

Light, Love and the Limits of Understanding

A REFLECTION



*We never see light; we see only
what it shows us.*



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HEARTMIND

For all who seek, in whatever tradition.



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C O N T E N T S

What Light Is	4
How Light Holds the World Together	5
The Oldest Light	6
Beneath the Light: The Quantum Vacuum	7
The Light of Awareness in Kashmir Shaivism	9
Light That Is Not Physical Light	10
Seeing the Sun	12
Emptiness and Luminosity in Madhyamika	13
What Physics Can and Cannot Say	14
A Conviction of Love	16
The Question of Suffering	17
The Limits of the Mind	18
The Arrow and the Bow	19
Love That Sees Clearly	19
Failure and Debate	20
Pulling Out the Arrow	21



Light, Love and the Limits of Understanding

What Light Is

Light holds a special place in both physics and spirituality. To see why, it helps to look at what physics actually says about it.

For most of history, people thought of light as something that simply shows us the world. In the nineteenth century, James Clerk Maxwell discovered that light is a wave in the electromagnetic field. Electricity, magnetism and light turned out to be one thing. Visible light is only a narrow band of it. Radio waves, microwaves, X rays and gamma rays are all the same phenomenon at different frequencies.

In 1905 Einstein showed that light also comes in small, separate packets of energy, which we now call photons. So light behaves both as a wave and as a particle. In the famous double slit experiment, a single photon seems to pass through two openings at once and interfere with itself, yet it always arrives at one point on the screen. Light does not fit our everyday categories.

Light also has a strange relationship with space and time. Its speed is the same for every observer, however fast that observer is moving. Einstein built his theory of relativity on this one fact, and it changed our picture of the universe. Space and time are not fixed. They stretch and shrink so that the speed of light stays the same. As something moves closer to that speed, time slows for it. In the limit, light itself experiences no passage of time at all. From the point of view of a photon, if it could have one, the moment it leaves a star and the moment it reaches your eye are the same moment.

Light has no rest mass. It can never be still. It exists only as movement. You cannot hold a photon in your hand or keep it in a box at rest. When it stops, it is absorbed, and it is gone.

How Light Holds the World Together

Light is also how matter meets matter. The photon carries the electromagnetic force. When two charged particles affect each other, they do so by exchanging photons. This is not a small thing. Almost everything we experience in daily life is electromagnetic. When you touch a table, your hand does not really meet the wood. The electrons in your hand and the electrons in the wood push against each other through the electromagnetic field. Chemistry, the bonding of atoms into molecules, works the same way. So does the firing of nerves and the beating of the heart. In a real sense, the whole visible world holds together and touches itself through light.

Light and matter can also become each other. Einstein's equation, $E = mc^2$, says mass and energy are two forms of one thing. When an electron meets its antiparticle, the positron, both vanish and leave behind pure light. When light has enough energy, it can turn into a pair of particles. So the boundary between light and matter is not fixed.

The Oldest Light

Light also carries the deepest history we can see. The universe was once far hotter and denser than it is now, and it has been expanding ever since. Three lines of evidence support this: distant galaxies are moving away from us, the oldest stars contain the amounts of hydrogen and helium a hot early universe would produce, and the whole sky glows with an ancient light.

In that early state, the universe was a plasma. It was not dark. It was full of light. But it was so hot and dense that electrons were not bound to atoms, and light kept bouncing off them. It could not travel any distance before being scattered. The universe was bright but opaque, like the inside of a glowing fog, or the inside of the sun. Light and plasma existed together. Neither came first.

About 380,000 years later, the universe cooled enough for electrons to join with nuclei and form atoms. The fog cleared, and light could travel freely for the first time. That light still fills the sky. We detect it today as the cosmic microwave background. It is the oldest light we can observe.

Darkness came after this, not before it. As the universe expanded, that released light was stretched to longer wavelengths, beyond the range of sight. There were no stars yet. Astronomers call this period the cosmic dark ages. It lasted perhaps a hundred million years or more, until gravity drew gas together into the first stars and they began to shine. So the sequence was trapped light, released light, darkness, and then starlight.

Whether there was an absolute beginning before all this, physics cannot say. The theory describes a hot, dense early state, but at the very start its equations break down. Some physicists think the universe has always existed in some form, perhaps in endless cycles, or emerging from an earlier universe. Others think time itself may have no edge. The question remains open, as it does in the traditions. Kashmir Shaivism speaks of endless cycles of manifestation and withdrawal. The Buddha said that a first beginning of the round of existence cannot be found.

Beneath the Light: The Quantum Vacuum

All of this makes light seem like the foundation of everything. Physics stops short of saying so, and it is worth being clear about why.

Modern physics describes the universe as made of fields. A field is something that has a value at every point of space. The electromagnetic field is one of them, and a photon is a ripple in it. But there are other fields too. There is an electron field, and the

electron is a ripple in that. There are fields for the quarks, which make up protons and neutrons. There is the Higgs field, which gives many particles their mass. Light is one field among several. Electrons and quarks are not made of light.

Most of the mass in the matter around us does not come from light either. It comes from the strong force, which binds quarks together inside protons and neutrons. And there is something stranger still. Astronomers find that about five sixths of all matter in the universe is dark matter. It has gravity, but it does not interact with light at all. It neither shines nor reflects. If physical light were the foundation of everything, dark matter would be very hard to explain.

So what lies beneath the fields? Physics calls it the quantum vacuum. This is the lowest energy state of all the fields together. The word vacuum suggests emptiness, but the quantum vacuum is not empty. Quantum theory says no field can ever be perfectly still. Even in the deepest emptiness, every field trembles with what physicists call zero point energy. Particles briefly appear and disappear. These fluctuations are real, and they produce measurable effects. Two metal plates placed very close together in a vacuum are pushed towards each other, because the fluctuations between them are fewer than those outside. This is called the Casimir effect, and it has been measured in the laboratory.

So the deepest picture physics gives us is not light, but a restless ground. Every field, including light, rises from it and returns to it. Light is the most visible expression of that ground, and the one

through which most interaction happens. But it is not the ground itself.

It is easy to see, all the same, why the mystics chose light as their main image. Light cannot be held. It has no rest state. It reveals everything else while remaining unseen itself. We never see light; we see only what it shows us. That is very close to what the mystics say about awareness.

The Light of Awareness in Kashmir Shaivism

In Kashmir Shaivism, the ultimate reality is Shiva, and Shiva is called prakasha, which means light. The word comes from a Sanskrit root meaning to shine forth, or to become visible. But this is not physical light. Prakasha is the light of awareness: the simple fact that anything appears at all. Without it, nothing could be known. Every thought, every sensation and every object shows up within it.

The Shaivite teachers, above all Abhinavagupta, insisted that this light is not like a lamp shining on a dark room. A lamp does not know it is shining. Shiva's light knows itself. This power of self knowing is called vimarsha, and it is identified with Shakti. Shakti is not separate from Shiva. She is Shiva's own power to reflect on himself and to show himself as the world. The usual image is light and its brightness: you cannot have one without the other.

Physical light needs darkness in order to be seen, because without contrast there is nothing to notice. Prakasha is different. It has no opposite. Darkness is also known, and so darkness also appears within the light of awareness. Awareness does not need an absence of awareness to be itself.

This self knowing is never still. The tradition calls its movement spanda, which means vibration or pulsation. The universe is spanda: consciousness expanding into forms and contracting back into itself, over and over. Creation is not a single event in the past. It is happening now, in every moment.

Why does Shiva become the world? The Shaivites answer with the word svatantrya, which means freedom. Consciousness creates because it is free to. It is play. The human being is Shiva having freely contracted himself into a small and limited form. Liberation, in this view, is not a journey to somewhere else. It is pratyabhijna, recognition: seeing that one already is that light.

Light That Is Not Physical Light

What does it mean to say prakasha is not physical light? A few examples make the difference clear.

In a dream you may see a bright, sunlit field. Your eyes are closed and the room is dark. No photons reach your eyes, yet the field is vividly lit. What lights it? Not physical light. That shining is prakasha.

Or take things that are not visual at all: a pain in the knee, a feeling of grief, a thought, the sound of a stream. None of these is lit by photons. Yet each one appears. It is present and known. Physical light lets you see; prakasha is what lets you know anything at all, including sound, touch and thought.

Even darkness shows the point. Sitting in a pitch black room, you still see the darkness. Physical light is absent, but prakasha is not, otherwise you would not know it was dark.

And physical light itself is only known because it appears in awareness. Photons crossing an empty room light up nothing in experience. They are simply radiation. The brightness you know is the meeting of that radiation with awareness. So prakasha comes first. It is the light in which physical light is seen.

What is it, then? It is awareness in its aspect of revealing. It cannot be seen as an object, because it is the seeing. It is like the light of a cinema projector: you never watch the light itself, only the film it shows, yet without it there is no film.

This is how the inner light and the outer light fit together in the Shaivite view. Physical light can be understood as the outer expression of prakasha, the inner light of awareness showing itself outwardly as the light of the world.

Seeing the Sun

Consider what happens when you look at the sun. Physics describes it this way: the sun emits photons, the retina absorbs them, and the brain builds an image. For the Shaivite, that whole process is an expression of consciousness.

In this view the eye is not Shiva. The eye, the body, the sun and the photons are all Shakti, all part of the expression. Shiva is the awareness in which the whole scene appears. The tradition names three parts of any act of knowing: the knower, the means of knowing, and the known. In seeing the sun these are the seer, the seeing and the seen. They look like three, but they are one consciousness appearing as three.

So it is less that Shiva meets Shakti when you look at the sun, and more that there were never two to meet. The circle is not completed by the meeting. It was never open. Seeing the sun is Shiva recognising Shiva's own expression.

The Madhyamika looks at the same triad and reaches a different conclusion. Nagarjuna analysed seer, seeing and seen. He argued that none of the three can exist without the others, so none of them is a foundation. The Shaivite takes the same observation as one consciousness appearing in three ways. The observation is the same, and the conclusion is different. That is the whole debate in a single glance at the sun.

Emptiness and Luminosity in Madhyamika

Madhyamika Buddhism, founded by Nagarjuna in about the second century, also knows the luminous nature of awareness. Many Buddhist schools speak of the mind as clear light. But Madhyamika refuses to turn that luminosity into a ground.

Nagarjuna's central idea is emptiness, *shunyata*. Nothing has *svabhava*, an inherent nature of its own. A thing exists only in dependence on other things: its causes, its parts and the mind that names it. This is dependent arising. A flame depends on the wick, the oil and the air. Take those away, and there is no flame left over.

Nagarjuna used light and darkness in his own arguments. He said a lamp does not illuminate itself, and that light and darkness depend on each other. Neither stands alone. Where the Shaivite sees a light with no opposite, the Madhyamika sees light and darkness arising together, each empty of a nature of its own.

Nagarjuna argued that anything with a truly fixed nature could never change or relate to anything else. It would be sealed inside itself. So a permanent, self existing ground could not produce a changing world. If there were such a ground, the world as we know it would be impossible.

Madhyamika also applies emptiness to emptiness itself. Emptiness is not a hidden substance behind things. It is simply the absence of fixed nature. Nagarjuna warned that anyone who turns emptiness into a new view has misunderstood it. He would say the same about

a luminous ground. To hold onto it as the final truth is to build a subtle self, and to cling to it.

The Shaivites answered back. Their first reply was that the argument hits a fixed, unchanging ground, and Shiva is not that. Shiva is free and pulsing, always expanding and contracting, so Nagarjuna's objection does not apply. Utpaladeva, one of their great teachers, went further and argued against the Buddhist philosophers of his time. Without a single consciousness holding moments together, he said, there could be no memory, no recognition and no connection between one experience and the next. Something must unify the flow. That something is Shiva. So the argument went in both directions, and it went on for centuries.

What Physics Can and Cannot Say

Can physics settle the question? It cannot, but it touches both sides.

Madhyamika finds support in the way quantum physics describes properties. In classical physics, a particle had a definite position and speed whether anyone looked or not. Quantum physics does not allow this. Before a measurement, a particle often has no definite value at all. Its properties show up only in interaction. The physicist Carlo Rovelli has developed this into what he calls relational quantum mechanics. In his view, properties exist only in relation to other systems. Nothing has properties in itself. Rovelli has written that reading Nagarjuna helped him think this through.

Entanglement points the same way. Two particles that have interacted can remain linked, so that measuring one tells you about the other, however far apart they are. Experiments by Alain Aspect and others confirmed this, and they won the Nobel Prize in 2022. The two particles cannot be fully described as separate things. That sounds very like dependent arising.

Shaivism finds support in the picture of the whole. Physics describes one underlying vacuum from which all particles arise and into which they return. That vacuum is never still. It trembles constantly. This is strikingly like spanda: one ground pulsing into countless forms. The open question of a beginning also suits both traditions, since neither needs a single first moment.

But here physics and Shaivism part company. Nothing in physics says the ground is aware. Physics describes structure and movement. It has no place for consciousness at the foundation. So the claim that the ground is conscious cannot come from physics. It has to be held as a conviction.

Physicists also disagree about how to interpret quantum theory. Some interpretations sound Buddhist, some sound Shaivite, and some sound like neither. Any match between physics and spirituality depends on which interpretation you pick. These are resonances, not proofs.

A Conviction of Love

My own conviction is that the ground of everything is love. By love I mean agape: not an emotion, but the energy of consciousness at the root of all things. I believe this ground is aware and intelligent, an intelligence far beyond the human mind. The Shaivites call this ground Shiva and Shakti, and its movement spanda. I align with that view, because it comes closest to what I feel to be true.

I hold that the divine is consciousness, love and light, and that the light we see in the world is its expression. All of it is one. I need to be clear about what I mean by light here. I do not mean that photons are conscious, or that physics has found the divine in electromagnetic radiation. I mean prakasha, the light of awareness, of which visible light is the outer expression and perhaps the clearest symbol. Everything that appears is the same expression, not only starlight. Dark matter is as much a part of it as the sun.

Many people who have come close to death describe meeting a loving, knowing presence. They speak of light that is also love, and of being completely understood. Mystics in many traditions say the same. Meister Eckhart spoke of the ground of the soul where God and the soul are one. The Sufis speak of the divine Beloved. Dzogchen speaks of rigpa, primordial awareness, whose natural expression is compassion. Even within Buddhism, then, there are voices close to mine.

I find this agreement persuasive. But I cannot prove it. The agreement can be read in two ways. It may point to a truth that all

these people touched. Or it may reflect a shared human capacity for such experience. The evidence does not decide between them. I choose the first, but I hold it as a conviction and not as a fact.

The Question of Suffering

Any claim that the ground of reality is love meets the oldest objection there is: if the ground is love, why is there so much suffering?

The Shaivite reply is that contraction, and the pain that comes with it, are part of Shiva's free play. Consciousness freely takes on limitation, forgets itself, and then recognises itself again. Recognition is what dissolves the suffering. Whether this satisfies is for each person to judge. It does not make pain less real while it lasts, and the tradition does not claim that it does.

The Madhyamika does not need to answer this objection in the same way, because it makes no claim that the ground is loving. For the Buddha, suffering was the starting point of the whole teaching, not a puzzle to be explained. The first noble truth is simply that suffering exists, and the rest of the path is about ending it.

Here the two traditions meet again. Neither explains why suffering exists, and both respond to it with compassion. A conviction that the ground is love does not remove the problem of pain. What it does is give a reason to meet pain with love.

The Limits of the Mind

There is also a limit on what the human mind can grasp. Krishnamurti said that reality cannot be reached by thought. Thought works by naming, comparing and remembering. A reality that is not made of parts may simply not fit inside that machinery.

This should make both sides humble. “The ground is love” is also a thought. So is “there is no ground.” If thought cannot reach reality, neither statement can capture it. A critic could use this to say that the conviction of love is only a projection of the human mind.

Krishnamurti did not say reality can never be known. He said it cannot be known by thought. When thought falls still, there may be direct seeing. The Shaivites say something similar. A wave does not have to become the whole ocean to know that it is water. Understanding something and being it are different. The mind may never understand the divine as an object, but it may recognise that it was never separate from it.

One image helps me here. Imagine a tube. Shine a light on it from the side, and its shadow is a rectangle. Shine the light down its length, and its shadow is a circle. Both shadows are true. Neither is the whole. The two traditions may be like these shadows: true views of one reality, seen from different angles.

But I must admit the limit of this image. It assumes there is a tube, a real thing behind the shadows. That is exactly what the two traditions disagree about. The Shaivite would say the tube is Shiva.

The Madhyamika would say that claiming to know the tube is the very mistake to avoid. So the image does not resolve the debate. It teaches humility. That is enough.

The Arrow and the Bow

Because the debate cannot be settled, I turn to what can be tested. Every tradition teaches loving action. The Golden Rule, treating others as you would wish to be treated, appears in some form in nearly all of them. Unlike the metaphysics, this can be tried. You can see what it does to a person, and to those around them.

The Buddha understood this. A monk named Malunkyaputta demanded answers to the great questions before he would practise: is the world eternal, does the self exist after death. The Buddha replied with a story. A man is shot with a poisoned arrow. He refuses to let the surgeon remove it until he knows who fired it, what family the archer came from, and what the bow was made of. He will die before he gets his answers. Pull out the arrow first, the Buddha said.

Love That Sees Clearly

Love needs clear seeing to act well. This works on three levels.

The first is seeing the situation in front of us. Love must see what a person really needs, not what they ask for and not what makes us

feel kind. Giving money to someone in the grip of addiction may feed the addiction. A parent who shields a child from every difficulty may leave the child unable to cope. A carer who gives everything may collapse and then help no one. In each case the love is real, but without clear seeing it does harm.

The second is seeing our own motives. Love is often mixed with other things: a need to be needed, a wish to be seen as good, a fear of conflict. Looking at this honestly is part of making love purer.

The third is the deepest. It is seeing that the separation between self and other is not as solid as it seems. When that is seen, love no longer has to be stretched to include others. The circle of love has no edge. The mystics in every tradition have done this. While others loved their own community and were hard on outsiders, the mystics widened the circle to include everyone.

Failure and Debate

Religious people have sometimes acted harshly, even cruelly. That is a failing of those people, not of love. Holding a fine view does not guarantee a good life. It takes practice, which is why every tradition insists on it.

The debate between traditions has not been entirely wasted either. Shaivite and Buddhist thinkers pushed each other to be precise about what they claimed. Each sharpened the other.

Pulling Out the Arrow

So I hold two claims, and I keep them apart. The first is that the ground of reality is intelligent love. That is my conviction, and I offer it as such. The second is that love, guided by wisdom, is the right way to live. Anyone can test that, whatever they believe about the ground.

The argument about the ground will probably never end. The Buddha saw this. He told us to pull out the arrow and not ask who made the bow. Yet his followers, and the Shaivites too, have spent centuries debating ground or no ground, which is exactly what he warned against. This does not mean one side was wrong. It means the debate does not feed anyone. The arrow is still in us, and the people in front of us are still hurting. So I will hold my conviction, let others hold theirs, and get on with loving action.



*With love,
Hosshin*



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