Break the moulds of the past,
but keep safe its gains and its spirit,
or else thou hast no future.

SRI AUROBINDO, Essays Divine and Human, p. 456
Collaboration

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PATRICK M. BELDIO is a professor of comparative theology and religion at Marymount University and George Washington University in the Washington, DC, metro area. He has been a student of the Mother and Sri Aurobindo since the early 1990s. His current book project features the Mother and her contribution to the Integral Yoga. Patrick is also a professional sculptor with a studio at the Franciscan Monastery in Washington, DC.

Eclectic musician SEABURY GOULD is a singer, music teacher, recording artist, and storyteller. He lives in northern California and plays guitar, bamboo flute, Irish bouzouki, piano, and vina. Seabury writes essays on music and spirituality. He studied Indian music with master musicians such as Ali Akbar Khan, G.S. Sachdev, and Dr. K. Subramaniam. Seabury lived in South India for two years, first arriving in 1974. He lived in Auroville, Pondicherry, and Andhra Pradesh. He has been a sadhak of the Integral Yoga since 1974.

PRAVIR MALIK, Ph.D., has been developing a unified theory and mathematics of organization. He has written 16 books related to this, which include a recently completed 10-book series on the Cosmology of Light to elaborate mathematics with implications in quantum computing, generation of computational strata, genetics, artificial intelligence, and transhumanism. He currently is involved with a couple of start-ups related to his interest in light.

C.V. DEVAN NAIR (1923–2005) was born on a rubber plantation in Malaya and moved to Singapore with his family when he was ten. After World War II he became a fierce revolutionary against British imperial rule and spent five years in British jails, where he discovered Sri Aurobindo. Nair was also a teacher, lawmaker, and trade union leader, shaping Singaporean workers into an economically effective force that helped the country develop one of the strongest financial positions in Asia. From 1981–85 he served as president of Singapore. Later he moved to the U.S. and was a visiting fellow of Cornell University’s Southeast Asia Program. In 2014 the Devan Nair Institute for Employment opened in Singapore to recognize his contributions to the labor movement.

MARTHA ORTON completed a Ph.D. in Sri Aurobindo studies and has written extensively on Integral Yoga. She has been a devotee of Sri Aurobindo and the Mother for many years.

MARGARET ASTRID PHANES composes illuminating visual meditations. She teaches Light-Force meditation that inspires her work. Ms. Phanes taught digital graphics at the University of Hawaii Maui College and the University of California, Santa Cruz. Her Light-Force visual meditations are published in Musings on Light: A Meditative, Non-Mathematical Summary of a Cosmology of Light and have been presented at AUM conferences. http://www.margaretphanes.com

BAHMAN A.K. SHIRAZI, Ph.D., has studied and worked at the California Institute of Integral Studies (CIIS) since the early 1980s. Through the teachings of CIIS founder Dr. Haridas Chaudhuri, who brought Sri Aurobindo’s teachings to the West, he discovered Integral Psychology and Integral Yoga, which have provided the inspiration and guidance for his spiritual path ever since.
ABOUT THE COVER

Sunrise emergence of new harmony where each individual is a unique expression of the inner divine.

Cover design by Saili Sawant. To learn more about her work and to view her portfolio visit https://www.sailisawant.com.
AN EXTRAORDINARY MYSTIC AND SPIRITUAL LEADER, THE Mother was Sri Aurobindo’s spiritual collaborator. As a child she had a series of spiritual experiences leading to her realization of the Divine. During her young adulthood in Paris around the turn of the century, she became an accomplished artist, musician, and writer. Many of the now world-famous French masters were her friends and acquaintances. During this time she found explanation for her inner experiences in the company of two great occultists, Max and Alma Theon, in Algeria.

In 1914 her meeting with Sri Aurobindo in Pondicherry, India, became the turning point of her life. Six years later she joined him there, where she stayed for the rest of her life to collaborate with him in their spiritual mission aimed at complete transformation of human consciousness.

The Mother oversaw the daily activities of Sri Aurobindo Ashram, founded the Sri Aurobindo International Centre of Education, and in 1968 founded Auroville, an experimental international community devoted to human unity. The Mother’s spiritual work was concerned with activation of the highest human spiritual potential and the transformation of the earth and of the physical body at the cellular level. Her complete writings are compiled in The Collected Works of the Mother and Mother’s Agenda.

SRI AUROBINDO WAS INDIA’S FOREMOST PHILOSOPHER, POET and spiritual figure of the 20th century. At age seven he was sent to England, where he mastered Western classical literature and languages. He returned to India at age 21 and soon mastered classical Indian literature and languages as well. He was active in the Indian independence movement until 1910, when he moved to Pondicherry to pursue his spiritual work.

From 1910 to 1950 his spiritual practice focused on the reconciliation of spiritual and material realities, with the ultimate goal of utilizing the most powerful spiritual force (the supermind) to accelerate and transform human evolution. He recognized that the current human state of consciousness is merely a transitional state with endless potential for spiritual development and called for the integration of Eastern and Western cultural and knowledge traditions.

He rejected world-negating approaches to spiritual development as escapism and embraced embodied spirituality and the reintegration of the feminine Divine.

His most notable works in prose are: The Life Divine, The Synthesis of Yoga, Essays on the Gita, and The Human Cycle. His poetic magnum opus is titled Savitri.
EDITORIAL:
CRISIS & EMERGENCE

HOW FOUNDATIONAL IS LIGHT! IN OUR WORLD OF DUALITY, LIGHT comes arm in arm with the dark times and forces—but thankfully, it comes. In the northern hemisphere the green planet is emerging from the dark and cold of winter to the eruption of life and renewal. Our theme in this issue, Crisis and Emergence, bundles the dark crises of life and society in essay, image, and poetry together with startling eruptions of light in many dimensions.

Poetry from Sri Aurobindo such as “The Pilgrim of the Night” excavates and vibrates with deep and difficult sides of our existence, while “The Vedantin’s Prayer” bears the personal anguish and obstacles of the poet but ends in a cry for the joy of release. In “Harmony and Crises,” Seabury Gould reflects on the interplay between the musician’s constant search for harmony and a yogic response to the larger physical and social crises of our times. Martha Orton’s compact poem “Propelled” discovers the point of light in the chaos that brings guidance and deeper knowledge. In Sri Aurobindo’s stunning sonnets “Light” and “The Golden Light,” the miraculous particle/wave mystery rides like lightning from transcendent to visceral and cosmic to personal in epiphanies of joy.

“Towards the Great Turning Point,” by C.V. Devan Nair, is the latest in our “Gems from the Collaboration Archive” series. In this talk, Devan lays before us the supreme personal turning point—at the feet of the Mother—of a lifetime of revolution, action, and accomplishment on the world stage. “The Mother on Crisis and Emergence” brings a vast and universal vision to the material world and widespread destruction of the Great War, which had just begun.

This issue of Collaboration also features three powerful essays. The title of our first feature, “The Time Has Come,” by professor and sculptor Patrick M. Beldio, implies a question—the time for what?—and an answer: It is time for the promised leap beyond the dual reality of our times: dissolution and progress, annihilation and new creation. The recipe is before us now, Patrick argues, if we understand Mother’s acknowledgment of the value of hostile forces and employ her flower-based method of evoking the life-changing power of aspiration.

The other feature articles investigate Dr. Pravir Malik’s paradigm-challenging cosmology of light, which proposes that light is the foundation of the cosmos itself. In “A Journey to Mathematize the Power of Light,” Pravir tells us stories and highlights of his unexpected 20-year personal journey to the cosmology of light, from San Francisco to Pondicherry to Cape Town. The title of the second article, “The Cosmology of Light: Bridging Science and Spirituality,” coauthored with Dr. Bahman A.K. Shirazi, suggests the scope of this work. In the first part of the essay, Bahman reviews the centrality of light in religious and spiritual traditions for thousands of years, with special emphasis on the role of light in Integral Yoga. In the second part, Pravir summarizes how he connects the story of light with the latest discoveries in science. Hold your hats! Pravir and Bahman write: “We propose that the mystical quest for unity in consciousness and the current scientific search for a unified theory of reality have a common origin in the mysteries of light.” Both articles are beautifully illustrated with art from Margaret Astrid Phanes.

The issue concludes with a surprise discovery on “the last tremendous brow” of a long climb in Sri Aurobindo’s poem “One Day,” displayed on the back cover.—John Robert Cornell and Bahman A.K. Shirazi, editors
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Spirit Supreme
Who musest in the silence of the heart,
Eternal gleam,
Thou only Art!
Ah, wherefore with this darkness am I veiled,
My sunlit part

By clouds assailed?
Why am I thus disfigured by desire,
Distracted, haled,

Scorched by the fire
Of fitful passions, from thy peace out-thrust
Into the gyre

Of every gust?
Betrayed to grief, o’er taken with dismay,
Surprised by lust?

Let not my grey
Blood-clotted past repel thy sovereign ruth,
Nor even delay,

O lonely Truth!
Nor let the specious gods who ape Thee still
Deceive my youth.

These clamours still;
For I would hear the eternal voice and know
The eternal Will.

This brilliant show
Cumbering the threshold of eternity
Dispel,— bestow

The undimmed eye,
The heart grown young and clear. Rebuke in me
These hopes that cry

So deafeningly,
Remove my sullied centuries, restore
My purity.

O hidden door
Of Knowledge, open! Strength, fulfil thyself!
Love, outpour!

SRI AUROBINDO, Collected Poems, pp. 212–213
I am fortunate to have played many styles of music, including Indian music. I work with melodies, harmonies, rhythms, and arrangements. I am interested in interweaving inspirations from music-making with perspectives on what could be an integral response to the climate crisis and the destruction of the planet. Climate change and larger ecological crises are some of the most challenging problems facing humanity. We ARE in a state of planetary emergency.

Environmental activists Karen O’Brien and Gail Hochachka write, “The complexity of climate change requires developing and implementing a sufficiently complex response at all scales, from the international, to the national, to the community, and down to the household and individual levels.”

The yogi-musician works with, plays with, and practices awareness of mind, life, and body; is at ease with improvisation and individual expression; and aspires to be under the influence of grace. The yogi-musician blends heartfelt, devotion-drenched bhakti yoga, lifelong karma yoga, and insightful jnana yoga. The musical elements of melodies, chords, harmonies, and ornamentation go hand in hand with giving yourself to the Divine. You play and He/She plays with you.

I see a connection between harmony and the dire crises of our time. As a musician sings and plays in tune as much as possible, in my daily life I am aware of wholeness and am trying to be “in tune” with various situations and circumstances, knowing that my actions in the microcosm extend out into the macrocosm. A musician works with resolving dissonance into consonance. Likewise in this world we are in a state of planetary emergency combined with a crisis of consciousness, and so I offer up my actions as an invitation for the Divine to bring consonance, strength, and world-shaking force. Sri Aurobindo speaks of the force of Mahakali, a personality of the universal Divine Mother: “To knowledge she gives a conquering might, brings to beauty and harmony a high and mounting movement and imparts to the slow and difficult labour after perfection an impetus that multiplies the power and shortens the long way.”

When the music’s over, the experience is deepened by being quiet and silent. I take to heart the Mother’s words: “When you have a problem to solve, instead of turning over in your head all the possibilities, all the consequences, all the possible things one should or should not do, if you remain quiet with an aspiration for goodwill … the solution comes very quickly. And as you are silent you are able to hear it.”

Addressing the state of emergency in the world, with our minds we learn, research, and organize. With our bodies we take action. We act as if our lives depended on it, as well as the lives of the “seventh generation” after us.
In countless different ways, the musician is on the lookout for harmony and resolution—and certainly in this troubled time we’re living in, there is a huge amount of “dissonance” crying out for resolution. As Sri Aurobindo says: “For all problems of existence are essentially problems of harmony.” I trust that this cantankerous human race of ours is finding paths towards a new world shaped by a deeper understanding of our relationship with the planet and how our future is ultimately entwined with the survival of other creatures.

Going forward, let us welcome eclectic and diverse perspectives and visions. I imagine experts from all fields who can communicate well with each other coming together. Among the knowledgeable women and men bringing in helpful and truthful information and knowledge are ecologists, psychologists, musicians, spiritual leaders, scientists, indigenous people, and educators. This ecological disaster we are facing makes us ask, what ARE we going to do about it?

There are practical and pragmatic considerations today and on the road that lies ahead. A book that I recommend is 101 Ways to Go Zero Waste. The author speaks of getting to know your trash; composting; “being prepared with reusables”; and recycling (a last resort, after “reduce, reuse”). We all intend to “walk our talk.” I like her 30-minute rule: rather than driving, she says, “If it’s under a 30-minute walk, I walk.” I appreciate that these personal actions don’t address the whole range of climate issues, but provide practical partial solutions on a personal level as an initial step. There is indeed need for action on other levels—groups, local communities, nations, and so on.

I believe that being mindful of what I can do in my everyday life and then actually doing it is part of “awakened doing.” I aspire to cultivate the will to do what must be done AND to be an instrument of the divine Will. I regularly walk in nature. I play and teach music. In my community I offer outdoor sing-alongs that include “hopeful” songs and folk songs such as Pete Seeger’s “My Rainbow Race,” a love song for the earth.

“Awakened doing is the outer aspect of the next stage in the evolution of consciousness on our planet,” says Eckhart Tolle. “We are in the midst of a momentous event in the evolution of human consciousness, but they won’t be talking about it in the news tonight.”

If we look only at facts in their surface appearance or get bogged down in discouragement or depression, we may not see that things that are happening are processes of a moment in a developing whole. I believe in the importance of taking practical outward action AND being open to guidance, turning to the Grace, to a higher light, and to a Force that seems to be there ready to carry us forward.

It is reassuring to me that one can experience a certain freedom in the Spirit that enables one to embrace even the world of the ignorance without entering into the ignorance.

Sri Aurobindo speaks of divine guidance and gives us encouragement about humanity evolving and the world somehow surviving this perilous time:

The guidance can become evident only if we go behind appearances and begin to understand the forces at work and the way of their working and their secret significance. After all, real knowledge—even scientific knowledge—comes by going behind the surface phenomena to their hidden process and causes…. If there is a meaning and if there is something towards which things are evolving, then inevitably there must be a guidance—and that means that a supporting Consciousness and Will is there with which we can come into inner contact. If there is such a Consciousness and Will, it is not likely that it would stultify itself by annulling the world’s meaning or turning it into a perpetual or eventual failure.

For me, a response inspired by the Integral Yoga includes musical experience, silence, guidance, and practical considerations. I also step forward into the future with the three yogas of bhakti (devotion), jnana (knowledge), and perhaps especially karma (works). The Bhagavad Gita advises me to act, but to do my actions as a conscious offering to the Divine. My intention is to practice spiritual activism, keeping in mind that I refer my actions to the Divine, seek divine guidance, and progressively attune my actions with the divine Will.

I believe that the three yogas can address the dire state of the world. With bhakti and the power of devotion, another personality of the Divine Mother, Mahasaraswati, can be invoked. Sri Aurobindo describes how she presides over the detailed organization of world forces, their effective combinations, and the unailing exactitude of result and fulfilment. I see a blend of jnana yoga and...

All the world’s possibilities in man  
Are waiting as the tree waits in its seed:  
His past lives in him; it drives his future’s pace;  
His present’s acts fashion his coming fate.  
The unborn gods hide in his house of Life.  
The daemons of the unknown overshadow his mind  
Casting their dreams into live moulds of thought,  
The moulds in which his mind builds out its world.  
His mind creates around him its universe.\(^\text{10}\)

I remind myself of these words of the Mother: “We are now witnessing the birth of a new world…. But the road to it is a completely new road which has never been traced out—nobody has gone there…. So, it is an absolutely unexpected and unpredictable adventure.”\(^\text{11}\) On this completely new road, each of us is doing our part and giving our gift, and it is from within that the knowledge comes of the work that has to be done.

I carry on, working with harmonies and arrangements, aware at least to some extent of the divine presence. I take to heart that whatever we decide as a global community in the coming months and years is going to determine what happens on the earth further down the road.

NOTES
Propelled

Propelled into a morass
by an unknown unseen force,
left staggeringly disoriented,
the time-traveller rights herself
while seeking a compass point as
indicator of where to proceed for
finding direction, purpose, meaning
in the swirling chaos with which
she is so startlingly presented.
A distant spot of light emerges,
quietly gleaming through the tumult.
Seeing this, she knows that it
was always there.

MARTHA ORTON
WE HAVE AN ASTONISHING CATALOG OF BACK ISSUES IN THE Collaboration Archive, which offers a rich collection of insights, experiences, and stories about the path of Integral Yoga. In the “Gems from the Collaboration Archive” series, we periodically select one of these features, reissue it for print and digital subscribers, and make it sharable on the collaboration.org website. We also offer it as a jumping-off point for author interviews and Zoom roundtables, which are posted to YouTube, and for lively discussions on Facebook. The series is thus a multiplatform, participatory vehicle for people to engage with the yoga and a means to bring souls together who vibrate on the same wavelength.

As the second installment of this series, we are proud to feature Devan Nair’s article, “Towards the Great Turning Point” (see next page). We hope you enjoy this new Gem, and invite you to follow the conversations online.—Jonathan Kay, Shayna Kay, Lynda Lester, Marco Masi, and Mateo Needham

- Past issues of Collaboration, available in PDF: https://www.collaboration.org/journal/issues
- Gems from the Collaboration Archive: https://www.collaboration.org/journal/gems
- Sri Aurobindo Association YouTube channel: https://www.youtube.com/channel/UCMH0Mxu1wEGIT4kw6OrCqsQ

If you would like to join a Gems conversation, or have been digging through the Collaboration archive and wish to see a past article emerge in this way, email us at editor@collaboration.org.
WHAT WERE THE TURNING POINTS THAT LED ME TO THE discovery of Sri Aurobindo and the Mother? We proceed through contradictions, often very painful ones—contradictions that make us swing wildly between extremes, between exclusive sky or exclusive earth until, at last, we find ourselves suddenly placed before Something Else, which at once includes both sky and earth, height and abyss. What is up above also shines perfectly right down below.

The poetry and literature I read as a young man, in particular my readings in the great Eastern traditions, made me a fascinated votary of the utter Beyond. Heaven cancelled earth, which somehow we have to escape from. Life and the world were a disgusting hell. All the great religions were at least agreed on one thing: salvation was a post-mortem affair.

WORLD WAR II AND REVOLUTIONARY YEARS

Then came the Second World War, and the Japanese military occupation of Malaya and Singapore. And the whole picture changed.

Incredible tortures and massacres, severed human heads stuck on poles at street corners; arson, rapine, and carnage everywhere. For instance, with several others I
was forced, at bayonet-point, to watch as Japanese soldiers covered the head and trunk of a man with a jute rice sack soaked in kerosene, set him aflame, and watch him writhe to death on the ground in terrible, voiceless agony. Believers and unbelievers, sinners and saints, men, women, children, and suckling babes, were all alike grist for the satanic mills of torture and death. Where was God then? Where the All-Merciful and Compassionate One, the Friend of Creatures? And where the blissful Beyond? Only the communists in the anti-Japanese Resistance Army were fighting back.

A cold, ferocious anger gripped my entire being, down to my very cells, which began to throb with an unremitting hatred of tyranny and oppression. To blazing, bloody Hell with God and the Great Beyond! My revolutionary years began, and continued into the British reoccupation after the Allied victory over the fascist powers. This time the slogan was “Down with imperialism and colonialism.” I became a member of a clandestine organization called “The Anti-British League.” Once the hated colonialists were driven out, my fellow revolutionaries and I would set up a new Jerusalem in our free and independent nation.

Alas, all the new Jerusalems in all the continents continue to remain like the old Jerusalem, still marked by strife, division, bigotry, and cruelty.

FIVE YEARS IN PRISON

Naturally, when the British discovered what I and my kind were up to, they locked us up. Thus began a total of five years, in two separate spells, as a political prisoner.

When I was arrested the second time, in October 1956, I had become painfully aware that revolutionary ideals can also be betrayed by the revolutionaries themselves—for every man-made revolution is ultimately betrayed. But the most terrifying discovery was that the Devil was not only without. He was also very comfortably housed within oneself. In fact, not just one Devil, but several devils. For there are mental devils, vital devils, and physical devils right down to the cells of one’s body.

How often do we not wallow in self-pity, lamenting our current misfortunes, only to realize tomorrow or the day after that these mishaps had been rudely knocking at the doors of new opportunities and startling awakenings? There are blessed moments when we become aware that a divine prankster has all along been at work, for all the circumstances of life seem to link up in a silent conspiracy, as it were, to lead us to a seminal turning point which compels us up the ladder of consciousness, an up that sometimes takes the form of a plunge deep within, to find there what was missing all along in the noisy welter of confusion in which we live—a living, burning flame.

That second imprisonment, over a period of 31 months, was a dreadful psychological ordeal, made bearable only by an undreamed-of prison visitor, one I had never heard of before. Sri Aurobindo visited me in my cell, in the shape of an edition of The Life Divine. I had come across his name in the footnote of a book I was allowed to read. A family friend obliged by procuring a copy of the book from the university library.

It was a mind-blowing experience, and God knows that the human mind can certainly do with a great deal of blowing. As I once said elsewhere, invisible to my prison warders, magical doors and windows flew wide open in that narrow prison cell, and something in me soared out and up on wings of fire. Walls were toppled, gulfs were bridged, and heights and abysses became one in the incredibly calm, flaming immensity that was Sri Aurobindo. And all this in language of unparalleled magnificence, in sentences that breathe royalty in every word.
At last I began to ask the right questions, which we seldom do. “Is it not possible,” Sri Aurobindo gently suggested, “that the soul itself—not the outward mind, but the spirit within—has accepted and chosen these things as part of its development in order to get through the necessary experience at a rapid rate, to hew through, durchhauen, even at the risk or the cost of much damage to the outward life and the body? To the growing soul, to the spirit within us, may not difficulties, obstacles, attacks be a means of growth, added strength, enlarged experience, training for spiritual victory?”

And he calmly asserted: “God’s negations are as useful to us as His affirmations.”

Sri Aurobindo does not furnish us with a road map of yoga showing escape routes from life. On the contrary, he introduces one to the greatest revolution in earth-history—a sweeping, radical sedition against the entire existing natural order of things. His own words were: “It is not a revolt against the British government, which anyone can easily do. It is, in fact, a revolt against the whole universal Nature.”

What happened in that prison cell was a crucial personal turning point, one that I am still negotiating today. The Life Divine provided lightning flashes of an incredible illumination.

But there remained a stubborn egoism of the intellect, which refused to disappear. The arrogant intellectual in me prided himself on his intellectual prowess. My intellect failed to see the book was, fundamentally, much more than a massive intellectual feat, which it also was. For it is possible to train the mind to be a limpid instrument of the Spirit. Above all, I failed to see, at that stage, that The Life Divine was a recordation, in terms intelligible to the human intellect, of a Great Experience. “I wrote The Life Divine,” said Sri Aurobindo, “to help people silence their minds.”

However, at my absurdly superficial intellectual level, it was still largely a case of one great intellectual appreciating another. But the time would come when the Mother would, in her infallible way, knock the great intellect silly. Oh, that incident must have been occasion for huge laughter in Heaven, for it was high comedy.

“GOOD WORK, MOTHER”

In 1964, I visited the Sri Aurobindo Ashram for the first time. I had little patience in those days with absurd Hindus falling over each other to touch the feet of some holy man.

I remember that once in Calcutta I went to call on an illustrious swami of the Ramakrishna Mission, the late Swami Nikhilananda, whose writings I admired. Hundreds of Indians were waiting in line for his darshan, as they call it, and to reverently touch his feet. Not the great Devan Nair, who had strutted to the place in a three-piece suit, and was allowed to jump the queue. If I may stretch a simile, it was rather like His Holiness the Pope making a courtesy call on His Holiness the Dalai Lama. The swami received me, took my proffered hand, and shook it. I congratulated him on his latest book, one
on Vivekananda. But I was slightly discomfited by his smile of greeting. It was a mysterious smile. I wasn’t quite sure whether he was smiling with me, or at me.

When I arrived in Pondicherry, they arranged for me to meet the Mother. I inquired about the formalities, and was told that I could, if I liked, offer her some flowers. That struck me as a very gentlemanly thing to do. So I asked for some flowers to offer.

It was about ten in the morning when I found myself part of a line of about 20-odd people waiting in front of the Mother’s room. I was slightly irritated because nobody this time thought of inviting the Pope to jump the queue. However, I had already rehearsed in my mind what I would do when introduced to the Mother. I would present her the flowers, shake her hand, and say: “Good work, Mother. Congratulations!” Or something to that effect.

To this day I cannot explain what really happened when I stood in front of that frail old woman, seated humped in her chair. “Poor old lady,” was my first gentlemanly thought. Then my eyes fell on an extraordinarily radiant face, with a vibrant, golden glow.

Words are totally, hopelessly inadequate, to describe what happened next. I will only say this. I presented the flowers, which she took, and suddenly found myself looking into a pair of the most incredible eyes I had ever seen. There followed a convulsive inner and outer movement. And suddenly, inexplicably, I found myself on my knees, with my head on her lap. I felt a soft and gentle hand on the crown of my head.

I got to my feet in a daze. Not a word was exchanged. She gave me a red rose, which I took, and I left the room. Somehow, I walked back to the guest house, and lay on my bed. I don’t remember anything else, for I woke up only at about seven in the evening.

A FORMIDABLE TURNING POINT

It was a formidable inner turning point. The intellect was humbled. The emperor realized that he was quite naked. He had no clothes, and he occupied a quaking, collapsible throne. For the first time, I began to appreciate what the poet Shelley was driving at in his powerful poem, “Ozymandias.” You may like to hear it:

I met a traveler from an antique land
Who said: “Two vast and trunkless legs of stone
Stand in the desert. Near them, on the sand,
Half sunk, a shattered visage lies, whose frown,
And wrinkled lip, and sneer of cold command,
Tell that its sculptor well those passions read
Which yet survive, stamped on these lifeless things,
The hand that mocked them and the heart that fed;
And on the pedestal these words appear:
‘My name is Ozymandias, king of kings;
Look on my works, ye Mighty, and despair!’
Nothing beside remains. Round the decay
Of that colossal wreck, boundless and bare
The lone and level sands stretch far away.”

Today, an even more colossal wreck is in the making—the modern world of science and technology. The Ozymandiases of the mind are already, visibly, beginning to reel on shaky pedestals.

There were other turning points, of which it would be even more difficult to speak. Perhaps it is wrong to speak at all. For words are often counterfeit coins, unacceptable as legal tender in the supermarket of the Spirit.

But the Mother’s power continued to work in me.

Notes

C.V. Devan Nair (1923–2005) was a revolutionary, teacher, union leader and president of Singapore.
I made an assignation with the Night;
   In the abyss was fixed our rendezvous:
In my breast carrying God’s deathless light
   I came her dark and dangerous heart to woo.

I left the glory of the illumined Mind
   And the calm rapture of the divinised soul
And travelled through a vastness dim and blind
   To the grey shore where her ignorant waters roll.

I walk by the chill wave through the dull slime
   And still that weary journeying knows no end;
Lost is the lustrous godhead beyond Time,
   There comes no voice of the celestial Friend.

And yet I know my footsteps’ track shall be
A pathway towards Immortality.
AUGUST 31, 1914

In this formidable disorder and terrible destruction can be seen a great working, a necessary toil preparing the earth for a new sowing which will rise in marvellous spikes of grain and give to the world the shining harvest of a new race.... The vision is clear and precise, the plan of Thy divine law so plainly traced that peace has come back and installed itself in the hearts of the workers. There are no more doubts and hesitations, no longer any anguish or impatience. There is only the grand straight line of the work eternally accomplishing itself in spite of all, against all, despite all contrary appearances and illusory detours. These physical personalities, moments unseizable in the infinite Becoming, know that they will have made humanity take one farther step, infallibly and without care for the inevitable results, whatever be the apparent momentary consequences: they unite themselves with Thee, O Master eternal, they unite themselves with Thee, O Mother universal, and in this double identity with That which is beyond and That which is all the manifestation they taste the infinite joy of the perfect certitude.

Peace, peace in all the world... .
War is an appearance,
Turmoil is an illusion,
Peace is there, immutable peace.
Mother, sweet Mother who I am, Thou art at once the destroyer and the builder.
The whole universe lives in Thy breast with all its life innumerable and Thou livest in Thy immensity in the least of its atoms.
And the aspiration of Thy infinitude turns towards That which is not manifested to cry to it for a manifestation ever more complete and more perfect.
All is, in one time, in a triple and clairvoyant total Consciousness, the Individual, the Universal, the Infinite.

THE MOTHER, Prayers and Meditations, pp. 236–237

NOTE
Sri Aurobindo translated this prayer from the French.
TODAY WE ARE WITNESSING BOTH A PLANETARY DISSOLUTION AND A planetary progress that is largely unnoticed. Such an experience can be captured, though imperfectly, in the Sanskrit word pralaya. Although the denotation of pralaya means “complete annihilation,” it also connotes “excessive rest,” which signals something positive.¹ The Mother offered supportive ways to interpret this experience of both annihilation and new life in our global context. As readers of this journal will know, along with Sri Aurobindo, she claimed that the oppositions to growth processes on our planet will take hundreds of years to resolve into what they called a “new supramental creation” and a new human species that the Mother called “the new being.”² She agreed in principle with dharmic traditions that at least six mahāpralayas have occurred in the past, but that owing to the universal work she did with Sri Aurobindo, this seventh time our universe will not be destroyed but “will go on progressing, without retreat. This is why, in fact, there is in the human being that need for permanence and for an uninterrupted progress—it’s because the time has come.”³

Not only this, she said that the very growth dynamic that has characterized the old creation will eventually change from one that uses opposition to achieve progress to one that will no longer require conflict; it will be “eternally progressive.”⁴ In this short space I want to focus on the Mother’s experience of these issues considering her recognition that asuric or “hostile” forces are in fact invaluable aids to the divine work for a new creation and human species.⁵ Her understanding and work with flowers, which her devotees see as archetypal labors on behalf of all reality, symbolize this understanding. Hopefully, by joining this way of seeing reality, what might be called “a flower-based” worldview, we can see the killing nature of our times in a new light, inspiring the aspiration and courage to set out on the “supreme adventure,” as she called it, to aid the divine labor to sprout a longed-for yet vulnerable new creation, even as we give end-of-life care to an old creation and an old humanity that have begun to fertilize the next phase of growth.⁶

A FACT-BASED WORLDVIEW

Before I describe the Mother’s work with flowers, it is helpful to understand that she and Sri Aurobindo were not alone in their diagnosis of what they called “the old creation” and the positive prognosis for “the new creation.” Meher Baba (1894–1969) was a key collaborator that I do not have space here to review.⁷ He worked tirelessly from 1922 to 1969, as he claimed, to clear the world of old impressions or saṃskāras so that a new “Life,” “new humanity,” and “new world culture” would manifest over the next few hundred years, just as the Mother and Sri Aurobindo predicted.⁸ His work to ensure the materialization of this vision spans the same period that begins with the founding of the Sri Aurobindo Ashram in 1926 and ends with the Mother’s passing in 1973. In this time frame, we can also see scientific evidence that corroborates many important features of this spiritual perspective if one can view the evidence dispassionately.

The Swedish physician and scholar of international health, Hans Rosling (1948–2017), coordinated much of these evidentiary data into helpful kinetic bubble charts.
and more importantly, interpreted the data in intelligent ways. He wrote that the most salient threats to our life on planet earth are global pandemics, financial collapse, world war, climate change, and extreme poverty. Arguably, one might add casteism, as the work of Isabel Wilkerson shows. However, as the Mother knew well, since the beginning of the 20th century we have been living with these threats simultaneously, and with every passing year in the 21st, their presence intensifies and combines in ways that make it clear that we cannot solve any unless we solve all.

Rosling founded the Gapminder Foundation with his son and daughter-in-law, Ola Rosling and Anna Rosling-Rönnlund. Their objective is to fill our mental “gaps” in knowledge, that is, to help us understand exactly what the global threats are and how to measure their impacts so that we are not left in the dark, or worse, led by this ignorance to fight imagined threats with real resources. Their goal is simple: to help us all share a “fact-based” worldview while we combat a “overdramatic” worldview that cries wolf. The first goal helps us to build on real gains and the second helps us to not inadvertently add to our losses. The foundation gathers statistical data from 1800 to today using reliable sources from every nation, measures ignorance about it, and provides practical ways to overcome this ignorance so that we can achieve the United Nations’ 17 sustainable development goals.

Taking this longer view beginning in 1800, when one measures the development of phenomena like greenhouse gas emissions, threatened species, poverty, violence, education for girls, or life expectancy, we find that we are living through both a planetary destruction and an improvement; but the improvement far outweighs the destruction in many important areas. This is especially noticeable in the almost 50-year-timeframe (1926–1973) during which the Mother and Sri Aurobindo witnessed the inchoate new creation and new being brought about by what they called “the supramental manifestation,” which was their name for a new “descent” of the universal Mother’s wisdom, strength, harmony, perfection, and bliss on earth.

To take a country that the Mother knew well: according to the data gathered by Gapminder, the average life expediency in India in 1926 was about 28 years. In 1973 it was about 52 years and in 2018 it grew to about 70 years. Indian women had about six babies on average in 1926. In 1973, they had about five and as of 2018, the average dramatically decreased to two children. As Hans Rosling was fond of saying, until recently human beings died in balance with nature when having six children was the global average and four were expected to perish in the first few years. Now, after a mere century, we are living in balance with nature since the majority of mothers on earth give birth to two children who have a good chance at quality education even if the child is a girl, and to live lives freed from extreme poverty ($2/day), sexual harassment, and violence. It is crucial to note that this evidence is about trends and not isolated events. Rosling was amazed by this data, calling it “the secret silent miracle of human progress” comprised of “fundamental improvements that are world-changing but … too slow, too fragmented, or too small one-by-one to ever qualify as news.”

There are countless issues that one can explore on the Gapminder website, and I recommend that the reader take the tests they offer that measures ignorance about the world and to investigate any topic of interest using their helpful tools and videos. It is fun in this case to flunk a test! The Roslings argue that trends are not guaranteed to always lean positive or negative, for indeed we have maintained positive trends with vigilance and constant measurement; and when there is political will, vigilance, and constant measurement, negative trends can be reversed. However, in their view, we also still need more reliable data and a shared understanding about how all the risks to our planetary health are linked.

Besides these issues, one of the most difficult obstacles to achieving the United Nations sustainable development
goals for them is ignorance about the encouraging trends. The Roslings write that such unfamiliarity causes unnecessary worry, an overdramatic worldview, and bad decision making that disrupts progress. This mental susceptibility becomes even more problematic when a given issue is trending downwards. Instead of defining a given problem with clear-eyed facts, the overdramatic worldview and worry of the mind drives unhelpful solutions, divisive blaming, or worse, conspiracy theories that perpetuate non-responsive or confused action, as we witness now in the Covid responses to mask mandates and life-saving vaccines. Issues that have to do with the climate crisis are also of this nature. The Rosling’s “fact-based” worldview is a helpful tool to train the mind to solve its problems at its own level. This means mitigating against what they call “the ten dramatic instincts” that the mind developed in its evolutionary past that have outlived their usefulness today for they keep us unable to interpret our reality intelligently.13

A FLOWER-BASED WORLDVIEW

From the perspective of Integral Yoga, the Gapminder Foundation rightly intuits that the difficulty of our context is the weaknesses of the human mind. However, the Mother’s experience was that the trouble is even more severe: the weaknesses are chronic. There is no hope for a mental solution, even though we need to sharpen that tool in the process of our growth as a species. Late in her life she said, “You understand, [the mind and vital] are
a phase in the universal development, and they will be ... they will fall off as instruments that have outlived their usefulness.”14 She found that filling mental gaps is an endless work that must be replaced with a completely new authority; one that has no gaps. In addition to the mental “fact-based” worldview discussed above, the Mother might encourage a “flower-based” worldview. This is a vision of the world based on what any flower demonstrates: a spontaneous responsiveness to light and the consequent blossoming in perfection and beauty.

For her, what is centrally important about flowers is their automatic love and longing for the sun, which is the yogic labor of “aspiration” in plant form. She said, “plants have more [aspiration] in their physical being than man. Their whole life is a worship of light. Light is of course the material symbol of the Divine, and the sun represents, under material conditions, the Supreme Consciousness. The plants have felt it quite distinctly in their own simple, blind way. Their aspiration is intense, if you know how to become aware of it.”15 As the Mother observed, this longing leads to special forms of expression in organic life, which is the stage of the evolving divine or “psychic” presence in which the Mother said, “the vital element comes in ... which gives to flowers the sense of beauty.”16 And “in the physical world, of all things it is beauty which best expresses the Divine. The physical world is the world of form, and the perfection of form is beauty.”17

The Mother’s use of flowers with her students was a practice to awaken this kind of intense longing, awareness, and expression in an intentional, human way, which can lead to a new form of consciousness and integral way of life, one that is beyond the inherent limits or gaps of the mind; one that is “supra-mental.” To achieve this “birthright,” as she called it, the Mother said, “Let us do our best to prepare the coming of the New Being. The mind must fall silent and be replaced by the Truth-Consciousness—the consciousness of details integrated with the consciousness of the whole.”18 Sri Aurobindo similarly wrote that this supramental wisdom is the “knowledge of the One and the Many, by which the Many are seen in the terms of the One, in the infinite unifying Truth, Right, Vast of the divine existence.”19

The Gapminder Foundation demonstrates how we can capitalize on the mind’s strengths and mitigate its weaknesses, and the supermind, as the Mother and Sri Aurobindo described it, is of a completely different order,
The supermind, as the Mother and Sri Aurobindo described it, is of a completely different order, providing gapless and reliable knowledge and expression of knowledge.

providing gapless and reliable knowledge and expression of knowledge. It is beautiful like a flower as well, which means it expresses “perfection in form,” the “birthright” of our planet. Supramental expression has to do with seeing and communicating both the “details and the whole” of reality simultaneously, a feat completely unimaginable to the mind, which expresses itself sequentially, in partial “details” only, never the whole, and rarely the details in terms of the whole.

This blindness to wholeness and unity becomes increasingly important as we face multiple ecological threats that are linked in ways that baffle the lower mind. The Mother said, “New means of expression must be worked out to make it possible to express the supramental knowledge in a supramental way…. Now, we are obliged to raise our mental capacity to its utmost so that there is only, so to say, a sort of hardly perceptible borderline, but one that still exists, for all our means of expression still belong to this mental world, do not have the supramental capacity.”

Spending time with flowers, as the Mother demonstrated, is one important way in which one can begin to grow this reliable, beautiful, and perfect capacity even as we “raise our mental capacity to its utmost.”

The Mother’s “flower-based” worldview involves developing increased refinement of the senses, the emotions, the intellect, and the spiritual heart where is hidden the intuition and other inchoate faculties that can indeed see, hear, and remember the divine self, “the whole” in all its “details.” Mother named almost 900 different flowers in her life. She named them according to the unique blend of divine forces she felt in their forms as well as their inner subtle characters. For instance, if a flower or plant manifested “power of perfect endurance,” as she called the Persian shield plant, she might have offered this to a student who either lacked this quality or possessed it. In either case, the goal was always to increase the progress of the soul or “psychic being” within that person towards the goal of supramental consciousness and material transformation.

She often gave flowers as a love-gift to her students, as encouragement, challenge, or blessing, for she found that flowers were incredibly receptive to one’s force of consciousness. Her sādhabās or spiritual students also gave her flowers, but this was a risky thing to do. She said, “When, therefore, you offer flowers to me, their condition is almost always an index of yours. There are persons who never succeed in bringing a fresh flower to me—even if the flower is fresh it becomes limp in their hands. Others however always bring fresh flowers and even revitalize drooping ones. If your aspiration is strong your flower offering will be fresh.”

The Mother recommended communing with nature at specific times to revitalize one’s aspiration. She wrote,

When the sun sets and all becomes silent, sit down for a moment and put yourself into communion with Nature: you will feel rising from the earth, from below the roots of the trees and mounting upward and coursing through their fibres up to the highest outstretcing branches, the aspiration of an intense love and longing,—a longing for something that brings light and gives happiness, for the light that is gone and they wish to have back again. There is a yearning so pure and intense that if you can feel the movement in the trees, your own being too will go up in an ardent prayer for the peace and light and love that are unmanifested here.

The Mother was paradoxically inviting one to physically see nature in the dark. There and then aspiration and its stimulus to growth occurs. Of course, it is true that the light of the sun helps plants to grow. The Mother made the obvious observation that “plants need sunlight to live.” However, her point is about the indispensable role of darkness in the growth of a plant. This is instructive when trying to describe spiritual progress and the way she guided her own spiritual students. She is known for placing her students “in the dark” to awaken more intense
aspiration for the divine and subsequent divinization of the body in beauty. With this flower-based worldview, we might say that the universal Mother as Mahākāli is doing the same at the cosmic level of creation.

APPLYING A FLOWER-BASED WORLDVIEW

The Mother’s “flower-based” worldview is not easy to adopt for it requires two important understandings at the outset that usually cause a reaction in the ego: 1) the mind and the scientific instruments it needs are not capable of understanding the purpose of creation and how it grows for the fulfillment of the psychic being. She constantly asked her students to face this squarely and with equanimity (samatā), to welcome the pralaya as it manifests in what the mental consciousness perceives as darkness, suffering, and evil. These are the experiences that hold the key to understanding growth and progress of the psychic being in the universe.

When speaking to her students about negative forces in the world, Mother controversially said, “evil, what we call ‘evil,’ has its INDISPENSABLE place in the whole.” For her, the growth of the whole only happens through the dynamic of reaction between the “details,” what the mind thinks are “evil” and “good” or “dark” and “light” rubbing up against one another. This friction sparks forward progress, progress of the psychic being into conscious union with the Divine (or “That” which is beyond good and evil) and then the psychic being into conscious union with the earth, the home of potential “perfection of form.” In a succinct way, she said “opposition and contraries are a stimulus to progress.” Just as with
For small progress, small amounts of opposition are needed. For large progress, an equally large opposition is required. For supramental progress, an unprecedented counterforce will fuel the development.

dr., the growth of a flower or plant in places of darkness, with small progress, small amounts of opposition are needed, but for large progress an equally large measure of opposition is required. For what she and Sri Aurobindo called supramental progress, when they said the human species will grow beyond the limits of the mind and the psychic being materialize as a human body, an unprecedented counterforce will fuel the development.

In a similar understanding, in what Meher Baba called “the law of reaction,” he would often create opposition to his own spiritual work based on this principle. In other words, he would strategically invite or even author something “evil” to happen because he viewed it as the precious energy needed to achieve his desired outcome. In a striking image that captures this progressive growth dynamic, he said, “The more the bow string is drawn back, the greater the force for the arrow to fly farther… The greater the opposition, the greater the force to my work; and for the welfare of humanity, as all my work is, I don’t mind in the least.” Neither did the Mother, whose work encompassed creation as well. Sri Aurobindo said, “She has leaped an arrow from the bow of God,” drawn back by the extreme counterforce of death (Yama) so that she can reach the impossibly far target of supermind, bringing all of creation along for the ride.

Like anyone who lived through the 20th century, the Mother witnessed the forces of death grow to unimaginable proportions. However, she interpreted events like the Holocaust or the Great Purge in the Soviet Union and unseen contrary events on the inner planes of consciousness as a manifestation of the universal dissolution of what she called the “old creation.” This is the creation in which the mind was birthed, nourished, and reached the end of its utility.

Simultaneously, beginning in the early part of the 20th century and more fully in the late 1950s through the early 1970s, she witnessed the blossom of a “new creation” and the start of an age of joy and universal kinship, but unfolding gradually through severe means: the reaction of the old against the new. She said our human nature “is still so crude that [it] needs extremes” to true its growth at every stage, and especially to true its growth into the new supramental creation. She continued: “That is what Sri Aurobindo said: For love to be true, hatred was necessary; true love could be born only under the pressure of hatred. That’s it. Well, one must accept things as they are and try to go further. That is all.” “Things as they are,” in her view, is that all growth is fueled by crude oppositions.

In our context, we experience an extreme version of this principle where an old mental life is in process of dying and a new supramental life is beginning to take its place. However, the old will not go without a fight and the new cannot be strengthened without the contest. The Integral Yoga, in the effort to “accept things as they are and try to go further,” is a refined and unprecedented methodology to negotiate this conflictual growth dynamic in a self-conscious way, welcoming the principle that “opposition and contraries are a stimulus to progress.” The yoga is palliative care for a dying old world governed by the mind and simultaneously it is neonatal care for a vulnerable world just born, though guided by a completely new inner authority. In other words, the Mother’s yoga seeks to help the mind go as the supermind comes.

She said that she experienced this in her own body as the supramental forces ravaged it over many decades. She found that by August 1968, five years before she passed, the “vital and the mind [were] sent packing so that the physical may truly be left to its own resources.” Though this was an arduous process, she found that the body responded in “wonderful” ways. In May 1970 she experienced another turning point, a sense in which the normal patterns of aging and dissolution were changing, and not just for herself, but as a potential for all who will come after. She said, “I was really miserable, you might say (I mean on the purely physical level: nausea and everything imaginable, CONSTANT, constant), and then it went like this: a bliss… For the BODY.” She continued, “You know, ordinary sight—gone; ordinary hearing—gone; capacity to work
(Mother makes a gesture of writing)—gone. And it can ONLY come back in the true way, when … But I’ve had the proof that EVERYTHING can come back WONDERFULLY.” She summed up the experience of “bliss in body” and the truing of the senses in this image of fashion and beauty: “It’s the MATERIAL Nature, the physical Nature, the material Nature, and she said, ‘I’ve put on the dress, I’ve put on YOUR dress—I’ve put on your dress to tell you that I’ve adopted it.’ It means that material Nature has adopted the new creation.”31 In other words—if we return to her work with flowers—the decomposition of the mind has fertilized the blossom of the supermind.

The Mother’s mystical experience of the supramental forces on earth and the ways in which she experienced their influence on her body seems directly related to the kinds of changes that the Gapminder Foundation is tracking on the earth. These changes are miserable, yet there is evidence of real bliss. Like her, I suggest that we need a way to honor both the misery and the bliss as they oppose one another in “the law of reaction.” The Mother’s flower-based worldview offers this understanding and consolation. Just as darkness stimulates perfection of form in beautiful blossoms, ecological crisis, the Mother might say, stimulates a new supramental creation and humanity. The difficulty now is discernment of what parts of our being need to go and what parts need support to live. An overdramatic worldview and worry cannot discern this, but a mind led by supramental faculties can and eventually a supermind freed from any mental legacy.

NOTES

2. See the Mother, Questions and Answers 1953, p. 58.
4. The Mother, On Thoughts and Aphorisms, p. 166.
5. My forthcoming book Mira Alfassa: Mother of the Sri Aurobindo Ashrama & Apprentice to the Divine of Tomorrow (working title) will deal more fully with this topic in comparison to the teachings of Sri Ramakrishna and Meher Baba.
8. See Meher Baba, Discourses I (Myrtle Beach, South Carolina: Shri Har Foundation, 2007), p. 12.
15. The Mother, Questions and Answers 1929–1931, p. 132.
17. The Mother, Questions and Answers 1956, p. 215.
18. The Mother, Some Answers From the Mother, p. 438.
23. The Mother, Questions and Answers 1957–1958, p. 211.
25. The Mother, On Thoughts and Aphorisms, p. 165.
27. Ibid., p. 1450.
29. The Mother, On Thoughts and Aphorisms, p. 199.

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PATRICK M. BELDIO is a professor of comparative theology and religion and a professional sculptor.
Light

Light, endless Light! darkness has room no more,
Life’s ignorant gulfs give up their secrecy:
The huge inconscient depths unplumbed before
Lie glimmering in vast expectancy.

Light, timeless Light immutable and apart!
The holy sealed mysterious doors unclose.
Light, burning Light from the Infinite’s diamond heart
Quivers in my heart where blooms the deathless rose.

Light in its rapture leaping through the nerves!
Light, brooding Light! each smitten passionate cell
In a mute blaze of ecstasy preserves
A living sense of the Imperishable.

I move in an ocean of stupendous Light
Joining my depths to His eternal height.

SRI AUROBINDO, Collected Poems, p. 618
I am going to share a journey that leads to the present day and my attempts to construct a mathematical framework to elaborate the power in light. I share this journey because it has some features that draw attention to the nonlinearity of life. Given the tendency to easily march through life with blinkers on, such nonlinearity can often seem miraculous. But once the sight is a little lifted, the logic of another process may become clearer.

As with any journey that has to be taken, there are likely different entry points to ensure that the adventurer will indeed at some point embark on the journey. So what I am going to relate is not necessarily chronological.

From kindergarten to knowledge

Let me start at the time when my son Chaitanya got admitted to the school at the Sri Aurobindo Ashram in Pondicherry, India. He was three at the time, and we used to live in San Francisco in the USA. 9/11 had just happened in the USA, and we were set to move to Pondicherry. The times were uncertain, but I had always deeply wanted to live in the Ashram. Someone even told me once that in my last life I had been an ashramite. That was a pleasing thought, and I remember going through photographs of revolutionaries from the early 1900s to see if I recognized myself in anyone.

We arrived in Pondicherry and Chaitanya started attending the kindergarten. Now it was customary for a parent, for a few days and even perhaps for up to a week, to accompany the child into the kindergarten premises, and once they got comfortable, to silently depart. It turned out, though, that Chaitanya did not get comfortable for many weeks, and so Simi-ben, a primary teacher for the incoming children, suggested that I stay with him a little longer, even coming into the classroom itself for a while. I found myself sitting with this group of three-year-olds reciting the prayer “Douce Mère,” and this went on for about a month. This prayer is now indelibly imprinted in my mind.

Now at about the same time I wanted to do some work in the Ashram. I went to Chitra-di, who was responsible for assigning work, and she assigned me to the dining room, where I began the heavy lifting of those big steel meal-plates. One day while I was in the midst of that, I felt a veil being lifted. All of a sudden I glimpsed a parallel reality behind the outer activities, where everything was...
happening in the Mother, in a manner of speaking. By the way, these kinds of unexpected experiences happened several times during the three years I was at the Ashram, and hint at the magic of the place.

Sometime after, I was walking back to my house after lunch duty and Kala-ben, one of the teachers in the school, stopped me and said that rather than working in the dining room, I should be teaching in Knowledge, the undergraduate arm of the Sri Aurobindo International Centre of Education (SAICE).

The idea resonated with me, and having just arrived from the professional world, I quickly created a case complete with a portfolio of my work that I felt would support such a transition. I approached Manoj-da, the head of SAICE, with the idea. He introduced me to Jugal-da, the head of Knowledge, who was welcoming. Now I only had to go back to Chitra-di and get things rearranged. I had some trepidation, but luckily she too gave her consent, after scolding me a bit for not keeping to my assigned work; and so a few months after having been through the kindergarten experience, I now found myself beginning to teach a batch of students in Knowledge.

The experience at Knowledge was exceptional, and day after day I found myself opening to something deeper while in the classroom with the young adults. It felt like everything in my mind was getting rearranged. I was very much the student while at the same time being a teacher. One day Jugal-da approached me out of the blue and said, “What you are trying to do is difficult.” This I found interesting, because frankly I tended to keep things to myself without sharing much with other people. “You are creating a metatheory for organization,” he continued. Those words resonated and I have thought about them often since then.

Many ideas that I had on management and organization—and that I had used to create the initial multidisciplinary “Flowering of Management” course at Knowledge—got progressively opened, deepened, and widened, so that three years later, when due to circumstance I had to return to San Francisco, I was entirely differently equipped to reintegrate with mainstream life.

While at Knowledge, I also began having soup with Deshpande, also a teacher at SAICE, almost on a daily basis. We would sit facing the fountain in the main school yard. We would get into many discussions about the practicality of all the theories I was interested in. It was because of his influence that I maintained, even while in the Ashram, one foot outside, and at his urging wrote my first few academic papers on fractals that were published by a journal edited out of the Indian Institute of Management Kolkata. It was also due to his influence that I maintained a business consulting practice and successfully ended up sharing some of these new theories with several well-known companies in India. In fact, senior Ashram member Nirod-da, whom I would see every now and then, always seemed to know what was going on with me, and one day he mentioned, “I wish I had someone to talk to who would
help me see more clearly,” referring to my daily conversations with Deshpande.

One day I was visiting Nirod-da, and for some time we were alone in his tearoom. He looked at me especially intently, that is to say, more intently than he usually did, and went on to instruct me on how I should go about increasing knowledge. The gist of what he said was that I had to allow larger and larger spheres of knowledge to settle around me. Not therefore to actively try to organize by category, but to let things in a sense arrange themselves organically. Almost like opening to the influence of a living being, or that is how at least I seem to have interpreted it.

In a strange manner I feel that I was an expedited product of Sri Aurobindo International Centre of Education. After all, I had been from kindergarten to Knowledge in just three years! My time there ended at about the same time as the batch of students whom I remained with from their entry to exit at Knowledge. This probably also made me the oldest student, at 40, to have “graduated” from Knowledge. Even if I had not had a past life at the Ashram, now indeed, it felt as though I were some kind of product of the Ashram.

FRACTALS AND BEYOND

When I returned to San Francisco, I joined a strategy consulting company, and was seeing the confluence of individual, team, corporate, and economic possibilities from a different lens. I felt inspired to construct a more complete theory of fractals (a self-similar pattern that repeats itself on different scale), applicable to organizations. I sent a proposal for a metatheory of organization, using the framework of fractals, to the global academic publisher Sage. To my surprise they responded that they wanted to enter into an advance three-book contract, and so began a journey to write these three books.

I thought now that the difficult work Jugal-da had suggested I would be involved in was over.

But in fact, as events would reveal, it was only beginning. I had started a blog about fractals in the midst of my book-writing journey, and it so happened that a reader of this blog, who described himself as a Berkeley-based closet mathematician and preferred to remain unknown, approached me. He said he wanted to share something with me, and invited me to a dinner meeting in Berkeley. The meeting stands as one of the most unusual I have had, as he went on to draw out on the candle-lit cloth that adorned our table his impressions of mathematical concepts of e and pi and why they were central to the creation of the universe.

I listened quietly for a couple of hours, and the next morning when I awoke, I was seized by a strong urge to

This fourfold model suggested that there are four operating principles that organize structure and possibility at different scales.
begin to express things mathematically. This must have been an initiation of sorts, because for the next couple of months, as far as I can remember, this urge remained and drove me to create about 50 YouTube videos in quick succession where I tried to express different dynamics of life in mathematical notation. I remember asking the source of inspiration to, in fact, please stop, as I was getting consumed and felt at the time that that amount of downpour could be endless and occupy the rest of my life.

At about the same time, a professor in South Africa read the first in my fractal book series. He wrote me a 16-page letter elaborating what he agreed with and what he did not agree with, and we ended up having a long-distance dialog. As a result of that dialog, he invited me to further my work by doing a Ph.D. at the University of Pretoria. He introduced me to his advisor, a seasoned professor who ended up being my advisor as well.

And so it happened that due to the confluence of events, I ended up working on a Ph.D. to describe the mathematical heart of innovation that animated living systems, from an institution of higher learning located in a far-removed land close to the southern tip of South Africa. This I simply could never have imagined.

When I finished my Ph.D., someone told me: “This is the first day of the rest of your life.” He could not have been more right.

The books on fractals I had written were a starting point, and by the time I finished the Ph.D., I had framed a multilayered mathematical model in which the source of innovation could vary depending on a number of active inputs. This fourfold model suggested that there are four operating principles that organize structure and possibility at different scales. Whereas in the books on fractals I had derived this fourfoldness by the study of different successful systems, in the subsequent work I took this as a given and positioned these four principles as being four sources of innovation that had to exist and be active simultaneously for a system to successfully adapt and strengthen itself in the variable dynamics of life.

Initially it was hard for academia to take me seriously, until I used the existing example of every living cell being constituted by four, and only four, molecular plans: nucleic acids, polysaccharides, lipids, and proteins. These four molecular plans perfectly matched the four organizational principles that framed the ubiquitous mathematical model of innovation—knowledge, power, harmony, and
service, respectively—and all four were required for a cell to remain stable and become the basis for any further experimentation at the level of life.

But the dynamics of, and between, these four organizational principles can also be seen to be foundational in the structure and operation of fundamental quaternary systems such as space-time-energy-gravity that describe cosmic-level parameters, quarks-leptons-bosons-Higgs boson that describe quantum particles, and s-shell, p-shell, d-shell, f-shell atoms that constitute the periodic table. In other words, the emergence of matter, of life, and the container within which the continued fourfold play exists are all nothing other than different manifestations of the same four organizational principles.

Further, light itself can be seen to house these four organizational principles, regardless of the speed at which one imagines it to exist.

If light is imagined existing infinitely fast, it will be instantaneously present in any considered volume, hence surfacing the property of presence or service; since if anything other than light arises it will sooner or later be overcome by the ubiquity of light, a property of power arises; since any appearances or disappearances will be recorded in the fabric of light, a property of knowledge arises; since all is connected by light, a property of harmony arises.

Conversely, if light is imagined slowing down to speed zero, then the fact that it cannot travel creates a reality of darkness, or the opposite of presence and service; since nothing now is connected to anything else, there is the opposite of harmony; since light will have no power over anything, a reality of weakness arises; since nothing is getting recorded in an all-present fabric, there is ignorance.

And between these two extremes of speed, all instances of different speeds of light can be seen to engender a variation in these four properties.

Further, the four properties that emerge in such a light-centric view can be seen to go through meaningful transformations with each successive projection of slower-than-infinite speeds of light, to finally create the reality of immense material diversity in the layer where light is known to travel at a constant speed of 186,000 miles per second in our physical universe.

Thus, with a first transformation due to light projecting itself at some slower-than-infinite speed, but still much faster than 186,000 miles per second, the four properties can be thought of as revealing more of the differentiation implicit within them to create a vast set of knowledge-like elements, a vast set of power-like elements, a vast set of harmony-like elements, and a vast set of service-like elements, respectively. With a further slowdown in speed the differentiation can be seen to be even more concrete so that elements from these four sets combine in unique ways to create a practically infinite set of unique though still subtle seeds. As light finally projects itself to the known speed of 186,000 miles per second, the physics so created allows materialization of the subtle seeds in a manner that becomes more perceptible, and that also precipitates what we call the big bang.

Subsequently, any further emergence of matter or life or mind, or any other principle seeking emergence, is the result of an arbitration between what has already materialized, and what lies behind the veil of light in its wrapping of 186,000 miles per second.

In this point of view the infinity of seeds seeking a playground to express themselves is nothing other than space. The process of maturation of the infinite number of seeds is nothing other than time. The process of materialization by which seeds become matter is nothing other than energy. The relationship between seed and seed and seeds and seeds so that collectivities emerge is
Love then, can be seen as that which continues to bind in fourfoldness, that which creates one stable foundation after another, and that which therefore pulls possibility out from apparent chaos.

nothing other than gravity. And so, this first concrete expression of the emergence of fourfoldness that accompanies the big bang, maintaining the implicit integrity of fourfoldness explicitly in a unified cosmic embrace of space, time, energy, gravity, is nothing other than love.

Love then, can be seen as that which continues to bind in fourfoldness, that which creates one stable foundation after another, and that which therefore pulls possibility out from apparent chaos, to continue to create a greater, more unified, material organization.

But another way of interpreting the play of continued fourfold emergence, is to see that the Mother cloaks herself in various form. She cloaks herself in the fourfoldness of light. She cloaks herself in macro space-time-energy-gravity dynamics of the cosmos. She cloaks herself as the fourfoldness of quantum particles. She cloaks herself in the fourfoldness of the periodic table. She cloaks herself in the fourfold molecular plan in every living cell. And every cloak can only be because it is bound together through the stitch of her love.

This then summarizes a mathematics of light. I ended up writing ten books to frame this as a Cosmology of Light.

A REFLECTIVE ANALYSIS

In the last few years there have been some displays of integrality where my interests in framing a mathematical theory for metaorganization, aka a Cosmology of Light, has organically merged with my professional life.

Many workshops on a Cosmology of Light have been conducted. Conversations based on the framework of light have taken place in the corporate sphere, and the artificial boundaries we easily erect in our management of organizations have dissolved in those times. Insights have jumped across barriers so that in the technical sphere there has been greater acceptance of concepts that transcend the physical. This manifests in surprising comments on papers I submit to conferences, and the further surprise of having some of these papers accepted. Papers based on the framework of light have been accepted in the fields of genetics, quantum computation, technology of pharmaceuticals, artificial intelligence, theory of computation, and complex adaptive systems, amongst other areas. Further, some forays into trying to express phenomena mathematically have yielded what could be interesting inventions.

These are promising signs. But in the unfolding play of life everything has its space and time. Whether they may mature into vaster flows or remain as trickles is yet to be seen.

Time itself goes faster than expected. Already 50 years have passed in a flash, and it seems that so little has been done. I am reminded of various people whom I met in the Ashram who spontaneously offered their one-word or one-line description of me, on meeting me for the first time, decades ago. Someone said I was a prince. A second called me a scholar. Another said I was a high official in Egypt at the time of the pharaohs. A fourth, as I shared, suggested I was a revolutionary over a hundred years ago. A fifth called me a writer from some higher plane of mind. I am not sure what they saw. But the sense I am left with is that even if these are true, what is behind and what emerges belongs to possibility.

The materialization of possibility itself is going to depend on whether one’s moment-to-moment invocation is such that one remains subtly entrapped by \( \pi \) circular logic or whether one is able instead to ignite the exponential promise of \( e \) in an ever-increasing fire of aspiration.

Let us hope that it is the latter that becomes more and more real.

Note

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PRAVIR MALIK, Ph.D., has been developing a unified theory and mathematics of organization.
The

Golden Light

Thy golden Light came down into my brain
And the grey rooms of mind sun-touched became
A bright reply to Wisdom’s occult plane,
A calm illumination and a flame.

Thy golden Light came down into my throat,
And all my speech is now a tune divine,
A paean song of Thee my single note;
My words are drunk with the Immortal’s wine.

Thy golden Light came down into my heart
Smiting my life with Thy eternity;
Now has it grown a temple where Thou art
And all its passions point towards only Thee.

Thy golden Light came down into my feet;
My earth is now Thy playfield and Thy seat.

SRI AUROBINDO, *Collected Poems*, p. 605
ABSTRACT

In this article we explore two qualitatively different approaches to understanding light. We will first explore the symbolic significance of light as a metaphor for consciousness, knowledge, and life itself in selected Eastern and Western spiritual traditions. Next, we will explore and extend the current understanding of light in science by challenging some of the fundamental assumptions such as the notion that nothing can move faster than the speed of light. By making the case that it is possible for light to travel at higher speeds than presumed possible today—up to infinite velocity—we postulate that such higher speeds of light are possible in dimensions beyond the physical world. Using Sri Aurobindo’s integral metaphysical framework, we describe an ontology that connects the world of phenomenal existence as we know it, to its origin in the supramental light and consciousness.

BRIDGING SCIENCE AND SPIRITUALITY

It may seem that ways of knowing of science and yoga are quite far apart. Science depends on observation through the senses or their extensions such as microscopes and telescopes, and on reasoning, whereas many yogic practices involve shutting down or bypassing the senses and going within, seeking insights and intuitions through contemplation. However, we know that some of the greatest scientists, such as Albert Einstein, came across their major discoveries through intuitive experiences first before explicating them in terms of symbolic methods such as mathematics and language. Sri Aurobindo arrived at his knowledge through inner empirical observation (introspection) and other yogic processes, including intuition and knowledge by identity (which arises from direct identification with an object or phenomenon). Unlike some yogis and contemplatives who say that ordinary language and mental processes are incapable of expressing yogic experiences, an important feature of Sri Aurobindo’s contribution was his ability to put his experiences and intuitions into words.

What is common to both science and spirituality is the ability to access intuition and to explicate the insights in terms of language or other symbolic systems. Intuition, here defined as a precognitive or nonverbal way of knowing, is the key to higher forms of knowledge and states of consciousness. While some types of intuitions are personal in nature, such as somatic intuitions, gut feelings, and heart intuitions, we are referring specifically here to higher or transpersonal intuitions such as those.
originating from the intuitive plane of consciousness described by Sri Aurobindo.

Insights about the nature of light shared below are a product of intuitive visions of many saints and seers from various spiritual traditions throughout history, including the teachings of Sri Aurobindo and the Mother. The section on the science of light assumes as a starting point some known scientific facts about light and develops beyond through intuitive contemplations.

SYMBOLISM OF LIGHT IN SPIRITUAL TRADITIONS

Since the ancient times light has been used as a symbol for consciousness, life, knowledge, and truth. In the Zoroastrian tradition—one of the oldest living religions, going back thousands of years and often referred to as the first monotheistic religion—light is the central principle, represented by fire. Zoroastrian temples around the world have kept a continuously lit fire, some since ancient times, as the symbol of continuity of life and consciousness. In India, Agni, the god of fire, is one of the most important Vedic gods central to Hindu rites and rituals. Light has a special significance during the festival of Diwali when the triumph of light over darkness is celebrated. The winter solstice (yalda) had a similar significance in Zoroastrianism as the celebration of the victory of light and love over darkness and ignorance.

The Judeo-Christian scriptures depicted light as a flame burning inside the believer. “A candle of God is the soul of man” (Proverbs 20:27). Similarly, in the Upanishads, the soul (atman) is described as a small flame. In the Katha Upanishad (2:1:13), the eternal self is referred to as smokeless (pure) light. In the Koran (24:35), God is referred to as the light of the heavens and the earth (light upon light) and guides to his light whom he wills. In some forms of Buddhism prabhāsvara-citta, translated as the “luminous mind” or “mind of clear light,” is usually used to describe a brilliant or radiant state of mind or consciousness that is revealed when we overcome ordinary dualistic or fragmented consciousness.

In addition to such general allegorical references found in the world scriptures, there are also extensive philosophical and theological doctrines concerning the metaphysics of light, which was a powerful current of thought that flowed through Western philosophy from ancient times down through the Renaissance. It taught that reality was essentially and fundamentally Light, not in a metaphorical but in a proper sense. Moreover, this Light was understood to both emanate being and illuminate cognition.¹

Thus, light can refer to the origin of consciousness that radiates out in all directions and connects all things and beings to their source. The human self or soul is a spark or flame of this great light in the individual form. Through spiritual practice, the soul can be connected to and illuminated by the light of Spirit—the light of all lights—so long as dualistic consciousness of the ordinary mind can be overcome. The inner battle between knowledge and ignorance, between good and evil, is thus both metaphorically and practically a battle between light and darkness in which light is the eventual conqueror.

Meher Baba, one of the foremost spiritual figures of India in the 20th century, described creation of the universe as bifurcation of the transcendental unity of being into two poles of extreme consciousness and its opposite, extreme unconsciousness—in other words,
Sri Aurobindo described several gradations of consciousness above the ordinary mind that can be experienced in terms of various degrees of light and powers of consciousness.

extreme light and extreme darkness—which subsequently interact with each other, comprising both cosmic and intrapsychic dynamics. We find a similar expression in Sri Aurobindo’s gradations of consciousness, ranging from the inconscient (the densest layers of existence devoid of light) to the superconscient, the most intense experience of consciousness in the form of “Light, Power, and Bliss,” as described in the following passage:

The nature of the Divine is Light and Power and Bliss; he [The God-seeker] can feel the divine Light and Power and Bliss above him and descending into him, filling every strand of his nature, every cell and atom of his being, flooding his soul and mind and life and body, surrounding him like an illimitable sea and filling the world, suffusing all his feeling and sense and experience, making all his life truly and utterly divine.²

Sri Aurobindo described several gradations of consciousness above the ordinary mind that can be experienced in terms of various degrees of light and powers of consciousness. He named the highest four gradations illumined mind, intuitive mind, overmind, and supermind, from the lower to the highest level. The illumined mind, for instance, works by vision rather than thought. Similar experiences are also noted by other mystics. For example, Rumi has likened the ordinary mind to a candle that sheds light on objects one at a time. By comparison, he described the state of illumined consciousness as the sunlight that illumines all objects at once.

Sri Aurobindo has used the analogy of a flash of lighting to describe experiences of the intuitive plane:

Intuition is always an edge or ray or outleap of a superior light; it is in us a projecting blade, edge or point of a far-off supermind light entering into and modified by some intermediate truth-mind substance above us and, so modified, again entering into and very much blinded by our ordinary or ignorant mind substance; but on that higher level to which it is native its light is unmixed and therefore entirely and purely veridical, and its rays are not separated but connected or massed together in a play of waves of what might almost be called in the Sanskrit poetic figure a sea or mass of “stable lightnings.”³

These gradations of consciousness are described more fully in other works and letters of Sri Aurobindo.

While many mystics and yogis of the past had similar experiences of light, they would typically merge into these planes of consciousness and light by dissolving their individuality and abandoning their embodied life on earth. Sri Aurobindo’s goal, however, was to bring down the light from the highest or supramental plane into the physical being to facilitate its transformation on the individual level, and of all life on earth. This work continued through the Mother (Mirra Alfassa) after Sri
Aurobindo’s passing (mahasamadhi) in 1950. On February 29, 1956, when the Mother experienced the manifestation of the supermind in the atmosphere of the earth, she described it in the following words: “the supramental Light and Force and Consciousness rushed down upon earth in an uninterrupted flow.”

The attempt to bring down the supramental light and force is the culmination of the yogic process that was initiated by Sri Aurobindo and continued by the Mother after his mahasamadhi, with the sole purpose of transforming life on earth. On multiple occasions Sri Aurobindo and the Mother emphasized that their consciousness is one and the same. The Mother continued the work of bringing down the supramental light into the physical plane to facilitate its transformation down to the cellular level.

In the next section we will explore the centrality of light to material creation through imagining light to exist at different speeds, creating different realities. In this context it is worthwhile contemplating the following statements by Sri Aurobindo to explore how the process of creation and the nature of some of the cascading worlds may relate to the to-be-presented thesis on light.

Supermind is a bridge between the transcendent realm of being (sat-chit-ananda) and the manifest world of diversity and becoming. Supermind is described as unity and truth-consciousness that differentiates without dividing. Division and separation are properties of the planes below the supermind. In the integral worldview, there are broadly three ranges of consciousness below the supermind: mental, vital, and physical in descending order.

According to Sri Aurobindo,

The Overmind is the highest of these ranges; it is full of lights and powers; but from the point of view of what is above it, it is the line of the soul’s turning away from the complete and indivisible knowledge and its descent towards the Ignorance.

Supermind is not merely a step higher than Overmind—it is beyond the line, that is, a different consciousness and power beyond the mental limit.

In the Supermind mental divisions and oppositions cease, the problems created by our dividing and fragmenting mind disappear and Truth is seen as a luminous whole. In the Overmind there is not yet the actual fall into Ignorance, but the first step is taken which will make the fall inevitable.

The Overmind receives the Divine Truth [from the Supermind] and disperses it in various formations and diverse play of forces, building thus different worlds out of this dispersion.

... [the Overmind] though luminous itself, keeps from us the full indivisible supramental Light, depends on it indeed, but in receiving it, divides, distributes, breaks it up into separated aspects, powers, multiplicities....

Here we understand that diversity, division, and multiplicity emerge from the overmental plane. Sri Aurobindo attributes the world of creation to the power of shakti (creative force) associated with the Divine Mother. This creative power is manifested through what he calls the four powers of the Mother, which are reflected through four aspects of her personality, and through whom “she acts on her creatures, orders and harmonizes her
creations in the worlds and directs the working out of her thousand forces…. The Mother is the consciousness and force of the Supreme and far above all she creates.\textsuperscript{10} Sri Aurobindo gives these four great powers—omnipresence, omnipotence, omniharmony, and omniscience—the four great names of Maheshwari, Mahakali, Mahalakshmi, and Mahasaraswati.

As we descend further below, the divisions in consciousness give rise to the world of multifarious phenomena that we experience in our daily lives. The four personalities of the Divine Mother govern these multiplicities in ways that manifest presence, power, harmony, and knowledge as we experience in our human consciousness. Sri Aurobindo writes:

Four great Aspects of the Mother, four of her leading Powers and Personalities have stood in front in her guidance of this universe and in her dealings with the terrestrial play. One is her personality of calm wideness and comprehending wisdom and tranquil benignity and inexhaustible compassion and sovereign and surpassing majesty and all-ruling greatness [Maheshwari]. Another embodies her power of splendid strength and irresistible passion, her warrior mood, her overwhelming will, her impetuous swiftness and world-shaking force [Mahakali]. A third is vivid and sweet and wonderful with her deep secret of beauty and harmony and fine rhythm, her intricate and subtle opulence, her compelling attraction and captivating grace [Mahalakshmi]. The fourth is equipped with her close and profound capacity of intimate knowledge and careful flawless work and quiet and exact perfection in all things [Mahasaraswati].\textsuperscript{11}

In the following statement Sri Aurobindo reminds us that light is not what we ordinarily think of—merely a material phenomenon:

... [C]ontrary to our ordinary conceptions, light is not primarily a material creation and the sense or vision of light accompanying the inner illumination is not merely a subjective visual image or a symbolic phenomenon: light is primarily a spiritual manifestation of the Divine Reality illuminative and creative; material light is a subsequent representation or conversion of it into Matter for the purposes of the material Energy.\textsuperscript{12}

In 1905 Albert Einstein speculated that the excess energy emitted by certain radioactive elements such as radium may be attributed to a loss of mass of the particles in the nucleus of the atom. This means that under specific circumstances, energy can be produced via a loss of mass, and that also it is possible for energy to become matter—something that can now be demonstrated in particle accelerators through a process called Breit-Wheeler, which involves smashing two photons into each other to create an electron-positron pair.\textsuperscript{13}

Light is not merely a subjective or symbolic experience; it is a manifestation of divine reality on multiple planes of consciousness as seen in the preceding descriptions. Light is consciousness, and pure light from higher planes of consciousness has the power to illuminate and transform lower levels of consciousness.

A SCIENCE OF LIGHT

We know that light travels at a constant speed of 186,000 miles per second in our physical universe. That it should do so is significant and must have some reason behind it. This reason, simply stated, is that materialization requires a constant, invariable medium in which to ground the dynamism that creates. Absent such invariability, matter would likely exist in a far more fluid state contrary to scientific fact.

Scientifically, the speed of light as per Einstein’s theory of relativity places an upper bound on space-time dynamics in that it is supposed to be impossible for an object to approach the speed of light without breaking known laws of physics. But the theory does not disallow particles that may already be traveling at speeds greater than 186,000 miles per second. Further, because light is traveling at a finite speed in the physical universe, it will take a finite time and distance to express what is within it, be that any information or any phenomenon. We suggest that this minimal limit is related to the smallest bound of existence in the physical universe, known as the Planck’s constant. This constant relates the energy that light expresses to its
frequency. So, the higher the frequency of light, the higher will be the energy it contains. The energy is related to the frequency by multiplying it by Planck’s constant—and this physical law was determined through experimentation.

A study of formulae to do with the speed and energy of light easily suggests such inverse proportionality between frequency and energy. The energy is related to the frequency by multiplying it by Planck’s constant—and this physical law was determined through experimentation.

Note though that the explicit causal link between the two has only more recently been explored by one of the authors in a series of peer-reviewed Institute of Electrical and Electronics Engineers (IEEE) technical papers. Therefore, just as the speed of light creates an upper limit in our physical universe, so too the inverse of the speed of light can be proposed to create a lower limit. This lower limit has been identified with the concept of quanta, which can be thought of as a threshold device by which that which is contained in light can express itself materially.

The notion of materialization of information or content in a layer where light travels at speed c, that is, 186,000 miles per second, implies though that there must be another layer, or even layers behind, in which the speed of light and Planck’s constant. Note though that the explicit causal link between the two has only more recently been explored by one of the authors in a series of peer-reviewed Institute of Electrical and Electronics Engineers (IEEE) technical papers. Therefore, just as the speed of light creates an upper limit in our physical universe, so too the inverse of the speed of light can be proposed to create a lower limit. This lower limit has been identified with the concept of quanta, which can be thought of as a threshold device by which that which is contained in light can express itself materially.

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considered volume, it would sooner or later be overpowered by light, and therefore light would have a quality of omnipotence. Since anything that did arise or disappear in the considered volume would do so in the fabric of light, light would record such presence or absence, and would therefore have a quality of omniscience. Further, since everything occurring in that volume would be connected by light, there would also be a quality of omniharmony.

So, the originating layer of light would reveal four properties—omnipresence, omnipotence, omniscience, omniharmony—that provide some insight into its nature. This fourfold omnireality can be imagined as having infinite information in it, and therefore infinite potentiality. In an endeavor to express this potentiality, light could project some substance and quality of itself. Light being expressed or projected at constant speeds slower than an infinite speed will allow, as per the logic of the creation of upper and lower bounds suggested earlier, a medium in which information or possibility in light's native state could be progressively materialized.

In such a process of materialization, the original set of four properties will begin to reveal the infinite distinctness contained within it. The four properties becoming four sets of properties would therefore create an abundance of elements, each related to the original four properties. Omnipresence would reveal the infinite variation of distinct elements all related to what we call presence. Omnipotence would reveal the infinite variation of distinct elements all related to what we call power. Omniscience would reveal the infinite variation of distinct elements all related to what we call knowledge. And omniharmony would reveal the infinite variation of distinct elements all related to what we call harmony. Note that we changed the order in which we describe the four properties in these two paragraph and once more from here on because of the flow of the logic in these thought experiments.

But the light-based process by which this happened would be simply light projecting itself at some speed slower than infinity, but still immensely faster than c. This would create a lower-bound in that layer, thereby precipitating a mechanics of quantization that allowed very subtle, field-like matter to come into being. This field-like “matter” would distribute the elements in the four sets of properties in that corresponding layer of light.

A further projection, at some envisioned speed closer to, yet immensely greater than, c would allow another order of more concrete materialization to come into being, such that the infinite elements in the antecedent layer of light can now form subtle though unique seeds created from unique combinations of elements. The corresponding lower-bound would be such that these seeds would be wave-like, becoming the precursor for the infinite diversity
that expresses itself in the known material universe where light travels at speed $c$.

It is the infinity of such unique seeds that, needing a material arena to express their hidden potentiality, can be thought of as the substance of space. It is the process of maturation of the potential hidden in such seeds that can be thought of as time. It is the process of materialization of potential expressing itself as known matter that can be thought of as energy. It is the arrangement between seed and seed, or seeds and seeds such that meaningful collectivities come into being, that can be thought of as gravity.

Therefore space, time, energy, and gravity, can be seen as nothing other than an emergence of light’s properties of knowledge, power, presence, and harmony respectively. The physical universe, bound by macro-parameters of space, time, energy, and gravity, can be seen as nothing other than a materialization of light, by light, in an arena of light, to work out progressively the immensity contained within light.

The fourfoldness implicit in light expresses itself as fourfold foundations of stability at layers of matter and life. Hence as a first emergence of matter, light’s properties of knowledge, power, presence, and harmony clothe themselves as quarks, leptons, Higgs-boson, and bosons at the quantum particle level. As a more complex emergence of matter, light’s properties of knowledge, power, presence, and harmony clothe themselves as p-shell elements, s-shell elements, d-shell elements, and f-shell elements at the level of atoms. As a foundational emergence of life, light’s properties of knowledge, power, presence, and harmony clothe themselves as nucleic acids, polysaccharides, proteins, and lipids at the cellular level.

But such fourfoldness acting in unison also reveals the necessity of that which is implicit to maintain its unity in explicitness, and this is nothing other than an act of love. Love, therefore, is also in the heart of light and it is only through its action that light can build on light to continue to reveal all that is in light.

The question is whether such insight suggested by the spirituality and science of light has any practical implication. The next section will briefly examine this.

PRACTICAL IMPLICATIONS

One of the authors, Pravir Malik, in his capacity as head of organizational sciences at a major eCommerce company, conducted about 100 workshops on light during the course of a year. These workshops leveraged a two-part Forbes Human Resources Council series entitled “A Radical Driver of Change for Radical Times: The Power and Necessity of Light,” which positioned light as being a powerful medium for bringing about organizational change.

These workshops introduced participants to the ubiquity of light and led to experiments visualizing light acting on a diverse range of personal and work situations. Many of the participants reported similar experiences of increased calmness and the perception of being more in control over even difficult situations. Many also reported feeling surprised by what they felt as a result of the visualizations. These workshops were also offered elsewhere, with hundreds of people around the world participating and reporting similar experiences. One Silicon Valley tech company had many of its employees go through the...
workshop; and an executive at the company signed up for a six-month extended light-workshop facilitation certification program to be able to facilitate the light workshops himself, with the stated aim of using light to bring about various organizational changes.

The practical technology of light change was integral to a 2020 organizational-sciences certification program that Malik designed with Forbes. Executives from over 100 companies participated in the light-based component of the certification program. The program on light was new territory for many of the executives, and some expressed surprise that it would be included in a mainstream organizational-sciences certification program. Nonetheless,

Such fourfoldness acting in unison also reveals the necessity of that which is implicit to maintain its unity in explicitness, and this is nothing other than an act of love. Love, therefore, is also in the heart of light.
We propose that the mystical quest for unity in consciousness and the current scientific search for a unified theory of reality have a common origin in the mysteries of light.

CONCLUDING THOUGHTS

By considering light in our physical universe traveling at a constant speed, $c$, as an intentionality, we suggested that light itself creates an upper and lower bound to physical existence. The lower bound gives rise to what we understand as quanta. Quanta are a bridge mechanism to materialize potentiality from faster-moving layers of light in the layer where light travels at $c$. But what is being materialized is none other than a fourfoldness that we derived from extending the speed of light to infinity. We find that this fourfoldness in light, manifesting through quanta, creates fourfold architectures at several levels in the process of materialization. The first is as the cosmic parameters of space-time-energy-gravity. The second is as the fourfold structure of quantum particles. The third is as the atoms in the periodic table. The fourth is as molecular plans in cells. Hence the foundation of physics, chemistry, and biology all adhere to a fourfold order that appears to originate from light itself. So also, we propose that all further potentiality existing in layers of light antecedent to the physical layer of light traveling at $c$, will manifest through the device of quanta.

Intuitive contemplations in science and in spirituality reveal that light, energy, and matter are one integral multidimensional reality comprising a continuous spectrum of consciousness. We propose that the mystical quest for unity in consciousness and the current scientific search for a unified theory of reality have a common origin in the mysteries of light.

Notes

6. Ibid., p. 146.
7. Ibid., p. 147.
8. Ibid., p. 154.
11. Ibid., pp. 17–18.

PRAVIR MALIK, Ph.D., has been developing a unified theory and mathematics of organization.

BAHMAN A.K. SHIRAZI, Ph.D., has studied and worked at the California Institute of Integral Studies since the early 1980s.
CALL FOR SUBMISSIONS

on the theme

The Soul of America

for

Collaboration Journal

FALL/WINTER 2022 | VOL. 47 NO. 3

DEADLINE JULY 1, 2022

What is the American soul? Is there an infinite something inside and around all of us living in America that chose to migrate or take birth here? If that choice took place, is that choice unique to place and time? And what is America? Does it mean the United States, or might it embrace the immense stretch of what was once called the New World, from Alert, Nunavut, to Ushuaia, Tierra del Fuego?

The American experience is vast, arguably as vast as the number of souls that shone out before and those that now must shine. Albeit experientially vast, there is still a seeming of that something intuitively unique in American soul form as genetics and cultures from around the world blended and blend with this beautiful land.

If you live in America, why here, why now? What role does the soul of your American nation play in the manifestation of the destiny of your soul?

For some, our music came from that soul force or our music is the contact channel with that nation soul, whether American blues or jazz or Afro Caribbean groove.

For some, democracy is the soul expression and the soul contact: ancient Athens, the Magna Carta, and Haudenosaunee governance baked together to form that soul, nation, and democracy that Whitman described in “By Blue Ontario’s Shore.”

For some, science and technology and financial markets are the fields for soul expression and revelation, fields rich with opportunity for purification and expanding knowledge: nature growing more and more complex, breaking down and rejuvenating with fresh terms for existence.

For some, the hegemonic powers of the United States represents an occult battlefield for possession of the soul, whether within its borders or without.

For some, the soul is that land, the beautiful country where landscapes are portals of consciousness, road trips are a right of passage, and the voices of Native America hold a beacon for the future.

What are unique expressions and revelations of the American soul for you? What sense do you make of our opportunities and struggles? What intuitions do you have about the soul of your American nation? What is its place or its action in this turbulence of 2022? What is this “soul?” Or, perhaps, who is it in its spiritual essence? How might all this surfacing of unacknowledged shadow be the opportunity for something … unexpected? If the soul of America is the Time-Spirit in a national form, what part might it be preparing for us? What might be the connection between our personal spiritual path and our role as citizens and lovers of this vast land and its vast variety of peoples?

We invite your reflections, essays, artwork, and other expressions of insight on the theme of Collaboration’s fall issue, “The Soul of America.”—Mateo Needham for the Collaboration team
MISSION: *Collaboration* is the journal of Integral Yoga published in the United States. Our mission is to share articles, conversations, poetry, and art that deeply engage our transitional times with the beauty, joy, and hope of the vast wisdom and practice of this evolutionary tradition and its founders, Sri Aurobindo and the Mother. We explore and celebrate particularly the individual practice of yoga in this country as well as currents and expressions of the collective yoga of the American soul in our times.

AUDIENCE: *Collaboration* is a means of reflection, encouragement, and inspiration for the Integral Yoga community here at home. We also want to highlight friends and allies in related areas of personal and social transformation. Including these fellow travelers requires sensitivity from our contributors, whom we ask to refrain from using references and terms of Integral Yoga and the works of Sri Aurobindo and the Mother without explaining or clarifying them.

CONTENT: We welcome many kinds of contributions, especially those that share, in ways both personal and universal, the surprises of grace, intuition, and delight in the widening—or stuck—moments of our lives. We also love to publish submissions that challenge the increasing polarization of our personal and social lives or embrace that fragmentation and find its deeper meaning and healing in the integrative and inclusive currents emerging in our time.

DEADLINE: JULY 1, 2022
Please contact our editorial team at editor@collaboration.org for the word count suitable for your contribution before submitting. This allows us to provide you with writer’s guidelines that reflect our editorial criteria.
One Day

The Little More

One day, and all the half-dead is done,
One day, and all the unborn begun;
A little path and the great goal,
A touch that brings the divine whole.

Hill after hill was climbed and now,
Behold, the last tremendous brow
And the great rock that none has trod:
A step, and all is sky and God.

SRI AUROBINDO, Collected Poems, p. 542