusive ghost of hopes and dreams. Niyama: there has to be something better. Then one way or another, the door to the Cave opens. Then the real journey begins.

Let's end watching a video [I previously posted](#) that says all this in a way that I like very much: **We get fed up being whacked left, right, and center**



<https://www.youtube.com/watch?v=d5sswK4-1ow>

"And the truth is the man maturing in his eyes"

A shout out to John and Thomas Maguire for providing the title of this chapter from the tag-line of their [Pentamental podcast](#).

25: The Dive



We continue to discuss yoga from a first person perspective. Here we link pratiprasava, the dive through consciousness, to altered states of consciousness.

Cracks in the Veneer

The popular image of yoga as exercise, health, fitness, and postures is a strange thing. It does not reflect yoga so much as it reflects modern Western society's inability to perceive what yoga is. It's like the social analog of a psychological defense mechanism; a repression of the truth, a projection of the collective mentality. It is the old adage that we see only what we are capable of seeing.

The modern West is secular and knows only the physical. Therefore it has no choice but to, on average, interpret yoga in these terms. The qualifier "on average" is important. I am not making wholesale generalizations here. There is much written about yoga that is valuable and realistic in the West. However, on average, and in popular culture in particular, yoga is portrayed mostly in physical terms.

Real yoga is completely far out compared to the popular image of yoga. Of course, the ideas we've covered already are far out relative to the secular mainstream. We've discussed the Samkhya philosophy, bolstered by some later innovations from the Vishnu and Shiva traditions. These ideas do not eclipse Western thought in general. But we've had to go down some strange roads to find places where the ancient Indian ideas mesh with things in our Western heritage.

We've invoked weird stuff like Kant's transcendental noumena, Berkeley's mind of God, Leibniz' monads, Cantors kooky transfinite numbers, Nicholas of Cusa's learned ignorance. We did this following Taimni's suggestion to look for templates and patterns of organization that can provide our intellects something to grab onto. We've been forced to go this route because most of the insights of Samkhya stem from experiences that do **not** come from the physical world of our sensory experience.

Yoga leads us beyond the sensory world of our physical experience. This is a major consequence of the combined effect of yama and niyama. Yama loosens the grip of physical experience on our minds. Niyama fires us up to find out if there is anything more. These two processes work together to crack the veneer of the surface mind.

When the cracks appear it becomes possible to slip under the surface. What is found there was called the [Intermediate Zone](#) by Sri Aurobindo. These are the vast realms of consciousness that are not physical, but underlie our physical experience. We've been discussing them all along. Patanjali called them visesa, avisesa, linga, and alinga, the four states of the gunas. Patanjali doesn't just tell us their names, he tells us how to go to the worlds buried under our surface minds.

Sinking

He tells us how in aphorism 4.1:

१. जन्मौषधिमन्त्रतपःसमाधिजाः सिद्धयः ।

Janmauṣadhi-mantra-tapaḥ-samādhī-jāḥ
siddhayāḥ.

जन्म birth औषधि drugs मन्त्र incantation; a group of words whose constant repetition produces specific results तपः austerities; purificatory actions; penance समाधि trance -जाः born of; are the result of सिद्धयः attainments; occult powers.

Cutting and pasting translations from the [Yoga Sutra Study](#) website:

“Supernormal Powers Come With Birth Or Are Attained Through Herbs, Incantations, Austerities Or Concentration”. [HA]

“The Siddhis are the result of birth, drugs, Mantras austerities or Samadhi.” [IT]

“Siddhis are born of practices performed in previous births, or by herbs, mantra repetition, asceticism, or by samadhi. [VH], [BM], [SS]

“The psychic powers may be obtained either by birth, or by means of drugs, or by the power of words, or by the practice of austerities, or by concentration.” [SP]

“The Siddhis (powers) are attained by birth, chemical means, power of

words, mortification or concentration.” [SV]

Patanjali’s explains this in the context of the **siddhis**, the supposed “superpowers” gained from advanced yoga practice. The siddhis encompass more than just going below the surface mind. But going below the surface mind is a prerequisite for gaining siddhis. In modern terms, this all falls under the heading “altered states of consciousness”. Therefore, now is the time to bring this topic into the discussion.

More or Less

I previously discussed the siddhis in [Chapter 3 of *What is Science?*](#) and now elaborate further here. The first important point to note is siddhis can be induced by all the methods listed in aphorism 4.1. However, samadhi is the superior method. The other methods have serious limits.

Siddhis from birth (e.g. those one is born with) or drugs are highly limited in what they achieve. If one has siddhis from birth, there is the possibility to continue to refine them by further training and practice. Drugs, on the other hand, provide fixed windows into the psychic realms. Each drug is like a pre-built window that forces and fixes the scope of one’s experiences, no matter how illustrious those experiences seem relative to waking awareness. Tapas (austerities) and mantras, like drugs, provide only limited windows. All three—drugs, tapas and mantras—can be likened to specific computer programs that carry out very limited functions.

In contrast, learning samadhi is like a general purpose computer. You can run any program on a general purpose computer. Similarly, once the skill of samadhi is learned, it can be applied in a general way to invoke a large range of possible altered states of consciousness. This is not to trivialize or downplay the need for proper training and practice. Learning a specific siddhi through the application of samadhi is no trivial task. One can spend years refining and perfecting a single siddhi learned through samadhi.

But it cannot be stressed enough: the purpose of samadhi is **not** to learn siddhis. As has been repeatedly stated, the goal of samadhi is to use it as a tool to find Kaivalya, not to develop siddhis.

However, if siddhis become open to one who can do samadhi, why would one *not* want to develop siddhis? Let’s look further into the issue.

The Siddhis

The siddhis are described in book 3 of the *Yoga Sutras* and include things that Western people generally do not accept like clairvoyance, astral projection, and other seemingly strange things. Patanjali, for example, explains that one can “see into” the past and future (3.16), learn one’s past lives (3.18), read other’s minds (3.19), turn invisible (3.21), gain the strength of an elephant (aphorism 3.24), see atoms (3.25), and even seemingly do astronomy: e.g. learn the true nature of the sun (3.26), moon (3.27), and pole star (3.28). This is only a fraction of the siddhis he describes.

Let’s pretend this is true for a second. If true, these seem like useful skills. Why

would one not want to learn how to do these things?

Let's now *not* pretend the siddhis are true and be skeptical. The description of the siddhis is one of the biggest curiosities of the *Yoga Sutras*. In our modern era of science and technology, the siddhis sound like fantasy from a [Brothers Grimm](#) fairy tale or [Marvel Comics](#). They are so fantastic and unbelievable that one wonders if Patanjali put them in there as a hook to lure gullible people into yoga.

The *Yoga Sutras* sends a mixed message about the siddhis. Overtly, they are warned against, even if covertly Patanjali may appeal to some people's desires for knowledge and/or power. In [Experience](#) I discussed aphorism 3.52 (this is listed as 3.51 at the [Yoga Sutra Study](#) web site for those of you interested to look there). This aphorism is quite obviously a warning against the exercise of the siddhis:

५२. स्थान्युपनिमन्त्रणे सङ्गस्मयाकरणं पुनरनिष्ट-
प्रसङ्गात् ।

Sthāny-upanimantrane sanga-smayā-
karaṇaṃ punar anista-prasangāt.

स्थानि[न्] (by) the local authority; the superphysical entity in charge of the world or plane; powers of spaces उपनिमन्त्रणे on being invited सङ्ग attachment; pleasure स्मय wonder; pride; smile of complacency अकरण avoidance; no action of पुनः again अनिष्ट (of) the undesirable; the evil प्रसङ्गात् because of the recurrence or revival.

Let's use Swami Satchidananda's translation:

“The Yogi should neither accept nor smile with pride at the admiration of even the celestial beings, as there is the possibility of his getting caught again in the undesirable.”

Through the advanced application of samadhi a yogi can gain tremendous power; enough to cause the “gods” to turn their heads and take notice of an otherwise [pip-squeak](#) human. Patanjali warns that when this happens, to just ignore it. This is the application of [vairagya](#), dispassion, during the dive through the cave of consciousness. The implication here is that the siddhis in general are just an amped-up version of [viksepa](#), distraction. Hanging out with super-physical celestial beings is certainly a distraction from the main goal of yoga to achieve Kaivalya.

All of this is jokingly fantastic to the average Western mind. One might be tempted to think it would be pretty cool to hang with divine beings. I mean, people freak out over movie stars so why not go hang with the [devas and devatas](#)?

I answered this in [What is Science? \(Chapter 10\)](#) and will repeat a bit of it here:

“...the very nature of yoga precludes the use of siddhis in the worlds of

the gunas. Instead, yoga goes for the “big money”. Yoga seeks nothing less than infinity. The goal of yoga is to experience the actual infinity that is consciousness per se. There is no comparison between the experience of the actual infinity of consciousness and any relative experience.”

There are a lot of reasons why infinity is preferable to the finite. One of my favorite Hindu stories revolves around this issue. This is the story of Narada and Vishnu. It tells what happens when the pip-squeak yogi gets enamored by having been taken notice of by the gods, Vishnu in this case. I read this in a book by [Heinrich Zimmer](#). Here is a short YouTube video of the tale:



<https://youtu.be/BKxL2d-xiyI>

I’ll leave it as an exercise for the Reader to think about how this story implies that the infinite is preferable to the finite. To keep the present discussion moving along, let’s ask: What are we do make of the siddhis, of this most fantastic aspect of the *Yoga Sutras*?

[It’s Real, It’s Real, It’s Real](#)

Please recall what I said about [those wonderful pictures of Vishnu sweating universes](#): they are quite literal. It’s the same for everything we’ve discussed in our Yogic View of Consciousness. The picture we have looked at over and over [of the projector and cave, etc.](#) this is what scientists call a *model*. It is meant to depict or symbolize a literal reality. Let’s summarize this picture from a first person viewpoint.

Once the cracks appear in the surface mind, the first thing to spill onto the surface mind are the mostly-hidden memories that Baars and Freud discussed. They are no longer hidden. They are now illuminated by the light of consciousness. If we practice yama and niyama, they come out gradually and in a manageable way. If you do the other methods Patanjali lists above, you stand a chance of opening a flood gate

and they may come out all at once and inundate you. Either way, we metaphorically find ourselves swimming in them. When this happens, yama and niyama take on a greater meaning than their initial role in questioning surface consciousness. Yama and niyama become the tools to successfully navigate our personal memory network.

Learning to manage what is immediately beneath the surface leads to the necessity to go deeper. It becomes clear that the realm of mind described by Baars and Freud is being caused by something else. Seeking to find these deeper causes propels the dive into the deeper layers of consciousness. We come face to face with the Collective Unconscious. Jung was quite right to look to our dreams because this is where we find ourselves. We discover dreams are a strange blending of the personal and the collective. The elimination of the personal, *vritti nirodhah*, becomes necessary so that we may experience the collective, untainted by our own colors.

Once in the collective realm of the dream world, everything becomes very strange, very abstract. The intellectual mind of our waking consciousness has no idea. Materialism, physicalism, and realism are brushed aside like child's toys. Idealism becomes quite real. Idealism becomes realism. The stuff of reality is the mind. But whose mind?

Please recall I [previously pointed out](#) that we generally assume that there is *someone* who *has* a memory. Likewise, we always assume there is someone who *has* a mind. But whose mind is it? Is it my mind or your mind? We begin to suspect it is just Mind. Minds. Minds within minds within minds. Functioning in ways that are beyond words and imagination, both figuratively and literally. That stuff Berkeley had an intuition of, it becomes quite real, and man, it is *freaky* stuff!

The word “ineffable” comes into play now. But it is not ineffable in the sense the Absolute is. The inner realms are ineffable because we lack a common vocabulary and common frame of reference. Weird old books like the *Yoga Sutras* provide us with a vocabulary and frame of reference.

Frames of Reference

Trying to describe what is in the mind of someone doing Patanjali's yoga is an ambitious task that borders on the stupid. It is rare to find commentaries that attempt to describe the inner realities. Once again Taimni explains for us:

“When we say that the realities of the spiritual worlds are beyond the realm of the intellect what we mean is that the intellect cannot have a direct perception of those realities which is possible only when the intellect is transcended and consciousness can know the realities by becoming one with them—knowing by fusing, as we say.”

Most commentaries on the *Yoga Sutras* are mute on first-person experiences because what occurs is so far beyond ordinary people's experience that the descriptions would be meaningless. There is no common frame of reference.

Please allow me to suggest a frame of reference. Let's recall the following two

quotes. The first, from van der Leeuw, was used back in Chapter 1.

“Let us then do what so few ever do in our hurried civilization—be alone and be silent. We should relax all effort, and renounce all sensation coming to us from without, still our emotions and our thoughts and sink back into the depth of our own consciousness, like a diver sinking deep into the cool dark waters...we come to a state in which nothing seems to be any more, in which we ourselves seem to have lost name and form and all characteristics...”

“The first part of our journey towards reality is the surrendering of our world-image and the turning inwards until we reach the center of consciousness, the second is to pierce through that center... The experience of going through the center of consciousness and emerging, as it were, on the other side is very much one of turning inside out. We seem to be on the surface of a sphere having all within ourselves and yet to be at each point of it simultaneously.”

The second, from Allan Watts, was used in [Experience](#):

“There seems to be something phony about every attempt to define myself, to be totally honest. The trouble is that I can't see the back, much less the inside, of my head. I can't be honest because I don't fully know what I am. Consciousness peers out from a center which it cannot see—and that is the root of the matter.”

van der Leeuw describes what happens when one knows how to perform samadhi. Watts describes what happens when one does **not** know how to do samadhi. Both represent bare naked consciousness, but Watts represents naked consciousness in the state of paranga cetana. van der Leeuw describes the bare naked essence of pratyak cetana.

Once again these terms: **paranga cetana** and **pratyak cetana**. The most important distinction you will ever learn. Consciousness outwardly directed and consciousness inwardly directed.

Paranga cetana gets you only so far. One can take this back to Hume, who woke Kant from his slumber and blah, blah, blah. Hume said in so, so many words what Watts said in a few sentences. When consciousness is in its outwardly directed state, the bottom level it can get to is precisely as Watts described it. It comes to a state where it peers out from a center it cannot see. Consciousness cannot see its source. Kant ran with this, called it the “transcendental” and, because he was incapable of making the jump, assumed the jump was impossible. Good thing he was wrong.

Anybody can get to where Allan Watts described. Patanjali tells us how above:

chants, drugs, austerities. Allan Watts got there by ingesting a psychedelic substance, a “mind-manifesting” substance, LSD. The mind manifests: it seems as if it is outside of you the same way the world seems to be outside of you. Paranga cetana. You literally see the gears and wheels of the mind spin and frolic. The next chapter will be dedicated to fleshing in what one sees in this state.

Nonetheless, in spite of all the fireworks, there is the obvious question: *who* is watching all this? One distinctly senses the little peephole in the center from which *you* stare out at all of this. Some inaccessible place, illuminating the kaleidoscope of the mind.

It is a state of almost perfect tragedy. Paranga cetana. Outwardly directed consciousness. One is poised at the gate of the Absolute. Powerless to turn around and enter it. The prisoner remains chained and immobile, even though he sees that the shadows are only shadows.

In contrast, there is the example of van der Leeuw. He learned how to control the “turning inward” process that Patanjali called “*asamprajnata samadhi*”. It is this ability that allows the final transition to “*turn around*” and “*pierce through that center*”.

This is our frame of reference. It is like reading the last page of a book first. It is the end of the process. How do we go from here to there?

26: Inside Out



This chapter in the Yogic View of Consciousness dispenses with explanations. Now we move through the inner realms of the mind where words and ideas become inadequate.

Corridors of the Mind

For the most part, words fail when discussing this stuff. Therefore, I rely in this chapter on videos and animations more than usual. The flow is set up intending that you watch each video before proceeding to read the subsequent text.

To get us started, the following quote is from one of my all-time favorite fiction books, Michael Moorcock's [The Dreaming City](#), a story about the tragic albino king [Elric of Melniboné](#). Elric was a wizard and here is what he experienced when he went into trance to cast magic:

“When he had meditated for more than five hours...Elric sent his mind into twisting tunnels of logic, across endless plains of ideas, through mountains of symbolism and endless universes of alternate truths; he sent his mind out further and further...”

What might this be like to experience? By way of introduction to our excursions,

please watch this brief video (1 min 14 sec) by [Dr. Ralph Abraham](#). I briefly mentioned Dr. Abraham in [Chapter 8](#), in the context of using math to describe the inner worlds. Here Dr. Abraham explains how using computer graphics help us convey these experiences to those who have not yet had them.



Ralph Abraham: Using models to relate the experience

https://www.youtube.com/watch?v=__rYchXrwrY

Perhaps his key idea is that the computer graphics “...at least can be considered as a kind of poetic metaphor for these kinds of experiences...”

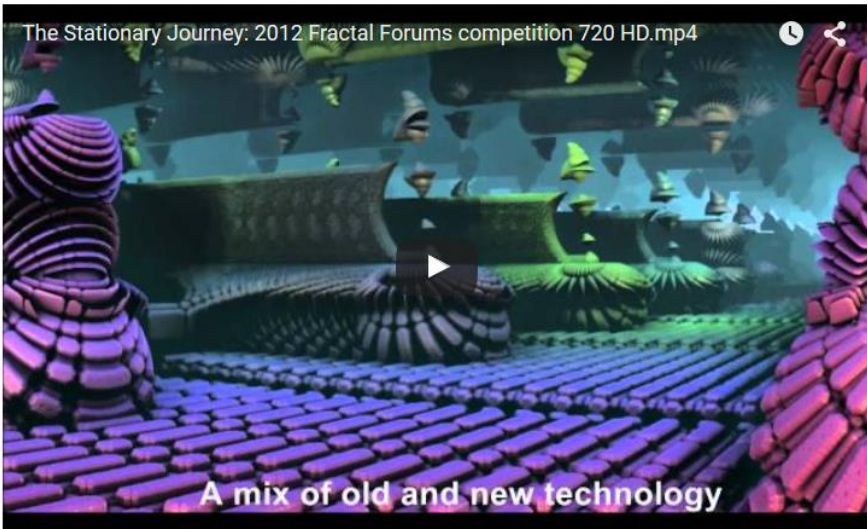
Endless Plains of Ideas

Having said the above, please watch the following animation, preferably full screen, to get some small sense of what it’s like to move through the inner realms of the mind. It is 10 minutes long. I suggest watching it all the way through for maximal effect. For reasons discussed below, this was the best animation I found to make my points. There were others that came close to fitting the bill. If you would also like to see the runner ups, they are [here](#) and [here](#).

So much can be said about how this animation captures aspects of the inner dive. Here are three other perspectives before I give my own.

First, a favorite quote of mine from Allan Watts:

"Closed-eye fantasies in this world seem sometimes to be revelations of the secret workings of the brain, of the associative and patterning processes, the ordering systems which carry out all our sensing and thinking. ...they are for the most part ever more complex variations upon a theme---ferns



Kameelian's The Stationary Journey: 2012 Fractal Forums competition 720 HD.mp4

<https://www.youtube.com/watch?v=4mPQ8mgas00>

sprouting ferns sprouting ferns in multidimensional spaces, vast kaleidoscopic domes of stained glass or mosaic, or patterns like the models of highly intricate molecules---systems of colored balls, each one of which turns out to be a multitude of smaller balls, forever and ever. Is this, perhaps, an inner view of the organizing process which, when the eyes are open, makes sense of the world even at points where it appears to be supremely messy?"

Second, a favorite [quote](#) from C.W. Leadbeater:

“Every thought gives rise to a set of corresponding vibrations in the matter of this body (the mental body), accompanied with a marvelous play of color, like that in the spray of a waterfall as the sunlight strikes it, raised to the nth degree of color and vivid delicacy. The (mental) body under this impulse throws off a vibrating portion of itself, shaped by the nature of the vibrations as figures are made by sand on a disk vibrating to a musical note and this gathers from the surrounding atmosphere matter like itself in fineness (at the same frequency) from the elemental essence of the mental world. We have then a thought form pure and simple...”

Finally, third, let’s listen again to Ralph Abraham who offers a framework for understanding these “visions”. This is 3 min 25 sec. (For those interested, here is the [full list of Dr. Abraham’s video interviews](#)):



Ralph Abraham: Where enlightenment information comes from

<https://www.youtube.com/watch?v=tN-3JHOdn8o>

If you want to hear him go deeper on this point, [here is a nice follow-up](#) video. The follow-up is interesting because he links the interpretation of the visions of the inner realms to what he calls the "Sanskrit literature" meaning, among many other works, the *Yoga Sutras*.

Not to sound critical, because I think there is much value in the above three viewpoints, but they all share a certain weakness that is not found in the "Sanskrit literature" such as the *Yoga Sutras*. There is a tacit assumption that we can actually understand these experiences. The Hindu thinking doesn't share this assumption (or delusion). That is why the word "maya" is front and center in Hindu thought.

Whimsy

Now on to my take on Kameelian's *The Stationary Journey* as a "poetic metaphor" of the inner dive through consciousness. First to qualify: I don't know this artist. I have no idea of Kameelian's motivations or previous knowledge in making this video. I am now giving only my own personal interpretation. Kameelian's animation captures important aspects of the dive through consciousness. Even the artist's name captures a fundamental truth: Kameelian.

First, Kameelian accompanies the visuals and sounds with words, with a narrative of sorts. All three elements are important. The words correspond to what might be going through the mind of a yogi making the dive into consciousness. The imagery obviously is what is being seen, and the sounds are what is being heard. The sounds also capture something of the shifting emotions that are felt as one moves through experiences that cannot be captured easily, if at all, by word and thought.

Often the emotion is the main means of understanding. The sounds and imagery are both abstract and literal at the same time. They are abstract because they are, well...incomprehensible. They are literal because they are real. Experiences like this are indeed quite real, therefore literal.

Notice the whimsical nature of the words and how they spin a fanciful plot of sorts. Notice the abstract nature of the passing thoughts associated with the shifting sounds and images. "Everything is made of everything else"; "There is no inside or outside"; and so on. Whimsical and abstract. Profound, yet at the same time, silly. Something is revealed in these visions that leads to the juxtaposition of the absurd and the profound, the serious and the silly. Everything changes and shifts so quickly. At each instant the vision is so profound, but it is gone as soon as you perceive it, to be replaced with something that seems even grander and more glorious. It transforms so quickly that you cannot remember any of it, let alone comprehend it.

In the end it comes down to one repeating motif: there is only change, movement. The Gunas. The idea that everything is only made of movement comes to life. It becomes the only reality. There are no things, only *movement*. The Gunas.

And what does it mean, all this movement? There are no tags or labels that tell us what it means. We read into it, like seeing faces in clouds. What meaning is there we put there. Intrinsically, it doesn't seem to have any meaning other than its incessant movement. That seems to be its only purpose: to move, to constantly transform into something else. The Gunas.

When the experience is over and done, and we return to the realm of our "normal" consciousness, one carries the insight back. One sees that it is quite the same thing: movement, change. "Here" just moves more slowly than "over there". But it is all the same. Things that seem to be are seen to be only movement. Movement. Gunas. Where have all the nouns gone? There are only verbs. Only one verb: to move.

One sees oneself and others superimpose meanings over the movement. Everything becomes like seeing faces in the clouds. There is only movement. Incessant, ever changing. Nothing is ever twice the same. We never step in the same river twice. "[Is the movement really light?](#)" or "[is the movement in the head?](#)"

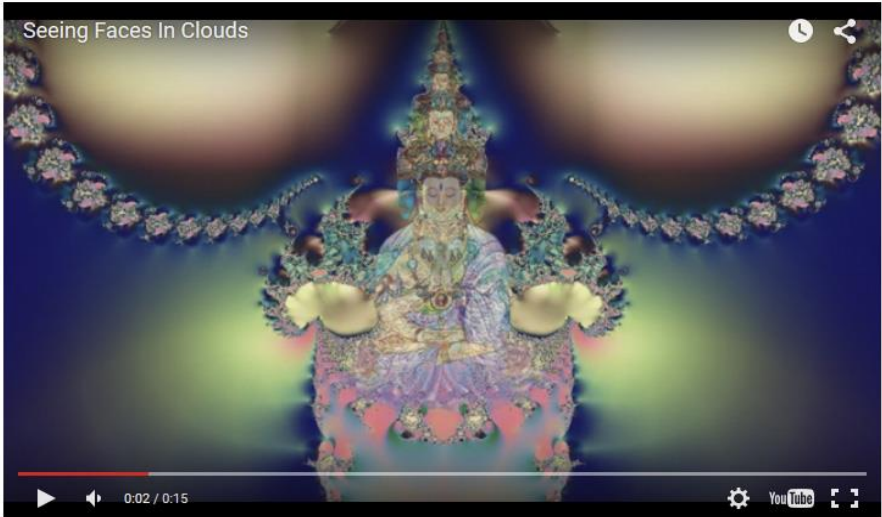
As one with the knowledge and magic of the source
Attuned to the majesty of music
They marched as one with the Earth

The whimsy of the movement becomes profound.

One sees the preachers and teachers, philosophers, and scientists, all like children playing at the sandbox, making up rules, names, definitions. It is this, it is that. All said in such seriousness. Even the seriousness becomes a game in the sand box amongst the children who revel in playing pretend. It is all make believe at its core. There is no pattern. Surely they see it too? Surely they know they only play? Perhaps, it seems, they forget themselves in their game. They take it all so seriously.

It becomes a fascination to watch the others and their need to superimpose a pattern over what has no pattern. To try to freeze what forever moves and changes.

We see faces in the clouds. Consider the following image. It is a fractal I generated ([click here](#) to see a high resolution view of this image). It is the equivalent of one frame in Kameelion's animation. It's fairly easy to see different deities in the image, if one is so inclined, as one sees faces in clouds. I have attempted to animate this with the following short video.



Seeing Faces In Clouds

<https://youtu.be/KCFIIDKKnMw>

We can see [Avalokiteśvara](#) or [Garuda](#) in the momentary freeze-frame. They are not there in any obvious or literal sense. But they are kind of there. One may certainly expect that someone so inclined to interpret the imagery as such will come out of the vision and seek to convey what they saw in such terms. Hence the origins of the psychedelic imagery of Buddhists, Hindus, and Tibetans.

Crude as this example is, it illustrates how the protean imagery of the visions of the inner realms can be frozen in a moment of interpretation.

In fact, in these shifting patterns one can see all things: the gods, great architecture, animals, landscapes, being, love, life. Look at the following images glancingly and tell me which is the real thing and which is the visionary image (where the visionary images are captured by various fractal generations).

Mozart heard complete symphonies play in his mind's ear. The sounds of the inner worlds broke through to his surface consciousness. Or, as the image illustrates, we can go below the surface, experience the mindscapes, and bring back gods and great cathedrals, temples and palaces.

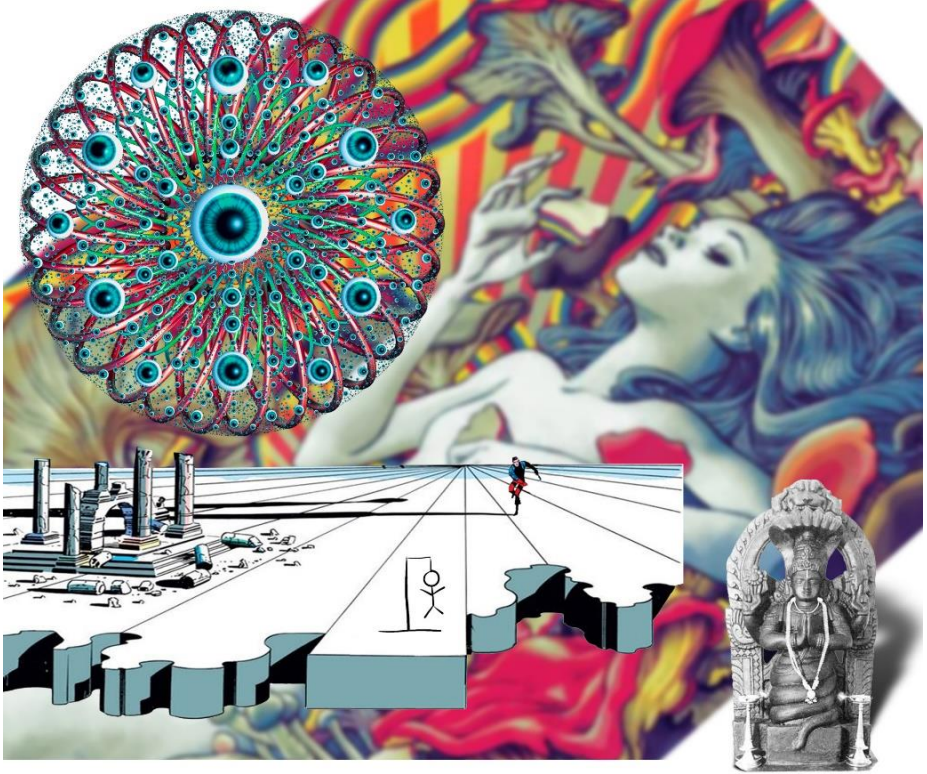


Is it real or is it a fractal computer image?

When you visit these realms, you return with the understanding of where all meaning comes from. Where the gods come from. Where great art and architecture comes from. Where even word sounds and the shapes of our symbols of speech and other forms of writing come from. But it is so much more than just the human-created world. You understand *the Movement*. The trees, the clouds, a pile of sand, the wind blowing over the grass. It all makes sense now. It makes sense in a way that words cannot capture. But it doesn't matter. The words themselves, the thoughts, the meanings, are all just more examples of the movement.

Is that all there is? Is there only *the Movement*?

27: The Inner Realms



Do our modern ideas of the inner realms enlighten us? We find out here and discuss some of the modern views of hallucinatory experiences.

Intro

Chapter 26 provided a feeble glimpse into the inner worlds. It is a feeble glimpse because nothing in our physical experience can capture the fullness and essence of the inner experiences. It is all very hard to pin down, not least because the experience is one of incessant movement. That's where we ended the last chapter, with ***the Movement***. What Hindus call the gunas. Before going deeper into ***the Movement***, in this chapter, I wish to digress and discuss our modern understanding of inner experiences. The goal is to compare the modern and yogic interpretations.

We've outlined the yogic view: the visions of the inner realms are a more subtle form of the same gunas that make up our physical experience. Swami Krishnananda gave us a rule of thumb to understand all this: "*If it's external, it's not eternal*". Inner experiences, in spite of the name, are a form of **paranga cetana**, outwardly directed consciousness. Like normal perception, inner perceptions are characterized by the

observer/observed dichotomy. What yoga brings to the table is samadhi—*knowing by being*—which is a state devoid of the observer/observed dichotomy. The discussion in this chapter is meant to highlight the general attitude of yoga towards altered states of consciousness, which is that, ultimately, they too are forms of viksepa, distraction.

Hallucinations

The modern West’s awareness of the inner realms has slowly grown along with the rise of modern science and the two have grown in an intertwined fashion. In the West today, experiences of the inner realms are generally called “hallucinations”. “Hallucination” means ‘the perception of something not presented to the senses’. This is in contrast to the idea of an “illusion”: a misinterpretation of something the senses perceive. By these definitions, mistaking a rope for a snake in a darkened room is an illusion. Hallucinations are perceptions of things that are not there by the sense’s account.

Various groups of professionals are interested in hallucinations. Brain scientists are interested in what hallucinations tell us about how the brain works. Neurologists and psychiatrists deal with brain illnesses that result in hallucinations. Some people intentionally induce hallucinations, usually with mind-altering drugs, and wish to understand what these experiences mean from a first-person perspective. Some physicists and mathematicians have recognized mathematical patterns in descriptions of hallucinations. Dr. Abrahams, who we discussed in the previous chapter, is fairly unique for cutting across the hard-science/first-person divide.

Below I will summarize and provide a general overview of each approach. The bulk of the discussion will focus on the mathematical understanding of hallucinations. First because it gives substance to Taimni’s assertion (discussed in [Chapter 8](#)) that the inner worlds are also subject to description by the relative language of mathematics. Second, and related to the first, because this viewpoint is a modern way to describe the gunas, movement, patterns of change. Third, this viewpoint is, in many respects, the clearest.

First-person Experiencers

First-person experience of altered states is a complicated topic. People have been describing such experiences since Neanderthals started painting on cave walls. To keep focus, I need to massively constrict my focus to people that have studied their own drug-induced hallucinations. This kind of thing too is also old and venerable, so I want to zoom in on descriptions from Western authors that started in the early 20th century.

Prior to LSD, there was mescaline. Heinrich Klüver, in the 1920s, studied people’s descriptions of the effects of peyote, which has mescaline as its active ingredient. After [Albert Hofmann](#) first described LSD in 1943, people writing about their drug experiences exploded. Huxley’s *Doors of Perception* and Allan Watts *Joyous Cosmology* are but the tip of the iceberg of this kind of writing.

In general, people have found life-changing meaning in their first person experiences. One example I know well is Allan Watts. If you look at his pre-psychedelic writings, they emphasized a kind of quasi-nihilistic, dryly-intellectual understanding of Zen. After Watts experimented with psychedelics, his ideas became colorful, loose, and free-flowing. He became all Hindu and fractal and cosmic joker in his outlook and teachings. He is reasonably representative of how psychedelics affected the intelligentsia class.

I found a more recent example on the internet. This is Alex Grey. He is the well-respected painter of psychedelic and spiritual art. Here he talks about his first DMT experience. This is 7 min 41 seconds for the time conscious amongst you.



<https://www.youtube.com/watch?v=wPsNAJVS-E8>

Figure 1 shows his painting the “*Net of Being*”. I point out how Grey’s vision resembles what we spoke of earlier in the book about the structure of inner space having the form of minds within minds networked in a vast pattern that massively transcends our physical perceptions of the universe. Grey’s art brings this vision to life in a beautiful manner and even gives us a glimpse of the Hindu insight that there are many universal Logi.

Something to point out in the video that we come back to in the next chapter. The description of Grey’s *Net of Being* experience begins at 4:05 in the video. At 5:40 he culminates this description by saying:

“A sense of continuum of being that really was very highly networked...a mesh of being. And a kind of identity with that, um, spread my consciousness and being out to a vast expanse in the, ya know, as fast as could be, you were like identified with a consciousness grid that was completely co-extensive with all space.”

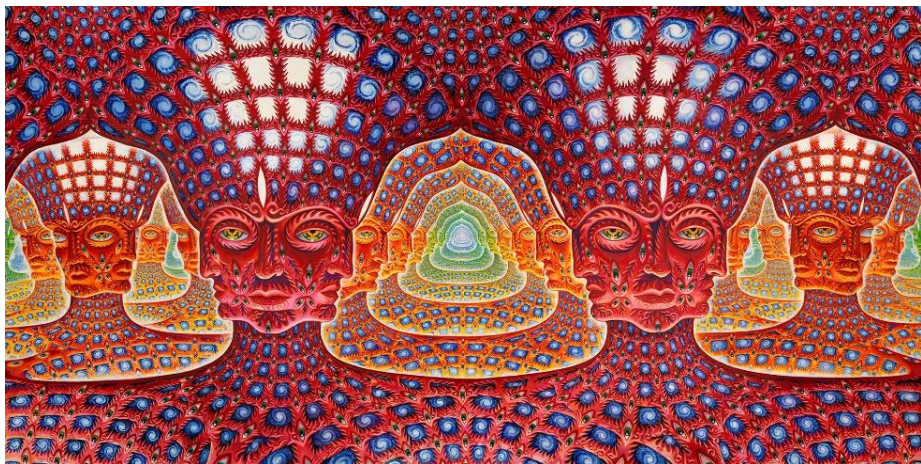


Figure 1: Alex Grey's Net of Being as an example of a first-person experience of inner visions.

I point this out now because it suggests that Mr. Grey had a momentary experience of spontaneous samadhi. For the moment, we wish to stay focused on the inner visions as a form of *paranga cetana*, meaning the presence of the observer/observed dichotomy.

The basic idea I am getting at is this: first-hand experience of the inner visions gives rise to forms of philosophy. In *What Is Science?* I commented about the “power releasing” function of philosophy:

“Philosophy is an echo of sensory experience, a reflection on experience...But then, the echoes compound one upon another into a cacophony of chaos. Because of this, Western philosophy by itself does not release power, other than perhaps the titillation accompanying airy abstractions, or perhaps the occasional political revolution (that invariably never is what it was supposed to be).”

Yes, philosophical understanding has the power to transform individual's lives and minds. I don't want to downplay the seriousness of this, but ultimately it boils down to a form of sentimentalism, which can only go so far. Like philosophy and political revolutions, first-hand experience of the inner realms is titillating and can get people to act, but often the consequences are not what is expected or desired.

We may construct personal interpretations and develop cosmic philosophies, but in the end, they breed their counterpoints, along the lines that Hegel is famous for discussing. The psychedelic 1960s gave us the conservative Ronald Reagan-era of the 1980s. Then we come to wonder if the swinging pendulum ever stops. But that seems like chasing after empty dreams because it's always just more of the same: ever changing patterns.

Is there anything on which we may grab? Let's shift gears and go to some of our

scientific understanding of the inner experiences and see if they give us something on which to grab.

Brain-based Work

Here I discuss the views of the brain scientists and the physicians who deal with brain illness, which are the neurologists and psychiatrists. Their viewpoints are discussed together because they are cut from the same cloth.

The angle physicians approach hallucinations from is interesting mainly for illustrating the diversity of conditions that lead to hallucinations. Many forms of brain damage, such as stroke, head trauma, fever, brain tumors, and so on, can lead to hallucinations during the waking state. Physicians generally recognize a spectrum between “normal” hallucinations at one end (e.g. dreams during sleep) and pathological ones at the other end. Dreaming has long been considered a “normal” form of hallucination that historically has provided an anchor against which to compare pathologically-induced hallucinations.

The earliest observations of diseases that cause hallucinations by neurologists date to the mid to late 1800s. It was recognized that lesions in certain brain areas predisposed one to hallucinate. By the mid-20th century, brain scientists discovered structures in the brain whose electrical conduction correlated with sleep. REM and nonREM were discovered in the late 1950s by researchers at the University of Chicago. Today we have a rich and detailed understanding of the differences in electrical and neurochemical patterns between the waking, REM and nonREM brain.

[Wilder Penfield](#), who I have [written about](#), showed that electrically stimulating certain brain regions can lead to complex, dream-like hallucinations superimposed over a person’s waking perceptions. As with all things in science, Penfield’s work was not out of the blue, but has roots in the work of [John Hughlings-Jackson](#), who, in the late 1800s, observed that certain forms of epilepsy predisposed people to hallucinate.

How are these observations used to explain hallucinations? In this framework it comes down to brain anatomy and function (physiology). We know brain anatomy better than we know brain physiology. Brain anatomy is like an extraordinarily complex circuit diagram, harkening back to the memory networks of [Chapter 20](#). What we know of brain function is grounded in classical chemistry and physics, allowing us to understand the electrochemical properties of brain tissue. We come to the punch line below that understanding of brain function is still very primitive.

In the neurosciences and medicine today, explanations of hallucinations generally take the form of networks. The thinking goes like this: “sub-circuit X is activated/inhibited (in a normal state like dreaming), or messed up (if pathological), by factors A, B, C, leading to altered sub-circuit X, thereby generating hallucinations”.

This way of thinking says a whole lot and, at the same time, says nothing. It is the kind of thinking that gave rise to surgical procedures like [frontal lobotomies](#). In [my post](#) “*The Graspable and the Ungraspable*” I discussed [Greg Chaitin’s idea](#) he

got from Leibniz that a theory should be much less complex than the phenomenon it describes. When the theory is just as complex as the phenomenon it purports to explain, then it is merely a restatement, or description, and is not an explanation at all. However, physicians and brain scientists are not trained in math and physics. They are generally happy with verbal descriptions and feel self-satisfied that they have explained something. In fact, they are in just as much a dreamy hallucinatory state as the patients they seek to describe. So, we must turn elsewhere for something that actually resembles an explanation of hallucinations.

Math and Physics-based Explanations of Hallucinations

We already listened to Ralph Abraham explain how computer graphics of modern math (such as fractals and wave equations) have helped advance the study of hallucinations by allowing everyone to literally **see** how the solutions to the math equations LOOK LIKE hallucinations. Computer graphics, coupled with a few general principles, has allow the development of mathematical theories of hallucinations. A notable example is the work of [Dr. Jack Cowan](#) at the University of Chicago who has been working on this since the 1970s.

Unlike Dr. Abraham, Dr. Cowan does not study his own first-person experiences of altered states of consciousness. Instead, Cowan's mathematical models of hallucinations combine knowledge of how waves propagate in [excitable media](#) with understanding of how our brain works. You can watch a video of Dr. Cowan [here](#) (beware, the audio is not great quality). His video is highly technical but the foundational ideas he employs are straight-forward.

An excitable medium is something that propagates waves in a self-sustaining fashion, but that also has some mechanism to limit the spread of the waves. A forest fire is a readily-understood example. It is self-sustaining because whatever is burning at the moment sets adjacent stuff on fire too. However, once an area burns completely, the fire can obviously no longer burn there, so it is self-limiting. An example of an excitable media occurs in a chemical reaction called the [Belousov–Zhabotinsky reaction](#).



Figure 2: BZ reaction showing nonlinear waves in an excitable media. The pattern kind of resembles a freeze frame from a psychedelic hallucination.

It turns out that all kinds of interesting waves can move through excitable media, as Figure 2 illustrates. These are a more complicated kind of waves and not the simple waves we discussed in the chapter on quantum mechanics. For example, the superposition principle does not apply to waves in excitable media. We don't fully understand these waves like we do the simple waves used in quantum mechanics and Fourier transforms. I don't want to get into details here. The buzzword is "nonlinear" for those who want to look into it further.

My point is that excitable media and (nonlinear) wave propagation provide the general principles that are at the base of Dr. Cowan's work.

Now, Dr. Cowan's work was not out of the blue, but built on [Heinrich Klüver's](#) work from the 1920s. Klüver described "[form constants](#)", which, to quote Wikipedia are "*one of several geometric patterns which are recurrently observed during hallucinations and altered states of consciousness*".

Maps

Dr. Cowan's work can be understood pretty easily. He hypothesized that hallucinations are generated by (nonlinear) waves moving through the excitable medium of the brain tissue.

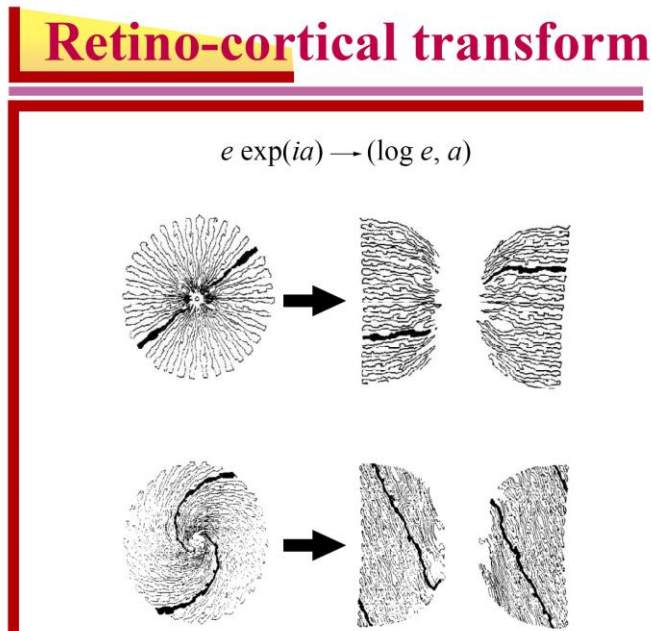


Figure 3: Mapping from a circle to a plane. This is Cowan's "trick" to model and explain at least some classes of visual hallucinations.

There is one "trick" that sits at the heart of his work, and it is the idea of a *mapping*. The general idea of a mapping is very easy to understand: we convert A into B following some procedure or pattern. This is how math works in general. We

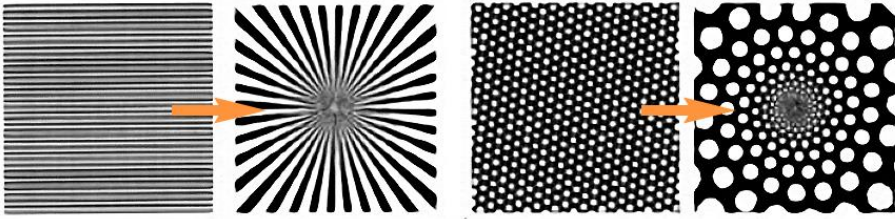


Figure 4: Examples of the “retino-cortical” mapping showing how patterns on a plane map to patterns with circular symmetry.

map something, say x , into something else, say y , by using a formula, say $y = x + 4$. Then the mapping is:

$$x = 0,1,2,3\dots \rightarrow y = 4,5,6,7\dots$$

Very easy in this case. Dr. Cowan used more complicated formulas. Even if one does not know the math, the meaning of the mapping is still easy to understand. Figure 3 shows the mapping Dr. Cowan used, based on a slide from a talk given by Dr. Bard Ermentrout, one of Dr. Cowan’s students (and a well-respected researcher in this area).

It looks intimidating if you don’t know math, but the concept is easy to understand. What it says is that you **take a flat image and map it to a circular image** using the mathematical equations on Ermentrout’s slide. Figure 4 illustrates this. A series of horizontal lines (panel 1) maps to a star burst pattern (panel 2), and rows of white spots (panel 3) maps to the spiraling blobs (panel 4).

Figure 5 shows mathematically generated “hallucinations”, taken from [Dr. Ermentrout’s web page](#). It is a laudable result. Figure 6 shows two images that capture salient features of real hallucinations, and they have symmetry similar to (but obviously not identical to) the first panel of Ermentrout’s results in Figure 5.

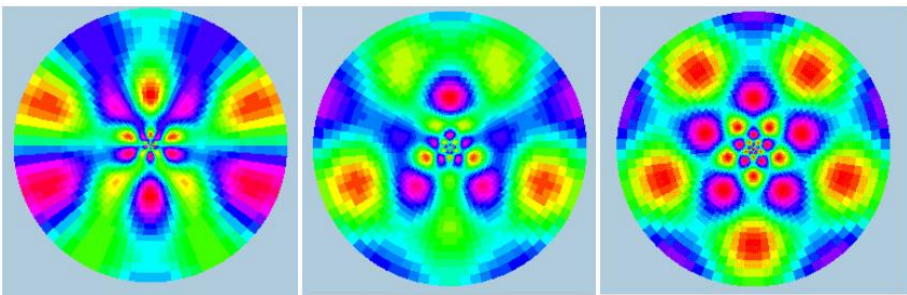


Figure 5. The caption to this image, from Ermentrout's web site is: "The pictures shown here represent spontaneous activity in a model of visual cortex due to the actions of hallucinogenic drugs. Each figure is formed by solving equations for the two-dimensional cortical sheet and then projecting them to the retinal (eye) coordinates so that their visual representation can be shown."



Figure 6: Images depicting more realistic hallucinations. Left, a fractal looks like an LSD-hallucinations. Right, Buddhist mandala derived from perceptions in an altered state of consciousness at, I would guess, the *linga* level of the *gunas*.

Part of the reason Dr. Ermentrout’s image isn’t of the same detail as [Soler’s fractal](#) on the left or the Buddhist mandala on the right is because it is computationally expensive to run Cowan’s theory on the computer. On the other hand, generating fractals is relatively easier for the computer.

The relative complexity of the simulations in Figure 5 versus the images in Figure 6 illustrates what Dr. Abraham said in the [video from the previous chapter](#): “*the information we’re getting on our trips is way beyond computers*”. Hence his conclusion that computer imagery can only be considered as “*poetic metaphors*” of the inner experiences.

The Biological Interpretation of Cowan’s Theory

The idea of mapping from a plane to a circle is the essence of Cowan’s theory of visual hallucinations. The main idea he is trying to capture is the following.

Each eyeball contains a [retina](#). The retina, where the image you are seeing is focused, is a circular sheet of cells wrapped on the back hemisphere of the eyeball. The images on the eye are projected as a circular image on this sheet of cells. However, the brain tissue to which the image is transmitted (called “[visual cerebral cortex](#)”, or “*area 17*”, or “*primary visual cortex*”) is planar in its shape, like a sheet of paper. The main idea is that **our brain constantly runs this mapping from a circle on the eye to a plane in the visual cortex**. Cowan’s theory is that the brain (between the eye and the visual cortex) is always running this circle-to-plane mapping, just like his equations do.

That is to say, somehow, when we see anything, behind the scenes and outside of our conscious awareness (remember [Chapter 20](#)?), the brain automatically runs the mapping of converting an image from a circular map to a planar map. The brain is automatically running this mapping in a way akin to a computer program that is always running in the background. So, Cowan’s theory is actually a theory of how vision works. Not in its entirety, but at least an obvious piece of it.

How does this explain hallucinations? Well, it implies that, if for any reason, the

brain itself starts acting funny and starts conducting electricity independently of the eye—whether because of disease, drugs, chanting, or whatever—then the brain will automatically run this mapping and that is what we see as a “hallucination”.

The visual cortex is used to getting a circular image and converting it to a planar image. However, if the cortex itself starts generating the image internally, it still runs this program, only backwards, and converts its planar internal electrical flow pattern to a circular pattern, which we then see and experience as hallucinations with circular symmetry.

Important caveat: This model (or theory) is not meant to explain all visual hallucinations, of course, but only a subclass of them. It can't explain the more-or-less realistic visual scenes perceived in dreams, for example. But it does a decent job of explaining some features of hallucinations perceived under the influence of psychedelic drugs or other causes, such as the “auras” of [migraines](#). I don't want to go any deeper because it gets more and more technical, and the ratio of understanding to effort decreases greatly.

To Summarize

Let's summarize the ground we've covered so far. We discussed three of the prominent modern views of “hallucinations”, where “hallucination” is the modern word for “inner experience”.

First-person experiences can have profound, life-changing effects on those who have them. In the vast majority of cases, the experiences are caused by ingesting psychedelic drugs. The strength of this approach is that one gets their ass kicked, so to speak, by the experience, and comes away a changed person. One weakness of this approach is that the insights garnered are meaningless for people who have not had such experiences.

Brain scientists and physicians do a lot of hand waving with their verbal descriptions that also border on being philosophical. As philosophies, they have much less life-transforming potential than those generated by the first-person experiencers. The medical way of thinking provides a framework for physicians who have to deal with sick people, but it has led to such wonderful activities as frontal lobotomies and the spread of anti-depressant medication as if it was candy.

Math and physics provide a window on the inner experiences that reinforces what Taimni said about how the inner realms are subject to description by mathematics as is the external world of our waking, physical perceptions. Here we get closer to something that resembles real scientific explanation. Cowan's work sees the brain tissue as an example of an excitable medium, which puts it on par with many other natural systems that share this property. Then, the general properties of excitable media are used to deduce the specifics of how the brain expresses those properties. In the effort, we get a theory that can calculate at least some features of inner experiences.

Ok, having gone through the exercise of expressing these various viewpoints, let's offer some critique and then bring it back around to yoga.

Critique of the Modern Views

There are a couple points to make here: (1) lacunae in, and (2) the paranga cetana nature of all three of the modern views described above.

The three views listed above are example of [Feyerabend's lacunae](#), by which I mean "holes" in one's thinking. Above, I linked to a video of Dr. Cowan. On the same web page, there is a Review by someone named Parsifal. This review makes my point, so I will quote from it (with some minor grammar editing):

“Despite Jack Cowan's presentation of a mathematical model for what is observed visually during hallucinatory episodes of LSD ingestion, a question that persist is...**the presented model of Jack Cowan did not say who is the really observer of the hallucination as occurring in visual field.** The way I saw it, Observer is assumed to be all the time outside of events and simply watching what the activities are...is the observer the whole mathematically tuned mapping, self-organizing crystalline planar waves diffusion and the whole lot of processes and events or Observer is a focusing separate field of registering effects but able to interact with the phenomena so presented?”

I bolded the key point. Cowan's theory says nothing about the observer, or about consciousness per se. We still have an observer/observed dualism. Which is to say, when we experience the inner realms, whether by drugs, disease, or yoga methods, it is still paranga cetana. The perceptions are of something *outside* the observer. Consciousness is, in this sense, outwardly directed.

There is a second issue in all of the modern views: the [qualia problem](#). Just how do electrical flows (or whatever the mechanism) get *perceived* as patterns of color, forms, and movement? Where does perception come from in the first place?

Until we understand how the qualities of perception arise, characterizing the *form* of what is perceived simply skirts the issue of how perception occurs. This means our understanding is incomplete. That is why the issue is important. Until the qualia problem is resolved, all explanations of the forms appearing in consciousness have the quality of being “only skin deep”. That is, if the qualia problem can even be solved at all. Many have tried and failed to this point. Some philosophers suggests the qualia problem can never be solved (e.g. [here](#)). It's not worth placing bets at this point, and best to leave the issue open.

To wrap this up, I return to a quote by van der Leeuw that captures the essence of what I am trying to say here:

“For a while it may satisfy evolving man to know that the splendors of a sunset are but the breaking of light-rays in a moist atmosphere; he will come to realize that he may have explained the method, but has not touched the mystery at all.”

Even though he is discussing the physics of a sunset, the same logic applies to modern approaches to “hallucinations” which are the perceptions of the inner realms. We may, with more or less gusto, explain the method, but we have not touched the mystery at all.

Compared to the Yogic View of Consciousness

Yoga requires *chitta vritti nirodhah*. The silencing of the waves of the mind. The above discussion does highlight that ancient yoga hit the mark by referring to the mind’s activity as “vritti”, waves. That’s nice. But the main point is silencing the waves, not getting caught in deeper and more subtle forms of the mind’s waves.

The conclusion is that our digression on some of the modern approaches to the inner realms, in the end, reinforces what yoga has taught for millennia. It is viksepa, distraction. The modern views ultimately, may entertain us with their intellectual sophistication (or lack thereof) but they give no final answers. Only more mysteries. And the promise that maybe one day, the mysteries will be solved.

We’ve seen this game before. Over and over and over. Gunas, moving, ever-transforming. It’s just more of **the Movement**. In Chapter 28, we begin to turn towards samadhi to see why it’s the best thing on the block.

28: Good Yoga, Bad Yoga



*I continue to court controversy, this time by discussing how some yoga is good and some is bad. It's about dealing with **the Movement**. It's not my idea but is one of the ways people have interpreted some of the aphorisms of the Yoga Sutras.*

Mirages

As we move through a 1st-person discussion of yoga, the last couple chapters looked at altered states of consciousness. We see that altered states give rise to perceptions that, like normal perception, seem to be outside the observer. They are all forms of *paranga cetana*. However, compared to normal perception, the inner perceptions are exotic and fantastical, colorful, overwhelming, mind-stretching, and imagination-stretching.

But like anything, the experiences eventually become familiar. How many cosmic realms (or alternatively, brain-generated hallucinations) can one observe before they all look the same in their glorious, glowing bejeweled complexity? How many fractal landscapes must one pass through before one sees that there is no fixed pattern but only incessant change? How many abstract insights are required before one comes to understand what is really going on?

Chasing for meaning in the mindscapes of the inner realms is like looking for a pot of gold at the end of the rainbow. You will not find it. Instead, you will always only see yourself projecting meaning into the visions, like seeing faces in clouds. This is of course true for everyday life, just less obviously so (no one would consider

[quantum mechanics](#) to be obvious). We can discern various relative patterns in everyday life and we can also do so in the inner realms. The patterns will even relate in very fundamental ways. We should not be surprised. Mathematics, biology, and yes, even religion, teach us we should expect it. As to absolute truths, there is only one, and it holds for the inner realms as well as everyday life: *Everything changes*.

The inner realms are not the Absolute. They are just a different perspective on the Relative. Like any relative reality, they can be used for good or bad, can be constructive or destructive. It is destructive if one fails to recognize how they are seeing only themselves reflected in the ever-changing patterns. Used constructively, the inner visions can help free our mind to move more naturally with **the Movement**. But we can get to this understanding without inner experiences too. What matters is not how we get there, since all roads lead to Rome anyway, but that we come to realize **the Movement**.

The Movement

The Movement is just what it says: the incessant churning and transformation that sits at the heart of all perception. **The Movement** is the essence, the ultimate nature, of paranga cetana, of outwardly-directed consciousness. It is the culmination of Idealism, the ultimate insight about the mind itself: an ever-changing kaleidoscope. It implies all things, but these are elusive phantasmagoria that transform as **the Movement** slips and slides over, under, within, and through itself. Everything transforms incessantly into something else.

The mind *is* Proteus. Protean is its very nature.

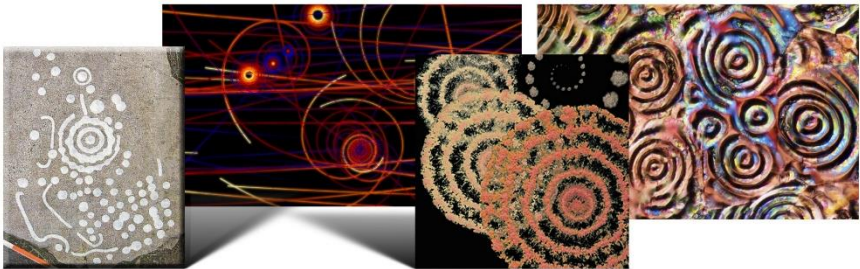


Sometime we can anticipate, even understand in some restricted fashion, how the changes will go. Most of the time we cannot. Way back in Chapter 4, van der Leeuw called it *The Rhythm of Creation*. He was talking about **the Movement**. It is the one characteristic of relative existence:

“There is nothing, there never was anything, there never can be anything but the eternal Rhythm of Creation, unchanging, containing all things. It is the Absolute, It is at the same time all relativity all that we think of as past, present, or future.”

Some may be tempted to think there is more to it than this. To draw analogy to a phase gone through in physics, there may be “[hidden variables](#)” behind **the Movement**. I used the following Allan Watts quote in [Experience](#), and will repeat it here:

“Life seems to resolve itself down to a tiny germ or nipple of sensitivity. I call it the Eenie-Weenie—a squiggling little nucleus that is trying to make love to itself and can never quite get there. The whole fabulous complexity of vegetable and animal life, as of human civilization, is just a colossal elaboration of the Eenie-Weenie trying to make the Eenie-Weenie....As I pursue my own tail, it runs away from me.”



Eenie-Weenies building Eenie-Weenie things. Left to right: Cave painting, something like particle accelerator tracts, slime molds, crystallized aspirin. If you've had the experiences, the images will be obvious.

Watts captures a certain perspective on **the Movement**, the eternal Rhythm of Creation. One can go no deeper. From this movement *stuff* simply emerges. It comes into being. Or more precisely, it comes into becoming. What emerges finds itself on the see-saw of transformation, the roller coaster of life and mind, what Hindus call the *gunas*: incessant transformation. In the terms used earlier in the book, Allan Watts describes a particularly raw view of the *bindu*, the source from which Manifestation springs into becoming. It springs from an unmanifest something-or-another that is inaccessible to relative consciousness. We see the stuff out of which the cave wall is made. It is **the Movement**, and stuff just arises from it.

Which gets us to the key issue: Watts' is watching all this as if from the outside. He is *paranga cetana*. When he tries to understand *who* is seeing this he realizes:

“There seems to be something phony about every attempt to define myself, to be totally honest. The trouble is that I can't see the back, much less the inside, of my head. I can't be honest because I don't fully know what I am. Consciousness peers out from a center which it cannot see—and that is the root of the matter.”

Above, van der Leeuw called it “The Absolute”. It is no contradiction that I refer to it as the Relative. This is how the Absolute appears to the mind in *paranga cetana*. The Absolute always appears as the Relative to a relative mind. It cannot be otherwise. In *paranga cetana* the Ultimate Answer comes down to this: an incessant movement seeming to eternally generate *raw creation*, observed by a consciousness ignorant of its source of being. Let's again quote Hermann Weyl who also glimpsed this in his own way:

“Thus the ultimate answer lies beyond all knowledge, in God alone; flowing down from him, consciousness, ignorant of its own origin, seizes upon itself in analytic self-penetration, suspended between subject and object, between meaning and being.”

Watts got the insight from psychedelic drugs. Weyl got it by being a super sensitive soul. All roads lead to Rome. As I said before, we might consider this condition a state of perfect tragedy: a naked expression of our primordial ignorance. Hindus call it The Great Mother, Maya, who ensconces us in her womb of avidya.

Once we understand this situation, yoga takes on its full significance. Yoga teaches the method of samadhi. Samadhi is the technology that can take us beyond an unknowable observer observing a mysterious, unexplainable movement.

Grades of Yogis

While drafting this chapter, I got a question on the PlaneTalk blog from one Mangesh Gawankar. He asked me about two aphorisms in the *Yoga Sutras* that I had not planned on discussing. This is how **the Movement** works. The Universe brought to my attention that indeed Patanjali addressed the issue I seek to explain in this chapter. These are aphorisms [1.19](#) and [1.20](#):

Sutra 1.19

भवप्रत्ययो विदेहप्रकृतिलयानाम् ॥१९॥

bhavapratyayo videhaprakRutilayaanaam

Sutra 1.20

श्रद्धावीर्यस्मृतिसमाधिप्रज्ञापूर्वक इतरेषाम् ॥२०॥

shraddhaaviryasmRutisamaadhipraj~jaapUravaka itareSham

Mangesh, in effect, asked what these two aphorisms mean. Some Google searching showed that aphorism 1.19 is one of the more cryptic and controversial aphorisms. Various translations of 1.19 from the Yoga Sutra Study web site illustrate the divergence of meanings:

[HA]: While In The Case Of The Videhas Or The Discarnates And Of The Prakritilayas Or Those Subsisting IN Their Elements Constituents, It Is Caused By Nescience Which Results In Objective Existence.

[IT]: Of those who are Videhas and Prakritilayas birth is the cause.

[VH]: In the case of those who are out of body, or absorbed in prakriti-unmanifest primary matter, it (the other nirodhah is preceded by) the pratyaya-immediate thought (directed towards) becoming.

[BM]: For gods and men unencumbered by physical bodies, but still enmeshed in material nature, the cessation of thought is limited by the reliance on the phenomenal world.

[SS]: Those who merely leave their bodies and attain the state of celestial deities, or those who get merged in nature, have rebirth.

[SP]: When such concentration is not accompanied by non attachment, and ignorance therefore remains, the aspirant will reach the state of the disincarnate gods or become merged in the forces of Nature.

[SV]: (This Samadhi, when not followed by extreme non-attachment) becomes the cause of the re-manifestation of the gods and of those that become merged in nature.

Although the translations encompass a wide variety of meanings, an overall theme is present. Aphorism 1.19 refers to one who's experience and thought is absorbed in Prakriti. Prakriti: the Relative, the Many.

In the overall flow of the *Yoga Sutras*, aphorisms 1.1 through 1.20 give a broad overview of yoga. In this overview, Patanjali appears to cap it off by distinguishing two different types of yogis. Taimni's commentary spins the two types of yogis thus:

“This Sutra [1.19] and the next [1.20] are meant to differentiate between two kinds of Yogis. The first kind of Yogis referred to in I-19 are called Videhas and Prakritilayas and their trance is not the result of the regular self-discipline outlined in the Yoga-Sutras. It depends upon their ‘birth’, that is, they possess the capacity to pass into trance naturally without any effort as a result of their peculiar physical and mental constitution. In the case of the second kind of Yogis their Samadhi is the result of regular practice of Yoga which requires certain high traits of character like faith, energy, etc. mentioned in I-20.”

A commentary from the [Wisdom Library](#) agrees with Taimni's interpretation:

“Concentration without non-attachment cannot bring liberation. However hard we may struggle, we can only be rewarded in accordance

with our desires. If we really want liberation, and work hard enough for it, we shall get it. But if we really want power and pleasure we can get them instead—not only in this world and in this human form, but in other worlds and other forms here after. Concentration upon any of the gross elements or the sense-organs is said to bring us to the condition of disincarnate gods; concentration upon the mind or the ego is said to make us one with the forces of Nature, and rulers of parts of the universe.”

Additional in-depth discussion of 1.19 and 1.20 can be [found here](#) which broadly lands in the same ballpark as the above quotes.

Please recall [Chapter 25](#) discussed aphorism 4.1 that tells the several ways to induce siddhis, including birth, drugs, mantras, austerities, and finally samadhi itself. Aphorisms 1.19 and 4.1 are not identical, but they overlap insofar as Patanjali is talking about alternative ways to achieve the same effect. For 4.1 the effect is siddhis, and for 1.19 the effect is samadhi itself. In 1.19 and 1.20 Patanjali seems to be distinguishing between what we might call “good” (1.20) and “bad” (1.19) samadhi.

I concluded [Chapter 25](#) by presenting a “frame of reference” for understanding altered states of consciousness. To repeat the main point:

“Van der Leeuw describes what happens when one knows how to perform samadhi. Watts describes what happens when one does not know how to do samadhi. Both represent bare naked consciousness, but Watts represents naked consciousness in the state of paranga cetana. Van der Leeuw describes the bare naked essence of pratyak cetana.”

I hope that the previous Chapters [26](#) and [27](#) added some meat to this contention. We reviewed the modern understanding of altered states of consciousness from three different perspectives: 1st-person, brain view, and physics views. We concluded these are merely forms of paranga cetana too. These altered states fall under what Patanjali describes in aphorism 4.1 as those attributed to “birth, drugs, mantras, and austerities”. I am asserting that these are the “bad” samadhi that Patanjali describes in aphorism 1.19. It is bad because one who has these experiences is still absorbed in Prakriti, the gunas, in a state of paranga cetana.

“Bad” samadhi is perfectly encapsulated by Watts' and Weyl's quotes above: “*I don't fully know what I am*”, and “*consciousness, ignorant of its own origin*”. This state is “bad” because it bottoms out with a 1st person observation of **the Movement**, observed by a bare naked consciousness incapable of knowing its own source. Call it “tragedy”, call it “bad”. However qualified, it falls far short of the mark of Kaivalya.

The “good” samadhi is described in the *Yoga Sutras* to allow us, ultimately, to “turn around” in dharma mega samadhi and **be** the Source, to achieve Kaivalya. van der Leeuw quotes Plotinus' description of the result:

“In this intelligible World everything is transparent. No shadow limits vision. All the essences see each other and interpenetrate each other in the

most intimate depth of their nature. Light everywhere meets light. Every being contains within itself the entire Intelligible World, and also beholds it everywhere, every thing there is all, and all is each thing; infinite splendour radiates around...”

To which van der Leeuw adds:

“...there is all that which in our world-image produces the rich variety of outer forms and yet it all is within ourselves; and when we desire to know we are that which we know...”

This is a state very different than that described by Watts and Weyl. This is the result of the “good” samadhi that Patanjali describes in aphorism 1.20.

What do we know of this “good” samadhi that results from the meticulous and painstaking practice of the methods Patanjali gives in the *Yoga Sutras*?

29: Doing Samadhi



What do we in the West know of samadhi as a first-person experience? Not much. The final chapters sound the clarion call for the Western cultures to rediscover samadhi.

Overview

We now come to the final topic in our yogic view of consciousness. What is samadhi? This topic makes up the final four chapters of our yogic view of consciousness. Again, I'll show my outline so you can see where I am going with this:

Chapter 29: Doing Samadhi: Review and summary of samadhi.

Chapter 30: Ingredients of Samadhi: Case studies highlighting aspects of samadhi.

Chapter 31: A Recipe for Samadhi. Putting ingredients together.

Chapter 32: Reflecting on Samadhi. A perspective on what samadhi does.

Sidebar: One note before we begin. If you don't know the outline and terminology of Patanjali's Ashtanga yoga, the rest of this discussion will be hard to follow. Please read [my summary of Patanjali's methods](#) to get the background to appreciate what follows. Reviewing [Chapter 10](#) and the terminology of the [10 types of samadhi](#) won't hurt either.

Let's Get Started

Of course we talked a lot about samadhi in previous chapters (particularly in [Chapter 10](#)). We used our [faithful model of the yogic view of consciousness](#) from [Chapter 2](#) as a skeleton around which we fleshed in the details. The final result was an abstract, fantastical picture of the world as it is revealed through samadhi.

But all of this is just theoretical understanding. It is ironic to say “just” because, even as “just” theory, the yogic view of consciousness weaves together ideas Eastern and Western, ancient and modern, in a tapestry that none of them alone offers. But now we want to go beyond *just* theoretical ideas.

The last topic we address in this book is to think about samadhi as something you **do**. Because, in the final analysis:

Samadhi is the fulcrum on which the truth or falsehood of the whole yogic view of consciousness rests.

Confession

And...I am now in over my head. I have never intentionally induced samadhi. So I am now talking about something for which I have no 1st-hand experience.

The one thing I can say in my defense is that at least I've had experience with altered states of consciousness, which is probably more than a lot of authors on samadhi can claim. My experience with altered states is why I take the *Yoga Sutras* so seriously. The *Yoga Sutras* provide a framework for understanding altered states superior to anything the West has come up with. We've surveyed a variety of Western ideas and seen that they provide piecemeal glimpses of what is otherwise described fully and systematically in the *Yoga Sutras*.

Therefore, even though I've not experienced samadhi myself, I am not intimidated to talk about it. Harkening back to the words of Heinrich Zimmer used in the Introduction, the best we can do today is try to rediscover samadhi in our own way and in our own terms. Towards this end, the *Yoga Sutras* serves as something akin to a treasure map.

Why bother to try to figure out what samadhi is? First, to repeat (because it is so important): all of the claims of yoga rest on the reality of samadhi. Second, and where the next three chapters will land is this: **samadhi is the ultimate use of the human mind**. Remaining confined to surface consciousness is our [Fall From Grace](#), our state of being banished from the [Garden of Eden](#). If we wish to escape the shadow-consciousness of *paranga cetana*, if we wish to escape [Kant's phenomena](#), we have no choice but to figure out how to do samadhi. *The only way out is in*.

Review of Samadhi

For many years I was confused about samadhi. Some authors I read equated samadhi with enlightenment itself (i.e. Kaivalya). My confusion was only dispelled when I understood Taimni's interpretation in *The Science of Yoga*, much of which has been outlined in previous chapters. We saw that samadhi is a complex thing in

the *Yoga Sutras*. It is not just one thing. It is a graded series of states that provide a type of “ladder” to Kaivalya. Yet in these various states, there are common features that allow them all to be called “samadhi”.

Let’s summarize the characteristics common to the several forms of samadhi. Expressed as concisely as I can, the characteristics of samadhi described in the *Yoga Sutras* are:

1	Samadhi occurs in an altered state of consciousness devoid of perceptions of the waking world of the senses.
2	Samadhi is the extreme-most concentrated state of the mind: single-mindedness.
3	The dichotomy of observer/observed is absent in samadhi: “knowing by being”.
4	Samadhi alternates between samprajnata and asamprajnata types, which is to say, there are two qualitatively different types.
5	There are various levels or degrees of samprajnata samadhi that reflect the content of the experience. In the <i>Yoga Sutras</i> , these levels are described as vitarka, vicara, ananda, asmita, and nirbija.
6	Samadhi is not an end in itself, but is a method/technique that allows voluntary control over moving through altered states of consciousness.
7	Samadhi appears to be the only technique that allows voluntary access to Kaivalya (the one caveat being bhakti; discussed in Chapter 6).

Samadhi is a Set of Graded Experiences

The following two aphorisms, 3.2 and 3.3, define the consequences of learning samadhi.

५. तज्जयात् प्रज्ञालोकः ।

Taj-jayāt prajñālokaḥ.

तज्जयात् by mastering it प्रज्ञा the higher consciousness
आलोकः light.

६. तस्य भूमिषु विनियोगः ।

Tasya bhūmiṣu viniyogaḥ.

तस्य its भूमिषु in stages विनियोगः application; employment.

Aphorism 3.2 says that mastery of samadhi brings knowledge of the higher worlds of consciousness (which I’ve been calling the “inner worlds”, the “phases of the gunas” etc.). Aphorism 3.3 says that samadhi is applied or employed in stages. The stages of samadhi were outlined in [Chapter 10](#) (and also [here](#)) where

pratiprasava, the dive through consciousness, was described as akin to harmonic transitions (or quantum jumps), through the four phases of the gunas.

Taimni's View of Samadhi as a First-person Experience

Recall the idea of the **pratyaya**: this is the object of meditation, the “seed” of sabija samadhi. The pratyaya is the thought in the mind of the yogi during samyama. The pratyaya seems to serve as something like a rope or ladder that can be dropped to the center of the mind. In *The Science of Yoga*, Taimni gives us this picture and describes it thus:

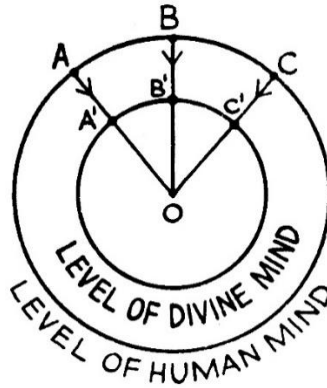


Figure 1: Taimni's schematic of pratiprasava

“A, B, C are different objects which can serve as ‘seeds’ of Sabija Samadhi. A’, B’, C’ are respectively the realities of these objects which can be found in the Divine Mind through Samyama. O is the Centre of Divine Consciousness [e.g. the Mahabindu –Don]. It will be seen that in every case the essential process is the same, namely, proceeding from the periphery along a radius to the centre until the intervening circle is reached. But different objects [i.e. pratyayas – Don] which are represented by different points on the outer circle make it necessary to proceed along different radii to the centre. In proceeding in this manner consciousness automatically touches the reality of the particular object when it reaches the level of the Divine Mind. So the ‘seed’ merely determines the direction along which consciousness has to sink in order to reach the corresponding reality in the Divine Mind. It does not make any difference as far as the essential process of Samyama is concerned but merely guides the consciousness to the reality which is the object of the search.”

All roads lead to Rome. Potentially, any object of thought can serve as the pratyaya in meditation. In aphorisms 1.32 to 1.39, Patanjali tells us about the various pratyayas. I'll dispense with showing the Sanskrit, and use Taimni's English translations directly (more translations can be found at the [Yoga Sutra Study web site](#)).

- 1.32 For removing these obstacles there (should be) constant practice of one truth or principle.
- 1.33 The mind becomes clarified by cultivating attitudes of friendliness, compassion, gladness and indifference respectively towards happiness, misery, virtue and vice.
- 1.34 Or by the expiration and retention of breath.
- 1.35 Coming into activity of (higher) senses also becomes helpful in establishing steadiness of the mind.
- 1.36 Also (through) serene or luminous (states experienced within).
- 1.37 Also the mind fixed on those who are free from attachment (acquires steadiness).
- 1.38 Also (the mind) depending upon the knowledge derived from dreams or dreamless sleep (will acquire steadiness).
- 1.39 Or by meditation as desired.

The really important one in this list is 1.39. It basically says "whatever works for you". So the point being that a very diverse and wide variety of pratyayas can potentially be used as the rope or ladder in samadhi. Taimni depicts this above by the outer circle, which represents the diversity of manifested things and stuff.

From *Man, God and the Universe*, Taimni illustrates the "sinking process" that samadhi allows with the following image, and describes it thus:

"All that happens is that our consciousness sinks into the greater and greater depths of our own centre of being. That centre as we have seen is concentric with the Great Centre [i.e. the Mahabindu - Don] in which the whole universe in all its depth, richness, beauty is contained. So sinking into our centre really means sinking into that Great Centre in which the universe in all its fullness is contained."

"The fact that centres of consciousness or bindus of all Jivatmas or Monads are concentric with the Centre of Divine consciousness or Mahabindu is of great significance in the realm of practical Occultism [You can substitute "yoga" for "occultism"...get it over it – Don]... It is through this common centre of the vehicles of a Jivatma working on different planes of the solar system that the yogi is able to pass from one plane to another. In Samadhi when consciousness rises from the lower to the higher planes there is no movement in space but only a sinking of consciousness into its own deeper levels. This sinking takes place through the common centre of all the vehicles... this sinking of consciousness into deeper levels during the different stages of Samadhi is shown as taking place along a vertical line AO because it is not possible to show diagrammatically the sinking into a point.

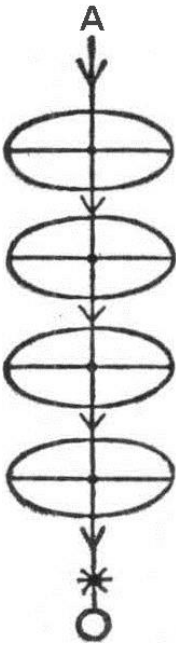


Figure 2: Taimni's other schematic of pratiprasava

But this does not represent the process correctly because it will really mean that consciousness moves in space when it recedes into its deeper levels. Actually, it remains centred in the common centre of its vehicles and its rising from one plane to another merely means that while remaining centred in its bindu, it begins to function at a different level.”

Thus, the picture Taimni paints is that the yogi, by concentrating on the pratyaya, “sinks” through the bindu, through deeper and deeper levels of consciousness. The penultimate state—nirbija samadhi—is not described by Taimni, but I have repeatedly quoted van der Leeuw’s description of nirbija samadhi and do it again now:

“When thus we sink back into the depth of our own consciousness we come to a state in which nothing seems to be any more, in which we ourselves seem to have lost name and form and all characteristics. We come to the great Void.”

“When we reach the Void within, the state in which nothing more seems to be, it would appear as if we were surrounded on all sides by a blank wall and as if it were impossible to proceed any further.”

After this comes dharma mega samadhi, the transition to Kaivalya:

“Then comes the moment when we must break the habit of ages and, like the prisoner in the cave, dare to turn our faces the other way and find the way out of the cave, find reality, freedom.”

“We have to move in a dimension we did not know before...to pierce through that center and find the reality which, acting on that center produces the world-image in the cave of our consciousness.

“The experience of going through the center of consciousness and emerging, as it were, on the other side is very much one of turning inside out. In our ordinary consciousness we are turned outwards towards the world-image which we externalized around us. In going through our consciousness the entire process is reversed, we experience an inversion, or conversion, in which that which was without becomes within. In fact, when we succeed in going through our center of consciousness and emerge on the other side, we do not so much realize a new world around us as a new world within us.”

“We seem to be on the surface of a sphere having all within ourselves and yet to be at each point of it simultaneously.”

Who knows how to do what is described above? Do you? I sure don't, as I said in my confession above. What is described above is a more or less clearly expounded regurgitation of what is described in the *Yoga Sutras*.

But what the *Yoga Sutras* does not tell us is how to actually do these things. It provides a lot of hints, but, unlike the modern way of communicating (mainly in science and technical writing) the *Yoga Sutras* does not provide detailed step-by-step instructions. It is well-appreciated among all who know of the *Yoga Sutras* and its surrounding traditions that the step-by-step methods were to be imparted to the student by the guru by direct instruction.

The [Rhythm of Creation](#) is the veiling of the Absolute as the Relative, and the revealing of the Relative to be the Absolute. There is thus no other justification needed to say the following. In the modern world, we need to rediscover samadhi. We need to rediscover how to do it, and not just sit around and talk about it as if it is some airy-fairy abstraction. It is not. Samadhi is a mental technique utilized for the purpose of intentionally moving through the indescribable and unimaginable worlds hidden beneath our surface consciousness.

Every night when we dream we get only the faintest glimpses of these worlds in a totally random and haphazard manner. In the previous few chapters we saw there are non-yogic means that open our surface mind to the hidden inner worlds. But the results of using the non-yogic means are haphazard and uncontrollable, and they lead to delusion. The West has no framework to make sense of these experiences. To overcome this hurdle, we need to relearn what samadhi is and how to do it.

In Chapter 30 I'll discuss natural experiences that provide plausible foundations for samadhi, what I will call the "ingredients" of samadhi. Chapter 31 will combine these ingredients to formulate a recipe for the practical induction of samadhi.

I will not rediscover samadhi on my own, so don't get over-inflated expectations. My goal is smaller. I wish only to open doors so that all of us interested in undertaking this adventure can work together, and each of us, as little cogs in a much larger historical wheel, can add to the ever-growing rediscovery here in the West of this ancient and profound technology of the mind that is called samadhi in the *Yoga Sutras*.

30: The Ingredients of Samadhi



There are natural experiences that resemble various facets of samadhi. Some of these happen when we are awake, others happen when we sleep. We consider these here and construct an ingredients list for samadhi.

Summing Up

Last time we presented a list of the characteristics of samadhi. Here is a summary table of those characteristics:

Item	Characteristic of Samadhi
1	Is an altered state of consciousness
2	Maximum concentration of the mind: single-mindedness.
3	Absence of observer/ observed dichotomy; “knowing by being”.
4	Alternates between samprajnata and asamprajnata types
5	Various levels of samprajnata samadhi
6	Allows voluntary control over altered states
7	Allows voluntary access to Kaivalya

Approach

Can we find examples of anything that capture any of these characteristics? Yes we can. The idea is the following. All methods and techniques humans do, including samadhi, must derive from natural abilities we all possess. For example, all skill in sports or music derives from the fact that we have limbs with muscles that we can move. All art stems from the fact that we possess imagination, symbolic capabilities, and can use tools. [We've discussed](#) how yoga arose from ritual magic. We want to further dissect this line of thinking. There must be natural activities we humans do that provide the ingredients of samadhi.

Before starting, I want to make clear to the Reader that *I will not answer these questions with any kind of final certitude*. I don't want the Reader to have unrealistic expectations. Instead, what I hope to accomplish is to open doors, to raise questions, and present tentative answers. This book will necessarily end open-ended. Nonetheless, hopefully some fresh ideas will be laid out along the way.

We want to take what we know about the range of human abilities and see if there are phenomena that might serve as ingredients of samadhi. We begin with the well-known facts that we move through three different brain states: waking, REM, and non-REM (NREM) sleep. Every human's brain goes through these states. Even ancient Hindu sources like the *Yoga Sutras* [recognized these states](#) in terms of waking (jagrat), dreaming (svapna), and deep (non-dreaming) sleep (susupti). We will use these three states, just like the ancient Indians did, to organize our thinking.

Waking

There are various psychological behaviors or states, some considered normal and some considered pathological, that correspond to items on our samadhi list above. We consider just two here: projection and depersonalization. Both of these could serve as ingredients of samadhi.

Projection/Identification

This relates to Item 3 on the list above: fusion of observer and observed. Freud described the psychological process of [projection](#). It means to dissociate, in one's thoughts, a part of one's self and apply it to something else. It is a form of [delusional thinking](#). To quote Wikipedia:

“Freud considered that, in projection, thoughts, motivations, desires, and feelings that cannot be accepted as one's own are dealt with by being placed in the outside world and attributed to someone [or something-Don] else.”

We are not interested in projection per se, but its opposite: the ability to take something that is not oneself and identify with it, the process of [identification](#), which was also identified by Freud. Again from the Wiki-thingy:

"Identification is a psychological process whereby the subject assimilates an aspect, property, or attribute of the other and is transformed, wholly or partially, by the model the other provides. It is by means of a series of identifications that the personality is constituted and specified. The roots of the concept can be found in Freud's writings."

If one can project away an aspect of one's self, one can also do the opposite and include something that is not part of the self-image of most people. [Chapter 23](#) discussed the link between ritual magic and the origins of Raja Yoga. In ritual magic, the person performing the ritual strongly identifies with the object of the ritual.

That we humans have the ability to identify with things that can be considered not-self seems to be a primitive ingredient underlying samadhi. By primitive I mean two things: (1) that it probably does not play a major role in real samadhi, but instead serves as a "root" property that other ingredients are based on, and (2) it is "weak" in the sense that it only refers to thoughts in one's mind.

With respect to the first qualifier, we could look at the connection between having muscles in general, and using them to become a master pianist. Muscle control is a substrate of one aspect of being a master pianist. Similarly, the human ability to identify with things is a primitive substrate that could lead to more complex behaviors used in samadhi.

With the second qualifier, projection and identification are acts of imagination that occur in thought. Even though identification is "only" thoughts in one's mind, if the identification is strong enough, it can affect how one acts towards the object of identification. This was Freud's point after all.

I note only briefly, because it is a topic much discussed in yoga literature, that identification is taught as a practical matter for beginner yogis. Here is a typical example [from Swami Krishnananda](#):

"The fixing of the mind on the point also implies the choosing of the point. What is the point on which we are concentrating? We have the traditional concept of the ishta devata, a term designating the nature of the object of meditation, which gives a clue as to what sort of object it should be. It should be ishta and it should be our devata. Only then we can allow the mind to move towards it entirely. We must worship that object as our god or goddess, our deity, our alter-ego, our centre of affection, our love, our everything; that should be the object."

The instruction is to choose an object of meditation, a pratyaya, with which one will completely identify. One is to *imagine* something of intense desire, an object that one would literally want to become one with. This is the beginning of what will eventually become the fusion of the self with the pratyaya in more advanced stages. It begins with the psychological property of identification.

Depersonalization

This relates to items 1 and 3 above: (1) samadhi occurs in an altered state devoid of a body and personality, and (3) fusion of observer and observed. Let's again start by [quoting Wikipedia](#):

“...depersonalization is an anomaly of self-awareness. It can consist of a reality or detachment within the self, regarding one's mind or body, or being a detached observer of oneself.”

As you see, it is considered an “anomaly”. Calling it such is a purely subjective judgement. Sometimes it is anomalous, sometimes not. That's not the point. The point is that the phenomenon of depersonalization relates to item 1 on the samadhi list above: awareness operating independent of the usual mind-body complex.

Unlike projection/identification, which are forms of thinking, depersonalization is an altered form of **perception**. As such, depersonalization is much stronger in its effects on behavior.

Depersonalization overlaps with sleep and dreaming, which is discussed below. Depersonalization can also occur during waking. It can happen with forms of brain damage (which is certainly anomalous) or when on certain drugs (the anomaly of which is a judgement call). What happens is that elements of one's mind or body that are normally considered parts of the self instead become perceived as “the other”.

An example of pathological depersonalization is [hemi-neglect syndrome](#). Again to quote Wikipedia: people with hemi-neglect syndrome “*may also present as a [delusional](#) form, where the patient denies ownership of a limb or an entire side of the body.*” This is *not* a delusion of thinking, however, it is an alteration in perception. Just ask a neurologist. If the left side of the patient's body is paralyzed and the doctor holds up the patient's left hand and arm and shows it to the patient, the patient will deny it is their arm and hand. There is a change in the patient's perception that depersonalizes them from a part of their own body. In hemi-neglect, the explanation is reasonably straight-forward: the person's brain has been cut off from sensing and moving the arm, and therefore the arm is no longer part of the self and acts like the other to the unfortunate brain-injured person.

Anti-Depersonalization

As with projection, we can consider the phenomenon opposite to depersonalization. I don't know if there is a term for this phenomena, so I will refer to it as “anti-depersonalization”. If depersonalization is the perception that a part of you (your body, for example) is not a part of you, then the opposite experience is that things that normally are perceived not to be a part of you are perceived to literally become a part of you.

The psychedelic plant [Salvia divinorum](#) is well-known for creating anti-depersonalization experiences. In these cases, people literally perceive themselves as inanimate objects. They become the objects. Here are a few examples culled from the Internet:

“I had smoked Salvia ... seconds later I became part of the wall I was sitting in front of. As this happened I realized with intense conviction (I was more sure of it than I am of me typing this now) that this is how things have always been” (from [here](#))

Here is a [whole message board](#) of these types of experiences. I quote just a couple of them:

“I was the side of a truck once... Another time I was the letter F.”

“I became the molecule of a piece of text that was on a juice box, a laughing puzzle piece with a face, and the underside of a Mickey Mouse style character's foot. This was all in one trip. I hate salvia.”

“I became a basketball...”

Here is the famous drug explorer Terence McKenna from the book [Shamanic Quests for the Spirit of Salvia](#):

“All of my humanity was slipping away. I was a bedspread and always had been. I abandoned the attempt to be anything else and become just an item in the room with no thoughts or judgments,” (quote [from here](#)).

I use the Salvia reports as examples because, as you can see, they result in extreme changes in perception of the self where the people literally become the inanimate objects. Again, this is not mere imagination in the person's thoughts. These experiences are actual changes in perception. The fact that this phenomenon can occur can be seen as proof that people can identify, as a **perceptual phenomenon**, with something other than the ordinary human mind-body complex.

This allows us to have insight into how the yogi can fuse with the pratyaya in samadhi. Unlike the identification examples given above, depersonalization and anti-depersonalization are much stronger mental phenomena because they constitute how the person perceives his or her self in relation to the not self. It is likely that something very similar occurs in samadhi where the yogi loses all sense of identity and fuses with the object of mediation. In other words, this phenomena, the anti-depersonalization, is likely an actual ingredient of samadhi.

Forms of Consciousness during Sleep and Dreaming

Samadhi is an altered state of consciousness. Period. There is no arguing this point. It is clearly indicated as such in the *Yoga Sutras*. Samyama in general is a form of self-induced trance. We naturally move through altered states when we sleep. Therefore, it is both reasonable and expected that sleep-related phenomena provide ingredients of samadhi.

Sleep and dreaming are extremely complex phenomenon. If you want to get a sense of the wider issues, I wrote a [really long scientific paper](#) about dreaming and you can knock yourself out reading it (see also this [scientific review by Mancia](#)). What I do here is regurgitate just one small part of that paper and summarizes the

various relationships taken between the dreamer and the dream perceptual environment (which is abbreviated PE in Figure 1). It is in the various relationships between the dreamer and dream environment where we are likely to find the natural origins of samadhi.

One qualifier for this discussion. I am not going to get hung up on the distinction between REM and NREM dreams. While this keeps dream researchers busy and fascinated, the fact is that regular (i.e. nonlucid) dreams occur during both brain states, just with different frequencies (80% for REM; 25-30% for NREM).

The main idea is this. When we are awake, there is always a “you” and there is a world in which “you” are embedded. We can divide you and the world in any number of ways philosophically, but the observer/observed dualism is, as many, many thinkers have pointed out, **the** central fact of our experience when we are awake in the physical world (i.e. in the state of paranga cetana).

When we sleep, the observer/observed dichotomy is not so fixed. It spans the four relationships illustrated in the following figure.

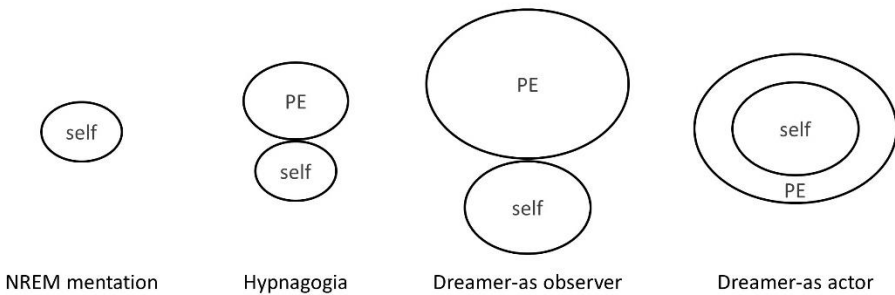


Figure 1: Forms of relationships between observer (self) and observed (perceptual environment; PE) in sleep.

From left to right these are:

1. An observer, but no observed. This is called **NREM** or **thought-like mentation**.
2. An observer not embedded in any environment, who views things outside his or her self. The external things perceived are also **not** embedded in any type of environment. This phenomena is called **hypnagogia** ([Wikipedia](#) gives a conventional view of it).
3. An observer who is outside of the observed, where the observed is a complex environment. Here the observer views the environment as if from the outside looking in, somewhat like watching a movie. The observer is not embedded in any kind of environment. These are called “**dreamer-as-observer**” dreams.
4. An observer who is embedded in a dream environment. This is called a “**dreamer-as-actor**” dream. These are the usual kind of dreams most people think of when the word “dream” is used.

Recognizing these psychological structures is critical for discerning possible ingredients of samadhi.

NREM Mentation and Samadhi

NREM mentation has been well-documented by sleep researchers, notably [Allan Hobson](#) (he discussed NREM mentation a lot [in this book](#)). I assert that **NREM mentation is the baseline state for practicing samyama**. In this state there is no perceptual environment at all, only a more or less self-reflective mind that can talk to itself. For normal people tested in sleep labs, this state lacks the property of lucidity. People who are trained lucid dreamers (like me) can maintain lucidity in this state. I have been there many times and call it the "void" (see page 137 of [DO_OBE](#) for details). I assert that NREM mentation is the end state achieved from practicing the Bahiranga methods. Or said differently, the end result of practicing the Bahiranga methods is the ability to get into this state voluntarily and maintain one's lucidity. In this sense, the NREM-mentation would be a direct ingredient of samadhi, serving as the platform for the entire technique.

Nonlucid Dreams and Samadhi

At the other extreme from NREM mentation are ordinary nonlucid dreams where the dreamer is embedded in a dream environment. The "dreamer-as-actor" states are forms of paranga cetana in which the self becomes absorbed in the ever-shifting distractions of the dream world. It is just more [viksepa](#), and as such, yoga will generally seek to avoid mental states that take this form.

Nevertheless, our **capacity to be absorbed** in nonlucid dreams is perhaps the most important ingredient of samadhi. The dream researcher [Allan Rechtschaffen](#) identified this feature of nonlucid dreams. He called this property, "[The single-mindedness and isolation of dreams](#)":

"By the "single-mindedness" of dreams, I mean the strong tendency for a single train of related thoughts and images to persist over extended periods without disruption or competition from other simultaneous thoughts and images."

This is a rather profound statement when considered in the context of samadhi. His definition of dreams sounds more like a definition of samadhi. However, Rechtschaffen most definitely did not apply this idea to samadhi nor, to my knowledge, ever even spoke about yoga. He developed this idea to explain how dreaming is different from waking consciousness.

What he is trying to say about dreams is a subtle idea. It seems odd on first hearing. For, as indicated above, in dreams there is constant shifting of attention by the dreamer to the constantly shifting dream environment. In this sense, dreaming certainly cannot be called single-minded. So what was he trying to say? What Rechtschaffen described is the essentially *total and complete absorption of the dreamer in the dream*.

When we non-lucidly dream we are, with rare exceptions, completely and totally absorbed in the dream. The mind is cut off from anything else but the dream. The mind is cut off from perceptions of the physical world, cut off from voluntary access to the personal memory network. The dreamer may spontaneously remember valid waking facts during a dream, but this is not promiscuous access to the personal memory network. If there was promiscuous access to the personal memory network, the person would realize they were dreaming, and it would be a lucid, not a nonlucid dream. Being cut off from the sensory world and from voluntary memory access during normal nonlucid dreaming means the dreaming person is completely absorbed in the bubble, so to speak, of the dream. In this sense we can speak of “single-mindedness”. It is also a state of isolation because the dreamer is isolated, or trapped, in the “bubble” of the dream.

Thus, although the dreamer and dream environment are both highly dynamic and constantly changing, the dreaming person is “trapped”, isolated, in the dream by being cut off from the senses, and from normal voluntary memory access.

It is the property of single-mindedness and isolation that is of interest to our present discussion. We are not interested per se in Rechtschaffen conception of dreams, interesting and illuminating though it is. The property of total and complete absorption we encounter in nonlucid dreams is, I suggest, co-opted in samadhi. What we do naturally and spontaneously every night when we dream is the foundation of samadhi.

I am suggesting that this same mode of total and complete absorption is **co-opted** in meditation and **adapted** to the purposes of yoga to generate the single-mindedness of samadhi. In this sense, ordinary dreaming is perhaps *the* essential ingredient of samadhi. The single mindedness and isolation of nonlucid dreaming is the natural and spontaneous ability of human psychology that is the root of samadhi. Just as voluntary control of muscles is the natural and spontaneous ability that underlies sports or various arts.

To be crystal clear: I am **not** saying that samadhi is identical to nonlucid dreaming. I am saying that **the property of “single-mindedness and isolation” of nonlucid dreams is the natural psychological function that is intentionally modified by the yoga methods to give rise to samadhi.** Yoga exploits this natural property of the mind, and molds it to a completely different end: samadhi.

Quick Summary

Let’s quick summarize our two main points before moving on:

1. A lucid form of NREM mentation is likely the end state that is sought to be voluntarily entered into by the application of the Bahiranga methods.
2. The total and complete absorption of the dreamer in a nonlucid dream is likely the natural basis for samadhi.

Ok, let’s keep going...

The Other Two

What of hypnagogia and dreamer-as-observer dreams? These are clearly variations of the same thing. Both involve a self observing something external. In the case of hypnagogia, the something is the perception of an isolated sensory object lacking a complex spatial environment. In the case of dreamer-as-observer dreams, the something becomes a complex spatial environment in which a dream plays out as if watching a movie. Again, these are well-established phenomena in dream research so I am making no attempt here to justify any of this. You can go look it up if it's unfamiliar to you (my [GWS and dreaming paper](#) has many citations).

We can thus imagine a spectrum as shown in Figure 2.

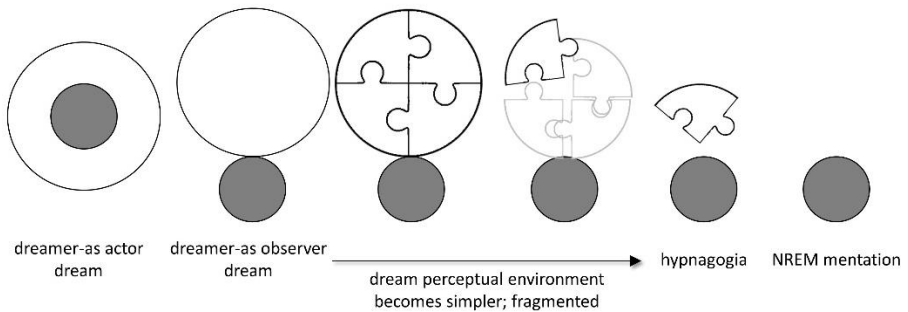


Figure 2: A functional sequence of forms of sleep consciousness. The dark circle is the observer and the white circle is the perceptual environment

This is the same idea as Figure 3, but now indicating a relationship between the different states. The fullest and most complex is on the left where the dreamer/observer (grey circle) is embedded (or absorbed) in the dream perceptual environment (white circle). Next comes the dreamer removed from the perceptual environment and viewing it as if from outside. Next we imagine the perceptual environment fragmenting and most of the pieces disappearing. What is left is something that looks like hypnagogia where the observer is observing an isolated something-or-another outside the self. Finally, we can imagine all externals disappearing, and we are left with just an observer and no perceptions of any kind, which is NREM mentation.

There are a couple connections to point out here.

Various Levels

First, let's relate the natural spectrum of sleep states to item 5: that there are various levels of samprajnata samadhi. Again, I will not go into the details. You can look at my [GWS and dreaming paper](#) or even a book chapter I co-authored with Stephen LaBerge about the [varieties of lucid dream experiences](#) to get the details. The main point is that sleep perceptual environments take on a wide variety of different

appearances and qualities, ranging from what appear to be normal perceptual environments at one end to completely abstract landscapes similar to what we saw in [Chapter 26](#) at the other end. It is very likely that this is the basis of the distinctions of the four phases of the gunas in yoga. The more normal-appearing dream environments correspond to vicara consciousness (where vitarka consciousness corresponds to being awake in the physical world), and one can imagine any number of ways to partition the abstract perceptions into the deeper phases of the gunas.

So, the main idea here is that the variety of perceptions that are well-documented to occur in dreams and dream-like states can be construed as ingredients of samadhi, again, with respect to item 5 on our list above.

The Bottom Level

Next, please recall Allan Watts' quote much used previously. Quoting only the essential bits:

“Life seems to resolve itself down to a tiny germ or nipple of sensitivity...a squiggling little nucleus that is trying to make love to itself and can never quite get there.”

“The trouble is that I can't see the back, much less the inside, of my head...Consciousness peers out from a center which it cannot see.”

The form of this experience is like the dreamer-as-observer dream, where there is a bare consciousness observing an environment external to the self. I previously called it “bare naked” pratyak cetana. In this case, the environment is radically abstract. It is a pulsing medium that seems to be the source of all other possible perceptions. One is tempted to associate it with the alinga level of the gunas. For here is revealed the Logos, the Divine Plan.

But it is not a plan in any sense we may give meaning to the term, for it is simply a pulsing something-or-another that seems to simply create. There is no rhyme or reason to the actions of this pulsing and its little spinning “ennie weenies”. They spin and pulse in ways indescribable in words. From this **Movement** arises all that possibly could be. It is very, very strange. Earlier I said this experience can be construed as the seeing of the very form of the Screen of Consciousness (remember the graphic of our model, please). We are seeing the very stuff of which Plato's Cave wall, the Screen of Consciousness, is made. It makes no sense to the rational, logical mind. Yet it makes infinite sense because it is not unlike the clouds moving in the sky, the leaves blowing in the wind, the patterns seen in the stars in the night sky, like waves crashing at a beach.

Again, it seems to be the bottom-out level of paranga cetana. We cannot go any deeper. We cannot go into it. All we can do with it, with **the Movement**, is to keep seeing faces in clouds.

Although we cannot go “into” it, we can go “up” from here: stuff gets more complex and elaborate. Distinct images emerge out of the pulsing something-or-

another: hypnagogia. The environments get more complex: more objects, depth, color, form, relationship. Soon the perceptions are fully formed environments. We observe them from the outside looking in. Then we can step into them. We are in a dream. Then we “wake up” and we are here.

To conclude, again, I am talking about well-established dream phenomena. It is speculation if these perceptions correspond directly to what is described in the *Yoga Sutras* as *visesa*, *avisesa*, *linga*, and *alinga gunas*. It may be that the *Yoga Sutras* describes something more sophisticated than the above. But either way, what is described above are the natural things that happen in our minds every night when we sleep. As such, they must contribute natural ingredients to samadhi.

Lucid Altered States

In this section we lump together various altered states of consciousness in which people are lucid. When I say “lucid” it means that consciousness is aware that it is aware (self-reflective) and is simultaneously aware of the experiences that are occurring. Just like when we are awake. I’m not talking about anything mysterious here. Lucidity is our normal state when we are awake. There are many altered states where people can be lucid.

I handle this section by presenting four different first-hand experiences, or case studies, that illustrate phenomena that show obvious connections to features of samadhi. Two cases are drug-induced, and two occurred during lucid dreaming. One of them is mine and is from my lucid dream journal. The links to samadhi are explained in the blurbs preceding each quote.

1. Alex Grey DMT experience. We saw this in [Chapter 27](#), where Alex Grey described his “Net of Being” DMT experience. The salient point here is that he seems to exactly describe the fusion of the observer and observed that is characteristic of samadhi. Based on his report, it is safe to infer he spontaneously had this experience. As such, it is similar to the *Salvia* experiences where a person fuses with the object of perception, to “know by being”.

“A sense of continuum of being that really was very highly networked...a mesh of being. And a kind of identity with that, um, spread my consciousness and being out to a vast expanse in the, ya know, as fast as could be, you were like identified with a consciousness grid that was completely co-extensive with all space.”

He became the “consciousness grid”. Knowing by being.

2. A passage from [Robert Monroe’s](#) book *Ultimate Journeys*. Monroe, who passed away in 1995, is a well-known author on out-of-body experiences. His books have been influential on people interested in OBEs, astral projection, and lucid dreaming. In the following passage he describes becoming a flying eagle. Monroe’s

case again illustrates the fusion of the observer and observed. In Alex Grey's case it occurred under the influence of DMT. In Monroe's case, it occurred during a lucid dream. But the end result is the same: the sense of self, of "I", becomes the object of perception. This indicates that the ability can be evoked artificially with a drug (as Patanjali indicates in aphorism 4.1—see [Chapter 25](#)) or naturally via the lucid dream state. I note that Monroe did not intentionally enter this state, but did so spontaneously as an element in the ongoing lucid dream of which this passage is a part. One advantage of Monroe's description over Grey's is that there is an actual description of what the fusion experience was like.

"I am floating high over a rugged, snow-capped mountain range, and I can see for hundreds of miles in every direction...and I can see down, down on the ground...beautiful focus, in the most minute detail...the leaves on trees, small animals as they move over the rocks...and I am moving slowly, making a wide easy turn, the standing wave from the mountain ridge offering solid and steady lift under my wings...wings! "

"I turn my head. Extending out from my shoulder is a broad arching wing tapering to a round point, feathers ruffling in the slight turbulence. I roll my head to the left, there is one to match from the other shoulder...I'm not floating, I'm soaring...as a bird, am a bird!...a super sailplane that does exactly what I think! I break the turn, and the feathers on the trailing edge bend down on one side, up on the other, instant ailerons...let's reach for maximum lift...there it is, more under the left wing than the right, turn into the lift...feel the lift getting stronger and stronger...it's peaking out, turn and circle...tighten the turn, highest point of lift...must have a fifty-to-one glide ratio...spiral up, tighter and faster...perfect control...air is thinner...keep higher airspeed...wonder where the stall point is...nose, no, head up more, higher angle of attack, more, hey, that's pretty good! ...would never think a bird body could...oops! it does stall...easy to pick up speed again... Yeah! Just fold the wings and doooooown we go! I sigh... reach and stretch..."

"CLICK! I was back in among the sparkling forms, and I closed tightly. The radiation was making me break out in waves exquisitely familiar."

3. D.M. Turner's LSD/DMT experience. I do not know anything about [D.M. Turner](#) having only come across his work when surfing the internet. He has an apparently unpublished book [Salvinorin - The Psychedelic Essence of Salvia Divinorum](#) that is posted on the Net in its entirety. I came across [one of his experiences](#) that impressed me because of how closely it resembled the yogic view of consciousness. Given my knowledge of psychedelic substances, the huge quantities of drug he ingested and the fact he mixed two wildly potent psychedelic substances borders on humorous (and is certainly alarming!). These factors may be responsible

for the extreme nature of what he described, which is one of the most extreme drug experiences I have ever encountered.

However, my primary interest is that what Turner described is almost identical to van der Leeuw's description of Kaivalya (see [Chapter 4](#)).

van der Leeuw's writings indicate he was an expert in Raja Yoga. There is no indication whatsoever that van der Leeuw took drugs. It is thus amazing to me that Turner, through ingestion of extreme amounts of psychedelic drugs could effectively reproduce van der Leeuw's descriptions of dharma mega samadhi and Kaivalya, although Turner, as you will see, did not interpret his experiences in yogic terms.

The salient points here are that Turner described the "turning inside out" process that van der Leeuw so graphically described, and that I repeatedly assert is a first-hand account of dharma mega samadhi. Then, in what appears to be a confused perception of Kaivalya, Turner has the experience of being a seemingly unlimited number of what he called his "possible lives". His experience, however, can be interpreted as a description of Kaivalya, where one becomes simultaneously all that is. However, Turner does not seem to have the vocabulary, training, or background to interpret his experience in these terms. Instead, he interprets this as alternative versions of himself. When you think about it, his interpretation is not too far off the mark anyway. Further he describes the spherical sense of a world with nothing outside of it that van der Leeuw described. My take-away from Turner's experience is that, through extreme drug ingestion, he "whacked" himself clear into Kaivalya. In the next chapter, I will give a more precise meaning to the term "whacked" (hint for now: perturbation).

Let me make this perfectly clear: I DO NOT ADVOCATE ANYONE DO THIS. I am not advocating the use of drugs for this purpose. We discussed this topic already and I have expressed my opinion that drugs, generally speaking, are no more and no less than training wheels by which to enter the inner realms. In the long run they defeat the purpose. In short: [DRUGS ARE BAD, MKAY](#). But what is of interest in our present context is the overwhelming similarity between Turner's and van der Leeuw's descriptions. To me, this points to a common substrate underlying their experiences. In my mind it strongly supports the validity of what is described in the *Yoga Sutras*. (Note: I have condensed this. Turner's entire journal entry is [here](#)).¹

"My next significant journey involved smoking 750 mcg. of Salvinorin about 6 hours after taking 600 mcg. of LSD [50 micrograms is a usual dose of LSD! He took 12X the usual dose! -Don]All of a sudden there was a sensation that the universe began rotating on an axis that was perpendicular to its normal planes of rotation... There was also the sensation that time had stopped, that everything had stopped revolving around its axis and had slowly begun to revolve in the opposite direction. I then had a sensation where I could see around the edge of "existence," and saw an opposite or negative image, of everything in this sphere of existence..."

"As this happened the whole concept of my existence as a particular

person seemed quite ludicrous and artificial. With this perception it seemed as though the universe had collapsed and turned inside out. And the concept that I had an identity as a particular human being, or even that "I" existed, was entirely pulled out from beneath my feet..."

"Next I found myself in what I can only describe as a black hole of identity... What I experienced was like a type of gravity which held my being so strongly that it could not escape to form an identity. I felt as though I were within a dimensionless [*Remember our [discussion of delta](#)? -Don*] spherical, enclosed universe, perhaps something similar to Einstein's perception of curved space-time. Within this closed universe it seemed that all forces, such as gravity and centrifugal force, were somehow reversed and opposed to how they normally function. A million impossibilities seemed to exist... And it seemed that time was on a revolving or repeating trajectory. Within the closed sphere, millions of concentric gears were spinning around and through each other in every which direction..."

"One of the most profound perceptions that I had was of seeing my life from millions of different angles. It seemed that the life I had led was like a drawing etched into the multi-dimensional fabric of space-time, every action I've taken and thought I have had forming a turn or a branch in this complex carving. What I experienced while in this state was millions of other possible lives of my person. For every decision I've made in life, a duplicate of myself is formed in nonexistence that chose the opposite of the decision I made. While in this bizarre state of mind, or non-existence, I was simultaneously experiencing these millions of alternate persona, and with vivid recollection of all that had transpired in their oppositely directed lives..."

"As time continued, however, I noticed the force within the black hole starting to subside. By the time I knew I would be returning to my body again, and was able to open my eyes and look at the clock, approximately two hours had passed."

Wow.

4. My lucid dream experience of dissolving the pratyaya. (64th projection; original is 2870 words; the following is about 1/6th of the entire recorded experience.). We discussed in [Chapter 10](#) about pratiprasava, the dive through consciousness. There it was described how samadhi causes the pratyaya to "disintegrate" and by this action, it propels the yogi to a higher state of consciousness (or deeper layer of the gunas).

In the following lucid dream, I had an experience that I now interpret as an ingredient of samadhi. It is **not** samadhi. I was not in samadhi. I was lucid dreaming. But I had, as one small part in a rather long and rich lucid dream, an experience that I now interpret as something akin to Taimni's idea of how the pratyaya is dissolved

in samadhi, leading to the nir- forms of samadhi (i.e. nirvitarka, nirvicara, etc.).

We can interpret the dream perceptual environment as an analog of a pratyaya. In this experience, I somehow accidentally found myself in a state where I saw the “pieces”, “components”—I don’t know what term to use—but I saw what the pratyaya was made of. Whatever it was, my current best interpretation is in terms of dissolving the pratyaya. It is certainly not identical, but I would consider it to be an ingredient. Whatever happened must be a phenomenon similar to what occurs in samprajnata samadhi that leads to the asamprajnata form of samadhi.

“Went to bed about 5:00 AM. I fell asleep almost immediately. Next thing I knew I was walking thru a dance club... The place was large and dark, and there was a huge dance floor filled with very “underground” looking people (mohawks, tattoos, leather, etc.). I was not lucid at this point, but I had a very strong feeling that something was up. I walked off of the dance floor into another room that was a bar. Sitting at the bar was my good friend X... When I saw X it dawned on me - I was in the dream world! And also, at this realization, I most definitely experienced the “head-rush” feeling. My lucidity was incredible. Everything was absolutely clear and vivid. I felt exactly like I do when I’m awake.”

“Once my lucidity clicked in though, I became very aware of my potential to fade out so I moved very slowly and carefully. [Me and X interacted]... Then I felt myself begin to fade out. I grabbed X and said, “Uh oh! Look, X! I’m gonna disappear right before your eyes, then you’ll know that this is a dream!” And I was gone.”

“I was standing outside of an unfamiliar house. It was night time outside and there was a light on inside the house. Through the window I thought I saw three women, but, when I looked away and then back again, I saw an old woman yelling at two younger girls. I began to walk down the block away from the house. I faded again.”

“I seemed to now be floating in the void. However, there were what seemed to be colored triangles moving around, crossing and spinning over one another making distinctly geometric patterns in front of me. The colors were mainly a yellowish green with red, orange, and pink hues and they had the texture of clear and smoky, but smooth glass. “This is a weird view of the void,” I thought to myself. I stared at these patterns wondering what the hell I was looking at. I began to focus harder and harder on these patterns, trying to discern some detail in them. Then, as I was focusing, the most incredible thing happened. I watched these patterns “solidify” and transform into the scene on the dance floor of the club I had just left. The spinning triangles were actually the dancing people in the club! I was amazed. I relaxed my focus and the scene faded back to the spinning triangles. I was thinking, “Wow! This is amazing!” I tightened my focus again and the triangles again transformed into the dancers on the dance

floor. This time I tightened my focus so much that the entire bar scene faded in around me! I was back in the bar again! [A whole bunch more stuff happened], then...This time I was awake for real. I looked at the clock. It was 6:00 AM. Only an hour had passed...”

This wraps up our discussion of possible ingredients of samadhi. In chapter 31 I'll summarize, then discuss how the ingredients could combine into a recipe for samadhi.

31: A Recipe for Samadhi



We use our ingredients list to construct an at least plausible recipe for samadhi. The recipe is not complete. There are missing ingredients. But in attempting to make a recipe, at least some holes in the recipe are revealed.

Introduction

Why propose a recipe for samadhi? First, the *Yoga Sutras* does not give step-by-step instructions on how to achieve samadhi. Second, the concrete details that are provided are coded in the language of Samkhya philosophy. It would be nice to link our modern knowledge to these ancient concepts. Therefore, I'll present a step-by-step recipe that tries to link ancient Samkhya concepts to modern ideas where possible.

Again I emphasize that there will be no final or definitive conclusions. The point of the exercise is to construct a *plausible* recipe for samadhi. Ultimately, the validity of any such scheme will rest on its functional utility. Can a given recipe actually cause someone to achieve the things described in the *Yoga Sutras*? I make no such claim here. My smaller goal is to move things in that general direction. Although...I'm no slouch at altered states. Hopefully the discussion will bring at least a few new and useful things to the table. But it's always best to start with low expectations.

We begin by summarizing the ingredients for our recipe from last chapter. Then, after brief preliminaries, I'll present the recipe.

Summary of Last Chapter

[Chapter 30](#) presented a list of the characteristics of samadhi. We then searched human psychology for phenomena that could serve as natural skills underlying those characteristics. The following table summarizes, in no specific order, how the natural human abilities (ingredients) identified in the last chapter line up against characteristics of samadhi.

Table 1: Experiences that may underlie known characteristics of samadhi.

Item	Characteristic of Samadhi	Natural Ingredients/Examples
1	Is an altered state of consciousness	NREM mentation
2	Maximum concentration of the mind: single-mindedness.	Total absorption of nonlucid dreams.
3	Absence of observer/observed dichotomy; “knowing by being”.	Identification. Anti-Depersonalization (Salvia divinorum). A Grey & DM Turner drug experiences. Monroe lucid dream.
4	Alternates between samprajnata and asamprajnata types	DJD lucid dream.
5	Various levels of samprajnata samadhi	Varieties of dream perceptual environments. DJD lucid dream.
6	Allows voluntary control over altered states	
7	Allows voluntary access to Kaivalya	DM Turner drug experience.

I suggested that the end goal of the bahiranga techniques (yama, niyama, asanas, pranayama, and pratyahara) is to assume a state of lucid NREM mentation to serve as the platform for performing samyama (dharana, dhyana, and samadhi).

The characteristic of total absorption in samadhi was suggested to have a natural counterpart in nonlucid dreaming, based on Rechtschaffen’s famous conception of “the single-mindedness and isolation of dreams”.

Two potential ingredients for the fusion of observer and observed were: (1) identification, in which the other is included, merely in thought, as part of the self, and (2) anti-depersonalization, where things not usually taken as self are perceived to be part of the self (e.g. the Salvia reports).

Finally, examples of diverse sleep perceptual environments provide a modern interpretation of the four phases of the gunas described in the *Yoga Sutras*. This is not to imply the states of the gunas are *merely* forms of sleep mentation. Linking the gunas to sleep mentation opens a new avenue for understanding sleep mentation.

My premise is these natural abilities provide key ingredients for advanced yoga methods. It may involve direct voluntary control of an otherwise spontaneously natural ability, or it may involve an intentional modification of a natural ability.

My Basis

My recipe for samadhi is grounded in Taimni's interpretation of the *Yoga Sutras* from his book *The Science of Yoga*. I've prepared two PDF files that explain essential background. "[Samadhi sutras from Taimni.pdf](#)" collects all the aphorisms from the *Yoga Sutras* that pertain to samadhi, as organized by Taimni. The file "[Three Parinamas Taimni The Science of Yoga.pdf](#)" collects his passages from *The Science of Yoga* that discuss the three parinamas used in samadhi (samadhi, ekagrata, and nirodhah parinamas). The parinamas are critical for understanding what happens inside the state of samadhi. The Reader is invited to compare this background information to my treatment below.

Preliminary Considerations

There are two preliminary considerations: (1) recognizing that samadhi is a learned skill, and (2) having a general understanding of what samadhi accomplishes.

Samadhi is a form of voluntarily-induced trance and its execution, like any voluntary skill, is a function of learning, practice, and experience. Thus, skill level and experience must be taken into account. This is no different from discussing any skill, be it playing piano or basketball. What is easy for an experienced and skilled person may be difficult or impossible for a beginner. In *The Science of Yoga*, Taimni stress this point:

“The time taken for passage through the different planes and the intervening voids depends upon the advancement of the Yogi. While the beginner may remain entangled on the lower planes for a considerable time extending to years, the advanced Yogi can transfer his consciousness from one plane to another with lightning rapidity, and in the case of the Adept who has attained Kaivalya all the planes really merge into one because the passage up or down is so swift and easy that it is merely a question of focusing consciousness in one vehicle or another.”

Taimni's quote also nicely captures the essence of samadhi. **Samadhi is, in the final analysis, a technique that allows voluntary control over altered states of consciousness.** This was variously described as “sinking”, “transferring”, “harmonic transitions”, “quantum jumps”, or otherwise moving between different states of consciousness (see [Chapter 10](#)). The desired end result is analogous to how we shift focus in our vision. Focus on the foreground causes the background to become blurry, and focus on the background causes the foreground to become blurry. Samadhi allows one to focus not vision, but the mind as a whole, from one state of consciousness to another. The names we give to the states of consciousness vary. We may call them “planes of nature”, “states of the gunas”, or “altered states of consciousness”. It doesn't matter so much what we call them. What matters is how you do it. How do you voluntarily move amongst the inner states?

A Plausible Recipe for Samadhi

The recipe consists of the following eight steps which are illustrated by the accompanying diagram.

1. Go from being awake to a lucid state of NREM mentation.
2. Intentionally go from lucid NREM mentation to lucid hypnagogia.
3. Intentional control of hypnagogic imagery = externalizing the pratyaya (cogtransper).
4. Fuse with (become totally absorbed in) the pratyaya = samadhi parinama.
5. Repetition of the pratyaya = ekagrata parinama.
6. Dissolve the pratyaya = nirodhah parinama.
7. Disappearance of the pratyaya = the “nir-” states of asamprajnata samadhi.
8. Transferring consciousness to the next deeper level (pratyak cetana).

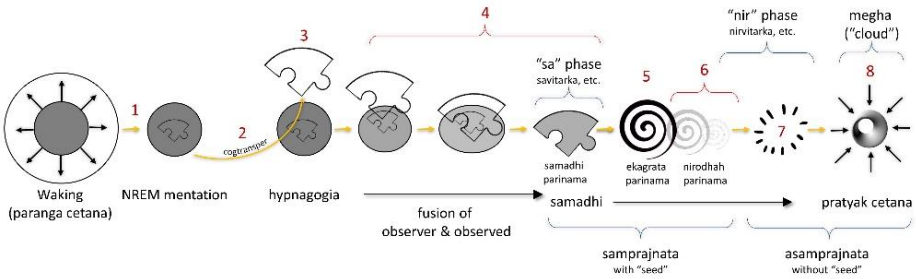


Figure 1: The recipe for samadhi. Dark gray indicates the observer. White represents the observed. Light gray is the state where observer and observed are fused. The corresponding steps of the recipe are shown by the red numbers and red brackets. Yogic terms are placed where appropriate.

It is complicated at first glance. It is easier to understand in parts. The eight steps naturally break into two major processes.

Steps 1-4 are the recipe to get into the state of samadhi.

Steps 5-8 are what happens inside the state of samadhi. Let’s discuss each in turn.

Entering Samadhi

Let’s look at just the steps for entering samadhi.

1. Go from being awake to a lucid state of NREM mentation.
2. Intentionally go from lucid NREM mentation to lucid hypnagogia.
3. Intentional control of hypnagogic imagery = externalizing the pratyaya (cogtransper).
4. Fuse with (become totally absorbed in) the pratyaya = samadhi parinama.

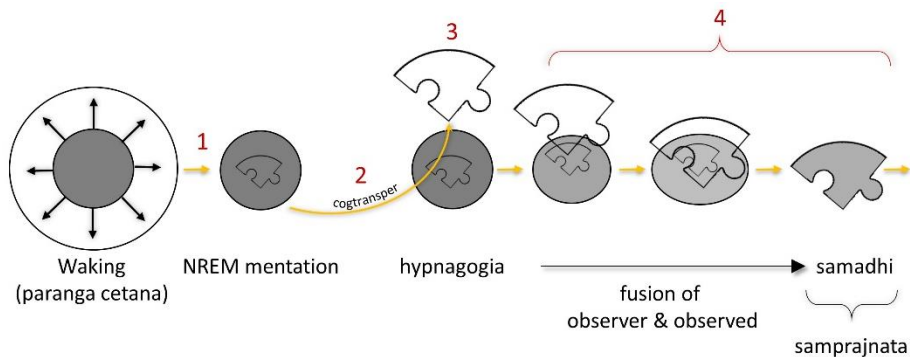


Figure 2: The steps for entering samadhi.

First, I'll summarize, then elaborate below. The transition from being awake to entering samadhi invokes modifications of natural sleep mentation. Next comes into play a phenomena I explain below called “cogtransperation”. After this, the fusion of the observer and observed is based on identification and anti-depersonalization. Finally, the state of complete fusion of observer and observed shares the “single-mindedness and isolation” property we experience in nonlucid dreams. Let’s look in more detail at each step.

Step 1. Voluntary Induction of NREM Mentation

Again, I will assert that the net result of the bahiranga methods (yama, niyama, asana, pranayama, and pratyahara) is to achieve a **lucid** state of NREM mentation. When we fall asleep naturally, we go into NREM states for the first 40-50 minutes (if you don’t know the [sleep cycle, see here](#)). Samadhi is a voluntary, self-induced trance that resembles sleep. The natural course for exiting waking is to enter NREM, so it is natural that the yogi should enter the NREM state.

However, yoga is not natural sleep. The bahiranga methods culminate in pratyahara, which is the voluntary shutting off of the senses. Pratyahara is the yogi carrying his or her lucidity intact across the sleep-wake border. It is falling asleep while keeping the mind lucid and self-aware. This transition is what Stephen LaBerge calls a “[wake induced lucid dream](#)” except the yogi does not proceed all the way into a fully-formed dream, but halts the natural processes before a dream can form.

Remember, we are talking about voluntarily-induced trance, not natural sleep. Natural sleep provides substrates (ingredients) that are molded by the yogic methods. First, mastery of yama and niyama are expected to suppress natural tendencies towards nonlucid dreaming by minimizing externalized desires (e.g. Freudian-type impulses for dream formation are minimized). Next, dharana and dhyana involve concentration on the pratyaya. The yogi holds a fixed thought, the pratyaya (depicted as the single puzzle piece *inside* the observer in Figures 1 and 2). No other thoughts enter conscious thinking. These factors I suggest, serve at least in

part, to suppress the normal [sleep cycle](#). Thus the yogi intentionally maintains a state of lucid NREM mentation.

Step 2: From Lucid NREM Mentation to Lucid Hypnagogia

To explain step 2, I have invented a new word: **cogtransper**. What this means is the following:

It is possible when in the NREM mentation state to think a thought and to have this thought transform into an externalized perception that takes the form of a hypnagogic hallucination.

Note of clarification: We are now **exclusively** discussing sleep-based states, so the word “perception” **never** means a sensory perception. It means something like hypnagogic imagery, or dream environments which, nonetheless, appear as externals to the observing consciousness.

Cogtransper is pronounced like “cog transfer” but substitute “f” with “p”. The word comes from the phrase “**cognition transforming into a perception**”: cog + trans + per = cogtransper. Here “cognition” specially means thought or thinking. Cogtranspering does not occur during normal waking.

Before you think I am an absolute lunatic, please be aware I got the general idea from the following scientific paper: Okuma, T. (1992). On the psychophysiology of dreaming: A sensory image--free association hypothesis of the dream process. *Japanese Journal of Psychiatry and Neurology* 46, 7-22. [Please read the abstract](#).

I am not invoking this as merely an intellectual idea, as Okuma does. The idea is based on my personal experience. I have cogtranspered several times, spontaneously and unintentionally, while lucid dreaming. The way it works is that, while lucid in NREM mentation (the state of being in the “void”; see [DO_OBE](#)), one thinks of something. This is just a thought, not a perception. But it is possible for the thought to abruptly become a hypnagogic image. When this happens, it is potentially startling and there is a chance of abruptly waking up. One must learn to remain calm if this occurs. The spontaneous occurrence of cogtransperation suggests it should be possible to voluntarily control it. I am hypothesizing that voluntary control of cogtransperation is possible and is a missing ingredient of samadhi.

In samyama, the yogi must first learn dharana, which is the act of holding the same thought over and over in the mind. When one can hold a single thought for an extended period of time, one is now practicing dhyana. Cogtranspering is part of the **transition** from dhyana to samadhi. **I am suggesting that part of this transition involves a change from NREM mentation to a controlled state of hypnagogia.** The pratyaya that begins as a thought in the yogi’s mind transforms (cogtranspers) to an externalized perception as a hypnagogic image.

In terms of the *Yoga Sutras*, cogtranpering is related to separating [sabda, jnana, and artha](#) in the pratyaya. The short of it is that controlling the appearance of the

pratyaya as a hypnagogic perception relates to discovering the artha, the truth, of the pratyaya. I won't go into detail here because it is complicated and will dilute the description of the recipe. However, it's an important topic and we discuss it in Chapter 32.

What's the point of adding a step where the pratyaya becomes a hypnagogic image? Because it provides a possible method to allow for the fusion of the observer and the observed that is a core characteristic of samadhi.

Step 3: Lucid Hypnagogia

Recall that the pratyaya is, by intention, something the *yogi wishes to be* more than anything else. In early stages of practice, the pratyaya begins as a thought in one's imagination. In the advanced practice of samadhi, the yogi must *become* the pratyaya, not just in the imagination, but in actual fact. The yogi seeks to intentionally accomplish what sometimes occurs spontaneously to people who ingest *Salvia divinorum* and became walls, basketballs, and blankets: not in thought and imagination, but in perception. The yogi seeks to become the pratyaya in both perception and thought. Thus, the pratyaya must become more than just a thought. It must first become a perceived external before the yogi can fuse with it.

Via dhyana, the pratyaya is the only object of thought in the yogi's mind. Via cogtransperation, the pratyaya fills the yogi's externalized perception. The yogi is now in a state of lucid hypnagogia, experiencing the perception of the pratyaya as an externalized hypnagogic image. At which point, **the internalized thought and externalized environment are the same thing**. The observer is the same as the observed. The yogi's self-reflective awareness is minimized by the identification, both in thought and perception, with the pratyaya. But it is still a state of dichotomy: there is still both thought *and* perception, as illustrated in Figure 3.

What is the point of this? The entire conscious mind is now directed towards the same target. Thought is focused on the pratyaya, and so is perception. I would submit that this is the necessary precondition for the fusion of observer and observed.

Step 4: Fusing with the Pratyaya

Remember way back in [Chapter 10](#) when I discussed samadhi metaphorically as a bifurcation? We want to revisit this concept, but now treat it literally. I've set up a plausible scenario analogous to two fixed points on a bifurcation diagram moving towards a state of fusion. The thought of the pratyaya and the externalized hypnagogic perception of the pratyaya become the two fixed point states that will fuse into a single fixed point. To remind you of the concept, here is an animation:

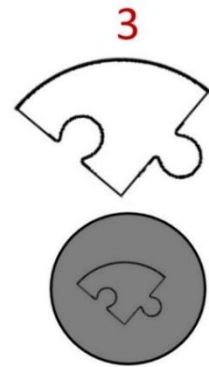
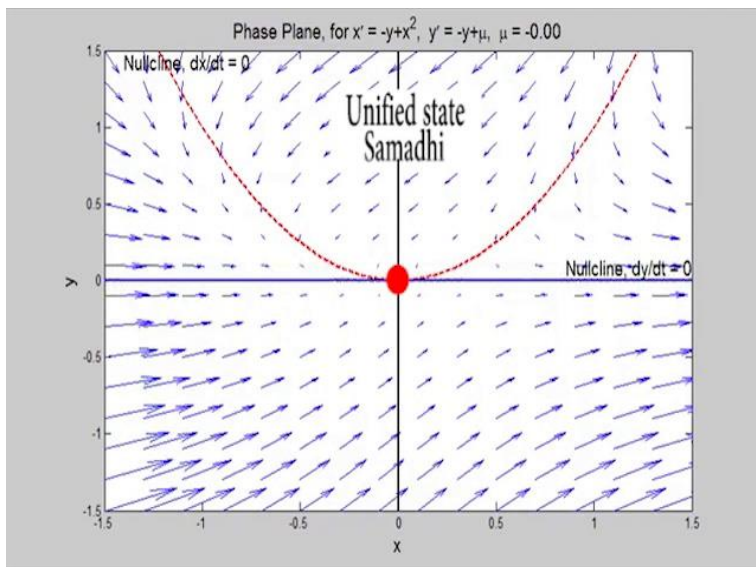


Figure 3: The dualistic state of lucid hypnagogia precedes the fusion of observer and observed.



<https://youtu.be/WOzwRPrxYs>

For those who don't know what I am talking about, all I can say is [read up](#) on the mathematics of fixed points and bifurcations (a nice [layman's video introduction is here](#)). It's a prerequisite to understand what I am discussing.

My contention is that, in samadhi, thought and perception fuse in the manner that two fixed points fuse into a single fixed point. There is a bifurcation in the mind that moves it from a state of duality to a state of unity. In the *Yoga Sutras*, this transformation is called **samadhi parinama**. Samadhi parinama is, I suggest, a dynamical bifurcation, a phase change in the condition of the mind from a biphasic state of duality (perception *and* thought) to a monophasic state of unity.

How does samadhi parinama occur? It just does. That's what bifurcations do. It is an [emergent property](#) of the system, like any bifurcation. It is a phase transition in consciousness. Of course there must be some underlying mechanism, some control parameter that is being varied. But I don't know what that is. Positing samadhi as a bifurcation opens the door to trying to understand the underlying mechanisms. Let's not put the cart before the horse.

This bifurcation of the mind is called "samadhi parinama" in the *Yoga Sutras*. It cannot occur spontaneously. The fixed point where fusion occurs is at some extreme region of the bifurcation/phase diagram of the mind and is not accessible from the normal, unperturbed waking state. A perturbation is required to move the mind into this condition. Some drugs (like [Salvia](#) or [DMT](#)) can kick the mind into this regime (in a completely haphazard and unpredictable manner), as we saw with the *Salvia* examples or [Alex Grey's experience](#). I am saying, again in no uncertain terms, that samadhi is a method that provides voluntary access to this regime of the mind's bifurcation diagram without using drugs.

Samadhi is unlike any other State of Mind

From a first-person viewpoint, this fused state would be one of total absorption, analogous to a nonlucid dream. But it is not a dream. There is no observer/observed dichotomy. Nonetheless, this fused state will share the property of “single-mindedness and isolation” with nonlucid dreams. In samadhi this property is cultivated voluntarily.

Portrayed in this fashion, samadhi is a state of perfect mental balance in which thought and perception fuse into one indelible whole. Then the yogi truly becomes the pratyaya. Patanjali graphically describes this state in aphorism 1.41 where the mind is compared to placing a transparent jewel on a colored surface:

४१. क्षीणवृत्तेरभिजातस्येव मणेरग्रहीतृग्रहणग्राह्येषु तत्स्थत-
दञ्जनता समापत्तिः ।

Kṣīṇa-vṛtter abhijātasyeva maṇer grahīṭṛ-
grahaṇa-grāhyeṣu tatstha-tadañjanatā
samāpattiḥ.

क्षीणवृत्तेः of him in whose case the modifications of the mind have been almost annihilated अभिजातस्य of transparent; well-polished इव like मणेः of the jewel or crystal ग्रहीतृ (in) cognizer; subject ग्रहण cognition; the relation between the subject and object ग्राह्येषु (and) cognized objects तत्स्थ on which it rests तदञ्जनता the taking of the form or colour of that समापत्तिः consummation; outcome; fusion.

41. In the case of one whose *Citta-Vṛttis* have been almost annihilated, fusion or entire absorption in one another of the cognizer, cognition and cognized is brought about as in the case of a transparent jewel (resting on a coloured surface).

Samadhi is unlike any other state of mind. The conscious mind is held **in its entirety** in a state of undivided wholeness, engaged on a single task. This is why I claim it is the ultimate use of the mind. There is obviously no equivalent to this in waking consciousness where the mind is divided into thought, perception, emotion, etc. (i.e. is *viksepa*, distracted). There is nothing like samadhi in our normal first-person waking experience. It is only possible to envision the recipe after one has had substantial experience with altered states of consciousness.

Segue to Part 2 of the Recipe

The state of fusion is not static. It is dynamic, like being poised on a razor's edge. It's a tug of war between thinking and perception, between internal and external, between subjective and objective, between observer and observed. The yogi holds the mind in a fragile dynamic balance. At each step it is possible to lose balance and fall out of trance. Thus, constant practice is necessary to master holding each step in

balance. The fused state can either: (1) collapse, lose balance, and go back to the dualistic observer/observed consciousness, or (2) it can go forward into new mental states that can only be accessed from this perch.

Part 2 of the recipe posits that, once the dynamic state of balance of samadhi parinama is achieved, then it is possible for other phenomena to come into play that would otherwise be impossible to access. These states are called ekagrata and nirodhah parinama in the *Yoga Sutras*.

What Happens Inside the State of Samadhi

Part 2 of the recipe is designed to explain **what happens inside** the state of samadhi. In the terms of the *Yoga Sutras*, samprajnata samadhi converts to asamprajnata samadhi by the sequential application of ekagrata and nirodhah parinamas. Here are the steps and the relevant part of the diagram:

5. Repetition of the pratyaya = ekagrata parinama.
6. Dissolve the pratyaya = nirodhah parinama.
7. Disappearance of the pratyaya = the “nir-” states of asamprajnata samadhi.
8. Transferring consciousness to the next deeper level (pratyak cetana).

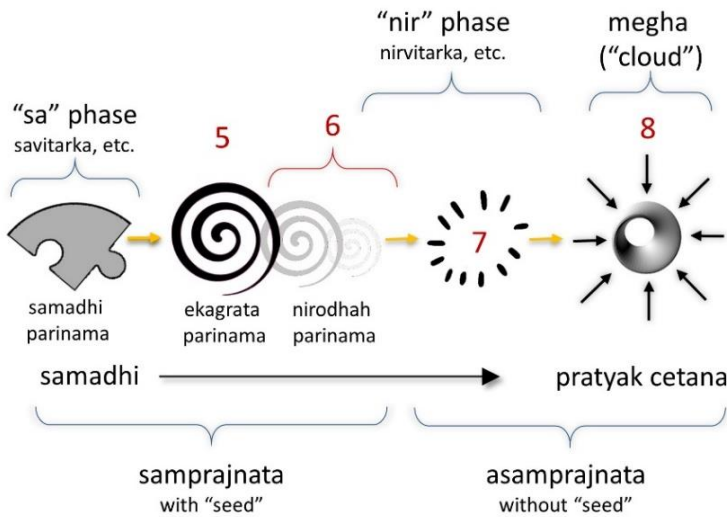


Figure 4: Part 2 of the recipe of samadhi. This covers the samprajnata/asamprajnata transition leading to pratyak cetana and the recession of consciousness through the bindu into deeper layers of consciousness.

Preliminaries for Part 2 of the Recipe

Since Part 2 of the samadhi recipe is based almost exclusively on Taimni’s concept of samadhi let’s review his ideas. Figure 4 is my version of the left half of Taimni’s diagram in Figure 5.

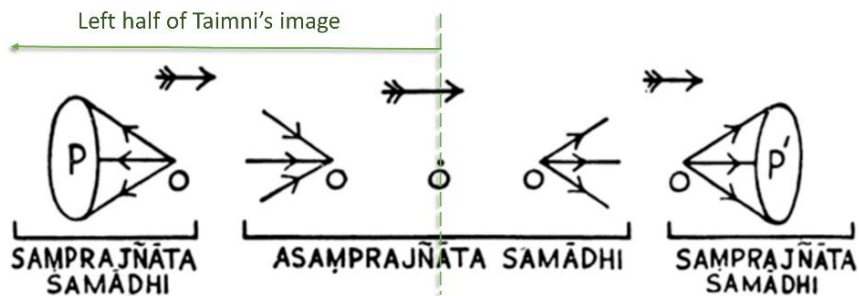


Figure 5: Taimni's depiction of the transfer of consciousness between adjacent "planes" (or phases of the gunas) during samadhi.

Taimni posited that the pratyaya "P" exerts a "magnetic attraction" and holds consciousness in the outward-directed state of paranga cetana. Just to be clear, the pratyaya is not a magnet and the notion is a metaphor. However, we can understand the attractive force and the outward-directedness of paranga cetana by considering ideas put forth by Swami Krishnananda in his magnum opus [The Study and Practice of Yoga](#). Here is an extended version of [his quote](#) I used in [Experience](#):

"When the ultimate cause of a particular experience is discovered, it will be found that the cause lies in the recognition of the Self in the not-Self. This was the definition of avidya given by Patanjali. The atman is seen in the anatman, and then asmita arises. Then there is love for things, and wild impulses arise. So, the rise of an impulse in respect of a pleasurable experience in the world is rooted in an urge towards it, which is raga – which again is rooted in the self-sense or asmita, which again is rooted in the recognition or the vision of the Self in the not-Self. Now, is this a great virtue to see the Self in the not-Self? Is this wisdom? Is this a course of rightful action that has been taken by the mind? Can anyone say that to see the Self in the not-Self is a correct course, a proper course?"

He is clearly referencing the [kleshas](#). But he is also stating the heart of the yogic view of consciousness. What causes the mind, the Cave of Consciousness, to arise from the bindu? Avidya. The [Fall From Grace](#). Avidya is the act of consciousness projecting its property of being (sat of [sat-chit-ananda](#)), its property of "is-ness", into its own images. We referenced this idea way back in [Chapter 2](#) when discussing the Screen of Consciousness. Consciousness projects its "is-ness" into images appearing in consciousness, and then chases after them as if they have their own independent being. It is called chasing after mirages: maya. I will not go into further detail here other than to say this is the root of the magnetic-like attraction that the images in consciousness exert to cause consciousness to assume the outwardly-directed state of paranga cetana (My entire book [Experience](#) is a commentary on this topic).

This binding force needs to be broken, dissipated, and the 2nd part of the recipe of samadhi achieves this effect.

Sidebar: It needs to be pointed out that what I am about to describe is completely dependent on prior success in [yama and niyama](#). Mastery of yama and niyama have led the yogi to a mature state of [vairagya](#), dispassion. Vairagya, at this high level, severely weakens the pull of the pratyaya on consciousness, increasing the effectiveness of the ensuing techniques.

There is another factor we need account for to understand the 2nd part of the samadhi recipe. Chapters 25-28 discussed altered states of consciousness. These discussions culminated in the idea of *the Movement*. This is the ultimate level of perception when in the state of paranga cetana. We see that the very fabric of the cave wall, of the Screen of Consciousness, is but a pulsating something-or-another that we cannot grasp in thought or perception. We concluded that *the Movement* is the very nature of the mind itself. The mind is Proteus: ever-changing, ever-transforming. Always the same because it is always different.

Let's bring this together in a description of the 2nd part of the samadhi recipe

What Happens Inside the State of Samadhi?

We begin at step 4: the entire mind is totally absorbed in samadhi. What happens at this point? The yogi takes advantage of the inherent pulsatile nature of the mind. Instead of allowing it to run willy-nilly and be Proteus and keep transforming into whatever it wants, the yogi holds the entire mind in the form of the pratyaya. The mind pulses only to this pattern. This continuous pulsing of the mind, repeating the pattern of the pratyaya over and over is *ekagrata parinama*. From aphorisms 3.12:

१२. ततः पुनः शान्तोदितौ तुल्यप्रत्ययौ चित्तस्यैकाग्रता-
परिणामः ।

Tataḥ punaḥ śāntoditau tulya-pratyayau
cittasyaikāgratā-pariṇāmaḥ.

ततः then पुनः again शान्त-उदितौ subsided and uprisen तुल्य-
equal; exactly similar प्रत्ययौ cognitions; contents of the mind at
two different moments चित्तस्य of the mind एकाग्रता one-pointed-
ness परिणामः transformation.

Which Taimni translates as:

“Then, again, the condition of the mind in which the ‘object’ (in the mind) which subsides is always exactly similar to the ‘object’ which rises (in the next moment) is called Ekagrata Parinama.”

It is necessary for the yogi to be in the state of ekagrata parinama to discover that the pratyaya arises and dissolves in rapid succession. The image is not present in the mind continuously, but appears, fades, appears, fades, appears, fades, and so on.

Normally we don't see the mind doing this. First we are too preoccupied with the various waves—vrittis—rising and subsiding in the mind. Second, even if we stop to introspect, the transitions from one vritti to the next is too subtle to perceive. In the waking state, the transformations appear continuous to us. However, in the unified state of samadhi, it is possible to see the pratyaya go up and down like a wave on the water, so to speak. To see the mind go round and round and keep reforming the same pattern over and over. The wave like motion of the mind is illustrated below in Figure 6.

In passing I note the possible relevance of the 40 Hz [gamma oscillations](#) of the brain that are currently much studied in the neurosciences. The gamma oscillations detected by EEG may be biological correlates of what yogis identified millennia ago as ekagrata parinama. Or they may not. I'm just throwing this out there.

Nirodhah Parinama

The state of ekagrata parinama provides the path to the next, and most critical stage. The yogi realizes that there are two things going on with the pratyaya in ekagrata parinama. The pratyaya cycles through two phases: it arises and appears, then it fades. Like waves on the water: appear, fade, appear, fade, and so on. It is realized there is a moment between the fading of the previous image, and the appearance of the next. This moment, when the mind is blank, is called **nirodha-ksana** in aphorism 3.9:

६. व्युत्थाननिरोधसंस्कारयोरभिभवप्रादुर्भावौ निरोध-
क्षणचित्तान्वयो निरोधपरिणामः ।

Vyutthāna-nirodha-saṃskārayor abhibhava-prāḍurbhāvau nirodha-kṣaṇa-cittānvayo nirodha-pariṇāmaḥ.

व्युत्थान outgoing; (that which is to disappear) निरोध incoming; (that which is opposing the outgoing impression) संस्कारयोः of the impressions अभिभव suppression; becoming latent प्रादुर्भावौ appearance निरोधक्षण (the unmodified state of the mind at) the moment of suppression चित्त mind अन्वयः permeation; pervasion निरोध suppression परिणामः transformation.

Taimni's translation is:

“Nirodha Parinama is that transformation of the mind in which it becomes progressively permeated by that condition of Nirodha which intervenes momentarily between an impression which is disappearing and the impression which is taking its place.”

Strange as this sounds, I have experienced this pulsating phenomena when inebriated with psychedelics. This was described in excruciating detail in Chapter 13 of *Beyond The Physical*, where there it was called a “lock-mold”. All I will say here is that I think what I experienced was a cruder version of what Patanjali describes in aphorism 3.9.

Aphorism 3.9 instructs the yogi to shift focus from the “appear” phase to the “fade” phase. Taimni’s description of nirodhah parinama explains perfectly well:

“We have seen that Nirodha is that momentary unmodified state of the mind which intervenes when one impression which holds the field of consciousness is replaced by another impression. The impression which holds the field of consciousness is called Vyutthana Samskara and the impression which opposes or tries to replace the Vyutthana Samskara is called Nirodha samskara in this Sutra. Between two successive impressions there must be a momentary state in which the mind has no impression at all or is present in an unmodified condition. The object of Nirodha Parinama is to produce at will this momentary state and gradually extend it, so that the mind can exist for a considerable duration in this unmodified state.”

Thus is nirodhah parinama. It is the key to the whole enterprise. To repeat Taimni:

“The object of nirodhah parinama is to produce at will this momentary unmodified state of the mind and gradually extend it, so that the mind can exist for a considerable duration in this unmodified state.”

What is the definition of yoga? **Chitta vritti nirodhah**. Patanjali wasn’t kidding.

The culmination of the yoga techniques is to cause the mind to exist in an unmodified state. Like a perfectly calm body of water with no waves in it. No vrittis. Success with nirodhah parinama will extend the duration the mind is in the unmodified state, until this becomes the sustained state.

It is like a phase shift. Instead of 99% of the time having the pratyaya appear, and 1% of the time having it fade then reappear, the phase of the wave is shifted so that 99% of the time the in-between state occurs, and 1% of the time the pratyaya is present. Then, the duration of the pratyaya phase is minimized as far as possible so that there is only a (seemingly) continuous presence of the mind in an unmodified state. Chitta vritti nirodhah indeed!

Ekagrata and nirodhah parinamas are key advanced yoga techniques. To help clarify what is being said, I illustrated the concepts in Figure 6. Samadhi parinama “traps” the Protean nature of the mind and holds it in a cycle where only the same pratyaya is allowed to arise in consciousness. When the yogi can hold this state for an arbitrary duration, it becomes ekagrata parinama. Ekagrata parinama is the state where the mind cycles again and again through the same pratyaya. I illustrated this

with the green sine wave (far left of each panel). The troughs of the green sine wave are colored red to represent nirodhah-ksana, the duration where the mind is in the unmodified state.

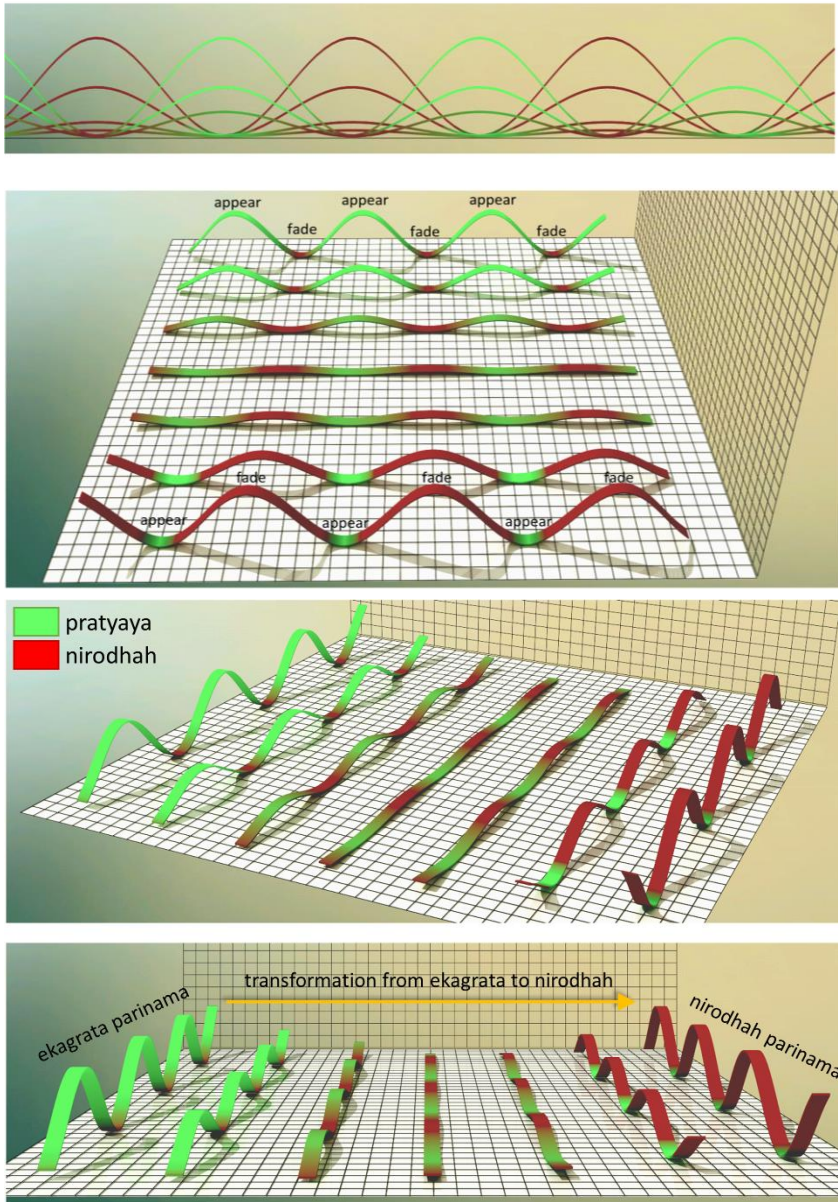


Figure 6: Illustration of ekagrata and nirodhah parinamas and how the yogi transitions from ekagrata to nirodhah parinama by phase shifting from one to the other. All four panels are different views of the same figure.

Figure 6 also illustrates (1) the transition from ekagrata to nirodhah parinama, and (2) the final state of nirodhah parinama. The sine waves from left to right show a progressive decrease in the green portion of the wave, which is the duration of the pratyaya, and a progressive increase in the red portion, which is the duration of nirodhah-ksana. This illustrates precisely what Taimni's quote above describes about how the yogi extends the duration of nirodhah-ksana and shortens the duration the pratyaya fills consciousness. When the duration of nirodhah-ksana dominates the cycle, the yogi is now performing nirodhah parinama.

(The change in the amplitude of the waves is artistic license, and I do not know if it corresponds to anything in yoga, but it does make the image less cluttered).

The Consequence of the Nirodhah State: Pratyak Cetana

The culmination of nirodhah parinama is to cause the mind to exist in an unmodified state. At this point, the pratyaya has dissolved. It is, for all practical purposes, gone. Then also the person dissolves because the person had fully identified with the pratyaya. Then the outward magnetic attraction is gone, dissipated. Sat, the being of consciousness, no longer sees itself in the mirror image of the pratyaya. There is nothing to hold consciousness in an expansive condition. This is the "nir-" version of samadhi: nirvitarka, nirvicara, and so on. This is asamprajnata samadhi. There is no "seed", no pratyaya. It is a dynamic, unstable state because the tendency now is for consciousness to collapse in on itself. Inwardly-directed consciousness: pratyak cetana. This is the state of the "cloud" the megha state described in yoga.

This is the bindu phenomena: consciousness collapsing in on itself. Like a black hole. Just as described by van der Leeuw and D.M. Turner. The mind becomes a singularity: the bindu. The collapse draws consciousness through the singularity, and it finds itself somewhere else. This is the "quantum jump" effected by the bindu, what Patanjali called asamprajnata samadhi.

This is when the [Möbius strip-like property of consciousness](#) comes into play. Consciousness seems to have two sides: subjective and objective; externalized and internal. But it only has one side: being. The polarization of being into these two aspects is made so stark because the forces of viksepa maintain the mind in the puffed up, expansive state of paranga cetana. These "forces" become suspended during nirodhah parinama, allowing consciousness to "slip" or "sink" in the other seeming-direction. It goes inward: pratyak cetana.

Summary

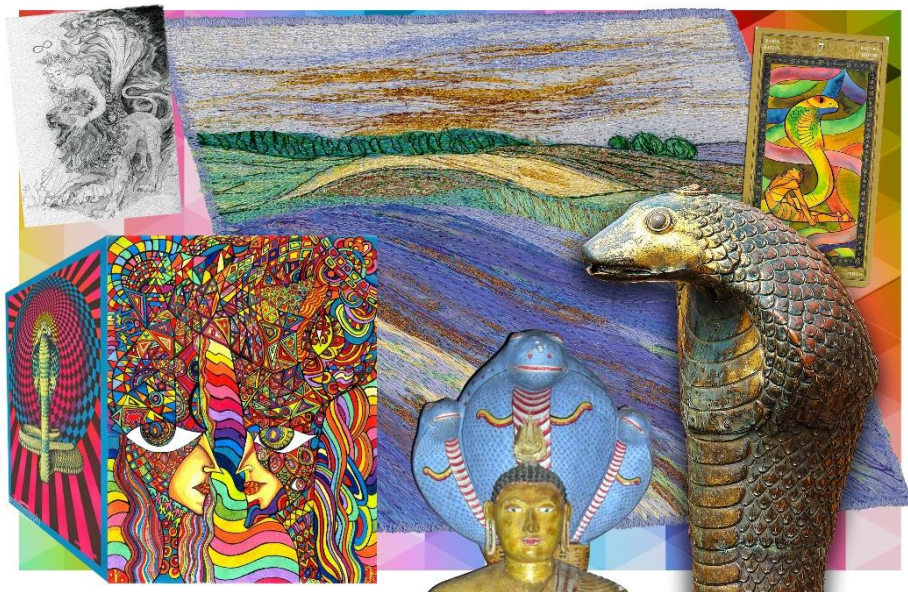
There you go, a possible recipe for samadhi. It's not easy to understand (what? did you think it would be?!). It draws on math concepts, yoga concepts, and concepts about human psychology that are not common knowledge. Most important, the recipe draws on experiences of altered states which are also not common knowledge. But the altered states aspect is crucial. Samadhi *is* an altered state of consciousness. The main supposition of the above recipe is that samadhi utilizes several "fringe" natural abilities of our mind, refines them, trains them, and generates something

along the lines described above. But yoga goes far beyond the natural ingredients. Yoga developed mental disciplines and additional methods that result in emergent phenomena that are inaccessible from outside of samadhi.

To summarize, the whole point of samadhi is to be able to move voluntarily through different states of consciousness. I previously said samadhi was like a general purpose computer that can run any program. Specifically this means that samadhi is a general purpose method to achieve any possible state of consciousness. Samadhi is a “meta” state of consciousness that allows access to any state of consciousness. We did not above discuss *where* samadhi can take us. Nonetheless, we’ve spent the previous 30 chapters giving some indication of where samadhi can take us. The states of consciousness accessible via samadhi far transcend what we, in our barbarian outlook, consider to be individual minds.

In the next chapter, we discuss how the pratyaya contains information, called “artha” in the *Yoga Sutras*. This is intimately related to the word I made up: cogtransper. The main goal will be to put a bow tie around the main themes of this book and wrap things up.

32: Reflections on Samadhi



Here we tie up loose ends. The samadhi recipe is capped off by a discussion of how sabda, jnana, and artha fit in. Leibniz was right that we perceive everything all the time. I throw in some snakes eating their tails for colorful effect.

Pre-Stuff

We are now at the penultimate chapter of the book. I wish here to tie up loose ends. The first part of the book discussed the Absolute and the mystery of the One and the Many. The middle part of the book discussed memory. How do these topics link to the methods of yoga summarized in the last part of this book?

I will say up-front that addressing these issues puts me at the edge of my understanding. I will present a rough sketch of an answer. Please don't expect my wrap-up to look like a perfect Christmas present. Instead, it will look more like a shoddily wrapped one. But it's the thought that counts, right?



Critique of the Samadhi Recipe

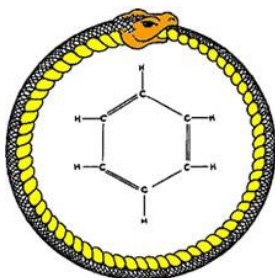
There are many possible critiques of the samadhi recipe presented last chapter. I wish to focus only on one here, which was my invocation of **cogtransperation** as an ingredient of samadhi. To briefly recap: cogtransperation is the transformation of the pratyaya from a thought in the mind of the yogi to an externalized hypnagogic perception. Cogtransperation, I contend, is part of the shift from dhyana to samadhi. I posited cogtransperation as a part of antaranga because you can't fuse an observer and observed unless the observer is observing something.

However, we can get a similar effect without invoking hypnagogia. Perhaps the observer merely fuses with the thought in the yogi's mind. Why invoke hypnagogia? I mentioned in passing last chapter that it was related to sabda, jnana, and artha. We get into this by way of an example that will make it easier to understand my position.

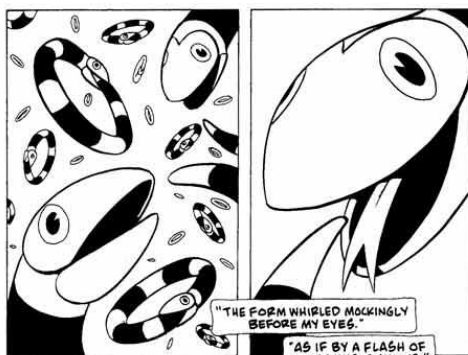
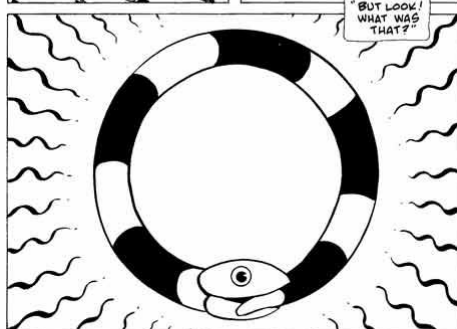
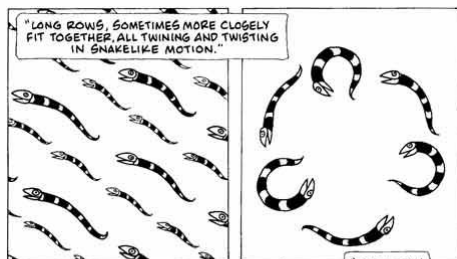
Kekulé and Benzene

It is generally well-known how, in the 1860s, [August Kekulé](#) realized the circular structure of benzene in a "vision". Mavromatis' book [Hypnagogia](#) is where I read Kekulé's [first-hand account](#):

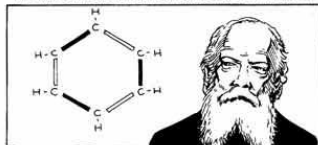
"I was sitting writing at my textbook but the work did not progress; my thoughts were elsewhere. I turned my chair to the fire and dozed. Again the atoms were gambolling before my eyes. This time the smaller groups kept modestly in the background. My mental eye, rendered more acute by the repeated visions of the kind, could now distinguish larger structures of manifold conformation: long rows, sometimes more closely fitted together all twining and twisting in snake like motion. But look! What was that? One of the snakes had seized hold of its own tail, and the form whirled mockingly before my eyes. As if by a flash of lightning I awoke; and this time also I spent the rest of the night in working out the rest of the hypothesis. Let us learn to dream, gentlemen, then perhaps we shall find the truth... But let us beware of publishing our dreams till they have been tested by waking understanding."



Here is a [comic book version](#) by [Rick Veitch](#) for the visualization-impaired among you:



"THIS DREAM HAD REVEALED TO ME THE TRUTH ABOUT BENZENE'S STRUCTURE."



DREAM COMICS BY
 RICK VEITCH AT:
 WWW.COMICON.COM
 OR: PO BOX 1311
 WEST TOWNSHEND
 VT 05359

SCIENCE COMICS BY
 JIM OTTANIANI + FRIENDS
 AT: WWW.GT-LABS.COM
 OR: PO BOX 8145
 ANN ARBOR
 MI 48107

FOR MORE ABOUT FRIEDRICH AUGUST VON KEKULE, READ
 ALEXANDER FINLAY'S 'A HUNDRED YEARS OF CHEMISTRY',
 (FOR KEKULE'S ORIGINAL QUOTES) AND ARTHUR KOESTLER'S
 'THE ACT OF CREATION' (WHERE HE CALLS KEKULE'S
 'MIDNIGHT RAMBLE' THE MOST IMPORTANT DREAM IN
 HISTORY SINCE JOSEPH'S SEVEN FAT AND SEVEN LEAN COWS.)



Although Kekulé advises us to dream, he was a chemist, not a psychologist. Mavromatis makes the case that Kekulé was not dreaming but was having a hypnagogic experience. We get from Kekulé's quote that he dozed in his chair, not that he went to bed and fell asleep for an extended duration. I previously stated we are in NREM for the first 40-50 minutes upon falling asleep, and hypnagogia is associated with stage 2 NREM. If Kekulé's visions appeared soon after dozing, then he was certainly experiencing hypnagogia. Further, his description is more consistent with hypnagogia. He was watching the perceptions as if from outside them. The perceptions were not embedded in any kind of environment. These are characteristics of hypnagogia, not nonlucid dreams. This is Mavromatis' argument and I agree with it.

Kekulé as Cogtransperation

We see in Kekulé an example of cogtransperation. Kekulé was obsessed with solving the structure of benzene. The thought of it filled his mind, not in a superficial manner, but deeply. He worked day-in and day-out on this problem over an extended period. In this, his extreme mental focus was analogous to a pratyaya in yoga.

The intellectual conundrum he was faced with was this: Everyone knew that carbon atoms make four bonds. But in benzene, the proportion of carbon to hydrogen indicated that carbon was only making three bonds. The question was: what possible structure could have these proportions? The answer that came from his vision is shown in the images above: a ring with what today are called [conjugated double bonds](#).

We see in Kekulé's example: (1) extreme focus on a thought in the mind, (2) a cogtransperative event, where the thought transforms into an externalized perception, in this case hypnagogia, and (3) an advance in the mental understanding, commonly called a "solution" of the problem. Or stated succinctly: thought → perception → refined thought. [Other examples](#) of successful "problem solving" in sleep mental states are also known. We can understand all this in terms of the yogic theory of knowledge.

Sabda, Jnana, and Artha

Patanjali gives a simple but highly effective theory of knowledge in the *Yoga Sutras*. Aphorism 1.42 defines sabda, jnana, and artha as categories of knowledge (discussed in [Part 4](#) of [What is Science?](#)). He then applies this theory to explain the aim of samadhi in aphorism 1.43.

For a bunch of translations, as usual, see the [Yoga Sutra Study web site](#). Instead of listing translations, let's cut to the chase of what's being said. 1.42 says that the state of being ("sa") vitarka is characterized by the indiscriminate mixing of sabda, jnana, and artha. Let's review these terms.

Sabda means "sound" and refers to the words and symbols we use to label things. Sabda is, even in everyday life, expendable. We can call a cat a cat, a tac, a

४२. तत्र शब्दार्थज्ञानविकल्पैः संकीर्णा सवितर्का ।

Tatra śabdārtha-jñāna-vikalpaiḥ saṅ-
kīrṇā savitarkā.

तत्र there; in it शब्द (with) word अर्थ real meaning; true knowl-
edge of the object which the *Togi* wants ज्ञान ordinary knowledge
based on sense perceptions and reasoning विकल्पैः (and) alternation
between different alternatives owing to doubt or uncertainty संकीर्णा
mixed up; confused; unresolved; involved सवितर्का a state of *Samā-*
dhi characterized by *Vitarka* (see I-17 and II-19).

Aphorism 1.42

४३. स्मृतिपरिशुद्धौ स्वरूपशून्येवार्थमात्रनिर्भासा निर्वितर्का ।

Smṛti-pariśuddhau svarūpa-śūnyevārtha-
mātra-nirbhāsā nirvitarkā.

स्मृति (of) memory परिशुद्धौ on clarification स्वरूप own form;
essential nature; self-awareness शून्य devoid (of) इव as if अर्थ-
object; real meaning; true knowledge of the object मात्र- only
निर्भासा presenting; shining (with); appearing (as) निर्वितर्का a state
of *Samādhi* characterized by absence of *Vitarka*.

Aphorism 1.43

goveybrooker, whatever. Things are what they are no matter what words we associate with them. Sabda is arbitrary symbolic representation and is, in general, fundamentally unrelated to the true nature of things.

Jnana is our sensory-based perception of things. Jnana requires the mind as a middle man to interpret our sensory perceptions, and so Kant's dilemma comes into play. What guarantee do we have that our perceptions reflect the truth of the perceived? We know that a thing and our perception of it are not identical. For example, we have no senses to perceive the infrared radiation emitted by all things. This is just one example. I'm sure you can think of a million more. Jnana, as I'll define below, is an *encoding* of the artha of things.

Artha is the essence, the true meaning of a thing. The artha of a thing is its **svarupa**. **Sva** is a very important word in yoga and Hinduism, but there is no direct English translation. Different phrases capture facets of the meaning of *sva*: "self-willed", "self-determined", "self-contained", "not caused by an outside influence", "internally caused", "self-caused". "Rupa" means form, shape, body. Thus, *svarupa* means something like "*the intrinsic truth of a thing*". The closest term in Western culture (note I did *not* say "English language") that translates *svarupa* is Kant's term "das ding an sich" or in English, the thing-in-itself.

Kant asserted that the thing-in-itself is inaccessible to our understanding. We can only know what is in our mind, so how can we know what a thing is outside of our mind? The case seems cut and dry in Kant's favor. However, Patanjali tells us

we **can** access the svarupa, the artha, the “thing-in-itself”. Aphorism 1.43 tells us how. The method is called **smriti-parishuddhau**. This translates as “purification of memory”. But what does this mean? How can purifying memory allow us to see the true nature of things?

As a first pass, we already saw how with the Kekulé example above. Let’s apply the yogic theory of knowledge to the Kekulé example to illustrate what I mean.

Kekulé Interpreted from the Yogic Standpoint

We already outlined the essentials. The problem of benzene is analogous to a pratyaya. Intense focus on the problem led to a cogtransperation event: the hypnagogic perception of the ennie weenies forming a circle. Thereby new truth, artha, was released. We see here a natural and spontaneous case of cogtransperation. Using the logic of [Chapter 30](#), this natural phenomenon can serve as an ingredient exploited in samadhi. We have this transformation:

sabda (thought) → jnana (the hypnagogia) → artha (new truth).

What caused this transformation? Smriti-parishuddhau; purified memory. The intense focus on the problem by Kekulé *is* the act of clarifying memory. All other considerations took backseat in Kekulé’s mind. Of course, he was not doing yoga, and so the process is not a complete purification of memory. But I am suggesting that Kekulé’s state of mind begins to approximate smriti-parishuddhau.

Then, with memory “cleaned out”, so to speak, the stage was set to allow the *spontaneous* appearance in the mind of an externalized hypnagogic perception, of artha. What’s happening behind the scene at this stage is complicated and we tackle it in the next section.

Kekulé obviously did not fuse with the perceptions. That is, the Kekulé example is not true samadhi parinama. But he was able to advance his insight about the true nature (svarupa) of the object of concentration. In Kekulé’s case, artha fed back to sabda and led to a scientific advance in our understanding of how carbon bonds work. Kekulé did not get the whole picture. His sabda framework went as far as was possible at the time (inventing the idea that each atoms could form a [fixed number of bonds](#)), but could not accommodate all the possible implications.

However, in the ensuing 75 years, it was realized how amazingly deep and fruitful the insight was. A conjugated double bond is an example of a [pi-orbital](#), which is a construct from quantum mechanics that reflects the harmonic (i.e. spectral, harkening back to [Chapter 16](#)) structure of atoms. Thus, quantum mechanics was *implied* in Kekulé’s discovery.

This is how artha works. It is *generative*; it has consequences. Scientists naively think of it in terms that a theory should make “predictions”. But this is the wrong way to think about it. What is happening is that the artha of one thing bleeds into everything else. Thereby, real artha should be generative and lead to additional truths that branch off from the starting point. It is not prediction. It is *revelation* of how all things are interconnected in Manifestation.

We can understand this best by returning to Leibniz’ insight about “confused feelings.” His idea explains what is going on here.

Jnana is an Encoding of Artha

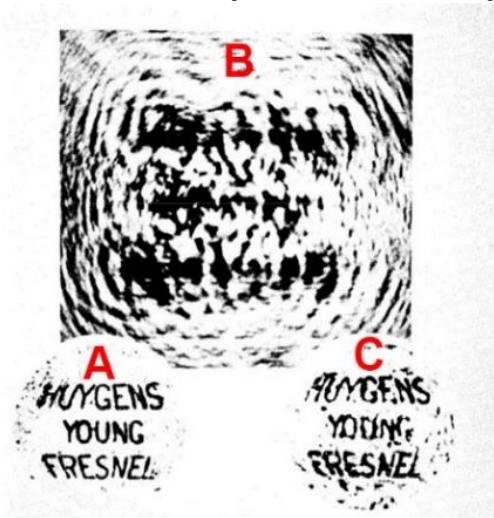
In [Chapter 21](#) I asserted that Leibniz gave us the ultimate definition of the unconscious mind. Let me remind you:

“We can also see that the perceptions of our senses, even when they are vivid, must necessarily contain some confused feeling. For since all the bodies in the universe are in sympathy, our body receives the impressions of all the others, and although our senses are related to everything, our soul cannot possibly attend to each particular thing. Thus our confused feelings result from a downright infinite jumble of perceptions.”

He is clearly discussing the link between our conscious sensory perceptions, and the meaning or understanding in our mind. The meaning is the artha. It does not matter how we symbolically dress it (e.g. the sabda is arbitrary): the truth is what it is irrespective of how we represent it.

Recall we linked Leibniz’ idea to the yogic idea that all of Manifestation is one vast interconnected network ([Chapter 18](#)). Thereby, every manifest thing is related to all other manifest things. Therefore, it follows that any relative perception must somehow encode all the rest of Manifestation.

If you have a hard time with this idea, let’s do a metaphor that gives a sense of how this might work. Look at how a hologram is stored in a holographic plate:



This was the first-ever holographic recording from [Gabor](#), the inventor of holography. The original object is (A). The holographic recording (B) is an encoding of the original object. Decoding the holographic recording gives us (C). The main point is that the holographic recording **appears totally different** from the object.

Here is the analogy. (B) is our perception of externals. (A) is the thing-in-itself, the artha. (C) is what we strive to achieve, which is to understand the true nature (artha) of what we perceive.

Our perceptions correspond to the encoding. Until Kant, people just assumed that what we perceived (B) is the thing-in-itself (A). Kant disabused us of this falsehood. In general, we have no idea what (A) is. Given that the mind is always interposed between perception and understanding, Kant made abundantly clear that we **cannot** assume that our understanding (C), based on perception [(B) the phenomena] is identical to the truth of the thing-in-itself [(A), the artha or noumena].

This is where Weyl comes in.

Mathematics and Artha

There is another aspect of the holograph analogy that is important. The relationship between (A) and (B) is neither arbitrary nor random. There is a strict mathematical relationship between the holographic recording and the original object. The forward application of the math converts the object (A) to the encoding (B). The backward application of the math recreates the original (C) from the encoding (B). This brings us back to Wyle's definition of mathematics as a way to probe the noumena. Please recall his words:

“The real world is not a thing founded in itself, that can in a significant manner be established as an independent existence. Recognition of the world...cannot, as metaphysics and theology have repeatedly attempted, be achieved by cognitions crystallizing into separate judgments that have an independent meaning and assert definite facts. It can be gained only by symbolical construction.”

The hologram metaphor illustrates his point quite nicely. Let's translate his quote into yogic terms. He is saying that sabda, mere words and their meanings (the stock of metaphysicians and theologians), cannot capture the noumena, the artha. But for some reason, mathematical constructions can. Why?

Mathematics reveals necessities that transcend arbitrary associations. This necessity we may associate with artha, the true nature of things. Necessity means: how could it be otherwise? $1 + 1$ is 2. The diagonal of a square is an irrational number. There is no alternative. The symbols we use to depict these truths are arbitrary, but the truths represented by the symbols are not.

Alister Crowley said “Truth is only possible in mathematics, but mathematics is a matter of arbitrary convention”. His insinuation is simply wrong. $1+1 = 2$ appears arbitrary if one focuses only on the symbolic expression but ignores the meaning. My point is clearer if we consider a statement like $e^{\pi i} = -1$. This statement is simply true, regardless of the symbols we use to express it. Of course, some symbol systems facilitate expression of truth better than others (hence the notations of math that have accumulated over the centuries). But this is secondary to my main point.

The point is, as Weyl often said, mathematics is the “construction of the possible”. What is possible is artha, truth. Further, Weyl often defined math as (I paraphrase) “freedom and necessity at the juncture of the finite and the infinite”. The link between finite and infinite we tackle in the next section. Here we are focused on the necessity aspect.

Sitting between sabda and artha is jnana, the world as it appears to us. Jnana appears to be a strange mix of contingency and necessity, a dualism [identified long ago](#) in Western philosophy. Why are some things more or less obviously true while others seem random and arbitrary? We saw how Weyl bottomed out at this dualism:

“...the luminous ego...which here asks in despair for an answer, with the dark, erring human being that is cast out into an individual fate.”

It is beyond me why Weyl did not see that Leibniz answered this cry of despair. I repeat:

“We can also see that the perceptions of our senses, even when they are vivid, must necessarily contain some confused feeling. For since all the bodies in the universe are in sympathy, our body receives the impressions of all the others, and although our senses are related to everything, our soul cannot possibly attend to each particular thing. Thus our confused feelings result from a downright infinite jumble of perceptions.”

The contingent is Leibniz' "confused feelings". They are confused precisely because we do not see the necessity.

Puzzle Pieces

The yogic view of consciousness reconciles Leibniz' “confused feelings” with Weyl's melodramatic expression of the classical problem of contingency and necessity, and in doing so even provides us with a new definition of “random”. We get a [twofer](#) for our efforts.

We have seen how the yogic view of consciousness portrays our minds as a balloon which only has an inside. The balloon is filled with the light of consciousness via the bindu. The balloon is also filled with strange exotic stuff, most of which we are too primitive to describe with words and symbols (e.g. go back to Chapters [26](#) and [27](#) to review the unnamed stuff underneath our surface minds). Although we can't name specifics, we can generically call all this stuff *gunas*: movement.

This can be understood with a stupidly simple metaphor: puzzle pieces. Each mind is a puzzle piece. When one is trapped on the surface of consciousness, one sees only their own puzzle piece. All the other minds, all the other puzzle pieces, are represented incompletely, not only because jnana is an incomplete representation of artha, but because the sabda most people use to describe their jnana has no factual relationship to the artha encoded in the jnana (if you get *that*, you are really following along!).

It's an important point, so I will translate that last sentence. We see only the screen of our own consciousness. The sensory things we see there (jnana) are encodings of the true nature of things (artha). But we established above (the infrared example) that sensory encodings only partially reveal or represent the truth (artha) of a thing. Further, we give names (sabda) to the things we sense. But these names mostly have nothing to do with the true nature (artha) of the things (cat tac example). Therefore, our view of the world, our own individual puzzle piece, shows us the whole rest of the puzzle exactly as Leibniz specified: confusedly.

So, even though all minds are hooked in a single network (i.e. the puzzle as a whole), this is mostly inaccessible to a single mind (puzzle piece). When seen from the point of view of an individual mind, the remainder of the puzzle is “*a downright infinite jumble of perceptions*”. The inability to comprehend the meaning of what is not-self leads us to conclude the not-self is random, that it is an arbitrary jumble of stuff, or in other words, is contingent.

But if one could somehow see the whole puzzle, it would be seen that **it is all necessary**. Contingency, ultimately, is due to our misperceptions and misconstruals of the whole. The inability to see the whole is contingency. Contingency, ultimately, is just another word for randomness. That's our twofer: randomness is the interpretation of the not-self from within an individual mind. Take that, you mathematicians!

We perceive this randomness as spontaneity. Some call it creativity. Others call it unpredictability. Think radioactive decay. This relates to the ungraspable nature of **the Movement**, the bottom-out perception of paranga cetana. What **the Movement** reveals is our inability to grasp the whole from within our relative minds. **The Movement** is the *effect* of the whole as it impacts an individual puzzle piece. It seems random, creative, spontaneous, unpredictable, contingent. We see our ignorance. In this way, paranga cetana, being in an individual mind, is the opposite of Kaivalya. The Hindu Rishis, including Patanjali, called this condition *avidya*.

Taking it back to Smriti-Parishuddhau

So let's see if I can wrap this up into an at least shoddily-wrapped gift. I talked above about how smriti-parishuddhau is a “clearing of the stage”. By this I mean that the screen of consciousness, the conscious mind, is emptied of everything except the pratyaya. That is what happens between bahiranga and dhyana. Also, don't forget yama and niyama. They play, at this stage, a critical role in cleansing the unconscious patterns, [the kleshas](#). These are minimized, if not actually eliminated, by processes many commentators liken to burning seeds to kill their generative power (e.g. [aphorism 2.10](#)).

Thus, “purification of memory” can be likened to the single puzzle piece becoming empty but for the pratyaya. Thereby, the remainder of the puzzle (e.g. all the rest of Manifestation) is focused into that single puzzle piece (e.g. the individual mind absorbed in the pratyaya) and is not distorted by the contents in the Cave of Consciousness. The mind can cleanly reflect the remainder.



We see the World incompletely when trapped in surface consciousness. Therefore the World mostly appears contingent and random, spontaneous and unpredictable to us.

The mind of the yogi in samadhi becomes like a clean, sharp lens that can focus the remainder of the whole puzzle. The entirety of Manifestation, which seemed random and contingent, now becomes the net force shaping the mind of the yogi in samadhi. There is but the single thought, the pratyaya, serving as a lens or a sieve for the remainder of Manifestation.

Now here's the punch-line I've been building to: When cogtransperation occurs, the external that forms is **not** a result of the will of the yogi. It is a result of the spontaneous manner in which the remainder, the entire rest of Manifestation, focuses through the pratyaya. The external that appears is the "answer", the "solution", but more precisely, it is the **inverse** of the pratyaya. Since Manifestation is a network of relativity, **each thing is defined only in terms of what it is not**. Then, the "not" channels through the pratyaya, shaping it into an externalized form. This is how samadhi allows access to the artha of the pratyaya. The pratyaya has no independent "svarupa". Its intrinsic meaning is how all the rest of Manifestation converges through it.

Swami Krishnananda said it [like this](#):

"...in a world of relativity...everything is determined by everything else, so that nothing can be known absolutely. We are caught up in a peculiar difficulty in the understanding of the essential nature of any object in this world on account of the relatedness of this object to everything else in this world, so that we cannot know anything unless we know all things."

Thus, the artha of the pratyaya is, in this sense, everything that it is **not**.



In the World of the Relative, a thing is defined by what it is not. A puzzle piece makes sense only in relation to the remainder. The remainder of Manifestation converges to “mold” each thing. Outside of samadhi, each thing has a svarupa, a self-determined individuality (ahamkara), pushing on the whole. The yogi’s ahamkara is eliminated in samadhi, allowing the remainder to come through. This is also one way to read what Leibniz was trying to say in his Monadology.

The Kekulé example is a feeble instance of this “inverted focusing”. Kekulé’s memory was not fully “purified”. But it was cleaned off enough that the external imagery that formed was at least a partial “solution” to the pratyaya on which Kekulé was focused. He “brought through” enough of the inverted image of all the rest of manifestation to extend the scope of conscious understanding.

Separating jnana from artha is not a one-shot deal. Patanjali describes four levels of it: vitarka, vicara, ananda, and asmita. It is a sequential peeling back of the layers until there is nothing left. When nothing is left, this is nirbija. Successfully peeling back all the layers is the process of both dropping and climbing down the ladder to the bottom of the cave of consciousness. This is pratiprasava, the recession of the effects into the causes.

The pratyaya at all its levels must be dissolved (nirodhah parinama) before the magnetic attraction of paranga cetana is fully eliminated. Eliminating it at vitarka grants access to vicara. Eliminating it at vicara grants access to ananda. Eliminating it at ananda grants access to asmita. After eliminating the pratyaya at asmita consciousness, only then is the doorway to Kaivalya accessible. Only then does consciousness go all black hole and collapse to the Absolute, to Kaivalya.

“... As this happened the whole concept of my existence as a particular person seemed quite ludicrous and artificial. With this perception it seemed as though the universe had collapsed and turned inside out. And the concept that I had an identity as a particular human being, or even that “I” existed, was entirely pulled out from beneath my feet...”

The Gunas

I'd like to generalize a little beyond "puzzle pieces". What I am about to say constitutes another rough sketch of ideas. The "stuff" of Manifestation is the gunas, patterns and flows of energy that, broadly speaking, can all be construed as *memories*.

The West is at an impasse today as to what constitutes the World. Idealism claims it is mind, physicalism claims it is something outside of, yet not independent of the mind. Samkhya offers a third alternative in the notion of gunas. The gunas are what both mind and the World are made of. Western authors (mostly on the Humanities side of the two-culture divide) have tried to shoehorn the gunas into either idealism or physicalism, but in doing so fail to recognize that the gunas idea is broader in scope than either.

We have repeatedly used Weyl's notion that the world described by science is not made of *stuff*, but is made of mathematical patterns. But what are mathematical patterns? They seem to be purely mental constructs, yet they describe non-mental things. We can transcend this apparent dualism by recognizing that math too is a form of the gunas. Thus, the world is made of gunas, the mind is made of gunas, and math is made of gunas. Therefore it is no surprise that mathematics can link the mind to the World.

But then this begs the question: what are the gunas?

The gunas are patterns of change. They have no substance. In a sense, no reality. They are dynamics. They are the embodiment of constant change. They are the flow of a river, the passing of the clouds. The wind blowing the grass. The falling rain. The growing flowers. The flow of the planets in their trajectories. The spiraling of galaxies. The flow of words and ideas in the mind. Our birth, growth, and decay. They are the flow of our life and experience. They are the flow of dreams, of actions, of will. They are the relentless flow of the illustrious inner worlds that we have no words at the moment to describe. The gunas are movement. Energy is motion. No body, no substance, only form, pattern, always moving, ever-changing.

These patterns we can capture, at least to some extent, in our language of mathematics. Math formulas are little programs or algorithms that encode in a very efficient manner, a domain or realm of infinity. Our hologram example above, coupled with Leibniz' very deep insight, construes our perceptions as encodings of Kant's noumena. The West has certainly not yet learned the algorithms for efficiently decoding perception. Science is our best answer to date, but it runs on trial and error. Patanjali's Raja yoga offers another means of decoding perception. All of this comes back to the gunas: patterns of flow. The patterns are encoded, or they are decoded, or they are manifest, or they are latent.

In some sense I am not able to fully articulate yet, the gunas, as encodings and decodings, are memories. It is a key insight because it reconciles the dualism of idealism and physicalism/materialism. Both are concerned with memories, just at different levels of Manifestation.

Idealism is the focus on the flows in the mind. Any such pattern is a memory, a

template for interpretation, perception, thought, action, and so on. Physicalism focuses on flows presented to the senses. But physicalism relies exclusively on mathematics to provide a template for interpreting the flows perceptible via the senses. This was Galileo's gift to the world (sciences not yet up to the task of applying this approach are not yet real sciences. They are just [encyclopedists](#) pretending to be scientists...Hello, sabda-biology.).

But mathematics are just flows in the mind. How? They look like static formulas. But they are not. As Weyl liked to point out, even the simple act of counting is *generative*. The finite formula is a machine to generate a little seeming infinity. Generative in the sense above: it spills out necessity in some limited domain. In turn, the limited domain branches out to other such islands, mimicking in "the parallel cerebral process in symbols" what the noumena does in the unified network of manifestation.

Counting is the memory of all possible numbers. $y = mx + b$ is the memory of all possible lines. They are not static, but generative. In this way, physicalism is as much in the mind as is idealism. The idealists dropped the ball when they conceded to the young usurper science. At least Weyl straddled both worlds and could see the connections I am discussing here.

In short, physicalism and idealism are not so different after all. As I said way back in [Chapter 3](#), each merely focuses on and emphasizes different shadows on the Plato's cave wall, on the Screen of Consciousness.

Samkhya, yoga, and Hinduism have already solved this problem with the concept of gunas. The concept helps us focus what we already intimately know, because it is the stuff of both the mind and the world. This is a place where sabda matters. The framework of symbolic expression can aid or hinder the expression of artha. The scope of the idealistic and physicalist frameworks hinder the flow of artha. The Samkhya vocabulary facilitates it at an intellectual level. Yoga facilitates it as a living reality.

Yoga answers the riddle of idealism/physicalism far more effectively than our confused Western sciences and philosophies. The objective world is Kaivalya. But it does not exist outside of us. It is at the very center of our individual minds. Our individual minds, indeed, all of Manifestation is a projection of The Absolute. Deep inside all of our minds, we are the exact same thing.

What is this thing that we are all instances of? Hinduism has come to call it satchit-ananda. Being, consciousness, and bliss. Eventually the West will figure out that the Hindus are pretty smart and pretty much nailed it.

The way the West will figure this out is to go beyond words and ideas and learn yoga. Yoga is not a mere philosophy. Yoga teaches us the means to escape the mind, to enter and *be* the Absolute.

Only then does everything makes sense.

The End of the Gunas

Entering Kaivalya is the “end” of the gunas, as indicated in aphorism 4.34, the last aphorism of the *Yoga Sūtras*:

There is confusion, particularly in the academic study of yoga, as to what it means when the yogi finally achieves Kaivalya. Taimni asks: “Does Kaivalya mean complete annihilation of the individuality and the merging of the Yogi’s consciousness in the Divine Consciousness?” What happens to the rest of the world when a yogi dissolves in Kaivalya? Is the yogi gone for good?

The answer is ‘no’. The yogi does not permanently disappear and Manifestation continues as it always has. **The skills provided by yoga allow one to go in and out of Kaivalya at will.** We see this clearly in van der Leeuw’s account in [In Conquest of Illusion](#). He voluntarily entered Kaivalya to discern the true nature (artha) of some aspect of manifestation, and then came out of trance and expressed his experience into understanding that is meaningful in our relative world-image.

३४. पुरुषार्थशून्यानां गुणानां प्रतिप्रसवः कैवल्यं स्वरूप-
प्रतिष्ठा वा चितिशक्तेरिति ।

Purusārtha-śūnyānām guṇānām prati-
prasavaḥ kaivalyaṃ svarūpa-pratiṣṭhā
vā citi-śakter iti.

पुरुषार्थं aim of the *Puruṣa* शून्यानां devoid of गुणानां of the *Guṇas*
or the three fundamental qualities प्रतिप्रसवः re-absorption; reces-
sion; re-mergence कैवल्यं Liberation स्वरूप (in) Real or own nature
प्रतिष्ठा establishment वा or चितिशक्तेः of the power of pure Con-
sciousness इति Finis.

34. *Kaivalya* is the state (of Enlightenment) following reemergence of the *Gunas* because of their becoming devoid of the object of the *Puruṣa*. In this state the *Puruṣa* is established in his Real nature which is pure Consciousness. Finis.

The last aphorism of the *Yoga Sūtras*.

Mastery of yoga allow the yogi to transfer at will between the Absolute and relative Manifestation. The master yogi becomes an embodiment of the **Rhythm of Creation**, the veiling of the Absolute as the Relative and the revealing of the Relative as the Absolute.

“...in the case of the Adept who has attained Kaivalya all the planes really merge into one because the passage up or down is so swift and easy that it is merely a question of focusing consciousness in one vehicle or another.”

The ultimate purpose of yoga is not to run away from “reality”, not to disappear permanently into the oblivion of nirvana (extinction), but to learn how to, **at will**, become one with the reality of our being. For a time, the yogi must leave this world behind to master the skills of yoga. But it is only a phase. One cannot leave Manifestation. It is Eternal. It is the Absolute but seen from a relative vantage point.

Mastering yoga is like a worm transforming into a butterfly.



A nice metaphor to understand what yoga is.

Without yoga, we are trapped in our relative world-image, where no problem can ever be solved completely, no meaning can ever capture the totality of our being. With yoga, we **become** the answer.

We become all things. We know by being the eternal truth of all being. I repeat van der Leeuw's quote from [Chapter 4](#), which hopefully now, 28 chapters later, resonates with you at a much deeper level:

“When from the experience of Reality we return to the dream of our world-image we no longer identify ourselves with it, thinking it to be the only reality, neither do we shrink from it as from a world of evil, or ignore it as a mere glamour of illusion. We can now see it all the time as that which it is—the image produced in our consciousness by eternal Reality, our interpretation of things as they are. Such an attitude is neither world-denial nor world-affirmation, it is the contemplation of our world-image in the light of the Eternal.”

33: Conclusion



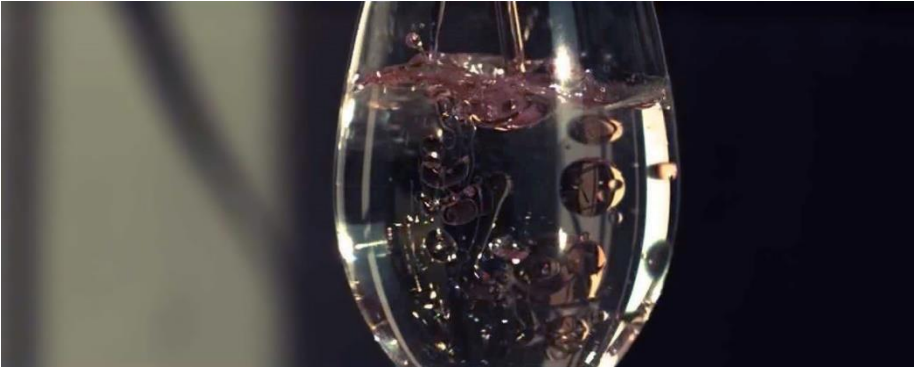
This is it! After 33 Chapters, I wrap up this particular presentation of the yogic view of consciousness.

The Merry Go Round

We've discussed a great many of the abstract and fantastical ideas that can be obtained when we venture to mix Eastern and yogic thought on the one hand, and Western scientific, philosophical, and mathematical thought, on the other hand.

But in the most fundamental sense, this is a mixing of oil and water, which is to say, they do not mix at all. For what we have been doing all along is making waves, ripples, thoughts in the mind; *vrittis* as they are called in yoga. What we have discussed are various facets of the philosophical world view associated with yoga, Samkhya, some specific aphorisms in the *Yoga Sutras*, and other, non-yogic Hindu philosophical views that were relevant.

However, yoga is not philosophy. As the end chapters sought to illustrate, yoga is a set of practices: *yama*, *niyama*, *asanas*, *pranayama*, *pratyahara*, *dhyana*, *dharana*, and *samadhi*. These practices have one over-riding aim: *chitta vritti nirodhah*. The yogic practices are meant to silence the mind. The end goal achieved by the silenced mind, as the early chapters outlined, is the experience of the Absolute, of *Kaivalya*. *Kaivalya* is truly ineffable. It cannot be described, understood, or otherwise acted on by the intellect. It can only be.



Oil and water don't mix. Neither does running off at the mouth mix with yoga.

Thus, all the ideas we have considered are not yoga, but the opposite of yoga. Any thought in the mind, any emotion, sensation, perception, intuition, imagination, whether true, false, or whatever shade of gray, is not yoga. Together they constitute the various classes of vrittis for which it is the purpose of yoga to tame, to quiet, and eliminate from the medium of consciousness.

Thus, one must ask: what is the value in concocting abstractions of the type we have been considering? The answers broadly fall into two categories. There are answers that will perpetuate the ringing of vrittis in the mind, and there are answers which will aid in suppressing the vrittis.

A Tale of Two Paths

This is the irreconcilable difference between what yoga teaches and what the West has so far discovered during its history. From the [ancient Greeks](#) to the [Medieval Scholastics](#), to the [early-modern](#) founders of science and philosophy, to our [post-modern](#) science and philosophy, the West has swam in the sea of vrittis. It does not matter if the vrittis are the [sensations of perception](#), the aesthetics of [emotionalism](#), the [abstractions of words](#), or the abstractions of [mathematics](#) or [ymbols](#). They are all ripples, waves, vibrations of the mind. One and all they must be abandoned, at least for a time, for the light of living truth to fully express itself in our consciousness.

The intellectual excursions we have discussed can act as a double-edged sword. On one hand, they can open a [Pandora's Box](#) of unending questions and answers. This is the [dialectic](#) Hegel described: the never-ending compounding of thesis-antithesis-synthesis. This is the side of The Many, of seeming infinity. The waves of the mind generate new waves that generate new waves in an endless succession of ever-encompassing thought, always seeming as if they will converge to something profound, but always never quite getting there. Of course, in the process much seems to be discovered, or created, and there appears to be progress.

On the other hand, one can realize, as the ancient Indian seers who invented yoga realized, that the *content* of thought can be separated from the *processes* of thought. The content of the intellect is the ever-changing dialectic, seemingly expanding to a horizon at an unattainable infinity. However, the process is ever the same. The same, endless repetition of vrittis generating vrittis generating vrittis *ad nauseam*. The Merry-Go-Round. The endless circling in the mind of ever-changing thoughts. Time is not an endlessly unfolding scroll. [DM Turner](#) described time as an eternally “*revolving or repeating trajectory*” (back in [Chapter 30](#)). With each revolution, everything transforms. Over and over and over *ad infinitum*.

All thoughts in the ever-changing stream share one overwhelming commonality: their finiteness. No thought in the mind of a human can surround infinity. No matter how big, there is always bigger, no matter how grand, how general, there is always the grander, the more general. Thought simply fails to transcend or escape from itself. It forever spins, trapped within itself. In its two thousand plus years of intellectual development, the West has not seen this clearly. Progress is an illusion. There is only an ever-changing kaleidoscope of vrittis in the mind of those undergoing experience.

We've made excursions into intellectual hinder-lands: strange abstractions of minds within minds, of bindus, of the identity of the infinitely large and small, of the incomprehensible network that is Manifestation. Some, like me, may be intrigued by these topics. Others may consider them absurd. What is certain, however, is none of these ideas offer resolution. There is not a thought we can hold in our mind that will cause the World to stand still. In Manifestation, everything changes, everything moves, everything transforms, nothing is stable. The word “*gunas*” encompasses all of that. If properly understood, nothing more needs to be said other than “*gunas*”.

We pretended to go into the Looking Glass. But we never left it in the first place. We have always been in the Looking Glass. Our becoming is naught but reflections of being.

So, after all this, what to do? Do we continue to perpetuate the vrittis or seek to silence them? Because we must ask: what is behind the urge to capture the world as thoughts in our mind?

Deception

The West can offer a myriad reasons why thought is valuable. It is its destiny to do so. But to insinuate that thought can go beyond itself is a different matter altogether. Which leads us to a fundamental difference between Eastern and Western thought: the role of *deception*.

Let's consider Descartes, perhaps the one man who put the West on its current trajectory more than any other. Descartes' “*I think therefore I am*” has become, to my mind, one of the stupidest, most inane clichés in Western culture. It has become shallow, freshman undergraduate [pabulum](#) in our secular post-modern culture. But if we try to recover something of Descartes world-view we can get a sense of why his thought had been so influential.

Descartes sought to be the ultimate skeptic and wanted to find the basis of certainty in his experience. Discarding all prior ideas he had learned, he realized that the only certain thing was his awareness of his own being, which he expressed in terms of thinking (“I think...”) and being (“...I am”). In this he brushed against what the Idealists later discovered, as the Hindus discovered millennia before, the formula consciousness = being.

But could he doubt even his own self-awareness? He concluded *no*, and the reason he did so was his belief that God would not deceive him. So, his thinking was by no means as empty and as skeptical as he believed. He held the idea of “God” as the ideal of perfection, of infinity, and, conditioned by his Christian beliefs, concluded that this infinite perfection would not allow for him, Descartes, to be deceived in his awareness of his awareness.

Descartes' mind was hardly empty as occurs in yoga. Instead, Descartes simply failed to recognize that all he was doing was spinning in place on the treadmill of his mind. Unlike the Hindu Rishis, Descartes failed to distinguish between the content and the processes of thought.

Contrast this now to the cornerstone idea in Hindu thought: *maya*. At the heart of Hinduism, in all its various guises, is the idea that appearances are a mirage, an illusion. The very essence of the Hindu understanding of Manifestation is *maya*. All that can be imagined, envisioned, experienced, felt, perceived, all that can be named, symbolized, written about, or described, all of it is *maya*, mirage, illusion. Brahman, the Absolute, is the only reality. This is how Hinduism distinguishes content from process. The content is transient, ever-changing: *maya*. The process is consciousness, the “self-penetrating light” that does not illuminate but gives being.

The various grades of Hinduism are different responses to the insight that all that is, was, or ever can be Manifest is mirage, *maya*. The insight of *maya* is not a mere philosophical conclusion, although it is easy enough to recognize the play of *maya* in our direct, first-person experience. No, the insight stems from Seers and Rishis who undertook the journey of yoga, and who *discovered* that Brahman, the Absolute, is the only reality. *Maya* is Brahman cloaked in *avidya*, giving rise to Manifestation, to The Many, to the seeming infinity of minds experiencing quality and quantity, form, awareness, and becoming. The eternal *Rhythm of Creation*: the Absolute veiled as the Relative; the Relative revealed as the Absolute.

So we have two diametrically opposed understandings at the root of Eastern and Western thought. The West believes with a religious fervor that, at its roots, reality does not deceive. It does not matter if that reality is construed as God, or Man's rationality, or Nature, or the consistency of mathematics, or the unpredictable creativity of randomness, or whatever. The underlying belief is that there is something stable, something reliable to grab onto.

Then there is the East who sees reality as synonymous with deception. It is not deception in a human sense of how we are capable of lying to each other or to one's self. No, it is the simple recognition that everything changes, and therefore nothing can provide a stable or reliable basis upon which to anchor thought, belief, or action.

The mirage at the heart of the maya concept is the mistaken impression that there is something stable to be found in a Manifestation that is only incessant change.

It is thus little surprise that the East invented yoga. If all thought, all perception, all action, all experience is change, what happens if we take the one thing we can control – our mind – and make it stop changing. What happened? As a [great man has said](#): they hit the jackpot. Yoga was discovered. By application of yoga, the living truth of being was discovered. Hindus give many names to this truth. In yoga it is called Kaivalya, the Alone.

The Definition of Insanity

The West endlessly circles in the mind and thereby rediscovers the same-old-same-old in new forms and guises. But the West has not seen the simple truth that it is the same thing over and over. Thus, the West has not yet seen the necessity to take the inward journey to the stillness at the center of our being. Instead, it frantically grasps at the ever-changing, hoping and believing that eventually it will grab on to something stable, reliable.

What is that famous definition of insanity? Doing the same thing over and over again, hoping for a different result.

So we must ask: who here exhibits irrational emotionalism? The Hindus and yogis soberly confront that there is nothing to grab on to in Manifestation. The insane West hopes, in the most nebulous sense, with the vaguest emotionalism that someday, somehow, history will come to a dramatic climax and all will be revealed.

If you can understand the futility of seeking the ultimate in thoughts and ideas, then you are ready to begin the inward journey. You are ready to leave the turbulent waters of the surface mind. You are ready to learn how to navigate the depths of your own consciousness. Ready to begin the search for the center, the bindu, hidden at the heart of the cyclone of your mind, pass through it, and **be** the Absolute.

Then only is All revealed.

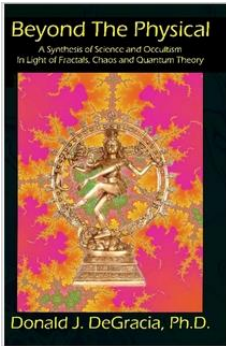
In the immortal words of J.J. van der Leeuw:

“It is a mystery...the ultimate Mystery, but it is no longer a problem since we ourselves are It.”

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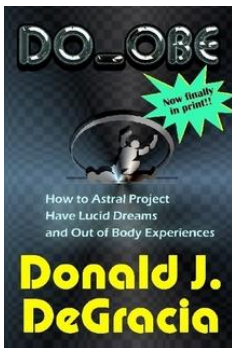
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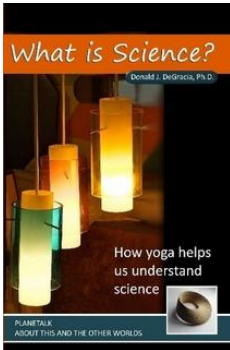
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It is always darkest before the sunrise. Similarly, the phantasmagoria of our seeming is ultimately a message of hope.

By peering into the infinite depths of the irrationality of appearances, we unlock the door to approach the Ultimate Reality behind all appearances. This is the message of Experience.

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