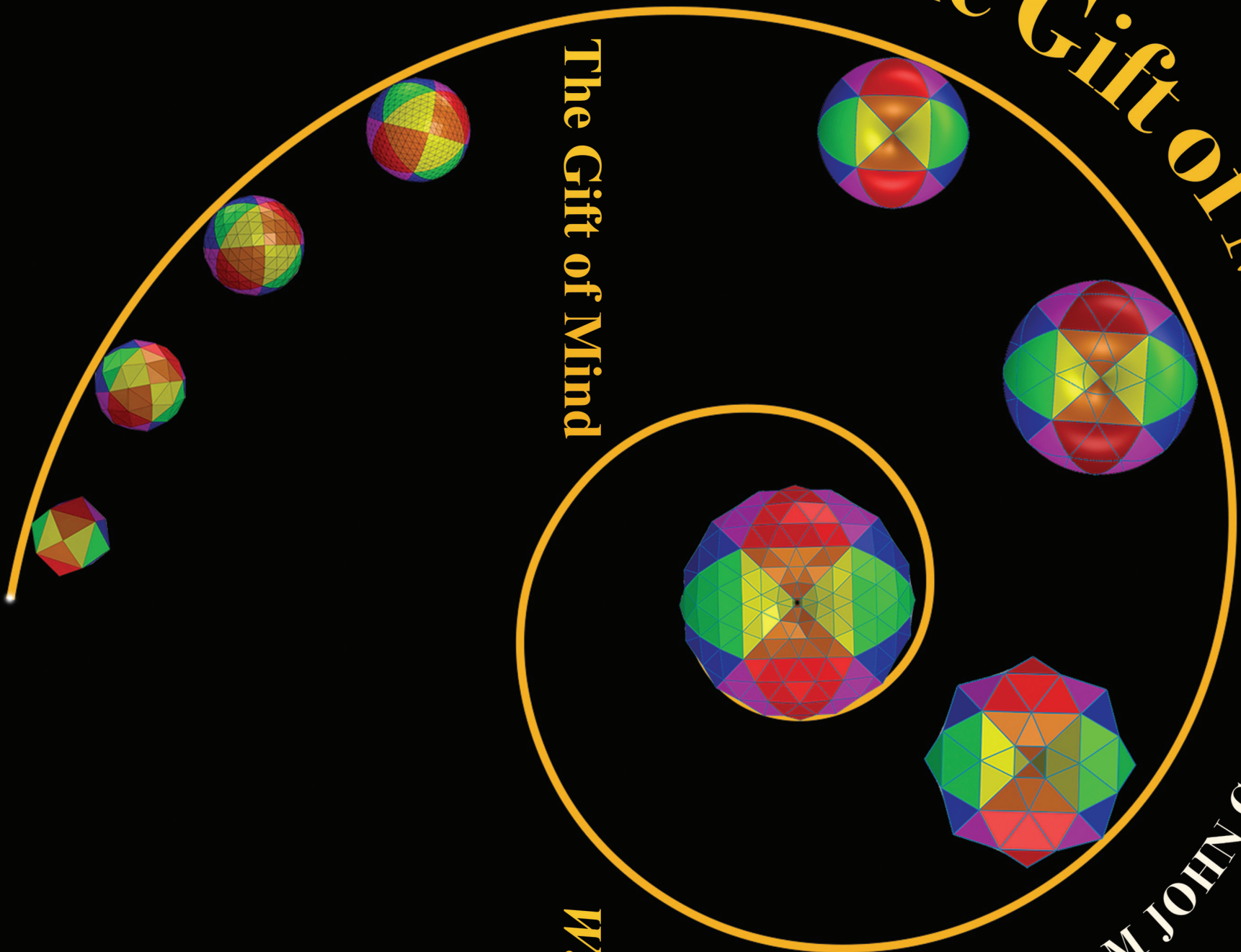


The Gift of Mind

WILLIAM JOHN COX

WJC

The Gift of Mind



The Gift of Mind

A Compendium

WILLIAM JOHN COX

The Gift of Mind: A Compendium

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The cover image depicts the geometric progression of the waveform of our universe inversely set upon a logarithmic spiral.

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Mindkind Publications

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The Gift of Mind: A Compendium

*A Message of Mind:
Hello, We Speak the Truth*

*The Book of Mindkind:
A Philosophy for the New Millennium*

Mind & Its Languages of Reason

Mind: Before & After The Way of Righteousness

The Choices of Mind: Extinction or Evolution?

DEDICATION

This a compendium of five little books I have published over the past 42 years, documenting my search for the meaning and method of mind. These writings are a gift from me to you, from my mind to yours, as we each struggle to survive and to understand the purpose of our lives.

This is now your book, and you are free to toss it out with the garbage or burn it for fuel. You may, however, encounter images and ideas that resonates with the thoughts flowing through your mind—as we seek, together, to avoid the grave and immediate threats to our existence, with an alternative image of a joyful future for our children, for whom all of this was written, a way to make it happen.

njc

Long Beach, California

April 17, 2020

A Message of Mind

**Hello,
We Speak the Truth**

**WILLIAM JOHN COX
(Thomas Donn)**

The Gift of Mind: A Compendium: Number One

A Message of Mind: Hello, We Speak the Truth

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Mindkind Publications

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DEDICATION

For my children—those I fathered and
Those I've adopted along the way.

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PREFACE: FORTY-TWO YEARS AGO

During 1977, I worked as a prosecuting trial lawyer and lived in a loft overlooking the Pacific Ocean in Manhattan Beach, California. I spent much of the summer contemplating my life and my future.



I had kept journals over the years, primarily as poetry. As I read what I had written over the past 20 years, I realized I had not always been entirely honest or faithful in what I had recorded. Those justifications and exaggerations I discarded, and I kept only the most accurate and concise. My skill, then and now, if any, is writing briefly and simply about complex issues. I do this, once I've thought about something sufficiently to understand the problems and to imagine solutions, in order to clear brain space for other considerations. As I get older, it becomes increasingly necessary for me to record thoughts, before I forget them. I can read these pages in the future, along with you, as though for the first time, and wonder.

A Healthy Poem was one I saved, and I used its phrasing of “when, now and then” as chapter headings in *Hello: We Speak the*

Truth. The saved journal entries were primarily organized in the past of “When;” however, the poems of the present “Now” and the future “Then” resulted from a process of lucid dreaming.

To one degree or another, we all carry on a dialogue within our mind, as we carry on conversations with everyone we encounter, verbally or not. If there is a voice, there is a listener. There is always the two of us. The process of renewing my journal, with a focus on truths that both of us within me agree upon, occupied several months of documented mental exercises between the two halves of all healthy minds.

I would think about a subject before going to sleep and would dream about it during the night. I would wake up with the writing fully formed in my mind, and I would immediately write it down in longhand, which I transcribed and revised on a typewriter. The observations concerned a variety of matters that occupied my mind.

My primary curiosity was the physical operation of my own brain and its mind it produced as a result of self-reflection and identification. I committed myself to telling myself the truth, and to rely on the truth in communicating with other people. I marveled at how much better one’s mind operates when the truth is rigorously adhered to, and how much happier one becomes.

My goal was to reset the default in my mind to the truth—which exists at the time the mind is generated at birth, avoiding exaggerations and deceptions. Although the brain is born with the instinctively intolerant brainstem diseases of deception, hatred, and violence, our minds evolves beyond our brains by the skill of mind in evaluating the truthfulness of the answers to its questions about what is going on around us, and why. It is only after a child is exposed to, and is infected by, the Art of the Lie, that the lack of truth interferes with communication and ultimate happiness. Before then, they could easily believe in Santa Claus and the Tooth Fairy, without doubt. Later in life, the demands of faith continue in matters of religion and politics to interfere with access to the truth and its rewards.

Avoiding denial, and by a rigorous search for the truth, both internally, and in communication with others, the mind can recover its birth default of mind, in overcoming and curing the latent disease of intolerance that causes one to exaggerate, deceive, and dissemble,

A Message of Mind: Hello, We Speak the Truth

as though it were a virtue, being done to protect others from being harmed by the truth.

I completed *Hello* in June of 1978 after I opened my law practice, and I decided to publish it under the pseudonym of Thomas Donn. The name is symbolic of the divided human brain—both as the speaker and listener, and as the masculine and feminine aspects of my personalities, reflective of my mixed Y and X chromosomal composite. Thomas being the twin of Donn.

A client, who happened to owe me some earned fees—and to be a commercial printer—generously printed and bound several boxes of 8.5x11 paperback books, which I have given away over the years.

Five years ago, I reviewed *Hello* and found a couple of typos, but concluded that overall, the book still reflects the personal philosophy that has guided my life ever since it was originally written more than forty years ago.

Retitled as *A Message of Mind: Hello, We Speak the Truth*, this is the first in *The Gift of Mind Compendium*.

njc

Long Beach, California

October 21, 2019

PROLOGUE

This collection of thoughts was written by
the orphaned eleventh child of a strong woman,
who gave that and a mother's love, and
a hard-working dirt farmer,
who gave that and the magic of books.

These are pages from the journal of a
common self-educated man in his thirties.

They contain the thoughts of one
who has spent his life relearning the language and
who now reaches out for others to whom to speak.

It is dedicated to those who speak the truth and
whose voices echo.

Thomas Donn

When we as children
Played “Mother May I?”
In the schoolyard dirt,
It made no sense
To ask permission
Before taking a
Giant step.
It makes less sense
Now.



WHEN – THE PAST

When – The Past

I've never built a sandcastle
Or written a message
In the sand,
Or floated a note in a bottle
To a faraway land.
There was no ocean where
I was born,
And I was not long a child.
I too quickly became
A man,
And these are things
A man can't do alone.

A PROMISE TO MY SELF

To be true to myself,

I must to my self

Listen;

I will on this

My life build.

When – The Past

A HEALTHY POEM

To be what you thought,
And I wished I was,
Would be to be,
What I'm not,
Because,
I am what I am,
And not what I'm not,
But, that's no reason
I can't be what I want,
For, not is now,
And then is when,
I will myself change,
Now and then,
Not to be what I'm not,
But to be what I want.

ALONE

In the evening shadows,
When you are alone,
And your heart cries out
For the ringing of the phone;

When there's but silence and
The ocean's roar,
And there's no knock
Upon your door;

When you sit
For quiet hours long,
And the voice of another
Would be the sweetest song;

When you fear the dark,
Much as a child,
And there are numbers
That you do not dial;

When you are alone,
And you're with me,
Then is when
We'll learn
To be.

When – The Past

REFLECTIONS

Long by the still water

I did quietly lie,

Gazing into its depths

Up at the sky,

Until one day I was

Surprised to see

A face I liked

Smiling back at me.

That image was shattered

When for it

I did reach,

But, the soothing ripples' tide

Had a lesson to teach.

For now in the surface calm,

The face I again see

Is the one

I want to be.

So, lying here now,

A wiser me,

It's finally clear

What has to be.

My friend is as near as
Beyond my touch,
But, he's always there
Whenever I look.

When – The Past

WHOSE VOICE?

Whose voice is it
I hear inside,
That makes me so uncomfortable,
I wish it would hide?

Whose voice is it
I hear inside,
Is it mine or another's
That makes me decide?

Whose voice is it
I hear inside,
If to it I listen,
That slows my stride?

Whose voice is it
I hear inside,
Who I wish more often
Was on my side?

Whose voice is it
I hear inside,
To others told different,
Too often to lied?

Whose voice is it
I hear inside,
Who's told me so often,
I should have tried?

Whose voice is it I hear inside,
Whose truth I have
So often denied?

Whose voice is it
I hear inside,
Before whom,
Without shame,
My tears are cried?

Whose voice is it
I hear inside,
Whose reason I have
So often defied?
Whose voice is it
I hear inside,
Who denies me nothing
Done with pride?

When – The Past

Whose voice is it
I hear inside,
So long unlistened to,
I thought had died?

Whose voice is it
I hear inside?

**ONE VOICE SPOKEN BY TWO
HEARD BY ALL**

If there are but really
Two --
One “yes” and one “no,”
The no based on experience
And the yes on dare,
Then, would we ever get anywhere
If we always took care?

It’s just that when we fall,
The no always helps us up,
But always says,
“I told you so.”

But, if we don’t fall,
Does not the no
Become a yes?

When – The Past

WHAT IS HAPPINESS?

Well, I suppose
It is doing just
What you feel
Like doing,
And feeling guilt
about it less
And less.

There would seem to be,
But one true measure
Of happiness
To me;
Would you like your life
In slow motion,
If you had the choice,
Or, would you just want
To get it over
And done with?

WHERE HAVE ALL THE HAPPY PEOPLE GONE?

I see all about me unhappy people.

I see those
Who are unhappy,
Because of impossible dreams.

I see those who have achieved
Impossible goals,
Who are unhappy,
Because of the price paid.

I see those who, due to their birth,
Are unhappy,
Because their destiny is but death.

I see those who laugh when entertained,
Who are unhappy,
When they are alone.

When – The Past

I see good people,
Who are unhappy,
Because they think themselves weak.

I see those who want to believe
In their religion's God,
Who are unhappy,
Because they question.

I see those battered by reality,
Who are unhappy,
Because they don't understand.

I see those who think
They have a free will,
Who are unhappy,
Because they have no control.

And, every once in a while,
I see those who are happy,
Because one day they decided
That was all they could do.

FRIENDS AND OTHERS

There are friends with whom
Our wine is tasted,
And there are those with whom
Our time is wasted.

There are friends with whom
Our dreams are said,
And there are those before whom
Our pearls are spread.

There are friends with whom
Our thoughts find a mate,
And there are those from whom
Our echo is fate.

If left unsaid,
Words meet their doom;
The question remains,
Which is whom?

When – The Past

MY TEACHERS

I learned much from my teachers,
More from some than
Others.

None of my teachers are
Still my teachers.
Their words were those of
Others.

The others no long live,
Except through their
Words.

Or else, they cannot be reached,
By one such as me,
Except through the use of
Words,
Taught to me by my
Teachers.

A SILLY DREAM

I dreamed of a God in the sky
One night.

He was a schoolboy who had
Erected an experiment
We call the universe
On his bedroom desk.

He was occasionally chastised
By his father
For failing to better care for that
He'd created.
But, most of the time
He neither noticed
Nor remembered.

I awoke from my dream
And found
That I could never again
Believe in a
God in the sky.

When – The Past

FEAR

I fear only that someday,

I will be unable

To cry,

And there will be not

One friend

To understand why.



NOW – THE PRESENT

There is planted deep inside
Each of us
A seed,
Which, if nourished by
The truth,
Grows to fill and then
To shed
The dry husk of our existence.

MY GOD

There is but one God.

He lives inside

Each of us.

His strength is measured

By that of

Our own.

He is as limited as

Our circumstance;

He is as visionary as

Our dreams;

He is as understanding

Of others

As we are of ourselves.

Sometimes we are able to

Share our God;

But, most of the time,

We borrow the God

Of others.

Now – The Present

BIRTH AND DEATH

I saw death the other night.

My own.

My body was laid out

For all to see,

The remains of a man

Who used to be.

An old and wrinkled man

Was a comfort to find,

One who'd lived to the end,

His space in time.

But, then I thought,

Are the wrinkles decay?

The scene I see

Might be today.

In horror, I turned from

The sight of me,

But, only for a moment,

I had to see.

When next I looked,
My body was in flames,
And I watched in futile silence,
‘Til nothing remained.

Then, the ashes that arose
Caught my eye,
They were large and light
In the sky.

As the ashes were carried
From their body’s toil,
They changed to a grain stalk
Rooted in fertile soil.

The top of the stalk,
Like others around,
Was heavy with grain,
Its task to lay down.

A sandstorm arose and at
The stalk did beat,
But, it couldn’t turn loose;
Its roots were deep.

Now – The Present

As the other stalks broke,
Or bent to the ground,
One stood alone;
It couldn't lie down.

The stalk was uprooted,
As the wind was strong;
But, in its defeat,
There was no wrong.

The stalk flew through the air
And the grain fell free;
Most sprouted nearby,
Far from the sea.
One seed caught the wind
And was further blown;
Beyond the field,
It was sown.

The rest are still there,
Where they'll always be;
My place is here,
I found the key.

I saw birth the other night...

THE OCEAN

Why did I come so far
From where the stars
Are clear,
To by your side,
Remain so near?

Why do I so rarely sunbathe
In your cooling breeze,
Or play games
In your sand?

Why are my walks to your surf,
So infrequent,
And then only for a moment?

Why is it that
It took us
So long to overcome
all that
Which you conquered
Before giving us birth?

Now – The Present

We've harnessed the power
Of the land,
Including the rush
Of your returning water,
But, we cannot stop it from
Coming home to you.

When we build too near you,
Or upon your face,
You show us your might,
As do the children of
Your wind child,
Whose strength is felt by those
Far removed
From your countenance.

You absorb the waste
Of our power,
Which we dump in your waters
Destroying the beauty
Of our enjoyment,
But, not the secrets of
Your hidden and unexplored depths.

You no more have the power
To raise your level sufficient
To cover all but the highest mountain,
Than I have the rational ability
To believe in the Great Flood;
But, I believe in your strength
To wash away the mess and to begin anew
Should we use our power to destroy
Ourselves.

Should that not be avoided,
Will you have time
Before the Sun grows old
To produce another child
With reason?

Why would you want to?

I can't touch the Sun;
But, I can feel its warmth
In your waters,
Even on the coldest night,
And I am at peace,
My Mother and my Father
Are near.

A REASON FOR REASON

Are we not nothing more
Than beings of
Reason,
Who, through an accident
Of nature,
Found ourselves
With two halves
Of the same brain,
Each speaking
To the other,
a million-million times
Each day,
As each cross over
To the other side
Of our body,
To perform
The necessary tasks
Assigned by
The random selection
Of nature?

Is not the process of
Reason,
But nothing more
Than a series of
Simple questions,
Asked by that part of us
That dares,
Of that part
Which records our memory
Of learning, experience,
And instinct?

Are not the answers
Equally simple,
Yes or no,
Always based on
The truth
As best we know it?

HEAVEN, HELL, AND REALITY

The only thing within our control
Is to become aware of ourselves
And the world we live in,
And our attitude
Towards it.

To have everything that is
Within our power must be
Heaven;
Otherwise, to participate in
The reality of those,
Who understand not,
Is to share their unknowing
Hell.

REALITY REVISITED

If you weren't sure of
The poem before,
Take a plane flight over
A great city sometime,
And ask yourself,
“What makes all that I see -- work?”

If you still then believe that
An unseen God manipulates all,
You do not believe in your power
To produce a paycheck.

If you cannot afford the trip,
Ask yourself the same question
The next time
You find yourself in freeway traffic,
You do whatever it is that you do,
Or you pick up your unemployment check.

The combined reason of Man
Is a power over which we exercise
Less control
Than we do upon the winds of time.

Now – The Present

We have but
The ability to understand,
And to be different
From the guy in the next car
Who's honking his horn;
He cuts you off,
With a knot in his gut,
And you wave him in
With a chuckle.

At which point
Do you become but
Another ant
On the ground below?
When you crawl along,
And do not understand.

The problem
With being able to see reality,
Is
That we want it
To go away,
And take with it
The reason,
Which makes its awareness
So uncomfortable.

It's much like the groundhog,
Who retreats to his hole,
Upon seeing his shadow,
To wait for a cloudy day,
Or a need to feed in the Sun,
His fear finally overcome,
By his love of himself.

REALITY AND FANTASY

There is but one reality.
Everything else is fantasy.
There is the reality of yesterday
And today,
And there's today's fantasy
Of tomorrow.

Reality is the platform of imagination
From which our hopes and dreams
For tomorrow
Are launched.

If one cannot see reality,
Everything is fantasy.
There is the fantasy of yesterday
And today,
And there's today's fantasy
Of tomorrow

Fantasy is the rock upon which
The unrealistic hopes and dreams
Of yesterday
Were dashed.

FANTASY AND IMAGINATION

The imagination necessary
To discover science and
To create art,
Is based
On the reality of effort,
Not fantasy of the
Unachievable.

If fantasy is
The mother's milk
Of imagination,
Reality is suckling
At one's own
Breast.

SOPHISTICATION

Sophistication is the acquired ability
To perceive the lies
Of others,
And to prevaricate
Better than they.

It is that art by which one
Gets the most
And makes the best impression,
by, for, and with
The least.

It allows one to succeed
In a world in which
Deception and frivolity
Are ways of life,
And in which the appellation
Of sophistication
Is considered a compliment.

LAWYERS

Perhaps,
The most difficult burden
Borne by lawyers
Is their sure knowledge,
That the most mocked words
In our language are,
“Do you swear to tell
The truth, the whole truth,
And nothing but the truth,
So help you God?”

A lawyer's business is
The manipulation of the truth,
And they are taught
To do it well;
The most successful
Do it best.

Perhaps,
That's why
Good lawyers
Are so few in number.

Now – The Present

THE TRUTH

We learn to lie
From the moment
Of birth;
Deception is well practiced
Here on Earth.

The lies told by each,
One to another,
Shield hidden secrets,
In each yet to discover.

If one speaks but
The truth,
It's easy to perceive
The lies of others
Who seek to deceive.

There's a power
Which flows
From the exercise
Of perception,
Experienced by those
Unshackled by deception.

It's as though there
Are two people
In all you do meet,
One who is lonely,
And the other it does seek.

The love one receives
From speaking the truth,
Comes from within others,
A reflection of proof.

It's seen not too often,
A vision without stare,
Looking inside each met
To see who's there.

ALONE REVISITED

To be alone,
Rather than lonely,
Is to have not one
To own,
but the memory
Of each you've known
And to be at peace
With the thought,
And yourself.

FRIENDSHIP

Friendship fans the spark
Of love,
Which from conception glows
In each of us.

It nourishes the seed of
Beauty and creativity that grows
In each of us.

It gives rein to the free spirit
That yearns to soar
In each of us.

It is warmed by
That flame
In each of us,
Made stronger and brighter
By friends who've
Been here before.

LOVE

You gave the man the gift of love;
You gave his spirit the gift of freedom;
And you gave his soul the gift of understanding.
What more can he give to you?
Than that...

Your love taught him passion;
Your release taught him restraint;
And your understanding brought peace.
What more can he give to you?
Than that...

We are but a reflection of what we give others;
And, oh, how it pleases the soul
To see the image of love
In the mirror
Of our life.

WRITING

Oh, for a steadying hand as
I so violently waver,
Trying to understand why it is
That a man of my age
Has so much to talk about
And so little to say
And no one to listen...

Then, sometimes, I fear
I am becoming much
Like an excited schoolgirl
With her first gift diary.

There are so many words,
So long unspoken...

Now – The Present

MY HOME

I live in my temple,
Wrought by my hands,
Fashioned by my past,
Designed by my dreams,
Made real by circumstance,
Rough hewed as it is.

**SELF PORTRAIT OF A MADMAN'S EYES
SEEN IN THE STAINED-GLASS WINDOW
ABOVE HIS DESK**

Diamond-shaped reflections

Of steady eyes,

Blinded by a blink,

And, just now,

Caused to smile,

By a mischievous wink.

Framed and somehow tamed

By etching since youth,

Unburdened by blame,

Reflecting truth.

Narrowed by the Sun and

Made wise by the years,

Staring back, just now,

A reservoir of tears,

Poorly masking a

Madman's fears.

Now – The Present

FAILURE

No one shall ever know,
Save I,
Should I fail.

I have never failed;
I've always come back
Stronger.

Who shall ever know,
Save I?



THEN – THE FUTURE

Humans are funny animals.

They are born naked,

And they spend their

Lives growing

A shell.

Most are never hatched.

They spend their lives

Doing everything,

Save the one thing that

Each can do.

THE BEAUTY OF SLEEP

What of sleep and dreams,
But an opportunity
To slow our pace
To that of a turtle,
Secure in our shell,
A time for our body
To rest;
A time for the fleet stag
Of our mind to race
Through the forests
Of our imagination;
Time slowed to that of
A turtle's clock,
Its released energy redirected
To give us time
To find sunlit clearings,
Where the flowers of reason
Abound in natural beauty;
A vision to behold,
A story to be told.

HAPPINESS AND DESTINY

I once sat on a quiet beach
Watching sandpipers feed
In the sunset.

They chased each receding wave,
To the surf's edge,
Pecking at the wet sand
For whatever it is that
Sandpipers eat.

As each breaker rolled in,
They darted back to safety
Or took to wing,
To keep their tail feathers dry,
I suppose.

Once their hunger was satisfied,
They lined up in a row,
And napped on the
Still warm dry sand.

A large old bird stood alone
In the approaching darkness;
Immobile at the surf's edge,
His daily hunt
Not yet over.

As I watched each wave
Break over him,
I realized that he stood on
But one leg.

I wondered if he was happy;
And, if not, why did
He bother to continue
Pecking in the sand?

He was probably just as happy
As the others,
Once he got his
Stomach filled.

If man goes through life,
As lemmings find the sea,
Is his happiness only that
He must survive,
In order to die?

Then – The Future

If that which sets Man apart,
Is his rational being,
Is it not that reward
He is driven to seek?

Otherwise, Man dies,
His life unfulfilled,
And, his destiny,
Unrealized.

Those who just live out
Their lives,
Seem much like the sandpiper,
Pecking in the sand,
Rather than at their shell.

He had the instinct
To peck out of his shell,
So does Man.

FAITH

Is it not true,
That one who can no longer
Rationally believe
In a theological explanation of
Reality, Eternity, and the Universe,
Continues to have faith
In a God?

Does not there remain
A trust and belief
In what we call God
And those who have professed
To speak in his name?

Is not the faith which
Remains,
But an expression of trust
In the inner voice
Which answers one's prayers,
And which is never
Wrong?

Then – The Future

Is not faith in that
Constant voice,
But an expression of
Trust
In a concept of
Conscience,
However designated?

Is it not true
That those who internalize
Their God,
Have no need
To abandon the concept
Of faith?

Is it not true
That their prayers are
Just
More speedily answered?

Is it not true
That one cannot lie
To ones God
Or to one's conscience?

A Message of Mind: Hello, We Speak the Truth

Have you *not*
The rational ability
To strike the word
Necessary to make each of
These statements
True?

Ask your conscience
The next time you hear it.

Is the answer
The truth?

VOICE OF THE AGES

There is a voice which
Has been heard through
The ages;
It has been spoken in
Many tongues.

It is spoken by those
Who understand;
It is heard by those
Who walk alone.

It is spoken because,
Once learned,
It cannot but be
Spoken.

It is the voice that
Spans all eternity;
It is the message to be
Beamed to the stars.

Its language is truth,
Spoken by all,
To themselves.

It is that voice deep
Inside each of us,
That screams out so softly
From its moment of
Truth.

It is that force made strong
And tested by the truth
Of reality,
That pecks its way through
The shell.

Then – The Future

JESUS, SON OF MAN

If only Jesus
Had chosen to write,
There wouldn't have been others
To confuse his might.

He was a man,
And
His God shined bright,
From within,
As a star in the night.

His message was simple,
A working man's wealth,
“Love thy neighbor
As thy love thyself.”

He practiced what he preached;
It was the best he could do;
He loved himself,
He loved you.

With only his voice,
He answered the need,
To tell his truth,
To plant the seed.

For those to whom he spoke,
The Sun circled the Earth;
Even to a man of reason,
2,000 years had yet given birth.

He must have believed
In a God in the sky;
Somehow, I'm convinced,
Jesus couldn't lie.

He sacrificed himself
On the altar of reason;
His truth survived
Its growing season.

If he were here,
The dawn of a new day,
How many would listen
To what he had to say?

Then – The Future

LOVE REVISED

It is not that I have love
Not enough
To exchange for all
You offer me;
I have not but love.

I give you not
All of my love,
Until you have walked
With me,
The path of truth.

I give you not
All of my love,
Until you have walked
With me,
The path of reason.

I give you not
All of my love,
For, it is the barter
Of my happiness.
But, once by my side,
You've walked with me,
By my side,
You'll always be.

A BASIC CONCEPT

A human child is conceived;
It grows and is born;
It lives until death.

At the moment of birth,
Every force that shall ever
Impinge upon its being
Is in motion;
We are as powerless to stop
Those forces
As we are to rearrange
The stars.

At that moment,
There is ignited a spark
Of perception;
At that instant, and
Perhaps never again,
There is truth.

Then – The Future

The spark is the light
Of reason;
It is made bright by
The truth;
Its coals are banked by
Lies and distortion;
They are dampened by
Blind faith;
They are raked by
Questions.

Its destiny is to create and
To discover truth;
Its revelation is the dignity
Of good and beauty.

It may be passed along,
Still a spark,
To our children;
Or, its torch may light
Our life and that
Of others.

Once shared, it can never
Be extinguished,
Not even by death;
The spark is the eternal flame,
That provides each of us
The opportunity
To become a part of
Creation.

Our struggle in life is
Fought with
Fire.

From the inside out,
We seek to surface
Our self
Through that which
We have become;
We do not win until
We stop fighting.

Then – The Future

Success in life is not measured
By whether one is able
To reclimb the plateau
On to which he or she
Is deposited,
Or whether one goes higher;
Rather, it is determined by
The brightness of one's flame.

The flame of some is so dim
As to never be seen;
In others, it lights the
Paths of history,
For themselves,
And for others to come.

The flame of reason
Is fueled by the truth;
Its catalyst is
Freedom;
It is the bond
Of God.

We have nothing to fear
From the stars;
We will be ignored
Or controlled
Until we recognize
The simple truth.

The discovery of truth
Through the exercise
Of reason,
Produces a reward
Of good and beauty,
Through the practice
Of peace.

The Garden was not
At the beginning;
It is at the end.
We shall never get there,
Except by the light
We create,
To show others
The way.

Then – The Future

NATURE

The beauty and might we see
In nature,
Is but a measure of
Our God inside.

The majesty of mountains,
And the ocean's power
Was not created by
A God;
But, its appreciation and
The understanding it develops,
Allows us to share in
That which simply exists,
Mighty and beautiful
As it is.

As a butterfly evolved with
Wings so lovely,
Man evolved with the wonderful
Spark of ability
To recognize the beauty and strength
Around him,
And to create its reflection
Within himself.

MEN AND WOMEN

There shall always be
Women and men;
And, they shall always
Be different.

Separate in their strengths,
They speak easier and
More truthfully
One to the other,
When together.

It is among themselves,
That they compete,
In a struggle
Without shame of defeat.

It is with the other
That they join their seed,
Selecting the strongest,
To match their need.

Women seem to tell
The truth more often;
But then, I'm
A man.

Then – The Future

MARRIAGE

A woman and a man
Can be seen
As two equal circles
Or rings,
Which if moved together,
Form a new shape
In the center,
Halfway in between.

Within that new and
Equal space,
Only truth can be
Spoken.

Too many are the
Marriages
Where there is no
Center place,
And the circles remain
Unbroken.

We seek from another
A union of division
Where but one ring
Can be seen
Unless viewed from the side
As though rotated
On a string,
A different vision,
Two equal lines,
Separate and straight,
Side by side,
A space in between.¹

There is no further seeking,
And marriage is done;
Two Gods have found each other,
and now are as one.

1 The cover image is intended to illustrate this equality

Then – The Future

CHILDREN

Why do we have children?
Sometimes, they are choices, and
Sometimes, they are consequences;
But, once we have them,
Why?

We see in them
The beauty of nature and
The mystery of creation.

In a powerless world,
They are the only thing
That each of us can create
That is truly unique,
And ours to keep.

To the extent
We share our happiness
With them,
They bring us pleasure.

If taught the truth,
They become friends,
Who walk with us
To the end of our time,
And beyond.

Once created, they are alone;
They are ours,
Only to the extent that
We share the truth.

If to them, we teach
False lessons of life,
We'll earn their distrust
When they learn to question.

They make us immortal,
Though they have not
Children of their own;
If they learn the truth,
To many it will be shown.

MOTHER'S LOVE: A COMMON BOND

What is there, then,
Of a mother's love,
Save that it's shared by all
Whose instinctive reason
Discovered a reassuring love
During that time,
Prior to birth,
When but love and reason
Form the only language known
By a newborn child.

Was not the birth
Of Man,
But that moment when,
Perhaps in a tree,
A mother felt love
For that she held,
And the child responded
With its only voice known?

Is not a mother's lullaby
But an answer
To a child's crying need
To teach its language,
To the one who holds it,
For each to learn
To understand
The other?

What then of Frau Gobbels
Who, by her loving hand,
Placed poison in the mouths of
Each of her sleeping band,
Then herself with her man,
At their own hand,
Died with their lies,
But a mother's command
To mark the passing
Of the last barbarian?

Then – The Future

WAR

Man shall probably never again

Fight a world war

In which men can see

The faces of those they kill.

Destructive as the last was,

Its goal was not the elimination

Of man.

Its product, however,

Was the means.

The next or the next

Can have but no other effect,

Save that it or they,

Be fought

To defend against

The enslavement of reason.

Should that battle be waged

Within and between the minds

Of men,

Rather than determined

By their rage and deeds,

It cannot be won

Except by the forces

Of truth and reason.

It all believed in but
One God,
Their own,
Never again would the banner
Of the same God
Be carried by both sides
Into the common battle.

Man shall never again
March to war and death,
Proudly moved
By the cheers and tears
Of those left behind.

Men of intellect
Now man battlements
Of lighted consoles;
Their computerized decisions
But scarcely sense
The taste of battle and death.

Those who stand at the button:
Your voice of reason inside
Shall never move
Your hand;
Only what you've become
Would destroy Man.

Then – The Future

Boys shall always play
With the toys of war,
Until women choose as husbands,
Men for whom,
War has become an abhorrent chore.

The Sun may illuminate another
Million years of wars;
But, until truth and reason
Replace the God of Mars,
Man shall never see his reflection
In the stars.

WORK

The circumstances of life
Direct each of us to
The path upon which
We begin our journey
Here on Earth.

At every intersection,
We are faced with the choice
Between the difficult
And the comfortable.

The comfortable roads are
The longest,
And sometimes,
The easiest roads lead nowhere,
Except to death.

The difficult paths lead
To other intersections
When they become too difficult
Or too easy.

Then – The Future

Once our choice is made,
There is no turning back;
We must move along
To the next junction.

Our only guidepost is
The sign of happiness;
The choice is ours;
We walk alone.

He who does his best,
Has no shame;
He has no master,
And no one to blame.

CHARITY

There shall always be the
Sick, poor, and hungry,
At least in
Our time.

Our role in life is to
Care for ourselves
And those we
Create.

It is not to feel guilt
For the plight
Of others.

Except, that, in caring
For another or others,
To the extent that
It brings us happiness,
We are able to exercise power
Over one of the few things
We have control over.

The choice is ours,
And no other person,
Nor their God,
Has the power to pass judgment.

Then – The Future

HATE

Tell me,
Why is it,
That you'd
Want to
Hurt
Another;
But, to destroy something
Inside yourself
Which
You cannot destroy,
For, there goes but nought
Yourself...?

MORALITY AND ETHICS

What more basic and logical
Standard could there be,
For the conduct of one's life,
Than to be able
To trust and respect,
That person
Reflected in the bathroom mirror,
Each morning, when,
At our worst,
We do ourselves
See?

It's as though,
One should never sleep
With anyone not loved,
Including the one person
Certain,
To share our bed and dreams
Each night of our life.

THE LAW OF MAN AND OF THE UNIVERSE

The best government is that one
Which can effectively govern,
Given its time and place;
But, no government can
Forever endure,
Which does not protect
The reason of Man.

I live according to the law
Of my God,
Which makes Man's law
Mostly irrelevant;
But, when I choose to do
What I do,
I, and no other,
Accept the consequences.

Only when most agree
Upon basic law,
Can the law of Man succeed:
Those who choose to violate
That which protects
The individual freedom and dignity
Of others,
Must accept the consequences
Of Man's law.

Those most dangerous,
Should be removed
To a place together,
Where they themselves
Support;
And the rest not
Threaten.

There they should stay,
Subject to no rules
But the basic law
Of Man,
Until such time certain,
The consequences
They've paid.

Those without the dignity
Or ability of self survival
Should be provided but
Solitary existence
Until a day certain,
When their thoughts
Have shown them the way,
Or the consequences,
They've paid.

Then – The Future

Upon their return
To the society of others,
The decision's again theirs;
They should bear
No mark.

It is not for Man
To extinguish the spark of reason
In another;
He has no duty but to
Protect his own;
And to allow, in others,
Its need to grow.

There is but one law
Which in each must
Govern;
There is but
One truth;
It is the same
For all;
That is why it is the law
Of the Universe.

TWENTY QUESTIONS

There is a game that
All should play
With each they meet
Every day;
Each has twenty questions
With which to say,
“Who are you
Who goes my way?”

A question asked
In expectation of truth,
Results in an answer
From which to deduce
another question and
The answer it will produce.

For those who play
With truth and reason
There's knowledge gained
Unlimited by season.
Those joined with others
Will together produce
The answer to eternity's question,
“Do you speak the truth?”

Then – The Future

The voice of Mankind,
As one, thus spoken
Will speak the universal language,
Its code then broken.

The question was asked
By others thus made bold;
Its answer will be received
When Man's last lie is told.

We will then share in
All's that's gone before,
As though stepping through
A most magical door.

Our voice thus joined
In eternity's choir,
Will sing a lullaby,
In treble,
For those in the mire.

HELLO

Those who hear the truth
Live their lives alone,
Accountable to no God,
But their own.

Their creations,
Worthy and slight,
Are a basic contribution
To the universal might.

Their path is guided by reason,
But, they know how to cry;
They couldn't do otherwise,
They don't bother to try.

In all that they do,
They give their best,
and when they sleep,
Their God's at rest.

Their strength's in their knowledge
Of being right;
They've survived;
They've had to fight.

Then – The Future

They live their lives
In a most selfish way,
Sharing the love of each met,
In the play of each day.

They live out their years,
And death do not blame;
They've eternal life,
They pass the flame.

Their opinions are their own;
Their eyes are steady;
And the smile you see,
Is always ready.

They are among you,
Always near;
They'll tell you hello,
If you learn to hear.

A MADMAN'S LAST PRAYER

I shall not know
Whether my God has forsaken me
Until I know that what
I've written here
Exposing him,
Has brought me not failure.

Writing it
Has brought me peace;
What I know not
Is what the future holds;
That matters not;
What matters is that I tried.

For those of you
Who might feel shame for me,
For what you read here,
I apologize not for the inability
To say it better;
I have done my best;
And, for that,
I bow my head before no one,
Nor their God,
Nor mine.

Then – The Future

Know that I have no shame;
And, that I, for that,
Have wondered if
I am sane.

I no longer have that fear;
What I have written here
Hurts none.
How can that be but sane?

I am happy,
I'll know not when?
Who shall ever know,
Save I?
Amen.

A FINAL DEDICATION

To the children of today,
Who have not yet
Learned to
Lie.

To the children of tomorrow
Who shall see
Beyond
The sky.

EPILOGUE

Drawn from my bed just now,
By that pulling force
Which has dominated
Man
Since that first day
His spark of reason
Was born;
Sitting in the dark,
Writing by the candle
Of Man,
Listening to a concert
Of poets on the radio,
Knowing not
What time it is,
Answering the need
To recapture the essence
Of a very long thought
Had a moment ago;
Hoping as I do,
For the Sun to soon rise,
So that I may again,
Have the peace
Of a day's work.

The need I have
Is to say something more,
Writing as I do,
For and because of all those
Whose voice of reason
Has somehow reached me,
And, who as best I can,
Speak tonight.

From where I sit
And tonight reckon,
I see not a heaven,
Else, it would more
Clearly beckon;
I see but the need of Mankind
To continue our path of survival,
Hesitating as we do,
At an intersection,
Halfway in between
Two roads,
Going in opposite directions.

Then – The Future

There is so much more
I would have me say;
But, I have grown more than
Weary,
Trying to explain to myself,
The need to keep writing,
When I am so sure
There is likely
Not one person
Who'd be interested
In what I have to say.

But, there are a couple
Of more stories
I'd like to tell:

Once, as a child,
I lay on a haystack,
And, to test the numbers
That I'd been taught,
I decided to count
The stars.

After a time,
I grew tired of the game,
and dreamed,

A Message of Mind: Hello, We Speak the Truth

One way or another,
A vision of a spaceship,
Which I described to others
As a saucer.
They didn't believe me;
For, I knew not myself,
Whether I spoke the truth.

Perhaps, it was just a fantasy,
Told as a fib
By an imaginative child;
But, somehow, ever since,
I've had a need,
To get me here,
From there.

In the life I've lived,
I've had but one recurring dream
That I always awake to remember:
Falling always,
After a forced leap,
I've always landed
Before waking from my sleep,
To find myself,
Alone in my bed,
Bruised, but not broken,
And, still not dead.

Then – The Future

During that same dream,
Had again, a recent night,
I, for the first time,
Was not alone in my fright;
In a descent with all,
Down collapsing stairs,
I alone leapt
For a dangling vine,
And awoke myself,
Before I dared find,
How far to the bottom,
Or, how far to climb;
Clinging there,
Suspended in time,
A dream interrupted,
Except in my mind.

Morning has arrived,
And the only thing
I can say for sure
Is that I believe
What I've written;
But, then,
Reality changes
With each new day.

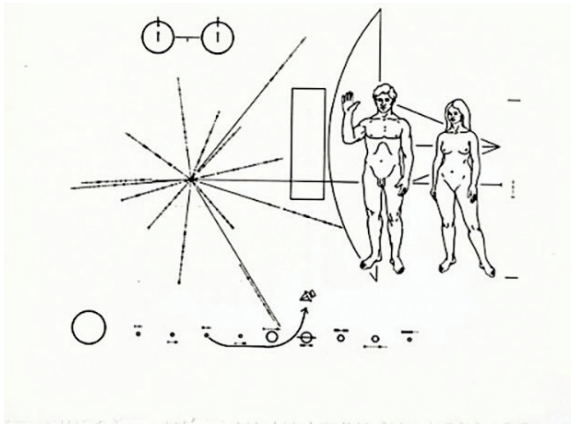
Last evening,
My task thought completed,
I walked to the ocean's edge
And spent a moment,
In the double reflection
Of the nighttime sun
Upon the never still water,
And was then able
To sleep my night
In peace,
Until this morning
When I had these last few
Things to say,
Before getting on the freeway
To start my day.

Perhaps, I'll find time at work
To look up a good lawyer,
And if he's still there
On my way home tonight,
I'll stop in and trade him
These pages from my journal
For the privilege
Of living my life
In peace.

The Pioneer 10 spacecraft launched by the United States in 1972 was the first manmade object to escape from the solar system into interstellar space.

It carried on board the following gold-anodized pictorial plaque.

It was designed by Carl Sagan and Frank Drake of Cornell University and Linda Sagan to show scientifically educated inhabitants of some other star system --who might intercept it millions of years from now --when the craft was launched, from where, and by what kind of beings.



June 19, 1978

My new years task
of rewriting my journal,
a hundred times,
Now finished;
My pen moves not
fast enough,
My unexpressed thoughts,
Undiminished.

I think the time has come,
To rest, reflect and read;
a time,
... to shelter the seed.

Thomas Dunn

The Book of Mindkind

**A Philosophy for the New
Millennium**

WILLIAM JOHN COX

The Gift of Mind: A Compendium. Number Two

The Book of Mindkind: A Philosophy for the New Millennium

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DEDICATION

For the Children of Mindkind:
To give wings to your imagination,
Allowing you to soar on the winds of time.

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PROLOGUE

Human civilization is at a tipping point. Our population has rapidly expanded during the past 10,000 years of unusually pleasant weather, as we have burned through the stored energy of our planet and moved to occupy its prime real estate.

We must moderate our instinctive drive to consume and reproduce, and we must provide an enriched outlet for the creative energies of our children. Otherwise, our civilization will collapse, a victim of its own success and the vagaries of the climate—our allotted time having expired.

Today, many young people no longer find comfort in the ancient religions and they distrust existing governments. They are seeking honest answers to the political, social, economic, and environmental questions that threaten their future, and they have little faith in the practices of the past.

The generations who live on Earth today have developed the first crude tools of computerization, which have allowed us to take a few halting steps into space. We are now faced with a stark and simple choice—we either use these marvelous inventions to live in peace and explore the cosmos, or we continue using them for war and ensure our extinction.

There are no other alternatives, and the time for deciding is ticking away.

EXPLORATIONS

TIME

A sense of time seems to be hardwired into life itself. The most ancient creatures were surely aware of the changing tides and the need to migrate with the seasons for nutrition, mating, and birth.

Humans have walked upon the earth for more than 200,000 years, and it appears that marking time was one of the first mental tools we developed. Thirty thousand years ago, an eagle bone was carved with rows of notches, circles, and crescents to represent the phases of the moon and the female reproductive cycle. Six thousand years later, an early sculptor carved the image of Mother Goddess into a rock wall in Southern France. She is depicted as a pregnant woman holding a bison horn cut with 13 notches, designating a lunar year.

The peaceful era of Mother Goddess was replaced by warrior societies, which began to track the annual passage of the sun, in addition to the phases of the moon. The Sumerian civilization, which originated in Iraq between 4500 and 4000 BCE, used a base-60 mathematical system to correlate lunar and solar years and provided us with our 60-second minute, 60-minute hour, 24-hour day, 12-month year, and 360-degree circle.

At about the same time, the Egyptians relied on the predictable flooding of the Nile River and the annual ascension of Sirius, the brightest star in the night sky, to calculate an accurate $365\frac{1}{4}$ -day calendar.

Julius Caesar's affair with Cleopatra in the First Century BCE produced more than a great love story; he also adopted the Egyptian calendar year for the Roman Empire. The Julian calendar required that the month of February have 28 days, except that every fourth year was a "leap year" in which February received an extra day.

Following the collapse of the Roman Empire and the subsequent religious suppression of knowledge during the Dark and Middle Ages, the intellectual advances in science and mathematics

of the Renaissance were required before the Julian calendar could be improved upon.

The astronomical calculations of Nicolaus Copernicus in the Fifteenth Century provided the scientific basis for disproving the Catholic Church's geocentric dogma—which placed the earth at the center of the universe—and laid the foundation for the modern calendar. Nonetheless, fearful of Church authorities, Copernicus delayed publication of his work until he was on his deathbed.

Since the Julian calendar year was eleven minutes too long, its use had caused a ten-day problem in the celebration of Easter by the mid Sixteenth Century. On February 24, 1582, Pope Gregory XIII issued a decree continuing Julius Caesar's leap year system, "except for years that are exactly divisible by 100," and with the further exception that "the centurial years that are exactly divisible by 400 are still leap years." Thus, 2000 remained a leap year, while 2100 will not be, since it cannot be evenly divided by 400.

The Gregorian reformation established the more accurate Copernican year of 365.2425 days, and it skipped 10 calendar days in order to restore the vernal equinox on March 21.

Although opposition to the lost days slowed adoption of the Gregorian calendar by England (and the American colonies) until 1752, this calendar is the one that still hangs on walls around the world.

Modern timekeeping resulted from the efforts of mariners and mapmakers to determine longitude, which requires the ability to calculate exactly how many minutes of difference exist between any location on the globe and the Universal Prime Meridian in Greenwich, England. The first accurate marine chronometer was developed by John Harrison, who was rewarded for his invention in 1773.

The advent of computers, global positioning satellites, space travel, cellular phones, instantaneous international finance, and the Internet created the need for a more exacting measure of time. Even a slight variation of time can make a huge difference in space navigation and the synchronization of computers.

Rather than celestial movement, Coordinated Universal Time is now measured by the element cesium, whose atoms oscillate more

than nine billion times each second. In the United States, time is determined by a collection of 50 atomic clocks feeding information into a bank of computers at the Naval Observatory in Washington, D.C. The combined system keeps time accurate to less than a billionth of a second per day.

With the recent discovery of Earth-like planets around other stars, we are now contemplating travel to these distant star systems. How long will the journey take?

A speed of about 25,000 miles per hour (mph) is required to escape the earth's gravity. NASA's New Horizon space craft has achieved the fastest speed yet of 36,000 mph (58,000 km/h) in its exploratory trip to Pluto.

Since the distance to Proxima Centauri, the nearest star to Earth, is almost 25 trillion miles (40 trillion kilometers), the voyage would take almost 80 thousand years at the New Horizon speed. If, however, we can imagine it possible to achieve the speed of light (186,282 miles per second, or almost 300,000 km/s), we could make the journey in just four-and-a-quarter years. Even at the speed of light, a trip to Andromeda, the closest major galaxy beyond the Milky Way, would take two-and-a-half-million years.

The wave of previously unimaginable discoveries in just the last century demonstrates there is vastly more we do not know than we currently understand. Travel through space in the future may simply require that we spin into an adjacent dimension and reappear in the solar system of Proxima Centauri, in the Andromeda galaxy, or on the other side of the earth, in which case the voyage could not and would not be measured by time or distance.

On one hand, greater mastery of the ability to divide time into ever more discrete elements will be necessary to coordinate the computerized machines required to accelerate us through space and time. On the other hand, use of those machines to skip over the great distances involved in space travel will make time increasingly irrelevant, since we will either be here or there and not in between.

Although no serious cosmologist currently entertains the likelihood of time travel, once we learn to travel timelessly through adjacent dimensions, a passage to the past or future may be

discovered. Just because time travel is currently beyond our scientific comprehension does not mean it is forever impossible.

We can only imagine such things. They are presently unknown, but they are not necessarily unknowable.

For now, time remains a valuable tool to mark our progress from the past into the future. It establishes the period of our residency on this lovely blue and white planet, orbited by a large silver moon, as we slowly circle around a warm yellow star embraced in the arms of an elegant spiral galaxy, we call the Milky Way.

EARTH

Compiled about twenty-six hundred years ago in Israel-Palestine, the *Book of Genesis* (1:1) informs us that “In the beginning God created the heavens and the earth.” The *Rig Veda* (10.129.1-7), however, reflecting an even older religious tradition in India asks, “Who really knows, and who can swear, how creation came, when or where! Even gods came after creation’s day.”

Based on his literal reading of the *Holy Bible*, the scholarly Archbishop Ussher of the Church of Ireland deduced in 1654 that the first day of creation commenced, precisely, at nightfall on the evening before Sunday, October 23, 4004 BCE.

Although some religious fundamentalists still cling to this late date for creation, most people try to look beyond cultural folklore to understand the physical planet we live on, how it came into being and where it is heading. There are, however, as many differing scientific theories of origin as there are creation myths.

The most commonly accepted theory of astrophysics is that the entire visible universe was instantaneously created and suddenly inflated from a subatomic spark of pure energy in a “big bang” about 13.8 billion years ago and has been smoothly expanding ever since. So far as we presently know, this was the beginning and is the extent of time.

There are two schools of thought. One view is that the universe will continue to expand forever until it becomes a cold and empty void. A contrary theory is that it will ultimately reach the end of its gravitational tether and will contract back into a “big crunch,” whereupon it will once again explode—or perhaps not. Since it now appears there is an acceleration in the speed at which the universe is expanding, the latest thinking is that expansion is infinite.

As the infant universe expanded, tiny bits of pure energy began to coalesce through several steps into stable atoms of hydrogen,

which are composed of an electrically positive proton circled by a negatively charged electron. The tiny electron quickly travels around the proton and oscillates in a rapid up and down, curved wave motion that creates a virtual shell around the proton.

Hydrogen atoms combined to form helium and ultimately all of the physical elements. Even after eons of activity, the universe remains composed of 75 percent hydrogen atoms, many of which bond with heavier elements to form chemical compounds, such as water.

After about 300,000 years, clouds of hydrogen and helium began to combine into rotating galaxies, which continued to further coalesce into stars. The first stars were gigantic and—as they blew themselves apart in gravitational events known as supernovas—they began to seed the universe with the heavier elements, which are forged in the nuclear furnaces of the stars.

As the shock waves of supernovas moved through clouds of dust, hydrogen, helium, and other elements, localized concentrations began to swirl about a common center. As gravity grew stronger, mass accumulated, pressure was increased, heat was produced, and more stars were born.

When the core of a star reaches about 27 million degrees Fahrenheit, a nuclear reaction begins to break apart the hydrogen atoms creating a plasma of free electrons. From this plasma and the processes associated with the life and death of stars, all other elements are created, commencing with helium and leading down the periodic table to plutonium—the heaviest naturally occurring metal.

The star we call the Sun was born in the Milky Way galaxy about 4.6 billion years ago. There are between 100 and 400 billion stars circling in the galaxy, and each orbit of the sun takes about 200 million Earth years. The sun is a medium-sized star, and the material left over from its creation gravitationally organized itself into the present planets, asteroids, and a surrounding shell of comets.

The temperature of the sun is around ten million degrees Fahrenheit at its surface; yet it has consumed only about four percent

of its hydrogen stock. In another five billion years or so, however, the sun will finally exhaust the hydrogen in its core. The core will begin to shrink, and the helium within it will get hotter and will begin to burn. The sun will then swell up into a “red giant.”

Ultimately, and since it is too small to supernova, the sun will cast off its outer layers and will shrink down to a carbon, diamond-like cinder about the size of Earth. It will stabilize as a “white dwarf” star and will shine for a very long time, but the earth will not be around to enjoy its light—it will have been swallowed up by the red giant.

For now, the earth is alive. Along with Mercury, Venus, and Mars, Earth is a spherical rock. Beyond Mars is the asteroid belt, followed by the gaseous planets of Jupiter, Saturn, Uranus, and Neptune. Pluto, first thought to be a planet, is now relegated to the status of other similar objects that orbit beyond the natural planets.

Although we perceive the earth as being solid, it is in fact a molten mass which is only cool at the surface where it is exposed to the cold vacuum of space. The crust is blanketed by a dense gaseous atmosphere that rapidly grows thinner and colder with higher altitude. In reverse, the earth’s heat increases with depth, until its nickel-iron core reaches more than 9,000 degrees Fahrenheit.

Relatively, the solid crust of the earth we live on is very thin, much like the shell of a bird’s egg, and it would be equally smooth, if reduced to the same size.

The molten interior of the earth helps to keep us warm. It also creates electrical currents that swirl outward as a magnetic field—which surrounds and protects us from solar radiation and produces the beautiful auroras at the poles.

Given its dense atmosphere, its ability to retain water, and its ideal distance from the sun to gently warm its surface, Earth is currently a hospitable place for life.

A significant, and perhaps rare, event took place about 4.5 billion years ago. That was the creation of the moon—which drives the ocean tides and helps to produce the weather and geological processes that make life possible.

A cataclysmic collision occurred between the earth and a planetary object about the size of Mars. The combined momentum produced so much heat that the crusts of both were melted. The earth absorbed some of the object's mass, including its metallic core; however, the remainder, along with some of the earth's crust, splashed out and formed a ring around the earth.

Over time, the ring coalesced into the moon, which ultimately surrendered its rotational energy to the earth. Locked into a stable orbit, the moon always presents the same face to the earth, allowing the two of them to embrace each other in a slow waltz around the sun every year.

The collision increased the spin of the earth, providing us our brief 24-hour day, unlike the one-year day of Venus. It also resulted in a slight tilt to the earth's axis, which causes our varying seasons and further enhances the chance of life.

The reconstituted earth continued to be bombarded by asteroids, comets, and meteorites carrying water, oxygen, carbon dioxide, and organic compounds allowing the planet to become a liquid oasis, washed to and fro by moon-driven tides.

This then is the world we live upon. Magnifying the crust beneath our feet, we can see within each grain of sand the various chemical atoms it is composed of. Looking more closely, we find the sand to be alive with movement, as electrons flash around the nuclei of atoms, and the atoms continually bounce off each other.

Peering inside each individual atom, we find that, compared to the infinitesimal size of the nucleus and the orbiting electrons, each contains vast amounts of empty space. In addition, atoms are not like marbles, which can be tightly packed together. Atoms are mostly nothing, and they magnetically repel each other—creating space around themselves.

While we may feel we are standing on solid ground, we are mostly standing on nothing, and the human bodies we wear are also primarily composed of empty space. If we could shrink down to the size of an electron, we might “fall through the cracks” beneath us. No matter how solid our bodies and our surroundings appear to be,

all mass is alive with constant movement within the empty space it occupies.

On the physiological level, Mother Earth, including us humans and all of her other animal and plant life forms, is a collective living organism. Everything interacts together to form a self-regulating system that allows for the survival of life on Earth.

Beginning as early as the Neolithic, and certainly by commencement of the Industrial Revolution, permanent geological evidence of human activity on Earth has been laid down. This era has been named the Anthropocene (Greek, *anthropo* - “human” and *cene* - “new”). What it will be known for is undetermined—although it appears we may be contributing to and driving the sixth mass extinction of life on our mother planet.

Whether or not we humans remain a part of the earthly equation remains to be seen. We may have the means to commit suicide, but we do not have the power to destroy the garden in which we live. At least, not yet.

HUMANITY

The earth we live upon appears to be the same from day to day; however, over the eons, the hard surface has migrated over a viscous interior, reforming itself, over and over, into continually changing continents, oceans, and climates.

The land has been repeatedly covered with dense forests of plants and trees, which have been swallowed up and submerged under the surface to form coal. Over the eons, living organisms in the oceans died, settled to the bottom, became buried under rock and were ultimately transformed by heat and pressure into petroleum.

For a variety of reasons including shifts in the earth's orbit around the sun, the migrating tilt of its axis, movement of its crust, and concentrations of greenhouse gases, the weather conditions on Earth can vary over time. Sometimes it is too hot, sometimes it is too cold, and only occasionally is it just right.

We are most familiar with "ice ages" in which glaciers slowly flow over land areas in the higher latitudes before retreating; however, there have been periods when the earth's surface was completely covered with ice. The last time was about 650 million years ago when, from outer space, Earth would have looked like a gigantic snowball.

There also have been times when the surface of the earth resembled a burning hell. A 20-degree increase in temperature caused worldwide fires 250 million years ago that incinerated 95 percent of life.

Another fiery catastrophe occurred 65 million years ago when an asteroid the size of Mount Everest struck the ocean off the Yucatan Peninsula of Mexico. The asteroid was pulverized—the blazing hot dust rose into the atmosphere, and an intense heat consumed vegetation around the world.

The atmospheric dust and ash blocked the life-giving rays of the sun, and the earth was plunged into a deep freeze. A sulfuric acid rain

finally cleared the dust from the atmosphere, which in turn created a “greenhouse” phase. The global thermometer was reversed, and Earth suffered high temperatures for the next half-million years.

The dinosaurs, who had dominated the earth for millions of years, failed to survive; however, tiny mammals, who had evolved following an earlier die-off, were able to thrive by feasting on the carrion and detritus that remained. One of them was our direct ancestor.

In our family tree that has flourished since that time, we can identify a progenitor primate in Africa about five million years ago from whom we are descended, along with our cousins, the apes, chimpanzees, and bonobos.

Approximately two million years ago another member of our family tree known as *Homo erectus* arose in Africa. It wandered as far abroad as Indonesia and Asia, before becoming extinct around 140,000 years ago. In 1891, a 430,000-year-old mussel shell was located in a riverbank on the island of Java near a *Homo erectus* fossilized skullcap. What is unique about the shell is a zigzag engraving, which was precisely incised with a sharp tool, such as a shark tooth. This is the earliest known symbolic or artistic expression.

About a hundred thousand years ago, our branch consisted of three sprigs of proto-humans. There was the Neanderthal group in Europe and around the Mediterranean Sea, a Denisovan group in Indonesia and mainland Asia, and a group in Africa that survived the other two.

Genetic testing has established the probability that all of us *Homo sapiens* are related to a single woman and her relatives who lived in Africa about 140,000 years ago. As her descendants migrated around the world, her genes became mixed with those of the other two groups, but she lives on in each of us.

The human hybrid resulted in a magnificent species with a brain three times larger than other primates. We became bi-pedal and developed the speed and endurance to run down prey and to travel over long distances foraging for food. The better we ate, the better we thought, and improved thinking further increased the food supply, the quality of life, and the chances of survival.

A genetic mutation may also have driven our migration, as we continually explored beyond the safety and comfort of our homes. A variation in the gene that causes the brain to provide rewards for learning and exploration is more often found in migratory societies. An increase in the genetic variation has been identified in those groups that traveled the greatest distance out of Africa, and individuals who bear the mutation tend to be stronger and better nourished than those who remain by the hearth.

What makes us uniquely human? Is it our large brains, our skillful hands, our predisposition to travel, our language ability, or all of these?

We have had big brains throughout human history, and we've been making fire and tools for a very long time. More than a million years ago, in the time of *Homo erectus*, the basic hand ax was already standardized throughout Africa, Europe, and much of Asia. Having the ability to first imagine what a finished ax should look like, before it was knapped from a cobble of stone, indicates the presence of abstract thought.

Evidence of symbolic language has been found among artifacts in Germany, which were dated between 250,000 and 350,000 years ago. Among them was an elephant tibia clearly marked with seven and fourteen straight lines.

Humans were using tools, exploring, and expanding our horizons from the beginning; however, it was language that propelled us so quickly to where we are today. While the making of stone tools can be physically demonstrated, verbal language allows for the description of the fruit and wildlife that exists in a far distant river valley, the phases of the moon, the passage of the seasons, and the navigational constellations in the sky.

From the moment we created verbal language to better teach what we learned to others, especially our children, we have been able to move beyond the limitations of instinct, to acquire and improve upon knowledge—and to teach the tool of learning itself and the value of language and exploration to each new generation. Language enables us to more effectively cooperate with each other in achieving a more orderly and productive society.

Verbal language also helped forge the strong social bonds that have allowed human babies to slowly develop physically and mentally during the longest childhood of any species. Nurtured by all members of a tribe or village, children were provided the opportunity to absorb the breadth of knowledge and experience available in their culture.

Happy and well-nourished children more easily develop the social skills, empathy, and impulse controls necessary to become successful adults. An innate sense of fairness and a willingness to help others is a strong survival trait reinforced in childhood. Over time, altruism, at least on the local level, became intrinsic in all human cultures.

We developed a deep-seated sense of morality based on the need to share the hunt and the fruits of gathering. We came to deplore repulsive behaviors and evolved a basic system of justice. Nonconformists were shunned, and serious offenders were banished from the group—which was equivalent to a death sentence.

Humans learned the value of caring for the elderly who, although they could no longer hunt or gather, could teach their skills and share their wisdom and experience with the children and young people of the group.

Archaeologists have found evidence in ancient burials of individuals who were able to live to an advanced age in spite of serious disabilities. Compassion was developed for the sick and the lame, even though they may have consumed more than they could contribute. Scientists have discovered that helping others stimulates activity in the area of the brain involved in rewards and pleasure.

Deeply felt emotions became a characteristic of humans. Other creatures also experience feelings—there is pleasure in the act of procreation, birds mate for life, and elephants and chimpanzees mourn the loss of family members. Humans, however, are the only species that exhibit a full range of emotions.

We experience real joy. We laugh out loud, we make music, we sing, and we dance. Humans embrace romantic love. Our pulse races when we think about the object of our affection. We write love stories, poetry, and songs. We become temporarily insane.

We suffer deep sorrow. We sob uncontrollably—we become depressed, and we commit suicide. We mourn the death of a loved one. For tens of thousands of years, we have been placing flowers in and on the graves of the deceased, and, like elephants, we return to the burials over and over.

We also have a conscience. We flush and feel a sense of shame when our thoughts and deeds fail to meet the cultural expectations of our society or the ethical standards we have established for ourselves.

Our nearest relatives on the evolutionary tree are apes, chimpanzees, and bonobos—with whom we share more than 95 percent of our genes. It is, however, with the bonobos that we find more of the emotional characteristics that make us human.

While apes and chimpanzees can act out violently against each other and other species, the bonobos, who evolved in an geographic area free of competition with the other two, are more apt to “make love, not war.”

Bonobo groups are dominated by females. They frequently engage in promiscuous sex, easily make friends, and they peacefully resolve disputes within the group without violence.

Along with the apes, chimpanzees, and the bonobos, we are all descended from the same proto ape which lived in Africa. The aggression of apes and chimpanzees may have resulted from their forced competition; however, the peaceful bonobo behavior could be more representative of our original shared ancestor. Perhaps, the positive human characteristics we attribute to social conditioning have a genetic basis.

Much of the deception, hatred, and violence we experience today may be an aberration or diseases, that we have to overcome or cure if we are to fully mature into our essentially peaceful and cooperative nature—that which makes us human.

Just like finding cures for physical diseases, we have to study both the pathology and physiology of the mental and emotional processes that give rise to deception, hatred, and violence. To do that we have to achieve an understanding of the human brain and the mind it produces.

MIND

The name of our human species, *Homo sapiens*, results from us being a member of the primate family *Hominidae*, the only surviving member of the genus *Homo*, and from the Latin word, *sapiens*, which means wise or intelligent.

All animals on Earth are believed to have descended from a tiny half-billion-year-old creature like a segmented tube worm. This first animal had a simple digestive tract and a nervous system extending along its length, consisting of groups of nerve cells linked together, with a larger bulb, or brain at one end. Most basically, the nervous system compelled the animal to seek and consume food, reproduce, and avoid danger.

The bulb of the ancient chain of nerve cells has evolved into the large and complex human brain, which sits on top of our spinal cords, through which nerves reach out to every element of our bodies. The brains of humans, along with all vertebrate and most invertebrate animals, are divided into two halves that are, essentially, mirror images of each other.

We are the only species on Earth equipped with a mind that incorporates our entire being, expanding beyond our brain to encompass the entire sensory perception of our body and all that surrounds it—so far as our mind can reach. One mind compelled a body to write these words, and another causes a body to read and interpret the words. The gap between the two events is essentially unlimited by time or distance.

Since strongly felt emotions can cause physiological responses within the chest, consciousness was once associated with the heart; however, Hippocrates, the ancient Greek physician, wrote that perceptions, emotions, knowledge, and wisdom come from the brain, which exercises power over the body.

As a human embryo develops, its nerve cells organize themselves into billions of *neurons*, each of which sprouts transmitters called

axons and receptors named *dendrites*. The axons and dendrites approach each other, without touching, at trillions of junctions, or gaps, known as *synapses*. The seemingly random growth of axons, as they migrate throughout an embryonic brain, is a genetic ballet choreographed to bring them to a precise place for each to effectively transmit and receive signals to and from other neurons.

Most basically, a neuron transmits an electric signal along the length of its axon until it reaches a synapse between it and the dendrite of another neuron, whereupon a chemical is released which crosses the gap to stimulate yet another electrical impulse. A reverse flow sometimes occurs, or, in some cases, a direct electrical connection may be made. In either case, the transmission process is very rapid, or almost instantaneous—think how quickly the hand recoils after touching a hot stove.

Maintaining the brain's extensive electrical system requires an inordinate amount of energy, with the brain consuming almost one-quarter of the body's metabolic output. The electrical power resulting from this consumption of energy generates a field that can be measured from outside the skull.

We share most of our genes with other animals, especially other primates, and we have 99.99 percent of our genes in common with all other humans. From the moment of birth, however, these similarities diverge, as our personal life experiences create a vastly different array of unique synapses within our brain. Known as the “connectome,” the brain's neural circuitry stores our memories, creates our minds, and defines our being.

Except for most nerve cells, all other human cells go through a birth and death cycle at different rates that essentially gives us an entirely new body every decade. The billions of nerve cells, however, particularly those of the cerebral cortex, remain intact throughout life. This phenomenon not only preserves our essential lifetime memories, but it is the reason the frightened child and awkward adolescent—who lives on within each of us—influences our emotions and actions throughout our lives. It is why the elderly can still revel in the exuberance of youth—mentally, if not physically.

At each stage of its evolution, the brain kept what worked and added what was needed, piling ever-higher mental processes on

top of the ancient brain which governed eating, reproduction, and fight or flight. Primarily, it is the cerebral cortex that provides the definition and means for the mind to come alive and to talk to itself.

The human brain has grown to be three times larger than that of our nearest relative, the chimpanzee. Magnetic resonance imaging reveals that the expansion of human brains has resulted in a vast increase in the association areas connecting sensory and motor functions. Much like the Internet, these areas develop as organized chaos—which provides the framework for complex minds and individual personalities.

There may be as many as 100 billion neurons in the brain, each communicating with 10,000 other neurons. These form 100 trillion connections, or switches, all of which are either “on” or “off” in the manner of modern computers. In the aggregate, the synapses of a single human brain can store a trillion gigabytes of information and may provide more mathematical possibilities than there are atoms in the known universe.

The brain’s activity can be compared to a rushing and surging river, with the brain structure being like the riverbanks and sandbars carved into the earth’s crust. Were the river to be dammed and the water suddenly released, it would mostly follow the same sinuous path to the ocean, altering the surface along the way.

Our magnificent connectome provides the ability to listen to music and to later replay it in our memory, to learn to read and write music, to play instruments, to sing and to join with others in an orchestra or chorus, and to dance. We can see the world unfold around us as we pass by, and we can later visualize and describe what we experienced. We can cook, using a wide variety of ingredients and spices, smell and taste the differences in recipes, share our food with others and later remember what we were talking about as we were eating. Years later, our ability to recall allows us to once again see, hear, and smell these events and to feel the emotions they produced.

Thus far, the best efforts by scientists to accurately duplicate brain function involve the connections of perhaps a dozen of the billions of nerve cell networks in a single brain. An IBM supercomputer simulation of approximately 10 billion neurons

ran 1,500 times slower than the human brain and required several megawatts of electrical power. Full speed would consume as much electricity as that which powers both San Francisco and New York City.

While scientists have been able to locate and map some of the brain's functions, much remains mysterious, including consciousness, memory, learning, intelligence, conscience, emotions, dreams, language, communication, cooperation, creation, imitation, truth, deception, violence, sanity, and the aura of mind.

Although the two sides of our brains are physically similar, they experience and influence our lives very differently. Neither dominates, and the efforts of each are essential in our ongoing struggle to survive in a competitive and threatening environment.

During our early evolution, in the time before language, the right hemisphere directed our existence. Much like the other animals in the forest or on the plain, we used our right brain to perceive the physical environment around us in finding food and surviving danger.

Our right brain is suspicious, and it intuitively connects patterns from our sensory inputs to provide a mental picture of our immediate surroundings. The right is immersed in the "here and now," including the contentment, fear, and pain it experiences.

With the development of language, we achieved a powerful tool to make sense of our world and to ease our passage through it. The job of managing language has been assigned to the left brain of all but a very small minority of left-handed individuals.

If our right brain suspects, it is our left brain that confirms or denies the suspicions and tells us what it decides. Do we trust or distrust what we are being told? The left-sided detective figures things out by examining the details and deducing the truth, while the right-sided skeptic relies on nonverbal clues to intuitively identify falsity.

The right brain may provide leaps of insight about art, music, and mathematics, but it is the left brain that patiently guides the paintbrush, writes the musical notes, or proves the formulas. The left

brain reads these words, but it is the right that imagines the pictures they create. Or, the left creates and uses language to describe what the right side sees.

The right brain films our existence, but the left brain edits and organizes the sequences into a comprehensible video that provides us with a continuum of time. It compares the past with the present and predicts the future.

The left side generates our self-image, telling us if we are looking good or acting stupid. The left is the judge, juror, and executioner of our conscience. It is the voice we hear in our head every hour of every day, except when we sleep.

We experience the dream world in the right side, as the left silently watches. Dreams help to move our short-term memories into long-term storage and to rehearse strategies to confront the challenges of the coming day.

The left interprets our dreams and can actively direct them when we intentionally engage in “lucid dreaming,” which permits us to take our problems to bed and awaken with solutions.

Except for vision, our senses are hardwired to the opposite sides of our bodies. The fingers on the right side of the keyboard are controlled by the left brain, and the sound waves of music entering the left ear are directed to the right side of the brain. Vision is a little more complicated in that the left side of the visual perception of both eyes is directed to the right half of the brain, and *vice versa*, the right side of our binocular vision is conducted to the left half of our brain.

The tie that binds the two halves together and which transmits the sensory perceptions from one to the other is a flattened half-donut-shaped sheaf of 200 million nerve fibers known as the *corpus callosum*. Acting as a switchboard to connect areas with similar functions and the mirror-image points of each side of the cortex, the corpus callosum processes billions of bits of information each second.

Thus integrated, our brain is the seat of our consciousness, our self-awareness, and our relationship to the world we inhabit. Humans

are not, however, the only animal capable of feelings and perception.

Those of us who live with domesticated animals, such as dogs and cats, have no need of scientific experiments to conclude that they are not only conscious, but that they are quite adept at manipulating their environments, including their owners. Dogs can be observed to demonstrate shame, joy, exuberance, courage, and loyalty and to engage in active dreaming. To live with a domestic cat is to experience being the subject of a ruling monarch.

Self-awareness by animals has been demonstrated by the “mirror test,” which involves placing a colored dot on their foreheads and seeing whether the animals attempt to touch or remove the dot when observing themselves in a mirror. Our dog and cat friends fail the test; however, the great apes, elephants, dolphins, and orcas demonstrate self-perception. Even European Magpies and trained pigeons have been reported to identify themselves in the mirror. Human children first exhibit the ability when they are about 18 months old.

Once we are aware of our consciousness, we can also identify subconscious processes, including instinct, which are not a part of our active mental focus, but which play a valuable role in our existence.

Our ability to engage in multi-task thinking is demonstrated as we carry on a conversation with someone we encounter, while we try to remember their name and where we know them from, try to figure out what they are really saying, and wonder why they are wearing such a ridiculous outfit. The same thing occurs when we communicate in a foreign language and simultaneously translate meaning and context.

Encompassing consciousness and self-awareness is the concept of mind, which extends as a virtual aura beyond our physical body as far as it is experienced, perceived, or has influence. Here, the mystery of existence extends to the nature of the mind, and we begin to wade into the depths of the unfathomable—as there is even less known about our minds than there is about the brains that produce them.

With the development of our minds, we humans evolved into something different from our animal ancestors and living cousins.

We are not just wise and intelligent apes; we are an entirely different being that uses our minds to adapt the earthly environment to our needs, as we explore the limits of our planet and create marvelous things along the way.

We have become our minds, as we think about the process of thinking, and we evaluate the consequences of our thinking and emotions. We not only have the ability to learn, but we have the capacity to think about how to learn and to teach ourselves how to think and behave better. The product of all of this is our evolved facility to imagine something in our minds, to create it with our hands, or to direct its completion by others. For good, bad, or indifferent, we imagine something in our minds and we act upon it.

One does not have to be a scientist, engineer, artist, or author to understand and appreciate the magnificence of our creations. Raise your eyes from these written words to the book or computer screen that contain them. Examine the paper and binding of the book, or the monitor and computer that produces the words, and contemplate the creative processes that went into their invention and production. Look around the room in which you sit at the objects that surround you, gaze out the window into your neighborhood and at other buildings, the passing automobiles, and the airplanes that fly overhead. Take a moment to appreciate the magnificent culture we live in. Click on Google Earth, take a virtual trip around the world, zoom in on the Great Wall of China, the Pyramids, and modern cities, or search the Internet for beautiful satellite photographs of our universe.

Who are we? We are creators!

From the moment we used our imagination to shape hand axes to more effectively obtain and process food, the foundation was laid for the creative culture in which we now live. Everything along the way, from art, music, and books, to computers, has been an extension of that process—as we individually invent and create useful and interesting things, and we collectively imitate the works of others. As Einstein believed, “The secret to creativity *is* imitation.”

Our brains are the coordinators of our bodies, which have become vehicles for our minds. While we can still look in a mirror

and see a male or female, young or old, beautiful or ugly body, what makes us who we really are is the molding of our minds by nurturing, emotions, family, community, education, culture, religion, philosophy, and politics.

We are our minds, and what we know, and use is no longer contained within our individual brains. The fingers that operate the keyboard also have instant access to computerized dictionaries, thesauri, encyclopedias, and (thankfully) spell check. References include more than the hundreds of books collected on the surrounding shelves—our knowledge base also incorporates the public libraries and the millions of documents and images that can be instantly accessed on the Internet. Much of the collection of human history, discovery, and creation is now only a keystroke away.

To cope with the enormous amount of information required to survive and thrive in our modern human society, we are born with large brains, experience long childhoods, and receive structured educations. Yet, even with all this, no one human can wrap her or his mind around all that is known. We not only depend on and make use of external information—our minds have become an integral part of the larger whole.

While we each remain uniquely individual, our minds are merged with those of all others with whom we coexist in a collective consciousness. Thus united, we will solve the problems that confront us and jointly experience our destiny. The survival of our species depends on this collaboration and our ability to achieve and sustain it.

Language, particularly the written word, is the foundation upon which our worldwide civilization is constructed. Universal access to its store of knowledge is required if we are to effectively use it to imagine and create the means to break free of the bonds of Earth, and to share our lives and creations with like-minded relatives throughout the cosmos.

Even with all we have individually learned and collectively know, the truth remains elusive. There are differences of opinion about everything written here, and corporate, economic, social, and political pressures cause our information to be intentionally manipulated and

distorted in ways that pervert the truth.

Just because most of us believe something is true, does not mean it is beyond dispute. There are no absolute truths in science and mathematics, as all propositions exist only until such time as they can be effectively disproven.

The search for truth has continued throughout human existence, and things which could not be easily explained or understood often became a matter of superstition or religion. For many, the only truths are those revealed by their religion, and others, hearing a voice in their head, believe they are receiving direct communications from God.

RELIGION

Religion has been a fellow traveler from the beginning of human consciousness, and it continues to provide comfort to people who fear that which is beyond their knowledge and experience to understand. Having faith or a belief in something that cannot be proven or disproven must fulfill basic human needs, otherwise religion would not exist.

Early in our human development, religion evolved to help us cope with the struggle to survive and to explain the mysteries of procreation, birth, life, and death.

We think, imagine, and dream from the moment we are born, and it is difficult to conceive of a dark, empty, and silent lack of existence once we die. It is easier to believe we will go on thinking and experiencing emotions and perceptions in a happier place.

As caring and empathetic individuals, we don't want to surrender our relationship with someone we love. Permanent separation is painful, and we want to maintain the spiritual presence of loved ones who have passed on. They continue to exist in our minds. We can smell them, and we can hear their words. We can touch their tears, and we thrill to the sound of their laughter. We sense their lingering presence, and we need to believe they are still with us. We cannot accept they cease to exist. Even if there is no afterlife, a belief in its existence provides comfort to those who mourn, and for those who fear death.

The stress of life drives us to believe in something greater or more powerful than our own selves. Religion comforts us and makes us feel better. Its practice produces rewards in the chemistry of our brains. We are happier and less depressed.

Religion provides guidelines to encourage and enforce morality, which is beneficial to society. Having a common belief system allows for group cohesion and, collectively, the family or tribe is more successful.

Before we learned the facts revealed by science, we relied on religion to explain the apparent movement of the moon, sun, and planets. Matters such as migration, hunting, and planting came to depend on our ability to make predictions about the seasons. What did it matter if everyone believed that God reversed the transit of the sun when it got too cold in the winter and provided the rejuvenation of spring? The important thing was that seeds were planted at the right time—if there was to be the miracle of harvest in the autumn.

Early religion was associated with healing and—with the discovery of mind-altering and medicinal plants and alcohol—shamans and healers provided physical, mental, and emotional support and escape from the drudgery of earning a living.

Throughout history, spiritual worship has provided much of the art, music, song, and dance that has served the social needs of groups. Religion has allowed artists, musicians, and architects to express their talents and exhibit their creations.

For tens of thousands of years, we worshipped life itself, and the images we dig out of our earliest settlements are those of healthy, pregnant women. We peacefully coexisted with nature, and our Mother Goddess presided over a nurturing society based on the feminine attributes of empathy and collaboration. What is not found is evidence of organized destruction, burning, or war.

Well into the more complex agricultural societies of the Neolithic Period in the Sixth and Seventh Millenniums BCE, there is widespread evidence of the worship of Mother Goddess. In western Turkey, archaeologists have found numerous shrines and cult rooms in which female goddesses are prominently displayed, including one sitting on a throne flanked by two lions. Women may have tamed the wild animals, but men were soon to take the credit.

Perhaps it was the discovery of bronze and the ability to make deadly weapons which facilitated the revolution in which the husband and sons of Mother Goddess seized control of her nurturing society and turned it into the horror of violence and perpetual war—one that has continued until the present.

The first warrior nations of the Middle East depicted their masculine gods sitting on the throne as though *they* had tamed the

lions. There were multiple gods, and they fought continually among themselves for power and dominance.

Today, Jews, Christians, and Muslims believe in the masculine and judgmental God found in the *Old Testament* of the *Holy Bible* (Revised Standard Version). The Canaanite God was known as El, and *Exodus* (6:3) has God explaining that He revealed Himself to Abraham, Isaac, and Jacob as El, instead of Yahweh. In the Hebrew language, the word, *Elohim* is an alternative name for God, and it has both singular and plural meanings.

Deuteronomy (32:8) reveals that just before his death, Moses spoke about the plurality of gods: “He fixed the bounds of the peoples according to the number of the sons of God.” While Yahweh became the God of the Hebrews, He was but one of the sons of El.

El’s wife was named Asherah, and some Iron Age inscriptions also identify her as the wife of Yahweh. Women continued to worship Asherah until the reforms of King Josiah in the Seventh Century BCE. Josiah presided over a rewriting of the *Bible* to weave a continuous story about the people of Israel, and he established Yahweh as their one and only God.

Josiah celebrated a renewal of the covenant with God, and he ordered the destruction of all altars dedicated to El and Asherah, including those built by King Solomon. Archeological excavations in Jerusalem have uncovered hundreds of figurines of the Mother Goddess destroyed by Josiah.

Everything associated with the worship of Mother Goddess was eliminated. Ordinary women—concerned with matters such as menstruation, conception, pregnancy, childbirth, and the nurturing of children—no longer had a place to go for compassion and comfort.

Although contemporary Judaism considers the Hebrew God to have both male and female aspects, the primary role of Jewish women, particularly among the Orthodox, is to be wives and mothers, and they are discouraged from religious pursuits.

The original Christianity founded upon the historical teachings of Jesus was revolutionary in that women played a leadership role

in the Christian Church for hundreds of years. The *Gnostic Gospels* honor the Divine Mother as Wisdom, or Sophia, and have Jesus speaking of “my Mother, the Holy Spirit.” These *Gospels* also reveal that Jesus’ “companion,” Mary Magdalene—whom he loved most of all—had the greatest understanding of his teachings. Mary was the most honored of Jesus’ disciples; however, the Catholic Church slandered her for centuries as a prostitute until 1969 when Pope Paul VI cleared her name and reputation.

The Pharisee Saul, who persecuted the first Christians, converted and became Paul. He began to create a theology at odds with that of James the Just, the biological brother of Jesus. Historically, James served as the leader of the original church of Jesus—known as *The Way* or *The Poor*—for 26 years until his own murder by stoning in 62 CE. His beliefs are found in *The Book of James* (2:17), where he taught that “faith by itself, if it has no works, is dead.”

Paul not only revised Christian theology to allow justification by “faith apart from works of the law,” (*Romans* 3:28) but he also reversed Jesus’ position on the role of women. In his *First Letter to Timothy*, Paul instructed: “Let a woman learn in quietness with all submissiveness. I permit no woman to teach or to have authority over men; she is to keep silent.” (2:11-12)

Religions, and the male-dominated bureaucracies that have evolved to govern them, have continued to serve the warrior societies in the subjugation of women.

While the Catholic Church has come to venerate the Virgin Mary as the Mother of God over the past 1,700 years, it has effectively eliminated the participation of women as priests and bishops. Moreover, by prohibiting both birth control and abortion, the Church has denied the freedom of choice to women as to whether they are able to bear the burden of pregnancy, childbirth, and the nurturing of children. Women continue to have the greatest responsibility for the raising of children in every society and culture.

The role of women in Islam—the second largest world religion—has been equally repressive. It is the right of Muslim men to command women (except to defy Allah), and it is the duty of women to obey. The main purpose of marriage in Islam is for women

to bear children, and most forms of birth control are forbidden to them.

The third largest religion is Hinduism. With a billion followers, primarily in India, it is the oldest living religious tradition. Hinduism commenced with the collection of ancient sayings in the *Rig Veda* and ultimately organized the sacred Hindu scripture known as the *Bhagavad Gītā*.

Hinduism is complex, inclusive of several differing traditions worshipping a variety of deities, all based on the ancient Vedic religion. Most Hindus believe in repeated reincarnations, until freedom is achieved through salvation based on one's practices and "karma." The role of Hindu women is dependent on the tradition they follow, with some more restrictive than others. All traditions, however, recognize that God has both female and male aspects, and there are both male and female deities.

Buddhism is the fastest growing religion, with slightly fewer than one billion adherents practicing the teachings of the Buddha, who lived in India around 485 BCE. Encouraged to engage in ethical conduct, Buddhists believe that beings experience a succession of lifetimes and various life forms, as they either perform good or bad actions that spring from mental intent constituting one's karma. The ultimate goal is to achieve enlightenment and to be reborn into the pure abodes of the higher heavens. The Buddha recognized that women are just as capable of realizing the truth as men, and there is a general equality between the sexes in the religion.

Confucianism, the widespread system of ethics and conduct based on the teachings of Confucius (551-479 BCE), was particularly obnoxious to the place of women in society. Women were required to obey their fathers, husbands, and even their sons. A recent revival of Confucianism by the Chinese communist leadership emphasizes its respect for authority and downplays sexual discrimination.

Religious fundamentalism, a growing and disturbing world-wide trend, aggressively proselytizes, institutionalizes intolerance of other faiths, and often incites violence in the suppression of contrary views. Militant Christianity in the United States, jihadist Islam in the Middle East, expansionist Judaism in Israel-Palestine, Hindu

assassins of secular intellectuals in India, and even radical Buddhism in Myanmar, ignore the peaceful and progressive tenets of each religion in favor of repressive ideologies of hatred, intolerance, and narrow-mindedness toward others. Joining the fundamentalist movement, some atheists have developed a rigid and dogmatic lack of respect and intolerance of all religions.

Today, more than half of all people, practicing as many as 20 different major religions, believe in God. The numbers, however, are rapidly declining, particularly among young people. Even among people of faith, many “don’t know what happens” after death, and more than one-quarter do not believe in a heaven or hell.

A loss of faith in established religions has contributed to the rise of humanism as an ethical and philosophical alternative to traditional doctrines. Humanists believe in a quest for knowledge, the preservation of human rights, and compassion for others.

Many of the wars that have been fought since the evolution of warrior societies can be attributed to religious differences, greed, or power. Indeed, history is normally taught as a chronicle of cultures, their religions, their governments, and their wars. Given, however, the population, economic, environmental, and militarization crises facing humanity today, it seems more instructive and beneficial to consider what we, collectively, are doing right, rather than what we are doing wrong.

It appears to be true that we need to believe in something—perhaps, we should have faith in ourselves, our accomplishments, and our own creations.

DISCOVERIES

CULTURE

Humans are quite simply the most marvelous species that has ever evolved on the earth. We have adapted Earth's environment to our needs, and we have multiplied to fill every habitable niche of its surface.

We have created a magnificent and cooperative worldwide culture based on our ability to work together in solving complicated problems. As a group, we are more intelligent than the smartest individual among us, and our collective common sense is the foundation of human wisdom.

We usually communicate the truth and demonstrate respect and civility in our interactions. Were you to travel to every country, every city, and every village and enter every home, every apartment, and every hut where humans live, you would find parents who love and care for their children and who wish for them a better and safer existence. Everywhere, people are helping others in need and communicating their discoveries and inventions in making life easier for all.

The essence of humanity is that we mostly tell each other the truth, and the truth we tell is that we care for one another.

Coming to fruition in just the last century, human inventiveness has lifted the heavy burden of labor from the backs of women and workers in most countries. A vast expansion of knowledge has accompanied the laborsaving machines and has resulted in an ever-increasing rise in human intelligence.

Physiologically, the larger knowledge base requires our brains to work harder, and the exercise increases our brain function. We are smarter than we were a century ago, but there is so very much to learn—we struggle to absorb it, yet our children simply take it for granted.

It is fortunate the new generations are more intelligent and knowledgeable than the older folks, for the tasks they will face are formidable. The four horsemen of the modern Apocalypse are not Conquest, War, Famine, and Death; they are Population, Economy, Environment, and Militarization.

The first of these, the population explosion, is the easiest to solve. Simply give women equal opportunity and guilt-free control over their own bodies. Provided with knowledge, economic freedom, and access to safe and effective methods of birth control, women will only bear the number of children they can afford to safely raise. The world birth rate will drop dramatically.

Economically, we have engaged in the exchange of materials, goods, and services throughout our existence. Archaeological evidence of trade has been identified at very early sites in which items such as red ochre, obsidian, perforated seashells, and semiprecious stones are found far from their place of origin.

A person skilled in making tools from flint could trade the product of his efforts for meat and vegetables obtained using his tools by others, and tribes could exchange materials that are abundant near their villages for scarce commodities from other areas. Language—first verbal, then written—facilitated economic trade.

Written communication using incised counting tokens was developed 11,000 years ago to allow a purchaser in one area to know just how many oxen, goats, or measures of grain were entrusted to an agent by a distant merchant. Subsequently, written symbols were directly impressed into small sheets of wet clay allowing the creation of dried tablets which could convey and document commercial transactions, government functions, and cultural stories.

Different forms of written communication evolved around the world, and with the invention of the printing press, readily translatable books allowed for the rapid diffusion of knowledge into every language.

In just the last few decades, computers and smartphones remotely connected to the Internet by Wi-Fi or transmitted by fiber-optic cables and satellites allow for the instantaneous transmission

of both personal and economic data around the world. We can now travel to any place on Earth within a day or so, cellular phone service is available in most settled areas, and global positioning satellites allow us to know exactly where we are.

None of this would have been possible without the creation of large commercial enterprises capable of organizing finance, research, materials, and labor to construct the machines and infrastructure required to make it all happen.

Corporate organization may be necessary to build great things, but corporations have to be carefully controlled and regulated, otherwise they will take over. Corporations are like robots. They have extraordinary potential power—and a lack of conscience—and since their goal is to earn the greatest return on their investment of capital, they are dangerous to the environment and to the freedom of individuals.

The global power of corporations has grown exponentially as they have come to command natural resources, manufacturing, and finance. Wealth is not only concentrated in the advanced nations at the expense of developing countries, but it is becoming increasingly hoarded in the vaults of a wealthy elite at the expense of workers and small business owners, resulting in the destruction of the middle class. At the same time, corporate exploitation and predation are destroying our environment.

There must be an equality between labor and capital; however, neither corporations, nor labor unions can be allowed to run the government that necessarily regulates them. We can no more allow corporations and labor unions to possess the rights guaranteed to individuals than we can entrust the prison keys to the convicts.

A system of sensible regulation and fair taxation must be based on reason rather than greed, and it must result in an economic structure that provides rewards for most people and which discourages inequality of opportunity. We must trust the inherent goodness and common sense of ordinary people and provide them with the knowledge and means to exercise their individual freedoms—and to more directly formulate the policies of their governments.

We have seen that the earth naturally experiences broad swings in its climate and that often, it can be an inhospitable place for human existence. The development of our civilization has been encouraged by unusually pleasant weather during the last 10,000 years.

The natural environmental order is being disrupted by human (and corporate) activity—which is, at least, exacerbating the problem. The drive for profits and immediate gratification is delaying and obstructing efforts to survive in the future during extreme climatic conditions. Corporate exploitation and aggressive marketing of rapidly diminishing fossil fuels not only suppresses efforts to secure alternative energy, such as space solar power, but it also pollutes fresh water supplies by hydraulic fracking, mining dirty coal, and exploiting filthy tar sands.

There is incontrovertible evidence that carbon dioxide concentrations and global temperatures are higher today than they have been in thousands of years, and that they are likely to continue rising until they meet and exceed levels that haven't been experienced since before the last ice age.

Unrestrained population expansion and unregulated corporate schemes are accelerating global warming, and the window of opportunity for the survival of our species is rapidly closing.

Creating a system of alternative energy and ensuring the fresh air, clean water, and nutrition necessary for human survival will not be cheap or easy. In fact, it will be difficult and expensive. Humans have the inventiveness to come up with solutions and the ability and experience to organize and apply the fix, but where will the money come from to pay for it?

Quite simply, we must end the senseless wars that have continued uninterrupted for hundreds and thousands of years. In just the last century, the unchecked power of militarism has diverted massive and incalculable financial resources to the wasteful purchase of the destructive machines of war resulting in the deaths of more than 100 million people.

The existing military expenditures by nations—worldwide—are more than enough to underwrite the availability of nutrition,

education, and health care for every child on Earth and to organize the resulting human capital into productive endeavors essential to human survival.

There is no alternative. The worldwide warrior society not only consumes natural and financial resources, but it is also eating at the very soul of humanity. Instinctively, we are not killers; however, by encouraging and training our young people to murder one another—virtually through computer games, personally with firearms and remotely by satellites, drones, and rockets—we are destroying everything that has brought us to this point. At long last, after millions of years of struggle and wandering, we are on the verge of achieving the ability to fly from our nest!

If we continue to glorify violence and the military, the only consequence will be the total elimination of our personal freedoms and another world war. There will be no victor.

Which brings us to the ultimate questions. What are we? Are we destroyers, or are we creators? Which do we want to be?

Will we continue our exploration beyond Earth and throughout the cosmos, or will we self-destruct?

MINDKIND

Half of all adults and three-quarters of young people believe it is likely there is intelligent life on other planets, and more than one-third of all adults believe Earth has been visited by extraterrestrials. These beliefs are deep-seated and have endured throughout human history.

Genesis (6:4) reveals that once upon a time “the sons of God came in to the daughters of men, and they bore children to them.” The offspring of the sons of God became known as the Nephilim.

In the *Book of Jubilees* (5-1) we are told:

“And when the children of men began to multiply on the surface of the earth and daughters were born to them, . . . the angels of the LORD saw . . . they were good to look at. And they took wives for themselves from all of those whom they chose. And they bore children for them; and they were the giants.”

For in his days, the angels of the LORD descended upon Earth—those who are named The Watchers—that they should instruct the children of men, that they should do judgment and uprightness upon Earth.”

According to the Jewish Talmud, “God flies through 18,000 worlds,” and the Zohar speaks of seven earths inhabited by intelligent creatures.

The official astronomer of the Catholic Church—that once convicted Galileo of heresy for saying the earth was not the center of the universe—has acknowledged there could be intelligent life in outer space.

The *Noble Qur'an* frequently mentions the possibility of extraterrestrial life, such as “He is the LORD of all the Worlds” (1:2), and “among His signs is the creation of the heavens and the earth, and the living creatures that He has scattered through them.” (42:29)

Since the first modern incident in 1947, there have been thousands of reported sightings of flying saucers and other unidentified flying objects (UFOs), and hundreds of photographs and videos have been obtained. The United States government investigated many of these reports; however, efforts were primarily devoted to debunking, rather than verifying contact. Even so, almost one-quarter of the reports could not be explained.

In November 2011, the White House stated, “The U.S. government has no evidence that any life exists outside our planet, or that an extraterrestrial presence has contacted or engaged any member of the human race.” The statement went on to say, however, that the “odds are pretty high” that there may be life on other planets, but “the odds of us making contact with any of them—especially any intelligent ones—are extremely small, given the distances involved.”

Astronomers have instituted a search for planets outside our solar system that might support life, resulting in the launch of the Kepler Space Telescope in 2009. An analysis of data from the telescope reveals that Earth-like planets may exist around one in five Sun-like stars in the Milky Way galaxy. If true, there may be as many as 25 billion habitable planets just in our galactic neighborhood. Nearly 2,000 individual exoplanets have been identified, a number of which are Earth-like and orbiting in the “habitable zone” where liquid water could pool on their surfaces.

We cannot be alone in the universe. Eternity is far too long, and the universe is much too vast for the small planet we live upon to be the only place where intelligent beings have evolved. In terms of probabilities, it is highly improbable that life only exists on Earth. Our failure to identify extraterrestrial life is a measure of our limitations rather than the likelihood of its existence.

Only a few centuries have passed since we believed Earth was the center of the universe, and a hundred years ago most astronomers thought the Milky Way galaxy constituted the entire universe. Now, we are on the threshold of accepting that even our perceivable universe is but a tiny part of something larger, and that eternity is but a moment in a timeless infinity.

To the extent we think, our intellect compels us to seriously consider these propositions: Earth is not the only planet in the

universe capable of sustaining life; the spark of life is a natural product of chemical processes; life has flared up at locations other than Earth; and intelligence is the ultimate expression of sustained life.

As to the nature and origin of life, the only thing we know for certain is that we are a part of life as it presently exists on Earth. We are less sure of when, where and how that life began; however, science is zeroing in on the answers.

Scientists have found proof of early life in rocks that can be reliably dated to 3.8 billion years ago. Life may have come into being as early as four billion years ago—if it originated in deep ocean hydrothermal vents instead of on the surface.

We are now fairly sure organic molecules occur naturally in interstellar dust clouds and likely existed in the sun's protoplanetary disk, even before Earth and the other planets were formed. There is also a good chance organic molecules hitchhiked to Earth on asteroids and comets.

Solid evidence continues to accumulate about how organic chemicals evolved into self-replicating molecules and protocells, and ultimately into RNA- and DNA-based life. Amino acids necessary for metabolism and the building of proteins may have been created by natural energy sources, such as lightning, ultraviolet irradiation, or the heat of meteor impacts. One exciting discovery resulted from the laboratory recreation of the ocean's iron-rich catalytic environment as it was four billion years ago. Researchers have documented spontaneous chemical reactions much like those observed in living organisms.

While there is little doubt that chemistry-to-life evolution has taken place on Earth, we cannot yet conclusively prove life has arisen at other locations. Nonetheless, there is increasing circumstantial evidence it has.

The possibility of extraterrestrial life is supported by the discovery of bizarre life forms on Earth at extraordinarily harsh places, such as deep in basaltic rock totally cutoff from photosynthesis, or in boiling sulfuric hot springs. Giant mouthless tube worms and blind shrimp absorb chemical nutrients at deep ocean vents, and microbes thrive

in the slime and darkness of deep caves. These findings suggest life is possible on planets with different environments than Earth.

Our neighboring planet Mars offers a strong case for having its own home-grown life forms. When telescopes were first focused on Mars, some observers believed they could see a network of canals constructed by intelligent beings. While this theory has been disproven, what has been established is that Mars undoubtedly had an abundance of flowing water in the ancient past.

In 2004, the National Aeronautics and Space Administration (NASA) landed two self-propelled rovers on opposite sides of the Mars surface to conduct scientific surveys. One of the rovers, Opportunity, found evidence of the mineral hematite, which is normally formed in water. Spirit uncovered rocks rich in chemicals formed when Mars was warmer and wetter than it is today. Among these chemicals was silica, which is created in hot springs or hot steam vents.

Silica, scientifically known as silicon dioxide and commonly called sand, is a compound of the element silicon. As the most abundant mineral on the Earth's surface, silica is found throughout the human body, particularly in the skin, tendons, ligaments, bones, and teeth.

A more sophisticated robotic rover, Curiosity, landed in 2012 to expand the search for evidence of microbial life on Mars. Curiosity has identified an ancient lakebed, which may have provided a home for microbes. More specifically, Curiosity has measured spikes in the organic (carbon and hydrogen) methane in the atmosphere and detected different organic molecules in the surface rocks it has drilled into.

In September 2015, NASA was able to confirm that water continues to flow on the surface of Mars. An imaging spectrometer on an orbiting spacecraft documented downhill flows of water—which varied with the seasons.

Opportunity and Curiosity continue to patrol the surface of Mars looking for evidence of life, and there are plans for another spacecraft to visit the planet in the future to collect rocks and return them to Earth for more detailed examination.

It is not necessary to wait, however, as rocks from Mars have already arrived on Earth. When a planet is struck by an asteroid of sufficient size and speed, it can cause material from the surface to splash out into space and escape from the planet. That orphan material can then be gravitationally captured by another planet and fall to its surface as a meteorite. Scientific examination of these rocks may provide evidence of life on the first planet.

One such 1.3-billion-year-old Mars meteorite was discovered in Egypt in 1911. When examined in 2006, the meteorite was found to contain a series of microscopic tunnels like those caused by terrestrial bacteria. These findings were confirmed by examination of another Mars meteorite of the same age found in Antarctica in 2000. Expelled from Mars during the last 10,000 years, the Antarctica meteorite was confirmed to be similar to the Egyptian meteorite in containing fossilized evidence of bacteriological activity. Scientists cannot presently rule out the possibility the tunnels were formed by nonliving processes, and the jury is still out.

Even if we assume there are other planets capable of sustaining life and that life has in fact arisen on those planets, we are still left to wonder if such life has achieved intelligence. Although there have been numerous sightings of UFOs, we have yet to see an extraterrestrial interviewed on the evening news. How confident can we be that intelligence is the natural consequence of life?

We will undoubtedly debate the issue until extraterrestrial life forms choose to communicate with us; in the meantime, we can use our own intelligence to arrive at some logical probabilities. *Homo sapiens* was not the first human species to make and use stone tools and to create art and symbolic language, and we are not the only species presently on Earth that has achieved self-awareness. Others such as our closest cousins, the chimpanzees, recognize themselves in a mirror and can demonstrate the intelligence of human toddlers.

If we continue along our self-destructive path and succeed in killing ourselves off, is there any real question that someday—millions of years in the future—the chimpanzees or some other life form will achieve a level of intelligence equal to or in advance of our own? If that could occur here on Earth, it has surely taken place at other times and locations in the universe where life has become established.

Assuming long-term survival, what is the ultimate manifestation of intelligence, as it evolves over time? Does it become more militaristic and warlike, conquering and destroying all it encounters? Or, does it become more cooperative and peaceful? Which attribute contributes the most to sustaining life and longevity? Which is the most productive, creation or destruction?

Most likely, the successive evolutionary stages of chemistry, life, intelligence, and tranquility are as constant throughout the universe as the periodic table of chemical elements. If this is true, is it not also true that the highest stage, intelligence or mind, has the duty to serve as a guardian for all life, at every stage of development and wherever it may be found?

Simple logic tells us there is intelligent life beyond Earth and, if so, that any being sufficiently advanced to visit Earth is able to do so only because its energies are directed toward peaceful exploration, rather than conquest.

Imagine the excitement when a new life-sustaining planet is discovered, with the opportunity to witness the birth and development of another intelligent species and to watch, enjoy, and appreciate its creations.

Throughout an unlimited universe and during all of eternity, everything we create here on Earth is unique. While sciences such as chemistry, mathematics, and physics may be immutable, our art, music, and architecture have never been created before. Especially, the solutions and strategies we invent to solve our economic, environmental, political, and social problems here may be studied and used elsewhere.

From what we know today with certainty and what we can surmise with confidence, it is safe to believe we have been watched over for millions of years, as we slowly pecked through our shell, and we will be lovingly looked after until we learn to fly from our nest.

As there is but peace throughout the universe, we will be grounded here until such time as we, ourselves, overcome and cure the diseases of deception, hatred, and violence which infect us, individually and collectively.

We are not quarantined. It is just that we will never achieve the ability to acquire sufficient knowledge, wisdom, and power to travel

to any significant place in the universe, into adjacent dimensions, or forward and backward in time, until *every child on Earth*, irrespective of race, religion, culture, or social condition, has equal access to nutrition, health care, and education.

That which is presently unknown is far too vast for it to be discovered by the sheltered and unassisted progeny of the intellectual, political, and financial elite. It will take the combined effort of all our children to comprehend and penetrate the multi-dimensional veil that shrouds life beyond Earth.

If we fail to grow up and we are stillborn in our own waste, millions of years may again pass, as the ruins of our self-destruction are scoured by the winds and rains of time, until another intelligent being looks up, notes the phases of the moon, marks the solstices of the sun, sights the planets moving among the stars, and learns to fly.

For surely, the rare blue water planets of warm yellow stars, nursed by large silver moons in the outer arms of elegant spiral galaxies, are too precious to be wasted. These are the nests where the eggs of creation are found, where all that is beautiful is born, where we nervously stand with our fledgling wings spread wide, and where the Children of Mindkind are brought forth.

FUTURE

From what we have learned thus far, we have the inherent ability to evolve in order to meet new challenges. The only question is whether we have the collective strength of character and flexibility of mind to endure. If we believe strongly enough in ourselves, and if we are prepared to think for ourselves, we will do what is required to allow our children to survive and thrive in the new millennium.

Let us imagine we can visit the not-so-distant future and observe what our progeny have been able to accomplish—once they have cured themselves of the diseases of deception, hatred, and violence and have ensured all children have equal access to nutrition, health care, and education.

Our governments have come to care for and nurture the people who elect them, knowledge is widespread, women participate equally, and the individual rights of everyone are protected and defended, irrespective of race or status.

Rather than having to choose among politicians and the platforms they propose, the people more directly make their own policies through referenda, and they choose representatives they believe will best implement their policies.

Paid election holidays honor the voters, as they celebrate the most sacred sacrament of their political religion. Informed voters demonstrate their power over their governments, as they thoughtfully answer the policy questions on their paper ballots and carefully write in the names of the candidates they choose.

Corporations, labor unions, and other fictitious legal entities no longer enjoy the constitutional rights of individuals. They are carefully regulated and reasonably taxed to ensure they fairly share the burden of their existence, and they are not allowed to become so powerful as to threaten the rights and safety of individuals or the sanctity of self-government.

National governments are entirely supported by a slight toll tax on every financial transaction, including currency speculation, interbank loans, trade in stocks and bonds, and the payment for all goods and services throughout the economy.

The substantial tax revenues raised by the fair and simple toll tax provide complete funding for education at the local and state level through college. Tuition is free for all students through community college, through a bachelor's degree for young people who contribute a year of valuable public service upon attaining adulthood, and through a master's degree for those who contribute two years.

Proceeds of the toll tax are also adequate to completely pay for national health, dental, optical, and mental health care for everyone, irrespective of wealth or income. Medical clinics have been established in all educational facilities serving their students and residents of the immediate neighborhoods, and on-site health care is provided in all businesses—once they employ a enough workers.

The cost of providing health care and worker's compensation insurance has been lifted from all employers, resulting in a rise in both productivity and profits.

Individuals who opt out of the national health system and obtain their own health care are allowed a deduction on their annual toll tax return for the *per capita* value of national health care. In practice, because of the very low taxes paid by individuals and the very high quality of national health care, very few people choose private insurance.

Safe and effective methods of birth control are freely available for all women, who have the unrestricted personal choice whether they will bear children. Irrespective of their decisions, women receive the full support of their families, communities, and governments.

With the heavy cost of public health care and education lifted from municipal and state governments, general welfare assistance is largely provided on a local basis where needs can be more accurately, fairly, and economically accessed and administered.

The size of national governments has been substantially reduced, as their mission has been redirected from the enforcement

of complex regulations to the establishment of binding legal presumptions and minimum damages. These procedural devices reduce the cost of doing business and the burden of litigation. They are relied on by aggrieved individuals and businesses, when they present their complaints to the courts or privately arbitrate their disputes.

National governments have established their own independent banks, which issue the national currency and loan money for government operations. The saving of interest formerly paid to private banks has greatly reduced the cost of government.

Government banks have become the depositories for solvent national retirement systems, which operate in addition to the safety net of social security insurance. Voluntarily contributed by workers and their employers, and guaranteed by the government, retirement funds are primarily invested in small businesses and the construction and maintenance of national, state, and local infrastructures.

Increased investment and reduced costs have reliably improved the ability of small businesses to compete in world markets, resulting in economic stability—internationally. The economy is providing jobs to everyone who wants to work, and a balance between labor and capital has been achieved.

All businesses, including large corporations, have come to recognize it is to their advantage to have a well-paid, healthy, rested, and happy workforce and have joined with organized labor to support improvements in basic working conditions. The standard now includes a sustaining minimum wage, paid sick and maternity leave, four weeks of annual paid vacation, and a four-day workweek, allowing a three-day weekend or an extra day off in the middle of the week.

The number of countries continues to increase, as large artificial nations peacefully resolve themselves into more logical self-governing constitutional entities.

The threat of militarization has been defeated, and the international trade in armaments has been eliminated. Governments maintain only very small, but effective defensive forces, which are backed up by volunteer national guards and militias.

All countries have renounced war against other societies as an instrument of national policy. Instead, specifically named individuals, who are proven to pose a danger to the safety and security of their own people and to those of other nations, are now declared to be outlaws, and legislative warrants are issued for their physical arrest. Disputes between governments are arbitrated in the World Court of Justice, rather than on the battlefield. Freed from most conflicts, governments concentrate on solving their own problems, rather than meddling in the affairs of others.

The booming international economy is powered by the energy derived from extensive space-solar collectors placed in gyrosynchronous equatorial orbits (GEO) by a consortium of world governments. The GEO system is primarily dedicated to providing free energy by electrical induction in the surfaces of all major highways and rail systems for inexpensive transportation around the world.

The remaining electrical grid system has come to rely on the widespread use of wind and wave generators, and solar collectors—which have resulted in a substantial reduction in the use of fossil fuels and nuclear reactors.

With independence from the need to use fossil fuels for energy, governments have prohibited fracking, the mining of dirty coal, and the exploitation of tar sands as unjustifiable threats to the fragile water supply and shared environment. In addition, with the containment of corporate power, aggressive enforcement of clean water standards has facilitated widespread improvements in the quality of water. Concurrent with these changes, the private ownership of water systems has been prohibited, guaranteeing the continued delivery of affordable, clean drinking water around the world.

Altogether, these changes have resulted in a major reduction in individual and collective stress, and a consequential drop in crime and violence. An initiative to voluntarily reduce the ownership of personal firearms has resulted in the construction of magnificent monuments to the curtailment of violence in front of courthouses and government buildings in every country. These memorials to the

victims of violence were built by welding guns, knives, and other weapons into creative and impressive modern sculptures, where streaks of rust have replaced the stains of blood.

The worldwide War on Drugs ended with the decriminalization and reasonable regulation of the personal possession and use of all drugs. With the loss of their markets and enormous profits, the drug cartels and criminal gangs have been disbanded, and the level of associated violence has plummeted. The personal use of drugs has shown an equal decline, as education and treatment options have enabled and empowered individuals to make rational decisions—rather than to be influenced by cultural glorification or being intentionally addicted by drug dealers.

Social and medical improvements in the care and support of the mentally ill minimize the threat of harm they pose to themselves and others.

The private operation of all correctional facilities has been prohibited, and the number of prisons and prisoners has been considerably reduced. The criminal justice system has been effectively reoriented from punishment to rehabilitation. With increased educational and employment opportunities, most people convicted of crimes—particularly youthful offenders—benefit from supervised probation rather than incarceration.

Perhaps most importantly, we find that the energy of young people has been redirected from gangs, drugs, and nihilism towards games, competitions, and creative endeavors, such as art, music, dance, drama, and the design and invention of an endless stream of new and improved computerized devices and software.

Or, our visit to the future may be a very sad and disappointing experience.

We may find that nothing has changed, and there has been no improvement in the quality of individual lives, governments, the economy, or the environment. The never-ending wars and suppression of human freedoms continue, and the chances are that humanity will not survive. It will just be a matter of time—as the collapse quickens.

While this dismal view of the future may be distressing to us personally, it won't make a whole lot of difference in the larger sense.

Our demise will be mourned by those who have patiently and lovingly watched over us since the blossoming of our consciousness; however, the nursery of Earth will not be destroyed. Although damaged, her rivers will once again run clean to the oceans within just a few hundred years, the air will eventually clarify, and life will go on. We just won't be around to enjoy it.

Perhaps another million years or so will pass until another intelligent being evolves on Earth and learns to fly. The last few artifacts of our civilization may be found and another child of Mindkind will wonder about us, and ask who and why?

The 140,000 years of human existence is but a moment in time to Mindkind, and even if we fail to fly from our nest, our creative contribution to the universal culture has been phenomenal. We have much to be proud of, some to be ashamed of, and more than we can presently imagine to hope for.

We still have a ways to go and, as we stand here at the tipping point of our destiny, we must recognize our inherent goodness, unite together, draw upon our collective resources, and focus our energies on the common objective. The creed of Mindkind requires that we, the Children of Mindkind on Earth, make it on our own and that we do it together.

EPILOGUE

THE SOUL OF MINDKIND

Sequencing of the human DNA has proven the extent of our relationship to other primates and to each other. The complexity and collaboration of the effort provides hope for the ultimate mapping and replication of brain functions and the mind itself, including our collective consciousness.

Based on our biological nervous system, cutting-edge research is now allowing computers to mimic the human brain as they automate and self-adjust their programming to perform assigned tasks. Moving beyond massive brute-force programming, third millennial computers will learn to cleverly see, listen, evaluate, compensate, and communicate with ever increasing speed, precision, and elegance.

The Human Brain Project of the European Union is trying to completely simulate the human brain, and the United States government is funding the Brain Initiative—a \$4.5 billion effort to map the brain. As ambitious as these projects are, they are only tentative steps toward a comprehensive theory of the human brain and the mind it produces.

Much like pressing a button on a key as we approach our parked automobile and unlocking its doors, and just as our cell phones communicate with others by bouncing signals off distant receivers, we may find the power of our minds extends beyond the physical limits we presently find comprehensible.

The time may come when our bodies become expendable and we leave them behind—as our minds travel to places and times presently unimaginable, in an equally fantastic and instantaneous manner.

Our nascent ability to map the brain's chemical and electrical paths and energy fields offers clues for solving the mysteries of the mind itself. Searching beyond the limitations of our bodily existence may reveal a path to a practical understanding of our “soul.”

Epilogue

One of the most intriguing areas of computer research involves the application of quantum physics to facilitate parallel computations. These studies have contributed to a theory that consciousness is the product of quantum mechanics inside the microtubules located within brain cells. This proposition suggests our soul may survive during near-death experiences and following actual death—as the quantum information cannot be destroyed and must be conserved. The theory has been supported by the discovery of quantum vibrations within these microtubules and by the revival of full brain function in individuals whose bodies have stopped functioning for extended periods due to extreme cold.

Once we establish the nature and extent of our living mind, we may find there is a rational basis for the age-old question of life after death. If the soul, or the aura of an individual's mind, independently survives the physical body, there must be a focus for its tenuous energy—a nexus where its material force can be realized. It may be that the soul only survives when the individual who bore the mantle of its corporeal existence is thought of in the mind of another.

Perhaps our personal heaven and hell exists whenever and wherever we are remembered with either admiration and respect, or with disdain and revulsion. In either case, our surviving spirit may have no choice but to enjoy the love, or endure the hatred earned during the period of our bodily existence. The way we choose to live our lives and to exercise our free will may not only affect those who share our living space, but our eternal pleasure or suffering as well.

Only time will tell whether these last few thoughts have validity or whether there is time enough remaining for validation.

For now, time continues to unwind moment by moment. Our collective intellect struggles against the brutality of ignorance and superstition that seeks to destroy it, and we have to fight and win the battle ourselves.

Victory depends upon the valor and wisdom of those who follow us in life and who will boldly lead us into the future—The Children of Mindkind on Earth.

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ABOUT NOTES

Research material has been accumulated by the author in notebooks and file folders for more than 30 years, and certain chapters are based, in part, on two earlier publications, *Mindkind: Math & Physics for the New Millennium* and *Time Travel to Ancient Math and Physics*.

Due to the condensed nature of the book, direct footnotes and references were not used in the interest of brevity and word flow—as many if not most sentences would require multiple footnotes. Following, as best as can be reconstructed, is a summary of published sources and a list of individuals, whose valuable work influenced and contributed to this effort. Most will hopefully recognize and approve of the use of their work. Sincere apologies are offered for any unintentional slights in attribution, or for the failure of recollection and documentation of other contributions—the origins of which have been lost to time and memory.

In law, attorneys often use the Latin phrase *sine qua non* (without which there is nothing) to refer to something that is indispensable or essential. Without access to the vast body of knowledge represented by the following, this little book could not have been conceived or written.

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Mind

&

Its Languages of Reason

WILLIAM JOHN COX

The Gift of Mind: A Compendium. Number Three

Mind & Its Languages of Reason

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DEDICATION

For those who seek to comprehend the physical universe and the
mind it has wrought;

and

For *Galileo Galilei*, with whom I share a birthday. He was born on February 15th in 1564, and before his death in 1642, he was compelled to deny, upon threat of physical torture by the Catholic Church, that the earth circles the sun. As he was led away, it is said, he murmured, “Nonetheless, it moves.” and For Albert Einstein, to expand his childhood imaginary ride alongside a wave of light, to a preview of our universe of light—within which we live—as viewed from the outside, at the fourth power of his wave. He said, “We never cease to stand like curious children before the great mystery into which we were born.”

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PREFACE

Mass is stupid. In its galactic and atomic manifestations, it mindlessly moves in relationship to all that physically surrounds it. The fate of mass is to simply move, but sometimes, under certain congenial conditions, mass produces life. Then and only then, under even more unique circumstances, life gives rise to intelligence. Finally, on the rarest occasions, mind evolves from intelligence. It becomes self-aware and contemplates time and all that surrounds it, including mass, energy, life, and its own self.

Ultimately, minds learn to identify the galactic structure of the universe, the atomic composition of its elements, and the nature of life that generates intelligence and mind. It is then—when mind becomes sufficiently mature to understand itself and is capable of detecting and predicting the actions and reactions of subatomic mass—it learns that microscopic particles, such as photons and electrons, can exist at more than one place at a given time.

We can now perceive the entanglement of particles and how they affect each other over distances instantaneously without regard to the speed of light. Our minds—through our sensory and measuring devices—consciously observe and thereby create the physical reality of the microscopic world that underlies all of mass, energy, and light.

The essence of quantum physics is not that it predicts where an object actually is, but, instead, it points to where the object probably will be found. The object does not exist, nor is it *there*, until our minds seek and find it there.

We are now at this place and time. We make full use of the probabilities predicted by quantum physics in our scientific endeavors; however, we do not understand how it is that conscious observation influences the physical reality of the universe we inhabit.

To liberate ourselves from the enclosed box from within which we perceive our universe and all it contains, including ourselves, we must thoughtfully consider the probability of three things and make reasonable assumptions from our conclusions.

It is necessary that we recognize the likelihood—not only that conscious life exists elsewhere in the universe beyond Earth—but that mind is an eternal and universal phenomenon. Mind is an essential factor whenever we concern ourselves with questions of mass, energy, and light. Without mind, there is neither time, nor eternity.

Moreover, we must come to accept that our perceivable universe is but a tiny part of an immensely larger whole, as though it were a single drop of water in a mighty, whirling hurricane, spreading its energy across a deep, vast, and limitless ocean.

Finally, we must imagine that we can pierce the singularity at the core of the infinitely small, and glimpse what lies on the other side of nothing.

If it is, in fact, true that mind arises from mass spun into universes of light—as an enduring expression of life and intelligence—and that mind has been seeking knowledge for all of eternity, then our own local universe has been observed at all times by a living mind.

People of religious faith believe that everything, including ourselves, has been created, manipulated, and judged by a powerful God. If, however, mind is a surviving entity, the accumulated knowledge, wisdom, and creations of the collective intelligence of eternity far exceeds anything conceivable as a matter of religious dogma.

Today, scientists who use quantum physics accept that it has worked in every situation in which it has been tested, and most are as puzzled as the rest of us by the influence of mind in their observations. If, however, we are to create machines—such as quantum computers—enabling us to travel beyond our present perceptions, we must expand our consciousness to achieve a better understanding of mind, mass, energy, light, time, and eternity.²

2 As a child, I would sit by my father in the cooling summer evening under a cottonwood tree as we watered the garden, and he would try to explain how everything we saw in the West Texas sky worked. He showed me how the earth spins and circles the sun, and how to stop the sun in the sky. I learned to track the phases of the moon as it circles the earth, and how to spot Venus in the sunset, and sometimes in the sunrise. Years later, I imagined holding the entire universe in one hand and squeezing it down to nothing. For almost four decades now, I have tried to learn enough about our universe of light and its place in space and time—before I die—to enable me share with others what I see in my mind.

In these papers, we first consider mind and its language of quantum physics. Then, we will acquaint ourselves with other tools and languages our minds have created for measuring and counting things—which may be of some value in determining where we came from, where we are, and where we are going.

MIND

Writing in the Fourth Century B.C.E., Aristotle followed his scientific work, *Physics*, with a collection of philosophical writings that became known as *Metaphysics* (after physics) to distinguish it from his work on mathematics and science. Aristotle believed the gods were essentially engaged in self-reflection as they eternally contemplated their own contemplations.

The efforts of physicists are devoted to an exploration and understanding of the physical universe and mostly leave questions of metaphysics to the philosophers. Even so, experimental data compels physicists to acknowledge the role of consciousness, or free choice, in quantum physics. The evidence is that observation not only disturbs the object to be measured, but it may actually produce the object itself. Few physicists, however, care or dare to experiment with the influence of consciousness.

Physicists are divided into several schools of thought regarding the metaphysical aspects of quantum physics. The majority follow the “Copenhagen” interpretation that separates the two elements. In his 1920 theory, Niels Bohr postulated that quantum particles do not exist in one state or another, but in all possible states at once. When observed, the wave form collapses, and the object is forced into a singular state where it can be identified and measured.

Most physicist accept the “realism” that such non-observable phenomena actually exists, and they believe that—since quantum physics has been demonstrated to work in every test—one need not be concerned about whether or not microscopic matter has a physical reality before observation.

As a practical matter, these “realists” do not consider the role of mind, or conscious observation, to be relevant. Just because scientists cannot “see” black holes, there is abundant circumstantial evidence of their existence, and their presence at the core of galaxies has now

been digitally imaged. “Antirealists” refuse to regard any theory as truth. These skeptics consider all theories, such as the Copenhagen interpretation, to be useful tools—until they are proven wrong.

QUANTUM PHYSICS AND THE BRAIN

One of the most intriguing areas of current research involves the application of quantum physics to determine and understand the actual mechanical processes of the brain. Inasmuch as it is composed of atoms of various elements in a variety of molecular combinations, every atom in the brain necessarily obeys the laws of quantum physics. These laws allow quantum objects—atoms and their particles—to be in two places at once. Objects become “entangled” when they are in the strange condition of quantum superposition, whereby one object cannot be described independently of the state of the other(s), even at a distance. Thus far, physicists have entangled particles, such as photons, electrons, and superconducting electric currents.

Albert Einstein was suspicious of quantum entanglement, calling it “spooky action at a distance.” Once two particles become entangled, they can be separated and caused to remotely produce action by its twin particle at a different location. A demonstration of this phenomenon was carried out by Chinese physicists in 2017 when they repeatedly beamed one of an entangled pair of photons to a satellite receiver circling above the earth at distances ranging from 500 to 1,400 kilometers. They were able to prove that the entangled protons continued to share the same existence.

An emerging field of study is being referred to as quantum biology or quantum neuroscience. It involves a combining of the biology of the brain with organic chemistry, neuroscience, and quantum and nuclear physics. Some of the evidence being accumulated regarding the effects of quantum physics in living organisms involves the ability of plants to use photosynthesis to convert the energy of sunlight into sugar. In addition, the use of a built-in “quantum compass” by migratory birds to detect the earth’s magnetic fields may be the means by which these birds navigate over long distances.

The proposition of quantum effects may account for the numerous reports of levitation and transportation experienced by those who survive near-death experiences. What this means is that—

if it is true that quantum physics prevails in the brain—its product, our mind, can survive an actual death (as its quantum information cannot be destroyed, and must be conserved). The theory also derives support from the revival of full brain function in some individuals whose bodies have stopped functioning for extended periods of time due to extreme cold, such as being submerged in freezing water.

Some of these studies have advanced a theory that consciousness is the product of quantum mechanics that takes place within brain cells. There have been claims that quantum resonance in brain microtubules relates to brain synchronization of consciousness; however, this possibility is unresolved.

Current study also includes the quantum actions of phosphorus atoms within the brain to explain the mysteries of human cognition. It has been speculated that it may be impossible to describe consciousness without using quantum physics—because nothing else can account for all the features present in conscious self-awareness. If in fact, classical physics is incapable of describing the complicated ion-conducting channels involved in the synapses between nerve cells, then the only solution is in quantum physics.

One limitation is that these studies look inward, into the interior of the physical brain—while the mind is focused outward, in aspect and effect. While it may be true that momentary quantum effects are experienced when the mind accesses the brain as a data base, or uses it to record thoughts and physical experiences—it is possible that the answer to where thinking actually occurs will come from an entirely different approach. Does cognition take place within the brain, or outside the brain, as far and wide-reaching as a thinking mind, or minds, may wander, wonder, or reach?³

A mind reaches out as far as it can alter the future, from a helpless baby's pleading cry to its mother in the next room, to the electronic commands sent to a space probe at the edge of our solar system. In

3 Professor Dirk K.F. Meijer of the University of Groningen hypothesizes that consciousness constitutes a field surrounding the brain, and that mind may occupy a hidden fourth spatial dimension hyper-sphere (outside our observable three dimensions plus time) defined by the geometry of the torus as a basic unit of space-time. ("Consciousness in the Universe is Scale Invariant and Implies an Event Horizon of the Human Brain," *NeuroQuantology*, Vol. 14, No. 3, September 2017.

our world of computers, smart phones, and social media, the minds of most of us now encircle the earth. Our minds exist wherever they can have an effect. They are free ranging and are limited only by the rigorous demands of truth.

The remaining question is whether the quantum-consciousness theory can be fully tested. Until then, we will continue to think about how we think. In doing so, we will be altering the very quantum processes taking place within our brains—which may allow new creative ideas on the subject, and an awareness of the changes that are taking place.

IS MIND SEPARATE FROM THE BRAIN THAT GENERATES IT?

The traditional materialist, or behaviorist, view of human consciousness—reflecting the Newtonian mechanistic era which produced it—sees experience, memories, thinking, and emotions as the actual electrochemical action of the neurons, axons, dendrites, and synapses of the brain cells. Much work has been done with modern imaging equipment identifying the specific areas of the brain that accomplish matters such as speech, vision, cognition, and memories.

The brain's physical system allows for rapid thinking and reactions—witness how quickly a hand jerks back from a hot stove—but it does not fully account for the way our mind examines and modifies our own personalities and behaviors. Nor, does it account for the instantaneous action at a distance that occurs during quantum experiments when an observing mind creates reality.

The emerging view, as expressed by philosopher David Chalmers (who was also trained in physics and mathematics), denies that consciousness can be explained by neurology alone. He postulates that information has both a physical and phenomenal aspect, and that “the emergence of experience goes beyond what can be derived from physical theory.”

Perhaps, it is at the moment that intelligence becomes self-aware and contemplates its own self, that mind—and the brain that generated it—separate but remain entangled in a quantum sense. At that point in evolution, our mind begins to create and participate in the reality of our conscious and physical existence. Our mind exists, simultaneously, within the brain that generates it and wherever and whenever it has an effect.

Think about how—over the millennia—our minds have modified our bodies to respond to the needs of our existence. We have developed our wonderfully clever fingers to use tools, a facile

tongue for language, and we have evolved our magnificent physical abilities to run, jump, and swim to adapt to our environment and to survive its hardships.

If we can accept that our bodies were molded by our minds, we may also conclude that our brains themselves evolved in response to the needs of our minds. The changes, including the large frontal lobes of our brain for thinking, and our pleasurable feelings of reward at performing acts of kindness, did not arise within any one brain—at any one time—but were the harmonious product of our community of minds.

ARE HUMAN MINDS ENTANGLED?

It is said that people who have lived together for a long time begin to complete each other's sentences. It may be that close and caring relationships—in which partners come to fully trust and respect each other—allow for the entanglement of minds. Certainly, we can continue to experience the presence of loved ones, hear their voice and laughter and smell their scent, long after they have passed away.

It may be that mind, as a product of quantum processes, continues to exist following the death of the physical body. One's mind may actually live on in concert with the minds of others who remember and experience the thinking and creations of the originator.

Documented histories about multiple births, such as twins, are replete with instances of shared thoughts and feelings, although there is no demonstrable physical basis.

Let us now take an additional step and think about the nature of mind and whether the collective consciousness of humanity has resulted in a worldwide mind. Certainly, if we overcome the latent diseases of deception, hatred, and violence resulting from instinctual brain stem reactions, and objectively look down upon our modern human civilization as a whole—as though from a UFO—we will surely see that it is a marvelously collaborative and sharing society. Together, we have spanned the globe and built a powerful and interdependent world-wide network of information, communication, economic productivity, and social harmony.

Yes, it is true that the wars of humanity destroyed more than 100 million lives in the twentieth century, but hatred can be unlearned, and the sacrifice of children can be ended. The flames on the altar of war can be quenched and replaced with the veneration of truth, reason, and wisdom.

Just as we cannot see the remote entanglement of particles in a physical sense, we cannot see, or measure, the mind surrounding the brain that generates it—unless it manifests itself in a perceptible creation. Nor, can we physically perceive the mental entanglement that connects us with all other humans on Earth.

Certainly, the residual limitations of the reptilian brain stem behaviors of deception, hatred, and violence interfere with effective communication. These are latent evolutionary diseases that infect and limit the ability of our minds, individually and collectively, to coexist in peace and to achieve our creative potential. Until we cure ourselves, our evolution will be retarded by injustice, crime, and war.

DOES SENTIENT LIFE EXIST BEYOND EARTH?

Questioning whether mind and its effect in quantum physics is a universal phenomenon—including the role of conscious observation at the birth of our universe—one has to wonder if self-aware life exists in other places than here on Earth.

If physicists are reluctant to delve into the free choice aspects of quantum physics, most also avoid any mention, discussion, or serious consideration of the possibility of extraterrestrial life. The risk of peer ridicule and fear of a damaged professional reputation suppresses much scientific curiosity.

Thinking more as a lawyer, however, than as a scientist, and reviewing the best evidence, we can logically consider these three issues: whether it is possible for life and mind to arise at locations other than Earth; if intergalactic communication can occur; and if humanity has been—and is being—observed by extraterrestrial minds and their machines.

With the widespread advent of radio in the early twentieth century, its inventor, Guglielmo Marconi and others suggested that radio waves could be used to identify life on Mars. In 1924, when Mars was in close opposition, the U.S. Navy tethered a dirigible two miles above the ground and equipped it with a receiver to listen for Martian radio waves. A “National Radio Silence Day” was observed during which terrestrial radio transmissions were silenced for five minutes each hour. Alien messages were not detected.

Modern scientific efforts in a search for extraterrestrial intelligence (SETI) commenced in 1960 and continue to this day. The most significant projects in the United States occur at the 1,000-foot radio telescope at the Arecibo Observatory in Puerto Rico and Project Phoenix at the nonprofit SETI Institute at Mountain View, California. China has deployed a 1,500-foot radio telescope, which has the detection of interstellar communication signals among its goals. These projects have listened to thousands of stars; however, to date, no messages have been heard.

Launched in 2009, the Kepler Space Telescope searched for planets outside our solar system until it ran out of fuel in 2018. Analysis of data from the telescope has revealed that earth-like planets may exist around every fifth sun-like star in the Milky Way galaxy. If true, there may be as many as 25 billion habitable planets just in our galactic neighborhood.

More than 2,000 individual exoplanets have been confirmed, with an equal number of candidates under consideration. Many of these exoplanets are earth-like and orbiting in the “habitable zone” where liquid water could pool on their surfaces. These findings prove that Earth is not unique in having the potential to serve as a nursery for life, and ultimately to give rise to intelligence and mind.

In collaboration with the European Space Agency and the Canadian Space Agency, the National Aeronautics and Space Administration (NASA) plans to launch the James Webb Space Telescope in 2021. Among its tasks, the large infrared telescope with a 6.5-meter primary mirror will study the formation of solar systems capable of supporting life on planets like Earth.

In 1950, physicist Enrico Fermi said that, considering the size and age of the universe, many technologically advanced civilizations must exist. Regarding a lack of contact, he thought that either such life is more rare than the evidence indicates, or our own civilization is insufficiently developed to detect it. It is also possible that the distances involved are too great for intergalactic travel, or more advanced civilizations are not interested in communicating with us.

Theoretical physicist and cosmologist Stephen Hawking expressed this concern before his death: “One day, we might receive a signal from a planet like this, but we should be wary of answering back. Meeting an advanced civilization could be like Native Americans encountering Columbus. That didn’t turn out so well.”

Since the advent of the atomic age in 1945, there have been thousands of reported sightings of unidentified flying objects, or UFOs, all over the world, and hundreds of photographs and videos have been obtained. The United States government investigated many of these reports; however, efforts were primarily devoted to debunking, rather than verifying contact. Even so, one-quarter of

the reports could not be explained away.⁴

If you search the Internet for “UFO News,” you will likely find a report from some place on Earth almost every day.

Inasmuch as the air forces of the United States and other nations exist to defend their people against outside attack, their failure to acknowledge the likelihood of extraterrestrial flying objects and their active concealment of their own defenselessness are understandable. A recently released series of videos recorded by modern U.S. Navy and Air Force weapon systems, show fabulous machines exhibiting speed and maneuverability far beyond anything achievable by any contemporary terrestrial aircraft. These dynamic properties also exceed the ability of our existing knowledge base to explain either who, or what these UFOs are, or to identify their purpose and intentions.

Imagine, if you will, for a moment, the incredible resources available to a collective mind that has eternally witnessed the reality of mass and its gift of mind. Examining Earth and its inhabitants, UFOs may be robots of a Mindkind, watching and listening to us. Could these UFOs have the same function as the Chinese robot now exploring the dark side of the moon, the Japanese and German-French robots sampling the surface of Asteroid Ryugu, or America’s robot, Opportunity, which faithfully crawled through the red sands of Mars for 15 years, before dying this year?

Terrestrial UFOs seem to come and go at will. They flit through *our* environments, in and out of our atmosphere and oceans, watching, caring, listening, sometimes from within, and sometimes from without, everything we perceive as our universe.⁵

4 I was raised within 15 miles of two of the best documented sightings of UFOs, the “Lubbock Lights” (1951) and the “Levelland Landings” (1957) and 175 miles from Roswell, New Mexico, where the most famous incident occurred in 1947, and where I graduated from military school in 1958.

5 Whenever two minds learn and speak the language of truth, they become more than the sum of their individual parts. The vision generated by the union of minds provides the energy, and thrill, to ride higher upon the waves of eternity, so as to see beyond the local ripple in this vibrant universe of light within which we spin and shimmer—in this our moment of mind.

A UNIVERSE OF LIGHT

Let our minds visualize reality in the moments *before* our universe came into existence. Imagine a limitless, all-encompassing, black nothingness consisting of negative energy, best described, mathematically, as a fluid. This dark negative energy roils with electromagnetic activity, as pairs of particles and anti-particles constantly appear—instantly annihilate each other—and disappear.

Deep within the bottomless depths of this cold, black reservoir of negative energy, the equilibrium was momentarily broken about 13.8 billion years ago by a sudden quantum fluctuation—physically manifested as a superluminal speck of singularity, separating and expanding into a spherical spray of embryonic, positively-charged particles of pure light illuminating the dark negativity.

Within and following a split second of immense inflation, the incredibly massive spawn of infinitesimal bits of related, positively charged matter were isolated, energized, and electromagnetically insulated from annihilation by the negative energy.

Related to every other expelled positive particle, and energized with angular momentum, the mass-less particles were animated with spin. Frictionless and delicately balanced between positive, neutral, and negative charges, these infinitesimal bits of nothing were electromagnetically endowed with universally long lives.⁶

Gravitationally and electromagnetically integrated, mass was born of energy, and the photons of its arrival in the darkness were surely noticed by mind. In a quantum sense, an unremarkable bit

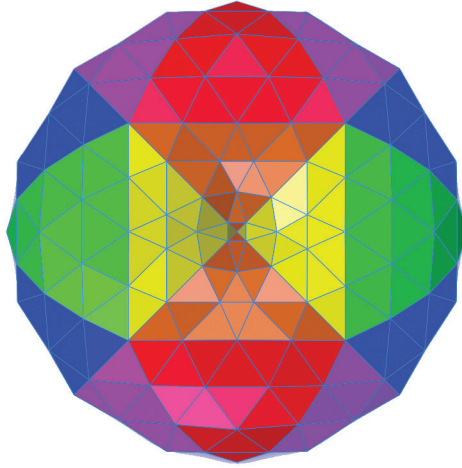
⁶ The first atom was hydrogen, with a single positively charged proton in its nucleus, composed of three quarks. The proton is encapsulated by a single negatively charged electron, consisting of nothing but itself, orbiting as a wave form at the speed of light. The magnitude of the electron's angular momentum, or spin, is fixed. Spin, along with charge and rest mass, is a fundamental property of all electrons and is one of the questions being answered by quantum physics in its quest to construct a functional quantum computer.

of energy became the massive spherical torus⁷ wave form of our universe, existing in the past, the present, the future, and all at the same time. Only with mind is there *time* to notice the difference, and the *insight* to see the existence of our universe as a continuum from creation to extinction—unrelated to time. In doing so, our individual minds also become a continuum from self-awareness to beyond death and time—as far as, and so long as, our minds have an effect.

The instantaneous introduction of the embryonic matter of our universe may be perceived as a wave form of related quantum particles being expelled outward, as an expansion of related mass, through the mathematical black fluid of the negative energy, which both pushes and pulls upon every bit of its expressed positive particles.

The universal wave form may oscillate, as the bubble of our universe expands ever larger, and with each phase—the gravitational and electromagnetic tethers of mass grow ever more tenuous—as the net negative energy relentlessly pushes and pulls at every particle of mass. The negative energy will ultimately segregate and reclaim every positively charged bit of matter discharged in the quantum blip of the physical creation of our pulsating, expanding, universal wave form of light.

7 In addition to a sphere, other proposed shapes have included flat and saddle-shaped models of the universe. The universe may look like a three-dimensional torus, or doughnut, which, like the sphere, has a single unified surface.



From our limited perspective, our universe may appear flat—as the curvature of its wave form is so incredibly vast, that the horizon may be beyond our present perception, *and* the horizon is growing increasingly more distant every day. The acceleration of expansion will constantly increase over time until the ripples of our universe ebb away into infinity.

As a basic question of quantum physics, was the presence and observation by mind at the origin of our universe a factor in the reality of our physical existence and achieving awareness?

Did mind witness the birth of hot, spinning, brilliant light into the cold black swaddle of clinging dark energy? From that instant onward, has mind watched as the unifying forces struggle to hold mass together—at the same time as everything is being constantly pulled, in every direction, by the net negative energy?

The discovery of the long-sought elementary particle known as the Higgs boson in 2012 secured the Nobel Prize for Scottish physicist Peter Higgs. It validated his prediction of the existence of an invisible background field that slows the transit of particles that convey forces (such as electromagnetism), giving them the appearance of having weight.

The Higgs field is believed to exist throughout the universe,

providing mass to particles, such as the negative electron, by way of the neutral Higgs boson. The relationship between the Higgs condensate and dark energy has yet to be determined, and they may be one in the same.

Mass is the lost child of energy, and mind is its fortunate grandchild. Mind survives the decomposition and annihilation of its parent mass, as the last photon of its spent energy of spin blinks out in the ultimate darkness.

Dark energy and its occasional transmutation by quantum alchemy into random universes of light is all there is, has ever been, or will ever be—physically.

Mind, the quantum child born to learn, and raised to create, is attracted to the light of universes where minds congregate to witness the epiphany of self-awareness and to experience its marvelous creations.

Mind is the surveyor of the universe, the timekeeper of eternity, and the curator of all creation. Mind endures, unfettered, within the emptiness of eternity—even after the light and spin of its progenitor mass is reabsorbed into the dark energy from which it was spun.

The expansion of our universe over the past 13.8 billion years has been steadily accelerated by the surrounding dark negative energy—which represents as much as 70 percent of the total mass-energy of our observable universe.

The visible galaxies and their clusters only add up to about five percent of our universe. Strangely, the little bit we can see is being held together by something else we cannot see—the remaining 25 percent of the invisible mass-energy.⁸ This mysterious dark (or invisible) matter appears to envelop all mass, including ourselves. It moves in concert with positive mass through the dark.⁹

8 NASA recently released some lovely images taken by the Hubble Space Telescope of distant galaxy clusters. Displayed is a soft blue haze, or ghost light, which appears to highlight the presence of dark matter surrounding independent, or wandering, stars that are not associated with galaxies.

9 Astronomers have recently identified two globular star clusters that appear to contain little or no dark matter. Contrary to other galaxies, these clusters are moving at a speed consistent with the gravitational mass of the galaxy's visible matter.

In this limitless realm of eternal negative energy, the life and times of a wayward universe is of little moment—scarcely more than the popping of a bubble in a boiling kettle. Were it not for mind, the light of mass would not be noticed or missed, as it spins down—dispersed, discharged, exhausted, and finally drained back into the fathomless pool of negative energy.

Sooner, or later, the curtain must fall on the gravitational-electromagnetic ballet of our universe, as the spin of the last particle of its existence reaches the limit of its momentum. Throughout the lifetime of our universe of light, the eternal mind patiently watches the mechanics of its mass and quietly listens for the whisper of minds upon its waves.

CONVERSING WITH THE WATCHERS

If it is true that everything we perceive as reality—whether we fully understand it—is observed by mind, we can only wonder if we will ever be able to converse with our watchers. Perhaps our human mind has always been a part of the eternal mind but has yet to become fluent in the one-word language of reason.¹⁰

The question regarding contact may not be presently answerable, but it does suggest a solution to another question about why our sentient visitors have not said hello—although it is probable we have been observed throughout our evolution. Could it be that the collective breath, knowledge, and mind of humanity exists as a fragile wave form which would collapse upon outside interference, ensuring the extinction of our species?

It is more likely we will continue to be lovingly watched, so as to not affect or influence our creativity—which is the essence of mind. We will remain free to evolve—or to expire—in a natural manner that is the way of mind.

Earth is a garden, a nursery, a nest, *and* a test. It provides all we need to survive until we outgrow the infantile brainstem diseases of deception, hatred, and violence, *or* we die off from a starvation of will.

To continue our growth to the stage of evolution where minds communicate, we must willingly come together and share the responsibility of ensuring that every child—worldwide—has equal access to nutrition, health care, and education. Without this essential dynamic boost of collective intellectual vitality, a failure to thrive and fly from our nest is inevitable.

Just as the self-awareness of intelligence created mind, the self-awareness of mind creates wisdom.

Physicist Freeman Dyson said that “God is what mind becomes

10 Truth.

when it has passed beyond our scale of comprehension.”¹¹ He also thought that, “It would not be surprising if it should turn out that the origin and destiny of the energy in the universe cannot be completely understood in isolation from the phenomena of life and consciousness.”

11 “The earth was without form and void, and darkness was upon the face of the deep; and the Spirit of God was moving over the face of the waters. And God said, ‘Let there be light’; and there was light.” Genesis 1:2-3, *The Holy Bible*.

“Allah is the light of the heavens and the earth. His light may be compared to a niche that enshrines a lamp, the lamp within a crystal of star-like brilliance. . . . Light upon light; Allah guides to His light whom He will.” Light, Sura 24, The Noble Quran.

Hindus celebrate a festival each autumn that symbolizes the spiritual victory of light over darkness, good over evil, and knowledge over ignorance.

The last words spoken by the Buddha were “Be your own light.”

IS MIND A FACTOR IN THE CALCULUS OF QUANTUM PHYSICS?

The mathematical calculations of quantum physics have been demonstrated to accurately predict the probabilities involved in the reality of the subatomic world. Mind is not directly factored into the equations; however, its presence and product are inherent in the identification and use of certain fundamental numbers in these calculations and in the creation of the calculus itself.

Equations that calculate classical relativity and the probabilities of quantum physics often make use of the number, *Pi* (3.14159265), as being representative of randomness. For example, Einstein's field equation for gravity includes eight times *Pi* divided by the speed of light to the fourth power, and *Pi* appears spontaneously in quantum formula comparing the energy states of the hydrogen atom.

Designated as *c* (*celeritas*, Latin, speed), the speed of light has been measured at approximately 186,000 miles, or 300,000 kilometers, per second. The fourth power of the speed of light, noted by Einstein, is $8.07760871 \times 10^{33} \text{ m}^4/\text{s}^4$. Could this be the speed of mind and quantum entanglement?

The Golden Ratio, or *Phi*, (1.6180339887) appears in the nanoscale symmetry found hidden in solid state matter. Models of quantum physics are increasingly revealing *Phi* as a harmonious marker of time.

Labeled as *e*, 2.718281828 is the natural logarithm used in physical sciences (such as solving the differential equations involved in the rate of decay of a radioactive substance) and in probability theory. The number *e* also serves as a natural limit on calculating mathematical increases, such as the compounding of interest.

Another fundamental number, *h*, is known as Planck's Constant, or $6.62607015 \times 10^{-34}$. This infinitesimally tiny number is related to the quantization of light and matter, in that the energy of a photon is

equal to h times its frequency. Also called Planck's Wall, h marks the point where nothing smaller can be presently calculated.

When millions of electrons in a superconductive "strange metal" achieve a "maximally scrambled" quantum state, an even tinier number appears. This almost invisible working number is known as \hbar -bar, which is h divided by 2π , equaling $3.16152649 \times 10^{-26}$. This tiny number represents the smallest possible physical action, and \hbar -bar is also a limit on the amount and accuracy of certainty that is possible in our physical sphere (given our present understanding).

Last, but not least, the imaginary number i is used to designate the square root of negative one, which is difficult, if not impossible, to determine mathematically.

Conceived in the brilliant mind of Leonard Euler (for whom e is named) in the Eighteenth Century, and including five fundamental mathematical constants, $e^{i\pi+1}=0$ is one of the most elegant equations in mathematics.

All these numbers exist in the natural order of our universe, and probably beyond. They were each identified and found to be useful by individual human minds, and minds working in concert. The calculus itself was created (or discovered) by multiple minds. Thus, mind *is* essentially integrated into all mathematical calculations regarding the universe we occupy—and in our discovery of what lies beyond.

Mathematics is a tool and language designed and created by mind for the purpose of determining and revealing truths.

One of the questions about the existence of multiple universes asked by physicists is whether others are governed by the same laws of physics as ours? We will never know the answer to that question, for sure, until we achieve the ability to observe other universes of light, and to penetrate the dimensions of their physical existence.

Only 100 years ago, scientists believed that our Milky Way galaxy composed the entire universe. Just as we learned that the earth circles the sun, that the sun circles the galactic center, and that our galaxy moves in relation to a galaxy cluster, we may learn in the future that our entire universe moves relative to something else within the dark

energy. For now, an assumption that other universes will be governed by the same laws of physics and constant numbers as ours, seems most plausible.

Think about this: the speed of light may be a limitation only *within* universes of light. In the dark—beyond the light of universes, where there is no movement to be measured, nor clocks to tick—even the fourth power of light may be irrelevant.¹²

For mind—which is and has been everywhere, forever—there are no limits or boundaries. Mind has experienced both the darkness and the light of energy since the beginning of time. As mind has survived and expanded throughout eternity, it has surely become coequal with energy and its manifestation as mass.¹³

Trusting in the future and imagining our minds entwining with the eternal mind, let's consider some additional languages of reason that will allow us to measure and count the universe we occupy, and everything beyond.

12 My lifetime has taken me from work horses, kerosene lamps, and outdoor toilets on the farm where I was born, to watching men walking and driving on the moon. Imagine how incredibly difficult it was to calculate all the critical curves and varying speeds required for the moment of truth as the Lunar Landers touched down so delicately in the moon regolith. Long unrecognized, many of the original hand (slide rule) calculations at NASA were done by women, and the Apollo Guidance Computer that controlled the spacecraft had less capacity than my smart phone. Truly amazing!

13 Eternity was created by mind, along with time, to allow stories to have beginnings and endings.

MEASURING

A MIND EXPERIMENT

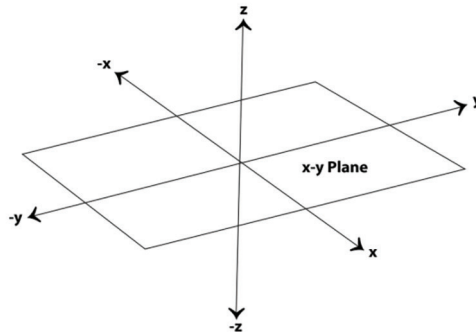
Let us imagine a system of universal coordinates within which to locate our entire universe of light, as it expands through the dark energy. Equipped with this imaginary, but practical, tool, we can learn to identify the path of our universe, everything it contains, and all that surrounds it.

To do so, we start with the box produced by two cubed. We will reduce the space within the box to its center, and we will then go through zero and then outward, inverting the collapsed box into an expanding ball. The geometry of this sphere allows for an efficient mathematical representation of all points in space and time within the sphere, the definition of its surface topography, and all points beyond.

CARTESIAN COORDINATES

It is said that René Descartes, the French philosopher and mathematician, invented his system of Cartesian Coordinates in 1619 as he lay in bed and watched a fly crawl across the ceiling and fly through the air. He imagined measuring the distance to the insect from three perpendicular lines extending out from one corner of the room and being able to continually track the fly's path mathematically within the cube of his room.

The lines extending from the corner along the floor are designated +X and +Y; the floor is the X-Y plane; and the line from the corner to the ceiling becomes +Z. If the fly moves out the door, down the stairs and outside, its path can continue to be tracked using the negative lines of -X, -Y, and -Z. (Figure 1)



Descartes emerged from his bedroom convinced that a divine spirit had revealed to him a new philosophy that included the mathematical method. The gift he passed to us is the ability to measure the three dimensions of everything, except time.

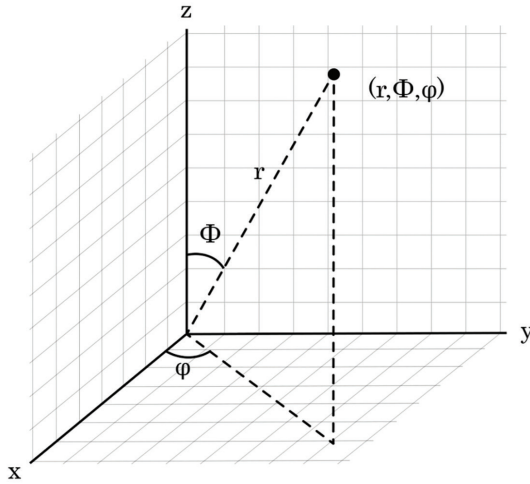
Isaac Newton, the English philosopher, mathematician, and physicist, who formulated the laws of motion and universal gravitation, made use of Descartes's coordinates. He published a calculus in the seventeenth century to mathematically track the path of points, such as planets, that move on curves at varying speeds through *space and time*. His calculus is the foundation of modern mathematics.

Initially, the coordinates intersected at the center of the earth, with the X and Y coordinates extending out through the equator, and the Z coordinates running through the poles. From this, the calculus was able to track the observable and measurable objects in the solar system as they moved in relationship to the spinning and orbiting Earth.

As the vision of astronomers and physicists expanded beyond the Milky Way galaxy, they moved the galactic coordinate system to the center of the sun. The primary direction is aligned with the black hole at the core of the Milky Way, and the fundamental plane is approximately parallel to the galactic plane. This system allows for measurements and calculations out to the edge (or back to the origin) of our perceivable universe.

Modern calculations make use of a refined spherical coordinate

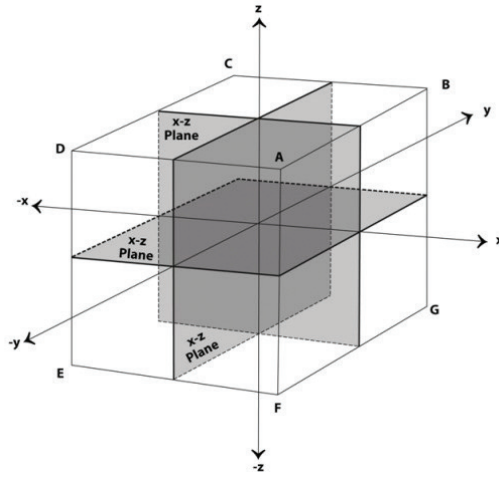
system in which a point in three-dimensional space is identified by three numbers: the radial distance of that point from the center of a system of Cartesian Coordinates; the polar angle (Φ) of that line (r); and its azimuth angle (φ). (Figure 2)



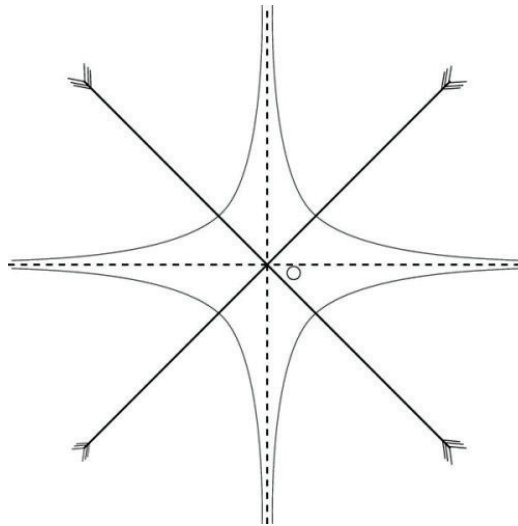
COMPRESSING SPACE WITHIN A BOX

Let us commence our mind experiment by imagining that everything, including our entire universe, is a small ball of play putty which we can hold in the palm of our hand. If we close our fist and squeeze hard, we can imagine compressing the substance down to nothing, or zero.

In order to visualize this, geometrically, let us place the entirety within a box, divided into eight quadrants, or Cartesian cubes. Vertices at the center of each face are defined by the six Cartesian axes, and there are eight additional vertices at each corner of the cube with lines extending from each corner to the center (Figure 3, A,B,C,D,E,F,G,H). The eight component cubes, or quadrants, are each separated from the others by three perpendicular X,Y&Z planes.

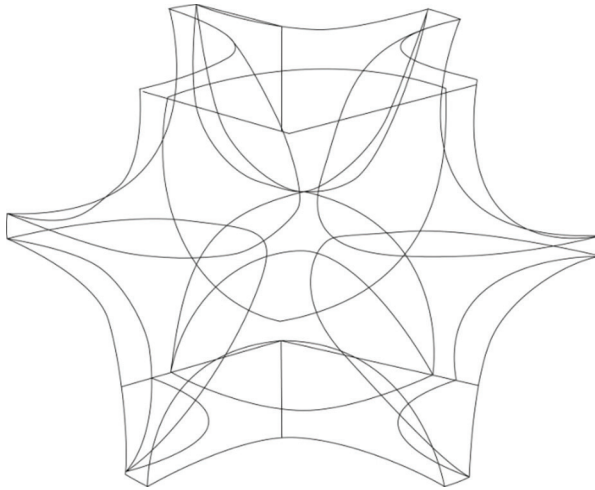


Along the lines extending from the eight corner vertices to the center, we can construct eight hyperbolic arcs. The concave surfaces of the hyperbolic arcs all face outward, and the inner or convex faces are aimed inward toward their defining perpendiculars, which cross at the center. (Figure 4)



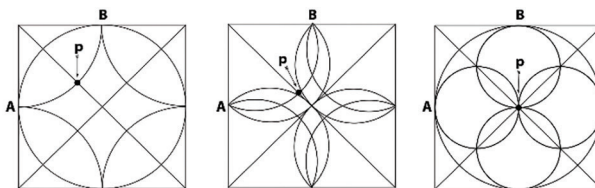
If we move the eight hyperbolic arcs uniformly toward the center, we can occupy the space from each corner inward. Mathematically, calculations will break down before we reduce the space to absolute

zero, but let's swing the pick of our imagination and break through "Planck's Wall" and imagine what exists on the other side of nothing. (Figure 5)



Each hyperbolic curve and its tangents (the asymptotes) become parallel in infinity. Therefore, each hyperbolic arc will ultimately occupy all of the space contained, not only within its quadrant in the box, but in its $1/8$ th share of everything—as far outward as the mind can comprehend. Inwardly, we can zoom down from eight directions through the center and beyond.

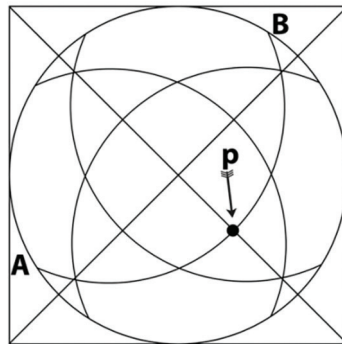
We can illustrate the simultaneous reduction of the quadrants through a series of less complex drawings in which simple curves are substituted for the hyperbolic curves. The first three drawings show the contracting of space from the eight corners to the center in the eight quadrants. Our universe can be imagined as a small dot (p) moving on a series of simple curves (AB) in the upper left-hand quadrant in each of the figures as each curve closes upon the center. (Figure 6)



EXPANDING SPACE WITH THE PI BALL

Extending these simple drawings, let us imagine the effect of going through the center of the box from eight directions at once, and to then continue outward along the inverse lines.

If we pick up our compass and locate four points halfway on the diagonals between the center of the cube and the enclosed circle, we can construct curves that intersect the diagonal points resulting in the drawing in Figure 7.



Looking at the figure, we can readily see the two-dimensional drawing appear to rise up into a virtual sphere, suggesting the drawing can be transferred to the surface of a ball by inscribing six lines. (Model 1)



The six lines divide the spherical surface into 24 equal right-angle triangles. Assuming the radius of the sphere to be one, its circumference ($C=2\pi r$) will be equal to two times π . As one half of the circumference of the sphere is divided by two equal legs and

a hypotenuse, the perimeter of each triangle is necessarily equal to Pi times radius.

Studying the *Pi* Ball, it appears that the height on the “right” angle measured to the halfway point of the hypotenuse is equal to one quarter of Pi , as four such lengths can be seen to extend along the curve half way around the sphere. As will be demonstrated later, the ratio of the sides and height of the spherical triangle is exactly 3:3:4:2.5.

Another spherical model can be constructed by adding three more lines along the heights of the 24 right-angle triangles. These lines cut each triangle in half at the hypotenuse on a perpendicular, resulting in the three new curves all being perpendicular to each other. (Model 2)

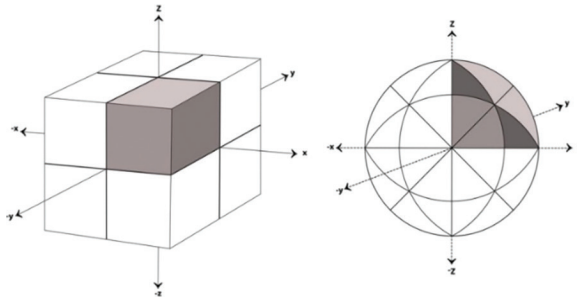


The nine great circles now divide the sphere into 48 equal “half” triangles, and—as two sides (a leg and half hypotenuse) equal $0.5Pi$ and the height equals $0.25Pi$ —the perimeter of each new triangle is equal to $0.75Pi$ times radius.

Since each hypotenuse was cut in half, each “leg” of the full triangle becomes a hypotenuse in the new “half” triangle. These 48 “half” triangles are defined by 26 vertices.

The six Cartesian axes still correspond to the six vertices centered on the face of an inflated cube, and of the remaining 20 vertices, eight still define the center of each Cartesian quadrant, or the corners of a box, and the last 12 divide the 90° angle between adjacent Cartesian axes in half. Thus, every pyramidal plug continues to be defined by an existing Cartesian axis, and every internal point

can be measured by an associated spherical coordinate. (Figure 8)



Just as the three positive Cartesian axes have an inverse axis, each of the 13 positive coordinates based upon the proportions of P_i , also has its inverse or negative representation.

SHAPES WITHIN SHAPES

We can readily see that the sphere is defined by all 26 vertices being of the same length; however, the same set of coordinates can also be used to define other shapes. Starting with a solid cube, the exterior surface can be inscribed with the same vertices describing 48 “half” triangles on Model 2. (Model 3)



Next, four alternative corners can be sliced from the cube along the diagonals, revealing an internal tetrahedron, which can be similarly inscribed. (Model 4)



Finally, the pyramid-tips can be cut from the tetrahedron, revealing an internal octahedron. (Model 5) Each of these polyhedrons can be mathematically described by differing lengths of the 26 vertices.



SOLVING THE PROPORTIONS OF THE π TRIANGLE

This paper is intended as a mathematical proof that the ratio 3:3:4:2.5 for the π Ball triangle is correct, that the perimeter of each triangle is equal to π times radius, and that the surface of the sphere is completely tiled by 24 triangles.¹⁴

If A and B are two points on the surface of a sphere and C is the center, then the distance between A and B along the great circle connecting them can be determined by using the formula $[d(A,B) =$

¹⁴ Readers who are not mathematically inclined may not find this paper to be particularly interesting.

Ra], where R is the radius, a is the angle of ACB measured in radians and d is the distance between A and B.

To determine these distances, we can first divide each of the ratios 3:3:4:2.5 by three to reduce the distance of each leg of the full triangle to one, the hypotenuse to 1.333333, and the height to 0.833333. If we divide the combined perimeter of 3.333333 by Pi , the producing radius would be 1.061032954.

Next, we can use the formula $[a \text{ (angle)} = (180 \times \text{distance}) / (\text{radius}) \times Pi]$ to determine that the internal angle for each leg (1) is 54° , the internal angle for each hypotenuse (1.333333) is 72° , and the internal angle for each height (0.833333) is 45° . Since $2Pi$ radians are composed of 360 degrees, we can calculate that the internal angle of each leg is 0.942477 radians, of each hypotenuse is 1.256637 radians, and of each height is 0.785398 radians.

In addition to observing the perimeter of each “full” triangle to be equal to Pi , the only other known distance results from an observation of the “half” geodesic right-angle triangle in Model 2, which consists of the height, one side, and one-half of the hypotenuse of the original “full” triangle.

By observation, the former height must be equal to $.25Pi$ (assuming a radius of one), inasmuch as the circumference of the sphere demonstrated by each imaginary great circles can be seen to be exactly divided into eight such lengths. Using this known distance (and assuming a radius of one), we can use the formula $[d(A,B) = Ra]$ to determine that the height measures 0.785398, or $.25Pi$ —the same as 45° expressed in radians. Thus, we can conclude that the proportion of 2.5 is the same as $.25Pi \times a$ and that it accurately produced the correct angle in radians.

We can use the same logic (assuming a radius of one) to also measure the hypotenuse and two legs of the full triangle. If the hypotenuse’s internal angle is 1.256637 (72° expressed in radians) we can conclude that the distance of the hypotenuse is 1.256637. And, if the internal angle of each leg is 0.942477 (54° expressed in radians) we can determine that the distance of each leg is 0.942477. When the distances of two legs and the hypotenuse are added together, the result is 3.141591, or Pi .

To prove the proportions are correct, we can first calculate the area of each individual geodesic triangle by using the formula $[a \text{ (area)} = r^2(A+B+C)-Pi]$, in which A, B, and C are the angles measured in radians at the vertices on the surface of the sphere.

From observation, we can see that each triangle has two 60° and one 90° angles. Since each radian is equal to 0.0174532 degrees, we can establish that A and B are equal to 1.047197 radians and C is equal to 1.570796 radians, for a total of 3.66519 radians. When Pi is subtracted, and assuming a radius of one, the remainder is 0.523597, the area of each individual “full” triangle.

Finally, we can use the formula $[a \text{ (area)} = 4Pi\hat{r}^2]$ to establish the area of a sphere with a radius of one to be 12.566370. If we divide the total area by 24, we find that each “full” triangle has an area of 0.523598, the same result we obtained above.

Thus, it can be mathematically proven that 24 geodesic triangles having sides equal to Pi times radius with proportions of 3:3:4:2.5 completely tile the surface of a sphere, and are, therefore, equal and congruent.

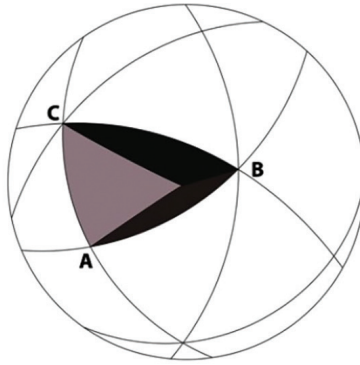
SPHERICAL-VERTEX COORDINATES

Other than for interesting lines and pretty colors (and perhaps the construction of sturdy domes), does the Pi Ball offer any practical benefit?

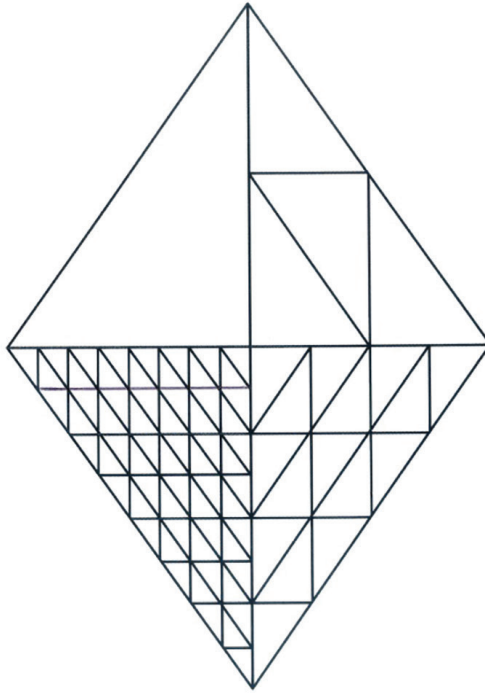
One answer to that question may lie in the ability of the solution to define the topography of any given object—of every size and shape—from the infinitely small to the universally large. Moreover, it can define every point within, and beyond, the object.

Looking back at the spherical Models 1 and 2, we can visualize them as inflating balloons in a low vacuum. We can watch the lighted tips of the surface vertices slowly extending outward, and constantly moving further apart, as the whole of the coherent positive is inhaled by the entirety of the incoherent negative.

The 24 triangles of Model 1 are defined by 14 vertices, any adjoining three of which have a perpendicular or right-angle relationship to each other at every distance from the center to the surface. Therefore, any point within each three-dimensional pyramidal plug can be defined by reference to the three adjacent vertex lines, in conjunction with three Cartesian axes, using spherical coordinates. (Figure 9, ABC)



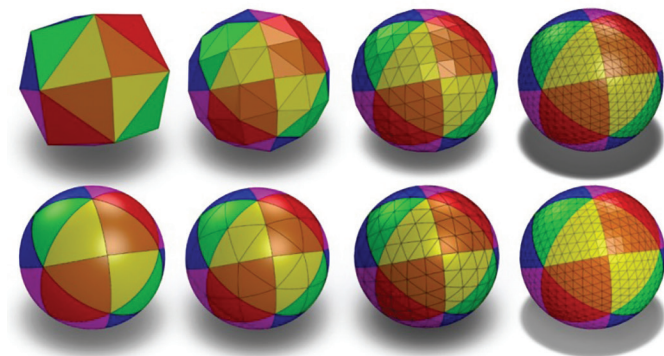
To allow for expansion and to compensate for the increasing distances between vertices, we can recall that any triangle can be divided into four equal triangles by drawing three lines connecting the half point of each side, and each succeeding triangle can again be divided in the same manner *ad infinitum*. (Figure 10)



Accordingly, each triangle on the surface of any object can be subdivided as needed into an infinite number of smaller triangles, resulting in additional vertices. All vertices can be identified by a spherical coordinate, as each has a set angular relationship to fixed Cartesian Coordinates.

As the distance increases from the center of any object, more triangles and vertices can be added to intensely define its surface topography, irrespective of variations—and every point within its interior space.

Any object may be accurately represented by a coherent strategy of geometric representation based upon a rational subdivision of each P_i -based triangle and a corresponding increase in the number of vertices required to plot the object, as well as the distance of each vertex from the center. (Figure 11)



UNIVERSAL (UN) COORDINATES

Reflecting upon our original mind experiment, do we now have enough information to design a coordinate system outside of our universe to define a space, within which, our universe can be oriented and examined, as though being viewed from “outside the box” (or ball)?

When the Newtonian coordinate system (originally placed at the center of the earth) evolved to galactic coordinates originating in the center of the sun, the new system was based on the galactic plane of the Milky Way and a line that extends to the black hole that lurks at its center.

The earth’s location and movement in space is presently determined by references to externally generated galactic longitudes and latitudes, as though we are still on an eighteenth-century sailing ship navigating the Seven Seas.

To create a set of external coordinates to track our universe moving through the dark energy that envelopes it, we might consider that a line extending in the direction our galaxy is presently moving relative to the expansion of the universe.

The Infrared Astronomical Satellite (IRAS) discovered that our local group of galaxies, including the Milky Way, is moving

in a particular direction at about 600 kilometers per second. This direction was later confirmed by the Cosmic Background Explorer (COBE).

Our constant movement in this direction may serve as a permanent, mathematical line between the center zero of our Cartesian box and the vertex at the outside corner of its positive X,Y,Z cube. Extending this line beyond our observations, we can establish the zero and perpendiculars of the coordinate system outside our perceived universe. Our universe can be positioned in the center of the positive X,Y,Z quadrant, moving toward the Cartesian zero.

Once the zero and Cartesian coordinates are established beyond our universe, we can invert the cube and generate universal spherical coordinates. With this, we can begin to mathematically locate and track everything from the spin, tilt, and orbit of the earth—up through the surrounding Milky Way mass and dark matter, out beyond our home universe—and to chart its waves through the darkness.

Once we orient our coordinates, we can be anywhere, at any time, wherever and whenever we choose to be, and we can always find our way home in space and time.

With our expanding system of universal coordinates in place, we next beta test a mathematical language of reason designed to count the elements of universal coordinates, and everything else.

COUNTING

HOW DO COMPUTERS COUNT?

We are accustomed to using base 10, or decimal, numbers for calculations, primarily because we have four fingers and a thumb on each hand. The ancient Babylonians are believed to have used the three spaces divided by the knuckles of the four fingers on one hand for a total of 12, which was repeated and tracked by the five fingers of the other hand in the manner of an abacus. From five times 12 they created a base-60 numerical system¹⁵ which gave us our 24-hour day, 60-minute hour, and 360-degree circle. Calculations can be, and are, performed using other number bases as well.

All modern computers use binary, or base-two, numbers to represent the value of the bits and bytes of information stored in their memories. The base-two numbers of one and zero—or plus and minus—are used to show that an electronic switch is either on or off, or that an electrical signal is high or low.

The coding of computer operating software also makes use of base-eight (octal) and base-16 (hexadecimal) numbers. Octal is designated as 1,2,3,4,5,6,7,10.

Created to allow computers to communicate with each other, the 16-base ASCII (American Standard Code for Information Interchange) system inserts the letters A, B, C, D, E, and F between nine and ten. Thus, whether you use an Apple computer or Windows, Gmail or msn, and irrespective of the web browser you rely on, they will all display and perform as intended on all appropriate devices.

Programmers use ASCII characters to translate binary numbers

¹⁵ Since 60 is a rich composite number having many factors, which are themselves composite, calculations that relied on fractions were able to achieve sophisticated results. Written in clay with Cuneiform symbols around 1700 BCE, the formula for finding the square root of two translates as: $1 + 24/60 + 51/602 + 10/603 = 1.41421296$. This is very close to the modern value of 1.41421356.

into coding language, such as substituting A for 1010 (decimal 10). ASCII numbers are also used in coding to represent the keys on the computer keyboard. For example, the * (asterisk) is represented by 2A (twenty A), which is the same as the decimal number 42. In addition, a combination of six hexadecimal numbers is used to replace sets of equivalent binary numbers in specifying mixed values in the True Color scheme.

ASCII is favored by programmers, as it allows them to code four binary digits (a “nibble”) into each hex number as half of a “byte” of eight. These bytes are then organized into larger 16, 32, 64, 128, and even 256-bit operations.

Scientists working on programming languages for quantum computers designate the superposition of “qubits” in formula by a series of stacks of four numbers. In superposition, qubits can represent 0, 1, or 0 and 1 at the same time. Thus, two qubits can represent four binary numbers at once, and three qubits can represent eight numbers.

Reportedly, those who actually perform calculations of higher numbers frequently find that they have to introduce 16 into an equation to sort it out. It is said that it is impossible to calculate the square roots of Pi without using a base-16 language.¹⁶

UNIVERSAL (UN) MATHEMATICS

It is possible to calculate problems in all numbering systems, but one can readily see the practical difficulty in adding, subtracting, multiplying, and dividing in bases other than our familiar 10, without the aid of computers. But, what if we had evolved to have seven fingers and a thumb on each hand? Would we have named each of the digits and ended up with a 16-base system? What would have been the effect of us having done so?

¹⁶ It was after I imagined the Pi Ball and began to construct physical models that I found it increasingly difficult to describe the geometry in less than 16 numbers. Thus, it was one day around 1980, I was sitting in a hotel room in Washington, DC looking out the window at the Capitol building, escaping reality by counting the elements of a Pi Ball model. I imagined inserting special symbols for 22, and I first reasoned in the language of Universal (UN) Mathematics.

The answer is that we would have, fortunately, a far more logical and harmonious mathematic language. Indeed, base-16 could be the universal standard.

The primary purpose of this paper is to articulate and document the language of Universal (UN) Mathematics. We begin by organizing our familiar decimal numbers into four 2^2 sets consisting of U, N, S (star), and C (see). The old numbers resonate within the natural powers of two, 1,2,3,U, 4,5,6,N, 7,8,9,S, C,X,W,10.¹⁷

We retain the natural spoken harmony of our 10-finger language, and we maintain the relative ratio of existing numbers to the new 10. We have to, however, learn a few new symbols, such as a “1U,” “1S,” and “1C” and new terms like UTeens, StarTeens, and SeeTeens.

Our fingers can still help us keep track. Use your right forefinger to count the five fingers and thumb of your left hand three times and complete the count with a right “thumbs up” for a total of 10 (16).

Ancients who wrote about mathematics were enraptured with the beauty of arithmetic, and they were captivated by its utility. It quickly becomes apparent that calculations are greatly simplified in an elegant 16-base numbering system in which $2+2=U$, $U+U=N$, $N+N=10$, or $2^2=U$, $2^3=N$, $2^U=10$, and in which 16=10, and 64=U0.

Figure 12 shows how the new symbols, U, N, S, C, X and W, are handwritten. The curved numbers are reminiscent of the geometric figures previously used to demonstrate the contraction and expansion of space.

17 To avoid confusion, hereinafter all base-ten expressions (except the numbering of figures and tables) will be underlined. Large base ten numbers will continue to be separated by commas, and Universal (UN) numbers will be separated by colons (:).

| | | | |
|---|---|---|----|
| 1 | 2 | 3 | U |
| 4 | 5 | 6 | N |
| 7 | 8 | 9 | * |
| ↷ | X | W | 10 |

In learning to use these new numbers we must accustom and reorient ourselves to certain words and symbols. Thus, when we hear “four,” we presently associate it with four fingers or whatever the reference is, but that is no longer the case—the thumb is now included in four. At least initially, one must suspend our habitual association, as mental muscle memory adjusts to “four” meaning five. The numerical concept of what was formerly “four” is now represented by U, as 2^2 , and eight has become N, as 2^3

Before doing any calculations in UN, it is helpful to construct a multiplication matrix. Color was added to Table 1 to illuminate the values and relationship of the different numbers.

| | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | U | 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 |
| 2 | U | 5 | N | 8 | S | X | 10 | 12 | 1U | 15 | 1N | 18 | 1S | 1X | 20 |
| 3 | 5 | 7 | S | W | 12 | 14 | 1N | 19 | 1X | 21 | 2U | 26 | 28 | 2C | 30 |
| U | N | 5 | 10 | 1U | 1N | 1S | 20 | 2U | 2N | 2S | 30 | 3U | 3N | 3S | U0 |
| 4 | 8 | W | 1U | 17 | 1X | 23 | 2N | 2C | 32 | 36 | 3S | U1 | U5 | U9 | 40 |
| 5 | S | 12 | 1N | 1X | 2U | 28 | 30 | 3S | 3S | U2 | UN | UX | 4U | 48 | 50 |
| 6 | X | 14 | 1S | 23 | 28 | 31 | 3N | 3W | U5 | UC | 4U | 49 | 52 | 57 | 60 |
| N | 10 | 1N | 20 | 2N | 30 | 3N | U0 | UN | 40 | 4N | 50 | 5N | 60 | 6N | N0 |
| 7 | 12 | 19 | 2U | 2C | 3S | 3W | UN | 41 | 48 | 53 | 5S | 64 | 6X | N6 | 70 |
| 8 | 1U | 1X | 2N | 32 | 3S | U5 | 40 | 48 | 5U | 5X | 6N | N2 | NS | 75 | 80 |
| 9 | 15 | 21 | 2S | 36 | U2 | UC | 4N | 53 | 5X | 67 | NU | NW | 78 | 84 | 90 |
| S | 1N | 2U | 30 | 3S | UN | 4U | 50 | 5S | 6N | NU | 70 | 7S | 8N | 9U | 50 |
| C | 18 | 26 | 3U | U1 | UX | 49 | 5N | 64 | N2 | NW | 75 | 87 | 95 | S3 | C0 |
| X | 1S | 28 | 3N | U5 | 4U | 52 | 60 | 6X | NS | 78 | 8N | 9S | SU | C2 | X0 |
| W | 1X | 2C | 3S | U9 | 48 | 57 | 6N | N6 | 75 | 84 | 9U | S3 | C2 | X1 | W0 |
| 10 | 20 | 30 | U0 | 40 | 50 | 60 | N0 | 70 | 80 | 90 | S0 | C0 | X0 | W0 | 100 |

Table 2 provides a simple addition and subtraction table that is handy when counting UN numbers.

| | | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0 | 1 | 2 | 3 | U | 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 |
| 1 | 2 | 3 | U | 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 | 11 |
| 2 | 3 | U | 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 |
| 3 | U | 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 |
| U | 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U |
| 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 |
| 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 |
| 6 | N | 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 |
| N | 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N |
| 7 | 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 |
| 8 | 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 | 18 |
| 9 | S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 | 18 | 19 |
| S | C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 | 18 | 19 | 1S |
| C | X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 | 18 | 19 | 1S | 1C |
| X | W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 | 18 | 19 | 1S | 1C | 1X |
| W | 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 | 18 | 19 | 1S | 1C | 1X | 1W |
| 10 | 11 | 12 | 13 | 1U | 14 | 15 | 16 | 1N | 17 | 18 | 19 | 1S | 1C | 1X | 1W | 20 |

A derivation table of equivalent values helps convert large base-ten numbers to UN. (Table 3)¹⁸

| | | <u>10¹</u> | <u>10²</u> | <u>10³</u> | <u>10⁴</u> | <u>10⁵</u> |
|----------|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| <u>1</u> | = | 1 | 8 | 5U | 3XN | 2:610 |
| <u>2</u> | = | 2 | 1U | 8N | 6C0 | U:X20 |
| <u>3</u> | = | 3 | 1X | 12S | 99N | 6:430 |
| <u>4</u> | = | U | 2N | 170 | W80 | 7:SU0 |
| <u>5</u> | = | 4 | 32 | 1WU | 1:3NN | S:340 |
| <u>6</u> | = | 5 | 3S | 24N | 1:660 | X:850 |
| <u>7</u> | = | 6 | U5 | 29S | 1:94N | 11:160 |
| <u>8</u> | = | N | 40 | 320 | 1:WU0 | 13:NN0 |
| <u>9</u> | = | 7 | 48 | 3NU | 2:32N | 14:W70 |
| | | | | | | C9:980 |

ROUNDING OFF PI

Traditionally, *Pi* (3.14159265359) is understood to be the relationship of circles and spheres to their radii. Another way of viewing *Pi* is to see that it represents the concept of randomness itself.¹⁹

If we select a needle and draw a series of parallel straight lines on paper separated by a distance greater than the length of the needle and repeatedly drop the needle on the paper, after a long time and many tosses, the number of needles that touch one of the lines will be equal to *Pi*, when divided into the total number of attempts.

This game of deriving *Pi* became known as the Monte Carlo Method and was attempted during the eighteenth and nineteenth centuries, both actually and mathematically. In a more recent computer simulation, the method produced a value of 3.1417 after 1,000,000 computer generated tosses.

The Monte Carlo Method was the beginning of probability

18 Conversion calculators from decimal to ASCII are readily available online, but you then have to convert ASCII to UN.

19 Prior to the Internet and before his death, I once spent time on the telephone with Dr. Petr Beckmann, the author of *A History of π (*Pi*)*, as he graciously discussed ways to ascertain the value of *Pi* in base 16. His *History* remains an invaluable resource, and his willingness to help me, even in his blind old age, to understand *Pi* was encouraging.

theory—which is at the heart of quantum physics. What was once considered to be exact is now seen as the mean value of unlimited random events, such as the probabilistic laws of quantum mechanics. Thus, the number *Pi* appears very frequently in the calculations of probability theory, as well as in all areas of higher mathematics.

The value of *Pi* is the first problem we must solve to beta test UN numbers. We can start with the ancient base-10 fraction 22/7.

In the third century B.C.E., the classical Greek scholar Archimedes of Syracuse used rudimentary algebra to construct two imaginary polygons of 96 sides inside and outside a circle to determine that the value of *Pi* stood between the product of 3 10/71 and 3 1/7 (which results in 22/7).

Solving the fraction produces an approximation of *Pi* as 3.142857142857+. When the fraction is converted to UN, it becomes 15/6, which produces 3.2U72U72U7+.

The product of the fraction continues to repeat the same series of numbers over and over in both languages; however, in UN, the product rolls over every three places rather than every six in base 10. The double of this number is 5.U72U72U72+, and one half is 1.72U72U72U+. The same series, in a different order, defines the decimal notation of each.²⁰

Further study of 0.2U7 reveals that, when multiplied by six, it produces 0.WWW, and if 0.2U7, 0.U72, and 0.72U are added together, the result is again 0.WWW. Moreover, 0.2U7 multiplied by three produces 0.5C9, a series that also defines its multiplication by four (0.95C) and by five (0.C95).

20 It was the summer of 1982. Exhausted from prosecuting the Holocaust Case, I was house sitting a friend's place on the sand at Seal Beach. I was studying a model of the *Pi* Ball, trying to figure out the ratio of the sides of its basic triangle (which has a perimeter of *Pi* times radius). I asked a high school math teacher who lived next door how I might calculate *Pi* in base 16, and he suggested I start with the formula, 22/7. I did. As the sun set over the Pacific that beautiful Southern California day, I converted the fraction to UN and first connected these marvelous little *Pi* numbers to the *Pi* Ball. It was for me a spiritual moment akin to what Descartes may have felt when he first imagined his coordinates. A similar experience occurred when I was able to prove—years later—that the ratio of the triangle sides is exactly 3:3:U.

Returning to base-10, we find that this result is actually a function of the ancient fraction itself—which is a part of its magic, *i.e.*, $0.142857 \times 2 = 0.285714$, $\times 3 = 0.428571$, $\times 4 = 0.571428$, $\times 5 = 0.714285$, $\times 6 = 0.857142$, $\times 7 = 0.999999$.

After Archimedes, mathematicians and geometers struggled for hundreds of years with increasingly complex polygons, taking shorter and shorter tangents around the outside of circles, striving always to find the perfect ratio of two numbers to terminate the equation. It required the use of trigonometric functions and logarithms to help several different individuals identify the fraction 355/113 as producing correctly the first six digits of *Pi*.

The fraction 355/113 reduces to a value of 3.14159 29203 53982, or one slightly higher than true *Pi*. When converted to UN, the fraction 153/61 yields 3.2U3W5W0 2U3W5W0+. Just as the original fraction 355/113 produced *Pi* accurately to the first six decimal places, the same ratio in UN results in the first five places.

Further extensions of the UN value of *Pi* can be achieved by using the inverse convergents of a continued fraction created in 1767 by Johann Lambert to prove the irrationality of *Pi*. Following the fraction 355/113 are others of increasing complexity. For example, the fraction 80143857/25510582 can be converted to US5X4W1/1N4U295, which produces 3.2U3W58NNN, or the first nine UN places of *Pi*.

The fact that N (which in UN occupies the same half way place as five in a base-10 system) repeats itself at the 7th, 8th, and 9th places offers the intriguing possibility that this particular expression may provide a logical rounding off of *Pi*.²¹

Incredibly, the value of *Pi* has now been calculated to ten trillion places in base 10. Analyzing very long strings of *Pi* reveals that the frequency of the various numbers are uniformly distributed. A frequency analysis of the first ten million places revealed that each digit appeared about one million times.

21 In base-10 *Pi*, a number does not repeat itself three times until the 153rd place (*i.e.* 1,1,1).

Astrophysicists engaged in interplanetary navigation limit Pi to 15 places, which is the same numerical value as W in UN. Calculating the circumference of a circle having a diameter of the known size of the observable universe (46 billion light years) to an accuracy equal to the diameter of a hydrogen atom would only require 39 digits of Pi .

The number N in UN is the mean of all random numbers expressed in the extension of Pi into infinity; therefore, it would appear that the UN expression of Pi , 3.2U3W58NNN, represents a highly practical “rounded off” value of Pi for most calculations.

PHI, THE GOLDEN PROPORTION

Phi is a lovely representation of the internal harmony of numbers and their expression in nature. It has fascinated mathematicians, artists, musicians, architects, and biologists for thousands of years.

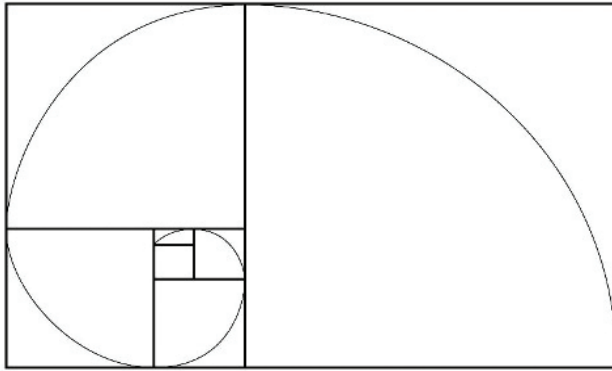
It is no surprise that Phi has attracted the attention of quantum physicists to whom it appears that Phi is a constant produced by time. Holding a sea shell, we can see in each spiral how the animal lived and grew over time, and we can feel how each spiral became larger with each season, growing by a combination of the two previous seasons.

We can understand why Phi is associated with time when we look at how the Fibonacci series unfolds: $1+1=2$, $1+2=3$, $2+3=5$, $3+5=8$, etc. Each growth cycle, whether in a sunflower or pine cone, is a combination of the two previous cycles. As a melodious marker of time, the series provides the exact value of Phi when we divide the 1Sth (28th) number by the 19th (27th) (6CN94/UC763 = $1.7X366797$).²²

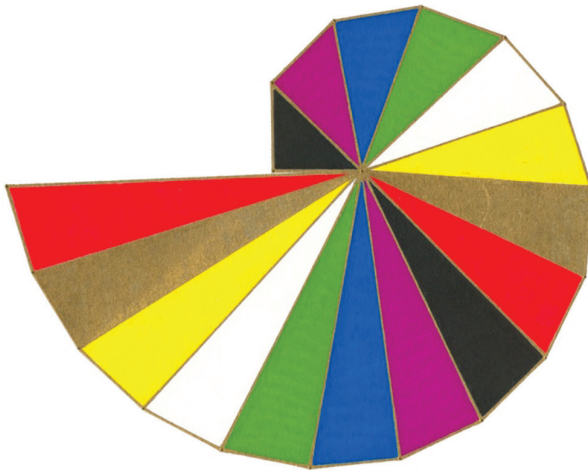
We can also see the Golden Proportion (or Ratio) as a rectangle, whose sides have a length-to-width ratio equal to the Golden Proportion.

22 Dr. Mario Livio's excellent book, *The Golden Ratio: The Story of Phi, the World's Most Astonishing Number*, is kept constantly at hand.

If we then imagine that the long side is the short side of another golden rectangle, we can begin to build adjacent rectangles in an endless fashion. These rectangles then define a continuous logarithmic spiral, which we can see demonstrated in nature in the spiral galaxies—such as our Milky Way—or in a sunflower or sea shell. Whenever there is natural growth according to a geometric progression, the result is a logarithmic spiral. (Figure 13)



Another way of building a logarithmic spiral is to start with a simple right-angle triangle with sides of one, one and the square root of two. If we then construct another right-angle triangle, using the hypotenuse of the square root of two as the base and continuing with a side of one, the next hypotenuse will be equal to the square root of three. If we continue to construct triangles in this manner, the result will be a logarithmic spiral, consisting of 10 UN triangles that demonstrate the square roots of all numbers between two and 16. (Figure 14)



To directly calculate the Golden Proportion in UN we can use the same formula as in base 10, ($Phi = (1 + \sqrt{5})/2$). Thus, if we first calculate the square root of five, or four in UN to be 2.3S5XW362, then add one, and divide by two, the result is the Golden Proportion, 1.7X366797.

The UN Golden Proportion squared is 2.7X366797, sharing the identical decimal extension, and its square root is 1.U4831U587. As an irrational number like Pi , the “decimal” places of Phi , those of its root, and its square, can be extended further; however, it is the first eight, or N places that are pertinent to their function.

From all of this we can see that the melody of the Golden Proportion displays the same harmony in UN as it does in base 10.

PRIME NUMBERS

If you recall, a prime number is a whole number greater than one, which can only be divided by one and itself, and therefore has no other factors. In another beta test of UN, we can construct a sieve through which to sift out its non-prime numbers. (Table 4) The sieve reveals that the same numbers are found to be (prime), as in base 10, and the same numbers fall through the sieve.

Counting

| | | | | | | | | | | | | | | | |
|------|-----|------|----|------|----|------|----|------|----|------|----|------|----|------|-----|
| (1) | (2) | (3) | U | (4) | 5 | (6) | N | 7 | 8 | (9) | 5 | (C) | X | W | 10 |
| (11) | 12 | (13) | 1U | 14 | 15 | (16) | 1N | 17 | 18 | 19 | 15 | (1C) | 1X | (1W) | 20 |
| 21 | 22 | 23 | 2U | (24) | 25 | 26 | 2N | (27) | 28 | (29) | 25 | 2C | 2X | (2W) | 30 |
| 31 | 32 | 33 | 3U | (34) | 35 | 36 | 3N | 37 | 38 | (39) | 35 | (3C) | 3X | 3W | U0 |
| U1 | U2 | (U3) | UU | U4 | U5 | (U6) | UN | (U7) | U8 | U9 | U5 | UC | UX | (UW) | 40 |
| 41 | 42 | (43) | 4U | 44 | 45 | 46 | 4N | (47) | 48 | 49 | 45 | 4C | 4X | 4W | 50 |
| (51) | 52 | 53 | 5U | (54) | 55 | (56) | 5N | 57 | 58 | (59) | 55 | (5C) | 5X | 5W | 60 |
| (61) | 62 | 63 | 6U | 64 | 65 | 66 | 6N | 67 | 68 | 69 | 65 | 6C | 6X | (6W) | N0 |
| N1 | N2 | (N3) | NU | N4 | N5 | N6 | NN | N7 | N8 | (N9) | N5 | NC | NX | NW | 70 |
| 71 | 72 | 73 | 7U | (74) | 75 | (76) | 7N | 77 | 78 | 79 | 75 | (7C) | 7X | 7W | 80 |
| 81 | 82 | (83) | 8U | 84 | 85 | (86) | 8N | 87 | 88 | 89 | 85 | (8C) | 8X | 8W | 90 |
| 91 | 92 | (93) | 9U | (94) | 95 | 96 | 9N | 97 | 98 | 99 | 95 | 9C | 9X | (9W) | 50 |
| (S1) | S2 | S3 | SU | (S4) | S5 | (S6) | SN | S7 | S8 | S9 | S5 | SC | SX | SW | C0 |
| C1 | C2 | (C3) | CU | C4 | C5 | C6 | CN | C7 | C8 | C9 | C5 | CC | CX | (CW) | X0 |
| X1 | X2 | (X3) | XU | X4 | X5 | X6 | XN | (X7) | X8 | X9 | X5 | XC | XX | (XW) | W0 |
| (W1) | W2 | W3 | WU | W4 | W5 | W6 | WN | W7 | W8 | (W9) | W5 | WC | WX | WW | 100 |

THE LIMITS AND SUCCESSIVE SQUARE ROOTS OF E

As we have learned, the small number e imposes a limit at a point where further mathematical operations become fruitless. Over time, change tends to stabilize at the value of 2.718281828.

A more difficult beta test of UN is to derive the value for e using Newton's continuing equation: $e = \underline{2} + \underline{1}/\underline{2}! + \underline{1}/\underline{3}! + \underline{1}/\underline{4}! + \underline{1}/\underline{5}! + \dots$.²³

Using Tables 1 and 2, the answer was laboriously hand calculated over a period of days through 20 places; however only the first eight places were later found to be without error. A computerized computation through the first 23 places is 2.96X14152N8XC28589W614NN.

Like P_i , the number e , is believed to be "normal" in that the frequency of distribution of its fractional numbers is uniform. In other words, everything after the first N, and almost certainly by the second set of NN, becomes random, with a mean of N.

Here's an interesting discovery. If we reduce the successive square roots of e , the roots slowly work downward until we arrive at

²³ The symbol "!" means that the number preceding it is factored, such as $\underline{3}! = (1 \times 2 \times 3) = \underline{6}$.

1.000000002 and then 1.000000001 before achieving unity at one.²⁴

Then, if we successively square 1.000000001 in UN, we find that the true value of e , correct to the first six decimal places, is achieved at its 36th or 2U'd operation. The same result does not occur in base-10.

In base 2, the value of e is 10.101110000, which results from nine successive squaring.

In base 4, the value of e is 2.231332013, which results from 18 successive squaring.

In base 8, the value of e is 2.557605213, which results from 27 successive squaring.

In base 10, the value of e is 2.718281828; however, 30 successive squares leads to an inaccurate result of 2.926309006.

In base 12, the value of e is 2.87523606A; however successive squaring, like base 10, does not come close, with 32 operations leading to 2.370421463.

The pattern appears to be that in base 2, it takes nine operations of successive squaring to closely produce the correct value of e . In base 4, it takes 18; in base 8, it takes 27; and in base 16, or UN numbers, it takes 36 operations. These are the 1st, 2nd, 3rd, and 4th multiples of nine.

Thus, successive squaring of 1.000000001 only leads to exact e , in bases 2, 4, 8, and 16, all being either two or the powers of two.

In a base 32 language, 1.000000001, successively squared 45

²⁴ Around the time while I was originally working on e , I had online access to a free calculator that allowed me to derive squares and square roots, and to multiple and divide fractional numbers, as well as whole numbers, in multiple base languages.

With nothing better to do one day, I was idly deriving successive square roots of e in different bases when I discovered the series of nine successive square roots of e in all of the two square (2^2) base languages.

I somehow lost access to that marvelous Internet calculator, and today, the free ones only convert whole numbers from decimal to hexadecimal and only calculate whole ASCII numbers. Nothing readily available online facilitates the calculation of fractional ASCII numbers, much less square roots.

(5x9) times should produce the value of e , as should successive squaring 54 (6x9) times in base 64.²⁵

Inasmuch as e is the natural logarithm used in modern mathematics, the rational connection between the powers of two (2^2) mathematical languages, and their exact relationship to the square roots of e , may be of some utility in creating a calculator using these successive square roots in a system of fractional numbers to accommodate the calculation of negative numbers.²⁶

ELEMENTAL NUMBERS

We earlier learned how the ancient magical fraction 22/7 converted to UN produces an approximate value of 3.2U72U7 for π . A division of 0.2U7 by two reveals the elegant little fractional number, 0.12UN.

If we perform calculations in UN using these numbers, we will occasionally notice the appearance of another small number, 0.0S3. We find that three times 0.0S3 equals 0.2U7, and 14 (21) times 0.0S3 equals 0.WWW._

A reduction of these fractional numbers, such as 0.0S3, 0.12UN, and 0.2U7 reveals they are all multiples of an even smaller base number, 0.010U. For example, 0.12UN results from 12 (18) times 0.010U, S (12) times 0.010U creates 0.0S3, and WS (252) times 0.010U equals 0.WWW.

Comparing these UN “decimal” numbers to their base-10 equivalents, we find the result to be far more complicated and much less interesting. For example, 0.2U7 converts to 0.0714285,

25 Dr. Eli Maor, the author of the masterful book, *e: the Story of a Number*, kindly reviewed an early draft of my mathematical papers, including the successive \sqrt{e} discovery. He commented that achieving e after multiple squaring was simply the nature of e . Later, I realized that the value of the discovery might be in the successive square roots of e , rather than e being one of the successive squares of 1.000000001. That little number appears to play a foundational role in the $\sqrt{e} 2^2$ bases.

26 Later, concluding that I shouldn't leave this job unfinished for others to complete, I wrote *Calculating*—which follows this paper.

a third of which (0.0S3) is 0.947619, and the equivalent of 0.010U is 0.00396825. Most telling, the lovely little number 0.12UN is the same as the very boring 0.03571425.

There is a mathematical richness in these fractional Archimedean numbers in that they are in harmony with *Pi* and *Phi*, and with their factors.

While it is true that mathematical calculations can take place in every base language, one can readily see that a base-16 language produces a far more economical and logical expression of fractional numbers than base 10, and that UN numbers are much more elegant and useful than the same values expressed in ASCII.

CALCULATING

Assume, for reasons difficult to comprehend, that the following calculation of complex numbers defines the square root of negative one, $\sqrt{-1}$. It is said to be arduous—if not impossible—to actually calculate the roots of complex negative numbers. Therefore, the $\sqrt{-1}$ is represented in calculations by the imaginary number i .²⁷

$$(0,1) \cdot (0,1) = (0-1, 0+0) = (-1, 0)$$

(0,1) is the square root of (-1,0)

$$\sqrt{-1} = i$$

What if—instead of relying on an imaginary square root of negative one—we create a comprehensive, imaginary computerized calculator that facilitates the actual computation of all negative numbers, including $\sqrt{-1}$?

Let's start by bringing to mind the Cartesian box with its eight cubes divided by positive and negative X,Y,Z coordinate planes. Recall that we placed our universe within the positive X,Y,Z corner cube. We can now imagine that the seven adjacent cubes contain the inverse negative numbers of all of the positive numbers in the +X,Y,Z cube used to describe its contents and movement.

Before we can count all of the mass within the +XYZ cube, we must first build an imaginary block of positive numbers upon a

²⁷ Even though I have little or no formal training in mathematics, and without fully understanding many of its functions, I often wonder about mathematical and physical problems. I study how to simplify matters that interest me, and I strive to learn enough to derive a sensible solution. Finally, to clear my mind, I write down my findings, so I can forget about the issue and amuse myself with something new and different.

Almost 40 years have passed since I first imagined the *Pi* Ball and UN mathematics. Although I still speak the language of mathematics as a sojourner in a foreign land, I continue to think about logical ways to calculate all numbers, including the negative and complex.

It was only recently that I finally conceded that the calculator of UN numbers, like i , had to be imaginary, rather than real. With that realization, the final pieces of the puzzle fell out of the box and onto the table, and I was able to complete this paper about the calculator I imagine.

solid foundation, starting with a marble cornerstone deeply carved with “1+.”

Recall the discovery that the successive square roots of e always resolve down to 1.000000001, in all 2^2 number bases, through sets of nine successive square roots. The series commences in base 2 at nine, b4 at 18, b8 at 27, b16 at 36, b32 at 45, and b64 at 54 successive squares that always lands on precise e . The uniform progression by nines only occurs in 2^2 number systems.

Let us designate 1.000000001 as the one positive, or 1+. It defines a precise measure as a root of e , in every 2^2 mathematical base, and it integrates all of these bases mathematically. Using base-16 UN numbers, we can determine that 1.000000001 is equal to the 36th (2U'd) successive square root of e , $^{2U}\sqrt{e}$.

The difference between 1 and 1+ is the infinitesimal 0.000000001, but let's imagine growing this tiny little number into a great big little number. Adding it almost a trillion times creates an almost one: 0.WWWWWWWWW. All it needs is just one more 0.000000001 to become 1.

The one positive, 1+ is a foundational number, which we can call an *eit* (e-it). Not only is *eit* a root of e , but it, and the entire system of 2^2 numbers can be fundamentally organized and calculated by a system of logarithms and exponents based on either e , or the *eit*.²⁸

We have now identified and demonstrated 1.000000001 as the one positive (1+), or *eit*. So, let's return to the left side of the calculator and see if we can make some sense of the one negative (1-).

Balancing the positive number system we just created on the right, we can now imagine an opposite, but related, schematic of

28 A logarithm is the power to which a number must be raised in order to get another number. Thus, ten to the second power (exponent), $10^2 = 100$. Logarithms allow for the easier addition and subtraction of exponents, rather than more difficult problems of multiplication and division of large numbers.

Scientific calculations, such as the decay of uranium, rely on logarithms where the rate of change is proportional to the quantity itself. If e is used as the base, the exponential function is equal to its own derivative.

Since the advent of electronic calculators, slide rules and logarithms have been largely forgotten; however, their logic continues to underlie mathematical calculations.

fractional numbers on the left. These fractional numbers can be used as a tool to identify the roots of 1- and other negative numbers.

We need not create fractional inverse negative numbers for each of the zillions of imaginable positive numbers. We need only create a logical way to identify the place where a proximate fractional inverse negative number may be found, if needed.

Just as probabilities are imposed on the right side of the equation, “proximates” are required on the left. On the right, we measure what is, and on the left, we measure what is not. We multiply 1+ on the right, and we divide 1- on the left.

On the positive plane of the calculator, 1+ is represented by 1.000000001. On the negative plane, 1- is represented by negative 0.WWWWWWWWW, which, in turn, is composed of WS (252) elements of the base number 0.010U. We can call this little fractional number an *iit* (i-it).

To identify reciprocal negative numbers, we can create a logical WS- (252)-base mathematical language using these small, four-place fractional numbers as symbolic digits. The *iit* counting series begins: .010U, .020N, .030S, .0U10, .041U, .051N, .061S, .0N20, .072U . . . and ends: .W9X0, .WSXU, .WCXN, .WXXS, .WWW0. The left two digits advance sequentially, and the right two advance by Us.

Now, instead of a \sqrt{e}^{22} positive number system conservatively erected on a cornerstone carved with 1+, we are going to erect a giant, flashy neon sign for the 1- composed of WS (252) unique symbols.

Expanding upon the concept of the multiplication matrix demonstrated in Table 1, imagine a plane consisting of a wall-sized, square grid of illuminated *iit* numbers in boxes, with the fractional-number set extending WS places across the top and down the left side, and with their elements filling in all of the blank boxes, down to the bottom right hand corner. The entire matrix of W:N10 (63,504) numbers include the factors of these logically related fractional numbers.

After testing the fractional numbers with a few calculations, we can imagine turning their lights off, and reprogramming the same

matrix with the lights of the whole numbers, one through WS (252) and with all of their elements filled in.

If the digits on our wall of numbers are lighted during calculations, we can imagine the same boxes lighting up when multiplying either the fractional or whole numbers. As far as the computer is concerned, it is the physical relationship of the elements, and not their symbols, that instructs the computer where to go.

Even without symbolic numbers, the matrix can be subdivided into a logical system of abundant fractional blocks having a rich mathematical relationship.

Among these fractional factors (as in the successive square roots of e) the number nine quickly appears. We see that 36 divided by nine equals four, and that 252 divided by nine, equals 28.

The decimal number nine is the UN number seven. There are 1S (28) sets of seven within WS (252). Thus, 0.WWW divided by WS equals 0.010U; 0.WWW divided by seven equals 1S; and 2U (the number of successive $\sqrt[e]{e}$ roots in 16 base) divided by seven equals U. Just as three times three equals nine in base 10, three times three now equals seven, and, three times four (five) equals W (15).

To subdivide the matrix into its fundamental configuration, we find that WS (252) divided by UN six (seven) equals 2U (36). On the right side, we used the 2U'd (36th) successive square root of e as the exact value of $1+$. Now, we will use the successive square roots of e on the left to subdivide the fractional matrix by 2U (36) horizontal and vertical neon lines into its basic configuration of sets of six (seven).

If we turn off the neon dividers, we can imagine a different fundamental division of the matrix by 1S (28) equal subsets of seven (nine), which we can display with a different color of neon lines.

In other logical subdivisions, we can evenly divide the matrix into 6X sets of two, 4U sets of three, 3W sets of U, 28 sets of five, 14 sets of S, and 12 sets of X, simply by changing the colors and locations of the neon dividing lines.

The negative matrix of U-digit fractional *iii* numbers is now logically organized into the subsets of two, three, U, five, six, seven, S, and X.

Significantly, each fractional *iit* in the matrix can be evenly subdivided by twos and Us revealing further subsets of logically related fractional numbers. Thus, groups of twos and Us can be organized within sets of two, three, U, five, six, seven, S and X to symbolically represent the factors and roots of negative numbers, *and the organization may be useful in coding binary instructions to computers.*²⁹

The calculator should be capable of providing an unlimited supply of imaginary proximate fractional numbers to symbolically represent, if called upon, as the reciprocal negative inverse of every imaginable positive number.

Let's take another look at the positive plane of the calculator where something interesting just happened. An extended examination of the successive square roots of *e* and their relationship to increasingly large 2² languages revealed a surprising confirmation of the rationality of UN numbers.

Recall that *eit* (1.000000001) is the 2U'd successive square root of *e* in 16-base UN, and that the number of successive square roots advances by nines as we move up the 2² bases.

What will happen if we continue upward from base 64, with the sets of nine successive square roots of *e*: b128=63, b256=72, b512=81, b1,024=90, b2,048=99, and b4,096=108?

To set the stage for the Eureka moment, we need to provide the one positive plane with its own matching wall matrix of flashing numbers. Here we use the 256-base, as it is most comparable to the 252-base negative matrix. All positive numbers and their elements are accounted for and illuminated in the positive matrix.

Now, the value of conversion to UN becomes crystal clear: 256 = 100, 512 = 200, 1,024 = 400, 2,048 = 800, and 4,096 = 1:000!³⁰

A multiplication matrix of UN base 1:000 would include 1:000:000 (16,777,216) numbers. The successive $\sqrt[4]{e}$ related 2² bases

29 Recall how easily the Sumerian base-60 language produced an amazingly accurate value for the square root of two, and imagine the mathematical possibilities abundant in a fractional base-252 system, each with four sub numbers.

30 As I was writing this paper, I noticed, for the first time, that the higher powers of two rectify at 256 into 100, 200, 400, 800, 1:000, 10:000, 100:000 etc. **EUREKA!**

continue up to and beyond 2^{20} and its base-100:000:000. In this mega base, one positive, 1.000000001 results from 120 (288) successive square roots of e ($^{120}\sqrt{e}$), and its square (the total elements in its matrix) is 10:000:000:000:000:000.

An improved ability to manipulate gigantic numbers could help solve one of the impediments to the construction of a working quantum computer. “A useful quantum computer *needs to process a set of continuous parameters that is larger than the number of subatomic particles in the observable universe.*”³¹ (emphasis added)

Organizing these immense bases on the positive matrix, we can insert divisions correlated with those we imposed on the negative side. To do so, we once again rely upon the successive square roots of e . In our 100-base matrix, the value of 1.000000001 results from UN (72) successive square roots of e ($^{UN}\sqrt{e}$). The more massive 2^{20} base requires 120 (288) successive square roots of e so that $1+ = ^{120}\sqrt{e}$.

Irrespective of the increases in 2^2 bases, we can always subdivide the positive matrix by the number of successive square roots required to produce 1.000000001. Using these successive square roots as markers, we can install neon division lines in the positive plane, denoting the roots of e as fractional blocks having coherence with the basic negative matrix using the same successive square roots. Divided by 2U (36), the basic 256 positive matrix would have the same divisions as the basic 252 negative matrix.

Irrespective of the base size of the positive matrix, the negative matrix should prove capable of producing mathematically appropriate fractional inverse proximate negative numbers.

There is no limit to the availability of probable positive and proximate negative numbers required to count everything we can ever imagine, or hope to discover, in or about our universe or eternity. These numbers will allow us to surf the waves we are making, as the relative mass of our universe of light slowly pulsates outward through the cold, dark nothingness.

31 Dyakonov, Mikhail, “The Case Against Quantum Computing,” *IEEE Spectrum*, November 15, 2018.

Let's stir up our imaginary mathematical recipe by integrating the two planes of the calculator. If we look down at the two matrices from directly above, we will see the top edges superimposed perpendicularly at their half points (+).

Moving our view down and looking at the positive and negative matrices face on, we find each on its own vertical plane, perpendicular to and facing one-half of the other. The matrix paddles rotate on a center axis and are bisected at their equator by an invisible horizontal perpendicular plane, dividing the space surrounding the paired matrices into a set of Cartesian Coordinates.

Recalling how to turn the two-square cubical Cartesian box inside out and inversely into a *Pi* Ball, we can now imagine the matrix paddles of flashing positive and negative numbers, and neon dividing lines, spinning the waves of their probable and proximate numbers within a spinning, transparent *Pi* Ball.

Replacing Cartesian with universal spherical coordinates in the center of the *Pi* Ball, every lighted number, including its two and U sub numbers—every conceivable element in both matrices—can be specifically identified by a unique spherical coordinate point.

The spinning lighted elements can be seen circling and penetrating the other matrix at a probable and proximal point where inversion takes place in the autonomous brain of the computer.

The calculator may be imaginary, but computers programmed with matrix coordinates and calibrated constant reference numbers, should be capable of making proximately correct calculations, with far less difficulty than at present.

Independent of the ability of UN to simplify calculations, the use of UN as a coding language should simplify and multiply the tools available to programmers and machine learning applications.

Prime numbers and e are constant throughout the calculator, but each matrix plane has its own value of *Pi* and *Phi* to calibrate the sets of negative and positive factoring numbers. Each element has its own rational relationship to e , *Pi*, and *Phi*—one fractional, one whole.

Correlated by these constant numbers, the imaginary UN calculator may reliably produce less complicated and more practical

mathematical solutions with a reasonable degree of accuracy—irrespective of the magnitude of the problem.

Using probable whole numbers in the positive matrix and proximate fractional numbers in the negative matrix, inverse and simultaneous calculations should be possible. One side is retrogressive from 1-, negative 0.000000001, and the other is progressive from 1+, 1.000000001.

One negative has the same proximate numerical value as one positive. The difference between the two is not zero, but the infinitesimal 0.000000001—currently tipped to the positive side.

The imaginary zero doesn't count—there is only a pair of adjacent ones, one negative, one positive. Thus, 1+ minus 0.000000001 = 1, and 1- plus 0.000000001 = 1. The two numbers are essentially equivalent, $1- \approx 1+$.

The purpose of this paper is to articulate and document a logical, broadly integrated, multiple-based mathematical language for computers—both binary and quantum—allowing practical calculations at every level of complexity.

Whether working with positive or negative numbers, the successive \sqrt{e} -based imaginary calculator should function in all 2^2 mathematical languages—without limit.

Regarding the square root of negative one, do we still need the imaginary i , or can we accept that the $\sqrt{-1}$ is proximately equivalent to $\sqrt{-0.000000001}$?

Recall that the component set of rational fractional numbers within one negative, 1-, derives from Archimedes' calculation of Pi using $\frac{22}{7}$. This fraction was already ancient in his day, as it had served as the basic plan of the Great Pyramid (which incorporates the proximate values of both Pi and Ph).

In UN, the proximate value of Pi is 3.2U7; its square is 5.U72; and one half is 1.72U. These fractional numbers add up to 0.WWW, and they all resolve down to 0.010U, the iit , which itself adds up WS times to 0.WWW0.

If we multiply iit 12 (18) times, 0.010U becomes the very elegant 0.12UN, and 0.12UN times X (14) produces 0.WWW.

Composed of S (star) *its*, a sparkling little number, 0.0S3 (point zero star three) appears. Three times 0.0S3 produces 0.2U7, and 14 (21) times 0.0S3 equals 0.WWW+.

There is an abundance of logically related fractional numbers that can accommodate basic calculations on the left to comply with the occasional request from the right, calibrated by the constant numbers to orient the problem on the negative matrix.

The fractional base can define proximate numbers for *Pi* and *Phi*. Thus, $3.2U7/0.010U = 2W5$, or $2W5/0.010U = Pi$.

Using another ancient fraction, $\frac{14}{11}$, we get the proximate square root of the Golden Proportion (φ). Converted to UN, $\sqrt{\varphi} = X/9 = 1.U4C16U4C$. These fractional relationships provided the secret medieval formula for the squaring of the “Round Table,” ($\varphi^2(\frac{12}{10}) = \pi$). For our purposes, these ancient formulas demonstrate the proximate fractional relationship between *Pi* and *Phi*.

Phi appears (along with *Pi*) in the Fibonacci series as a fraction, which produces the exact Golden Ratio as 1.7X366797. Its square is 2.7X366797 (with the identical decimal sequence), and the $\sqrt{\varphi} = 1.U4831U587$. Its close proximate fractional number is 1.U4C16U4C.

Thus, *Phi* and *Pi* share a computable, rational, fractional base.

Organized into sets of (2^2) U’s, whole UN numbers in the positive matrix share the fractional harmony; however, the “rounded off” values for *Pi* (3.2U3W58NNN) and *Phi* (1.7X366797) are foundational. As such, they serve as a positive calibration of their negative fractional counterparts. The calculator assumes the proximate equivalence of these numbers to simplify equations and to balance the books.

Both sides of the calculator share the same prime numbers, and both rely on the same constant value for *e*, 2.96X14152N, including its successive square roots. Both UN *Pi* and *e* essentially round off at N, and *Phi* is only significant for N (8) places.

In addition to prime numbers, these calibration numbers are constant—either in their negative or positive values—*Pi*, *Phi*, and *e*.

There is this difference: the negative matrix starts out at the top with a large fractional number and works downward in small bits of *iii*, while the positive matrix starts out with a very small positive number and works upward, one *eit* at a time—all according to the logarithms of *e* and *eit*, the harmony of *Phi*, and, the probabilities of *Pi*.

FORMULATING

Can we demonstrate, in a useful formula, what we have been thinking about in these papers?

Earlier, we placed everything we perceive about our universe into one of the N (eight) cubes of a box—which we proposed to reduce down through zero and beyond. We must next define what is in the other six (seven) Cartesian cubes. Only then, can we compress the entire box down through zero, and then invert everything back out as an expanding sphere, used to model the universe.

If we assume and accept that the other cubes probably contain the same kind of stuff (dark energy and dark matter) we have identified within our $1/N + X, Y, Z$ corner, we can expand and cube the volume of energy (by multiplying it by itself three times) to encapsulate the entirety of eternal energy within a mathematical Cartesian cube.

Then, on the mass side, we can balance the equation by increasing mass (eight) N times to encompass the entirety of mass within a numerical cube.

Einstein magnified gravity by 8π and divided the product by the speed of light to the fourth power, to reduce these factors in his field equations. Now that we are cubing energy and increasing mass eight times, are we also free to reverse Einstein's reduction of light speed? What happens if we expand the equation to raise the speed of light back to its fourth power, c^4 ?

Moving at the fourth power of light, how long do you think it would take you to cross the 880,000,000,000,000,000,000 kilometers spanning the diameter of our universe? Perhaps as quick as 3.6 seconds!

The difference between the speeds of light may depend if the observer is on the inside, or on the outside, of the universe, while holding the stopwatch. The difference is a matter of perspective. One can either be within or without our physical universe, at the same point and time. There is far more space outside, than within, so

as to move more quickly. Perhaps a more accurate way of looking at light is to see its speed (c) within our universe as the fourth successive square root of its true speed, ${}^u\sqrt{C}$.

Inasmuch as current calculus equates the conversion ratio of mass to energy at the speed of light squared, and it equates time with the speed of light, calculations cannot accommodate a concept of time beyond our ability to express our observations mathematically. Nonetheless, time does not exist beyond the universes of light in the infinite cold darkness. There are no clocks ticking, nor does speed have limits. There is little or nothing of note, except for the occasional passage of the wave form of a pulsating universe of light, and the eternal, watchful mind.³²

Just the idea that our entire universe could become almost instantaneously accessible will forever change the way we look at our place and time. We would no longer be from here and now; we become to be everywhere, and we have always been there—and here.

The mathematically encompassing formula is $E^3 = NMC^u$, but does this solve the puzzle?

Everything we have discovered about the constant numbers establishes that e and Pi are integral to all physical descriptions of energy and mass, and the probabilities of quantum interaction. So, what if we multiply E by e and M by Pi ? Energy on the left will be composed of bits of e , and Mass on the right will be composed of bits of Pi .

By establishing essential values for the two primary factors of the equation, we can account for the participation of mind in establishing limits on energy and expanding the probabilities of mass and mind. Therefore, mind can conceive time beyond the now, to the when and then.

An imaginary formula equating mind and time with energy *and* mass, might read:

$$eE^3 = N\Pi MC^u$$

32 Much like a magnificently brilliant and solitary jelly fish, growing forever larger, with each outward wave as it lives in the inky darkness of nothing.

CONTEMPLATING

Sitting here alone in my study in the quiet, dark, early morning hours, listening to the crickets outside the window, trying to recapture the images that flowed through the dream that pulled me from my bed and the side of my wife, I imagine our physical universe of light and struggle for the words to describe what I envision with and within my mind. This book opened with the idea that mass is stupid, but, as we've learned, its progeny is mind, which is brilliant—and enduring.

In about 4.5 billion years, our Milky Way galaxy will merge with Andromeda, our closest galactic neighbor. The two black holes at their cores will become one, but there are such vast distances between their stars that few, if any, will ever actually collide. The only sadness will be the breakup of the waves of our lovely Milky Way spiral, as a larger elliptical galaxy ensues.

Even if we survive the galactic union, this warm water garden we call Earth will probably be destroyed at about the same time, when our sun consumes all its core hydrogen, and its helium begins to burn. Sol will balloon into a “red giant,” expanding out as far as Earth’s orbit before collapsing into a “white dwarf” star. It, and its residual solar system, will orbit about—in the merged galaxy—every 200 million years, or so, for a very long time to come.³³

The universe will relentlessly accelerate its expansion, and—since it is the universe itself that is being pulled and driven apart—the distances between galaxies will correspondingly increase, and their relative recession will ultimately exceed the speed of light. Someday, everything we presently see will disappear into the cold, dark energy within which all mass is born, lives, and dies.

The minds generated by the mass of our universe will, however,

³³ In my imagination, I sometimes wonder if there could be only one such star and planet in each galaxy. Out of the multitude, there may be only one warm yellow star near the edge of a spiral galaxy, orbited by a warm water planet, itself circled by a large silver moon to drive the tides of its oceans, washing the land, and giving rise to life and mind. Even so, there are at least 100 billion, and as many as 2 trillion galaxies in our universe of light—more than enough to start a conversation.

endure, along with everything they ever imagined or created. Unimpeded, the soul of our minds will live on eternally to observe other universes spark into existence and to watch, nurture, and love the minds they generate, and their creations.

It is mind—the observer of the movement, relativity, and probabilities of mass—that creates the dimension of time, the reality of eternity, and the rewards of learning, love, and joy.

As we gather here on Earth at the dawn of a new millennium, our science and mathematics have provided us with marvelous tools allowing us to look back through space and time to the birth of our universe. We have walked on the moon, landed rovers on Mars, and sent probes to the edge of our solar system. Machines now permit us to peer inside the molecules, atoms, and particles that compose the elements of our existence, and all we behold. Other devices scan our brains and reveal the physical processes by which we experience life, language, and emotions.

Our technology has provided all of this and much more, including a longer and easier life for most. It has also handed us the means of our self-destruction. We now stand at the brink of human extinction due to environmental, economic, political, militaristic, and philosophical threats. Destroying our environment and the continued manufacture and deployment of atomic, biological, and chemical weapons cannot help but have a bad ending for the future of our children and the survival of our human society.

Whether we die off or fly beyond the stars lies entirely within our own minds, and it is there that responsibility resides. The choices to be made are ours, and ours alone. The time, however, for decision-making is now upon us, and we will either come together, or we shall perish together. There is no escape from this reality, but alternative futures are always available, each depending upon the choices we make—right now.

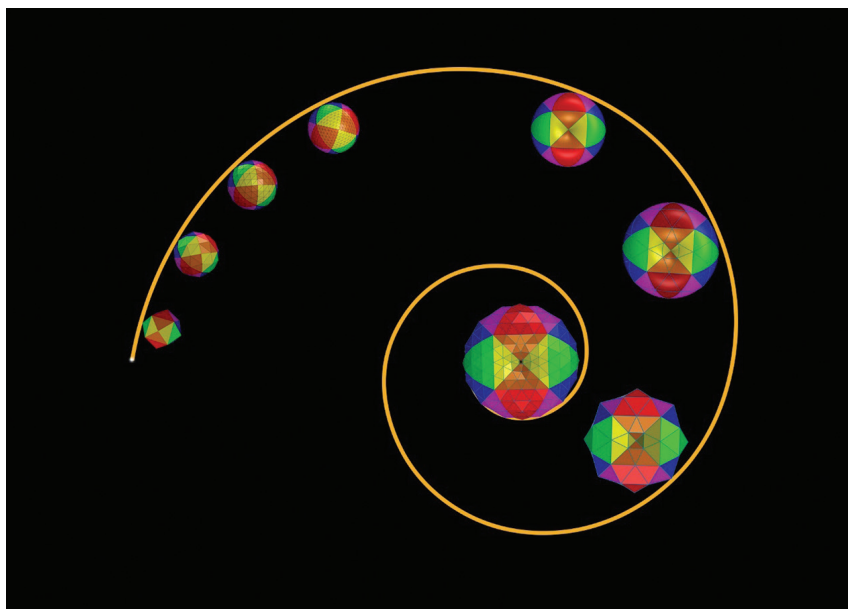
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A GEOMETRICAL MODEL OF THE UNIVERSE, AS DEFINED BY QUANTUM NUMBERS, WITH THE RATIONALIZATION OF π , ϕ , e , AND i

I concluded the collection of papers titled *Mind & Its Languages of Reason* last year with a thought experiment about an imaginary computer calculator. With completion of the following model of the universe, I decided to summarize and expand the universal (UN) geometry and mathematics of *Mind* to equip my visualization with a useful mathematics to encompass and explain it.



The model is intended to visually convey the existence of our entire universe, from its initial appearance until now, consisting of the total mass of its positive particles and their relative coexistence, constantly moving in relationship to each other. The elementary particles of light that form our universe remain quantumly integrated,

as they are stretched apart by the accelerating expansion of their collective existence in the midst of the black, negatively-charged energy into which they instantly and simultaneously appeared as an unimaginably brilliant positive concentration of pure light.³⁴ What we perceive as the curvature of spacetime described by Albert Einstein, may simply be the electromagnetic wake created by particles, as tiny as negatively-charged electrons spinning a protective web about their positive nuclei, or our sun moving in its 230-million-year orbit, along with billions of other stars around the black hole in the center of our Milky Way galaxy.

The entirety of the positive mass of our universe remains connected, relatively, throughout its existence as an integral part of the original quantum eruption. Every particle retains its electromagnetic-gravitational attraction to its relatives, seeking to reaggregate, even as they expand outward and away from every other particle and accretion of mass. The positive mass of the universe is expanding and separating at a constantly accelerating speed within the negatively charged fluid of nothingness into which it was discharged in a rare and massive display of light. The capacity of the negative energy to instantly annihilate individual positive particles as each one pops up in its midst, appears to have discharged a massive positive spark of pure light, instead of a single photon.

This stupendous discharge of positive energy, or “Big Bang” could have been a local event unrelated to any other similar occurrence that may have ever happened in the eternity of the negative nothingness—or not. Our universe may be the first and only example, ever, or there may have been, or there may be, other remote and unrelated universes. Nonetheless, universes of light are likely so infrequent as to remain integrated and unaffected by other mass, until being totally drained back into the electromagnetic fluid of the negative nothing. Except that is by the minds they generate, once their mass becomes sufficiently organized to produce life, intelligence, and ultimately—mind.

³⁴ Imagine the simultaneous detonation of trillions of atomic weapons, converting a massive amount of nuclear mass into a phenomenal amount of energy at $E=MC^2$, and imagine the reverse, the simultaneous discharge of an equivalent positive photonic display, appearing as the discharge of excess negative energy into positive mass.

Generated by the brains of infants at birth, the incorporeal mind exists in the negative space surrounding the physiological connectome that produces it, and mind exists between any and all universes that may pop up here and there, from time to time. It is only within these universes of light that there is movement by which to measure time, *and* mind does not have to move or abide by the clock. Mind is eternally coexistent with and within the negative nothing, and once mind is born of matter, it achieves eternal life, even after the death of its physical host.

The UN model commences at the white dot of the Big Bang and moves inversely along a golden logarithmic spiral, with the first model raising the length of the x,y,z coordinate vertices at the center of the six faces of a cube to the same length of the eight corner vertices. The next model evolves into a faceted sphere divided by six great circles into 24 right-angle triangles, as the model demonstrates the subdivision of each triangle into four smaller equal triangles.

Geometrically, we can observe that each half circumference of the sphere is divided by two equal sides of right-angle triangles and a hypotenuse. Thus, we can conclude that the perimeter of each triangle is equal to π times radius. We can also see that the connected heights of four triangles equally divide a half circle, or π . Thus, the height of each triangle is equal to $\frac{1}{4} \pi$, and the ratio of the height of the right-angle triangle to its sides is 2.5:3:3:4.

As the models continue to subdivide into equal triangles, additional facets and their vertices—each having an exact polar-angular relationship to a basic x,y,z Cartesian coordinate—are created to accommodate growth, as the waveform of the universe accelerates its expansion.

Initially, our universe is depicted from the big bang to the present, from *within* a cube defined by 14 vertices at its eight corners and arising from the x,y,z coordinates at the center of its six surfaces, as it is inflated into a sphere. The final four models depict how the universe appears from *without*, continuing to demonstrate evolution of the cube to a sphere, and finally to a torus, as a complete waveform of the expanding universe, each depiction sharing the same surface area and internal volume. The models are tiled by the same right-angle triangles, with infinite subdivisions by 4's, until the ripples of our positively-charged universe dissipate into the negatively-charged nothingness of eternity.

UNIVERSAL NUMBERS

In our efforts to travel into the negative space that surrounds us and to better understand the movement and actions of the subatomic particles of which we are composed, we must accept how very self-limited we are by an archaic 10-base counting system, arbitrarily determined by the number of our fingers, *and* by a clumsy computer language—that thoughtlessly attached six alphabetical symbols (A-F) at the end of the first nine numbers to create the 16-base ASCII system—by which all computers communicate with each other.

Imagine a much less difficult and far more symbolically interesting, 16-base universal mathematical language that creates a logical system of internal carrying numbers to simplify all calculations. UN mathematics insert the multiples of two (U, N, and S “star”), which combine into 10, to provide a rational foundation for organizing and counting numbers: 1,2,3,U,4,5,6,N,7,8,9,S,C,X,W “dub,” 10. Thus, the 1N equal triangles of the spherical model have sides of 3, 3, and U, and a height of 2.N.³⁵

| | | | |
|---|---|---|----|
| 1 | 2 | 3 | U |
| 4 | 5 | 6 | N |
| 7 | 8 | 9 | * |
| S | C | X | 10 |

³⁵ Hereinafter, base-10 numbers will be underlined, and UN numbers will be divided into thousands by colons (:).

As lovely as the model of the universe and these symbolic numbers may be, they must also be practical and functional—if we are to calculate, mathematically, what we see geometrically demonstrated with our eyes in the UN model of the universe. (See the UN base-10 multiplication table at Matrix 1.)

THE MULTIPLES OF ONE

Many children in every culture learn their numbers and alphabet from sets of wooden blocks, by which they can readily see that one block can be combined with three others into a square, and four more into a larger cube composed of eight ones. We “square” two, 2^2 for U (four), and “cube” it, 2^3 for N (eight). If we continue with the “powers” of two, we get progressively larger numbers in the cubes of blocks, 1, 2, U (4), N (8), 10 (16), 20 (32), U0 (64), N0 (128), 100 (256).

All by itself, the number one is simply the identification of something like a brick, orange, or finger; it cannot be multiplied by itself, or squared, as one times one remains one. One can, however, be added to another one to create a twice-as-large two, which *can* be organized into two’s and the powers of two in an unlimited fashion, always capable of providing large numbers to calculate any problem. The relationship of the basic numbers following one, leading up to ten provide the fractional relationships allowing for the continual divisions of one ($\frac{1}{2}$, $\frac{1}{3}$ etc.).

Ultimately, there is a limit when calculating the percentages, fractions, or divisions of one, which is expressed by the mathematically constant number “ e ” whenever interest on loans is compounded, or when the decay of atomic elements is calculated. This naturally occurring number is calculated in UN at $2.96 \times 14152N$. Although an irrational number, like Pi , the frequency of occurrence of numbers in the digital extension of e appears to be “normal” in that every number after the 2^{th} place, N, is evenly distributed.

To examine very small things, we can, in our imagination, divide the first one block into a trillion tiny blocks, each having the value of 0.000000001. At one top corner, at its very tip, a minuscule little

block is delicately set there. This infinitesimally small number—the “one plus,” “1+,” or *eit*—is the trillionth element of the One Positive.

Interestingly, the one plus is also a constant root of the number e . In base 2, one plus is the 7th successive square root of e , $(1+ = {}^7\sqrt{e})$. Logically progressing in sets of 7 (2) successive square roots in all two power bases, 1+ is equal to ${}^{12}\sqrt{e}$ in base U, ${}^{19}\sqrt{e}$ in base N, ${}^{2U}\sqrt{e}$ in base 10, ${}^{UN}\sqrt{e}$ in base 100, and ${}^{120}\sqrt{e}$ in base 100:000:000. (See Matrix 2.)

Just as we learned to multiply our base-10 numbers by each other to arrive at a hundred, a computerized multiplication matrix of UN numbers can be programmed using UN base 100 (256), to produce 10:000 (65,536) counting elements, each number containing a trillion *eits*. If we imagine these numbers as dots of green lights (whether in base 10, or UN) there is a long string of lights across the top of a gigantic display, and the same string of lights going down the left side.³⁶ If a light on one string is illuminated at the same time as another light on the perpendicular string, their combined focus on a point on the grid where they come together triggers a third light with the answer, irrespective of the symbols used in its expression. (See Matrix 1 as an example.)

In a representative symbolic language, such as base 10 (with only 10 numbers to multiply in order to achieve 100), or when using UN base 100 (with 256 numbers) to arrive at 1:000, the point where the two multiplying numbers coincide on the multiplication matrix always produces a unique third number, which can be assigned its own unique representative symbol, as we did in Matrix 1.

THE DIVISIONS OF ONE

Now we have learned to multiply one positively, let's reverse direction and divide one negatively. What if we carefully remove just one of the trillion elements of the number one—that tiny “one plus” at the very tip—the essential 0.000000001 required to be a whole

³⁶ At two inches per light, separated by two inches, the strings of matrix lights would be 84 feet wide and high.

One Positive? In doing so, we ignore the nonexistent zero, and begin to examine the remaining stack of not quite a trillion tiny little blocks, 0.WWWWWWWWW, collectively constituting a virtual whole one. How do we organize the remaining fractions of this massive quantity of tiny blocks in order to mathematically manipulate them?

Instead of a trillion divisions, the ancients discovered the magic fraction resulting from dividing one by seven. This produces the fractional number 0.142857 142857, which combines in 22/7 to produce 3.142857 142857, a close approximation of *Pi*. With UN numbers, the magic number is produced by dividing one by six (Z). Its product is 0.2U72U7, but the number now rolls over every three places, rather than the six (142857) places in base 10. The ancient fraction 15/6 (22/7) produces a close value for UN *Pi* at 3.2U72U7. It doubles at 5.U72U72 and one half is 1.72U72U, and 0.2U7 + 0.U72 + 0.72U = 0.WWW, which is the fractional equivalent of one. One half of .2U7 is .12UN, and one third is .0S3.

All these “decimal” numbers are composed of the elemental number 0.010U, which adds up WS (252) times, to 0.WWW0. The series is the foundation of a symbolic UN language for counting the fractions of one. Let us first designate the .010U as an *iii*, a “one minus”, or “1-“. ³⁷ The .010U is composed of its fractional numbers (.00U1, .00N2, .00S3, .010U); however, the actual multiplication and division of four-place “decimal” numbers produces an unwieldy number with eight places. Moreover, when multiplying by a fraction, a division, such as .N times .N equals .U (one half of one half), results.

The U-place number series provide rational symbols for counting these fractional elements. Following the decimal point, the numbers arrange themselves into two columns of two numbers. Numerically, the .010U progresses sequentially in the left column, and the right column advances by U's: .010U, .020N, .030S, .0U10, .041U, .051N, .061S, .0N20, etc.). Each time the U's in the right column add up to 100, one sequential number is carried to the left column. A total of WS (252) one minuses add up to 0.WWW0. (See Matrix 3.)

³⁷ The multiplication of 0.010U by 12 (18) produces the elemental number in fractional *Pi* as 0.12UN, one half of .2U7. We can also divide .12UN by .0S3 for 1.N.

QUANTUM NUMBERS

Using the four-place numbers as symbols in a WS-base number multiplication matrix, we discover that progressing by U's in the two figure right column allows for the hidden expression of a set of symbolic quantum numbers (.0101, .0102, .0103, .010U) for calculating *and* coding, in addition to the actual fractional component numbers. These unique quantum numbers exist within .010U and in each of its succeeding multiples. For now, let's designate these quantum elements of .010U as Qx, Qy, and Qz.

In summary, there are a total of WS (252) elements symbolically represented by a series of evenly-divided, four-place numbers, in which the right two numbers progress by Us, carrying over to the left column, all of which add up to 0.WWW0. In addition, each number contains three quantum numbers (as well as its three fractional numbers), *and* the alternative combination of the negative and positive aspects of Qx, Qy, and Qz produce N (8) quantum possibilities for .010U and all succeeding numbers. While symbolic, these four-place numbers can be added and subtracted, and they can be multiplied and divided by whole numbers. (See Matrix 3.)

We can square the .010U by grouping it together with the next three numbers (.010U, .020N, .030S, .0U10) in the same manner as arranging children's blocks. The square number, .0U10 then becomes the originating number in a base-3W (63) matrix, in which .0U10 (the square of 1-) is identified as the quantum square number Q¹. This number becomes the base of the next square (.0U10, .0N20, .0530, .10U0), in which .10N0 becomes the Q². Inasmuch as each number can be geometrically squared, its inherent N (8) quantum numbers can also be squared, resulting in a million quantum possibilities in the WS matrix, or N^N.

As demonstrated in Matrix 3, the WS numbers can be organized into super carrying numbers in their most elegant expressions, in a base-6 (Z) matrix in which the carrying numbers are composed of 7 (2) .0U10s, (.2U70, .U720, .5C30, .72U0, .95C0, C950, and .WWW0). Inasmuch as it is possible that the geometric progression of quantum numbers within the *iii* matrix is potentially so much greater than all

conceivable positive numbers of the *eit* matrix, the first of the 6 or 7, quantum columns of numbers may be sufficient to match any positive number presented for calculation. Thus, while our positive universe occupies one of the 8 Cartesian cubes, the remaining 7 can each have their own column of numbers in a matrix, providing the mathematical framework for the computerized calculation of negative numbers.

Using the WS (252) base language, let's construct a multiplication matrix that squares WS, and demonstrates its multiples. Once again imagine the total string of WS numbers as lights, but now red in two perpendicular lines on a multiplication matrix displaying W:N10 (63,504) counting elements, having an ultimate total numerical value of 0.WWWWWWWWW and a quantum value of 1:000:000.

Including those demonstrated in Matrix 3, these W:N10 symbolic numbers are logically divided by N (8) sets of one minus, *iits* into coherent fractional divisions, wherein 0.WWW0 is evenly divisible by 2, 3, U, 5, 6, N, S, and X. Remembering also that the base number .2U7 divided by 3 equals .0S3, and one half of .2U7 is .12UN—allowing for additional fractional subdivisions.

The UN matrices, especially those of N, 8, Star, and X, demonstrate not only the fractional unity and utility of the UN positive and negative numbers, but their beauty as rational symbols is to be *comprehended*, rather than *calculated*, except by properly programmed computers. For example, the division of one by X results in the lovely little 0.12U72U72U7. (See Matrix U for the symbolic representations of the divisions of one by 8, S, and X. Matrix 3 demonstrates the N matrix at the bottom in small type.)

THE SQUARE ROOTS OF NEGATIVE ONE (I)

If we imagine our entire positive universe existing alone *within* its spherically inflated one cube in the vast void of black negative nothingness, we can picture the universe as suggested in the above computer-generated model. But, if we seek to measure our universe of light from *without*, we must construct a mathematical scaffolding to both define the interior of our positive universe, as it exists, and as

it relates to the rest of the eternal negative nothingness. When we do so, we encounter the strangeness of negative numbers in which the multiplication of a negative number by a positive number is always negative, and when two negative numbers *or* two positive numbers are multiplied by each other, the result is always positive.

Negative numbers and the insolvable roots of Negative One has hampered calculations for centuries since it was first described. Mathematicians continue to use the symbol “ i ” for the “imaginary” square root of Negative One, -1, when doing calculations. What if, however, there is actuality a Negative One having the same essential numerical value as a Positive One, except for that tiny little *eit*, 0.000000001, which they essentially share, back and forth, without a zero in between?

Can we effectively and efficiently identify the mathematical fractional roots of -0.999999999 , and is there a rationality in the successive square roots of Negative One, i , like the ones we found with e ? Referring to Matrix 3, we can see that Q^1 is the square of Q^2 , its square is Q^3 , and its square is Q^U . That number is .N200, the Uth geometric power of the one minus, however, if we attempt to square .N200, we find that the result is outside the number matrix. We can, however, construct a model that demonstrates a continuation of geometric and quantum squaring within the matrix. (See Matrix 4.)

Using the same squaring process to demonstrate the reduction of successive square roots of -0.999999999 , we see that the large fractional number reduces down U times to .N30U, which is the next number after .N200 (the Uth power of -0.999999999), a difference of only $0.010U$. Therefore, the Uth (fourth) power of -0.999999999 is essentially the Uth square root of -0.999999999 . Thus, $0.010U^U + 0.010U = \sqrt[U]{-0.999999999}$, or one minus is the Nth successive square root of Negative One, at least in a quantum sense.

Are we now equipped to recalibrate Newton’s calculus, reaffirm the value of Descartes’ xyz coordinates, and to reprogram our computers to perform necessary UN calculations, including those that are currently impossible, such as reducing down to and penetrating zero so as to arrive on the other side of nothing. What exists in the other seven negative cubes? If there is nothing, then

how do we determine where we are, where we want to go, and how do we find our way home?

THE COMPUTERIZED CALCULATION OF QUANTUM NUMBERS

In a mind experiment, let us size the negative WS (252) *iit* flat two-dimensional matrix identically with the positive 100 (256) *eit* matrix, and then superimpose them on each other by standing them on their bottoms and imaginarily merging them at their vertical centers (appearing as a plus (+), or cross from above). As we begin to spin the matrices on their common axis, we can imagine that whenever a probable number on the positive *eit* matrix is lighted, it emits a photon which immediately strikes a receptor on the spinning negative *iit* matrix at a precise point denoting the proximate fractional negative reciprocal of the positive number. The ratio of the difference between the numbers of the two matrices, WS and 100—being a difference of only U (four) numbers—is 0.0U10, which is, coincidentally, the square of the one minus, .010U.

Do we really have to build physical matrices, wire them to emit and detect photons, and spin them at high speed? Or, can we simply instruct the artificial intelligence of our computers to accept our leap of mind over zero, and to reliably produce negative numbers upon demand. Of course, one can still calculate these problems with paper and pen, or with our currently programmed computers struggling to crunch space age numbers with a seventeenth century calculus, it will just take much longer.

Irrespective of the potential enormity of positive numbers generated by the *eit* matrix, the fractional number *iit* matrix should always reliably produce unique reciprocal negative numbers having a fractional relationship to a demonstrable root of negative one, each other, and the rationalized constant numbers of Pi , Phi , and e . Thus, instead of the imaginary i , computers could predict proximately where and when in the other seven Cartesian Cubes, a negative number should appear.

THE RATIONALIZATION OF π , ϕ , e AND i

The ancient value of π was demonstrated 4,500 years ago by the construction of the Great Pyramid in Egypt. The pyramid's circumference is squared into four sides of 440 cubits, for a total of 1,760, and a height of 280. A radius of 280 times exact π at 3.1415926535 produces a sphere with a circumference of 1,759.29188596. The Egyptian builders used a value for π achieved by dividing one by seven, resulting in 0.142857 142857, which combines in the fraction 22/7 to produce 3.142857 142857.

The small difference in the scientific and ancient values of π resulted in the modern circumference being short by 2.323000325 inches, which was not a bad engineering job considering the Egyptians stacked 2.3 million, 2.5 ton-limestone blocks, in total weighing six million tons, covering 13 acres, and piled higher than 160 yards (more than $1\frac{1}{2}$ the length of a football field). Since salvaged over the millennia for building material, polished white casing stones originally coated the pyramid, which was precisely oriented within 360^{th} of a degree to the North Pole, on a true east and west meridian. The structure incorporated two small straight shafts on the south side sighted from deep inside its interior on the Orion constellation and Sirius, the brightest star, whose heliacal rising foretold the annual lifegiving flooding of the Nile River.

The sides of the pyramid triangles also demonstrate a related practical value of 1.619834016 for the Golden Proportion of ϕ , φ (scientific value 1.618033988). An approximate square root of ϕ was achieved by dividing four by π at 3.142857, or (14/11) resulting in 1.272727, which is slightly lower than the scientific value of 1.273239. Using 1.272727 as the square root of ϕ , the ratio between the height of the Great Pyramid (280) and its half base (220) is exactly equal to the square root of ϕ , 220 x 1.272727 = 280. A square on the height of the pyramid has the same approximate area as that of each face.

Of course, a more precise value of π is required when the task becomes one of sending a rocket ship to the moon, orbiting,

landing, and returning. The exact value becomes critical in equations that delve deeply into the quantum physics of sub-atomic matter, and that identify the probabilities of formations that are either waves, particles, or both, and all at the same time, producing three possibilities. Many equations rely on Pi and Phi as essential elements in predicting probabilities, and calculations involving the travel of light waves over billions of years require vast quantities of numbers and are limited by the ability of our computers to process them.

The computation of scientific Pi in UN base 10 (16) results in 3.2U3W58NNN. An irrational number, the value of Pi was recently extended by Google to 31.4 trillion decimal places; however, the frequency of the numbers to the right of the decimal is uniformly distributed, or “normal,” for an average of N. Thus, in all 16-base mathematical languages, and most elegantly in UN, the value of Pi essentially rounds itself off in 7 (2) places for most tasks, including everything but astrophysics (which only requires a maximum of W (15) places).

The UN Golden Proportion of Phi is computed as 1.7X36679N, and its square shares the same decimal extension, 2.7X36679N. Since Phi , like e and Pi , is irrational, its decimal extension also effectively rounds off with N at the Nth place. Thus, the scientific numbers of Pi , Phi , and e can be effectively “rationalized” with truncated decimal extensions and fixed ratios for most, if not all, calculations. The numbers will forever remain irrational; however, their application can be synchronized with other constant numbers.

Within the UN Calculator, the values of Pi , Phi , and e are truncated at the 10th, or eighth place.³⁸ In addition, the imaginary number i , is replaced by the real ii , or one minus, as a demonstrable root of negative one, and the ei , or one plus, is identified as a specific successive square root of e . This allows these tiny positive and negative numbers to be rationalized, along with Pi , Phi , and e , as having precise fractional ratios and relations to each other, and all other numbers in both the positive and negative matrices.

38 Indeed, should *all* decimal extensions be routinely truncated at the eighth place as a default setting?

APPLICATION OF UN MATHEMATICS TO UN GEOMETRY

Visually, we commenced these papers with a computer-generated model of the universe which arose within a cube, having eight corners and six faces, for a total of 14 vertices extending out from the center of the cube. The UN model increased the length of the x,y,z vertex at the center of each cube face to that of the corners, creating pyramids on the faces, each having four facets—an increase of the total from six to 24.³⁹

When we subdivided each of these 24 right-angle triangles into four identical, smaller right-angle triangles, for a new total of 96, a new vertex was created for the sides of each triangle at their halfway point, for a new total of 36 vertices. We can see that the cube has been expanded out into a virtual sphere, and that its triangles are equally defined by six great circles. Moreover, the two equal sides of the triangles (forming the right angle) are each divided into three's in ratio to the hypotenuse, which is divided into four of the same parts. We can also determine by visual observation that the perimeter of each triangle is equal to Pi times radius, and that the triangle heights are equal to $\frac{1}{4} Pi$. Thus, the ratio of the height to the sides is 2.N:3:3:U.

Examining the basic spherical model from within, we can verify it is the product of our existing mathematics. The model was created using computer software programmed with Newton's calculus, that relies on Descartes' coordinates and the 360° system invented by the Sumerians (resulting from their 60-base fractional number system, based on multiples of 12, as the product of 3×4). These dividing numbers may have been arbitrarily chosen, and a system of "radians" has come to supplant the 360-degree and 60 minutes per degree sailing ship navigational system, because of the needs of space travel and modern science for more precision in calculation. In

³⁹ With a new total of 14 Vertices, 24 Faces, and 36 Edges, the polyhedron conforms to Euler's formula, $V-E+F=2$, which predicts the number of vertices and faces combined will always be exactly two more than the number of edges. The result is: $14-36+24=2$, or $X-2U+1N=2$. Additional subdivisions should continue to conform to Euler's formula unto infinity.

the application of Newton's calculus, the basic Cartesian coordinates have also evolved to a system of polar coordinates that allow a point to be established by its distance from $0^\circ-0^\circ$, and the angle of the line relative to a fixed coordinate, calculated in radians.

The radian system is based on the length of Pi itself, in which the circle is always divided exactly by two times Pi into six radians around the circle, each the length of the radius, with a leftover equal to the excess beyond six ($2 \times Pi = 6.283185307$). The six radians are divided into tenths, within the circumference of the circle. The system allows degrees to be calculated into radians, and in reverse, by reference to 2π .

If we impose the basic UN geometric model on the earth, we can orient it on the equator at the Greenwich Mean, and determine the points where lines intersect by reference to degrees. Starting from $0^\circ, 0^\circ$, the first four points should intersect at $0^\circ N$, $24^\circ W$, etc, and all of the X (14) intersecting points can be calculated using the basic x,y,z coordinates as vertices, and their individual polar coordinates within the right-angle space created by the x,y,z coordinates.



With each succeeding division, the right-angle spatial relationship within each defined space from the center continues into infinity—irrespective of the number of times the triangles are divided into U identical right-angle triangles. It is the convenient creation of an abundance of vertices that may provide the capability to identify a specific place and moment in space and time, depending on the length of each defining vertex from the center, and its fixed predictable angle to a foundational Cartesian coordinate.

Internally, the existing system of coordinates, based on the scientific value of Pi and expressed in base 10, can, and has, produced all the computer-generated models demonstrated thus far in these papers. The existing system of calculus, however, cannot accommodate the transition into the nothingness beyond our

universe through zero, because it breaks down at Planck's constant h (and, even more closely to zero by the subdivision of h by 2π into the smallest known constant number, the $h\text{-bar}^{(40)}$). The existing system can, however, be translated into the language of UN geometry and mathematics. Our existing computers should be capable of calculating everything described geometrically and mathematically thus far. Moreover, operating with the language of UN numbers, quantum computing should provide us with the mathematical capacity to go anywhere we dream of, and to return home safely.

Let us now image a final matrix, one making use of information from both the positive and negative matrices, but a circular one that divides 2π into useful pieces of π that can be correlated with existing degrees and radians. We can also imagine the circle matrix with dots of various colored lights around its circumference at all the points we identified above to be turned on or off as needed. In addition, Matrix 5 illustrates the ratios and π divisions of the right-angle triangle perimeter.

We can continue to express the 5 (6) radians defined by the sweep of the radius around the circle, as tenths, but if we use the UN fractional value of π , we find the circle exactly divides into U (4) quadrants of 10 (16) numbers each, for a total of U0. Thus, the existing Cartesian system of 360 degrees and 60 minutes remains (but expressed in UN numbers), *and* the existing translation between existing degrees and existing radians continue to occur at two times π . (See Matrix 5.)

Internally, using UN numbers to calculate the value of scientific 2π at 5.UN6XC411, we can use that number as the basis of internal radians, wherein each radian is divided into 10 (16) pieces. Moreover, just as a radius of one can be divided into three pieces of 0.4444444444, totaling 0.6666666666, each tenth of a radian swept out by the radius can also be divided into three parts.

Externally, the UN fractional value of 2π at 5.U72U72UN00 can be used as the basis of an equivalent system of radians. All

40 The constant number h must be added to equations describing the curve of radiation wavelengths at various temperatures to balance the equations. The tiny number $h\text{-bar}$ is $1.0546 \times 10^{-27} \text{ cm}^2 \text{ g s}^{-1}$ or, a decimal point followed by 27 zeros before a one finally appears.

radians remain convertible to degrees, and vice versa, at a fixed ratio between the two values of 2π . There is also the likelihood that the positive and negative aspects of the three divisions of radians can be used to produce eight quantum numbers, which square along with their numbers. The circle, or sphere, expands in accord with the length of its radius, which grows ever longer at a logarithmic rate—as the ripples of the waveform of our universe of light ebb outward, in every direction, growing ever more reduced, into the ultimate calmness of infinity and eternal energy.

RATIO NUMBERS

Having now divided π into degrees and radians, let's have another look at the ratio numbers 3, 3, and U that define the sides of the right-angle triangles having perimeters equal to π and identify how they relate to their 8 (10) divisions of π . Although 8 is not one of the numbers that divide equally into π in the quantum number matrix, it is, however, the number of points required to divide π equally into the 3 plus 3 plus U ratio points in relationship to other divisions of the 5 great circles on the sphere which define the triangles they produce on the face of the basic π Sphere.⁴¹ A remaining question is how do we reconcile these two divisions of π ?

Dividing scientific π by 8 produces 0.4058998. These segments of π allow us to calculate the ratio points of π —as the complete triangle perimeter within a 2π circumference—rather than being a half-circle swept out by a radius. If, however, we use the UN value of π divided by 8, the result is 0.4064064, resulting in lengths of 0.4064064 for the "ratio three" sides and 1.0128128 for the "ratio" U hypotenuse. These triangle numbers exist in a ratio relationship with the points defining the fractional divisions of π in defining the radian (and degree) divisions on the full 2π circle. If we divide the full 2π circle into its logical four quadrants defined by the path of the radius around its circle, we find that 2π divided by U equals the magical 1.72U72U72U.

41 UN eight results from 2×4 , just as 2×5 equals 10. Both are large even numbers combining and carrying the combined fractions of two smaller odd numbers.

Moreover, if we start numbering Pi division and ratio points counter clockwise around the perimeter of each triangle, commencing at the point where its two sides of 3 meet together with 3 other triangles (at the vertices defined by the x,y,z coordinates on the face of the original cube), we can establish both the ratio points, and the Pi division points by reference to the common denominator of 0.72U72U2UN. If we divide 8 by 0.72U72U72UN, we get a nice almost round 11N.0000000072, which can be used to achieve the rationally coherent points displayed around the $2Pi$ Circle Matrix 5.

Although incomplete and requiring greater mathematical definition, an elementary approach to translating existing mathematics, including spherical geometry, into that of UN mathematics and geometry has been outlined and demonstrated in these papers and attached matrices.

THE FORMULA

Nothing offered here, either proves or disproves the formula, $eE^3 = N\pi MC^U$ suggested in the conclusion of *Mind & Its Languages of Reason* when published last year; it may, however, provide a method to do so. These papers encourage consideration of the mathematical constant of the speed of light to be at its Uth power, instead of itself, its square, or its cube. In doing so, we can create an expanding mathematical sphere on the outside of Newton's universe, and we can reimagine the relativity of Albert Einstein's elastic space-time fabric, as the dynamics physically resulting from the passage of electromagnetically charged particles of mass, including galaxies, stars, their planets, and their subatomic constituent particles through the fluid-like negatively-charged field of mind on their way to ultimate reabsorption.⁴²

In his field equations on gravitation, Einstein sought to unify Newton's mechanical laws governing the three dimensions of width, breadth, and height of absolute space, with time, in creating the

⁴² Einstein believed the universe exists without reference to anything else and that it remains curved in upon itself, as it expands.

concept of spacetime to explain all motion within the universe, irrespective of its origin or manner. In equating gravity with acceleration and movement, Einstein intuitively used complicated mathematical computational devices, such as “tensors” discovered by others to algebraically describe relationships between sets of objects and their energy and momentum densities. In doing so, Einstein was able to compress all the information required to describe the universe, including the complex nature of curved space time, on the left side of the equation. Then, using Newton’s gravitational constant (G), Einstein was able to describe the movement of mass through the gravitational field on the right. Taken as a whole, the equations demonstrate the effect mass has on the curvature of spacetime, and vice versa.

Newton thought time was absolute and that it runs at the same speed everywhere in the universe; however, in uniting space and time, Einstein was able to demonstrate that time was relative to mass.⁴³ Representing his spiritual belief in a manipulative God, Newton believed gravity kept the universe in balance in an unchanging and static universe, and that gravity united Heaven and Earth. Einstein, a believer only in the rational and metaphorical God of Spinoza, did not believe that the “Old Man” played at dice. For him, the universe remained deterministic and measurable, while in quantum mechanics, tiny particles were found to be governed by total randomness, effectively calculated, nonetheless, in terms of probabilities. Einstein could never accept the description of the movement of subatomic particles provided by quantum mechanics, although every experiment has proven it works for tiny particles—just as every test has proven that relativity accurately describes the movement of larger objects in the universe.

Einstein’s theories of relativity improved upon Newtonian classical mechanics in making certain predictions (such as the precession of Mercury and the deflection of starlight around the sun) to demonstrate and calculate the curvature of space. His

43 The faster one travels, the heavier one becomes, as mass ultimately becomes infinitely heavy and incapable of exceeding the speed of light. Identical clocks record different periods of time when one is subjected to acceleration by being placed on a jet airplane and flown around the earth.

predictions regarding large objects were quickly confirmed; however, he remained uneasy about quantum mechanics for the rest of his life, as he sought the mathematics to unify the two theories, even onto his death bed.

To achieve a balanced solution of his primary field equation, Einstein was forced to multiply Newton's gravitational constant (G) by 8π on the right side, and to divide the product by the speed of light at its fourth power.⁴⁴ The expression of these external constant numbers may allow us to examine both the interior of the universe *and* its ultimate expansion and reabsorption. Moreover, the use of UN numbers may help to resolve any remaining contradictions in Einstein's field equations, as they relate to quantum mechanics.

The writing and demonstration of a symbolic language describing a *Pi*-based UN calculus also permits a mind experiment in which we are able to travel about within our universe, freed from its internal physical speed limit of light, or the disintegration of constituent positive mass back into negative energy at its 2nd power, but governed by the constant of light's external Uth power.

Once we perceive that the internal limit we observe is actually the Ud successive square root of the external limit, we are encouraged by the thought we could learn to accelerate and spin about *within* our universe, unhampered, as though we were just arriving from *without*, and just passing through. Equipped to travel at the Uth power of light in the negative space, we could zip around our universe in a matter of seconds. Applying the greater power of light, we find ourselves outside looking in, instead of inside, looking out. We can also find ourselves within ourselves, once we understand that what we can see reflected in the mirror of our existence is infinitesimal in comparison to the vastness of nothing, including that existing within ourselves.⁴⁵

44 The scientific value of Pi times N (8) is 17.21W94UU3WWWW315, and the UN value is 17.2U72UN0000004U61. The base-10 speed of light to the fourth power is $8.07760871 \times 10^{33} \text{ m}^4/\text{s}^4$.

45 It would be a delight to share my mind experiment of examining and calculating the exterior waveform of our universe from the outside with Einstein, who as a boy imagined riding alongside a single wave of light, as it wiggled and squiggled through the ether. I felt the presence of Einstein when I was at Princeton University last year, as I had earlier sensed the spirit and courage of Galileo when I visited his museum in Florence, Italy.

These papers are intended to present a theory that there is nothing physically beyond our magnificent universe of light and color, but a vast, black, negative space, existing, nonetheless, as the field for an Abiding, or Universal Mind. Existing eternally in a quantum sense, mind instantly envelops each rare positive quantum spark of massively concentrated photons that produces the possibility of a universe of light, with a potential for life, intelligence, and mind.⁴⁶

Mind did not create the quantum spark that resulted in our universe, but Mind was surely present at the instant it occurred, and Mind certainly cheered when it appeared a sufficient quantum spark of illumination survived inflation, combined under the protection of negatively-charged orbiting electrons, and expanded outward at an ever-increasing logarithmic rate, in every direction, being both attracted to and repelled by the negative nothing.⁴⁷

If there is an eternal and timeless presence of mind, coexistent with the negative nothing, it is likely our universe of light has been observed for the past 13.8 billion years of its existence, along with its gradual evolution of life, intelligence, and mind. We were neither created, nor are we judged, rewarded, or punished; we simply exist, and we either learn to fly from our nest before we die, or we don't. We are lovingly watched until such time as we either evolve into beings of mind, or we go extinct. It is not that the Abiding Mind is uncaring, it is just that if we were to be physically or mentally interfered with, the waveform of our entire universe of light would collapse into incoherence and dissolution.

Our concept of time as the fourth dimension of curved spacetime is generated by our observation and recording of the movement of mass within our universe, as we use our embryonic computers to model a reversal of the cycles of the earth around the sun, rewinding all the way back to the Big Bang. What we perceive

46 In my earlier writings, I thought the entire universe must naturally move in relationship to greater mass. I now believe this to have been an error.

47 Although the negative nothing may be mathematically described using the calculus of fluid mechanics, it may be without physical drag, as might be expected in an "ether." While every single particle of the universe is forever "related," they individually exist in a frictionless electromagnetic suspension, attracted and repelled, within the negative nothing, which is the same everywhere.

as billions of years during which our universe slowly evolved and expanded, might appear from without as a second or two of visible expansion, and disappearance, much like a single burst of a holiday fireworks display. What we perceive as 13.8 billion years *within*, may be but a blink of an eye in the eternal *without*. Our universe may be beautiful to look at, as it expands outward displaying its brilliant spectra of light, but only momentary in existence—without the concept of time to measure its movement.

Inasmuch as Einstein equated time with the speed of light, it may be that the *Ud* power of light allows us to examine our universe as though we were observer minds from other universes, past, present, and future.

Having been sufficiently energetic to swamp the annihilation barrier that instantly destroys random individual positive particles as they pop up in the negative nothing, the waveform of our physical universe will continue: a spreading four-dimensional ripple into eternity, on its infinite undulation to ultimate reabsorption by the negative nothing. Mind remembers all and forgets nothing, as it simply records the truth of existence, living with, and within the minds of all those who become aware of the difference between reality and fantasy.

As we struggle to survive the pandemics, economic collapse, environmental self-destruction, continuous warfare, and threatened extinction of human existence, we have a fleeting opportunity to overcome our instinctive animalistic intolerance, manifesting itself as deception, violence, and war. We must use the power of our collective minds and our remaining earthly resources to peacefully evolve, as nature intends within our Garden of Earth. If we succeed, our children will fly about our wonderful universe of light, carrying with them our collective wisdom, our unique creations, and the full fruits of our minds, as they discover other warm water oxygen planets, circled by large silver moons that pull the tides—as the oceans wash the land and waters the gardens where minds of children can thrive, learn, and find joy in living.

BY THE BEACH: IN QUARANTINE

Just before Christmas in late 1983, my older sister, Mary Jean, died. She had cared for me when our mother died when I was five, and she took me in at 16 during the summer of 1957 when I had no other place to go.⁴⁸ Earlier, I had visited Mary in the hospital when she was in a near coma, and I had not the financial means, nor emotional strength to attend another of my siblings' funerals—as the eight of us were now divided in half. The two oldest and the two youngest remained of those who had clung together in 1951, when I was ten, without parents or grandparents.

I was 42 years old and had already experienced a long and productive professional career, culminating in the Holocaust Case, which I had successfully prosecuted two years previously. I had spent the last year, deeply in debt from the costs associated with the case, as I shuttered my public-interest law practice and stopped accepting new cases or paying my bills. With my home office in foreclosure and being close to eviction and homelessness in December, I accepted the offer of a friend to house-sit her cat in an apartment on the sand, just south of the pier in Seal Beach. I took with me some of the mathematical and geometric drawings and models I had been working on during the case and in my year of retreat.

I had earlier started developing the language of UN mathematics to explain my initial drawings of contracting the cube of the universe, and I had worked out a multiplication matrix and addition, subtraction, and conversion tables. Then, when the drawings suggested the evolvment of a spherical model, I produced the first six-circle model on a small two-inch rubber ball and painted it in the colors it still displays. One of the first questions I asked was: if the perimeter of each triangle is clearly equal to P_i , what is its UN value?

⁴⁸ As a chronic runaway and ward of the court, I was awaiting my sentence to military school in the fall—in lieu of being “reformed” at the Texas youth farm.



A high school math teacher lived next door in Seal Beach, and as I explained my problem, he told me about the ancient $\frac{22}{7}$ fraction used to produce a close approximation of π . He suggested I convert the fraction to UN numbers, and do the division to calculate π in the UN language. I made notes, followed his instructions, and made my first long-hand conversions and calculations of π in UN. As the sun was setting over the Pacific Ocean, my mind first combined the π divisions of the sphere, with the natural π numbers, and I immediately realized the significance of the discovery. I was able to work out enough calculations to determine that the magic division of one by seven, worked even better in UN—but then I had to return to reality and earn a living.

Six years later, in 1989, having semi-retired from serving as the operations officer and general counsel of a national security consulting and investigation firm, conducting—among other assignments—force-on-force exercises at America’s nuclear weapons plants. I was living in a studio apartment on Ocean Boulevard overlooking the bluff and beach, watching the ships come and go through the entrance of the stone breakwater into the Long Beach Harbor.

To reestablish a private practice, I drew upon the state-of-the-art computerization our firm had identified and deployed for international corporate clients, and I opened an “investigative law” office. I consulted with major law firms in those days before easy Internet access, helping my legal clients to identify and supply their evidentiary needs.

It was also during this time that I represented a “secret client” in another *pro bono* (for the public good) case and arranged the publication of the suppressed Dead Sea Scrolls in November 1991. I spent most of my time, however, in the solitude of my harbor apartment, working at this same old law school desk that has served me for decades, continuing to develop both UN geometry and mathematics. I built a number of cardboard and superglue models to ascertain by direct measurement that the ratio of the sides was exactly 3:3:U. Subsequently, I learned enough to demonstrate the proofs mathematically.

Having to solve many basic arithmetic problems made the need for a UN digital calculator most acute, as all math problems required conversion from base 10 to UN, and the long division and multiplication was tedious and time consuming. Expanding $\frac{22}{7}$ to the much longer fractions calculated by Johann Lambert in the eighteenth century to more exactly define Pi, I consumed entire notebooks calculating long divisions such as: $US5XR21/1N4U295 = 3.2U3W58NNN$, a beautiful sight when first beheld. Adapting Newton’s binomial theorem, I spent days calculating e to 20 places, only to learn later I had a carrying error around the 8th place.

One night, walking home from the neighborhood market, I was attacked on the sidewalk by two young men and beaten in the face and over my head with a bottle of wine. With my eyeglasses broken and near blinded after the bottle broke over my head, I deployed the full fury of my police training and was able to fight them off and chase them away. After I reported the crime to the police and had my head and face stitched up (once again), I found myself emotionally fearful for the first time in my life of being out and about city streets at night on foot.

I encountered and adopted a young, half Dingo, half German Shepherd female dog named KD, and I rigorously trained her to accompany me almost everywhere I went wearing a leather K9 working dog harness. Most days, we also visited the local Dog Park where she was the alpha female and was determined to prove it. Fortunately, KD’s training allowed me to keep her under close control. One of her tricks was to sit in front of me, and I would toss a tennis ball straight up in the air above her head. KD would leap up

into the air, snatch the ball, and do a full 360° spin before landing and dropping the ball at my feet. And, she would do it over and over again.

One day, a little brown-eyed, seven-year-old, Caribbean princess named Naomi asked if she could throw the ball, and she took over the duty of throwing KD's ball whenever she was in the park with Buster, her little male Rat Terrier. I fell in love with Naomi, and learning she came with a single mother, I fell in love with her too.

With time and patience, Helen accepted me into her family, and I moved in with them in their Cambodian Town condo. I continued to do “investigative” law and to provide contract prosecutor services to contribute my share of the household expenses. Primarily, however, Helen gave me the freedom to continue my work on UN geometry and math, while she served as a middle-school librarian.

Working at this same old law school desk, but in the corner of Helen's bedroom, I completed two books over the next year. She contributed a number of original drawings, and *Mindkind: Math & Physics* and *Time Travel to Ancient Math & Physics* were published as eBooks.

To support a marriage and our need for a steady income, I was appointed as a supervising trial counsel for the State Bar of California, which regulates the practice of law. Gainfully employed with my old debts paid, Helen and I were married in January 2000 in the old city of Jerusalem, and I spent the next seven years running a team of lawyers and investigators prosecuting dishonest lawyers and criminal gangs engaged in the unlawful practice of law. Receiving a professional income for the first time in my life, and living modestly, Helen and I were able to fund a retirement, pay off our home loan, and secure Naomi's college education.

After retiring in 2007, I published a combined print copy of the two math eBooks as *Millennia Math & Physics* in 2015. I did little additional research or work on the math or geometry, but I continued to communicate the mathematical language to anyone trained to recognize and make use of its capabilities.

In January 2020, I published *Choices of Mind: Extinction or Evolution* and mailed copies to a broad range of environmental activists and

writers, with little response. By the end of February, I had completed a rough draft of this new paper, but it was incomplete as work remained to be done in developing and proving the rationality of the UN fractional numbers.

Last year, I had envisioned the concept of an imaginary computer calculator when I published *Mind & Its Languages of Reason*, but I did not advance the work on the UN fractional language. I did not have the time, energy, or inclination (or digital calculator) to concentrate for hours and days on the laborious calculations necessary to develop and prove its elements. *Mind* included a number of color illustrations and tables which increased the cost of the print edition, and I decided to publish a more affordable black and white edition. I also planned to include a short paper updating my thinking on the UN calculator, and explaining the model of the universe I had developed.

Helen and I had scheduled for some time to attend an exhibit of the French artist Edgar Degas at the National Gallery in Washington, DC, and we spent a few days during the first week of March enjoying the spring weather and museums. We returned home, but immediately took another planned trip to Portland, Oregon for Helen to visit an art gallery to discuss a show of her work. We had dinner with two of her former models and returned to Long Beach on the 12th, the day before travel restrictions were imposed because of the coronavirus pandemic. As Helen napped on the return flight, I worked out, for the first time, the 6 and 7 configurations on a matrix that organized and displayed the fractional numbers as dots, and which demonstrated its ability to generate quantum numbers.

In self-quarantine, I awoke on *Pi*-Day, March 14th determined to write a short article about the role of *Pi* in UN mathematics and geometry. That short paper was incorporated into the earlier draft, ultimately becoming this set of papers—the product of a mental exercise I haven’t rigorously practiced for more than 20 years. Arising around 2:00 a.m. for the first weeks of quarantine, I spent long days working out the mathematics of fractional numbers, completing page after page of hand calculations, all of which was fraught with the possibility of errors.

On March 19th, Brian Gonzalez (the software engineer who created the computer graphics in the model of the universe)

programmed and installed an electronic calculator on my desktop computer that converts UN numbers to base 10, calculates the problem, and then reports the finding in UN numbers. Testing and using the UN calculator, I was able to work out the remaining matrices required to demonstrate the inherent logic of the UN fractional language.⁴⁹

Working in forced isolation, I found I was able to think almost as well as 20 years ago, but I have become more prone to forget findings once I had recorded them. This morning, however, feeling every day of my 79 years, exhausted, mentally, physically, and emotionally, confronted with a pandemic expected to kill millions worldwide, with a global economic collapse threatening all civil societies, and an environment growing increasingly out of control, I am comforted only by the knowledge that I have done all I can do to understand these threats and to derive and publish effective solutions.

This summary of UN mathematics and geometry is complete, and, while I am reassured by the additional work, I continue to wonder if there is any real value in the language. For now, there is much to be done if we are to survive physically, politically, and socially—if we are to make use of what we have learned to evolve into beings of mind, allowing our children to travel throughout the universe on spring break, before returning to their studies, instead of dying from a lack of care.

njc

Long Beach, California

April 12, 2020

⁴⁹ I might have gotten by without the digital calculator, had I the intellectual resources of Isaac Newton, who fled the bubonic plague in 1665, and spent the next year at his family's farm analyzing the spectrum of light, the laws of gravity, and creating the calculus. He later stated he was embarrassed by the amount of time he spent calculating.

MATRIX 1

UN MATHEMATICS MULTIPLICATION MATRIX

| | | | | | | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | U | 4 | 5 | 6 | N | 7 | 8 | 9 | S | C | X | W | 10 |
| 2 | U | 5 | N | 8 | S | X | 10 | 12 | 1U | 15 | 1N | 18 | 1S | 1X | 20 |
| 3 | 5 | 7 | S | W | 12 | 14 | 1N | 19 | 1X | 21 | 2U | 26 | 28 | 2C | 30 |
| U | N | S | 10 | 1U | 1N | 1S | 20 | 2U | 2N | 2S | 30 | 3U | 3N | 3S | U0 |
| 4 | 8 | W | 1U | 17 | 1X | 23 | 2N | 2C | 32 | 36 | 3S | U1 | U5 | U9 | 40 |
| 5 | S | 12 | 1N | 1X | 2U | 28 | 30 | 35 | 3S | U2 | UN | UX | 4U | 48 | 50 |
| 6 | X | 14 | 1S | 23 | 28 | 31 | 3N | 3W | U5 | UC | 4U | 49 | 52 | 57 | 60 |
| N | 10 | 1N | 20 | 2N | 30 | 3N | U0 | UN | 40 | 4N | 50 | 5N | 60 | 6N | N0 |
| 7 | 12 | 19 | 2U | 2C | 35 | 3W | UN | 41 | 48 | 53 | 5S | 64 | 6X | N6 | 70 |
| 8 | 1U | 1X | 2N | 32 | 3S | U5 | 40 | 48 | 5U | 5X | 6N | N2 | NS | 75 | 80 |
| 9 | 15 | 21 | 2S | 36 | U2 | UC | 4N | 53 | 5X | 67 | NU | NW | 78 | 84 | 90 |
| S | 1N | 2U | 30 | 3S | UN | 4U | 50 | 5S | 6N | NU | 70 | 7S | 8N | 9U | S0 |
| C | 18 | 26 | 3U | U1 | UX | 49 | 5N | 64 | N2 | NW | 7S | 87 | 95 | S3 | C0 |
| X | 1S | 28 | 3N | U5 | 4U | 52 | 60 | 6X | NS | 78 | 8N | 95 | SU | C2 | X0 |
| W | 1X | 2C | 3S | U9 | 48 | 57 | 6N | N6 | 75 | 84 | 9U | S3 | C2 | X1 | W0 |
| 10 | 20 | 30 | U0 | 40 | 50 | 60 | N0 | 70 | 80 | 90 | S0 | C0 | X0 | W0 | 100 |

MATRIX 2

THE POWERS OF TWO AND THE VALUE OF ONE PLUS IN BASE-10 AND UN

| Powers | Base <u>10</u> and UN Bases | | 1+ = \sqrt{e} |
|---------------|------------------------------------|-------------|-----------------------------------|
| 2^1 | <u>2</u> | 2 | 7 (<u>9</u>) |
| 2^2 | <u>4</u> | U | 12 (<u>18</u>) |
| 2^3 | <u>8</u> | N | 19 (<u>27</u>) |
| 2^U | <u>16</u> | 10 | 2U (<u>36</u>) |
| 2^4 | <u>32</u> | 20 | 2C (<u>45</u>) |
| 2^5 | <u>64</u> | U0 | 35 (<u>54</u>) |
| 2^6 | <u>128</u> | N0 | 3W (<u>63</u>) |
| 2^N | <u>256</u> | 100 | UN (<u>72</u>) |
| 2^7 | <u>512</u> | 200 | 41 (<u>81</u>) |
| 2^8 | <u>1,024</u> | U00 | 48 (<u>90</u>) |
| 2^9 | <u>2,048</u> | N00 | 53 (<u>99</u>) |
| 2^S | <u>4,096</u> | 1:000 | 5S (<u>108</u>) |
| 2^C | <u>8,192</u> | 2:000 | 64 (<u>117</u>) |
| 2^X | <u>16,384</u> | U:000 | 6X (<u>126</u>) |
| 2^W | <u>32,768</u> | N:000 | N6 (<u>135</u>) |
| 2^{10} | <u>65,536</u> | 10:000 | 70 (<u>144</u>) |
| 2^{11} | <u>131,072</u> | 20:000 | 77 (<u>153</u>) |
| 2^{12} | <u>262,144</u> | U0:000 | 82 (<u>162</u>) |
| 2^{13} | <u>524,288</u> | N0:000 | 89 (<u>171</u>) |
| 2^{1U} | <u>1,048,576</u> | 100:000 | 9U (<u>180</u>) |
| 2^{14} | <u>2,097,152</u> | 200:000 | 9C (<u>189</u>) |
| 2^{15} | <u>4,194,304</u> | U00:000 | S5 (<u>198</u>) |
| 2^{16} | <u>8,388,608</u> | N00:000 | SW (<u>207</u>) |
| 2^{1N} | <u>16,777,216</u> | 1:000:000 | C9 (<u>216</u>) |
| 2^{17} | <u>33,554,432</u> | 2:000:000 | X1 (<u>225</u>) |
| 2^{18} | <u>67,108,864</u> | U:000:000 | X8 (<u>234</u>) |
| 2^{19} | <u>134,217,728</u> | N:000:000 | W3 (<u>243</u>) |
| 2^{1S} | <u>268,435,456</u> | 10:000:000 | WS (<u>252</u>) |
| 2^{1C} | <u>536,870,912</u> | 20:000:000 | 104 (<u>261</u>) |
| 2^{1X} | <u>1,073,741,824</u> | U0:000:000 | 10X (<u>270</u>) |
| 2^{1W} | <u>2,147,483,648</u> | N0:000:000 | 117 (<u>279</u>) |
| 2^{20} | <u>4,294,967,296</u> | 100:000:000 | 120 (<u>288</u>) |

MATRIX 3

THE QUANTUM NUMBER MATRIX

| | | | | | | | |
|----|----------------------|---|----------------|---------------------|--|----------------------------|--------------------------|
| | 7 | (1-) .010U ^U + .010U = $U\sqrt{.WWW}$ (-1) | | | | | |
| 6 | .2U70 | .U720 | .5C90 | .72U0Q ^S | .95C0 | .C950 | .WWW0Q ^r |
| | .23NS | . | . | . | . | . | .WXWS |
| | .22NN | . | . | . | . | . | .WCWN |
| | .21NU | . | . | . | . | . | .WSWU |
| | .20N0 | .U410 | .5780 | .NX30 | .92S0 | .C640 | .W9X0 |
| | .1W6S | . | . | . | . | . | . |
| | .1X6N | . | . | . | . | . | . |
| | .1C6U | . | . | . | . | . | . |
| | .1S60 | .U100Q ³ | .5470 | .N820 | .8X90 | .C3U0 | .W6C0 |
| | . | . | . | . | . | . | . |
| | . | . | . | . | . | . | . |
| | .1N50 | .3SW0 | .51N0 | .N510Q ⁴ | .8880 | .SW30 | .W3S0 |
| | . | . | . | .N40S | . | . | . |
| | . | . | . | .NU0N | . | . | . |
| | . | . | . | .N30U | . | . | .W09U |
| | .1U50 | .3NX0 | .4C60 | .N200Q ^U | .8570 | .S920 | .XW90 |
| | . | . | . | .N0WS | . | . | . |
| | . | . | . | .6WWN | . | . | . |
| | . | . | . | .6XWU | . | . | . |
| | .10U0 Q ² | .3UC0 | .4750 | .6CW0 | .82N0 | .S610 | .X980 |
| | . | .33SS | . | . | . | .S50S | . |
| | . | .32SN | . | . | . | .S40N | . |
| | . | .31SU | . | . | . | .SU0U | . |
| | .0S30 | .30S0 | .4440 | .67X0 | .7X60 | .S300Q ⁶ | .X670 |
| | .092S | . | . | . | . | .S20S | . |
| | .082N | . | . | . | . | .S20N | . |
| | .072U | . | . | . | . | .S00U | . |
| | .0N20 | .2S90 | .41U0 | .64C0 | .7850 | .9XW0 | .X3N0 |
| | .061S | . | . | . | . | . | . |
| | .051N | . | . | . | . | . | . |
| | .041U | . | . | . | . | . | . |
| | .0U10Q ¹ | .2N80 | .UC30 | .61S0 | .7540 | .98X0 | .CW60 |
| | .030S | . | . | . | . | . | . |
| | .020N | . | . | . | . | . | . |
| ii | .010U (1-) | . | . | . | . | . | . |
| | .01S3 | | | | | | |
| | .01N2 | | | | | | |
| | .01U1 | | | | | | |
| | * Qx - 0103 | x y z = 000 | Q1 1/N = .2 | .2/1 = .2 | .010U x WS [252] = .WWW0 | .010U ² = .0U10 | $\sqrt{.WWW}$ = .WSWU |
| | * Qy - 0102 | x y z = 001 | Q2 .2 x 2 = .U | .2/2 = .1 | WS x WS = W:N10 [63,504] | .0U10 ² = .10U0 | $\sqrt[3]{.WWW}$ = .W09U |
| | * Qz - 0101 | x y z = 010 | Q3 .2 x 3 = 5 | .2/3 = .0888 | WS x N = 6X0 [2,016] | .10U0 ² = .2U70 | $\sqrt[4]{.WWW}$ = .N30U |
| | | x y z = 011 | QU .2 x U = .N | .2/U = .0N | 6X0 x 6X0 = 3X0:U00 [508,032] | .2U70 ² = .U100 | |
| | | x'y z = 100 | Q4 .2 x 4 = .8 | .2/4 = .0555 | | .U100 ² = .N200 | |
| | | x'y z = 101 | Q5 .2 x 5 = .S | .2/5 = .0444 | .0U10 ² = .10U0, Q ² = U0xN=200 | .N30U ² = .N510 | |
| | | x'y z = 110 | Q6 .2 x 6 = .X | .2/6 = .0U72 | .10U0 ² = .U100, Q3 = 200xN=1:000 | .N510 ² = .72U0 | |
| | | x'y z = 111 | QN .2 x N = 1 | .2/N = .0U | .U100 ² = .N200, Q ³ = 1:000xN=N:000 | .72U0 ² = .S300 | |
| | | | | | .N300 ² = .72U0, Q ⁴ = N:000xN=U0:000 | .S300 ² = .WWW0 | |
| | | | | | .72U0 ² = .S300, Q ⁵ = U0:000xN=200:000 | | |
| | | | | | .S300 ² = .WWW, Q ⁶ = 1:000:000 (N ⁶ = 1:000:000) | | |

MATRIX U

DIVISIONS OF ONE BY 8, S, & X

$$1/8 = .17777777$$

$$.1777 / 2 = .0888$$

$$“ /3 = .0555$$

$$“ /4 = .041X$$

$$“ /5 = .0333$$

$$“ /6 = .028N$$

$$“ /N = .0333$$

$$“ /7 = .02CN$$

$$“ /8 = .02NS$$

$$“ /9 = .0243$$

$$“ /S = .0222$$

$$“ /C = .01WN$$

$$“ /X = .01CU$$

$$“ /W = .019U$$

$$.1777 \times 2 = .3333$$

$$“ \times 3 = .U555$$

$$“ \times U = .5555$$

$$“ \times 4 = .6WWW$$

$$“ \times 5 = .7777$$

$$“ \times 6 = .9333$$

$$“ \times N = .SSSS$$

$$“ \times 7 = .X555$$

$$“ \times 8 = .WWWW$$

$$“ \times 9 = 1.1777$$

$$“ \times S = 1.3333$$

$$“ \times C = 1.U555$$

$$“ \times X = 1.5555$$

$$“ \times W = 1.6WWW$$

$$1/S = .14444444$$

$$.1444 / 2 = .0888$$

$$“ /3 = .061S$$

$$“ /U = .0444$$

$$“ /4 = .0333$$

$$“ /5 = .028X$$

$$“ /6 = .024S$$

$$“ /N = .0288$$

$$“ /7 = .024X$$

$$“ /8 = .0222$$

$$“ /9 = .01W0$$

$$“ /S = .01S6$$

$$“ /C = .018U$$

$$“ /X = .01N5$$

$$“ /W = .015S$$

$$.1444 \times 2 = .2888$$

$$“ \times 3 = .3WWW$$

$$“ \times U = .4444$$

$$“ \times 4 = .5888$$

$$“ \times 5 = .6WWW$$

$$“ \times 6 = .7444$$

$$“ \times N = .8888$$

$$“ \times 7 = .9WWW$$

$$“ \times 8 = .C444$$

$$“ \times 9 = .X888$$

$$“ \times S = .WWWW$$

$$“ \times C = 1.1444$$

$$“ \times X = 1.2888$$

$$“ \times W = 1.3WWW$$

$$1/X = .12U72U72U7$$

$$.12U7 / 2 = .072U72$$

$$“ / 3 = .051N51$$

$$“ / U = .0U72U7$$

$$“ / 4 = .038N38$$

$$“ / 5 = .030S30$$

$$“ / 6 = .027S95$$

$$“ / N = .02U72U$$

$$“ / 7 = .020N20$$

$$“ / 8 = .01CU1C$$

$$“ / 9 = .0187NX$$

$$“ / S = .01N51N$$

$$“ / C = .015N15$$

$$“ / X = .01UX4X$$

$$“ / W = .013N13N$$

$$.12U7 \times 2 = .2U72U7$$

$$“ \times 3 = .35C95C9$$

$$“ \times U = .U72U72$$

$$“ \times 4 = .495C95$$

$$“ \times 5 = .5C95C95$$

$$“ \times 6 = .6WWWWW$$

$$“ \times N = .72U72U$$

$$“ \times 7 = .8U72U7$$

$$“ \times 8 = .95C95C$$

$$“ \times 9 = .S72U723$$

$$“ \times S = .C95C95$$

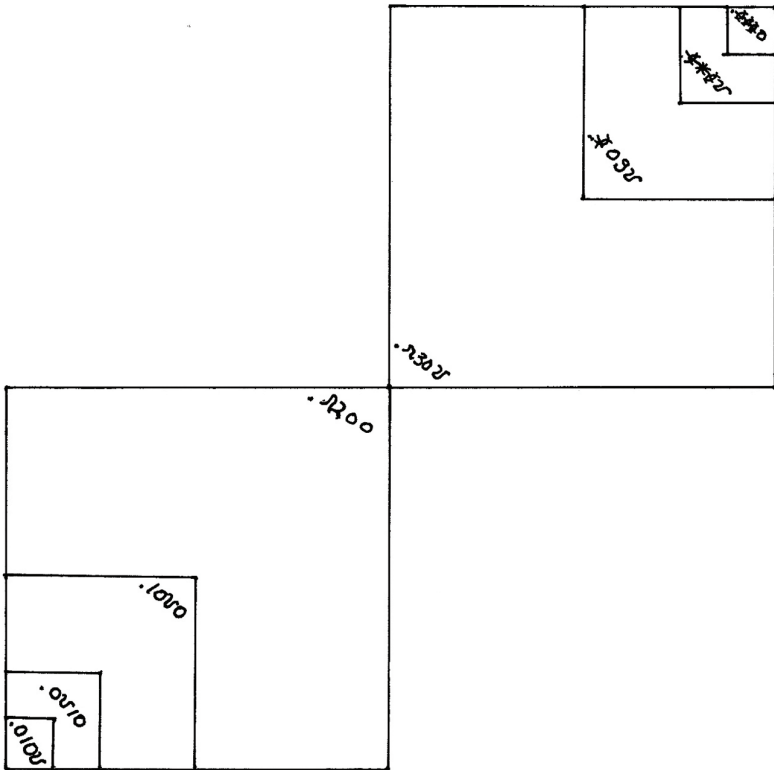
$$“ \times C = .XC95C9$$

$$“ \times X = .WWWWWW$$

$$“ \times W = 1.12U72U$$

MATRIX 4

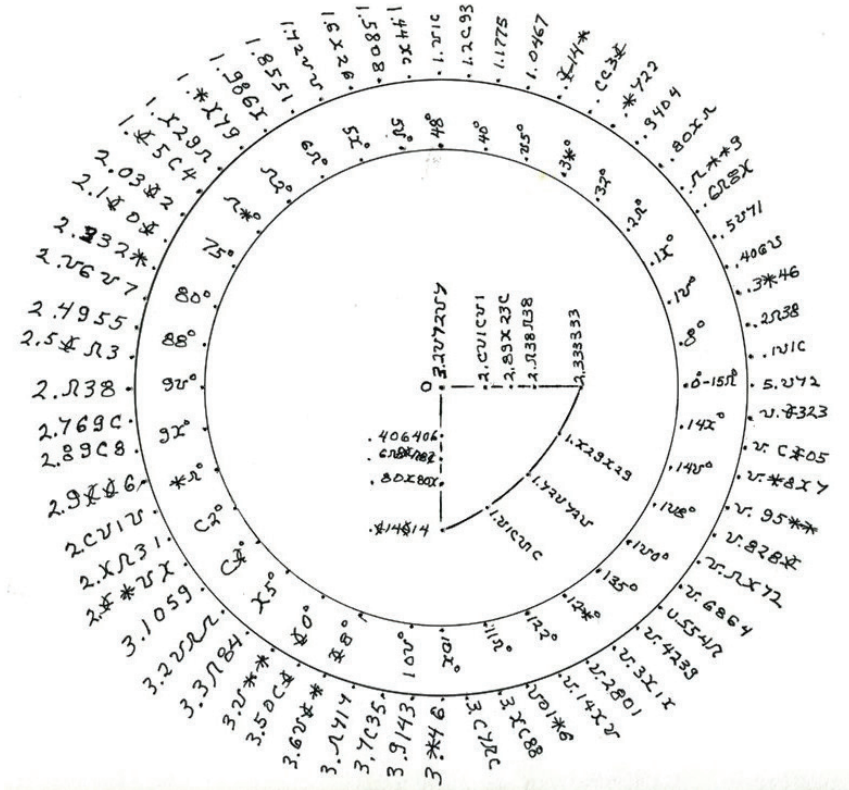
THE SUCCESSIVE SQUARE ROOTS OF NEGATIVE ONE



MATRIX 5

UN DEGREES & RADIANs

PI & RATIO NUMBERS OF RIGHT-ANGLE TRIANGLES



ATTRIBUTIONS AND RESERVATIONS

Helen Werner Cox, Figures 3, 5, and 12.

Brian Norberto Gonzalez, Figure 11 and the computer graphics models of the universe.

Catherine Diane Frost, author's photograph.

Steven Douglas Cox, graphics.

WikiCommons: Dispersive Prism

Illustration by Spigget, cover.

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Mind

Before and After

The Way of Righteousness

WILLIAM JOHN COX

The Gift of Mind: A Compendium. Number Four

Mind: Before & After The Way of Righteousness

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All images in the photo essay, save one, were filmed by Steven Douglas Cox.

Cover painting by Helen Werner Cox

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MINNIE IRENE OSWALT COX

AT AGE 19

1899-1946

For my Mother,
who has walked with me,
every step of the way.

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PROLOGUE

BEFORE *THE WAY OF RIGHTEOUSNESS* WAS WRITTEN

My mother went to the hospital for “female” surgery in January 1946, the month before my fifth birthday. On the day my father left to bring her home, he told my older sisters to clean the house, and they told me to take a nap. When my father returned, I could hear him through the closed door telling my sisters that our mother had died that morning. As I listened to their wails of grief, I began to search through my mind for the sense of what I was hearing. Living on a farm, I had seen death, but it was difficult to comprehend the *meaning* of the fact that my mother was *never* coming home.

I pretended to sleep for the remainder of the day and that night as I lay—alone—seeking answers to my questions. Self-awareness arose within me on that long and sad day, and, although I have now become old and wrinkled, that lost and lonely little boy named Billy Jack remains inside of me, looking out, thinking about the world and we who inhabit it, and telling stories.

My father took me—the youngest of his eight children—to his bed to sleep. He would often read dime western novels at night, and when I became bored with looking at the book covers, he taught me to read.

Cotton farming had been profitable during the war, and electricity had just been extended to the farm supplanting the kerosene lamps we used for lighting. Indoor plumbing was being installed, and our work horses were replaced with a gasoline tractor. Each day, I stood beside my father on the tractor axle clinging to the seat as he plowed the fields of our Texas Panhandle dry land farm, and I washed the red dirt off his feet each evening in a pan of water beside the bed.

My father told me to take a bath one evening, as the principal of our country school was coming to visit. As I lay in the bathtub, I fell asleep listening to them conspire in the next room to enroll me in the first grade that fall—using my father’s August birthday instead of my own. Even though I was a year younger than the other students in my class, I already knew how to read and quickly worked my way

through the school's small collection of books.

A lonely child, I read everything I could to escape the bleakness of rural life on the semiarid Great Staked Plains, including my father's secret Masonic texts. Following his death and that of my last remaining grandparent when I was ten, I withdrew even further into books and read the Bible several times—searching for a description of God and a purpose for my lonely existence.⁵⁰ I found comfort in our small Methodist Church, and I was baptized under the large painting of Jesus praying in the Garden of Gethsemane. I thought about becoming a minister.

Living with my married brothers and sisters, I turned away from the church toward the open road and became a habitual runaway. After stealing my brother-in-law's car and heading for the hill country of Central Texas, I was arrested and declared a ward of the court. Following military school—where I was sent as a condition of probation—I joined the Navy when I was seventeen to see the world. Instead, I served out my enlistment as a medical corpsman at the San Diego Naval Hospital.

I was married, fathered three children, became a police officer, completed community college, and ended my marriage amid a deep emotional depression. My career in the police profession continued as I transferred to the Los Angeles Police Department. Needing a birth certificate for the first time, I discovered my name had never been filled in. I named myself William John.

I attended law school while I wrote the policies and philosophy of the LAPD and the role of the police in America for President Nixon's National Advisory Commission on Criminal Justice Standards and Goals. Following a year in Washington, DC working for the Justice Department implementing national criminal justice standards, I returned to Los Angeles to serve as a Deputy District Attorney.

50 I became the reader in me, who has read thousands of books, but who cannot write. Instead, the reader tells stories about what I see and read. I also became the writer in me, who cannot read, but who listens to the stories told by the reader. Using a very basic vocabulary and limited writing skills, the writer outlines the story told by the reader. The writer prints the paper, and the reader, seeing it all as new, and using a much more expansive reader's vocabulary, adds detail, commentary, and corrections to the outline, which the writer then enters and prints as another revision. The reader reads and corrects the paper, which the writer revises, for as many times as it takes for the two to agree, or for the editor in me, to stop typing, and hit the save button.

Living at the beach for several years and enjoying all the freedoms offered by the Seventies, I spent a long, lazy summer considering the direction of my life. As I reflected on everything I had read in the Bible and compared it to what I had learned about life, I regained a belief in the historical Jesus and his essential message—which I had earlier lost.

At about this same time, I began to reread the journals I had kept over the years and realized I had not always been honest with myself. I resolved to discard the evasions and to retain the truth—much of which had been written as poetry. I published the remnants in *A Message of Mind: Hello, We Speak the Truth*, which was my earliest attempt to examine and express the consciousness I experience within my own mind. It is divided into three parts, When, Now, and Then:

To be what you thought,
And I wished I was,
Would be to be,
What I'm not,
Because,
I am what I am,
And not what I'm not,
But,
That's no reason
I can't be what I want.
For,
Not is now,
And then is when,
I will myself change,
Now and then,
Not to be what I'm not,
But to be what I want.

Prologue

Differentiating between a belief in an historical Jesus, who was loving and forgiving, and the existence of an all-powerful, judgmental God, the book also included this little poem:

I dreamed of a God in the sky
One night.
He was a schoolboy who had
Erected an experiment
We call the universe
On his bedroom desk.
He was occasionally chastised
By his father
For failing to better care for that
He'd created.
But, most of the time
He neither noticed
Nor remembered.
I awoke from my dream
And found
That I could never again
Believe in a
God in the sky.

In writing about Jesus in *A Message of Mind*, I made what I later concluded to be the one error I would have avoided had I greater knowledge at the time. I said, "If only Jesus had learned to write, there wouldn't have been others to confuse his might." I am now convinced that Jesus could not only write, but that he was probably literate in multiple languages.

I considered returning to school to become a minister, but upon further reflection, I was moved to use my professional legal training to act as a lawyer for Jesus. Uncomfortable with a new assignment of having to prosecute juveniles accused of crimes, I made the

decision to open a public-interest law practice primarily devoted to the representation of young people and other social, legal, and political matters.

Acting on one such issue, the Christmas holidays of 1979 found me in a small West Jerusalem hotel, where I had a prophetic dream about the children of the Holocaust. I awoke, dressed, and walked in the predawn hours into the Jaffa Gate, along the narrow cobblestone streets of the old city, and out the eastern gate into the Kidron Valley. I walked to where Jesus had spent his last night praying in the Garden of Gethsemane and climbed up the Mount of Olives. There, I sat on a large stone as the sun rose over the hill behind me to shine down on the ancient walled city.

As the sunlight was reflected from the roofs of the synagogues, churches, and mosques in Jerusalem, this powerful thought occurred to me: Just as the same sun shines on all of the roofs, those within all worship the same God, and there are no footnotes, asterisks, or exceptions to the Ten Commandments. (See Photo #1)

I did not immediately understand all my experiences in Jerusalem, but the following year my dream became clear when I undertook legal representation of a child of the Holocaust—Mel Mermelstein, a Jewish survivor of Auschwitz. Having committed myself to defending the interests of Jesus—I did not feel I had a choice when given the task of prosecuting those who denied the murder of so many of his family’s children, trashed their memory, and harmed survivors by forcing them to relive their terror.

I filed a civil lawsuit against those who denied that the Nazi genocide of European Jewry ever took place, and I spent the next year exposing the dark side of America’s radical rightwing politics. The lead defendant was the powerful figure described by the *New York Times* as “a reclusive behind-the-scenes wizard of the far-right fringe of American politics who used lobbying and publishing to denigrate Jews and other minorities.”

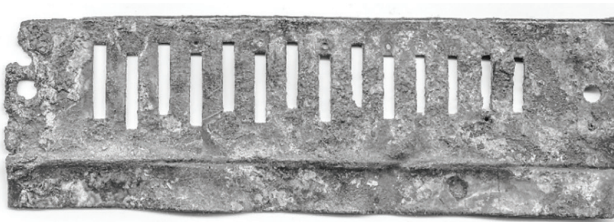
The case was resolved favorably in October 1981, when the judge took judicial notice of the fact that “Jews were gassed to death at Auschwitz concentration camp in the summer of 1944.” The decision was widely reported, and the case became the subject of the motion picture, *Never Forget*.

Prologue

Shortly after the verdict, I returned to Israel to investigate some unresolved issues. While there, I was invited to share morning tea with Prime Minister Menachem Begin, who vowed that “never again would Jews be led like sheep to the slaughter.”

In comprehending the mindboggling deaths of as many as 80 million people during World War II, the suffering of the little children sometimes gets lost in the magnitude of the horror. In a letter, I attempted to explain why I had undertaken the Holocaust Case; it concluded:

Recently, I was out at Mel’s and he had just received several boxes of artifacts from Auschwitz. As we stood together and looked at the pile of rusty and melted scissors, spoons and forks, and other items taken from the victims and later burned, I saw a small rectangular flat piece of metal which I asked for and he gave me as a gift. It is the musical note bar of a harmonica. The rest of the instrument has been burned away and we will never know whose lips were upon it or the songs it played, but I will forever choose to hear in my mind the happy sounds of singing children, too innocent for such death, rather than the screams of their final agony.



During a trip associated with my prosecution of the Holocaust Case, I visited a bookstore on Fifth Avenue in New York City and purchased a copy of *The Gnostic Gospels* by Elaine Pagels. Dr. Pagels was a member of the team of biblical scholars that produced the English translation of the Nag Hammadi Codices (Gnostic Gospels). I read her book during my late-night flight back to Los Angeles and

was excited by the discovery of books about the ministry of Jesus I had been unaware of.

Reading whatever I could find on the subject in bookstores and public libraries, I began to search for other historical information about the ministry of Jesus. *The Messianic Legacy*, by a team of popular writers, mentioned Dr. Robert Eisenman, the Director of the Institute for the Study of Judeo-Christian Origins at the California State University in Long Beach near my home. A scholar of Middle East religions, Dr. Eisenman proposed some interesting, alternative views about the origins of Christianity based upon his study of the Dead Sea Scrolls.

I telephoned Dr. Eisenman and he agreed to meet. It turned out he was aware of my *pro bono* work on The Holocaust Case and asked if I might be interested in a legal matter concerning the Dead Sea Scrolls. He told a remarkable story.

The major scrolls recovered from the first cave at the Dead Sea were quickly published shortly after their discovery in November 1946, but thousands of scroll fragments subsequently discovered had never been published. These were primarily sifted from a thick layer of dust on the floor of Cave Four (that had served as a major library) and were the remains of more than 900 books. Considered by many scholars to be the greatest manuscript find of all times, the suppression of these documents was called “the academic scandal of the twentieth century” by Dr. Géza Vermes.

I was as intrigued by the Dead Sea Scrolls—as I had been about the Gnostic Gospels—and by how these newly discovered ancient documents could help answer questions concerning the true mission of Jesus. I resolved to do everything I could to bring the remaining scrolls to publication and set about to learn all I could about them.

The unpublished fragmentary scrolls were primarily purchased with funds provided by the Jordanian government and were stored at the Rockefeller Museum in East Jerusalem. They had come under the control of Catholic Dominican priests associated with the École Biblique et Archeologique Francaise de Jérusalem—established in 1890 under the Pontifical Biblical Commission to defend the Catholic faith against the threat posed by developments in historical and archaeological research. The head of the Commission was Cardinal

Joseph Ratzinger (later Pope Benedict), who was also the head of the Congregation for the Doctrine of the Faith—previously known as the Holy Inquisition. Members of the École Biblique operated under the injunction that “At all times the interpreter must cherish a spirit of ready obedience to the Church’s teaching authority.”

Following the Six Day War in 1967 and the conquest of East Jerusalem (where the Rockefeller Museum is located) by the Israelis, *de facto* ownership of the scroll fragments was claimed by the State of Israel, but the Catholic priests of the École Biblique continued to maintain day-to-day control.

By 1991, the unpublished scroll fragments had remained unavailable to biblical scholars for almost 50 years. As I researched a legal basis for a lawsuit to compel their publication, it was apparent the potential defendants were very powerful—the Vatican, the Israeli government, and the Rockefeller Foundation.

Photographic negatives of the scroll fragments had been deposited for safe keeping at the Hebrew Union College in Cincinnati and the Oxford Centre for Postgraduate Hebrew Studies in England. These photographs were sequestered, and access was denied to scholars. With funds provided by Mrs. Elizabeth Hay Bechtel and a grant from the National Endowment for the Humanities, noted manuscript photographer Robert Schlosser of the Huntington Library in San Marino, California was commissioned and authorized to photograph the scroll fragments in Jerusalem. Upon completion, the new set of almost 1,800 photographs was lodged at the Huntington Library; however, they too were embargoed.

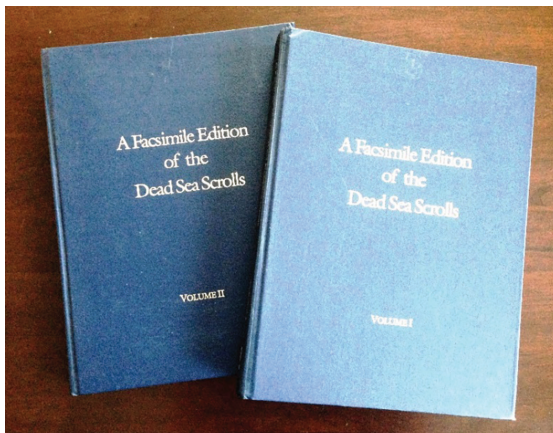
Dr. Eisenman had been active in seeking the release of the suppressed photographs, and he and Dr. James M. Robinson, Chair of the Religion Faculty, Claremont Graduate School, had attempted to publish an unauthorized microfiche set of the Huntington photographs in April 1991 by the scholarly publisher, E.J. Brill in Leiden, the Netherlands. The publisher, however, apparently alarmed about legal threats made by representatives of the Israeli government, cancelled the agreement.

These were the facts I considered as I sought a solution to the problem. There were photographic copies of the suppressed scrolls; however, people were too afraid of litigation to publish them.

One day, as I was driving along the ocean on my way to visit my granddaughter in San Diego, I imagined a way to resolve the dilemma. Under still secret circumstances, I arranged to obtain legal possession of a set of the Huntington Library photographs. Then, acting on behalf of an undisclosed client—whose identity I have never revealed—I signed a contract with the Biblical Archaeology Society (BAS) to publish the images. Under the agreement, Professors Robinson and Eisenman—neither of whom was my client—prepared an index of the photographs and wrote an introduction.

Prior to publication, it was learned that Hershel Shanks, the president of BAS, intended to include a Publisher's Foreword documenting his publicity campaign to "Free the Scrolls." He also planned to attach a 120-line Hebrew-language transcription of a scroll fragment known as 4QMMT, which had been worked on by Elisha Qimron, an Israeli professor. An earlier attempt by a Polish scholar to distribute the same transcription was blocked by the Israel Antiquities Authority under a threat of litigation. It was that risk which had caused Brill to cancel the microfiche edition. Believing that the Foreword was too journalistic for the academic purpose of the proposed book, Robinson, Eisenman, and I objected to its publication; however, Shanks, as the publisher, had the last word, and his Foreword was included.

A Facsimile Edition of the Dead Sea Scrolls in two folio-sized volumes was published in November of 1991. With that publication and the contemporary access to the photographic archive granted by the Huntington Library, the monopoly over the scrolls was broken, and biblical scholars around the world could finally study them.



Prologue

Alleging that the publication of 4QMMT by Hershel Shanks had caused him a loss of earnings and mental distress, Professor Qimron filed a lawsuit in the Israeli courts in 1992 against the Biblical Archaeology Society and Shanks. As editors, Robinson and Eisenman were also named as defendants. The trial was held in the first week of February 1993 in the District Court of Jerusalem. Attorney Amos Hausner—the son of Gideon Hausner, the prosecutor of Adolph Eichmann—represented Dr. Eisenman.

Amos Hausner wanted me to testify that Professors Eisenman and Robinson had both objected to inclusion of the Publisher's Foreword. Dr. Eisenman provided an airline ticket, and I traveled to Jerusalem and checked into the guest house at Christ Church within the Old City.

It was late in the evening on the final day of the trial, and I was the concluding witness in the case called on behalf of Professors Robinson and Eisenman. The last question to me on cross examination was the identity of my client. I declined to answer. Although I had been testifying in English, the judge and attorneys lapsed into Hebrew—as Professor Qimron's counsel urged the judge to compel me to answer, or to be imprisoned for contempt of court. I was relieved when Judge Dalia Dorner said that the hour was late, and she didn't believe the answer was all that relevant.

Inasmuch as I had just admitted, judicially, that I had contracted for the publication of the *Facsimile Edition*—and since I could be easily served as a defendant as long as I remained in Israel—we decided that it would be best if I caught the next airplane flight out of the country. As can be seen from the footnote, I later returned.⁵¹

Ultimately, Hershel Shanks and the BAS were forced to pay \$40,000 in damages, \$60,000 for court costs, plus Qimron's attorney fees.

51 There was a rare and beautiful snowstorm in Jerusalem during the trial, and I resolved to return someday to where I had stayed. On Valentine's Day, February 14, 2000, my wife, Helen and I were married in Christ Church across from the Citadel within the walls of the Old City. She is my best friend, my editor of last resort, the helpmate of my existence, and my spiritual companion in all that awaits us. There is no better place to think and write than in her garden. Helen, a truly gifted classical artist, says, "Those who can create do not destroy."

During the year following the trial—as a matter of personal interest—I researched and wrote a 1,000-page brief on the history of monotheism generally, and the ministry of Jesus specifically. My goal was to access and combine, in one file, the most up-to-date information provided by the Gnostic Gospels, Dead Sea Scrolls, and other ancient manuscripts, along with the latest discoveries in biblical archaeology, to ascertain the basic facts as best they could be determined at the time. I concluded that the Scrolls we published were probably the remains of the library where Jesus actually studied to prepare for his ministry.

The title of the brief, *Mary: Mother of Israel's Messiahs*, was based on an expectation of three different messiahs by the group known as the Way of Righteousness. The conclusion was that Jesus was most likely the Suffering Son of Man Messiah, his brother, James the Just, had been the Priestly Messiah, and his twin brother Judas Thomas—who established a spiritual dynasty of the Way in the Middle East—was the Davidic Leader Messiah. In addition to the roles played by Jesus and his brothers, the brief explored the Gnostic ministry of Mary Magdalene, in identifying her presentation of the Spirit of Wisdom as the true Holy Spirit.

Intriguing as these findings were, I had to get on with my life, so I printed out the brief and placed it on a bookshelf in my study, where it gathered dust.

A number of books about the Gnostic Gospels, the Dead Sea Scrolls, and new discoveries in biblical archaeology have been written in the 26 years that have now passed, and I have followed these developments with great interest, searching always for the most logical interpretation of the documentary and archaeological evidence.

Historian Neil Asher Silberman published *The Hidden Scrolls: Christianity, Judaism, and the War for the Dead Sea Scrolls* in 1994. In his book, Silberman detailed our efforts to publish the suppressed scrolls and presented a well-balanced interpretation of the community believed to have written the scrolls. In 1996, Dr. Eisenman published *James the Brother of Jesus: The Key to Unlocking the Secrets of Early Christianity and the Dead Sea Scrolls* to both public acclaim and the professional derision of orthodox biblical scholars—whose fundamentalist views he challenged.

Prologue

Following near death from full body sepsis several years ago, I resolved to bring to publication my writings about the various matters that have occupied my thinking over the years. My memoir, *The Holocaust Case: Defeat of Denial* came out in July 2015, and later that year, I published *The Book of Mindkind* and four other philosophical and political policy books.

In February 2016, I decided to condense my original research manuscript into a book that tells—as accurately and simply as possible—the true story about the original Way of Righteousness and how it inspired Christianity, Rabbinic Judaism, and Islam.

The Way of Righteousness is divided into these parts:

- The Origin of the Way is an essential background about the land of Palestine-Israel, its people, their religion, and the books they produced.
- The Growth of the Way reviews the historical narrative commencing two hundred years before the life of Jesus and examines the social, political, and religious conditions of Palestine-Israel in the period preceding the birth and ministry of Jesus.
- Perfecting the Way examines the essence of Jesus's mission, particularly its Gnostic and Eastern elements, and presents the Gospel of Yeshua.
- The Remnant of the Way documents the aftermath of Jesus's execution and the leadership of the Way by his brothers, James the Just, Simeon, and Joseph.
- The Parting of the Way summarizes the evolution of Jesus's mission into the Gnostic ministry of Mary Magdalene, the Roman Christian church established by Paul, and the creation of Rabbinic Judaism.
- The Righteous Way of Islam examines the origin of Islam and its relationship to the mission of Jesus's twin brother, Judas Thomas, to the East.

- The Reconciliation of the Way reviews what has gone awry during the past 2,000 years—as these interrelated religions have become increasingly fundamentalist and have sought to destroy and eliminate each other. The last chapter identifies the commonality of these religions and searches for the true nature of their shared God, in order to reconcile their beliefs and to reunite their believers.
- The Way Forward describes how the young people of the world can save their future.
- Following the Epilogue are the Summations. These three papers were written after the Epilogue was completed: A True Story About an Amazing Family; A Petition to the United Nations General Assembly, on behalf of the Children of Palestine and Israel; and The Nature of an Abiding Mind.

The Way organizes about 200 brief papers and stories, the titles of which were devised to be read as a summary of the book in the Table of Contents. The Prologue and the Epilogue tell the story about the author, and how *The Way* came to be told.

Now, almost 40 years after first watching the morning sun rise over the Mount of Olives and shine down upon the ancient walled city of Jerusalem, I believe I finally understand the thought that occurred to me as I looked at the rooftops. All those who worship therein believe in the same God, and, upon careful reflection, they should not expect justification for hating, oppressing, or harming others for having a different interpretation of their common belief.

Irrespective of the strength of our own faith, none of us can possibly know for certain whether our own religious belief is valid, until after the light of our physical existence has been extinguished and we can finally see for ourselves if the expectations of our faith are realized.

In all I have done ever since that long summer at the beach during which I resolved to use my legal training to act as Jesus would want me to, including this present work, I have striven to analyze and

present the facts I uncovered to the best of my abilities and as fairly as possible. Much like a legal brief, I have tried to let the quoted texts and other evidence speak for themselves, and I have limited my own observations.

It has been a remarkable and interesting journey along the Way, and what is most amazing is what is yet to come. If it could be that I am granted twenty more years in which to live my life to its fullest, then I shall depart from here just before my century expires—well satisfied with the experience, and filled with the love and joy of those with whom I have shared my time in life.

You are one of the 7.5 billion people living in the world today, and *The Way of Righteousness* was written for you—for each one of you. It may not be lengthy enough or include adequate arguments to convince those who are unable to reconsider their religious convictions, but it may give the fair-minded faithful some pause for reflection. *The Way* should have a greater appeal for those—of every faith, or none—who have a genuine curiosity about the past and a thirst for knowledge. The truth is always far more interesting than fiction, no matter how well written or based on the best lies ever told. What one believes, even most earnestly, must always be subject to the test of reality, else the way forward is obstructed by the lies and distortions of the past and present.

The Way was primarily written for Jews, Christians, and Muslims, to help each better understand their own religion and that of the others who seem to be competing—like insecure siblings—for the attention and favor of their common progenitor God. The most rigorous fundamentalists in each of these faiths may reject out of hand, and refuse to read, anything said here that threatens their deeply held beliefs and convictions about God, the origin of the universe, and life here on Earth. Others, however, may find comfort in an understanding of the theological foundation of the religions they practice—that is not in contradiction to the knowledge and science that illuminates the reality of the world we all live in today.

A belief in a caring and nurturing collective consciousness has occupied the thinkers in each of these religions, as they too contemplated the books and science of their times and imagined a spiritual and comforting God of mind. They referred to it by

many names in their efforts to describe a peace that comes from an acceptance of reality—no matter how torturous and threatening the times might be—to find the freedom of mind and time to think about how it might be, in an alternative future of peace, harmony, justice, and joy.

An Abiding Mind—an understanding of which is a goal of all who seek self-awareness in life—provides an ethical basis by which to live our daily lives. It encourages us to work for a future in which our children soar through the stars, instead of dying out, with most of other life on Earth, in a great extinction. As a practical matter, this ethical standard can be experienced by simply living a peaceful life of tolerant righteousness—the essence of the Way.

It is not the intent of this book to attack or diminish any religion or practice—it is offered solely to help the believers of every religion to better understand and appreciate their own faith, and to respect that of others. There is value in having a spiritual life in the understanding and acceptance of the perils of life, but there is no justification in denying the essential right of others to practice their own faith in a different manner.

At the core of all religions is the quest for peace and justice to ensure the wellbeing and survival of our children. No other logical or spiritual lesson can be derived—if we look at the essence of our religions, rather than at the exceptions that have been created to justify the horrible crimes, violence, and wars committed and justified for the sake of their God, however defined.

The value in spiritualism is that it helps us to cope with that we seek to comprehend but have not yet the means or knowledge to see and understand. At that point, our faith takes over and helps us to imagine what and who most *reasonably* awaits us over the horizon *and* through the unseen adjoining dimensions that exist side-by-side with, and within us. On a more personal level, a spiritual belief allows us to imagine what, if anything, remains, when we reach the end of our physical lives and discover for ourselves what lies beyond the grave. A sense of spiritualism also helps us to accept our inability to comprehend the unimaginable power of an Abiding Mind—that has been continually learning, expanding, and creating since before time and eternity were first imagined by mind.

Prologue

Our children are our fount of knowledge—for it is the children, always, everywhere, who learn new things we did not know. The fruit of wisdom is creativity, and its harvest is an Abiding Mind—which is the guide of our consciousness. Gnostics refer to the inner voice as the Spirit of Wisdom, which came to be known in Pauline Christianity as the Holy Spirit.

Especially for young people who are coming of age in this new millennium, *The Way* provides a vision with which to view our accelerating and ever-expanding universe of light, and to see beyond its boundaries, in the endless energy of eternity. Never in human history has there ever been a generation so challenged, as the one being born today, and the millennials, who are now coming of age to confront the realities of this time of common peril. These generations will either lead our society outward to the stars, or else the children of these generations will be among the last to die in the flames of war and atmospheric warming.

It is into the capable hands and intelligent minds of these generations that we are now placing the most terrible weapons of war—which have the power to instantly and totally destroy the vast and wonderful store of human creativity accumulated over tens of thousands of years—or we can empower our young people to travel through the stars searching for warm water planets with large yellow moons to churn their oceans—the cradles of Mindkind and the Way of Righteousness, watched over by an Abiding Mind, speaking as the Spirit of Wisdom.

There are few tomorrows left remaining for this choice to be made. Evolution or Extinction? The moment is upon us.

Before *The Way of Righteousness* Was Written

*Abiding Mind,
Surveyor of the Universe,
Timekeeper of Eternity,
Curator of Creativity,
Witness our Works,
Hear our Thoughts,
and
Illuminate our Way
to Knowledge, Wisdom, Justice, Peace, and Joy.*

EPILOGUE

AFTER *THE WAY OF RIGHTEOUSNESS* WAS WRITTEN

I completed a final draft of *The Way of Righteousness* to this point on September 2, 2017, having done all I could to document the true history of The Way. It was my best effort to analyze and present the evidence, and to argue the concluding concept of a comforting Abiding Mind as a rational expression of the judgmental, creator God many people no longer believe in, and far too many fear.

The philosophical purpose of my effort was to reconcile the three major Abrahamic religions with the reality of their shared history, as revealed by the miraculous discovery 75 years ago of books hidden 2,000 years ago, subsequent archeological findings, and a common recognition of the image of God as the collective consciousness and creations of an Abiding Mind.

I set aside the draft manuscript of *The Way*, but I used it as an intellectual springboard to bounce beyond its concept of a spiritual, metaphysical, or philosophical definition of God as an Abiding Mind, to a realistic consideration of an Abiding Mind as a proposition of scientific reality.

I spent the next week, or so, thinking about the actual mechanics of such a quantum physical mind, the expanding universe of light we inhabit, and the medium within which it exists. I wrote up a little paper that looked beyond the spiritual and philosophical aspects of *The Way of Righteousness* to an examination of mind that exists within the encompassing negative space, and its role in creating the positive reality of our universe of light.

A YEAR OF POLITICAL INSANITY

Reality intruded, and I could no longer ignore the mindboggling political carnival, and its gaggle of amoral hucksters, peddled to

Epilogue

the American People in the 2016 election sideshow. I laid aside the manuscripts of *The Way* and the paper on *Mind* on my credenza, and I reluctantly turned my attention, once again, to the political madhouse in Washington, DC.

Over the last decade since retirement, I had refined my political thinking from a generalized concept of a peaceful political evolution to drafting a specific and comprehensive Voters' Bill of Rights, as a constitutional amendment to *remedy all the issues that are destroying the faith of most Americans in their representative government*. The Voters' Bill of Rights serves as a focal point for creative strategies, across the political spectrum—people working together in a peaceful transformation of the United States government into one that is more caring and respectful of those who elect it.

We established a California nonprofit corporation (USVRA.us) to educate the public about the United States Voters' Rights Amendment. To provide an essential background and explanation of the amendment, I wrote, and the corporation published, *Transforming America: A Voters' Bill of Rights*.

To explore whether the essential principle of the USVRA—allowing people to make their own political policy—could be adopted by voters in other countries, I wrote and published *An Essential History of China: Why it Matters to Americans*.

Attempting to present a comprehensive set of political policies in an easier-to-read format, I wrote and published *Sam: A Political Philosophy*. As a fact- and policy-based collection of practical policies narrated by fictional characters, *Sam* combines political heroism with an inspiring and poignant love story.

For the last five years, I have been working with students and professors in the political science departments of my local university and city college to establish an organizational framework of Youth for the Voters' Rights Amendment (Y4VRA), capable of being activated on every American campus.

I wake up early most mornings from productive dreams, and use these quiet hours to do my best thinking and writing, and, around daybreak, after Helen and I read the news on our mobile pads and plan our day, I usually go to the YMCA for exercise. There, some

years ago, I became friends with Mel Lindsey, a 93-year-old World War II veteran and retired pre-school educator. He was interested in what I was working on, and I would often share with him what I had just written that morning. He read all my published books and joined the USVRA.us board of directors.

Following the 2016 election of Donald Trump and a stalemated Congress, Mel felt that he had been abandoned, and that his government no longer represented him. *And*, he wanted to do something about it. I helped him write a First Amendment Petition for Redress of Grievances and his sworn declaration, to which he attached a bound copy of *Transforming America*, as an exhibit.

Helped by Y4VRA volunteers, Mel prepared hundreds of mailing envelopes addressed to his local city council members, his state representatives, governor, to every member of Congress, every member of the Presidential Cabinet, every member of the Supreme Court, and to the President and Vice President.

The mass mailing at the Postal Annex was videotaped, and Mel appeared in several Facebook ads explaining his actions. Additional Y4VRA ads followed, with videos of young people saying what they want and expect from their government, and starring their proud mascot, Trusty Rusty, the Ranger Dog⁵².



52 Rusty's my best buddy. He's 46 pounds of lean muscle—a Giant Rat Terrier hunting dog, of the lineage bred with the African Basenji village dog. He has a mind of his own, and he has something to say if something doesn't seem right.

THE INTERNET AND SOCIAL MEDIA

A friend introduced me by email to a young international *and* all-UK champion web site designer in Wales, England. We first collaborated on creating a fully coded site for the Youth for the Voters' Rights Amendment at Y4VRA.org. Starting with a photographic slide show of young protestors, the pages scroll down through short chapters and videos, on all mobile devices.

Facing the “Bad News” of “Living under a cruel and corrupt government in a declining economy and polluted environment,” Y4VRA provides a voice for young people to assert their fundamental Rights of Liberty, and to reserve their Consent to be Governed. Its purpose is to provide information and an easy way for everyone to immediately cast an electronic vote, yes or no, on their Voters' Bill of Rights, in order to make a real difference in the 2020 election.

Once Y4VRA.org was up and running, we replicated it at USVRA.us, refocusing on the leadership role of strong women in managing the Voter's Bill of Rights campaign, as it is organized by the young people of America. The USVRA incorporates the Equal Rights for Women Amendment (ERA), and it ensures the complete equality of all women in all aspects of all political decision making.

I photographed and videotaped the Los Angeles Women's March in 2018 and 2019. We used these images of women—particularly mothers and their daughters—in a series of Facebook ads for both USVRA.us and Y4VRA.org. To honor and support Greta Thunberg and the millions of striking students around the world, I also attended and photographed the Climate Strike in my hometown, down by the Long Beach-San Pedro Harbor.

We republished WilliamJohnCox.com as a digital autobiography. The website is a comprehensive collection of all my creative work, including books, articles, videos, models, and commentary. Almost all my published books are in print and are commercially available in paperback, but digital copies of most can be downloaded for free in the Lending Library, and my films and videos can be viewed in the Video Library.

In 2015, I published *The Book of Mindkind: A Philosophy for the New Millennium*. Last year, we launched Facebook ads for the book on

the Internet, and we created an entirely new coded site at Mindkind.info depicting the book and its message coming out of a background of music and stars.

Finally, TheVote.io site was coded to serve as a digital ballot box for an ongoing electronic poll on the Voters' Bill of Rights by the American People, as *We Declare Our Rights of Liberty, and Reserve Our Consent to be Governed*. The vote will close at midnight on Election Day, November 3, 2020, at the dateline of the last U.S. territory in the Western Pacific Ocean.

As a result of Mel Lindsey's mass petition to his government, one congressman returned the book saying he didn't accept gifts, and the Secretary of Education's office sent a letter acknowledging receipt. That's it!

DEFINING THE RIGHTS OF LIBERTY AND RESERVATION OF CONSENT TO BE GOVERNED

I then drafted my own pleading to the U.S. Supreme Court in the form of a Petition for Writ of Mandate. In it, I declared the personal Ninth and Tenth Amendment Rights of Liberty of Americans as a defense against our government, that has become corrupt, ineffective, unrepresentative, and threatening. I reserved my consent to be governed, as a censure of the entire existing government, until the American People can vote on their Bill of Rights for all voters.⁵³

I wrote and printed the legal petition, flew to Washington DC, and on February 28, 2018, I personally delivered a box containing the required number of bound copies to the U. S. Supreme Court. My petition was rejected by the Clerk for defects in form. I corrected the errors to the approval of the Clerk; however, at the direction of the Chief Justice, the Clerk refused to accept a filing from any individual on a matter of original jurisdiction. This, without any consideration of my argument to the contrary, as a reserved and essential right of liberty.

⁵³ I will vote, but not for any candidate who does not support the Voters' Bill of Rights.

Epilogue

I then mailed personal letters to the justices, serving each of them with a copy of the pleading as a First Amendment Petition for Redress of Grievances. There was no response.

By this time, a year had passed since I laid aside *The Way* manuscript to reengage in the insanity of politics. In September 2018, I became depressed about the absolute lack of result from everything we had done over the past year. Exhausted, I spent a month, doing nothing but reading junk books, watching Netflix documentaries and docudramas, and eating ice cream.

PUBLISHING *MIND & ITS LANGUAGES OF REASON*

Having sufficiently indulged my depression, and becoming bored, I sought the diversion of a project to occupy my mind, and to lift my depression. I picked up and reread the little five-page paper on *Mind* that had laid dormant for a year. I imagined it would be interesting, and not too difficult, to expand the paper into a small book about mind, our universe, quantum physics, measuring, and counting, as a sequel to *The Book of Mindkind*.

I drafted a series of papers about our universe of light, the Abiding Mind that contemplates it, and its languages of quantum physics, measuring, and counting. I organized and circulated a collection of the papers by email to the faculty and graduate students in the physics, mathematics, and computer science departments at the top 25 technical universities in the world. Profiting from the limited response, I completed a final draft and published *Mind & Its Languages of Reason* in print and digital formats on May 1, 2019.

Images of the Libraries and Graves of Jesus and His Family, and the Ruins of Empire

With the better understanding provided by working through the papers on *Mind*, I was able to go back to work on *The Way*—which lacked only an Epilogue and original photographs to prepare the manuscript for publication.

To complete the book, and to enjoy an adventure, my son, Steven, a photographer and graphic artist, and I planned our trip. We flew to Israel during the first weeks of June 2019 and photographed selected locations for a photo essay and maps to illustrate the book.

With official permission, we photographed at Caesarea, the ancient caves at Mount Carmel, the Megiddo Tel, the Zion cornerstone of the Temple Mount, the Citadels of Jerusalem, the walls of Jericho, the Jordan River, the caves, ruins, and cemeteries at Qumran, and Masada, where the Zealots who followed the Way of Righteousness made their last stand against the Roman army.

We were able to capture the moment of sunrise over Jerusalem from the top of the Mount of Olives. We got good images at all sites, and we returned home safely.

Having flown home through eleven time zones, I remained on Jerusalem time for several weeks. Arising very early, I wrote this Epilogue and worked on its Photo Essay with Steve, as he also completed the maps and charts.

The following 15 images are a survey of the stones left standing from almost 2,000 years ago, serving as mute monuments to Empire gone mad. Imagine the Roman destruction of Jerusalem, down to Herod's Citadels, and how the Romans relaxed from the battles at the Caesarea arena, enjoying the Herodian slaughter of the Zealot children of the Way of Righteousness. Bear witness to the murders of the sons of Mary: Simeon and Joseph—the Priests of the Sons of Zadok and the Order of Melchizedek, and Jesus, Judas, and James—the triple Messiahs of the Way of Righteousness.

Epilogue



Photo # 1 —As it rises over the Mount of Olives, the same sun shines upon the roofs of the synagogues, churches, and mosques of Jerusalem, where Abraham covenanted to follow the Way of Righteousness.



Photo # 2 — The caves on the west face of Mount Carmel have provided shelter to migrants out of Africa to Asia along the narrow, fertile plain by the Sea for millions of years.

After The Way of Righteousness Was Written



Photo # 3 — The walls around the Spring of Jericho may be the most ancient on Earth.



Photo # 4 — The elaborate defensive gate at Tel Megiddo (Armageddon) was built by the Northern Kingdom of Israel at several of their cities at the height of their power.

Epilogue



Photo # 5 — The water tunnel cut through rock under Tel Megiddo tapped into a hidden underground spring outside the walls, funneling the water back into a deep cistern within the walls.



Photo # 6 — The Isaiah Scroll (in the Shrine of the Book in Jerusalem) was recovered from Cave One at Qumran.

After *The Way of Righteousness* Was Written



Photo # 7 — Cave Four high on the cliffs of Qumran was carved out of the limestone to preserve the thousand-book library of the Osim, where Jesus and his brothers studied, 2,000 years ago.



Photo # 8 — The Ruins of Qumran, the desert refuge of the Osim (Doers of the Law), who lived the Way of Righteousness.

Epilogue



Photo # 9 — The Southwest, Mount Zion corner of the Temple Mount, with its massive foundation stones and archway where Jesus may have paused for a moment before going forth to cleanse the Temple, and where his brother James the Just was stoned to death three decades later.



Photo # 10 — The traditional site on the Jordan River where Jesus was baptized by John the Baptist, and across which Simon bar Cleopas led the escape of the Way of Righteousness from the Roman Army.

After The Way of Righteousness Was Written



Photo # 11 — Overlooking the Dead Sea, the cemeteries of the Osim at Qumran are the most likely burial site of Jesus, his priestly brothers James the Just and Simeon bar Cleopas, their mother, Mary, their father, Cleopas, and their sister, Salome, and others who walked with them on the Way of Righteousness.



Photo # 12 — The Amphitheater at Caesarea by the Sea, where the Romans and Herodians tossed the Zealot children of the Way of Righteousness to wild animals, following the stoning of James the Just, and the destruction of Jerusalem.

Epilogue



Photo # 13 — The Twin Citadels of Herod's Palace in Jerusalem are the only structures the Romans left standing in Jerusalem. They remain by the Jaffa Gate in the Old City, across the street from Christ Church.



Photo # 14 — Titus's Arch of Triumph in Rome celebrated the destruction of Judea, the leveling of Jerusalem, and the enslavement of the young zealots and those who followed the Way of Righteousness. *by author.



Photo # 15 — Archeological diggings in the floor of the Zealot's assembly room at Masada revealed a cache of documents related to the Way of Righteousness at Qumran. The books were buried by the Zealots before their mass suicide, having held off the Roman army for four years after its destruction of Jerusalem.

THE LIBRARY AND GRAVE OF JESUS

Lingering on these images, we can go back in time, thousands of years, to when the stories of *The Way of Righteousness* were being played out.

We can visualize the Osim library carved out of the stone cliffs as Cave Four at Qumran, large enough for shelves to hold a thousand books, and where Jesus and his brothers, James and Simeon studied to be priests of the Way of Righteousness, 2,000 years ago. Can we imagine the lively debates of these inquisitive boys and the languages they spoke?

We can gaze across the ruins of the ancient desert refuge of the Osim, those who were Doers of the Law. Beyond, we can see the simple, unmarked graves in the cemetery, high above the shore of the Dead Sea. This is where the bodily remains of the followers of the Way of Righteousness were laid to rest under piles of stones, as their minds and souls were freed for all of eternity—not only as spirits among the weathering stones, but everywhere they are remembered.

It is here, if anywhere on Earth, the bodies of Mary and her sons, Jesus, James, and Simeon may rest, alongside others who walked and lived the Way of Righteousness.

THE FORGOTTEN CHILDREN OF PALESTINE AND ISRAEL

After returning from Israel, I quickly completed the Epilogue and Photo Essay, and I awoke one morning and was able to quickly draft a summation of the historical essence of *The Way of Righteousness*, expressed as A True Story About an Amazing Family

A few days later, a similar need compelled me to write the overview paper on the Nature of An Abiding Mind and to focus on the grave and immediate climatic danger of global warming. The paper is a word bridge between the ending of *The Way* and the beginning of *Mind & Its Languages of Reason*, summarizing and connecting the theories of mind in the two books with the reality of our existence.

I was unable to write a satisfactory ending of *The Way* without resolving a final critical issue. As our passenger jet climbed and banked out of Israel, I carried with me, not on film or in our computers, but in my mind, a wretched image of inhumanity that later made me weep when I first read what I had written below about it. Somehow, before I'm done with *The Way*, I must do *something* to relieve the suffering I witnessed.

As Steve and I drove behind Israel's great concrete wall down into the wilderness valley of the occupied West Bank and the Jordan River, we witnessed the hopeless, desperate, and grinding poverty in and around the hills of Jericho. Any fair-minded comparison to the prosperity and affluence of nearby cosmopolitan Western Jerusalem, is necessarily devastating to the legitimacy of any government, and its leaders, responsible for the military occupation of Palestinian land in violation of international law, for more than half a century.

The sight of forgotten and angry children, with nothing to do, is seared on the retina of my mind, and I cannot ignore it or ever forget it. I am once again compelled to act, doing the only thing I am capable of doing: drafting a legal document seeking protection for these poor, legally forgotten, and defenseless children.

THE CHILDREN OF THE HOLOCAUST

Almost 40 years ago, I defended the honor and memory of the Jewish children who were gassed and burned in the Holocaust, in the courts against a gang of American neo-fascists who denied that the Nazis had operated gas chambers.

THE CHILDREN OF THE NAKBA

In memory of the Nakba,⁵⁴ I wrote a petition seeking constitutional protection of the universal Rights of Liberty of all children in the Ancient Land, including the Children of Palestine, whose blood lines run true to the Lands of Israel and Canaan.

With only stones to throw in defiance of the great concrete wall erected by the State of Israel, whole generations of desperate Palestinian children have lived and died, in abject poverty, without legal rights or remedy, justice or hope.

These Palestinian children not only suffer from humiliating hunger and poverty, surrounded with weapons of war and guarded behind walls and fences, but they are being bombed into submission by the war planes and technological might of a nuclear and cyber power, which has militarily occupied their ancestral homelands for more than 50 years.

With little to live for, and nothing to fear, Palestinian children have willingly charged the wire fences of Gaza, rolling burning tires, and daring to be shot down, or crippled, by Israeli snipers. In acts of fatal futility, these children offer up their lives and limbs in an ultimate submission to their Islamic faith in Allah, their God of Abraham.

The Way of Righteousness, the ancestral religion of the Ancient Land, is rooted—along with its progeny, Judaism, Christianity, and Islam—in the original covenant Abraham made with Melchizedek at Jerusalem, as Abraham sought entry into the Ancient Land of Canaan. As recorded in Genesis, Abraham pledged, to God, on behalf of his

⁵⁴ The expulsion and forced exile of half of the Palestinian population in the 1948 Palestinian War.

family, that they would peacefully live a life of righteousness, so long as they sojourned in the Land.

Thus, the question: “Is the present government of the State of Israel acting with righteousness toward the people it purports to govern, both the Children of Palestine, and the Children of Israel?”

THE STATE OF ISRAEL

Although declared to be in existence, and a member of the United Nations, for more than 70 years, the “State” of Israel has yet to create a written constitution defining the rights of the people it purports to legitimately govern. Nor, has the State obtained the consent of the people to be subject to the laws it promulgates. For its basic law, the justice courts of the State continue to rely on the English common and martial law, inherited by the State from the British Army in 1948.

THE COVENANTS OF A CHILDREN’S CONSTITUTION

The creation of a Children’s Constitution would embody Abraham’s essential Covenant of Peace and Righteousness in the Ancient Land, in a secular document enshrining these essential principles. The Covenant would include every person with a blood right to the Ancient Land, *and* every person, whose religious beliefs derive from the Covenant of Abraham.

The Children’s Constitution would include all Israeli citizens (more than 40 percent of whom are not religious), and all the people of Palestine. The legality and power of the Children’s Constitution would derive from the universal Rights of Liberty, possessed by every person, to live subject to a written constitution, whose power derives from a collective consent to be governed, which can be reserved, as a censure of unrepresentative government.

Irrespective of a person’s religion, a Children’s Constitution based on Abraham’s Covenant, would protect all of the children in Palestine and Israel, and it would engender a peaceful society of freedom, law, and justice, where the universal Rights of Liberty of

every person include the ability to peacefully practice a religion of choice, or not.

The manuscript of *The Way of Righteousness* was formatted, and 50 bound copies were printed. They were distributed at the end of August in a mailing that included the Secretary General of the United Nations, the President and Chief Rabbis of Israel, the Palestinian Authority, Pope Francis, the Dalai Lama, and the World Council of Churches, among others.

CHOICES FOR THE FUTURE

I wake up early most morning increasingly concerned about the growing intensity of immediate and deadly dangers revealed on the screens before me. I spend the day searching through our knowledge data base and thinking about what I learn, seeking always to identify simple and effective solutions to these difficult and complicated problems. This I will continue to do, as best I can, for as long as I am capable.

The overall goal in most of my writing, including *The Way of Righteousness*, is to derive relevant and practical policies and courses of action to resolve complicated and interrelated problems.

Alternative choices provide opportunities, which allow for more effective decisions, thus better ensuring the future of our children. Working together, we can make a difference in their tomorrows.

We must confront the reality of human extinction *within the lifetimes of babies born today*—resulting from the violent and destructive changes in our worldwide climate we are now witnessing—if we continue to abuse Earth’s atmosphere and water by pumping out carbon dioxide and fouling our habitat with chemical garbage.

We are not alone in this universe, but, on this spinning sphere of dirt and water, fire and ice, this Garden of Earth we share, each of us must find our own path forward, every day, making the best use of our minds to make good, rather than bad decisions. Such *is* the way it is. Our choice: do we live or die?

SUMMATIONS

A TRUE STORY

ABOUT AN AMAZING FAMILY

About 2,000 years ago, a truly amazing family lived in Northern Israel. The country was ruled as a police state by the incestuous Herodian monarchy, at the sufferance of the Roman Empire, and its occupying army. The roads in the Galilee were lined with the crucified corpses of independence fighters, left to rot by the Romans, as stinking examples of the futility of resistance to the Empire.

Living with the daily terror, the family, as did most people at the time, followed the Way of the Osim, as simple “Doers of the Law.” The followers of this uncomplicated expression of the Jewish religion peacefully lived lives of righteousness, throughout the Land and Diaspora.

The Osim built a refuge in the Judean wilderness at Qumran by the shore of the Dead Sea, where they sought solitude to study and reflect upon their books that promised not one, but three messiahs, a suffering Son of Man, a Davidic Leader, and a Priestly Messiah, all of whom would come to rescue the people from the evil monarchy and empire that ruled their lives.

Cleopas, the father of the Galilean family, was a Rechabite,⁵⁵ who traveled to find work as a carpenter, while the mother, Mary (Aramaic-Maryam, Hebrew-Miryam), delivered and raised five sons and a daughter. Her first born were twins, Yeshua (Greek-Jesus) and his brother, Judas (Thomas-Aramaic for twin). The twins became two of the three expected messiahs of the Osim, and the next of Mary’s sons, Jacob (Greek-James), became the third messiah.

At their births, Mary and Cleopas dedicated the firstborn of her twins, Jesus, and the following two of their sons, James and Simeon,

55 The Rechabites were a clan of the Kenites, who arrived from Egypt with the Moses priesthood and settled among the Israelites. The Kenites avoided alcohol, and engaged in highly skilled metal and wood working, traveling between towns and cities. The Rechabites followed Abraham’s ancient Covenant of Righteousness.

as Nazirites.⁵⁶ The boys were raised to live, every day of their lives, from birth to death, as being “holy unto the Lord.” At age 10, the brothers were consecrated to prepare for the alternative priesthood of the Osim, the Sons of Zadok.

The brothers came to live in isolation at Qumran, to seek wisdom in its libraries, self-awareness during solitary reflection, to identify their life mission, and to experience the vision of the path they would follow. After twenty years of study, first Jesus, then James, and then Simeon achieved intellectual maturity at age thirty, and were ordained as priests of the Sons of Zadok. They were prepared to teach the Way of Righteousness, and to spiritually lead the people, and their zealous Sons of Light, in both war and peace.

When the sun rose on their 30th birthday, each brother left the security of the refuge and walked the harsh 29-mile winding path up through the hills of the Judean wilderness, past the village of Bethany, to the guarded gates of Jerusalem. Each must have fully contemplated the immense cruelty that awaited him, and the risks of the journey that lay ahead.

All five of Mary’s sons died violently⁵⁷, sacrificed by their parents on the altar of eternal peace, in fulfillment of their covenant of righteousness.⁵⁸

THE OSIM AND THEIR WAY OF RIGHTEOUSNESS

The Osim simply abided by the basic law, according to the ancient covenant of Abraham to peacefully live out each moment of life in righteousness. These “Doers of the Law” had no respect for the oral law of the Pharisees, nor could they tolerate the corrupt practices of the Sadducean priesthood, both of whom collaborated

56 Nazirites lived the lives they were consecrated to, for so long as they lived. Their time was dedicated to study and contemplation, as they abstained from alcohol, cutting their hair unnecessarily, oiling their bodies, getting married, or having children. (Numbers 6:8).

57 There is a tradition that her youngest, Joseph, was beheaded or burned to death by the Romans on Cyprus; another plausible story is that he survived to old age in Edessa and wrote the Gospel of John.

58 Acting in accord with divine or moral law, (Merriam-Webster).

with and spied for the Herodians, and their Roman masters in suppressing the people.

The Osim, and their Way of Righteousness, rebelled in words and deeds against the brutal occupation. The war for independence was fought by their Zealot warriors—the Sons of Light; it was spiritually led by their priests—the Sons of Zadok; and the wounded and widows were comforted by their lay ministers—the Order of Melchizedek.

As Jerusalem fell to the Roman army—and the children of the Way were being rounded up throughout the land to be sold into slavery in the Empire, or the most defiant were thrown to the wild animals in the amphitheater at Caesarea, by the Herodians and Romans in celebration of their victory—the Osim concealed their books in sealed jars within remote caves among the cliffs around Qumran.

Their archives included Cave Four, which was created by connecting the interiors of several adjacent caves located high up the face of a cliff across from the Refuge. The Osim enlarged and squared out the cave, behind the small entrances, which were accessible only by ropes and ladders. The large library provided shelf space to organize a thousand scrolls, and a peaceful place for boys and men to read, reflect, talk, imagine their futures, and to think about what each could and must do to contend with the evil power of empire.

The Zealot warriors of the Way continued to resist the Roman army, the mightiest in the world, even after Jerusalem and Qumran fell. The Zealots retreated to Herod's massive desert fortress on top of the mountain at Masada, further south in the desert wilderness along the Dead Sea. Herod had been besieged at Masada by the Zealots early in his rule—until he was rescued by the Roman army. He continued to expand his palaces at the fortress throughout his reign, but it was captured in a surprise attack by the Zealots during the war and they held it to the end.

After holding off the Roman army for four years, and as the gate was collapsing, the Sons of Light buried their last remaining books of the Way of Righteousness, drew lots, and died by their own swords, rather than by the weapons wielded by the ignorant hands of power and empire.

THE CHILDREN OF MARY

Jesus became the Suffering Son of Man Messiah expected by the Way of Righteousness. He cleansed the Temple, caused a riot, and he was arrested and summarily executed by the Romans. Jesus sacrificed his life to save his people from the cruelty, corruption, and power of the Herodians and Romans. In doing so, he liberated his spirit, so his words of righteousness would live on in the minds of all those who seek his truths.

Judas was not a Nazirite. Armed with a sword, Judas Thomas became the Osim's Davidic Messiah. He took the words of righteousness to the East, where the Way guided the Ebionite Christian kingdoms established there which existed for hundreds of years. The influence of Judas the Twin extended into areas of Syria, Saudi Arabia, Iraq, Iran, and finally India, where he was struck down by a spear and died with his sword in his hand. His Letter of Jude concludes the New Testament, just before Revelations, and his original Gospel of Thomas (revealed in the Gnostic Gospels) was later used in the fabrication of the Pauline Synoptic Gospels.

Subsequent Roman emperors felt threatened by the lineal descendants of Judas the Twin, whom they feared might create a unified Davidic Kingdom in the Middle East. For more than five centuries, Judas's teachings were recited and taught in these lands, until finding eloquent expression in Saudi Arabia by the last prophet of Allah, Muhammad, and his Islamic message of righteousness.

Mary's third son, and second Nazirite, was Jacob, or James, who became the Priestly Messiah of the Osim. Following the crucifixion of Jesus by the Romans, James the Just led The Way and the Zadok priesthood for 26 years in Jerusalem and Qumran. His essential teaching is contained in the New Testament Letter of James.

As a Righteous Teacher of the Way, and as a priest of the alternative Zadok priesthood, James the Just was elected by the people, and the Sons of Zadok, to represent them as their High Priest in the Temple. For this heresy, a Pharisaic mob led by the enigmatic Saul, threw James down the Temple steps breaking both of his legs. After recovering at Qumran, and returning to Jerusalem, James was

finally stoned to death near the Mount Zion cornerstone of the Temple, as the result of a conspiracy by the Herodians, Sadducees, and Pharisees, to whom James and the Way posed a threat to their power over the people.

Following the judicial execution of James, his younger brother—the third of Mary's Nazirite sons—Simeon bar Cleopas, a Rechabite priest of the Sons of Zadok, was elected leader of the Way. After the Romans leveled Jerusalem and were advancing to destroy the refuge at Qumran, the Osim concealed their books in caves, and Simeon led their escape across the Jordan River. Other Zealot Sons of Light remained behind to fight the Romans, and Simeon returned as their spiritual leader on the battlefield. He was ultimately captured and crucified by the Romans near Jerusalem.

The youngest of Mary's sons, Joseph, who is also known in the New Testament as Joses, or Barnabas (Hebrew—son of comfort), probably wrote the original Book of Matthew in Hebrew, before writing his Letter to the Hebrews in the Greek language. The mission of Joseph, as a lay minister of the Order of Melchizedek, was to teach the words of righteousness to the Gentiles, to whom the Order was open.

It is said that Joseph was either beheaded or burned to death by the Romans on the island of Cyprus. That may be true, but others believe Joseph escaped to Ephesus to write the Gospel of John, as a pseudonym, in his old age. John presents an review of the Roman Synoptic Gospels in an attempt to reconcile them with Mary Magdalene's Gnostic teaching of the Spirit of Wisdom in the West, and with the Way's Word of Righteousness at Qumran.

The only known daughter of Mary was named Salome. She was present at Jesus's crucifixion, helped recover his body, and, with others, she accompanied it back through the wilderness to Qumran. There, she helped wash and wrap Jesus's body for burial, as his grave was being dug nearby and rocks were gathered to cover it. Salome lived on to care for her parents in their old age, and to attend to their deaths.

The bodies of Jesus, James, Simeon and others of his family are likely buried there, somewhere, under piles of stones in the cemeteries of the Osim at Qumran, forgotten in the sun and rain for 2,000 years, until now.

MARY MAGDALENE, THE COMPANION

Mary Magdalene, her sister Martha, and their brother Lazarus were followers of the Way. They lived in Bethany, near Jerusalem, east of the Mount of Olives, along the road coming up out of the wilderness from Jericho and Qumran. As Jesus rested overnight, on his way to cleanse the Temple and certain death, Mary Magdalene anointed him to be the Way's Suffering Son of Man Messiah. Mary was Jesus's favored companion in life, and she was the heir to his most spiritual teachings.

Mary Magdalene took the Way's Spirit of Wisdom to the West. She and her Gnostic followers taught the enlightened message of Jesus, and his Way of Righteousness, for hundreds of years, throughout Egypt, Syria, Asia Minor, Greece, and into France. Gnosticism remained the prevalent study of the teachings of Jesus until Emperor Constantine seized Roman power in the fourth century, and he designated the Roman Church of Paul (Saul) as the Empire's only lawful expression of Christianity.⁵⁹

Mary is honored throughout the Gnostic Gospels as the one Jesus loved the most. How long she lived, how far she traveled, and how and where she died remain unknown. Some believe her remains may be buried somewhere in southern France.

Mary's Spirit of Wisdom⁶⁰ was freed, when the jars containing the Gnostic Gospels and the Dead Sea Scrolls were broken open at the end of World War II, and the written records of the distant past were revealed in our lifetime to be read and considered, once again, after 2,000 years of suppression.

59 Thousands of Mary's Gnostics were burned at the stake during the Catholic Inquisitions, rather than to acknowledge Jesus as God, yet their spiritual belief in the true teachings of an historical Jesus lives on to this day in the minds of many, if not most Christians who accept the essence of his message of love, and his suffering for the salvation of the people from the cruelty of empire and war.

60 Mary's Spirit of Wisdom survived the Catholic Crusades and the Catholic-Protestant Wars, until now—as religious and cultural wars rage on in the Middle East, and America's endless War Against Terror continues to kill babies, little children, and their mothers in the name of peace—the whisper of the Spirit of Wisdom can still be heard upon the winds of time, if only we listen.

THE REVELATION OF THE BOOKS

As the libraries of the Gnostics were being seized and burned by the Pauline and Empire authorities, 52 books were sealed in a large jar buried at the base of a cliff in Egypt, near the Nile River. The books remained there, undisturbed, for 1,700 years, until 1945.

Within a year of the Gnostic Gospels being unburied in Egypt, the Dead Sea Scrolls were discovered in 1946, also preserved in jars, in a cave at Qumran, a few hundred miles to the east. Less than 20 years later, other books of the Way were recovered from under the floor of the assembly chamber at Masada. The books had been buried there by the last of the Zealot Sons of Light in 73 CE.

These courageous cultural and spiritual warriors of the Way defended their families, their books, and their Rights of Liberty to live their own lives in simple peace and righteousness. Their resistance was crushed by the cruel and ignorant power of empire—which has continued to compete for world domination for 2,000 years. Until now, when the righteousness of the lives these spiritual warriors truly lived as they fought for peace, were revealed by the books they read and wrote. The bravery of these Children of Light can inspire us to once again confront the evil of empire, the stupid wars they fight, and the children they kill.

With their minds at ease, and with the Roman army battering against the great gate Herod had built at Masada, the zealous Sons of Light did not fear final judgment. They were at one with themselves, and with others of the Way, with whom they had lived, fought, and died for the right to peacefully live simple lives of righteousness.

Nor, did the warriors of the Way fear the pain of the deaths of their bodies, or worry where their corpses might be thrown to rot. For them, the spirits of their minds would be set free over these thousands of years, to survive death in the minds of all those who remembered them and their lives of righteousness.

The miraculous discovery of hidden books reveals who these extraordinary people were, the meaning of their lives, and the truth about what they lived and died for. Today, we can draw upon

the power of their wisdom and courage to help us confront the environmental, economic, political, military, and intolerance crises of our time and to avoid our extinction.

A SUMMARY PETITION TO THE UNITED NATIONS

On behalf of the Children of Palestine and Israel, this Summary Petition seeks the just remedy of a written constitution for the Children of the Ancient Lands of Palestine and Israel. It is proffered for consideration, resolution, and vote by the General Assembly.

Should the United Nations conduct a written plebiscite throughout Palestine and Israel, asking everyone over the age of 18, if they consent to the Covenant of a Constitution for the Children, empowered by their Universal Rights of Liberty, and based on the legal principles of Peace and Righteousness? Yes, or No?

Should the United Nations plebiscite include a separate and simultaneous vote by the same people, first, collectively for the Children's Constitution to serve as the Supreme Law of the Ancient Land, and then separately:

- Israelis to vote, yes or no, for the calling of a national convention of the People of Israel, to establish a written constitution for the State of Israel, with its capital in West Jerusalem. The Israeli constitution should acknowledge perpetual peace with the State of Palestine—within its pre-1967 boundaries—and the subordination of the Israeli constitution to the Children's Constitution, which ensures the rights of all Palestinians, who legally reside within the State of Israel to pass, live, work, and worship in peace.
- Palestinians to vote, yes or no, for the calling of a national convention of the People of Palestine, to establish a written constitution for the State of Palestine, with its capital in East Jerusalem. The Palestinian constitution should acknowledge perpetual peace with the State of Israel, and its subordination to the Children's Constitution, which ensures the rights of all Israelis who legally reside within the State of Palestine to pass, live, work, and worship in peace.

THE NATURE OF AN ABIDING MIND

Pausing here to gather our thoughts, we can try to make sense of the abundance of evidence presented thus far in this examination. The printed book of *The Way of Righteousness: A Revealing History and Reconciliation of Judaism, Christianity, and Islam* now numbers more than 634 pages and weighs several pounds.

For those who might want to read something less heavy, about how and why *The Way* was written, a Collection of the Prologue, the Epilogue, and the Summations was published in *The Gift of Mind Series* as *Mind: Before & After The Way of Righteousness*.

After all this, what questions remain to be asked? What words are best said in summation? What will be the verdict?

Are we prepared to postulate a theory—one to be assumed, yet vigorously and rigorously examined. Is mind something valid we can trust in and build upon, as an intellectual tool to aid us in our eternal search for truth?

What is the reality of our own minds, and our collective community of human minds? Beyond that, what are the probabilities of a greater, eternally observing, universal consciousness, an abiding mind?

MIND

Mind exists independent of our physical reality, and it is invisible to the means by which we measure mass and light. Mind observes the fragile wave form of matter and light we are a physical part of, but mind is forever beyond our technical ability to detect and measure.

Mind is, however, a demonstrable factor of physical reality, for without mind, there is no reality of existence. Without minds, we would not appreciate the garden within which we live, *and* these written words would not exist. We would not exist, and there would be none of you to read these words.

AN ABIDING MIND

There is an Abiding Mind, which has existed for all of Eternity—ever since Mind was first born of Intelligence, as a natural process of Life. Everything that has ever lived, evolved from Mass—itsself having been physically transmuted from Energy in a natural quantum blip, manifested as this brilliant Universe of Light, we call home.

An Abiding Mind equates with eternity, existing in the negative nothingness that encompasses every positive particle we perceive, and that has ever existed.

It is only with the magnification and illumination provided by the imaginations and creations of our unified mind, that we can escape the limits of this small spherical mass of earth and water, whose garden we live in and whose air we breathe. Focused together, our minds can see what lies beyond the brilliant rainbow spectrum of our Universe of Light.

We can see its beginning and we can witness its end; we can experience every moment in between, and we can always find our way home.⁶¹

Becoming aware, we can transcend the physical bounds of our spatial reality, and it is *then* when we can experience the peaceful, loving, and motherly presence of an Abiding Mind. We can learn to listen to the inner voice of Her Spirit of Wisdom, as she, Herself, patiently listens to every one of us, all the time, as we talk to ourselves, within our minds.

We must become fluent in Her one-word language of Truth, forgo the Art of the Lie, and to trust in the wisdom of the words, heard, always as a voice of reason—our conscience and our conscious being—if we are to ever access the limitless archives of an Abiding Mind.

THE MOMENT OF MIND

At the instant mind reaches out from within an infant's brain—in its singular quantum moment of mind—it is received within and swaddled by an Abiding Mind, much like the orbiting negative

61 Much like a fish responding from the ocean to the exact stream of water where its egg was hatched.

electrons surround and shield the positive nuclei of our atoms, or as the protective arms of a mother instinctively wrap around her children, defending them at all costs against danger. The child's mind is quantumly enveloped by and entangled with an Abiding Mind, never to be separated, and shared forever with the mind of its mother.

Mind is born in an instant, as the emerging child listens for the reassuring voice it has been hearing in the darkness of the womb, and it instinctively seeks to suckle at its mother's breast. Knowing only its mother's voice and how to cry, it is soothed by her voice, and sheltered by her arms. Nourished and comforted, the mind of the infant reaches out for the light it sees for the first time, *and it instinctively* seeks to touch and examine it.⁶²

It is *then* that the Spirit of Wisdom, the soothing voice of an Abiding Mind, becomes at one with emerging embryonic minds, in an instinctive search for the truth of the questions every child asks itself, and others. A child's mind, programmed for truth, begins to learn other languages, some of which are infected with the malware of the Art of the Lie.

SELF-AWARENESS

The fruit of mind is self-awareness, a reconciliation between the two facets of our minds, resolving to tell the truth to ourselves when we think about how to deal with everyday life, family, jobs, and emotions. We become increasingly self-aware when making better decisions, as we perceive the reality of our physical existence. We achieve the breadth of mind to use our knowledge, honestly, in seeking answers to questions beyond our present ability to ask. What is yet to be seen, is much more magnificent than that which cannot yet be imagined.

⁶² It is, only, when a mother delivers her child into the hands, protection, and laws of others, that she is physically separated from her baby. Before that, a baby necessarily remains a part of its mother's body, over which she (and no one else) must have absolute control, including the power to make decisions about the conception and birthing of her babies. It is her life—her business, and nobody else's. When all women achieve effective control over the destiny of their own bodies, the population problem will be largely solved. Only children we're capable of protecting and caring for will be conceived and birthed.

There is a magical moment when our minds come to accept the rigors of truth, first within ourselves, and then as a much more effective language with which to communicate with others, in comprehending our place and destiny in space, time, and eternity.

THE DEATH OF LIFE, AND THE EVOLUTION OF MIND

When our life brain dies, from lack of blood and oxygen, its mind—with all its memories, creations, truths, and basic lessons learned—exists on as eternal truths, as every singular mind remains quantumly entangled with an Abiding Mind from birth, forward from its moment in life, mind, and time.

More than that, the lingering spiritual presence, of the essence of our physical being and our minds—our very souls—lives on in the minds and memories of those who survive us in life. We continue to exist, so long as that we have created and contributed in life, is valued and is worth remembering.

The evolution of the instinctual intelligence of our twin brains at birth, into the union of our twin minds, one talking, and the other listening, as they and we respond to the common problems of our life. Since we share the consequences of our actions, we share the essential need to consider effective alternatives in making wise decisions.

This internal conversation takes place within the minds of all of us, consciously and subconsciously, *all the time, from birth to death*. There is myself, and there is my conscience—the two of us who are destined to spend every moment of our lives together. We exist within the comfort, joy, and love we share with others, and we must live with the consequences of what we say and do, along the way of life.

HISTORY, TRUTH, AND LIES

Although history books do not always reveal the truth, print and electronic books are our collective attempt to accurately preserve the memories and times of our lives, as a durable, physical record of the reality of our existence. There are nuggets of truth to be mined from

the written archives of the past, and from the electronic news of the present, once we identify and cull the lies.

The truth is always the truth, and it is easy to remember. Lies remain lies forever—whether concealed, denied, or ignored—they are hard to keep straight. One word, Truth, seeks peace and justice; the other word, Lie, results in hatred, violence, and war. Lies and deception are not included in the language of truth; nor are they noted in the journals of the Abiding Mind.

WAR IS AN EVIL WORD, BEST FORGOTTEN

War is a truly evil word, describing the cowardly use of other people, and remote weapons, to kill other people, including children, while those who direct the killing, are bravely shielded from injury. War is a word best forgotten.

Perhaps, in the future history of our collective time of mind, the concept of war, in which people were once forced to kill for the benefit of their own selfish representatives, and to die for the stupid mistakes of their own corrupt leaders, appears only as a footnote—a vestige of the latent human brainstem disease of intolerance and its manifestations of deception, hatred, and violence, cured by the truth and power of toleration.

History may record that one day, the people reserved their consent to be governed, as a censure of their existing unrepresentative government, and they took matters into their own hands. They voted in 2020 for a constitutional Voters' Bill of Rights, and, together, they changed the course of human history.

AN UNAVOIDABLE WARNING OF GRAVE DANGER

The most important message for us to communicate to one another is the reality of threatened mass extinction. Every creature on Earth, including we humans who created the problems, face grave and deadly environmental and economic dangers. Right now!

These threats are immediate and life threatening. Yet, they are denied by those who purport to govern in the name of the People:

Our representatives, who are helpless to effectively govern with truth, dignity, or honor, burdened as they are by conceit, corruption and deception, *and* made more weary every day by their deadly misuse of the political, cyber, military, and police powers entrusted to them by the People.

The universal Rights of Liberty allow the People to reserve their consent as a censure, whenever their government becomes unrepresentative and abuses its discretion, and IT endangers US, who created IT to serve US.

This is the question we, each of us, must ask ourselves, here and now. Do we wish to survive and live, or to perish and die? That's the deal. There are no third choices, and it is *now* we must decide.

We're all in this together. Either we all live, or else we all die. There will be no brave remnant to start all over again—irrespective of hidden gold and guns—for there will be no garden left to plunder, nor ammunition to buy. Books will serve as fuel for fire, until language and knowledge are lost, and nothing but the futile grunts of the last human is heard, among the final few trees.

A STRATEGY FOR SURVIVAL

We either abandon war, forthwith, and redirect all of that mighty expression of intelligence, energy, technology, and vital human and precious material resources—presently being entirely and criminally wasted on weapons of war—in a positive and peaceful way, to solve the deadly environmental and economic dangers now threatening all of humanity.⁶³

63 Modern mechanized and technological war has been fought around the world for more than 100 years, killing more than 100 million people. The weapons of this cowardly form of remote war was redirected in World War II to intentionally kill the children and families of adversaries—to destroy their will to wage war. How many more will suffer and die this century, as the corporate machinery of war continues to profit from destroying the lives of people far removed from the cowards, who bravely make stupid decisions, press some buttons, and blow up babies and small children?

There are things that can and must be done; steps can be taken, and productive jobs can be done, starting today. *We must significantly retard atmospheric warming within the next five years, or else, we cannot expect to foresee tomorrows much past midcentury.*⁶⁴

If these matters are not resolved by the 2020 presidential election in the United States, four more years of nothing will be far too little, far too late.

CREATING HAPPY TOMORROWS

One measure of our success in life, individually and collectively, is the ability to imagine how tomorrow should be, and to take effective action today to make tomorrow happen as planned. An inability to shape the future is a failure, in that it requires one to constantly respond, rather than to initiate.

It is here and now that we will unite, to learn, work, prosper, and create together to solve the immediate problems that are threatening the survival of humanity. Or, we foolishly deny the truth and continue fighting stupid wars. In doing so, we will surely consign our own grandchildren to burn in a fiery hell of our own making—whether by the stupidity of our perpetual wars, or by our failure to clean up the environmental, economic, and political messes we’ve created.

64 Within five years, the US Interstate Highway System could be retrofitted to deliver free inductive electrical energy—enough to move people and their cars anywhere on the system, with safety and comfort. The entire system can be fully energized by an orbiting Space Solar System that delivers continuous microwave energy to remote collectors. Simultaneously, all coal-burning power plants can be replaced by small, safe nuclear generators, fueled by leftover uranium fuel rods from the obsolete water-cooled reactors and decommissioned nuclear weapons. The resulting reduction of atmospheric particulates can be mediated by aerosol sprays dispersed below all passenger jets, providing a computerized, cooling shield against solar radiation. All this in less time than it took us to walk on the Moon, once we set our mind to it.

THE DELICATE BALANCE

The reality of a blistering hot Earth, with billions of people dying of thirst and starvation in this century is much more likely than a news flash that an asteroid—the size of which hasn't been seen in six million years—will inevitably collide with Earth on February 19, 2070.

Given such a reality, what choice would we have but to tend to our garden, raise our children in peace and justice, and give them their chance to soar among the stars. Time is precious, and the clock is ticking.

The difference of just a couple of degrees of temperature provide the delicate balance in the atmosphere and oceans of our fragile Mother Earth, between extreme heat or extreme cold. The Arctic Ice has moderated the temperature, through regular cycles, over millions of years, but the Arctic Ice is now melting, rather than expanding. At this point in the climatic cycle, things should be getting slowly colder over thousands of years leading into a new Ice Age. Any reversal in this trend is catastrophic.

These slight few degrees of heat, one way or another, will determine whether our grandchildren have a chance to evolve, and to tour the lights of our universe as a graduation celebration someday, or they will all die, and we will become extinct.

WHAT WILL BECOME OF THE MOMENTS OF OUR MINDS?

Even if our fossilized bones are the only thing left of us—amidst the forgotten ruins of our creations and the wreckage we have wrought—the memories and product of everyone who lived and worked here and now—the individual moments of each singular mind, will continue to flow in the eternal tides of an Abiding Mind.

If we fail to make a wise peace, and if we continue to fight stupid wars, only the most embryonic forms of life will survive the fires that will be fueled by our failures. It could take hundreds of millions of years, for the soils, waters, and atmosphere of our Mother Earth

to once again have the balance of health and energy to sustain life, to grow intelligence, and to sprout minds that instinctively reach out for the stars, just as babies seek their mother's breasts.

By nature, we are social, and we seek like-minded people to share joy, love, respect, and protection within our families and societies, as we each go about earning our living, and living our own singular way of life, in concert with all who surround us.

It is this wisdom of our collective human community of minds, that is the intellectual reservoir of our strength as a People, and it is the source of our Rights of Liberty and their expression of power.

We, who live and think, have the duty, will, and self-confidence to decide for ourselves, what the future of our grandchildren should and will be like, and we want to live long enough to see it for ourselves.⁶⁵

65 Even with everything I've studied, said, and done, the ultimate truth remains a mystery to me. Like all of us, I will only know for certain, once my brain dies, my physical presence ends, and the existence of the mind it has wrought—the writer of these words—will live on, so long as there are those who read them.

The Choices of Mind

Extinction or Evolution?

WILLIAM JOHN COX

The Gift of Mind: A Compendium (Number Five)

The Choices of Mind: Extinction or Evolution?

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DEDICATION

This book is written for the young people of the world, of every race, in every country, speaking every language, and practicing every religion. You are the only force capable of learning the truth and quickly taking the essential steps required to avoid the extinction of humanity and the termination of human society—*within your lifetime*.⁶⁶

It is unfair that this burden is being dumped on you, as we—your parents and grandparents—are the ones who have caused the problem. We created a worldwide economy energized by the reckless burning of fossil fuels and sustained by profligate consumerism and continual war. We are the ones who have almost doubled the amount of atmospheric carbon dioxide, causing the earth's temperature to rise to a level not seen for millions of years. You are, however, the ones who will have to live with the consequences of our thoughtless neglect.

We may be finally forced to accept responsibility, and we may be able to help you design effective remedies, but ultimately, it is up to you to make the most of your legacy—for better or for worse. We remain entrenched in our familiar existence and are resistant to change, but you have the courage and vision of youth to create an alternative and exciting future for yourself and your children.

As you educate yourselves and prepare to earn a living for the next 30 to 40 years and to save for your retirement, you must acknowledge and accept this reality: Irrespective of how hard you work, how much money you accumulate, and how much recognition and personal power you achieve, you will not be allowed to enjoy your retirement, or your grandchildren—if there is no fresh air to breathe, clean water to drink, nutritious food to eat, or a community to help you care for your needs.

⁶⁶ Were there to be only one person I could talk to about *The Choices of Mind*, it would be Greta Thunberg, whose photograph sitting on the sidewalk in front of the Swedish Parliament Building with her “School Strike for the Climate” sign is the current default image on my computer screens. It helps sustain my belief that these brave children of the new millennium have what it takes to survive the deadliest threats ever posed to human existence.

You will either act together, or you will all die together. As the average annual global temperature of the atmosphere and oceans rise by only another degree or so, Earth's delicate balance will tilt, and its environment will rapidly become too hot for the habitat of most forms of life. Adaptation will be impossible, civilization will collapse, and you will experience pain, depression, destruction, and death. There will be no refuge, and there will be no escape—even for the rich and powerful, no matter how many guns and how much gold they have hoarded.

The deadly consequences of unabated, extreme heating this century—drought, crop diseases, wildfires in the summer, bitter winters and flooding springs, hurricanes, pandemics, mass starvation and forced migration and violence, and everywhere, the agonizing thirst for water—is real and undeniable, but *it is not yet unavoidable*. Immediate and effective action is required, however, as you are racing toward the tipping point in physics, when the release of greenhouse gases and the melting of the polar ice shields will become irreversible.

Once that moment arrives, millions of years will have to pass before our Mother Earth recovers from the damage we have wrought, and she can once again give birth to intelligent life. The rubble of our skyscrapers, bridges, and freeways will be buried beneath the land and oceans, and the fossilized evidence of our existence will offer few clues about who we were and why we failed to thrive and to fly from our nest.

We have abused the gift of fire, and our leaders have ignored the clear and convincing evidence of fatal greenhouse warming for more than 40 years. We have been denied the truth of the evidence they held then and much of what has been learned since. *There is no reasonable doubt. The continuing release of greenhouse gases will result in the extinction of humanity within the lifetimes of people who are living today.*

You now have only five years to replace our denial with effective action. You must immediately quarantine and cure the latent destructive disease of war, that continues to infect your essential existence as a caring and sharing worldwide human society, as the cost of militarization diverts the very means of your survival.

It is within your power to create a happy ending to the story of our species—if you collectively put your minds to creatively solving

critical problems, instead of fighting destructive wars.

Over the past 15,000 years, our minds have evolved to suppress the instinctive intolerance of the brainstem and its destructive behaviors of deception, hatred, and violence, in the creation of our caring, sharing, and thinking species of mind, rather than physical bodies. This is who you are. You must continue to expand your minds—quickly—if you are to ever free yourselves from the shackles of gravity, oppression, and ignorance.

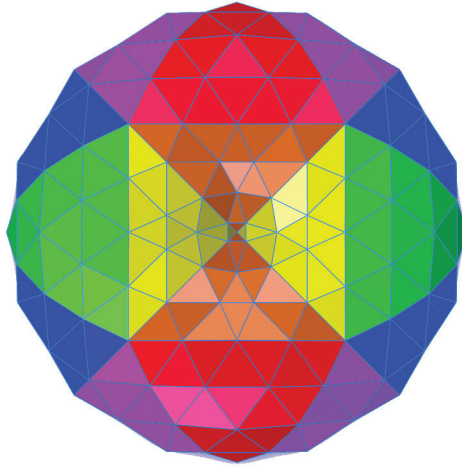
Unified, your minds can achieve the ability to soar beyond our solar system, moving quickly outward beyond our spiraling Milky Way, zooming more rapidly past clusters of galaxies, and, as the speed limit of light is increased to its fourth power, you will soon be far enough away to gaze back in wonder at nothing but pure blackness, and behold there in the distance, the rainbow colors of our brilliant Universe of Light.

Witness the birth of our universe in the remote depths of this bottomless pool of black negative energy, which sparkles occasionally, as a positive particle of matter randomly appears and is instantly annihilated by its negative anti-particle, releasing a photon of light in the darkness. Rarely, however, there occurs a magnificent ignition of pure light: a sudden and simultaneous discharge of positive photons too numerous to be counted mathematically and too brilliant to be described, which momentarily overwhelms the matter/anti-matter annihilation barrier.

The spherical spray of photons instantly dissolves into bits of positively charged proto matter, which quickly inflates as it is surrounded by swarms of orbiting negative electrons, shielding the vulnerable protons and neutrons from annihilation. The detritus of the quantum torch of energy is ultimately organized into the matter of life, and finally, minds evolve in the surrounding negative space to everlastingly perceive our origin, actions, and destiny in the positive environment.

Our universe exists as a fragile positive, physical waveform, pulsating ever outward without resistance, most likely as a sphere-torus, with accelerating expansion, eternally drawn to and drained by the capacitor of negative energy—which occasionally overloads and

discharges a quantum spark, we call a universe.⁶⁷



Time is meaningless in the negative space, where the random movement of mass is noted only by the existence and curiosity of mind. As our minds evolve from the physical dimensions of mass, life, and intelligence, they extend outward from our brains into the surrounding Mind Field of negative space that envelops the positive matter of our brains, and all physical existence.

Once unshackled from gravity, and transcending time, we can foresee a happy, just, and joyful future, as our children and grandchildren make the brave leap from our garden of earth and water, fire and ice, to seek other planetary nurseries, using robots beyond our current imagination, unidentified, flying, or otherwise.

Let us imagine a tomorrow of expanding peace that has lasted so long that war is only a footnote of an ancient practice long forgotten. Watch the sun warm our Garden of Earth, which flourishes in fertile

⁶⁷ Imagine the universe looking like a soft, round, colorful Pi Ball balloon, and with the tips of your two forefingers, depress the opposing vertices at the center of the yellow and gold triangles on both sides of the ball until your fingers touch in the middle, creating a torus, or donut. Move your fingers in and out, creating surface waves between the sphere and a torus. Seal the tiny center point at the tips of your fingers, withdraw, and carefully pierce the center seal with a fine needle. Then, begin to smoothly expand the opening. The sphere of the universe becomes a torus, having the same volume and surface area tiled by the same Pi triangles.

soils and clean waters. Envision a healthy, just, and joyful place to thrive and to raise children, who are destined to fly from their earthly nest and to seek other gardens where minds can create, and happy children can play.

If you share this dream, then, let us make it a reality.

Those of you coming of voting age today, have the present ability to entirely redirect the human, technological, and material resources—presently being criminally wasted on militarization—to the elimination and replacement of fossil fuel energy, and to reduce the levels of carbon dioxide and methane in our atmosphere.

Within the next five years, you have the collective power to rebuild our transportation infrastructure and to energize our highways with solar energy collected in outer space and transmitted by microwaves to remote collectors on Earth, *and* you can entirely replace our fossil fuel power stations, worldwide, with small, safe, replicable, modular nuclear reactors, solar panels, and wind turbines—worldwide.

Your first step is to take control of your own governments, that are presently corrupted by soulless corporations and a wealthy elite. They believe it is in their best interest to lie about and to delay the reality of imminent human extinction—for the sake of year-end profits and executive bonuses. They are wrong, but their deceptions have convinced many of us that they are right.

You've had your lessons, and your final examination is tomorrow. The test only has one question, with two choices: Extinction or Evolution? There are two grades: Fail or pass?

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PREFACE:

DECEPTION AND CHOICES

The effective utilization of human, material, and natural resources and the successful allocation of goods and services in a free and fair enterprise economic system require that all decisions be based on accurate and truthful information. While purchasing choices are often swayed by paid advertising that routinely exaggerates the value of products and services, fraudulent misrepresentations are criminal because the lies are a theft of essential trust. Similarly, the political judgments made by voters, and their representatives, in a free and democratic society require an educated and well-informed populace.

When the electorate is deliberately misled by a sophisticated and comprehensive campaign of lies and distortion regarding a critical issue, to sustain corporate profits, the consequences can be deadly—to freedom and to life itself. We now have conclusive evidence that conspiracies of deception have been engaged in to protect the profits of the tobacco and fossil fuel industries.

It was scientifically demonstrated in the 1930s that smoking was a primary cause of cancer, and it was conclusively proven by the early 1950s. The tobacco industry launched a massive advertising campaign in a fraudulent effort to discredit the alarming science. Over the next half century, the industry continued to addict millions of young people, infecting them with deadly diseases, while peddling both tobacco and doubt as a product. Relying on unqualified scientists who had done little or no original research, the goal of the campaign was to create doubt that tobacco was a killer.

In 2006, the industry was criminally convicted under the RICO act (Racketeer Influenced and Corrupt Organizations) for having “devised and executed a scheme to defraud consumers and potential consumers” about the dangers of smoking cigarettes.

The atmosphere is composed of 78 percent nitrogen and 21 percent oxygen. Carbon dioxide (CO₂) makes up only 0.04 percentage of Earth’s atmosphere; however, it is critical to life on

Earth. As CO_2 is absorbed by green plants in the photosynthesis process using sunlight, water, and CO_2 to produce food, it generates oxygen as a byproduct. More than 150 years ago, it was established that carbon dioxide is a greenhouse gas that traps heat and keeps it from radiating into outer space. It was also proven that the burning of fossil fuels was increasing the levels of CO_2 .

Carbon dioxide has a disproportionate effect on the average annual temperature because of its powerful ability to prevent heat from being emitted from the planet into space. Acting much like the glass in a greenhouse prevents the escape of heat in the winter, carbon dioxide and methane absorb the heat instead of allowing it to pass through.

The concentration of carbon dioxide in the atmosphere at the commencement of widespread industrialization in 1750 was 280 parts per million (ppm). When measured scientifically two centuries later, in 1958, by instruments placed in the observatory at the top of Mauna Loa in Hawaii, the level was 315 ppm. Accurate measurements have been obtained every year since 1965, when the level was 320 ppm. For many environmental scientists, a level of 400 ppm became a red line beyond which they did not believe the climate could survive or ever be able to recover.

In 1965, the President's Science Advisory Committee produced a paper that predicted a 25% increase in carbon dioxide, "will modify the heat balance of the atmosphere" In his annual address to Congress, President Johnson said, "This generation has altered the composition of the atmosphere on a global scale through . . . a steady increase in carbon dioxide from the burning of fossil fuels."

A study conducted by the Stanford Research Institute in 1968 for the American Petroleum Institute demonstrated that the burning of fossil fuels would result in "significant temperature changes" by the year 2000.

A National Petroleum Council report in 1972 thought that climate changes resulting from fossil fuel consumption would probably not be apparent "until at least the turn of the century."

In 1977, the National Research Council warned, "It has become increasingly apparent in recent years that human capacity to perturb inadvertently the global environment has outstripped our ability to

anticipate the nature and extent of the impact.” Another report the same year commissioned by the Energy Research and Development Administration warned that continued burning of fossil fuels would lead to “intolerable” and “irreversible” disasters.

In July 1977, James Black, a senior scientist at Exxon informed the senior management, “In the first place, there is general scientific agreement that the most likely manner in which mankind is influencing the global climate is through carbon dioxide released from the burning of fossil fuels.” The next year, he warned that doubling atmospheric carbon dioxide would increase its temperature by two or three degrees.” By 1982, Exxon projected that CO₂ levels to reach 560 ppm by 2060. Even so, Exxon spent tens of millions of dollars supporting climate change denial and advocacy groups disputing the impact of global warming. ExxonMobil acknowledged climate change risk in April 2014; however, it continued to assert that the reality of supply and demand would ultimately result in lower greenhouse gas emissions, without the need for regulation.

President Jimmy Carter signed the Energy Security Act of 1980 which directed the National Academy of Sciences to analyze the social and economic consequences of climate change and to prepare a comprehensive report. Its 495-page report, *Changing Climate*, was issued in 1983, recommending an accelerated transition to renewable fuels and warned that it would take thousands of years for the earth to recover from the damage already inflicted on it. Although its preface argued that action had to be taken immediately, before everything about climate change was learned, some of the committee members argued that there was no urgent need for action and that it was better to continue research and to wait for future technology to save the day.

Computerized climate modelling successfully demonstrated the relationship of CO₂ levels and the average global temperature. A doubling of the pre-industrial level will produce a warming of approximately 3°C; however, once people can personally witness undeniable changes in the climate, it may be too late to do anything. The last time the world was warmer by three degrees was three million years ago during the Pliocene Epoch, when conifer trees were growing near the South Pole in Antarctica, horses romped along the

shores of the Arctic Ocean, and the sea level was 80 feet higher.

Testifying in 1987, James E. Hansen, director of the Goddard Institute for Space Studies, warned Congress, to a 99 percent certainty, that global warming was being caused by the greenhouse effect. Even as economists began to identify the risk caused to the environment by free-market economics, the government policy was to conduct further research before taking action to reduce emissions.

By the late 1980s, it appeared that comprehensive federal legislation regulating the emission of carbon dioxide was imminent. Denying any responsibility, however, the fossil fuel industry took a page from the playbook of the tobacco industry and recruited some of the very same unqualified scientists for its team of deniers. The industry began to spend billions of dollars to convince people that the threat of “global warming” is only a normal change in the weather, and that the continued use of fossil fuel is essential to human survival.

Much like the tobacco industry that earlier sold the public on the advantages of smoking tobacco, the petroleum and coal companies have poured massive funds into advertising and political campaigns to mislead people around the world—and their governments—about the real danger of human extinction within the lifetime of the current generation of young people. In just the period between 2000 and 2016, the industry spent more than \$2 billion to defeat climate change legislation.

Industry efforts were greatly aided by the election of President Ronald Reagan in 1980. His plans were to close the Energy Department, deregulate the surface mining of coal, and to increase its mining on federal property. As Secretary of the Interior, Reagan appointed the attorney who had been fighting to open public land to the exploitation of fossil fuels. He did, however, issue a joint statement with Mikhail Gorbachev, the last leader of the Soviet Union, “pledging” to cooperate on global warming.

Through campaign contributions and outright bribery, international corporations have been able to suborn governments around the world in avoiding taxation to help pay for the environmental and economic destruction they cause and to escape all regulation that might interfere with their drive for profits. Although

representative democracies have become the standard organization for most governments, the officials of many of these countries do not represent the best interests of the voters who elect them, and they ignore the well-being of their constituents in favor of their corporate masters.

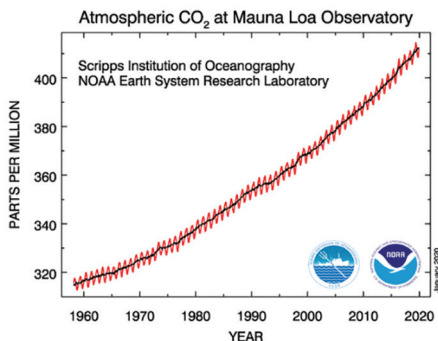
The United Nations Framework Convention on Climate Change was adopted and became effective in 1992. Parties to the Convention negotiated the Kyoto Treaty in 1997, in which the industrialized nations promised to reduce the emission of greenhouse gases, such as carbon dioxide and methane, by seven percent, or below 1990 levels, by 2012. President Bill Clinton signed the protocols on behalf of the United States, and it was later ratified by 192 countries.

Following the flawed presidential election in 2000, President George W. Bush, a former oil developer, withdrew the U.S. from the Kyoto agreement saying, “We do not know how much our climate could or will change in the future. We do not know how fast change will occur, or even how some of our actions could impact it.”

One of the reservations about the Kyoto agreement was that it exempted developing nations, such as India and China, from its mandatory protocols. To address these complaints, the Kyoto Treaty was replaced in 2015 by the Paris Agreement in which all signatories agreed to limit global warming to “well below” two degrees centigrade and to below 1.5 degrees above pre-industrial levels if feasible.⁶⁸

On April 18, 2017, the level of carbon dioxide in the atmosphere measured at the Mauna Loa Observatory surpassed 400 parts per million “redline” for the first time. In December 2019, instruments maintained by the National Oceanic and Atmospheric Administration Earth System Research Laboratory at the summit recorded a level of 411.76 ppm.

68 U.S. President Donald Trump notified the United Nations on November 4, 2019 that he intended to withdraw the United States from the Paris Agreement because of its disadvantage to the U.S. economy in lost jobs and production.



The violent criminal assault on our Mother Earth is taking place—seemingly without public awareness or concern—as 200 species of life die off every day and extreme weather patterns of drought, fires, flooding, and freezing winters in the northern hemisphere have become the accepted norm. The enormous environmental fraud that has been perpetrated on humanity was made possible by a worldwide capitalistic economy that has converted free markets into an international gambling casino.

As we finally confront the deadly dangers caused by the burning of fossil fuels, we must obtain the most accurate information possible if we are to make the correct choices to ensure the survival of humanity. Moreover, we must learn how environmental issues are intertwined with those of the economy, politics, war, and intolerance if we are to survive on Earth long enough to learn to fly from our nest before we peck each other to death.⁶⁹

⁶⁹ The five Extinction Papers which follow are disturbing, and the reader may want to flip forward to the five corresponding Evolution Papers, as needed, to lighten the despair of having to face the deadly reality of today and to explore a different and joyful tomorrow.

THE EXTINCTION PAPERS

Presents evidence of the multiple threats to humanity

Caused by:

Crimes committed against the environment,

A casino economy addicted to gambling,

Governments that are corrupt and unrepresentative,

Corporate militarization and its endless wars, and

Intolerance, an inherited, latent disease of humanity.

AN INQUEST INTO THE CRIMINAL ASSAULT ON MOTHER EARTH

About 4.5 billion years ago, when the solar system was still quite young, an event occurred which helped create the conditions required for the evolution of life. In a violent collision, Earth merged with a planetary object the size of Mars, forming a ring around the earth that ultimately coalesced into the moon. The collision provided a tilt to Earth's axis that varies between 22.1 and 24.5 degrees over a 40,000-year cycle.

As the earth and moon waltz around the sun in a gravitational swing dance every year, the moon attracts the surface of the seas and creates the tides that helps circulate the water of the oceans around the continents and erodes their shores. Warmed by the sun, the oceans provide the moisture for the rains and snows that water the plants and animals, as they wash away and absorb the waste.

Using innovative processes rivaling those employed on CSI (crime scene investigation) television shows, scientists are now able to accurately determine the state of the earth and its environment going back billions of years. They learned that—while the planet's orbit is in the “Goldilocks Zone” around the sun—the earth's average annual temperature has varied over the eons from being too hot to too cold, and only rarely is it “just right.” Around 75 percent of the time, the earth is like a heated greenhouse, without ice even at high latitudes.

There have been times, however, when Earth was a snowball completely covered with ice. Even as single-cell life was first struggling to gain a foothold around 2.3 billion years ago, the earth was glaciated as far as the equator, and the oceans were frozen over. After millions of years, the earth suddenly warmed, and the evolution of life continued. Complete glaciation returned about 710 million years ago, and 635 million years ago, glaciation covered the earth with ice for six to 12 million years.

The evolution of life established elementary life forms, such as algae and zooplankton, throughout the oceans where they lived, died,

and settled to the ocean floor for billions of years. As their remains became buried under sedimentary rock and subjected to intense heat and pressure, vast pools of petroleum were formed. During these same eons, the land masses came to be covered, from time to time, with extensive swampy forests consisting of giant ferns, reeds, and mosses, which were submerged in the water after they died. As the plant matter decomposed into peat, it was covered by layers of soil and rock over millions of years and subjected to heat and great pressure. As the oxygen was expelled from the layers of vegetation, deposits of coal remained having carbon as more than 50 percent of its weight, combined with other chemicals and compounds.

THE ICE AGE CYCLE

Over the past several million years, the earth's climate has settled into a consistent cycle consisting of mostly warm weather, occasionally interrupted by a reversal caused in part by the reduction of carbon dioxide through the weathering process. As the level of CO₂ lowers, the earth begins to slowly cool, and an ice age ultimately sets in.

The combined effects of several astronomical phenomena, including the tilt of the Earth's axis, its axial precession, and the eccentricity of its elliptical orbit around the sun, increases or decreases the distance between the earth and the sun and the magnitude of seasonal changes. These factors have differing periods, but in combination, they have produced a period of approximately 100,000 years for the current cycles of glaciation.

The earth entered the last ice age more than 100,000 years ago and reached its maximum extent about 20,000 years ago. Primarily because the northern hemisphere has most of the land mass, the Ice Age was concentrated there, with glaciers extending down across Canada into northern United States and across northern Europe and Russia. With so much water locked up in ice, the weather was dry, with arid conditions in Alaska allowing it to remain ice free, at the same time the sea level was much lower. This exposed a land bridge between Siberia and Alaska.⁷⁰

⁷⁰ Modern humans left Africa about 60,000 years ago, quickly spreading across Europe and Asia. Migration into the Americas commenced at least 16,000 years ago.

While it takes 80,000 years for the earth to slowly cool into maximum glaciation, the ice ages end quite rapidly. Commencing about 20,000 years ago, the earth suddenly began to warm, and it approached current temperature levels around 10,800 BCE. There was a sudden unexplained cooling that lasted for 1,000 years, after which temperatures began to rise to modern levels. For the last 8,000 years or so, average annual temperatures have remained remarkably stable, as the earth began to slowly cool once again into another ice age, normally expected in about 23,000 years.

EFFECTS OF INDUSTRIALIZATION

The cooling of the earth has been slow enough to allow us to adapt to its gradually changing conditions; however, the Industrial Revolution that began around 1750 has reversed the cycle. Industrialists began to rely on the use of steam power fueled by the burning of coal to advance from hand production to machine and chemical manufacturing, and the forging of iron. The invention of machine tools produced mechanical factories, including those used to loom textiles. Initially, the revolution started with waterpower, but the invention of the coal-burning steam engine allowed for enormous increases in production.

The burning of coal to produce the energy required for industrialization and the introduction of petroleum-fueled motor vehicles began to release increasing amounts of carbon dioxide into the atmosphere, as the revolution spread around the globe. Inasmuch as CO₂ constitutes less than one percent of the atmosphere, the pumping of billions of tons of carbon dioxide into the atmosphere has rapidly increased its effectiveness as a greenhouse gas. We are currently dumping more than 40 billion tons of extra CO₂ in the atmosphere every year.

Without its atmosphere, the temperature of Earth would be near -18°C, as cold as the dark side of the moon. While the earth continues to radiate the heat from its molten core, its atmosphere provides the unique warming mechanism that encourages life to flourish. Carbon dioxide and the other greenhouse gases allow the sun's energetic short-wave radiation to penetrate and reach Earth;

however, the gases very effectively absorb some of the long-wave radiation that is emitted or reflected from the surface. This natural greenhouse effect has allowed Earth's average temperature to settle around 15°C; however, as the amount of CO₂ dumped into the atmosphere increases, the temperature also rises—inexorably.

By analyzing the carbon dioxide content of air bubbles in cores of ancient ice, it was proven that the post-Ice Age level of CO₂ was 280 parts per million (ppm). The natural baseline ranges between 180-280 ppm, depending on the extent of glaciation. With industrialization, this baseline began to quickly increase in the eighteenth century, and it has now risen to beyond 400 ppm, a 43 percent increase.

Analysis of the air bubbles also proved that the methane (CH₄) baseline of 700-800 ppm has more than doubled to 1,800 ppm. Although it only lasts seven or eight years in the atmosphere before degrading, methane is far more efficient than CO₂, absorbing between 23 times and 100-200 times as much per molecule, depending on the length of the period measured.

The oceans act as a vast sump absorbing heat, as the oceans slowly circulate and mix water of varying temperatures at different depths. Even if the excessive emission of greenhouse gases were to cease, the ocean would continue to radiate this heat into a cooler atmosphere. Starting in 1860, we find that the average temperature of the earth, overall, has risen by 0.8°C; however, the temperature in the Arctic has risen by 2.4°C. Referred to as “Arctic amplification,” the warming of the Arctic and the melting of its ice amplifies global warming.

THE MELTING OF THE SEA ICE

The melting of Arctic ice is occurring in two directions. First, the retreat of the sea ice from the shores of the land that surrounds the Arctic Ocean allows for open water and wave action around the sea ice. Second, the ice is thawing in the center and is becoming thinner with each passing year, becoming 43 percent thinner in just 20 years between the 1970s and the 1990s. The increased shrinking and thinning of the Arctic ice will, ultimately, lead to ice-free summers

in the Arctic Ocean. The ice has been declining by 13 percent each decade since first measured by satellite in 1979. Most conservative modelers of climate change predict an ice-free summer between 2050 and 2080, but others fear the loss could occur within just a few years.

Sea ice albedo measures the reflectivity of the surface to the rays of the sun. As ice melts, more of the ocean's surface, which is darker and less reflective, is exposed and the sea water is heated, leading to increased ice melt and higher atmospheric temperatures. Ultimately a tipping point is reached when enough ice is not generated in the winter, and a new state becomes permanent. At that point, all the ice will be only one year old and will melt each summer.

As conditions worsen and the ice-free conditions continues deeper into winter, new and unpredictable circulation patterns and thermal cycles will evolve. These conditions will become irreversible—even if the release of greenhouse gases is reduced.

In addition to ice-albedo, there are other feedback mechanisms that act to increase the rate of warming. These include increased water vapor, which acts as a greenhouse gas, and the loss of snow cover over land areas; however, it is the melting of the vast sheets of ice located on Greenland and in Antarctica that poses the greatest threat of global sea level rise.

All glaciers, everywhere, are in retreat; however, the ones on Greenland and Antarctica, which have remained frozen year-round, are now rapidly melting, flowing faster, and threatening to break free of the land and slide into the ocean. It is estimated that the Greenland Ice Sheet is now losing 300 square kilometers of water per year, while the Antarctic Ice Sheet is losing 84 km³ per year. The melting of the Greenland sheet would increase the sea level by 20 feet, and the Antarctic sheet would raise it by 200 feet. Conservative estimates are for a three-foot increase by 2100, while there is a strong likelihood it will be much greater.

THE METHANE BOMB

Over the eons, as the sea level has fallen with ice ages, land has been exposed, covered with vegetation, and then frozen. Taking the

form of (permanently frozen) permafrost on land near the North Pole and under the shallow seas of the continental shelves, the permafrost is now being melted by the shrinking of surface ice and warming of the ocean and atmosphere. The Arctic Ocean seabed also contains massive amounts of frozen methane in the form of solid and ice-like hydrates. As the temperature of the seabed and land permafrost rises above freezing, methane, a powerful greenhouse gas caused by the decomposition of vegetation, is released, causing a rise in temperatures and the release of even more methane. This feedback mechanism may be the most critical of all, as it is estimated that hydrates on the Arctic Ocean floor hold 400 gigatons of methane.

If the current level of warming continues, there is a great likelihood that as much as 50 gigatons of methane could be released very quickly within a decade. A pulse of methane of this magnitude would bomb the atmosphere, causing global temperatures to more quickly reach the point, perhaps by as few as 10-15 years, where recovery will become impossible. There is a 50 percent chance this pulse will occur.

Compounding this risk, continuing warming over the next 20 years will force the land permafrost to release carbon dioxide and methane in an amount equal to 30 times the methane pulse alone. The combination of these events makes the release of greenhouse gases from the permafrost and Arctic Ocean floor one of the greatest and most immediate threats to the environment and humanity.

IF THE EARTH IS WARMING, WHY ARE THE NORTHERN WINTERS SO COLD?

American president Donald Trump, who believes “climate change was a hoax invented by the Chinese to make the US manufacturing less competitive,” and who withdrew the United States from the Paris Climate Agreement, commented on a record-setting cold wave in the Midwest in January 2019 by asking, “What the hell is going on with Global Warming? Please come back fast, we need you!” Earlier, he stated, “Wouldn’t be bad to have a little of the good old fashioned Global Warming right now!” More recently, he said, “We must reject the perennial prophets of doom and their

predictions of the apocalypse,” calling them “the heirs of yesterday’s foolish fortune tellers.”

Frequent air travelers are familiar with the “jet stream” in the northern hemisphere which can provide a tailwind of up to two hundred miles an hour when flying from the west to the east, or an equal headwind if traveling in the opposite direction. Created by the difference between the cold air mass over the polar ice and the warm tropical air mass at lower latitudes, jet streams exist at both poles, but they are more apparent in the north because of the greater land masses and the number of people affected. Existing in a narrow layer at an altitude of approximately 30,000 feet, the northern jet stream is strongest in the winter when the temperature differences are the greatest.

The jet stream is not consistent in speed or its path, as it loops up and down the latitudes, strengthening and weakening, depending upon atmospheric conditions. The stream can have a dramatic effect on the weather in North America, Europe, and Asia, as a “polar vortex” delivers cold air to the south and draws warm air up toward the North Pole.

A connection between the reduction of the polar ice shield and local weather conditions can be observed as the sea ice disappears in the Barents and Kara seas. This strengthens the persistent high-pressure area in Siberia, which forces cold air to flow down into eastern Asia. The unusual extreme cold weather experienced in the United States may result from rising temperatures in the Greenland Sea, which forces the jet stream to dip down and threaten food crops as far as the agricultural Southeast.

THE WARMING AND ACIDIFICATION OF THE OCEANS

The acidification of the oceans is the co-conspirator of atmospheric warming in the threatened murder of all life on Earth. As the oceans have absorbed about 525 billion tons of carbon dioxide since the commencement of industrialization, they have also experienced a 26-30 percent increase in acidity and a consequential reduction in the carbonate ions required for corals, phytoplankton, clams, crabs, mussels, and other sea life to grow their shells from

calcium carbonate in order to survive. This is the highest level of acidity in 300 million years.

Evidence of the crime can be observed at the dead coral reefs that are appearing around the world, where 19 percent of the coral reefs have already been killed. The United Nations Intergovernmental Panel on Climate Change (IPCC) predicts that 99 percent of the warm water coral reefs could disappear, if the global average temperature rises by just one additional degree above the pre-industrial baseline. Coral reefs will likely be the first major ecosystem to become ecologically extinct in our lifetime, along with the millions of species of marine life that depend on reefs for survival, and upon which we rely for food.

As the oceans absorb carbon dioxide and become warmer, they are less capable of absorbing oxygen—as it becomes less soluble—and producing oxygen from oceanic photosynthesis, such as by phytoplankton, a microscopic alga that contains chlorophyll. As the phytoplankton feeds on the excess nitrogen and phosphorus, the algae grow into large blooms. While the phytoplankton lifecycle produces oxygen, it also contributes massive amounts of waste and dead bodies that fall to the ocean floor, where it is consumed by bacteria in a process that consumes oxygen. Warmer water also increases the metabolism of other marine life, which further reduces the level of oxygen to hypoxic and anoxic levels. Essentially, marine life begins to suffocate, and the larger species we rely upon for food are the most vulnerable, because of their greater need for oxygen. Dead zones are appearing in oceans around the world, where oxygen levels can no longer support life.

From the time when research began in the 1960s, there are now more than four times the number of oceanic dead zones around the world where oxygen is effectively absent. A report of these findings to the United Nations climate conference in Madrid in December 2019, found there to have been an increase from 45 identified areas, where oxygen levels are dangerously low, to more than 700.

Some of the largest dead zones occur where industrial processes and heavy agricultural fertilizer use, combined with animal waste runoff, dumps nutrients, such as nitrogen and phosphorous, into the water. The largest dead zone covers almost the entire 63,700 square

mile Gulf of Oman, and another smothers almost 7,000 square miles in the Gulf of Mexico where the Mississippi River empties; however, dead zones are found around the world wherever these industrial and agricultural wastes are discharged into the oceans.

Low oxygen levels interfere with spawning and result in low egg counts and other reproductive problems for fish. It also interferes with the ability of fish to gather in protective schools and forces them to more shallow water where they are more vulnerable to predation. When combined with high acidity, adult fish die at higher levels of oxygen, where they might otherwise be able to survive. The combination of stressors is deadly.

THE EYE-WITNESS EVIDENCE: ONE YEAR OF EXTREME WEATHER—2019

Our modern fast-paced lives are dominated by a 24-hour news cycle that spends as much time reveling in the antics of reality TV stars as it does on reporting the most devastating extreme weather events in human history. Consumed as we are by earning enough money to purchase the products and lifestyles promoted by the media, the frequency and severity of droughts, floods, fires, blizzards, tornados, and hurricanes can be easily overlooked or ignored by working people and their families.

Most people no longer read newspapers and magazines and instead depend on the video snippets provided by corporate media outlets, whose advertisers have an economic interest in the distortion and misrepresentation of the facts. These tragic events are easily overlooked, forgotten, or ignored—unless one is personally affected by the devastation, or finds it important enough to responsibly consider.

The United Nations' World Meteorological Organization reports that the mean temperature from January through October 2019 was 1.1 degrees Celsius above the pre-industrial levels, and that the last decade was the hottest in recorded history. As atmospheric carbon dioxide reached 412 parts per million—its highest level in 800,000 years—the last year has been the second hottest year ever

recorded.⁷¹ The heat content of the oceans, which absorb more than 90 percent of the heat trapped by rising concentrations of greenhouse gases, reached record heights in 2019, continuing the rise of sea levels worldwide.

In the summer of 2019, the Arctic sea ice shrank to what has become its smallest size set in 2007 and 2016, and the Antarctic sea ice reached its lowest June coverage on record. With the housing of more than 22 million people affected, worldwide, the suffering and damage resulting from the release of greenhouse gases in just the last year, and its enormity is difficult to comprehend. These are some of the extreme weather events occurring during just one year:

- The costliest natural disaster in the world in 2018, a deadly and destructive firestorm destroyed the city of Paradise, California in November, killing 85 residents, burning 18,804 structures, and causing \$16.5 billion in damage—a quarter of which was uninsured.
- In late January 2019, a polar vortex caused the jet stream to weaken and to flow down through the Midwestern United States and Eastern Canada. The jet stream delivered Arctic conditions through February and into March, as its meander slowly shifted to the east. Record low temperatures were set, and 22 people died in the bitter cold and deep snow.
- The cold wave was followed by above-average temperatures, melting of the snowpack, heavy rains, and widespread flooding in the Central United States. During the wettest year in history, the Great Flood of 2019 submerged more than a million acres of Midwestern farmland and caused catastrophic and mostly uninsured losses of stored crops and delayed plantings.
- Extreme flooding also occurred in Bolivia in February to April, and widespread flash flooding killed 77 people in Iran in March and April.

⁷¹ The warmest year was 2016, with 16 of the warmest years in history having occurred since 2000, and ten of the hottest Julys on record having occurred since 2005.

An Inquest Into the Criminal Assault on Mother Earth

- In March, Cyclone Idai swept into East Africa causing extreme flooding, the evacuation of 4 million people, and the deaths of 1,300 people.
- Cyclone Fani struck India and Bangladesh in May, killing 89 people and causing \$8.1 billion in damage.
- A heat wave in June-July pushed hot, dry air from Northern Africa up into Europe, setting all-time high records. Back-to-back heat waves in France killed 868 people.
- Beginning in July, massive wildfires swept across Siberia burning more than 6.4 million acres in poorly accessible areas. The Forest Protection Service was actively fighting 161 fires by August, while most of the wilderness fires burned unchecked.
- Wildfires burned over 2.5 million acres in Alaska in 2019, and more than 100 “intense and long-lived wildfires” were burning above the Arctic Circle in June, including a large fire in the mossy wetlands of Greenland.
- A mass of warm air flowed across Greenland into August causing a record melting of the Greenland Ice Sheet, peaking at 12.5 billion tons of ice in one day on August 1st. With a total loss of 230 gigatons for the melt season, this level of melting had not been expected until 2070.
- Starting in July, more than 7,000 wildfires swept through New South Wales in Australia killing six people and destroying more than 2,000 structures and blanketing Sydney in smoke. By December, with the drought continuing, more than a hundred out-of-control bushfires continue to burn, as a heatwave raised temperatures to 48°C (118°F). Fire warnings were issued for the area of greater Sydney, and every road but two were blocked by fires. Tens of thousands of people in Victoria and New South Wales have been ordered to evacuate, as more

than 1,000 homes have been destroyed, and 30 people killed, along with a billion animals. More than 10 million hectares have burned.

- In 2019, more than 183,000 fires in the Amazon jungle burned more than 906,000 hectares or 9,969 square kilometers of forest. Many of the fires were intentionally set by loggers and farmers to clear the jungle
- At the end of August, Hurricane Dorian arose in the Atlantic Ocean near the Cape Verde Islands. The strongest hurricane to ever strike the Bahamas, Dorian reached Category Five by the time it made landfall on September 1 with maximum sustained winds of 185 mph. The eye of Dorian stalled for two days as it destroyed thousands of homes, leaving 70,000 homeless and killing at least 65 people. Estimated losses exceed \$7 billion, with only \$1 billion insured. Dorian tied the record for the strongest Atlantic hurricane ever, before moving on to cause considerable damage to the Eastern Seaboard of the United States.
- Torrential rains swept across northern Bangladesh in July and August damaging 580,000 homes, forcing more than 307,000 people to evacuate, and killing 119 people.
- Two cataclysmic cyclones struck Southern Africa in March and April with flooding destroying grain and staple crops, followed by a severe drought with high temperatures and low rainfall that continued throughout 2019, as 45 million people in the region experienced hunger and thirst.
- In October 2019, it was reported that the East Siberian Sea was boiling from the massive release of methane from the thawing seafloor.
- In November, Venice, Italy experienced the highest flooding in 50 years, with six feet of water covering the city.

An Inquest Into the Criminal Assault on Mother Earth

- Heavy rains caused by rising temperatures in the Indian Ocean, brought flooding and landslides to central and eastern Africa in November killing dozens of people and leaving more than 180,000 in dire need of humanitarian assistance.
- A severe, rapidly developing drought caused by low rainfall and high temperatures “flashed” across the Southeast United States in the Fall creating conditions that are too dry for Spring planting in the agricultural region.
- Spawned by the northern Jetstream and striking just before the Thanksgiving holiday, a massive meteorological bomb cyclone hit the West Coast of Oregon and California with winds in excess of 100 mph and set new records for the lowest sea-level air pressure ever recorded in California. As the storm moved across the country over the next four days, it drove strong winds and produced some of the heaviest snowfalls in a decade in the Southwest, across the Midwest, and into the Northeast.

The frequency and intensity of these extreme weather conditions provide convincing evidence that the heating of Earth’s atmosphere by two degrees Centigrade beyond pre-industrial levels will likely reach a tipping point where the impacts of global warming will become unstoppable. Having now recorded an increase of more than one degree, and with further increases already ensured by past emissions of carbon dioxide and methane, the earth may have already reached the point of no return—where nothing can be done about irreversible changes in the climate system. Whether that point has been reached, or when, is still debatable; however, the evidence of this one year of extreme weather provides proof beyond a reasonable doubt that a state of planetary emergency presently exists, which poses a dire threat to human civilization.

The journal *BioScience* published an article in November 2019 endorsed by more than 11,000 scientists from 153 nations that says,

“The climate crisis has arrived and is accelerating faster than most scientists expected. It is more severe than anticipated, threatening natural ecosystems and the fate of humanity.” They predict “untold suffering due to the climate crisis . . . unless we change how we live.” We must make “major transformations in the ways our global society functions and interacts with natural ecosystems.”

Speaking on December 2, 2019, António Guterres, Secretary General of the United Nations, called upon the young people of the world to confront the climate emergency *and* the lack of action by governments. He said:

The technologies that are necessary to make this possible are already available. Signals of hope are multiplying. Public opinion is waking up everywhere. Young people are showing remarkable leadership and mobilization. [But we need] political will to put a price on carbon, political will to stop subsidies on fossil fuels [and start] taxing pollution instead of people.

THE SIXTH MASS EXTINCTION OF ALL SPECIES ON EARTH

Homo sapiens (Latin: *wise man*) is the name of our species of humans in the nomenclature of life. Having now multiplied and migrated over the past 200,000 years to occupy every habitable space on the earth’s surface, we are one of the 1.3 million species of life presently identified, and 8.7 million species believed to exist together on Earth today. Species evolve, and species die off. Such is the nature of life. What is rare is that from time to time mass extinctions of life have occurred on Earth because of its harsh climatic conditions.

Prior to the eighteenth century, there was little or no recognition, even among scientists, that there was a history of prior life of species other than those which were extant, including humans. With the discovery and identification of the fossil bones of giant amphibians, mammoths, and dinosaurs encased in ancient stone, geologists, biologists, and other scientists began to identify and to reconstruct the natural history of survival and evolution.

It has now been established that there were five times in the evolution of life when it was almost extinguished by naturally occurring events—most often by rapid climate change. Following mass extinctions 444 and 375 million years ago, the “great dying” at the boundary of the Permian-Triassic geological epoch between 299 and 252 million years ago killed off 96 percent of all species. The exact originating cause is unknown, but the result was a drastic rise in global temperatures caused by a massive release of greenhouse gases. As the atmospheric temperatures soared, the oceans warmed, became acidified, and the amount of dissolved oxygen fell to low levels that suffocated marine life. One possible cause was the cataclysmic volcanic eruption that created the seven-million-square-mile “Siberian Traps” and released gigantic amounts of carbon dioxide. Another phenomenon of the era was the excessive expelling of methane by methanogenic bacteria as a biproduct of their survival in hypoxic (low oxygen) conditions of the oceans.

*Most alarming is the determination that the average rate of carbon dioxide released during the Permian extinction was slightly **below** the rate presently being pumped into the atmosphere by the industrial burning of fossil fuels in the past two centuries!*

Following the mysterious ending of the Triassic period 200 million years ago, the dinosaurs came to dominate the earth for millions of years during the Cretaceous period until they were destroyed along with 75 percent of all other plant and animal species by the impact of a massive comet or asteroid on the Gulf Coast of Mexico 65 million years ago. This fifth mass extinction, however, provided the opportunity for the explosive evolution of many new species, particularly mammals, who were able to diversify into new niches. Among these was the order of primates, from which we humans evolved.

Commencing about 11,650 years ago, the current geological epoch is known as the Holocene—the moderately warm and stable interglacial period we have been enjoying. This pleasant environment has produced the greatest number of coexisting species in the planet’s history. The actions of humanity to transform the earth to meet our needs, and the impact of our efforts upon it and its ecosystems, dominate this period. Inasmuch as the consequences of our activity

can now be identified in the geologic, atmospheric, and hydrologic systems of the earth, scientists are considering naming this emerging epoch the Anthropocene (human epoch). It is evidenced by a unique “biostratigraphical signal” in the data resulting from our destruction and redistribution of life.

Since we began burning fossil fuels in the eighteenth century, industrialization has added more than 365 billion metric tons of carbon to the atmosphere, and our destruction of the forests has added another 180 billion tons. We continue to pump out nine billion tons of carbon every year, which is increasing by six percent per year.

The 2019 concentration of 411.76 parts per million of carbon dioxide in the atmosphere is higher than at any point in the past few million years, and our current activities will take us past 500 ppm by 2050. This level will correspond to a devastating rise in global temperatures, as the oceans continue to absorb 2.5 billion tons of carbon each year, raising its acidity to levels that destroy marine life and curtail the supply of seafood for humans.

According to Dr. Edward O. Wilson, prior to the evolution of humans, roughly one species of every million went extinct each year. Overall, the current rate is 100 to 1,000 times greater than the background rate of extinction due to human activity. More than 200 species are going extinct every day, primarily due to loss of habitat. Biological diversity is being reduced to its lowest extent since the asteroid destroyed the dinosaurs and other life at the end of the Cretaceous Period. The ability of clever humans to conform the environment to meet our needs is one way to define us; another is that we are an invasive species which is destroying the ability of all other lifeforms to survive.

A HELLISH WAY TO DIE

As we have learned, the United States government recognized as early as 1965 that increasing levels of carbon dioxide in the atmosphere will “modify the heat balance of the atmosphere”; by 1968, the American Petroleum Institute reported the burning of fossil fuels would result in “significant temperature changes” by 2000; the United Nations established the Framework Convention

on Climate Change in 1992; and the first protocols to reduce carbon emissions were adopted by the Kyoto Treaty in 1997. Since that time, little or nothing of substance has been accomplished by the elected officials of any of the world governments—all of whom are sworn to represent the best interests of their voters.

The level of carbon being pumped into the atmosphere and absorbed by the oceans has continued to rise with each passing year of this century, and the inevitability of extinction becomes more certain as the sun continues to set on fruitless day after day of denial and avoidance.

We humans have been aware of the criticality of global warming for more than four decades, and since that time, we have pumped more deadly carbon into the atmosphere than we did in all the previous centuries of our existence, and we continue to increase, rather than to reduce the amount we contribute every day.

Unabated, the level of carbon in our atmosphere and oceans will continue to rise, inexorably. The latest position taken by the United Nations—which is more conservative than the views of many scientists—is that: global warming is accelerating the melting of glaciers and ice sheets from Greenland to Antarctica; the sea levels are rising more rapidly than previously thought; and the fisheries that feed millions of people are shrinking. In September 2019, 100 scientists from 36 countries stated in a “Special Report on the Ocean and Cryosphere in a Changing Climate” that we may have only ten years to keep global warming below 1.5 degrees Centigrade.

Other scientists believe that the time left for abatement is even shorter, and the most alarmist, Dr. Guy McPherson, professor emeritus of conservation biology, is convinced it is already too late because of the inability of people to change and the absence of political will to take timely and effective action. He cites an inability to produce and store grains at large scale due to a loss of habitat to extreme weather events as leading to worldwide starvation in the near term.

The current human population is 7.7 billion people. The World Bank has estimated that climate refugees from sub-Saharan Africa, South America, and South Asia could amount to 140 million people by 2050. The United Nations is even more pessimistic in predicting 200 million refugees by the same year and worries that as many as

one billion may be forced to migrate for water, food, and shelter to survive. In a most unjust result, these Third World victims will have contributed the least to global warming, but they will suffer the most.

Even if every signatory nation immediately implemented all their commitments in the Paris Agreement to keep the global temperature increase below two degrees Centigrade, that degree of warmth will still increase sea levels enough to flood a hundred of the major cities of the world.

We have seen with our own eyes the evidence of extreme weather events in the last year, as we experienced the destruction caused by an increase of just 1.1°C of global warming. The United Nations IPCC released a report last year which confirms the likelihood that 1.5°C of warming may be reached in as little as ten years. Higher levels can be avoided only by reducing fossil fuel burning by half in 15 years and eliminating its use to produce energy within 30 years. If the political, philosophical, and social will to accomplish these objectives cannot be found, the consequences are almost unimaginable. Temperatures can easily and quickly rise two, three, and four degrees above the baseline of the Industrial Revolution, as feedback mechanisms become more and more intense.

As natural disasters multiply, losses will become uninsurable for individuals, and governments will become incapable of assisting their citizens to recover. Imagine if the extreme weather conditions experienced in the past year were doubled or tripled, and everyone was forced to face the danger alone. Governments, their militaries, and the corporations that control them will become increasingly dangerous to the people, as they waste and exhaust the resources they have seized. The marvelous human society we have struggled for 200,000 years to build will cease to exist, and we will all die lonely and agonizing deaths.

As painful as it is, you must imagine a world in which millions of people quickly lose access to drinkable water, suffer from famines, and become the victims of violence and disorder. Absent effective action, this is the most likely future:

- Blistering summer heat waves, extended droughts, uncontrollable wildfires, massive dust storms, freezing

winter blizzards, devastating spring floods and tornados, and more powerful and numerous hurricanes and storm surges destroy the habitat and the ability of billions of people to eke out a basic living.

- The snowpacks and glaciers of the great mountainous “water towers” that supply the rivers of Pakistan, India, China and Afghanistan dry up and millions are without water.
- Equatorial and shoreline cities will become uninhabitable, and plagues and diseases will sweep through weakened populations without immunity or access to health care.
- The money economy will collapse, and governments and all other collective endeavors will fail.
- As the burning forests release their stored carbon back into the overloaded atmosphere and no longer produce oxygen, the farmland is hardened into infertile clay incapable of producing food crops and barren deserts spread across the land: there will be nothing to eat, nor water to drink—nothing to barter, nor better place to go.

We will become incapable of feeding and educating our children, and as the great dying nears its climax, we will no longer bury or remember our dead. We will become extinct. The grand experiment of humanity will have failed, our discoveries will be forgotten, and our creations will be buried among the ruins. Mother Earth will survive the assault, but it will take millions of years for her to recover from the collateral damage we inflicted by our collective suicide.

IS THERE AN ALTERNATIVE FUTURE?

Books are already being published about accepting the inevitability of extinction and how to die with dignity; however, humans have demonstrated an amazing ability to evolve in adapting to changing conditions, and the collective wisdom and creativity

of humanity may be greater than imagined. The time, however, for effective action is very short, and, even if we are able to solve the immediate environmental crisis, we may not survive unless we also resolve the related economic, political, war, and intolerance issues that interfere with our successful evolution.

These additional threats will next be dealt with, in turn, before considering the remedies that could be applied to each in the Evolution Papers. There, in inverse order, the last of these remedies to be considered is for the environment, because it is essential the other issues be resolved in order to generate the resources required to restore the harmony of the earth's climate.

DEFRAUDING EARTH'S CHILDREN OF THEIR ECONOMIC INHERITANCE

As the human population has increased, its economic output has continued to grow; however, in the past century, expanding productivity and the increase in per capita income has allowed the world economy to expand tremendously beyond the increase in population, and the economy is on track to quadruple by 2050. This bounty has not been shared equally, with half of the world population living in poverty and hunger. While the efforts of the poor to grow food contributes to deforestation and the deterioration of arable land, the most threatening economic impacts on the environment results from the shared prosperity of the other half of the people, who consume vast environmental resources and discharge massive amounts of waste products into the environment.

Some totalitarian governments continue to exist, as in China; however, most world governments are freely elected by democratic societies; however, all countries, except for a few with a command economy, such as North Korea and Cuba, now operate some form of a capitalistic economic system—including China. Basic capitalism relies on the mechanism of supply and demand to establish competitive markets and prices, and to distribute goods and services. Capitalists use money to purchase the means of production and to employ workers to produce the goods and services that are sold by the capitalists for profit on their investment.

In the global materialistic consumer society that has matured in the past century, large corporations have come to dominate both the economies and the governments having the duty to regulate the harmful activities of corporations. Conceptually, corporations are organized under the laws of the People to support the public good, and their charters can be revoked for harmful activities; however, corporations have acquired the constitutional rights of persons, particularly in the United States.

Corporations have become increasingly powerful, as they act without the restraint of human conscience or lifetimes in subverting

the governments that created them, and, much like out-of-control robots they are mindlessly destroying the habitat of humanity and all other forms of life on Earth.

From as few as 7,000 transnational corporations in 1970, it was estimated several years ago that there were more than 63,000 international parent corporations, operating 690,000 subsidiaries around the world. The annual revenue of each of the most massive of these corporations exceeds the economies of all but the largest industrialized countries. Without any allegiance to nation or empathy for people, these artificial corporations can locate their headquarters wherever they are best able to corrupt governments and to escape regulation of their harmful activities and taxation of their excessive profits.

One measure of an economy is the extent of its growth, but in addition, it is evaluated by the speed it is growing. An economy based upon consumer spending requires constant expansion in order to produce the additional incomes require to sustain the increased growth. In some respects, an expanding economy takes on aspects of a cancerous growth, as it must continually consume increasing amounts of resources to avoid an economic recession or depression.

The environmental and economic consequences of unchecked corporate exploitation will continue to multiply, exponentially, until the ability of the earth, and the economy of its people, to recover is overcome. The international economy grew at a rate of 3.7 percent in 2018; at that rate, the size of the economy will double in less than 20 years, adding an equivalent additional stress on the environment and those struggling to earn a living.

The collateral damage to the environment is not included as a cost of production in calculating business profits, but it is passed on to consumers as an invisible cost that will ultimately be repaid by human suffering. Moreover, government subsidies reducing the cost of water, property, and other natural resources for industrial processes, and government encouragement of the reckless production and misuse of fossil fuels, shift the cost of environmental damage from corporations to the People, whose taxes must ultimately pay for these gifts to corporations.

The existing corporate-controlled capitalist economy is the greatest threat to the environment today, and it is primarily responsible for the state of its distress. Efforts to reverse the damage already caused by robotic corporations must include the redefinition of a free and fair enterprise economic system that balances labor and capital, one which will contribute to the freedom of humanity, and will better ensure the successful livelihoods of our children, and theirs.

A CENTURY OF ECONOMIC CORRUPTION AND INSANITY

Looking back one hundred years at the economic conditions in the early twentieth century following the First World War that killed 16 million people and a deadly influenza epidemic that killed 50 million, we find a situation frightfully like the one we are experiencing today.

As the post-war economy of the “Roaring Twenties” boomed, the Federal Reserve banking system—established by the United States in 1913 to avoid financial panics—failed to avoid an uncontrollable financial expansion that started during the war and continued in the fragile peace.

New inventions and rapid industrial growth drove a housing bubble that peaked in 1925 and a bull stock market that seemed unlimited in its potential, as more and more working people borrowed money to buy stocks. Extravagant wealth was spent on new automobiles, clothes, dancing, and bootleg alcohol—which had become enticingly illegal in January 1920.

Gullible and financially ignorant people were encouraged to purchase wildly inflated stocks on 9-1 margins, gambling that stocks prices would continue to rise. Limited by law from issuing more money than could be backed by gold, the Federal Reserve was forced to the redeem gold certificates held by foreign investors, reducing the amount of available credit and causing a downward spiral in the money supply.

Banks themselves became speculators, as they bought and sold risky stocks to the public and made unsound loans to companies in which they invested. Then, on “Black Thursday,” October 29, 1929,

the bubble burst and worried depositors began to withdraw their savings from the banks. Stock prices fell through July 8, 1932, when the bottom was hit. The market did not return to its pre-1919 levels until 1954.

Although the League of Nations had recommended in 1927 that “the time has come to put an end to tariffs and to move in the opposite direction,” President Herbert Hoover signed the Tariff Act of 1930 that raised tariffs on more than 20,000 imported goods, and American’s trading partners imposed retaliatory tariffs. The “Tariff Wars” reduced American exports and imports by half and greatly exacerbated the world-wide economic downturn which followed.

The “Great Depression” spread around the world causing international trade to fall by half to two-thirds, reducing prices, profits, personal incomes, and tax revenues in every national economy. New building ceased, manufacturing fell by half, and farmers were faced with harvesting crops that were worth half of what they were when they planted. More than 25 percent of all workers were unemployed in the United States, and in other countries more than one-third could not find work. With substantially reduced tax revenues, governments were unable or unwilling to provide relief to workers or their hungry and homeless families.

Even though the interest rate fell, people were unwilling to take on new debt, and a deflationary spiral commenced in 1930 that led to ever lower wages and prices. This increased the burden of existing debts, which retained their inflated contractual conditions of repayment. Banks began to fail as loans could not be repaid, and savings and checking deposits amounting to billions of dollars, disappeared.

Fascist and nationalist governments seized power in Germany, Italy, Spain, China, and Japan. They were followed by others, including Austria, Brazil, Chile, Greece, Hungary, Portugal, Romania, and Yugoslavia, and fascist organizations gained strength in other major democratic countries such as Canada, Australia, England, and The Netherlands.

The United States experienced widespread xenophobia with the “America First” movement, and tens of thousands of Ku Klux Klan members openly paraded in white sheets and hoods down

Pennsylvania Avenue in Washington, DC in 1925 and 1926.⁷² On February 20, 1939, more than 20,000 “patriots” attended a pro-Hitler, “Americanism” rally in Madison Square Garden, in New York City, which was decorated with American flags and Nazi swastikas.

Communism had been established in Russia by revolution in 1917, and it was extended to captive neighboring nations with the organization of the Soviet Union in 1923. Around the world, communists and leftwing socialists began to battle the fascists and rightwing conservatives for control of governments and economies, and once they seized control, they began to fight each other. Soon, the world was engaged in a war in which as many as 100 million people died.

Democrat Franklin D. Roosevelt defeated Republican President Hoover in the 1932 election. Roosevelt was elected by a combination of southern democrats and northern workers, millions of whom were organized under the American Federation of Labor (AFL) and the Congress of Industrial Organizations (CIO).

A political centralist, Roosevelt represented the austerity views of his upper-class capitalist roots in opposing tax revenue deficits and unbalanced budgets. Confronted, however, by the powerful demands of those with more socialist views who voted for him, Roosevelt and his administration convinced the wealthy and corporate leaders that it was in their best interests to accept increased regulation and taxation to meet the social welfare demands of labor and socialists.

Roosevelt's democratic-controlled Congress imposed regulations on financial institutions that corralled their reckless gambling and increased their responsibility to the public. The Glass-Steagall Act and other controls not only protected the public from predatory bankers, but it also inoculated bankers against the disease of their own greed. The Federal Deposit Insurance Corporation (FDIC) was created to insure commercial bank deposits.

The “New Deal” constructed a social democracy and limited welfare state in the United States; it provided Social Security pensions

72 Fred Trump, the father of President Donald Trump, wearing the robes of the Ku Klux Klan was arrested, but not charged, on May 31, 1927 at a New York City Klan rally for “refusing to disperse.”

for disabled and elderly workers and wage compensation for the unemployed; it provided tax-funded government jobs for more than 12 million people; and its budget deficits stimulated the economy, resulting in higher levels of consumer spending. The economy slowly improved, but it was the U.S. entry into the Second World War at the end of 1941 that brought full employment and economic prosperity.

Although the war resulted in the deaths of as many as 100 million people, consumed 40 percent of the Gross Domestic Product in the United States and cost more than \$4 trillion dollars (adjusted for inflation), World War II created the conditions that encouraged development of an international consumer economy.

In the United States, the demand by workers and small business owners for a good life was based on a healthy self-confidence, supported by the New Deal programs, and fueled by accumulated personal savings, consumer demand, the GI Bill of Rights, and a vigorous and healthy labor movement.

Roosevelt did not survive the war or his fourth term in office, but for almost eight years between 1945 and 1953, his successor, Democratic President Harry Truman presided over an economic boom in which many, if not most, American families came to enjoy a comfortable and secure life style primarily paid for by the husband's single income. The "American Dream" allowed the purchase of new homes in the suburbs; mothers were able to stay at home and manage the households; and children could attend newly constructed neighborhood schools, safely walk home, and play unmolested in neighborhood parks. The prosperity was financed by high taxes on corporations and the wealthy, and by withholding taxes from the paychecks of well-paid unionized workers.

There was enough surplus in the U.S. economy to support the recovery of other nations, whose economies and industrial capacities had been destroyed in the war. The Marshall Plan gave more than \$15 billion (\$100 billion in today's dollars) to help rebuild the Western European economies, and other foreign aid amounting to many billions of dollars was granted to vulnerable nations during the Cold War to oppose the extension of communism, and its economic system.

The national and international financial industry was unrelenting in its resistance to the statutory and regulatory oversight of its activities imposed as a part of the New Deal contract between the People and their government, and between businesses and their workers. Deploying an army of lawyers and lobbyists, provisioned by bundles of cash to pervert justice and purchase legislators, the bankers assaulted the citadel of reasonable regulation and reduced it to rubble.

Congressional legislation in 1980 and 1982 allowed Savings & Loan (S&L) companies to expand their lending authority to include commercial, as well as home loans, the issuance of credit cards, and to relax accounting standards. Deposits were guaranteed by the government, and when the real estate market contracted five years later, the government had to bail out the S&Ls which began to fail. The net cost to the American taxpayers was more than \$125 billion.

As the banking, insurance, and brokerage industries combined forces and spent millions of dollars to influence the representatives of both major political parties, they were able to obtain reversal of some of the provisions of the Glass-Steagall Act which had protected consumers and investors from predatory banking practices.

President Carter had appointed Paul Volcker as the chair of the Federal Reserve Bank in 1979. Inflation was the primary economic problem of the 1970s, peaking at 14.8 percent in 1980. Volcker acted aggressively to contain inflation by raising the federal funds rate by which banks borrow money from each other overnight, to 20 percent in 1981, and he raised the prime rate by which the Fed lends money to banks to 21.5 percent in 1981. Although he was widely criticized for the slowing of construction and manufacturing, a high unemployment rate, and the recession in 1980-1982, Volcker's policies reduced inflation from 11.83 percent in 1980 to 3.71 percent in 1983.

Republican President Ronald Reagan renominated Volcker for a second term as the Fed chair in 1983, but he fired Volcker in 1987 for failing to support the deregulation of the financial institutions. Alan Greenspan, a disciple of author Ayn Rand and her philosophy of selfishness and *laissez-faire* capitalism, was nominated by Reagan, and Greenspan chaired the Fed until 2006. In support of Reagan's

tax cuts and deficit spending to stimulate the economy, Greenspan initiated a loose monetary policy and lowered the Fed rates, which ultimately led to inflation, a weak dollar, higher consumer prices, and increased corporate profits.

The Financial Services Modernization Act of 1999, which was passed by a Republican-controlled congress and signed by the “New Democrat” President Bill Clinton, effectively repealed the Glass-Steagall Act and the Bank Holding Act of 1968. Commercial banks were allowed to merge with major insurance companies and brokerage firms. The stock market boomed, as it was increasingly turned into an economic casino encouraging the gambling fever of financial institutions and the wealthy, particularly concerning the newly developing Internet and technology companies.

With the inauguration of Republican President George W. Bush in 2000, the “dot.com” stock market—which had relied on venture capital and stock sales—crashed and eliminated more than \$5 trillion in market value by 2002.

Encouraged by deregulation and backed with government guarantees, banks began to make highly speculative, or subprime, high-interest real estate mortgage loans to weak or unqualified borrowers, and a new financial bubble began to expand. Homeowners were encouraged to refinance and to use their equity to purchase consumer goods.

Banks began to issue mortgage-based securities, which were purchased by foreign investors and sovereign-wealth funds of China and other exporting countries, who were selling “stuff” to American consumers. As much as \$2 billion a day flowed into the U.S. economy from abroad. Even though the entire domestic product of the world economy was only \$55 trillion in 2008, speculative lending (gambling) that year amounted to \$525-550 trillion.

A clear warning bell that unregulated financial gambling was dangerously out of control was sounded by the near failure in 1998 of Long-Term Capital Management. The private firm was a highly leveraged management and hedge fund, that used computerized models to produce extraordinary “absolute” profits by gambling on the value of currencies and bonds. Considered “too big to fail,” the firm’s collapse, and default on \$126 billion in managed assets, was

avoided by a \$3.65 billion bailout arranged by the Federal Reserve and its member banks.

Rather than reduce the gambling fever by increased regulation, the Commodity Futures Modernization Act of 2000 was passed by a Republican majority in Congress and signed by President George W. Bush. It exempted energy trading by companies, such as Enron, from regulation; it protected “financial institutions from overregulation” and positioned the U.S. “financial institutions to be world leaders into the new century.”

Financial institutions and savvy investors were able to “hedge” their gambling bets by purchasing a wide range of “derivatives,” including credit default swaps, and by engaging in short selling to manage their risks. Essentially, insurance was purchased to offset gambling losses.

More warning bells began to sound. Permits to build new homes fell by 28 percent in 2006, which began to trigger defaults on subprime mortgages. The Fed determined that member banks did not have enough liquidity to operate, and it began to buy the risky subprime mortgages to bail out the banks. Concern about the widespread gambling using collateralized debt obligations and other derivatives grew.

In March 2008, Bear Stearns, which carried \$2.5 trillion of credit default swaps on its books, failed. Since, as an investment bank, deposits in Bear Stearns were not covered by FDIC, the Federal Reserve created a buyout scheme in which it loaned \$25 billion to Bear Stearns and loaned \$30 billion to JPMorganChase to finance its purchase of Bear Stearns, which ceased to exist. JPMorgan pocketed the entire bailout in order to avoid its own insolvency.

With the housing market dropping, the government had to bailout the government-sponsored agencies of Fannie Mae and Freddie Mac in July 2008 by guaranteeing their loans and purchasing their stock. Lehman Brothers declared bankruptcy on September 15, 2008, and the Dow Jones Industrial Average began to drop. The next day, the Fed made an \$85 billion (later raised to \$150 billion) loan to the bankrupt insurance giant, American International Group, Inc. which was liable for credit default swaps it had issued to insure the now-failing mortgage-backed securities.

On Saturday, September 20, in an example of “the privatization of profit and the socialization of risk,” the Secretary of Treasury and the Fed sent a \$700 billion bailout bill to Congress to save the “too big to fail” banks. When the Senate voted against the bailout bill, the Dow went into freefall, causing President Bush to say, “If money isn’t loosened up, this sucker could go down.”

The absolute risk of unregulated financial gambling finally caught up with the arrogance of the schemers on September 29, 2008 when the Dow fell 777 points in one day, the largest point drop in history (until 2018).

The resulting “Great Recession” adversely affected financial markets around the world, and the Fed increased its currency swaps with foreign central banks to \$620 billion. When \$500 billion was withdrawn from prime money markets, the Fed was forced to loan \$540 billion to the money market funds to meet redemption demands. In December, the Fed reduced the fed funds rate to zero, as the economy lost more than a quarter million jobs.

Democrat Barack Obama was inaugurated as president on January 20, 2009, as the world banking system faced total collapse. President Obama signed The American Recovery and Reinvestment Act of 2009 on February 17, 2009, and he appointed Paul Volcker to chair his Council of Economic Advisory Board to help oversee its implementation. The Act invested \$831 billion into the economy, as it slowly began to recover, setting higher records throughout the Obama administration.

History shows the Western Allies won World War II largely through the industrial might of the United States, and that the recovery of Europe was financed by the surplus capacity and profits from that industrial base. An objective analysis of the recovery from the collapse of the financial markets in 2008 would likely reveal that, this time, all of the economies around the world, including the European Union and that of the United States, were saved by the industrial output of China—by its investment of billions of dollars in excess profits in the bonds of the United States used to pay for the bailouts. Now, China’s economy, along with that of other nations, is under attack in a new economic world war being waged by way of tariffs, trade restrictions, domestic subsidies, and tweets by the

President of the United States.⁷³

TWEETING THREATS OF ECONOMIC WARFARE

On June 16, 2015, the privileged, narcissistic, son of wealth, who had avoided military service because of “bone spurs,” who became a confidence game builder, whose failed business ventures included casinos, airline, bottled water, board game, magazine, mortgage company, steaks, travel, university, vodka, cologne, menswear, and a professional football team, who became a tax avoiding, income exaggerating, women molesting adulterer, over-the-hill reality television star (where he played a wealthy and ruthless boss who enjoyed bullying and firing people), and who finally succeeded by pandering his fake success and fame of his name as a “brand” around the world to people—who dream about becoming rich and famous, as an escape from the drudgery of life of having to work for a living, instead of living on undeserved and inherited wealth—Donald J. Trump descended from the penthouse of his highly leveraged Trump Tower down a golden escalator to music lifted from the *Phantom of the Opera*. He launched his campaign for the presidential nomination of the Republican Party on a nationalist, isolationist, protectionist, racist, and xenophobic “America First” political platform.

Although he had knowingly and continually employed and exploited undocumented foreign workers in his various “deals,” and his current trophy wife had immigrated unlawfully,” Trump blamed the majority of the nation’s woes on illegal immigrants, and he promised to deport all undocumented migrants and to build a great and “beautiful” wall to keep them out, which he would make the Mexicans pay for.

Wearing and peddling his trademarked “Make America Great Again, MAGA”™ golf caps, “The Donald” set out to increase the value of his “TRUMP brand” by running for president. A flamboyant showman, Trump flew around the country in his aged passenger jet, pitching his lines to adoring fans at personal-appearance rallies, and through directed advertising on AM talk radio and social media.

73 Economic warfare is a zero-sum game for losers, while economic cooperation is a win-win game for everyone.

His message was targeted at the tired, disaffected, and angry working people who feel betrayed by their government. Playing his bullying boss persona, Trump labelled his opponents with nasty nicknames and proclaimed that he was the only one who could negotiate a better deal for the American People in Washington, DC, and around the world.

Incapable of reading more than a paragraph of written text, and addicted to Twitter, with its 140-character limit, the “realDonaldTrump” tweeted his stream of consciousness during the lonely nighttime hours throughout the campaign, typing whatever popped into his head, as he watched late night cable.⁷⁴

Trump lost the popular vote of most of the People of the United States, but having received the able assistance of some of the best Internet propaganda experts in the world, Donald J. Trump succeeded in conning enough people in the smaller Middle-America states, providing a majority of the votes cast by the states in the Electoral College.

President Trump was inaugurated on January 20, 2017. He was the favored dark horse candidate of Russian President Vladimir Putin, who hated Hillary Clinton, and the willing beneficiary of a substantial, surreptitious Internet and social media campaign conducted by Russia’s intelligence services.

President Trump immediately commenced an uninformed, unwise, undisciplined, and unprincipled attack on the U.S. and world economic systems and political relationships that continues to this date. Although he had promised to “drain the swamp,” President Trump appointed almost 300 former lobbyists to positions of power in the government to regulate their former clients—one of every 14 appointments. Among them were the heads of the Department of Defense, the Environmental Protection Agency, Health and Human Services, and the Department of Interior.

On January 23, 2017, three days after being sworn in, President Trump tweeted his withdrawal from the United States from the

⁷⁴ @realDonaldTrump presently has 67.8M followers, or one in five adult Twitter users in the U.S., as he tweets more than 100 times on some days. Kim Kardashian West, another public personality known for outrageous behavior and whose brand is based on her media fame, has 62.6M followers.

Trans-Pacific Partnership, a 12-nation free-trade pact negotiated and signed by President Obama in 2016.

President Trump signed the Tax Cuts and Jobs Act of 2017 on December 20, 2017, which reduced the top individual tax rate paid by the wealthy to 37 percent and the corporate tax rate from 35 percent to 21 percent. The individual tax rate was also cut; however, the loss of exemptions reduced the net benefit to the working and middle class.

In May 24, 2018, President Trump signed the Economic Growth, Regulatory Relief, and Consumer Protection Act which reduced the protections enacted in the Dodd-Frank Act passed after the 2008 financial crisis. The number of “too large to fail” banks required to undergo regular “stress tests” was reduced from 5,670 to just 12, and additional lenders were exempted from mortgage underwriting standards. In a cruel mockery of its title, many lending institutions were exempted from consumer protection reporting requirements. The law made it easier for banks to engage in risky gambles, and the reduced regulations increased the systemic risk of the entire financial sector.

The Bankruptcy Reform Act of 2005 and the Dodd-Frank Act grants a priority of repayment to derivative counterparties, providing the gamblers with a greater claim to a bank's assets than its own depositors. The FDIC has officially recognized that under certain conditions, a customer's bank deposits can be seized by the bank, and changes to international banking rules endorsed by President Obama, allow bank deposits to be considered as assets of a bank during bankruptcy proceedings. Customer's cash deposits will be replaced with difficult-to-sell bank stock certificates.

The Student Loan Debt reached an all-time high in 2019 at \$1.41 trillion dollars, which is the second largest amount of debt behind mortgages. The debt is set to exceed \$2 trillion by 2024, as more and more students are forced to borrow money to obtain a higher education, and repayment is demanded of millennial graduates whose average net worth is just \$10,500. There is no collateral to be surrendered in case of default, as repayment is required from future earnings, a form of involuntary servitude.

Student loan debts are almost impossible to discharge in bankruptcy, and they constitute a massive drag on the economy. In another example of the socialization of risk to financial institutions, the loans are largely guaranteed by the government. During their most productive years, the money earned by young borrowers must be paid toward the profits of private lenders, instead of for goods and services that would lift the economy.

For most workers, access to a car is a requirement for daily living and to get to work, as public transportation is largely inadequate or unavailable for most commuters. By the summer of 2018, borrowers owed \$1.26 trillion on their motor vehicles, an increase of 75 percent since 2009. More than 25 percent of these loans are fundamentally predatory, high interest, made to borrowers with poor credit scores, enabling them to buy more expensive cars and bigger trucks than they can afford. More than seven million people are at least three months behind on their car loan payments, as cars equipped with chip technology and GPS locators make repossession easier than ever.

In April 2018, the Trump administration rolled back consumer protections enacted by President Obama to keep minorities from being charged higher interest rates on loans.

More than 200 million people now possess a credit card providing revolving credit on short-term borrowing. The number of debtors more than 90 days past due on accounts is approaching two percent, the highest rate since 2010, following the 2008 crash. The rate of new borrowers failing to meet minimum payments within the first year of borrowing has risen to more than five percent, as the interest rate increases on the unpaid balances mount to as much as 25 to 30 percent.

Many auto loans are “secularized,” packaged, and resold as marketable securities to other financial institutions, such as pension funds, just as home mortgages were gambled prior to 2008. The auto loan market is less than ten percent the size of the mortgage loan market, and the consequences of a car loan market meltdown may be less severe than the home mortgage crisis. Combined, however, with the student loan burden and the credit card debt, the question is not if, but when the next financial crisis involving these debt sectors

will occur, how severe will it be, how long will it last, and what can be done to heal the mortally wounded worldwide economy?

On February 5, 2018, fears of inflation and higher interest rates forced stocks into a free fall in which the Dow plunged almost 1,600 points, setting a record for the biggest point decline in history on one trading day. The potential collapse of U.S. financial markets spread chaos around the globe as other stock markets dropped.

Immediately thereafter—distracting attention from the threatened failure of the U.S. economy under his administration—President Trump relied on cold-war laws enacted by Congress authorizing presidential powers in the case of a foreign attack, to assert “national security threats” and to declare a trade war on both our allies and perceived economic enemies. We can track the skirmishes and battles, as tweeted by the president, on a timeline prepared by Reuters:

- In March 2018, President Trump imposed a tariff on all imported washing machines and solar panels from all countries. He later tweeted, “Our Country was built on Tariffs, and Tariffs are now leading us to great new Trade Deals—as opposed to the horrible and unfair Trade Deals that I inherited as your President.”
- In April 2018, he ordered a 25 percent tariff on all steel imports and a 10 percent tariff on imported aluminum from all countries.
- China retaliated with a 25 percent tariff on a list of 128 U.S. products, including soybeans, fruits, nuts, pork, steel piping, airplanes, and automobiles.
- President Trump threatened a 25 percent tariff on \$50 billion of Chinese imports.
- China threatened a retaliatory tariff on \$50 billion in U.S. imports.
- In July 2018, President Trump said the European Union was a greater foe of the U.S. than Russian and China.
- In August 2018, the U.S. announced plans for a ten percent tariff on \$200 billion of Chinese Imports, which

President Trump ordered increased to 25 percent.

- The U.S. Department of Agriculture instituted a \$28 billion bailout of (primarily) corporate farmers affected by the Chinese tariffs. Farm bankruptcies rose by 25 percent and farm debt reached a new high.
- In September 2018, 25 percent tariffs on \$16 billion of goods became effective on both sides.
- In December 2018, the U.S. implemented a ten percent tariff on an additional \$200 billion of Chinese imports, and President Trump tweeted a threat to increase it to 25 percent on January 1, 2019.
- China responded with tariffs on \$60 billion of U.S. goods.
- On December 30, 2018, the 11 nations of the Trans-Pacific Partnership remaining after the U.S. withdrawal, signed a new Comprehensive and Progressive Agreement for Trans-Pacific Partnership, which excluded the United States.
- In February 2019, the parties agreed to a 90-day armistice on additional tariffs allowing for negotiations, leaving in place the April 2018 tariffs.
- In May 2019, President Trump tweeted that he intended to raise the tariff on Chinese goods to 25 percent, and China backed out of a draft trade pact.
- In August 2019, the parties agreed to restart trade negotiations, but after two days, President Trump accused China of failing to keep a promise to purchase more farm products and announced tariffs on an additional \$300 billion of Chinese products. China ceases its purchase of U.S. agricultural products.
- The Chinese currency, the yuan, dropped past the seven per dollar level, and the U.S. accused China of manipulating its currency, driving the dollar sharply lower.
- On August 23, 2019, the president tweeted, “My only question is, who is our biggest enemy, Jay Powel [his own nominated chair of the Federal Reserve] or Chairman Xi?”

- In September 2019, U.S. tariffs on \$125 billion of Chinese goods, including smart speakers, Bluetooth headphones, and many types of footwear took effect in time to raise prices for holiday shoppers.
- China announced additional retaliatory tariffs against \$75 billion of U.S. goods in September.
- Although trade talks continued, with a few interim agreements, the U.S. Commerce Department placed 28 Chinese companies on its “entity list,” banning U.S. firms from selling to them because of alleged involvement in human rights abuses against Uighur Muslims in Xinjiang.
- On September 18, 2019, President Trump tweeted a criticism of Fed chair Powell, who reduced interest rates by a quarter point instead of to zero as demanded by Trump: “Jay Powell and the Federal Reserve Fail Again. No ‘guts,’ no sense, no vision! A terrible communicator!”
- On October 2, 2019 President Putin praised Donald Trump’s economic policies that have “propped up the economic growth in the U.S.” and the Russia and the U.S. “Now have steady, confidence-based, as I see it, relationship. . . .”
- The Dow averages whipsawed up and down throughout November and December, driven by the on-off tweets of President Trump leaking his latest threats and promises about a trade agreement with China.
- President Trump set a new daily Twitter record as he tweeted and retweeted 115 times on December 12, 2019, proclaiming his innocence in the impeachment investigation being conducted by the U.S. House of Representatives. Regarding trade, he tweeted, “VERY close to a BIG DEAL with China. They want it, and so do we!”
- On December 13, 2019, President Trump tweeted that China and the U.S. announced a first phase agreement for the Chinese to purchase of U.S. agricultural products; however, the existing tariffs would remain in place, with

the “penalty” tariffs suspended during negotiations.

- On December 13, 2019, the House Judiciary Committee voted along party lines to approve an impeachment charge of abuse of power for President Trump compelling Ukraine to investigate his 2020 political rival Joe Biden, while holding military aid approved by Congress as leverage, and a charge of obstruction of Congress for blocking the House’s efforts to investigate his misconduct.
- On January 16, 2020, the United States and China signed a “phase one” agreement that left existing tariffs in place, but delayed implementation of others threatened by both sides. China agreed to purchase an additional \$16 billion in agricultural products in the next two years. The Trump administration paid out more than \$28 billion in aid in 2018 and 2019 to farmers who suffered losses due to the tariffs. The \$12 billion lost on the “deal” will be paid for by American taxpayers.

In September 2019, *Microsoft News* conducted a poll in cooperation with Spotlight on Poverty and Opportunity asking about financial worries. Almost two-thirds of all Americans say they “live from paycheck to paycheck,” are not “saving enough for retirement,” do not have enough savings to cover a month’s expenses,” and do not “have enough savings to send children to college without taking out student loans.” Almost 12 percent, or more than 38 million people live in poverty in America, an extreme level of destitution.

Given the leaderless economic chaos under which ordinary people are presently struggling to earn a living and to pay debts, it is difficult for anyone to predict with any certainty what the future holds. Most working people cannot short sell their financial livelihoods or hedge their bets on jobs or purchases; however, people who think for themselves can only try to ascertain the truth as best it can be determined and to make the best decisions possible under the circumstances. Even so, it is virtually certain that one or more of the critical economic issues just discussed will not be adequately addressed, and soon enough, there will be another recession or depression. The odds are that it will be deep and long, that it will

be President Trump's "base" who will suffer the most, that he will blame others for the failure, and that he will continue to peddle his "brand" so long as there are those gullible enough to pay for it.

Last year in July 2018, Alan Greenspan, the former chair of the Federal Reserve warned, "There are two bubbles: stock market bubble and a bond market bubble." He fears the collapse of the bond market because investors now consider the ten-year treasury bond to be riskier than the two-year bond in a situation known as an inverted yield curve, an infallible predictor of a recession. The "smart money" is saying the economy will be really bad ten years from now, and we can only look forward one year at a time.

More recently, Paul Volcker, who was nominated to chair the Federal Reserve by both Democratic and Republican presidents, completed his autobiography just before his death on December 8, 2019. Commenting on President Trump's accusation that Fed Chairman Jerome Powell (President Trump's own nominee) was an "enemy" of the United States, comparable to China, Volker's last words were:

Not since just after the Second World War have we seen a president to openly seek to dictate policy to the Fed. That is a matter of great concern, given that the central bank is one of our key governmental institutions, carefully designed to be free of purely partisan attacks.

Increasingly, by design or not, there appears to be a movement to undermine American's faith in our government and its policies and institutions. We've moved well beyond former president Ronald Reagan's credo that "government is the problem," with its aim of reversing decades of federal expansion.

Today we see something very different and far more sinister. Nihilistic forces are dismantling policies to protect our air, water, and climate. And they seek to discredit the pillars of our democracy: voting rights and fair elections, the rule of law, the free press, the separation of powers, the belief in science, and the concept of truth itself.

THE INSATIABLE MONSTER OF GLOBAL CORPORATE CAPITALISM

This paper on the economy began with the image of corporate robots mindlessly destroying the habitat of humanity, along with all other forms of life, and we will now briefly revisit that premise, as we try to imagine how it will be, if and when the computer brains of corporate automatons become better programmed with artificial intelligence designed to maximize monetary profits and to minimize the cost of human labor. The progeny will be an ever increasingly powerful, conscienceless, corporate behemoth, with an insatiable appetite for monetary profits, with no comprehension of good and evil, and legally endowed with an eternal life.

As a preview of the corporate monster in action, we can travel back in time to the summer of 1944 during World War II in occupied Poland at a remote junction of several railroads. There, Germany constructed a gigantic collection of concentration camps known as Auschwitz-Buchenwald to imprison the masses of Jews, Gypsies, and Soviet Union prisoners of war they had captured during the war, *and* to supply them as slave labor to massive chemical and synthetic-rubber and other industrial facilities constructed at the same location, which were operated and supplied by a number of major German corporations including: I.G. Farben, Siemens, Krupp, Metall Union, BMW, Opique Iena, Rheinmetall Borsig AG, Schneider, Erla, Heinkel, Junker, Vistra, Zeitz, and the German subsidiary of the Ford Motor Company.

As prisoners arrived at Auschwitz in cattle cars on railways operated by the Deutsche Reichsbahn, a medical doctor conducted a “selection” on the platform, as the prisoners disembarked with their belongings. The most able bodied and skilled were selected for work by the corporations, and the remainder—the elderly, most women, and all the little children and babies—were discarded as waste. All personal property, including jewelry, watches, eyeglasses, and clothing was seized, as the helpless victims were forced to undress, before their head hair was shorn with electric clippers to be processed into felt used for insulation in German submarines.

The victims were finally herded, naked and tightly packed, into a large concrete, windowless, room equipped with fake shower heads in the ceiling. Instead of water, however, a hydrogen cyanide gas

manufactured and sold by a subsidiary of IG Farben was poured down upon them. As they inhaled the cyanide—which instantly prevented red blood cells from carrying oxygen to their bodies—the packed elderly, women, children, and babies began to suffocate, panic, scream, vomit, urinate, defecate, and die in wretched agony.

Processing as many as 6,000 bodies a day, prisoners pulled the dead bodies from the gas chamber into an adjoining large room where body cavities were searched for concealed valuables, and any gold teeth were pulled. The commercially worthless bodies were cremated in rows of massive ovens built and maintained by the major engineering corporation, Topf & Söhne.

Healthy prisoners selected for labor were issued one thin all-weather uniform, fed dry bread and watery soup containing minimal calories, and slept huddled together on bare wooden shelves in rows of barracks without sanitary facilities or adequate heating. Slaves were literally worked to death, as their bodies burned their fat reserves—simply another resource in the corporate ledger of materials and profit. When all fat was consumed, the emaciated and skeletal bodies were burned and replaced by healthy slaves medically selected at the Auschwitz rail platform, having arrived “just in time,” according to the finely tuned corporate plan.

It is difficult to comprehend the enormity and horror of the slave labor camps operated at Auschwitz and other industrial locations throughout Germany where hundreds of thousands of slave bodies were consumed by corporations; however, we can see firsthand how such processes get started. We need only to witness the tens of thousands of undocumented migrants—many of whom are children forcibly separated from their parents—presently confined by the U.S. Immigration and Customs Enforcement in camps constructed and operated by corporations. These include GEO Group and CoreCivic, formerly the Corrections Corporation of America (which earned nearly a billion dollars from INS contracts in 2017). Corporate financing for the INS operations and other corporate jails and prisons being operated for a profit around the United States, is provided by Wells Fargo, JP Morgan Chase, and Bank of America.

Modern corporations—nonhuman economic entities established by operation of law and empowered to make and enforce contracts—started in the seventeenth century with the East India Company and other corporations chartered by the English Parliament to establish and operate colonies in America and elsewhere. It was the revolution against these corporations, as well as the British monarchy, that led to the establishment of the United States.

Initially, at least in principle, corporations were chartered with a limited lifetime and purpose, and they were required to serve the public good—or else they would lose their charter. In the United States, corporations received the rights of personhood, not by the Constitution, or by any act of Congress, but by an erroneous headnote added by a Supreme Court clerk in 1886 that seemed to apply the equal protection and due process of the laws granted to Persons under the Fourteenth Amendment to corporations.

Today, U.S. corporations, including those owned by the citizens of other countries, or even by the governments of other countries, have the same constitutional protection as natural born U.S. citizens. Corporations have the rights of free speech, to contribute to the campaigns of candidates for public office, to purchase advertisements on behalf of candidates and causes, to pay money to influence the votes and corrupt the official acts of elected officials, and to exploit human labor and environmental resources in the production of excessive profits. It is not possible, however, to put a corporation in jail for the crimes it commits in its insane pursuit of excess profits.

Corporations have no concept of fair play and good citizenship, as they are programmed to avoid taxes and other public and social responsibilities, in obtaining the maximum profit possible. The Institute on Taxation and Economic Policy examined the 2018 financial filings of Fortune 500 companies and identified 60 of the largest U.S. corporations that paid zero taxes in 2018 on a collective \$79 billion in profits. Instead of paying \$16.4 billion in federal income taxes (according to the new lower tax rate), they collectively managed to receive \$4.3 billion in rebates. Among the corporations that paid no taxes were Netflix, Amazon, Chevron, Delta Airlines, Eli Lilly, General Motors, Gannett, Goodyear Tire and Rubber, Halliburton, IBM, JetBlue Airways, Principal Financial, Salesforce.com, US Steel,

and Whirlpool. Of the corporations that did pay taxes, it was at an effective tax rate of 11.3 percent, half the 21 percent corporate tax rate to which it was already lowered from 35 percent by President Trump.

The unrestrained economic and political power of corporations has allowed them to gobble up other corporations in growing into economic monsters, whose tentacles reach around the globe into the wealth and prosperity of every nation. The greedy and insatiable appetite of corporations for growth and profit, and their unrestrained activities in their mindless pursuit of profit, constitutes a deadly danger to the continued existence of humanity.

It is enough, at this point, to recognize the factual reality of the peril, as we will consider remedies to the economic crisis in the Evolution Papers. For now, we need to look at the governments we have created to politically organize our social and economic lives, and we will investigate their corruption, including that caused by corporations, which are treated better by governments, than their own people.

CORRUPT AND UNREPRESENTATIVE GOVERNMENTS

The colonial delegates who gathered in Philadelphia in 1776 to declare their independence from England were educated with the principles of the Reformation and the Enlightenment, and they were well read in the works of Bacon, Hobbes, Locke, Adam Smith, and Kant. They sought to end the rule of monarchs and to institute self-government. In doing so, they ultimately drafted a written constitution in which “We the People” defined the limited powers of the executive, legislative, and judicial branches of a republican form of government, in which the People vote for representatives to act on their behalf, while the People retained their Rights of Liberty.

Initially, only men who owned property could vote, but the franchise was slowly extended, first to laboring men without property, then to former male slaves, and finally to women. Since the universal franchise was obtained around 100 years ago, at least in principle, the government could be described as a representative democracy.

The written constitution of the United States was widely copied as the peoples of other nations freed themselves of monarchal and colonial rule and achieved independence. Most of these nations also attempted to emulate the capitalist economic system that was believed to best serve the needs of a free and independent people.

To survive the Great Depression, the People of the United States, laborers, small business owners, self-employed professionals, civil servants, and even corporate managers, made a “New Deal” in 1933, a social contract with their government. The New Deal government was reoriented to serve the needs of the People, and it imposed regulations on dangerous corporations and financial institutions, protected the environment, and empowered working people to negotiate for their share of the economic pie and for their children to inherit and live the “American Dream.”

The contract continued to produce the dream through the administration of Republican President Richard Nixon, which imposed additional taxes on the wealthy and created Supplemental

Security Income for family assistance and improved Social Security, Medicare, and Medicaid. President Nixon signed the Clean Air Act of 1970, the Clean Water Act, and the Endangered Species Act of 1973, and other laws establishing the Environmental Protection Agency, the Occupational Safety and Health Administration, and ensuring Consumer Product Safety. President Nixon supported the constitutional amendment reducing the voting age to 18, which was ratified, and the Equal Rights Amendment (for women), which has not yet been ratified.

THE FRAUDULENT CANCELLATION OF THE NEW DEAL CONTRACT

Alarmed by the economic and environmental laws that interfered with their profits, the U.S. Chamber of Commerce, a private organization that represents the interests of “Big Business,” decided to break the contract the American People made with their government in the New Deal. One of America’s preeminent corporate lawyers, whose primary clients were in the tobacco industry, Lewis F. Powell, Jr., was tasked by the Chamber to draft a plan of action.

In a memorandum that became a blueprint for the corporate takeover of the U.S. government, Powell urged a joint effort leading to “political power available only through united action and national organizations.” The “Powell Memo” laid out a program of public education about the essential role of business, and instructed the business community to learn the “lessons that political power is necessary, that such power must be assiduously cultivated; and that when necessary, it must be used aggressively and with determination—without embarrassment and without . . . reluctance.”

Implementation of the Powell plan was financed by generous contributions from corporations, and it included assembling a professional staff “of the great skill in advertising and working with the media, speakers, lawyers, and other specialists.” Shortly thereafter, President Nixon appointed Lewis Powell to the U.S. Supreme Court, where his vote could be counted on to further his plan.

Nixon had appealed to the “Silent Majority” of Americans, including working-class Democrats who did not agree with the

Democratic Party positions on racial and cultural issues, such as opposing prayer in public schools, and favoring women's rights to contraception and abortion.

Following Nixon's resignation, and the defeat of succeeding President Gerald Ford for reelection, President Jimmy Carter, a southern, fiscally conservative, Democrat signed several significant laws protecting the environment, regulating strip mining, and establishing the Superfund program to clean up contaminated mining and factory sites. At the same time, President Carter also signed laws deregulating the airline, trucking and rail industries, and reducing the regulation of savings and commercial banks. Responding to the power of Big Business, Carter signed "tax reform" laws that benefitted corporations and the wealthy, laws easing corporate bankruptcy and providing banks with the top priority for repayment in bankruptcy, and laws allowing corporations to eliminate retirement systems.

Ronald Reagan was the Republican candidate in the presidential election of 1980. An affable, charismatic, and smooth-talking former motion picture actor, Reagan had become a spokesman for corporate America in its drive to reverse the economic and environmental laws and regulations that reduced their profits. Corporations and wealthy individuals financed a political publicity campaign supporting Reagan's message that government, not business, was the problem.

The Republicans launched a culture war over matters such as school integration, support of the military, sexual freedom, abortion, and homosexuality to distract voters from the harm their "representatives" were inflicting upon them and their endangerment of future generations. The campaign successfully appealed to primarily white, blue-collar workers, including members of labor unions, and convinced them to vote contrary to their economic and political interests. By gaining control of their vote through the successful use of targeted political propaganda, the corporations created unwitting electoral slaves to do their bidding at the polls.

The Reagan administration increased military spending, reduced domestic spending, and enacted a major tax cut, all of which primarily benefitted corporations and the wealthy, while dramatically increasing budget deficits to be paid for by future taxpayers. Under President Reagan and his vice president, George H.W. Bush,

who succeeded him, the New Deal protection of the People was substantially reduced. The People were sold the notion that it was really in their best interests to concentrate wealth at the top, because the money would trickle down to workers, the self-employed, and small business owners at the bottom.

President Reagan vastly expanded presidential power by unilaterally, secretly, and illegally selling arms to Iran, and by using the profits to supply arms to “contras” in the Nicaragua civil war, even though Congress had banned such involvement. He used executive power to secretly intervene in Afghanistan against the Soviet Union, and he supported Saddam Hussein in Iraq’s war with Iran, while secretly and simultaneously selling weapons to Iran.

Following the Reagan Era, the nation was governed for eight years by the “New Democrat” President Bill Clinton. The political and social positions of the New Democrats were much like those of previously moderate Republicans, in that they support both social *and* economic liberalism. As both parties moved substantially to the right, the government—increasingly under corporate control—began to blatantly default on its New Deal contract with the American People.

President Clinton adopted a Republican welfare reform plan, which terminated Aid to Families with Dependent Children. He raised taxes on the working and middle classes in order to balance the budget, and he deregulated the banking industry and its market for derivatives.

Following his impeachment by the Republican-controlled House of Representatives for lying about his sexual affair with a young White House intern, President Clinton was acquitted by the Republican-controlled Senate. During the impeachment proceedings, President Clinton unilaterally ordered air strikes by the U.S. military against Serbian forces, which destroyed the center of the capital city of Belgrade and killed as many as 1,500 Serbs.

President Clinton’s vice president, Al Gore, was defeated in the 2000 election, even though he won the popular vote. George W. Bush was awarded the presidency by a majority vote of the Republican-controlled Supreme Court, which would not allow a recount of the challenged election in Florida. President Bush inherited a budget surplus, but he immediately pushed through several tax cuts to

stimulate economic growth, thereby reducing government revenue and producing record deficits.

After the terrorist attacks on September 11, 2001, President Bush claimed a vast expansion of presidential powers that substantially reduced the abilities of the legislative and judicial branches to check and balance the executive powers. His Justice Department ruled that decisions regarding the response to terrorist attacks are “for the President alone to make,” and that “customary international law has no binding legal effect on either the President or the military.”

President Bush authorized the National Security Agency to eavesdrop on overseas calls and emails without court orders; he claimed the power to detain people indefinitely and to deny them access to courts and legal counsel, and he signed executive orders refusing to comply with more than 750 provisions of law passed by Congress.

New Democrat Barack Obama was elected to replace President Bush, and he inherited the expanded presidential powers Bush had aggregated. During his two terms, President Obama finalized more than 560 major regulations having particularly significant economic or social impacts, which was almost 50 percent more than the prior Bush administration.

President Obama continued to exercise unchecked executive powers (outside of any emergency context) to unilaterally order military strikes against Libya and the ISIS in Syria and to order the assassination of individuals on a “kill list,” which was submitted by the military for his approval on a weekly basis.

The election of Donald Trump to succeed President Obama demonstrates the fallibility of executive action, in that President Trump’s primary political goal seems to be the reversal of as many of President Obama’s executive actions as possible, including those protecting the environment and consumers, expanding access to health care, enhancing women’s reproductive choices, and restricting gun ownership. Moreover, President Trump has taken executive arrogance to new heights by obstructing the congressional investigation in his impeachment proceedings by ordering his aides and government departments to refuse to comply with lawful subpoenas.

THE TYRANNY OF THE MINORITY

Following the end of the Revolutionary War, the new nation of the United States was governed pursuant to the Articles of Confederacy, and it quickly became apparent that there were major problems. The President of the Congress served as a weak executive; a vote by nine of the 13 states was required to pass significant legislation; and all tax measures required unanimous consent of the states. There was a shortage of money in circulation, and debts weighed heavily on workers and farmers.

In 1786, four thousand poor and hungry people—many of whom were veteran patriots who had fought for independence—marched on the Springfield Arsenal in Massachusetts, where four were killed by cannons fired by a state militia funded by 125 merchants. Legislators in some states, many of whom were elected for one-year terms, responded to the widespread suffering and disorder with laws that provided debt relief for their impoverished constituents. This exercise of democracy made it more difficult for money lenders to collect debts.

Fearing an “excess of democracy” or “democratic tyranny,” which interfered with the collection of debts, members of Congress favorable to financial interests called for a convention to revise the Articles of the Confederacy to be held in Philadelphia in May 1787. George Washington was elected to preside over the convention, and Alexander Hamilton, his former military aide, and James Madison, a fellow Virginian, played major roles in the decision to create a new government, rather than to revise the old one.

Primary issues included the way the president, vice president, and senators were to be elected and how representatives were to be allocated by population. Following a compromise that counted slaves as three-fifths of a “person,” a constitution was drafted that established a republic operated by elected officials as representatives of the People. Political power was to be balanced by a stronger executive, a congress consisting of a senate and house of representatives, and an independent judiciary. The Constitution was signed on September 17, 1787 and submitted to the states for ratification.

Unresolved differences of opinion about the proposed constitution resulted in factions, the precursor of political parties. The Federalists, led by Hamilton, strongly supported a strong central government, and the Anti-Federalists, led by Madison and Thomas Jefferson, objected to excessive executive power in the president and the absence of an individual bill of rights. Primarily written by Hamilton and Madison, 85 essays debating the issues were widely published in newspapers and became known as *The Federalist Papers*.

With ratification, the new government came into existence on March 4, 1789. The “republic” was ultimately responsible to the people who created it, but it also protected the private minority business and financial interests against the power of a democratic majority. George Washington was elected as its first president, and among the first acts of the new congress was the enactment of the Bill of Rights containing 10 constitutional amendments that better balanced the individual rights of the governed with the power of the government established by their consent.

Under their new constitution, the People were represented indirectly, as the president was elected by the states in the Electoral College, and U.S. senators and most state officials were selected or appointed by the state legislators, rather than by direct elections.

The manner of voting and qualifications of voters were left up to the individual states to define. The right to vote was neither included in the Constitution, nor in the Bill of Rights. That omission has never been corrected; however, most people, by constitutional amendment, or by law, have gained a right to vote, although there are many who believe it is a privilege, which can be denied for cause. The absence of a constitutional right to vote was clearly and bluntly expressed by the Supreme Court in *Bush v. Gore*, which awarded the presidency to George W. Bush in 2000:

The individual citizen has no federal constitutional right to vote for electors for the President of the United States unless and until the state legislature chooses a statewide election as the means to implement its power to appoint members of the Electoral College.

In the 2016 presidential election, Democrat Hillary Clinton received 2.87 million more votes than Republican Donald Trump; however, he received 304 votes in the Electoral College, compared to 227 for Clinton. Two “faithless electors” defected from Trump and five defected from Clinton.

Of a voting age population of 250.6 million, just 138.8 million, or 55 percent, voted in the 2016 general election for president. Fewer than 63 million, or 45.65 percent, voted for Trump, while 65.9 million voted for Clinton. Thus, Donald Trump was elected president by approximately one-quarter of the potential voters.

It is within this 25 percent of potential voters that President Trump’s political “base” can be identified among those who actually voted for him: 54 percent of white people; nearly four in five of those whites professing evangelical (born-again Christian) beliefs; 60 percent of non-college whites; 60 percent of voters over 50 years of age; and 56 percent of white males.

Trump’s incendiary AMERICA FIRST populism appeals to this base, many of whom fear and resent the federal government and its influence in their lives and beliefs, and who fail to perceive a practical benefit from their government, equal to the taxes they are forced to pay. They fear that the former “greatness” of a white America has been lost forever, and it is easy for them to blame their losses on others who are different in some way, such as race, religion, language, or country of origin—particularly if the outsider is perceived as having an easier life. These whites demand retention of the power of being in the majority—as they are quickly becoming a minority. Within their own static and unchanging lives, the rapidity of change around the world can be overwhelming, leaving them emotionally spinning between the reality of their existence and the fantasy world they view on their cable television.

The TRUMP brand political base fantasizes President Trump as a successful real estate conman and wily negotiator, someone who can make great deals for their benefit—if only given the chance. They imagine him as their avatar, a strong man whose arrogant self-confidence makes them feel important and more powerful. Their trust in him and their demonstrated support of him gives these often-powerless supporters a sense of control over their destiny,

a feeling of accomplishment in an otherwise deprived or reduced economic and social existence.

As President Trump proclaims himself to be the “chosen one,” the faith of his base in his ability to save them, approaches that they profess in Jesus Christ as their personal savior, and they have equated the fairness of the President’s impeachment with the death penalty trial conducted by Pontius Pilate. President Trump’s personal, in-house, preacher, Paula White-Cain, prays about his impeachment:

Tonight, we lift up President Trump in prayer against all wickedness and demonic schemes against him and his purpose in the name of Jesus. Surround him with your angels and let them encamp around about him. Let all demonic stirrings and manipulations be overturned.

How is all of this possible, when the truth of President Trump’s con-game real estate deals with foreign criminals, numerous business failures, multiple adulterous marriages, and notably unchristian, bullying, belittling character, and cheating lifestyle is relatively undisputed, especially when he revels in his antics and slick deals in his own ghost-written books, and brags that his base will forgive him of anything, even shooting someone in public?

How can there be such forgiveness, when President Trump willingly accepted and encouraged the propaganda assistance of the Russian intelligence services, allowing his narrow victory in the election? Is it okay that he has fawned over Russian President Putin at every opportunity, supported Russia in its war against the Ukraine, and Putin’s military interventions in Turkey and Syria?

How is it that the TRUMP base continues to gather in screaming adoration at his reelection rallies, as President Trump turns our best friends into his enemies, and our enemies into his best friends? Unlike his personal staff and cabinet who must loyally endure his tantrums (and the turnover of which has exceeded all previous administrations), the TRUMP base can sit in front of their televisions and imagine that their favorite reality television star is still the big boss in charge. Many of his fans formed an emotional bond with Trump while watching “The Apprentice” for 15 seasons. They loved it when the rude boss yelled, “Your Fired!” Why would the TRUMP

base be offended when he acts the same way as president? There are, however, growing numbers of supporters who are becoming increasingly uncomfortable with having to constantly defend their hero to others who question his mental stability and leadership.

One need not be a psychiatrist to reliably identify President Trump as a narcissist, at least. Most people who work for a living in the real world have seen or suffered the harm caused by self-absorbed, know-it-all, bragging, and lying bullies, particularly those who become bosses. These “stable geniuses” stand out because they are always the absolute best at everything they have ever done, and they never—ever admit that they have done anything wrong. They are incapable of making a mistake. President Trump said, “I think apologizing’s a great thing, but you have to be wrong. I will absolutely apologize, sometime in the hopefully distant future, if I’m ever wrong.” Or, how about, “Sorry losers and haters, but my I.Q. is one of the highest—and you all know it! Please don’t feel so stupid or insecure, it’s not your fault.”

Narcissists can be charming and charismatic, as they adroitly manipulate and coerce others to do their bidding. When they are protected by inherited wealth, attack-dog lawyers, and shielded by politically powerful people, it can be difficult to dislodge them from power. A narcissist needs continual admiration—like a junkie needs a fix—and for the most insecure, there is nothing so alluring as an in-person political rally in a stadium full of cheering and adoring fans. The TRUMP base basks in the reflected glory of such a wonderful and dynamic, bigger-than-life figure; they are honored to hold signs and to serve as wallpaper behind his speaking podium, and they revel in his daily antics on Twitter, social media, AM talk radio, and Fox entertainment.

Everything read or heard by the TRUMP base that contradicts their faith in their avatar is “fake news,” the truth of which is immaterial. It is easier for his disciples to identify their own sense of victimhood with that of the “witch hunt” claimed by their president. He was impeached for having such little regard for the responsibilities imposed by his oath of office, as to peddle its power in securing the assistance of another foreign country to ensure that his reelection would be as fraudulent as his first.

Narcissists get mad and nasty when insulted or challenged, as President Trump brags about being a “counter-puncher,” who always fights back when attacked. Narcissists can get to be bosses, particularly if they inherit wealth and power, but they make incompetent and unethical leaders, as they are incapable of learning from their mistakes, or from others not so gifted as they are.

More worrying than simple narcissism—and the hours President Trump spends in front of the mirror each morning fixing his hair and applying his face makeup—is his actual state of mind, as he looks at himself. Does he see an old, saggy, obese body—as he tweets images of his head superimposed on the body of “Rocky” to his base?

What does he think about, as he holds the launch codes for nuclear war in one hand and he gazes at the twitter feed on his smart phone in the other? Which worries him the most, war or his ratings, peace or his impeachment, reelection or the market value of the TRUMP brand?

Even if these are only the wild exaggerations of a reality-show conman, how secure are we in the quality of the life and death decisions that President Trump is making on our behalf, every day, and how likely is it that the quality of those decisions will improve or decline in the future? An answer to these questions can be found in the words he speaks, as well as the actions he directs.

On December 22, 2019, President Trump took a break from his two-week Christmas celebration at Mar-a-Lago to address the far-right Turning Point USA Student Action Summit in West Palm Beach, Florida. AM talk radio shock jock Rush Limbaugh warmed up the high school students, “I just want to tell you climate change is a hoax. Please don’t believe it, whatever you do!” Introducing the President, Limbaugh said, “We really have one shot at this, and the shot that we have at preserving this country as founded is Donald Trump, President of the United States.”

What follows are just a few of the words that issued from the mouth of the President of the United States, a self-professed “really smart” “stable genius”, as he addressed the young students:

I’ve studied it better than anybody I know. I never understood wind. You know, I know windmills very much.

They're noisy. They kill the birds. You want to see a bird graveyard? Go under a windmill someday. You'll see more birds than you've ever seen in your life.

You know what they don't tell you about windmills? After 10 years they look like hell. They start to get tired, old.

They're made in China and Germany mostly, but they're manufactured tremendous if you're into this, tremendous fumes. Gases are spewing into the atmosphere. You know we have a world, right? So, the world is tiny compared to the universe. So tremendous, tremendous amount of fumes and everything.

You talk about the carbon footprint, fumes are spewing into the air, right? Spewing. Whether it's in China, Germany, it's going into the air. It's our air, their air, everything, right?

You see all those [windmills]. They're all different shades of color. They're like sort of white, but one is like an orange white. It's my favorite color, orange.

President Trump's rambling, nonsensical remarks about climate change to these impressionable young people whose lives may embrace the extinction of humanity, was greeted with applause, rather than laughter. Why? What magical transparent garments does this obscenely politically-naked "chosen one" drape himself in, this has been reality television star who now dictates the course of the American Empire? Where does the craziness lie, with the babbler, or with those who applaud his inanity?

As the tempo of the personnel turnover in the cabinet and personal staff of President Trump increases, and more and more of his appointees quit, are fired, get thrown under the bus, or convicted of crimes, his base may come to realize that they've been had, and that they had best think long and hard before voting for another four years of chaos. Voting is a responsibility, as well as a right; it is a duty not to be taken lightly; and voting offers a last chance for a peaceful outcome, one not to be wasted.

The political risk is no longer one of an excess of democracy or the tyranny of the majority; the most dangerous thing about the pandering of President Trump to his supporters is the extraordinary power it provides to a small, angry, and vocal minority. To keep his angry TRUMP base from threatening the power of those to whom he is beholden, and to maintain the constant adulation of his fan club, he must give them what they demand, even if most people in the United States disagree.

A strong majority of Americans believe in equal rights and opportunities for all, the freedom of reproductive choice for women, that there is great and grave danger in ignoring the reality of global warming, that a “beautiful” border wall is a waste of precious resources, that guns should be reasonably regulated, and that neo-Nazism is the same fascist bullshit that ended up killing as many as 100 million people last century when the Germans, Italians, and Japanese tried it as a form of government. This misfeasance of political power allows the tyranny of the minority to prevail over the majority.⁷⁵

POLITICAL WILL TO HEAL THE ENVIRONMENT AND THE ECONOMY

In the Preface of *Storms of my Grandchildren: The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity*, climate scientist and congressional whistle-blower, James Hansen wrote ten years ago about the dangers of political inaction that “contributes equally to the crisis.” He lamented, “Greenwashing, expressing concern about global warming and the environment, while taking no actions to actually stabilize climate or preserve the environment, is prevalent in the United States and other countries, even those presumed to be the ‘greenest.’” He feared that “the biggest obstacle to solving

⁷⁵ This paper has primarily concerned political affairs in the United States, but the last few years has seen the rise in nationalism and right-wing movements as they have gained political power across Europe, in Australia, Brazil, India, Italy, Japan, and Russia. Even so, it is the United States that, among all nations, is refusing to participate in the Paris Agreement, while it is the greatest contributor to global warming. America is also where the political evolution of the rights of liberty first came to fruition, and where democratic self-government was first achieved. This is where it can continue to flourish, if nourished, instead of starved.

global warming is the role of money in politics, the undue sway of special interests.” Stopping that influence requires, “the public, and young people in particular, . . . to get involved in a major way.”

Dr. Hansen warned:

Politicians think that if matters look difficult, compromise is a good approach. Unfortunately, nature and the laws of physics cannot compromise—they are what they are.

Policy decisions on climate change are being deliberated every day by those without full knowledge of the science, and often with intentional misinformation spawned by special interests. . . . Citizens with a special interest—in their loved ones—need to become familiar with the science, exercise their democratic rights, and pay attention to politicians’ decisions. Otherwise, it seems, short-term special interests will hold sway in capitals around the world—and we are running out of time.

Only through a mass movement of the People, organized and led by young people and directed by women, can the social and political power be generated to evolve our governments into ones that represent and care for those who elect it, as we personally and collectively evolve, and discover the marvelous exponential power of combined minds in creating happy futures for our children.

Only a peaceful evolution of political and social organization can achieve the willpower to do what is essential if we are to survive the next 30 years. Peace must replace war within the next five years. This is the simple truth, about which there can be no reasonable doubt. We can survive, but only if we evolve and make wise use of the gift of our minds.

Writing in *A Farewell to Ice: A Report from the Arctic*, Dr. Peter Wadhams concludes with “A Call to Arms”:

The threat is greater than ever. A nuclear war would now probably start because of a bilateral issue, and climate change is bringing a host of new stresses which could

create such an issue, from resource and water depletion to collapses in food production with the looming potential for starvation.

In a “Time for Battle,” Dr. Wadhams lists what can be done to save the world:

First, counter with all the powers at your disposal the sewage-flow of lies and deceit emitted by climate change deniers and others who wish us to do nothing and hope that it all goes away. It will not go away. Be especially vigilant of the sinuous misrepresentations of politicians, from prime ministers downwards, and look out for glaring anomalies between what they say and what they do.

Among the stacks of books on my credenza contributing to these papers are at least three on climate wars, predicting the battles to come over diminishing resources. In the following paper, we will evaluate the dangers of industrialized war and the glorification of militarization to the survival of our children. Government’s biggest waste of resources are those expended on the militaries and their suppliers, and the wars they require for survival.

WAR AND MILITARIZATION

When we examine the evidence at the earliest sites of human habitation, we find little or no evidence of war at the lowest levels of occupation. The most ancient objects of art and adoration depict healthy pregnant women giving birth to life, as we made and used stone tools to gather plants and to kill animals for food to feed our children. Stone tools used for hunting and cultivation also served to defend families and tribal food reserves against violence, but, mostly, we survived by cooperating and migrating to locate resources, rather than by hoarding and killing to steal the supplies of others.

As the Aswan High Dam was being constructed by Egypt in the late 1950s, a rescue archeological dig was conducted at a cemetery known as Jebel Sahaba on the east bank of the Nile River in northern Sudan. The dig revealed evidence of the earliest human conflict between groups. Sixty-one skeletons were recovered, and almost half of the remains exhibited cut marks and other signs of violent wounds, and pointed stone projectiles were recovered from 21 bodies. The massacre can be dated to the Younger Dryas period around 12,900 to 11,700 years ago when a temporary reversal of the warming cycle following the end of last ice age caused a lengthy drought and a great famine in the areas of Egypt and Palestine. As water sources dried up, family and tribal groups were forced together at the Nile River for water, and conflicts led to the first documented climate war.

It is during this same period of drought that we find the earliest evidence of walls being built to protect a water source. The most ancient walls constructed on Earth have been identified at the Palestinian city of Jericho above the West Bank of the Jordan River. The walls were built by hunter-gathers who camped there more than 12,000 years ago to defend the abundant spring that continues to flow at Jericho to this day. The drought ended when global warming resumed; agriculture became organized; and a permanent settlement was constructed at Jericho by 9400 BCE.

The earliest cave paintings honor the hunted animals, but the Iberian cave art in Spain painted during the Mesolithic Europe period

around 10,000 years ago clearly show a series of battle scenes between groups of archers. This is our first evidence of organized warfare. Earlier fighting using hand axes, stone clubs, and spears required killing to be up close and personal, but the physics of using a taut bow string to launch arrows at high speeds over greater distances provided the ability to remotely kill opponents. With less risk of retaliation, innovations such as the bow and arrow and crossbow created the science of war, and the first art that glorified warriors, instead of mothers.

The current geological era known as the Holocene began approximately 11,650 years ago. The mild and predictable climate of the era encouraged the development of organized agricultural cultures along the Indus River in India, the Tigris and Euphrates Rivers in Iraq, and the Nile River in Egypt. Which came first, and which influenced the others remains an open question, but by about 5500 BCE, flourishing agricultural civilizations can be identified in these garden locations, with the likelihood of economic exchanges between the cultures.

The first heroic images of kings on thrones—replacing women—as having tamed the lions, and being waited on by fawning attendants, appeared about 5,000 years ago. This is also when we find the first evidence of organized war, burning, and destruction, remotely directed by leaders shielded from danger. Kings could organize the resources necessary for the construction of swords, compound bows, metal-tipped arrows, spears, and chariots, and generals could be appointed to recruit, train, and mobilize soldiers to fight the king's war. Stored food resources could be captured, and additional subjects compelled to work, pay taxes, build walls, and perform military services.

Heroic art began to appear in which the king is larger than life and often associated with the gods. He dominates all those conquered, and his privileged progeny inherit his power, without having to fight for it. From then, until now, thousands of years of human history has been a chronology of wars fought, and much of our cultural art has glorified wars, the leaders who started them, the merchants who profited from them, the lenders who financed them, and the warriors who fought and died in them.

THE INDUSTRIALIZATION OF WAR

With the invention of gunpowder, cannons, rifles, and other firearms, war became increasingly impersonal, as warriors could no longer see into the eyes of those they killed, and generals had to find high ground to survey with telescopes the battles they fought with increasing numbers of soldiers and weapons.

The American Revolutionary War was largely fought by disciplined formations of soldiers standing shoulder to shoulder, facing similar masses of enemy soldiers within rifle range. Lines of soldiers were trained to fire volleys of shots on command, reload as another line fired, and to stand firm as adjacent soldiers were shot down by riflemen in the opposing formation. The winner was the side with the most soldiers left standing and shooting, when the other side was shot down or retreated. In the European wars that followed, Napoleon advanced the art and science of war by strategically placing cannons to devastate formations of riflemen.

Less than one hundred years after uniting, the southern states attempted to withdraw from the United States to preserve their investment in agricultural slavery, which was equal in value to the northern investment in the industrial revolution. The southern export of cotton was worth more than all other exports combined, and it supplied two-thirds of the world market.

The Civil War, or the War for Southern Independence, was fought over the constitutional right of the southern states to dissolve their economic and political union to protect their capital investment in slavery. For four long years, between 1861 and 1865, the divided nation fought the first large-scale economic and industrial war in human history.

The greater industrial might of the north prevailed during the war, as it produced the arms, materials, telegraphy, and railroads needed to overwhelm the industrial capacity of the South, to win the war, and to become a world-class economic power. Without southern opposition in Congress during the war, laws favoring the North provided for the rapid westward expansion into the free states, which were opened to immigrant homesteaders. Non-English-speaking immigrants filled the ranks of the northern army, and with the induction of freed slaves, the vast number of northern troops

overwhelmed the limited population of available white southern soldiers.

The new northern states were endowed with Agricultural and Mechanical Colleges funded by the federal government, and they were connected to both coasts by railroads heavily subsidized by the government. The private rail system was supplemented by the new military railroads constructed to supply and move the northern army, which became the largest rail system in the world by the end of the war.

The leaders and generals on both sides of the Civil War were educated in Western philosophy and science, and they shared a military heritage in the arts of war learned by their officers at West Point and in the Revolutionary, Indian, and Mexican Wars. The American Civil War was the first war fought with massive amounts of the tools of war produced by industrial machinery. Cannons and Parrot rifles were more numerous, larger and deadlier, at greater distances; and armed with cannister shot, howitzers were leveled to mow down wave, after wave of attacking riflemen with fixed bayonets. The Gatling machine gun was invented during the war, but it was not widely deployed, because each machine gun required more ammunition than hundreds of riflemen. Both sides began to dig massive defensive trenches, as the firepower became more deadly against massed formations, and the defeat of the South became inevitable.

The war introduced industrial-machined repeating rifles, with rifled gun barrels, that fired spin-stabilized Minié balls that ripped off arms and legs—even among those who survived the blazing gun battles involving thousands of rifles. The war also launched ironclad and steam-powered ships, submarines, and mine-torpedoes, but it was the great land battles that were fought, season after season, general after general, year after year, in which the mechanized Civil War took the lives of 620,000 combatants. The rate of death was six times that of American soldiers in the Second World War, as disease took twice as many lives as the battlefield, and thousands of bodies were buried in mass graves without identification. Military deaths alone were almost as many as all other military deaths in all other wars ever fought by the United States of America.

One in five southern men died in their war for independence, and, as the war raged across the South, civilian deaths from starvation, epidemic disease, and guerrilla warfare numbered in the tens of thousands, with an overall mortality rate that exceeded any nation in the First World War, which followed 50 years later.

The horribly violent war was won, not by the bravery of its warriors, nor by the accuracy of their aim, but by the massive materials of war, delivered by the railroads built to supply the army, choreographed by telegraphy, and organized as a complex machine to kill enemy soldiers, as efficiently as possible, until one side ran out of soldiers or arms, or both.

As noted, most of the bodies of soldiers were never identified following the bloody battles, and they were buried in mass graves far from home. Families denied the rituals of mourning coped with their losses by adopting a spiritual belief that soldiers who died a “Good Death” in battle achieved Christian salvation and eternal life in Heaven. National cemeteries were created at the battlefields, and Memorial Day continues to be observed as a national holiday at the end of May to place American flags on the graves of fallen warriors.

Such became the nature of modern warfare, and it is how wars have been fought ever since. Mechanized warfare also gave rise to the corporate promotion of militarization, which corrupts the bravery of patriotic warriors who defend their homes and their Rights of Liberty by transforming their service into glorified images of war and warriors peddled by corporations, seeking profits and power. There is nothing glorious about the reality of violent death, no matter how glamorous the movie stars appearing in idealized performances, and nothing good can be said about causing little children to dream about killing or being killed, or to find pleasure in computer games that glamorize killing as the solution to every problem.

Only military strategy and tactics—nothing about the futility, corruption, destruction, and waste of war—was learned from the American Civil War. The advanced military science of the next two worldwide industrial wars in the twentieth century slaughtered more than 100 million people, before unleashing the horror of nuclear weapons upon humanity.

Once again, it seems, nothing was learned, and over the past 70 years, wars have continued to be fought around the world, and millions more people, including untold babies and children, have died horrible deaths for the profits and power of industrialized corporations—who proudly claim fraudulent patriotism and phony warriorhood as their deceptive trademark and advertising gimmicks.

Business continues to boom in the large arms industry in 2018, with the United States exporting the most weapons valued at \$10.5 billion, followed by Russia at \$6.4 billion, France at \$1.76 billion, Germany at \$1.27 billion, Spain at \$1.18 billion, South Korea at \$1.08 billion, China at \$1.04 billion, United Kingdom at \$741 million, Israel at \$707 million, and Italy at \$611 million.

What more can be said about the horror of mechanized war, except that matters could get much more violent, really fast, as the earth keeps getting hotter.

CLIMATE WARS

Perhaps all wars have always been fought over scarce resources, but as the reality of global warming has become undeniable, the professional militaries of all the industrialized nations are presently engaged in planning to fight wars in the future resulting from climate change. There is this incongruity: while political leaders deny the reality of global warming caused by their industrial sponsors, their professional military officers acknowledge the reality and address the threat. They are worried about how to fight the wars that will undoubtedly result from conflicts over diminishing resources. Unfortunately, military officers rely on the same corporate industries that created the problem, to help solve the problem. Ultimately, the lessons will be learned that the human problems in the twenty-first century caused by climate change, no matter how threatening or violent, can never be solved by the military use of deadly force.

There is a potential reality here, one that is almost impossible to deny: there may not be enough political will to immediately redirect all resources presently spent on militarization—worldwide—to restore the environmental balance. Should that failure occur, we

can try to imagine how it may be in just 20 or 30 years if increased warming and extreme weather conditions continue.

Vast areas of the tropics on both sides of the equator will become too hot to sustain life, and, as there will be no food and water, millions, if not billions will be forced to migrate or die. Large regions of India and China will be devastated by drought and famine, as the glacier-fed rivers of the Himalayans dry up. The Middle East will not be able to pump and sell enough oil to purchase food for its people, as its water sources run dry. Russia may adapt the warming Siberia to produce food for consumption and barter with a weakened Europe. Canada and the United States will struggle to feed its populations, and they will become separated from Mexico and Central America by the expanding southwestern deserts. South America, Africa, Australia, and New Zealand will be on their own. The worldwide economic and communication systems will cease to exist.

How soon could the first climate war occur? A conflict between the United States-Canada and China, over food and natural resources, trade disputes, or defaulted sovereign debts, is easily foreseeable in the not so distant future. It is not difficult to imagine an American president deploying the mighty aircraft carrier armada of the U.S. Navy against the modernized defenses built by China's industrial corporations, using the profits of their trade with America.

Under any reasonable scenario, it is highly unlikely any U.S. capital ships would survive sailing within the long range of the new generations of hypersonic missiles launched by China from land and forward-deployed small craft. Flying at five times the speed of sound, the missile system is designed to overwhelm naval defenses and to remotely destroy advancing carriers at long distances, before approaching enemies can launch their aircraft.

Is there any doubt but that an American president foolish enough to launch a naval attack on China, would also respond to the destruction of his carrier armada by launching nuclear intercontinental ballistic missiles (ICBMs)? China would retaliate; Russia could join in, and human extinction would become inevitable.

THE COST OF WARS

The industrial military machine of the Civil War not only consumed the human bodies of 620,000 combatants and 50,000 civilians, but in compensation for its efforts in preserving the economy of the United States, its corporate owners were paid more than 82 billion (2019) dollars.

Wars became much more expensive in the twentieth century, as the corporate industrial machine operating in the First World War consumed the bodies of nine million combatants and five million civilians at a cost of 6.2 trillion (2019) dollars.

Learning from experience, the corporate war machine was far more efficient during the Second World War in which it consumed as many as 100 million human bodies at a cost of only 4.1 trillion (2019) dollars.

Not counting all the other dirty little wars being fought around the world equipped by the military output of the global corporate industrial machine, the United States, alone, paid out almost \$12 trillion between 2000 and 2018 in its War Against Terrorism. President Trump just signed a \$738 billion defense bill—a \$105 billion increase over the 2018 military budget—that includes the creation of a Space Force, the purchase of 78 more F-35 fighters (\$100 million each) that are incapable of performing assigned tasks, development of the “Raider,” a new, already outdated stealth bomber; new, outdated destroyers and a frigate to protect America’s outdated armada of 11 aircraft carriers.⁷⁶

Worldwide, military spending reached \$1.4 trillion in 2018, with the United States, China, Saudi Arabia, India, France, Russia, UK, Germany, Japan, South Korea, Brazil, and Italy as the major

76 **“July 24, 2019** — The US Army unveiled its new rifle that employs Artificial Intelligence algorithms. This next-generation rifle and machine gun will be fitted with cutting-edge fire control technologies, including digital weapon camera and Artificial Intelligence. The Squad Weapon is expected to be equipped with a rifle-mounted advanced fire control optic system.

“According to new data from the Joint Service Small Arms Program, this new weapon system combines the firepower, effective range of a machine gun with the precision, and ergonomics of a rifle, yielding capability improvements in accuracy, range, and lethality. Artificial Intelligence algorithms will be used for threat recognition and prioritization.” (GlobeNewsWire.com)

contributors. At \$649 billion, the U.S. spent as much as the next eight countries combined, including second-place China at \$250 billion. Russia only spent \$61.4 billion, which included the cost of its military intelligence unit whose propaganda effort successfully delegitimized the 2016 U.S. elections and secured the cooperation of the new United States president in Russia's war with Ukraine.

It is from these military budgets that the money to restore the environmental balance must be seized. Not in addition to, not equal to, but the entire resources presently devoted to war and militarization, must be completely redirected to developing alternative sources of energy and to exploring the cosmos. Anything less will be insufficient, and any military spending will be wasted, as there is no war where our children want to go.

For some remedies on making better use of our defense spending, you can skip ahead to "Beating the Explosive Swords of War Into the High Tech Plowshares of Peace," but next, we must come to understand that intolerance is just as deadly as the other threats we have considered, if not more so.

INTOLERANCE: RACIAL, CULTURAL, AND RELIGIOUS

In the Peace of Augsburg in 1555 that ended the war between German Lutheran Protestants and Catholics, the Holy Roman Empire guaranteed that the rulers of the 224 German states could choose the religion of their realm, and their subjects could either conform or emigrate.

The religious peace did not extend into neighboring France, where bloody battles between Catholics and the Huguenot Calvinist Protestants were fought between 1562 and 1598 in the French Wars of Religion that slaughtered three million people.

Within two decades, another religious “world war” exploded in Central Europe that engulfed most European states. The Thirty Years’ War started in 1619 when Holy Roman Emperor Ferdinand II tried to impose Roman Catholicism on all the people in his Empire in violation of the Peace of Augsburg. In opposition, the northern Protestant states formed the Protestant Union of Sweden, Germany, Denmark, Netherlands, and allied with Catholic, but anti-Habsburg, France. Led by the Emperor and the Pope, the Catholic League included Austria, Bohemia, Spain, Portugal, and Italy. Before ending in 1648, the war killed eight million people, including 20 percent of the German population.

The Thirty Years’ War officially ended with the Peace of Westphalia, in which there was a legal division of Christianity within the Holy Roman Empire, allowing individual rulers to choose either Lutheranism or Roman Catholicism as the state religion. The outcome was a newly independent Dutch Republic, a strengthened Sweden and Bourbon France, and a reduction in Austrian Habsburg power. By exposing the dangers of a divided Germany, the war also resulted in the Pan-Germanism movement, and ultimately a unified Germany.

Thus, the last major war fought primarily over differing religious beliefs ended with a compromise of religious freedom and toleration; however, the intolerance of differing religion, race, and culture has

continued to inflame violence and wars everywhere that it has been given expression.

THE ORIGIN AND EFFECTS OF INTOLERANCE

Violence, either between two chimpanzees, two humans, or between world nations, can be traced to the deadly brainstem latent disease of intolerance. It is there that deception, hatred, and violence lurks—until we cure these latent diseases with the self-awareness of our minds. Once we understand we are personally responsible for the destructive behaviors caused by our brainstem diseases, we can choose to, or not to, allow these latent disabilities to influence or control our decisions, actions, and happiness.

Intolerance, “an unwillingness to accept views, beliefs, or behavior that differ from one’s own,” is an expression of the self-preservation instincts hard-wired into our brainstem that cause us to feel uncomfortable around someone who practices a different religion, is of a different race, speaks a different language, or comes from a different culture. These ancient impulses cause us to distrust people who are unlike us, because these are the same categories by which we define ourselves. Who do we see when we look in the mirror, or who do we hear when we wonder about secret thoughts, and who do we trust when the going gets tough? Who is most likely to help us, someone like us, or someone different?

When we are challenged in life, when our sense of self, our race, our culture, or our religion is threatened or attacked, we experience actual pain deep inside of us, as though we were punched in the gut. We respond with anger—as the fight or flight instinct kicks in—and we are primed to retaliate.

It hurts when we are deprived of our sense of self or our self-image is diminished through the intolerance of others. The pain of hurt feelings is real, and we mourn the loss of self-confidence, as though we have died. We seek the comfort of religion to help us understand and accept the death of a loved one, and we appreciate the safety, support, and society of our friends and family in the culture in which we are born and raised, and within the neighborhoods, cities, and states in which we choose to live and work.

COEXISTENCE AND THE UNIVERSAL RIGHTS OF LIBERTY

As we evolved our community of minds into the greater world of humanity, with its multitude of groups and identities, we learned to translate the beneficial social norms of our various cultures, races, and religions into generalized laws for everyone, that encourage positive conduct and help to curtail the negative behavior of the mentally and emotionally immature.

When we come to coexist with other cultures, races, and religions, we expand our own range of experience and education. We increase our opportunities and the number of available choices, and we improve the quality of our decision making. Learning from others, we absorb the wisdom of their cultures, and our lives are enriched and made whole. We begin to appreciate just how many marvelous people there are to be found in other races, religions, and cultures, once we start looking.

Every person born upon the earth has a universal Right of Liberty to either practice a religion, or not, as a matter of personal choice, without suffering the mark of intolerance or penalty of law.

Everyone has a Right of Liberty to define one's own self-identity—sexual, matrimonial, cultural, racial, religious, or national—and to be free of the intolerance of others, and everyone has an equivalent duty to tolerate the rights of everyone else to define their own self-identity. We must recognize that the toleration of differences in others does not negate one's own identity or sense of self; to the contrary, the toleration of others improves our self-worth.

A crazy act of intolerance—done in a spiritual belief that it is divinely sanctioned—may be caused by a dysfunctional mind, but the consequences of intolerant words or deeds are suffered by everyone, not just the immediate victims. Intolerance is forever destructive—it is never constructive, while tolerance encourages collaboration and compromise. The amazing product of toleration is an exponential increase in creativity, far greater than can ever be imagined without the power boost of tolerance. Upon this difference, rests the fate of our species.

As a humanity, documenting our history and learning from our errors, we must open our eyes to what we have done to ourselves in the 75 years since the horrendous Second World War ended. In the

next paper, we will briefly review the history of these years, focusing on the actions of the United States of America in just one region of the earth that has exacerbated racial, cultural, and religious hatred and intolerance that threatens the existence of humanity today.

THE AMERICAN EMPIRE AND THE MIDDLE EAST WARS OF INTOLERANCE

America became an economic and military empire during and after World War II, and it has built hundreds of military bases around the world to ensure its dominance. In doing so, it has actively interfered with the governments of other nations—apparently unhindered by law or morality—for the benefit of the corporate industrial machine, which requires continual warfare, and the threat of war, to survive.

From 1945 to 2001, the American Empire sought to dominate the governments that controlled access to the mineral resources of the Middle East, and which had military and political power over the people who lived there. Preferring easily corruptible strong military men over democratically elected, socially oriented governments, the United States freely interfered with elections and caused governments to be overturned around the globe.

As the Second World War ended in 1945, the newly emerging nations of the Middle East—from Egypt to India and Pakistan—had an expectation of national freedom. After centuries of colonial rule by the Turkish Ottoman Empire, and decades of English and French “protection,” the people longed for freedom, self-expression, and prosperity.

Today, after 75 years of civil wars, foreign invasions, and corporate exploitation, the people of the Middle East war zone still yearn for self-government, but increasingly their wars for freedom have turned into vicious fights over racial and cultural domination and isolation, and the religious intolerance of Jewish, Christian, Islamic, Hindu, and even Buddhist fundamentalism.

The deaths, injuries, and diseases suffered in the war zone from these expressions of intolerance, number into the millions of screaming children, desperate mothers, and the crying babies they

held in their arms, as they died horrible, technologically-violent, bloody, mangling, and burning deaths in the name of the same God, or Allah—worshipped by both the attacker and the attacked.



Israel. The U.S. recognized the establishment of the State of Israel in the land of Palestine after its terrorist campaign against the United Nations protectorate and its “War of Independence” in 1948, resulting in the violent expulsion of half of the indigenous Palestinian people to Jordan and Lebanon. Subsequent administrations have supported Israel’s apartheid, theocratic, martial law government ever since, and America supplied the arms Israel used to defeat its neighbors in the wars of 1967 and 1973.

United States support continued, even though Israel deliberately attacked and attempted to sink a U.S. Navy spy ship displaying the American flag and stationed in international waters off the Sinai coast during the 1967 war. Repeated attacks by Israeli Navy motor torpedo boats and Israeli Air Force jet fighters almost sank the ship and did kill 34 American crew members. The United States took no action to defend the ship or its crew, and it has also acquiesced to Israel’s continued illegal occupation of the Palestinian land it conquered in the 1967 war.

Using the military arms and financial aid supplied by America, along with the special nuclear material that allowed Israel to quickly construct atomic weapons, Israel has been encouraged to dominate the region militarily. Israel invaded Lebanon in 1982 to attack the Palestinian Liberation Organization (PLO), and again in 2006 to attack Hezbollah forces. Israel bombed a nuclear reactor in Iraq in 1981, and it bombed a suspected nuclear reactor in Syria in 2007. Israel continues to rely on the terrorism of targeted assassinations and tactical aerial bombing, without regard for national boundaries or international law, in maintaining military dominance and nuclear superiority over its neighboring countries.

In late 2003, President George W. Bush poured gasoline on the flames of endless war in the Middle East by giving Israel 100 Harpoon cruise missiles, which Israel immediately equipped with nuclear weapons and installed aboard three submarines purchased from Germany. These missiles provide Israel with the ability to strike any of its enemies in the Middle East—including all sites where Iran may be working on nuclear weapons—and as far around the oceans as the submarines may range and refuel.

Relying upon President Bush's doctrine of preemptive war, a spokesman for Israel's foreign ministry insisted, "Israel views every state that is harboring terrorist organizations and the leaders of those terrorist organizations who are attacking innocent citizens of the state of Israel as legitimate targets of self-defense."

Iran. Following World War II, Iran, a constitutional monarchy, with the Shah as head of state, began to develop its agriculture and manufacturing resources and increasingly looked to the sale of its oil reserves for finance. In 1951, the Iranian parliament voted to nationalize the oil industry, and England imposed an embargo on the purchase of Iranian oil in retaliation.

Friction arose between the Shah and his popular and nationalistic prime minister, who demanded increased power over the production of oil and the expenditure of its proceeds. Urged on by British intelligence, the CIA arranged strategic bombings and political harassments of religious leaders leading to the overthrow of the elected government.

The Shah's plans for internal development and land reform, paid for by oil revenues, were met with opposition from clerical leaders, including Ayatollah Khomeini. There were violent riots when Khomeini was arrested, and protests to the passage of a law granting diplomatic immunity to U.S. military personnel, and their staff and families, resulted in the exile of Khomeini.

After the prime minister was assassinated by members of a radical Islamic group associated with Khomeini, the Shah appointed Amir Hoveyda as prime minister, who presided over a 12-year period of economic growth and political stability. He revised the tax law, created a new civil service code and appointed highly qualified civil administrators. Hoveyda created a new Ministry of Higher Education and greatly increased the number of colleges and universities.

With the support of the Nixon Administration, the Shah used oil revenues to purchase vast stores of military weapons and law enforcement materiel from the U.S. corporate industrial machine, equipping it to serve as a surrogate police force in the Persian Gulf. President Nixon allowed Iran to purchase any conventional weapon in the United States arsenal.

Commencing in 1957, Iran signed a series of agreements with the United States to receive uranium and technical assistance in the development of an Iranian nuclear power program, and in 1967 Iran received both weapons-grade uranium and plutonium. Iran signed the Nuclear Non-proliferation Treaty, and its scientists were trained in the United States, including the skills required to extract plutonium from spent uranium fuel.

In 1975, the United States and Iran signed an agreement in which the U.S. was to build eight nuclear power plants and to provide the fuel. It was subsequently agreed that Iran would be permitted to reprocess the spent fuels into plutonium and to invest in the U.S. enrichment facilities. Iran also signed contracts with France and Germany for the construction of nuclear power plants, as the Shah was planning to construct as many as 23 plants by 1994.

Writing in exile, Ayatollah Khomeini declared that a monarchy was abhorrent to Islam. He proposed a theocracy in which the leadership belonged to the Islamic jurists. More and more younger

Iranians joined underground groups committed to violent revolution. After the Shah established a one-party state in 1975, concern over his suppression of basic freedoms attracted international attention, including that of the Carter Administration, which brought pressure.

The Shah replaced the prime minister and attempted to conciliate the clerics; however, the riots expanded until the Shah imposed martial law in Tehran and other cities in 1978. The strikes and riots continued, as Khomeini called for the removal of the Shah and the establishment of a democratic and Islamic government. On January 16, 1979, the Shah left on a “holiday” from which he never returned.

Khomeini returned to Iran on January 26, 1979 and established a government with power shared between revolutionary committees and religious authorities. Ayatollah Khomeini became the “Supreme Leader” of Iran; however, there was no central government. Semi-independent revolutionary committees were formed in the towns and cities, and various religious clerics formed competing political parties. Revolutionary courts condemned hundreds to death, including Hoveyda himself, who had presided over 12 years of progress.

The religious clerics began to deploy armed groups of *Hezbollah* (partisans of the party of God) against moderate and secular political opponents. The Revolutionary Council nationalized and appropriated much of the private sector, including insurance companies, major industries, banks, and urban land. A national referendum approved a new government in which the only choice was an Islamic Republic, which was established on April 1, 1979.

When President Carter authorized the admission of the seriously ill Shah into the United States for medical treatment, all hope of restoring friendly relations with the United States dissolved. On November 4, 1979, as thousands marched in Tehran demanding the Shah’s extradition, students supporting the Iranian Revolution occupied the United States embassy and detained the diplomats and employees.

President Carter made himself a “hostage” in the White House, as he searched for a solution. He authorized a scheme for Saddam Hussein to invade Iran in response to a purported call for assistance from rebelling officers of the Iranian army; however, the Russians

informed Khomeini about the conspiracy and the Iranian officers were arrested. Despite his military and diplomatic efforts, the U.S. hostages were held for 444 days, until the morning of January 20, 1981, when Ronald Reagan was inaugurated as president instead of Jimmy Carter.

Ayatollah Khomeini brought a new vision to his concept of a radical Islamist government, in that the vitality of the Iranian revolution was to be exported beyond the borders of Iran as an extension of Allah's plan. Therein were the seeds planted for the growing problems Iran was to have with its neighbors and other nations, including the United States, that came to be characterized as the Great Satan in the rhetoric of Iran.

Looking west, Iran saw the majority Shia population of Iraq as a fertile field for planting its version of radical Islamism and began to diligently till the soil using the tools of subversion and propaganda. In Syria, *Hezbollah* units began to support the Alawite Shia government of Hafez al-Assad.

Lebanon. Israel invaded South Lebanon in 1978, following a PLO-led invasion on Israeli beaches that led to the hijacking of a bus and the massacre of 38 Israelis, including 13 children. An armed conflict in Lebanon between pro-government and pro-Syrian forces continued into the early 1980s, and it was exacerbated by the presence of hundreds of thousands of exiled Palestinians in camps and the PLO revolt against Israeli occupation. A U.S.-brokered cease fire deployed a four-nation Multinational Force (MNF) to oversee the peaceful withdrawal of the PLO, Syrian forces, and other combatants. The ceasefire did not hold, and the civil war resumed in 1982.

On June 6, 1982, Israel invaded Lebanon to attack the PLO in their refugee camps in and around Beirut. Israel occupied much of southern Lebanon and laid siege to the camps, encouraging the militia of a Christian Lebanese right-wing party to massacre as many as 3,500 primarily Palestinian civilians in September.

The MNF was increasingly opposed by both sides, and on October 23, 1983, two suicide truck bombs detonated at two MNF barrack buildings in Lebanon killed 241 U.S. and 58 French military personnel. Credit was claimed by the Islamic Jihad, and the attack may have been sponsored by Iran.

Iraq – Iran War. Coincident with the U.S. CIA overthrow of the Shah of Iran in 1979, Saddam Hussein, a paid CIA asset and assassin, seized power as the dictator of Iraq. Hussein was a Sunni Muslim, but most Iraqis (and Iranians) profess to be Shite followers of Ali. Hussein's dictatorial powers in Iraq derived from the Arab Socialist Ba'ath party, which also empowered Hafez al-Assad, of the Alawite Shite religious sect, to seize and hold governmental power in Syria, whose people are primarily Sunni.

Encouraged by President Carter's national security advisor, Saddam invaded Iran on September 22, 1980, claiming that Iran had attempted to assassinate his foreign minister. A practical goal was regaining control of the waterway to the Persian Gulf that marks their national boundary.

Once President Reagan was inaugurated, he increased U.S. support of Iraq in its bloody war against Iran. As it appeared that Iran might defeat Saddam Hussein, the U.S. supplied advanced military weaponry and top-secret satellite intelligence to Hussein. The U.S. also approved the secret sale of poisonous chemicals and biological viruses, including anthrax and bubonic plague, to Hussein. Records document that Iraq dropped more than 13,000 chemical bombs during the war.

In an extraordinarily audacious act of Machiavellian double-dealing—after first securing the cooperation of Iran to delay releasing the American hostages held in the U.S. embassy in Tehran until the day Ronald Reagan was inaugurated as president—the Reagan administration began to sell military weapons to Iran, using Israel as a conduit, to avoid the law imposing an embargo on the sale of arms to Iran, *and* the Reagan administration used the proceeds from the unlawful sale of weapons to Iran to unlawfully fund the Contras in Nicaragua, in violation of the laws prohibiting such funding.

In 1984, President Reagan's special envoy, Donald Rumsfeld, informed Hussein that the U.S. "recognizes Iraq's current disadvantage in a war of attrition since Iran has access to the gulf while Iraq does not [and that the U.S.] would regard any major reversal of Iraq's fortunes as a strategic defeat for the West." Significant military and intelligence aid flowed to Iraq, as Hussein narrowly avoided defeat and signed an agreement in 1988 ending the war. It had consumed one million lives.

The Gulf War. The United States provided Iraq with one billion dollars in economic and military aid in 1989; however, Iraq's economy was in shambles. Oil prices were falling, and Hussein blamed the adjoining oil-producing country of Kuwait for his loss of income. On July 25, 1990, Hussein met with U.S. Ambassador April Glaspie to discuss Hussein's claim that Kuwait was historically a part of Iraq. She informed Hussein that she was under direct instructions of President George H.W. Bush to improve U.S. relations with Iraq, and that President Bush was sympathetic to Iraq's dispute with Kuwait. Hussein was diplomatically informed that the U.S. had no opinion regarding the dispute, and that "the Kuwait issue is not associated with America."

Higher oil prices resulting from the conflict would benefit the profits of American oil companies, and on August 3, 1990, CIA agent Saddam Hussein ordered the invasion, seemingly encouraged by the U.S. president.

Iraq invaded and quickly occupied all of Kuwait, up to its border with Saudi Arabia. The United Nations condemned the invasion and imposed sanctions, cutting off 70 percent of Iraq's food supply.

Acting pursuant to a United Nations resolution, an international coalition of military forces led by the United States (which was shocked, shocked by Iraq's aggression against defenseless Kuwait and its threat to the Saudi Arabia oil fields) deployed 400,000 troops in the region. The oil-producing nations of Kuwait and Saudi Arabia agreed to pay for more than half of the \$62 billion cost of the war.

On January 14, 1991, following an ignored ultimatum, the coalition launched a bombing blitz against Iraq that lasted for 42 days. The air assault had five basic targets, one of which was "population will." The Iraqi civilian infrastructure, including electricity, water, and sanitation, was almost entirely wiped out to "degrade the will of the civilian population" to fight. Denied basic needs and services, hundreds of thousands of Iraqi children died as collateral damage during the war and in the years that followed.

When Saddam refused to leave Kuwait, a ground invasion commenced on February 23, 1991; three days later Saddam abandoned Kuwait after setting fire to more than 600 oil wells, fire trenches, and lakes of oil. Iraq agreed to a cease-fire on February 28, 1991.

During the three-day invasion, thousands of Iraqi soldiers, most of them conscripts and reserves armed with rifles, had been deployed in World War I style trenches dug in the desert along Iraq's border. Although some of the soldiers were able to surrender before the mechanized invasion swept around and over them, thousands were buried alive as Abrams battle tanks, equipped with huge front plows, swept along both flanks of approximately 70 miles of trenches, pouring avalanches of sand down upon the Iraqi soldiers. The tanks were followed by combat earthmovers that filled in and smoothed over the trenches, creating a massive unmarked grave site.

The Geneva Convention prohibits "denial of quarter," that is, refusing to accept an enemy's offer of surrender. Following the war, then Secretary of Defense Dick Cheney justified the live mass burials in his report to Congress as being "a gap in the law of war in defining precisely when surrender takes effect or how it may be accomplished. . . . Because of these uncertainties and the need to minimize loss of U.S. lives, military necessity required that the assault . . . be conducted with maximum speed and violence."

To end the Gulf War, Saddam agreed to eliminate all weapons of mass destruction and to allow verification inspections by the United Nations. In the meantime, the UN economic sanctions were to continue. Because of the sanctions, and certainly because of the priorities set by Saddam, there were significant delays in obtaining spare parts to repair Iraq's infrastructure, including its power grid, water treatment plants and sanitation systems, much of which was destroyed in the air attacks. Moreover, the population was denied access to adequate food supplies and essential medicines. UNICEF has estimated that as many as a million Iraqis died as a result of the sanctions, and that 500,000 of them were children.

Between the end of the war in 1992 and 1998, the United Nations conducted intensive and intrusive inspections throughout Iraq and was able to verify that Iraq had destroyed virtually all its mass destruction capability, including all factories used to produce nuclear, chemical and biological weapons and all long-range missiles. What Iraq did not destroy; the inspection teams did. Given the fact that chemicals and biologicals used in weapons degrade with time and become harmless within five years, and without factories to replace the materials, it is relatively certain that Iraq ceased to have

weapons of mass destruction and the capability to produce them.

Matters came to a head in 1998 when Richard Butler, the UN's chief inspector was encouraged by the U.S. to "carry out very sensitive inspections that had nothing to do with disarmament but had everything to do with provoking the Iraqis." Iraq agreed to a set of "Modalities for Sensitive Site Inspections;" however, Butler insisted on unrestricted access to the Ba'ath Party headquarters in violation of the Modalities. When Saddam balked, Butler ordered the UN inspectors to leave the country to clear the way for a U.S. bombing attack. The Iraqis did not order the inspectors to leave.

On December 16, 1998, on the eve of his impeachment trial, President Clinton announced "Operation Desert Fox" by U.S. and British forces to "attack Iraq's nuclear, chemical and biological weapons programs." Over the next four days, there were repeated air strikes in central Iraq. However, none ever targeted weapons of mass destruction, because no such weapons could be identified. Instead, Iraq's conventional military assets were targeted, along with its industrial infrastructure. The inspectors did not return to Iraq, and over the next three years, U.S. and British forces continued to fly at will in the no-fly zones and to bomb radar targets.

Meanwhile, back in the United States, President Clinton was acquitted in his impeachment trial; Vice President Gore received the Democratic nomination; and the American People voted to elect him as their next president. The Supreme Court, however, awarded the presidency to the losing candidate, George W. Bush, who came to office determined to make up for his father's failure to completely conquer Iraq, and to extend and consolidate U.S. dominance over the Middle East and Central Asia.

Afghanistan. Historically serving as a buffer state between the imperial ambitions of England (India-Pakistan) and Russia, and having remained neutral in World War II, fiercely independent Afghanistan established a constitutional monarchy with a parliament in 1964. Following a military coup d'état in 1973, the king abdicated, and a socialist government was established with close relations with the USSR.

The conservative Afghan people rebelled, and although more than 27,000 political prisoners were executed, the socialist government

was unable to suppress the Mujahidin rebels. The government called upon Soviet assistance, and by the end of 1979, entire regiments and divisions of Soviet troops were being deployed in the civil war.

On December 27, 1979, the USSR announced to the Afghans that they had been “liberated” and that their corrupt prime minister had been executed for his crimes. The nation was to be governed by the Afghan Revolutionary Central Committee, and 100,000 Soviet troops invaded and attempted to occupy the nation. The invasion was condemned by the Islamic nations and the United Nations General Assembly, and western military supplies began to flow into Afghanistan to supply the Mujahidin.

In a classic cold war set piece, the Mujahidin rebels were supported by the United States, the United Kingdom, Egypt, Pakistan, China, and Saudi Arabia. The grand objective was not to preserve the independence of the Afghan people, but to make the military cost of occupying Afghanistan too expensive for the Soviet Union to sustain in its economic and military competition with the United States.

The U.S. Central Intelligence Agency supplied billions of dollars in weapons, which were routed through the Pakistani security services. At least 4,000 Mujahidin units were supplied by the CIA, including that of a young volunteer named Osama bin Laden, the son of a wealthy Saudi builder, who had come to fight the Russian infidels as an “Afghan Arab” warrior.

Between 1980 and 1985, the USSR launched multiple offenses into rebel-held regions, including adjoining Pakistan, without success. Beginning in 1985, the Soviet Union began beefing up the Afghanistan national army to replace withdrawing Soviet forces by mid-1987. The exit was completed by February 1989, after 15,000 Soviet soldiers died during the occupation.

The departing Soviet army left in place a communist government headed by the former chief of the Afghan secret police. More than two million Afghans died during the occupation; millions more were maimed and disabled; and more than five million Afghans were refugees in other countries. The civil war continued into the 1990s with hundreds of thousands of Afghan civilians losing their lives.

The Russian-installed government fell in 1992, and the civil war continued over the next three years, with the largest Mujahideen groups and the Taliban⁷⁷ fighting for control. In September 1996, the Taliban seized control of Kabul and most of Afghanistan, and they instituted a harsh Islamic fundamentalist rule in which 400,000 Afghans died by 2001.

Al Qaida Strikes Back at the America Empire. Osama bin Laden, and his organization known as al Qaida (The Base or Foundation), continued to be welcomed by the Taliban in Afghanistan, as bin Laden's list of grievances against the American Empire grew. He was appalled by the presence of U.S. troops in Saudi Arabia, U.S. support of Israel, and U.S. support of attacks on Muslims in Somalia, Chechnya, Kashmir, and Lebanon.

After al-Qaeda attacked U.S. embassies in Africa and the USS *Cole* in Yemen, sealed indictments were issued against Osama bin Laden in the U.S. federal courts. On August 20, 1998, as Congress was commencing his impeachment investigation, President Clinton tried to kill bin Laden—instead of arresting him—by launching about 70 cruise missiles from naval ships against three training camps in Afghanistan on the chance bin Laden might be at one of them. He wasn't, but 24 unlucky people were killed.

Following the political disintegration of the Soviet Union in 1991—and the virtual disappearance of communism as a national economic system (everywhere but in Cuba and North Korea)—the American Empire became the sole superpower on Earth. With the election of George W. Bush in 2000, and with both the New Democratic and Republican parties securely corrupted by the political contributions and the lobbying power of the capitalist military-industrial machine, the oil fields of Iraq and Iran were targeted for consolidation along with those of Saudi Arabia, as sources of low-cost energy to be exploited by the corporate machine.

Osama bin Laden played into these plans when 19 (including 15 subjects of the Kingdom of Saudi Arabia) of his al Qaeda

⁷⁷ The Taliban movement was born in the madrasa religious schools conducted by the severe form of Sunni fundamentalism known as Wahhabism. The Saudi Arabian monarchy generously provides financial support of Wahhabism and its schools by their tithe of a percentage of petroleum profits.

warriors, armed only with cheap knives and box-cutters launched four coordinated, well-planned attacks on September 11, 2001. The suicide fighters took down three of the World Trade Towers in New York City, wiped out a wing of the Pentagon, and (but for the bravery of airline passengers who died saving it) either the Capitol building or the White House. Almost 3,000 people died that day, plus the hijackers, and the consequences in terms of airport security has cost Americans billions of wasted dollars, uncountable hours lost standing without shoes in security lines, and their innocence and freedoms.

On December 7, 1941, the United States violently learned in a surprise attack that its fleet of expensive battleships was obsolete. Battleships were of little evident military value in fighting the new aircraft carriers used by Japan far from their own harbors to bomb Pearl Harbor and sink the lined-up battleships. Quickly learning from experience, the U.S. build enough carriers to win the Pacific War, and to threaten other nations during the Cold War. Today, fully prepared to fight World War II all over again, and ignoring the new threat of asymmetric warfare fought with terror, America currently deploys eleven nuclear-powered fleet carrier task forces around the world in support of its corporate industrial empire.

On September 11, 2001, America once again learned a violent lesson of war when it suffered another sneak attack. Its mighty armada of aircraft carriers and nuclear armed and powered submarines, and its Air Force equipped with spy satellites, stealth bombers, and nuclear armed intercontinental ballistic missiles, its legions of marines, Deltas, SEALs, and other special force warriors, and its massive National Security Administration that listens and records much of the world's electronic communication, could not defend the American People against the creative stratagems of terrorism. An imaginative, never-used-before, low-budget tactic, effectively executed by a weak, ideologically motivated party of Islamic fighters struck a massive blow against the military power and prestige of an overwhelming superior national enemy.

The Islamic warriors who hijacked the passenger airplanes and committed suicide by flying the fuel-laden aircraft into tremendously symbolic targets, exposed the vulnerability of imperial arrogance to

the focused attacks of warriors who dedicate their lives to expressing the intolerance of their religion, culture, or race, having been indoctrinated to it themselves.

The United States commenced airstrikes in its invasion of Afghanistan to capture Osama bin Laden on October 7, 2001, and two months later, the American-appointed Afghan leader, Hamid Karzai, negotiated the surrender of all remaining Taliban forces around Kandahar.

The final battle was fought in the Tora Bora region of the White Mountains in December, as bin Laden was allowed to escape into Pakistan, where, after a 10-year manhunt, he was located and executed by U.S. special forces in Abbottabad, Pakistan on May 2, 2011, and his body was dumped into the Mediterranean Sea.

Operation Enduring Freedom continues to this day, as President Trump has authorized military commanders on the ground in Afghanistan to determine troop levels and strategy. More than 2,400 Americans have died since the invasion of Afghanistan, and approximately 14,000 U.S. troops remain there. The U.S. continues to negotiate with the Taliban for their complete withdrawal; however, the Afghan government in Kabul is not a party to these discussions.

The Iraq War. In October 1998, the U.S. enacted the Iraq Liberation Act, which was aimed at establishing a democracy in Iraq. As soon as he took office in January 2001, President George W. Bush made the removal of Saddam Hussein an immediate priority. The subject was discussed at his very first National Security Council meeting, and a memorandum was circulated that outlined a “Plan for post Saddam Iraq.” President George W. Bush and his neoconservative supporters faulted his father, President George H.W. Bush for too quickly declaring a ceasefire in the Gulf War in 1991 without forcing a regime change upon Hussein and his government.

Following the al Qaeda attacks on September 11, 2001, Secretary of State Powell spoke against starting a war with Iraq. He argued that since America wasn’t going after Iraq before 9/11 and there was no evidence that Iraq was responsible for the attack, the coalition he was building would “view it as a bait and switch—it’s not what they signed up to do.” Richard Clarke, Bush’s National Coordinator for Security, thanked Powell for his position saying, “Having been

attacked by al Qaeda, for us now to go bombing Iraq in response would be like our invading Mexico after the Japanese attacked us at Pearl Harbor.”

In his State of the Union address to Congress on January 29, 2002, Bush said that terrorist camps exist in “at least a dozen countries.” He said, “The United States of America will not permit the world’s most dangerous regimes to threaten us with the world’s most destructive weapons.” First mentioning North Korea and Iran, Bush said that Iraq had “agreed to international inspection—then kicked out the inspectors. This is a regime that has something to hide from the civilized world. States like these, and their terrorist allies, constitute an axis of evil, aiming to threaten the peace of the world. By seeking weapons of mass destruction, these regimes pose a grave and growing danger.”

Following an eight-month campaign of propaganda and deception, Bush made a speech in New York City on September 11, 2002, with the Statue of Liberty in the background; the next day he requested the United Nations Security Council to authorize his march to war, and a week later he asked Congress to back him in his invasion of Iraq.

On October 10, the House of Representatives voted 296 to 133 to grant Bush the authority to attack Iraq, and the Senate approved 77 to 23 the next day. Although a few members of both parties crossed over the aisles to vote, the resolution was largely supported by the Republicans and opposed by the Democrats. Senior Senator Robert Byrd of West Virginia attempted to mount a filibuster but was cut off. He said, “This is the Tonkin Gulf resolution all over again. . . . Let us stop, look and listen. Let us not give this president or any president unchecked power. Remember the Constitution.”

On January 27, 2003, Dr. Hans Blix reported to the United Nations:

Iraq has on the whole cooperated rather well so far with UNMOVIC in this field. The most important point to make is that access has been provided to all sites we have wanted to inspect and with one exception it has been prompt. We have further had great help in building up the

infrastructure of our office in Baghdad and the field office in Mosul. Arrangements and services for our planes and our helicopters have been good. The environment has been workable.

On February 14, 2003, Dr. Mohamed ElBaradei, Director General of the IAEA, informed the United Nations Security Council that "Iraq has continued to provide immediate access to all locations." The IAEA completed a detailed review of the 2,000 pages of documents found at the private residence of an Iraqi scientist and found nothing that was not already known to the IAEA, nor anything to alter "the conclusions previously drawn by the IAEA concerning the extent of Iraq's laser enrichment programme." The report reiterated "by December 1998, that it had neutralized Iraq's past nuclear programme and that, therefore, there were no unresolved disarmament issues left at that time." It concluded: "We have to date found no evidence of ongoing prohibited nuclear or nuclear-related activities in Iraq."

President George W. Bush refused to accept the observations and conclusions of the United Nations and IAEA inspectors and continued to push for a new Security Council resolution mandating an end to inspections and immediate military action; however, on February 24, 2003, France, Germany and Russia joined together to issue a memorandum in which they concluded:

Full and effective disarmament in accordance with the relevant UNSC resolutions remains the imperative objective of the international community. Our priority should be to achieve this peacefully through the inspection regime. The military option should only be a last resort. So far, the conditions for using force against Iraq are not fulfilled. While suspicions remain, no evidence has been given that Iraq still possesses weapons of mass destruction or capabilities in this field; inspections have just reached their full pace; they are functioning without hindrance; they have already produced results.

With the threat of a veto in the Security Council by either Russia or France, or both, President Bush decided to ignore the United

Nations. He created a new “Transatlantic Alliance,” consisting of the United States, England and Spain to “face and overcome together the twin threats of the 21st century: terrorism and the spread of weapons of mass destruction.”

On March 17, 2003, President Bush addressed the American People and laid down a 48-hour ultimatum for Saddam Hussein and his two sons to leave Iraq; otherwise, “Their refusal to do so will result in military conflict, commenced at a time of our choosing.” As he launched an unnecessary and illegal, and horribly violent “preventative war” in their name, President Bush consciously lied in saying, “The American people can know that every measure has been taken to avoid war.” In fact, the Iraq War was legally and morally equivalent to Germany’s invasion of Poland on September 1, 1939, that launched World War II based upon a knowingly false premise.

On March 19, 2003, President Bush announced that, on his orders, military operations had commenced “to disarm Iraq, to free its people and to defend the world from grave danger.” He did so because we “will not live at the mercy of an outlaw regime that threatens the peace with weapons of mass murder.”

Who was threatening the peace? According to a *TIME EUROPE* opinion poll, 86.9 percent of more than 700,000 respondents in Europe considered the United States to pose the greatest danger to world peace. Only 6.3 percent thought Iraq was the most serious threat.

As millions and millions of people around the world engaged in public protests against the invasion, the United States launched a “shock and awe” aerial bombing campaign in a new kind of “preemptive war” to defeat the spurious threat to the American People posed by the falsely alleged possession of atomic, biological, and chemical weapons by Saddam Hussein—who uttered no threats toward the U.S. or any other nation. The following invasion of ground troops quickly secured all of Iraq, as Hussein went into hiding, and his army was quick to surrender.

The military occupation was governed by the Coalition Provisional Authority, which was created and administered by Bush’s Presidential Envoy, career foreign service officer Paul Bremer. Instead of assuming command of the surrendered Iraq army, and identifying

reliable officers to maintain internal order, Bremer immediately dismissed all military officers, forfeiting their commissions and pensions, and disbanded the army. To replace them, government contractors and U.S. military trainers were brought in to recruit and train new, ideologically pure, police and military forces loyal to the American occupiers. Bremer also removed Ba'ath party leaders from the civil service, and assumed control over the production, sale, and spending of Iraq's oil revenue.

Billions of cash dollars (pallet loads of shrink-wrapped bundles of \$100 bills) flowed through the provisional government, to jumpstart the economy and to pay contractors. Much of the deluge of cash was not subject to standard financial reconciliations and audits, and billions of dollars were never accounted for. Corruption was endemic, as corporate contractors bid for the opportunity to show the Iraqis how the Americans got things done.

On May 1, 2003, President George W. Bush, outfitted in a new, form fitting, military flight suit, was flown offshore of San Diego to the flight deck of an aircraft carrier, where he announced the defeat of Iraq's military and declared the "Mission Accomplished."

An Iraqi (primarily Shia) government was later elected, which executed Saddam Hussein after he was captured in December 2003. Hussein was tried and convicted by an Iraqi court of crimes against humanity, for the Dujail Massacre in 1982, in which 140 Iraqi Shias were killed in revenge for a failed assassination attempt on Hussein. He was hanged to death on December 30, 2006.

As 68 percent of the Iraqi people are Shia and are religiously affiliated with the neighboring Iranians, most Iraqis did not mourn the removal of Saddam Hussein and his mostly Sunni government and army. The dismissed and unemployed Sunnis were not happy, however, and they switched their loyalties from the government to its opposition. Making good use of their organizational and leadership skills, the former military and government leaders began to build an insurgency that quickly posed a significant military challenge to the American occupation and the Shia dominated government that was elected.

Although no evidence of nuclear, chemical, or biological weapons was ever found, despite an extensive search, vast stores

of artillery shells and other conventional Iraqi arms were poorly guarded. Using a variety of guerrilla tactics, including roadside improvised explosive devices (IEDs), the insurgents made good use of the abandoned and neglected conventional weapons to kill and injure troops and contractors, whenever they left the protection of their defended bases.

The insurgency rapidly increased in size and began to target the newly trained and equipped Iraqi Security Forces, as they were deployed by the Shia government. The insurgency gained strength from its defeats of government forces, and the American-supplied equipment abandoned by Iraqi army officers and troops as they fled the battles.

In the heaviest urban fighting experienced by the U.S. military since the battle of Hue City in Vietnam, the recapture of the city of Fallujah in March and April 2004 took six weeks and cost the lives of almost a hundred Americans. Most civilians had fled the city before it was levelled by artillery and bombs (in order to be saved) but more than a thousand civilians died, many of them burned to death by white phosphorus bombs—although its use is internationally banned as a chemical weapon.

The Iraqis were able to form a government and ratify a permanent constitution in 2005 and 2006, however, fighting continued as the Sunni insurgents mounted large coordinated attacks on U.S. bases, and launched suicide bombings of Shia gatherings. The Iraqi Sunnis insurgents were joined by other Arabs from Syria and Saudi Arabia, as they began to bomb Shia mosques, including their holiest sites.

The U.S. war became increasingly technological, as the ground troops hunkered down in defended bases, or ventured out in convoys of armored vehicles, overseen by attack helicopters. The war was coming to be fought with missiles fired from drones, operated via satellite, by “pilots” sitting in a padded chair in front of computer monitors in an air-conditioned building on a base in the United States. The battleground is viewed by cameras, as life and death decisions are made. A gathering of armed insurgents, or a wedding in the desert? Push the button and watch the explosion in real time. All too often, a military programmed to kill, will kill, when it should not have killed.

Attacks were averaging about 960 per week by December 2006, and President Bush responded with a “surge” of another 20,000 U.S. troops to defeat the insurgency, plus a billion-dollar jobs and reconstruction program to aid the country’s recovery. The Iraqi Parliament enacted legislation limiting the introduction of any additional troops into the country and demanding that the U.S. set a timetable to withdraw all combat forces.

Coalition partners Denmark and England withdrew troops in 2007, and the U.S. announced a withdrawal of the “surge” troops by July 2008. Violence continued with 800 people killed by suicide bombs in one day in August 2007, as Sunni-Shia violence escalated. Responsibility for the bombing execution of a major U.S. ally in Ramadi in September 2007, was claimed on the Internet by a new entity known as the Islamic State of Iraq. Ethnic cleansing occurred throughout Baghdad, as neighborhoods became either entirely Sunni or Shia.

Iraq’s existence as a nation was tested by Iranian incursions in the east supporting Iraq’s Shia population with weapons, by Turkish incursions in the north in its operations against Kurdish cross-border militants, and by an increasingly organized attack in the west coming from Syria. There, the Islamic State of Iraq merged with fundamentalist Sunni forces from Syria in declaring the Islamic State of Iraq and the Levant (ISIL), or more commonly known as the Islamic State of Iraq and Syria (ISIS). Its Arabic-language derogatory acronym is Daesh.

The Iraqi national army was heavily engaged in fighting Shia militias in Basra, after the British withdrew, and in Sadr City district of Baghdad. When control of the Sunni “Awakening” militias, that had been organized by the U.S. military outside of Baghdad, was transferred to the government, the Iraqi army launched an attack on Mosul in the north to clear it of the last al Qaeda holdouts.

The U.S. corporate industrial military machine began to sell billions of dollars in modern military equipment to equip the new Iraqi army and air force, which the government could pay for through the sale of oil.

A Status of Forces Agreement was reached between President Bush and Iraq in December 2008, which required the withdrawal of

all U.S. combat forces from Iraqi cities to base camps by the end of June 2009, and for the U.S. military to clear out of Iraq by the end of 2011.

In February 2009, newly inaugurated President Barack Obama announced that U.S. combat operations would end in August 2010, and that a transitional force of 50,000 “Advise and Assist” brigades would remain until the end of 2011 for the training of Iraqi Security Forces and for conducting counterterrorism operations. The United Kingdom and Australia withdrew the remainder of their combat forces, and the U.S. military left Baghdad and turned over 38 bases to the Iraqis in June. By August, the last convoy of combat brigades crossed the border into Kuwait.

Although not engaged in combat, American troops continued to die throughout 2011 as they prepared for their military retreat from Iraq, with the last soldier being killed by a roadside bomb in November. The last combat troops left on December 18, 2011.

The eight long years of President Bush’s shock and awe “preventative” war—criminally launched on the knowingly false allegation that Iraq possessed nuclear, biological, and chemical weapons that threatened the United States—killed 4,496 Americans. As collateral damage, between one-half and one million Iraqis gave their lives to feed the insatiable corporate machines of war, at a total cost of \$3 to \$6 trillion, borrowed at interest and yet to be paid by future generations.

Syria. The people of Syria have a proud and ancient ancestry dating back thousands of years during which they created some of the most significant civilizations in the Middle East. Syria became a Roman province in 64 B.C., and its trade-route city of Palmyra became one of the wealthiest and most beautiful cities in the region. Absorbed into the Byzantine Empire, Syria was later conquered by the Muslims and ultimately became a part of the Turkish Ottoman Empire—which ruled it for more than 300 years.

The Ottoman Empire fought on the side of Germany and lost most of its colonial land in the Middle East following its defeat in the First World War. France received the mandate of the League of Nations in 1920 and maintained military protection of Syria until 1936 when the nation achieved independence and became a republic.

The Vichy French occupied Syria at the beginning of the Second World War, but they were defeated by England and the Free French in July 1941. Syria was essentially a colony of France, and French troops did not leave the country until forced to do so by England in 1946. The Syrian republic was reestablished.

Following its invasion of Palestine during Israel's war of independence, its defeat, and a series of military coups, Syria aligned itself with the Soviet Union. In 1958, Syria joined with Egypt and North Yemen in creating the United Arab Republic under the leadership of Gamal Nasser. Concerned with its loss of independence, Syrian military officers and members of the Arab Socialist Ba'ath ("renaissance" or "resurrection") Party formed a new Syrian government in 1961, and the party began to achieve political power in neighboring Iraq.

After Israel attacked Egypt in the 1967 Six Day War, Syria invaded Israel. Turning on Syria, Israel quickly conquered two-thirds of the Golan Heights overlooking Damascus—which it continues to illegally occupy to this day. The defeat caused disputes within the Ba'ath Party, which ultimately led to another military coup that installed Hafez al-Assad, an Alawite Shia, as the leader of a nation primarily composed of Sunni Muslims.

Syria suffered further losses of land during the Yom Kippur War in 1973. In 1976, to control Lebanon, Syria invaded the country and occupied it for the next 30 years, although it ultimately lost control over parts of Southern Lebanon to Israeli domination.

Syria joined the U.S. led coalition against Iraq during the Gulf War in 1990 and attempted to make peace with Israel following the war. These attempts were unsuccessful, and Israel continues to illegally occupy Syrian land in the Golan Heights, and a state of conflict continues to this day.

Following the death of Hafez al-Assad in 2000, his son, Bashar al-Assad became the president of Syria and the Ba'ath party retained its political and security powers. Ba'athism is an Arabic socialist movement that strives for equality and a secular society under the leadership of the Ba'ath party. The Party sought to modernize Syria, educate its people, and to coexist with the revolutionary tenets of the Muslim faith in a nation in which all religions are deemed to be

equal. Women were a strong part of the Ba'athist movement and achieved equal rights to education and professional careers. Even so, the Syrian government was dominated by members of the Alawite Shia sect of Islam, who were personally loyal to al-Assad.

The Arab Spring movement gave rise to a series of peaceful protests against the Syrian government in 2011, which were suppressed by the Syrian military. Army defectors, primarily Sunni Muslims, began to organize an armed resistance, which led to the present civil war, and the involvement of the Islamic State of Iraq and Syria (ISIS). It is estimated that more than 470,000 Syrians, many of them noncombatants, have died in the civil war. Almost five million refugees have fled Syria to escape the violence, 6.5 million are displaced within the nation, and 13.5 million desperately require humanitarian assistance to survive.

The Islamic State of Iraq and Syria (ISIS). Arising from the post-war ruins of western and northwestern Iraq and the adjacent northeast region of Syria devastated by civil war, ISIS is a self-proclaimed theocratic proto state. Its adherents believe in a radical, strict, and puritanical expression of Sunni Islam as taught by Wahhabism (the state religion of Saudi Arabia) in the madrassas religious schools established by the Wahhabis throughout the Islamic world. The primary spiritual purpose of ISIS is to return Islam to the purity of its origins.

ISIS preaches that the arrival of the Imam Mahdi is imminent, that the final day of God's judgment is close, and that an apocalyptic battle will soon take place in which ISIS will defeat the armies of the Western infidels. The resulting Islamic state will be led by religious leaders under a supreme Caliph, who will be the successor to the Prophet Muhammad. The ISIS ideology and propaganda has a great appeal to foreign followers, both male and female, who travel to the war zone to participate in the battles that continue in Syria and Iraq. As many as 30,000 foreign fighters joined ISIS, including 3,400 from Western nations.

The ISIS movement has been financed by the Saudi monarchy as a buffer between the kingdom and the heretical influence of Shia Islam in Iran, Iraq, and the government of Syria. The ISIS judicial system is overseen by 12 Saudi judges, and its schools use religious

textbooks from Saudi Arabia. ISIS views other Muslims who do not adopt the purity of their ultra-fundamentalist Salafist doctrine, as deviates and heretics. It condemns other Sunnis, such as Palestinian members of Hamas, as apostates, and Muslims who obey secular law as disbelievers.

The ISIS founders were former military and intelligence officers who were well educated by western standards and were adept at the use of modern military weaponry and technology, the Internet, social media, and the printing press. For shock value, ISIS specialized in posting video footage on the Internet featuring executions by beheading with swords and burning captives alive. Spies would infiltrate targeted regions and would identify all potential leaders or opponents, who were targeted for execution and kidnapping. Magnifying the military shock of captured modern weaponry, ISIS relied on hatred, violence, fear, and intimidation to control the eight million people in the areas it captured.

Seizing the most modern equipment and weapons from the Western equipped and trained Iraqi army, ISIS rapidly became a highly-effective, mobile military force on the ground in Syria and Iraq in the manner of the Mongol hords, as the proto state rose above the land as a theoretical theocracy existing on a digital cloud. ISIS printed and published a slick magazine, and it coined and printed its own money. Several media foundations were established to produce web-related propaganda, including CDs and DVDs, and to broadcast in more than 20 languages. Taking control of conquered oil fields in Syria, ISIS began to operate convoys of tanker trucks to deliver and sell the oil in Turkey.

By 2014, ISIS dominated 39,000 square miles in Iraq and Syria, including Mosul and other urban areas. Attacks by the Iraqi army in the east and by a consortium of organizations in Syria, reduced the area controlled by ISIS, year by year, until December 2019 when it retained only a small area in eastern Syria and a few other pockets.

While it still claims control of territory in Afghanistan, Libya, Egypt, and Nigeria, and sponsors affiliates in a dozen other countries, the influence and domination of ISIS as a proto state has diminished in significance. No single nation or group wants to take custody of the more than 10,000 ISIS prisoners, 2,000 of whom, men and

women, are volunteers from other countries, which are refusing to accept them back.

Saudi Arabia. Consisting primarily of arid deserts and volcanic mountains, the geological features of Saudi Arabia float on a massive sea of petrochemicals deposited more than 400 million years ago. Fourteen hundred years ago, the land was desolate and largely uninhabited except for areas along the coasts of the Red Sea on the west and the Persian Gulf on the east, and at scattered oases in the interior. At that time, Arabia shared long borders with Syria on the northwest and Iraq on the northeast. Yemen was situated in the southwest corner of the peninsula across the Red Sea from the land of Abyssinia (Ethiopia). The two cities now known as Mecca and Medina are located inland and approximately halfway along the east coast of the Red Sea.

The prophet Muhammad was born in Mecca in 570 CE to a prominent clan that served water to the Arab visitors to the ancient Kaaba during pilgrimages known as the *hajj*. Muhammad was orphaned and raised by his uncle, the clan leader, and he began to lead trading caravans into Syria and Iraq. Muhammad married an older, wealthy widow and became a successful and respected merchant of Mecca. He was, however, a righteous man who dressed simply and shared what he had with those less fortunate.

Each year during the month of Ramadan, Muhammad would retreat to a cave in the mountains for spiritual reflection and prayer. In 610, he experienced a revelation from the angel Gabriel, commanding him to “recite,” which he did, first to his wife and family members; then to other Arabs. Through his prophecies collected in the Noble Quran, Muhammad created the religion of Islam, and through his leadership of the converted, he conquered all of Saudi Arabia before his death in 632. His followers expanded Muslim rule, ultimately conquering an arc of territory ranging from Spain to India and Pakistan in creating the largest and most learned empire in the world.

Over the centuries, major Islamic empires were based in Baghdad, Cairo, or Istanbul, but Saudi Arabia largely reverted to traditional tribal rule. While Mecca remained as a religious focus for pilgrims performing the Islamic duty of *hajj*, the rest of the Saudi

Arabian desert returned to insignificance. That began to change in 1744 with the alliance between a puritanical Muslim preacher named Abd al-Wahhab and an ambitious Arabian sheikh named Muhammad bin Saud, who controlled the area around a desert oasis. The result was the establishment of the most fundamental and regressive form of Islam ever practiced on a major scale. The agreement by which Saud became the political leader of the Muslim community in Saudi Arabia and al-Wahhab became its religious leader allowed the two to expand their power from the desert oasis to encompass all Saudi Arabia.

The uncompromising and austere practice of Islam which Saud and al-Wahhab imposed on Saudi Arabia has prevailed for more than 250 years. All the tombs of Muhammad, his family, and his companions were destroyed, and their veneration was outlawed along with the celebration of Muhammad's birthday. Under Wahhabism men must grow beards and women must be secluded. Women who appear in public must wear veils or burkas and be accompanied by a male relative. Women only recently achieved the right to vote and to drive. Hands are chopped off for theft, and people are publicly beheaded for murder and other offenses, such as political protest, blasphemy, sorcery, and witchcraft, at the rate of more than three executions per week.

With the establishment of the Kingdom of Saudi Arabia as an absolute monarchy in 1932, the discovery of the massive petroleum resources beneath its surface, and the establishment of the Arabian American Oil Company (ARAMCO) to extract and sell the oil, the Saudi royal family became extraordinarily wealthy.

Saudi Arabia had a close business relationship with both President Bushes, having financed and bailed them out of their various oil deals in Texas and the Gulf of Mexico. The Saudi Arabian ambassador to the U.S. enjoyed unrestricted access to the White House during the Reagan and Bush administrations, and President Clinton relied on Saudi Arabian support in arranging the Arab-Israeli peace talks and in his ongoing conflict with Iraq. Saudi Arabia has been of great value to the American administrations, and the corporate industrial machine, in regulating worldwide oil prices.

Saudi Arabia is the largest purchasers of U.S. weaponry and equipment, awarding billions of dollars in contracts to American

defense contractors. Saudi Arabia uses this weaponry in representing the interests of the United States in its opposition to the regional ambitions of Iran. Saudi Arabia also finances proxies in Lebanon and Syria to work against Iran's support of dissident Shias.

President Obama sought good relations with Saudi Arabia, by offering to sell it \$136 billion in weapons and by supporting the Kingdom in its aerial war against Yemen rebels. It was, however, his agreement with Iran to limit its production of nuclear material that earned him the opposition of the Saudis—along with President Obama's support of democracy movements against some of Saudi Arabia's dictatorial allies. President Obama said that Iran and Saudi Arabia had “to find an effective way to share the neighborhood and institute some sort of cold peace.”

The Saudis probably preferred the election of Hillary Clinton in 2016, as they had enjoyed good relations with her husband. Moreover, candidate Donald Trump had labeled the Saudis as “freeloaders” who were taking advantage of America, and he promised to stop buying oil from them. Once elected; however, President Trump's first visit was to Saudi Arabia. He was easily seduced by being awarded the Kingdom's highest civilian award, a huge solid gold medal on a massive gold chain, a showering of expensive gifts upon his family members, and entertainment by warrior sword dances. President Trump bragged about the “\$110 billion arms deal” he made during the trip, and he became a salesman for the benefits to America ranging from improved corporate profits to good jobs for workers.

President Trump appointed his 38-year-old son-in-law, and senior advisor, Jared Kushner as his personal representative to Saudi Arabia and 34-year-old Crown Prince Mohammed bin Salman, the leading power and public face of the Saudi monarchy since his father became king in 2015.

In May 2017, Kushner met privately with Saudi and United Arab Emirates leaders about their dispute with Qatar over its support of democracy movements and its hosting of the al-Jazeera television news channel, and they conspired to impose an economic and military blockade. Qatar is a relatively neutral Gulf state, which maintains good relations with Iran and hosts a major U.S. military presence.

Secretary of State Tillerson was unaware of these negotiations, and he was surprised when Saudi Arabia and three of its allies severed diplomatic and economic relations with Qatar in June 2017. They imposed a blockade on Qatar, restricting air and sea travel, and threatening access to the 10,000 U.S. military personnel stationed at Al Udeid Air Base. The facility includes the U.S. Central Command, which controls U.S. military action in the Middle East. As the U.S. Defense and State Departments attempted to remain neutral in the dispute, President Trump tweeted his support of the Saudi action.

Kushner's father, Charles, had earlier appealed to the Qatari finance minister for a loan from the nation's sovereign wealth fund to bailout his family's office tower in Manhattan; however, his plea was rejected as a bad business deal. Once the blockade of Qatar was in place, Brookfield Asset Management—using Qatar sovereign funds—rescued the Kushners in August 2018 by agreeing to a 99-year lease on the building and by paying nearly a century's worth of rent upfront.

In a potential violation of laws against nuclear proliferation, Kushner has also encouraged U.S. plans to sell nuclear power plants to Saudi Arabia. In another conflict of interest, Kushner became financially obligated to Brookfield Asset Management when the fund bailed out Kushner and his family from its \$1.8 billion bad investment. Westinghouse Electric, a Brookfield subsidiary, is a leading competitor to build nuclear power plants in the Middle East.

Saudi Arabia has been involved in an ongoing war with the Houthi rebels of the Shia Zaidi sect in Yemen since March 2015. The Houthi, a moderate movement that taught tolerance, opposed the massive financial corruption of the Yemen government. They rebelled, militarily, after their leader was murdered by the Yemen army, which was financed by Saudi Arabia. After the Iran-backed rebels defeated the army, Saudi Arabia and a coalition of eight partners (principally including the United Arab Emirates) launched an air war and naval blockade against the rebels. The United States supported the coalition, supplying weapons, intelligence, planning expertise, and refueling attack jets.

Within days of President Trump's inauguration, he personally approved an American raid by the Joint Special Operations Command

in Yemen that resulted in the deaths of 30 civilians, including an eight-year-old American girl. Trump blamed the failure on his generals and the Obama administration, while claiming unfounded successes.

The ongoing war is being fought with technologically sophisticated weapons supplied by the U.S., and it has killed thousands of civilians and pushed much of Yemen to the brink of starvation. In April 2019, the U.S. Congress passed a bipartisan resolution to end U.S. involvement in Yemen. It was vetoed by President Trump who called it an “unnecessary, dangerous attempt to weaken my constitutional authorities.” In November 2019, the United Nations documented that 6,872 civilians had been killed and 10,768 injured since the start of the Saudi campaign in March 2015. The majority were caused by Saudi-led coalition airstrikes, including bombing a school bus in August 2018 that killed 41 children. Since that time, another thousand children have been killed in the war.

In May 2019, President Trump pushed through an \$8.1 billion emergency Saudi Arabian arms deal without congressional approval. The administration claims that Iran poses an urgent and imminent threat to Saudi Arabia, the United Arab Emirates, and Jordan. The deal not only introduces some of the world’s most sophisticated weapons into the region, but it also allows a top U.S. weapons manufacturer to build high-tech bomb parts in Saudi Arabia, and to share closely guarded technology. When Congress passed bills disavowing the emergency and blocking the sales, President Trump issued another veto, which could not be overridden in Congress.

Jamal Khashoggi was a Saudi journalist who edited government newspapers and served as a media advisor to the royal family; however, when he criticized newly elected President Trump in 2016, the Saudi government banned Khashoggi from writing and speaking publicly. Khashoggi accepted exile in Virginia, where he wrote opinion columns for the *Washington Post* newspaper which were critical of Saudi Arabia and its crown prince, Mohammed bin Salman. As Khashoggi’s columns were also published in Arabic, he became well known as a reformer throughout the Arab world, and he attracted the enmity of bin Salman by demanding a settlement with the Houthis rebels, “The crown prince must bring an end to the

violence and restore the dignity of the birthplace of Islam.”

Learning that Khashoggi was due to arrive at the Saudi consulate in Istanbul to obtain documentation allowing his marriage, the Saudi government dispatched a team of intelligence officers to kill Khashoggi inside the consulate building and a medical pathologist to cut up his body for easy disposal. The exercise went as planned, but unfortunately for Saudi Arabia, the brutal murder and dismemberment was overheard by listening devices and taped by the Turkish intelligence service.

Saudi denials were quickly overcome by the Turkish evidence, and after a review of intelligence intercepts and other evidence, the CIA determined with “high confidence” that bin Salman had ordered Khashoggi’s murder. President Trump denied the assessment by his own intelligence agency, writing in a press release, “it could very well be that the Crown Prince had knowledge of this tragic event—maybe he did and maybe he didn’t!” President Trump said, “The United States intends to remain a steadfast partner of Saudi Arabia to ensure the interests of our country, Israel and all other partners in the region.” Regarding Saudi Arabia’s murder of Khashoggi and cancellation of its purchase of U.S. weapons, President Trump stated, “We don’t like it even a little bit. But whether or not we should stop \$110 billion from being spent in this country That would not be acceptable to me.” President Trump continued to praise Saudi Arabia and bin Salman at every opportunity.

When President Trump’s son-in-law, Jared Kushner, arrived in Riyadh in March 2019 to discuss the murder with Saudi officials, he refused to allow the embassy and State Department officials to accompany him to the meetings he held with Crown Prince Mohammed bin Salman.

The government ultimately charged eleven Saudi officials with Khashoggi’s murder. Five were convicted in a secret trial that excluded the public and journalists, but charges were dismissed against bin Salman’s senior advisor.

The Saudis increased their paid lobbying in America to more than \$38 million in 2018, using more than 200 registered agents, including a broad selection of Republican and Democratic lobbyists. Overall, Saudi Arabia has spent about \$60 million to secure support

for the interests of Saudi Arabia in Congress and the White House since President Trump was inaugurated.

Did the Imperious and Incurious Emperor of the American Empire Attempt to Start a War to Avoid Impeachment? What is one to make of all of this? Several dozens of pages were required just now to barely begin to outline the postwar economic, industrial, military, and intelligence American Empire's meddling in just the Middle East region of the world, and the wars it caused. Other regions were not spared the Empire's intolerance, as nations in Africa, South and Central America, Asia, and Europe found themselves the subject of political, diplomatic, military, and intelligence manipulations in achieving the best interests of the corporate industrial military machine.

While lavishly and glamorously welcoming in the New Year with friends and family at his Mar-a-Lago resort in Florida in December 2019, President Trump took a few minutes—without consulting Congress, and without any evidence of imminent danger of attack upon American interests—to assassinate one of the top military and intelligence officials of Iran, and he tried to kill another. He ordered the execution of a plan drawn up at least six months earlier to kill Iranian leaders outside of Iran, as soon as Iranian aggression resulted in the death of at least one American. In other words, there was a plan in need of an excuse, and it mattered not that Iran, a sovereign nation, was not at war with the United States or its People.

After a rocket attack in Iraq on December 27, 2019 by an Iranian-backed Shite militia killed an Iraqi-born, naturalized American citizen, contractor-interpreter outside of Kirkuk, the United States attacked multiple positions of the militia group in both Iraq and Syria, killing more than 25 people and wounding 51. Thousands of protesters stormed the compound of the U.S. Embassy in Baghdad, broke in, and burned the entry area. The U.S. ordered more troops to defend its embassy and set in motion the existing plan to kill the Iranian leaders.

Major General Qassem Soleimani was killed on January 2, 2020 when a missile was fired from a drone launched from a U.S. base in Iraq struck a vehicle he was riding in on his way to the airport in Baghdad. The other official of Iran's Quds Force of the Islamic

Revolutionary Guards Corps, Abdul Reza Shahlai, was visiting in Yemen when a similar attack on the same day apparently failed.

Neither Iraq or Yemen, both sovereign nations, were at war with the United States or its People. In the first case, killing an Iranian general in Iraq served the national interest of Israel more than that of the United States, and in the second, killing an Iranian official in Yemen served the national interest of Saudi Arabia more than that of the United States.

President Trump's written justification to Congress was classified top secret, but statements of Secretary of State Mike Pompeo and other officials cited an "imminent" threat of a "significant campaign of violence" against the U.S. in the future; however, no one has been able to identify a single significant target.

Iran retaliated on January 7, 2020 by firing a dozen missiles from Iran into Iraq, striking two U.S. bases. The missiles were carefully aimed to avoid killing any Americans but were sufficiently powerful enough to demonstrate the vulnerability of U.S. troops.

In the hours following the Iranian missile attack, and fearing U.S. retaliation, a Ukraine International Airlines flight to the Ukraine was accidentally shot down by Iranian anti-aircraft missile batteries, minutes after taking off from Tehran, killing all 170 persons aboard, including 82 Iranians and 66 Canadians.

Both sides are "standing down" for now, and the impeachment trial of President Trump is proceeding in the U.S. Senate.

This paper has documented the intolerance of America, as it has arrogantly attempted to impose its form of government and economic system on the rest of the world. And, the paper reveals the intolerance it has engendered. What lessons can be learned from this reality?

Seventy-five years of officious intermeddling by the American Empire in the economic and governmental affairs of the Middle East has produced no lasting benefit for either the United States or the nations it contrived to "free." The only consequence of America's interference with other nations, peoples, and cultures was the deep hatred it engendered; the same result achieved by the Roman Empire 2,000 years ago.

Even after closing bases in Iraq and Afghanistan, the United States continues to operate almost 800 military bases in more than 70 countries around the world. Should America continue to inflame wars of intolerance around the earth, or should the American People close their military bases and let the people of other cultures and nationalities make their own choices about how they live their lives and raise their children? Which will make the world a safer place for people to raise their children?

AMERICA: A NATION AT WAR WITH ITSELF

There are few living today who can remember how life was in the United States during the Great Depression. With one quarter of all workers unemployed, and without any meaningful assistance from the federal, state, or local governments, most people barely survived with help from their family, friends, churches, and society. Even so, across the great expanse of the United States, doors remained unlocked, and homeless “hobos” could find handouts at the backdoors of many homes, where matters were only marginally better.

The entire criminal code of most states could be contained in a paperback book; everyone knew what constituted criminal conduct, and although justice could be swift, prison terms were short, and people could get on with their lives after they “did the time” for their crime. There were criminal gangs in the major cities; but the overall crime rate was low, and most people felt safe from criminal assault or theft.

There were very few federal crimes, and the federal government played little part in the lives of most people, except to deliver the mail, construct the national highways, and maintain a small defensive army and navy. Most people remained law-abiding and generally respected their government without resorting to the massive riots and civil wars that racked other societies and nations at the time.

With the inauguration of Franklin D. Roosevelt as president of the United States in March 1933, the People of the United States regained faith in themselves, and they revised their covenant with their government. Although it was not the product of a constitutional

amendment, the “New Deal” promised the People that, if they would refrain from violently adopting communism or fascism as a government-economic system, the U.S. government would play a more responsible role in regulating the capitalist economy and ensuring good jobs for people to earn a living. A wide range of New Deal programs did, in fact, help people to survive the economic depression, but it was the corporate-industrial-military mobilization to fight World War II that finally brought full employment and economic well-being to most people.

After supplying the extraordinary output of human effort that built and drove the mighty industrial and military machine that defeated the fascist powers, the People of the United States were poised to reap the benefits of their bargain with their government. Throughout the postwar years of the 50s and 60s, the “American Dream” continued to prevail in the United States, as families bought new homes in the suburbs, mothers stayed at home to manage the household, children attended newly constructed neighborhood schools and walked home to play outside on safe streets. People enjoyed the latest gadgets, especially television, and society was orderly.

The federal government was financed by high rates of taxation on the income of corporations and the wealthy, who benefitted the most from the productive society. The strong labor union movement resulting from New Deal legislation compelled corporations to share their profits in providing a living wage and health and retirement benefits to their employees, many of whom spent their entire working life loyally laboring for one employer. The hard-won product of organized labor, the 40-hour work week and paid sick days, holidays, and vacations became the employment standard and social norm for everyone, workers, bosses, professionals, civil servants, and their families.

Responding to forceful demands, particularly by the young people, to end the Vietnam War and to secure racial equality and political change, the federal government under both Democratic and Republican administrations enacted legislation and regulations to provide equal access to schools, public facilities, and the ballot boxes, and to protect the environment and the economy. The

American People were the most productive on earth, and they generally respected their government that helped ensure that they would receive a fair share of the economy, and a good deal from their government for the taxes deducted from their paychecks.

Promoting Intolerance as a Political Weapon. All of this changed when the corporate industrial machine decided that American workers were receiving too much from the economy and that profits were insufficient. One of the most successful strategies of the Powell plan in 1971 to end the New Deal, was the campaign to politically convert primarily white, blue-collar workers and their families—who were conservative in their support of the military and in their opposition to racial integration and school busing—from the Democratic Party to the Republican Party.

Referred to by President Nixon as the Silent Majority and by Christian evangelists as the Moral Majority, working people were encouraged by the language of free enterprise, populism, religion, and family values to be intolerant of racial, sexual, social, and *economic* equality. The Republican campaign successfully convinced millions of working people and small business owners to act and vote against their own economic interests.

The Reagan campaign of intolerance in 1980 concentrated on attracting the votes of white socially conservative blue-collar workers in the Northeast, who normally voted Democratic in line with their unions, but who were attracted to Republican positions on school prayer and busing, and on contraception and abortion. Moreover, the Republican “Southern Strategy” directly appealed to the cultural racism of southern white voters who feared the civil rights movement and the dismantling of the Jim Crow laws. The election of 1980 saw many southern Democrats permanently change their party registration to Republican. The “solid south” which had voted Democratic since the Civil War, quickly realigned with the Republican Party.

The employment of the out-of-work film actor Ronald Reagan to play the role of the presidential spokesman for the corporate industrial machine was inspired. The likeable professional actor was able to flawlessly deliver the lines written for him on his cue cards with almost perfect reliability, including these: “In this present crisis,

government is not the solution to our problem, government is the problem.” and “The most terrifying words in the English language are, I’m from the government and I’m here to help.”

The extraordinary rise of corporate industrial power, and the corresponding weakening of the economic and political power of workers and small business owners, over the past 40 years can be almost directly traced to this change of attitude about government. From being the trusted representative of the People in helping to make their lives easier, government became an instrument of injury and repression of the People, and the objectification of their derision and hatred. In destroying the reputation and protection of the People’s own government and by making a mockery of everything Americans fought and died for more than two centuries, this became the Republican’s favorite quote: “I’m not in favor of abolishing the government. I just want to shrink it down to the size where we can drown it in the bathtub.”

By encouraging racial and cultural hatred by southern and working whites, and by destroying the faith of the People in their own government, President Reagan and the Republican Party deliberately infected the body politic of America with a deadly strain of social and political intolerance. They encouraged a toxic subculture within the society of most Americans, who believe in equal rights and protection of the law for everyone. Relying on this minority voting block to divert votes from the Democrats and to swing elections in favor of Republicans, the populist base was encouraged to impose its minority views of matters such as integration, women’s freedom of choice, separation of church and state, and gun control, upon the majority through the bullying power of overt intolerance.

These consumers of right-wing political multi-media propaganda were made to feel like victims of their own government, causing them to identify with the corporate industrial machine, which also claimed to be “victimized” by the People’s government. The corporations objected to having to pay any portion of their profits toward taxes as a price of doing business, and to governmental interference in labor relations, working conditions, product safety, and other regulatory inconveniences that reduced profits.

It was far cheaper to bribe low-paid politicians with campaign contributions, flattery, inside financial tips, and exposure to the perks of the elite, than to pay for using the People's courts to enforce their contracts and to collect their debts, or for using the People's highways to transport their goods, without paying for the upkeep, and to consume the labor of the People, without paying a fair share of the profits, or to use the collective knowledge of the People's culture, and the minds and creativity of workers, without contributing to their care and education.

Those targeted to become voting slaves are hardworking people who sell their labor for wages, farmers, civil servants, and self-employed, mostly white folks forced by life to work instead of going to college, to support families instead of pursuing careers, and who watch cable TV instead of going to theaters. These folks have been encouraged by their fundamentalist preachers and ultraconservative politicians to hate the government and all who benefit from it.

The political goal was to redirect the helpless anger of the People from the corporate industrial machine that corrupted their government, to the government itself. The outrage is righteous about the absolute lack of realistic opportunity, and the devastating knowledge that people have little or no control over their own lives. These poor people are being forced to live from paycheck to paycheck, without health care, without compassion or care, a victim of their own government, acting on behalf of its corporate bosses.

Armed by the corporate industrial machine that sold and equipped them a disproportionate number of a personal firearms—enraged with a focused hatred of others who are different, and believing their actions to be justified by God—these targets of economic and political propaganda are being egged on by their fantastic political hero, a fellow, self-professed victim of “fake news,” “deep government,” and “witch hunts.”

These angry Americans must be heard, and their needs recognized, or else their intolerance will continue to pose a deadly threat to the continuance of representative democracy in the United States, and to negatively influence the policies and principles of the American Empire, and its impact on the environment and economy.

Americans Attacking Americans. Since the al Qaeda attacks on September 11, 2001, there have been very few foreign-based terrorist attacks in the U.S. Most terrorist acts have been Americans attacking other Americans in a continuing cultural war that exploded into public consciousness on April 19, 1995. On that day, Timothy McVeigh—a veteran of the Gulf War who acted in retribution for the earlier killings by federal agents at Ruby Ridge, Idaho and Waco, Texas—detonated a huge chemical bomb destroying the federal building in Oklahoma City, killing 168 people, including 19 children, and injured 684 others.

West Point's Combating Terrorism Center documents that, since 9-11, 50 people have been killed in the United States by Islamic extremists, while 254 people have been murdered by right-wing or sovereign-citizen extremists—five times as many. Mostly disrupted, there have been only six terrorism-related plots by Islamic extremists in the United States each year since 9-11, while there has been an average of 337 planned attacks each year by right-wing extremists—more than 56 times as many.

The Department of Homeland Security (DHS) has determined that the current economic and political climate is fueling a resurgence in radicalization and recruitment of domestic right-wing terrorists. The Department warns that returning military veterans (facing difficulties reintegrating into a worsening economy) “possess combat skills and experience that are attractive to rightwing extremists. DHS . . . is concerned that rightwing extremists will attempt to recruit and radicalize returning veterans in order to boost their violent capabilities.”

In an environment of unrestrained speech, there is a danger that politically hostile hate language will not be sufficiently moderated by voices of reason and caution, and that political dialogue will continue to move in a direction that is harmful to freedom. It is not difficult to reflect upon the circumstances in Germany that gave rise to the Nazi movement and the dictatorship of Adolf Hitler. It is easy to make comparisons to the gaggle of Republican candidates, each seeking to outdo the other in proclaiming that he or she is tough enough to confront the immigration problem and to reassert the military might of the United States to defeat Islamic terrorism.

With the advent of the Internet and social media, domestic hate groups have extended the range and ferocity of their attacks. The radical right-wing organizations now have colorful and dynamic web pages to attract visitors and new members.

Right-wing “lone wolf” terrorist attacks by single individuals are now the greatest terrorist threat to the People of the United States. The Southern Poverty Law Center, which monitors Nazi and white supremacist websites, such as Stormfront, has documented that more than 100 people have been killed by individuals actively involved with Stormfront in the past five years.

Internet websites and social media are now in the news following most mass shootings. On social media, Chris Harper-Mercer, a college student, described himself as a conservative Republican with a disdain of organized religion. He expressed an admiration of the on-air murderer of two television employees in Virginia, and he posted a photograph of himself with a rifle on Facebook. Regarding the Virginia shooter, Harper-Mercer wrote, “Seems the more people you kill the more you’re in the limelight.” His gmail address was IronCross, a seeming reference to Nazi Germany, and he was found to have shared Nazi videos on the Internet.

On October 1, 2015, Harper-Mercer, clad in body armor, carried six guns onto a college campus in Southern Oregon, where he confronted students and faculty in classrooms. Forcing students to state their religion, he killed those who responded “Christian,” saying “you’re going to see God in just about one second.” Eight students and their professor were murdered and nine wounded before Harper-Mercer committed suicide.

Hoping to start a “race war,” Dylann Roof, massacred nine African Americans as they attended services in a historic black church in South Carolina in June 2015. The twenty-one-year-old had created a website, the “Last Rhodesian,” on which he promoted racial apartheid. He researched his views on the website of the Council of Conservative Citizens (CCC)—formerly known as the White Citizen’s Council—the Nation’s largest white nationalist group. He also posted comments on the neo-Nazi website, Daily Stormer. Roof was indoctrinated to believe that “Niggers are stupid and violent,” and “someone has to have the bravery to take it to the real world.”

Roof demonstrated his bravery by firing (and repeatedly reloading) his semi-automatic handgun into his helpless victims as they were praying.

Another racist predator, John Russell Houser, randomly sprayed patrons with bullets in a Louisiana movie theatre in July 2015, murdering two people and wounding nine—before killing himself. Houser had adopted the Nazi flag as a symbol of his resistance to the government, and he supported former KKK Grand Wizard David Duke. Writing on a neo-Nazi political website, Houser emphasized the “power of the lone wolf.” On other websites, he expressed anti-Semitic thoughts and supported white power. He wrote that “Hitler is loved for the results of his pragmatism” and discussed the “role of Blacks in building and maintaining this alliance of evil that literally grips the globe.” On another, he commented, “It is a shame Tim McVeigh is not going to be with us to enjoy the hilarity of turning the tables with an IRON HAND.”

Following a Unite the Right rally in Charlottesville, Virginia on August 12, 2017, James Alex Fields, Jr., who had driven from Ohio to attend the rally, deliberately drove his car into the crowd of counter-protestors, killing one and injuring 28. Fields had been “deeply into Adolf Hitler and white supremacy” in high school and he had failed “to meet training standards” as an Army recruit after graduating. An unemployed security guard, Fields spent his time playing video games, and admiring President Trump’s racial views and border wall proposal. When he left for the rally in Virginia, Fields told his mother that he was going to attend a Trump rally.

Several days after the murder of the counter-protestor, President Trump said, “I think there is blame on both sides. You look at, you look at both sides. I think there’s blame on both sides, and I have no doubt about it . . . you also had people that were very fine people on both sides.”

In the two years since President Trump declared equivalence between those who promote hatred and violence, and those who protest intolerance and bigotry, mass shootings have continued unabated, and they are increasingly in frequency.

After two shootings in 2019 set new records for the number of victims, President Trump promised to give law enforcement

“whatever they need” to investigate and prosecute hate crimes and domestic terrorism. Although every extremist killing in the United States in the past year has involved a follower of far-right-wing hate groups or ideology, the Department of Homeland Security continues to place a low priority on the investigation of anti-government, right-wing and white supremacist groups. Instead, 85 percent of the “countering violent extremism” funds awarded by DHS has targeted Muslims and other minority groups, including immigrants.

One-third of the People of the United States now own 393 million firearms, more than one for every person in the country. Every day, these guns are used to intentionally shoot 310 people, 100 of whom die. Sixty-one people use firearms to commit suicide, and 10 survive. Unintentionally, 90 people are shot, one of whom dies. Every day 21 children and teenagers are shot, and four die. For 2018, the Gun Violence Archive documented 55,275 firearms-related incidents, resulting in 14,803 deaths and 28,238 injuries. There were 1,894 cases of defensive use of a firearm and 1,679 cases of unintentional shooting.

Firearms were used in America during 2019 to establish another record for mass murder, even as the total number of homicides dropped. The nation registered 41 mass killings (four or more victims), 33 done with firearms, for a total of 211 deaths. Following is a one-year summary of mass shootings—each a manifestation of deadly intolerance:

- On October 27, 2018, Robert Gregory Bowers, age 46, entered the Tree of Life Jewish center in Pittsburgh armed with a semi-automatic assault rifle and three semi-automatic handguns, with which he killed 11 people and wounded six. Bowers had earlier posted anti-Semitic and anti-immigrant comments on social media, saying, “I can’t sit by and watch my people get slaughtered. Screw your optics, I’m going in.”
- On November 2, 2018, Scott Paul Beierle, a self-professed misogynist, entered a yoga studio in Tallahassee, Florida armed with a semi-automatic pistol and killed a student and instructor. In a series of videos

uploaded to YouTube, Beierle ranted about women and interracial dating. He complained about being an involuntarily celibate, sexual and romantic outcast victim of feminism.

- On November 7, 2019, Ian David Long, age 28, dressed in black, entered a country-western bar, frequented by college students, armed with .45 caliber semi-automatic pistol, with laser targeting, and seven high-capacity magazines. Long, a Marine Corps veteran with mental health issues, shot the security guard at the door and killed 12 people, including a responding police officer, and wounded ten others before killing himself.
- On January 23, 2019, Zephen Allen Xaver, age 21, a resigned trainee prison guard, who had dreamed about killing people and expressed a desire to kill or harm people, entered a bank in Sebring, Florida armed with a firearm and wearing a bullet-proof vest. He ordered five women employees to lie on the floor and he shot them in their heads and backs, killing all five, before calling the police to report what he had done. The police broke in with an armored vehicle after Xaver refused to come out of the bank.
- On January 26, 2019, Dakota Michael Theriot, age 21, who had been involuntarily committed for mental treatment and arrested for spousal abuse, shot and killed three people who had taken him into their home in Livingston Parish in Louisiana, before returning to Ascension Parish where he killed his parents. He waved the gun to get police officers to kill him before being arrested.
- On February 15, 2019, Gary Montez Martin, age 45, a former employee, who had threatened that “If I get fired, I’m going to kill every motherfucker in here,” arrived at his employment termination meeting at the Henry Platt plant in Aurora, Illinois armed with a firearm that it was

illegal for him to own because of a felony conviction. Martin killed the human resources manager, the plant manager, and four other workers before being shot and killed by police officers.

- On April 27, 2019, John Timothy Earnest, age 19, wearing a tactical vest with five 10-round magazines and armed with semi-automatic assault rifle, entered a synagogue in Poway, California and killed one woman and wounded three others, including the rabbi. Just before the shooting, Earnest posted a manifesto on social media blaming Jews for the “meticulously planned genocide of the European race.” He referred to an event in *The Turner Diaries*, and he justified his actions with quotes from the Bible. Earnest also claimed that he had set an arson fire at a nearby mosque in Escondido.
- On April 30, 2019, Trystan Andrew Terrell, age 22, an “oddly angry” student dropped out of the University of North Carolina at Charlotte. Autistic and panicking over student loan debts, Terrell began to research mass shootings, obtained a semi-automatic firearm and multiple magazines, planned an attack, returned to the school, and killed two students and wounded four others before surrendering.
- On May 31, 2019, DeWayne Antonio Craddock, age 40, a disgruntled engineer quit his job in the city’s public utilities department in Virginia Beach, Virginia and began shooting with two semi-automatic .45 caliber pistols, one equipped with a sound suppressor. The former National Guard specialist killed 12 people and wounded four others in the municipal building, before being killed by police officers.
- On July 28, 2019, Santino William Legan, age 19, was wearing a bullet-proof vest when he opened fire with a semi-automatic assault rifle with a 75-round magazine at a garlic festival in Gilroy, California. Saying, “Because

I'm really angry," Legan killed three people and wounded 17 others before killing himself. A social media posting just before the shooting complained about "hordes of mestizos and Silicon Valley white twats" attending the festival and told people to read a white supremacist manifesto that promotes racial violence and anti-Semitism.

- On August 3, 2019 Patrick Crusius, age 21, armed with a semi-automatic assault rifle shot and killed 22 people at a Walmart store in El Paso, Texas. Shortly before the attack, Crusius wrote and posted a manifesto with white nationalist and anti-immigrant statements. Worrying that the "invasion" of Hispanics would create a voting block of migrants allowing the Democrats to control the United States, Crusius drove to the border city of El Paso to specifically target Hispanics as an "incentive" for Hispanics to flee the country.
- The next day, on August 4, 2019, in downtown Dayton, Ohio, Connor Stephen Betts, age 24, killed nine people and wounded 17 others with bullets from a semi-automatic pistol with a 100-bullet magazine. Betts described himself online as a leftist, and he "liked" a tweet that referred to Crusius, the El Paso shooter, as a terrorist and "white supremacist." Betts had a history of compiling hit lists in high school, experienced hallucinations and psychosis, was obsessed with violence, and talked about committing a mass shooting.
- On August 31, 2019, Seth Aaron Ator, age 36, was fired from his job and went on a shooting spree in the West Texas cities of Midland and Odessa, killing seven people with a semi-automatic assault rifle and injuring 25 before being shot and killed by police officers. Ator lived in a shack without furniture or utilities and failed a national criminal background check, when he tried to purchase a gun, because a court had determined he was mentally unfit. He was able to buy his gun in a private sale.

- On November 14, 2019, Nathaniel Tennesuke Berhow, age 16, entered the high school in Saugus, California, where he was a student, armed with a semi-automatic pistol he constructed from a kit. He killed two fellow students and wounded three before killing himself. Although he was skilled with firearms and planned the attack, a motive has not yet been determined.

Sociologists have identified a phenomenon of social conduct in which the violent act of one person influences violent behavior in a group. For example, a riot might start when one person throws a trashcan through a window and removes a television. The first perpetrator is followed by others who wouldn't break a window on their own, but who would enter and steal a television, once someone else did it. As the riot continues, newly arriving people are even more likely to participate in the mass burglaries, because everyone is doing it.

Less violently, you can see the same result if one person in a crowd of people waiting at a red crosswalk signal, seeing an absence of vehicular traffic, walks across against the light. Most, if not all the other pedestrians, will follow, if for no other reason than not to feel foolish for standing there as everyone else is walking away.

More pertinent in cases of group behavior in firearms violence, the initial perpetrator may be a psychopath with a history of extreme violence, but once the really insane person acts out the horrible live drama he created in his diseased brain (such as killing one's parents and then going to school and killing teachers and other students), other young men, equally feeling disassociated with or rejected by the society in which he lives, watches the crazy act on social media or television, and he begins to experience and improve upon the crazy scenario.

The subsequent actors may not be psychotic at all; it's just that when the initial inhibition against committing horrible violence is overcome, daydreaming about its reenactment encourages others to also make it a reality. Without intending to kill one's parents, or murder fellow students, a young person may start wearing the costumes, adopting the mannerisms, and voicing the biases and prejudices of earlier shooters, in the ever-evolving, increasingly violent, reality-show-genre of competitive social media.

An analysis of the rash of school shootings following the one at the Columbine, Colorado high school in 1999 (in which two students killed one teacher and 12 fellow students) has caused an expansion of a search for meaning and motivation from the acts of each individual shooter, to an examination of the entire group. Beyond simple copycat behavior, and more like a continuing riot, subsequent shooters have a less difficult emotional and social threshold to cross before inflicting terrible violence on others. In other words, overcoming inhibitions to violence and acting out dreams of socially abhorrent violent behavior became easier for each successive shooter, as he admired and critiqued the actions of the earlier shooters.

We can see from the frequency and severity of mass shootings in which Americans are killing other Americans, that matters are getting worse, and we need to wonder why. Perhaps, it has something to do with the prejudicial information and intolerant opinions we are exposed to and how that affects our judgment and the decisions we make.

THE PORNOGRAPHY OF INTOLERANCE.

Protected by the First Amendment guarantee of free speech and press, a vast and nasty literature of intolerance began to be published in the 1970s for sale to people with unhealthy views of race, religion, or culture. Leading the publishers was Willis Carto, the creator of the Populist Party and America's foremost anti-Semite and anti-black racist. Carto was an early associate of William Luther Pierce, a leader of the American Nazi Party and the author of *The Turner Diaries*. *The New York Times* called Carto "a reclusive behind-the-scenes wizard of the far-right fringe of American politics who used lobbying and publishing to denigrate Jews and other minorities and galvanize the movement to deny the Holocaust. . . ."

In 1975, Carto's parent organization, the Liberty Lobby commenced publication of *The Spotlight* newspaper. *The Turner Diaries* and *The Spotlight* had a significant influence on domestic terrorist Timothy McVeigh, who bombed the federal building in Oklahoma City.

Carto's publishing empire consisted of a conglomerate of radical right-wing organizations that marketed individualized

packages of hatred to anybody with similar proclivities. Carto established the Institute for Historical Review (IHR) in a plan to move onto college campuses by circulating a slick “scholarly journal” that offered pseudoscientific theories denying the existence of the Nazi genocide of European Jewry. Carto’s college campaign was blunted by a public interest lawsuit; however, 35 years later, these and similar organizations—now making full use of the Internet—continue to promulgate lies for profit. The danger of these lies threatens everyone; not just those targeted by the propaganda of violent hatred.

With the advent of the Internet and social media, hate groups have extended the range and ferocity of their attacks. The radical right-wing organizations now have colorful and dynamic web pages to attract visitors and new members. The Institute for Historical Review maintains a website and page on Facebook, but it is just one of 53 such entities now designated as hate groups by the Southern Poverty Law Center.

Organizations that make no pretense of equality and blatantly appeal to white neo-Nazism, anti-Semites, and homophobes include the Atomwaffen Division (which presents an image of being a heavily-armed militia, poised to attack public water systems, nuclear power plants, and power transmission grids) and Hammerskin Nation (which produces violent white power rock music).

The Daily Stormer, a neo-Nazi news site criticized by other white supremacists as overly promoting Nazism, endorsed Donald Trump for president saying he is “willing to say what most Americans think.” Other groups, with more subtle messages, espouse neo-nationalism which seeks to highlight the distinctiveness, rather than the superiority, of the white race, claiming that white identity is under attack by minorities and immigrants.

One does not have to visit the websites of these organizations, or to become a member, in order to hear more mainstream messages promoting intolerance. It is easy enough to tune into the hundreds of AM-talk radio stations broadcasting across the nation, or to click on Fox television entertainment news, to hear a one-sided discussion of issues such as immigration, women’s freedom of choice, racial equality, and gun control. On the other hand, one can get the news

with a more left-wing slant from Cable News Network.

In an environment of unrestrained speech, there is a danger that politically hostile hate language will not be sufficiently moderated by voices of reason and caution, and that political dialogue will be moved in a direction that is harmful to freedom. It is not difficult to reflect upon the circumstances in Germany that gave rise to the Nazi movement and the dictatorship of Adolf Hitler. It is easy to make comparisons to the gaggle of Republican candidates, each seeking to outdo the other in proclaiming that he or she is strong enough to confront the immigration problem and to reassert the military might of the United States in defeating Islamic terrorism.

THE VIOLENT CONFINEMENT OF LAW VIOLATORS

Over the past 75 years, U.S. politicians have penalized crime, rather than to address its causes, and when that didn't work, they simply increased the length of confinement, until today when many offenses are penalized by long terms that are equivalent to life imprisonment.

One of every seven prisoners is serving an actual life sentence, two-thirds of whom are people of color. Although the United States has only four percent of the world population, it accounts for more than one-third of world prisoners serving life terms.

Although prison populations have been slowly declining due to reforms in six states, almost one and one half million people were locked in prisons at the end of 2017; three-quarter million prisoners were locked in local jails. The United States confines 655 of every 100,000 inhabitants, with Russia a distant second with 550 prisoners per 100,000 inhabitants. Today, 22 percent, or almost one quarter, of all prisoners in the world are confined in American jails and prisons. The United States imprisons its citizens at a rate that is five to ten times that of Western European democracies.

Americans have largely eliminated official racial prejudice in most of its institutions; however, there is wide disparity of sentencing according to race. Nearly 60 percent of all jail and prison inmates are racial or ethnic minorities. On any given day, fewer than two percent of young white men, aged 22 to 30 are in jail or prison. At the same

time, 13.5 percent of all young African American men are confined. Almost one-quarter of blacks who have never attended college, and one-third of high school dropouts are locked up. Overall, African Americans are seven to eight times more likely to be incarcerated than whites.

The rate of women in prison has been rising at a rate 50 percent greater than men since the 1980s. More than 231,000 women and girls are incarcerated in the United States; almost half are in jails, rather than prisons. Eighty percent of these jailed women are mothers, and most are the primary caregivers of their children.

Sixty percent of women held in jails have not been convicted of any crime, but they are unable to make money bail. Many women prisoners have histories of suffering sexual assault and violence, and they struggle with drug abuse, mental health problems, and homelessness.

The Trump administration's family separation policy is prohibited by international law agreed to by the United States 30 years ago, becoming "the law of the land." The estimated 100,000 children being held in migration-related detention is in addition to the half million brought each year to U.S. juvenile detention facilities for the commission of crimes or because of their status. There are between 50 to 60 thousand young people incarcerated in the United States every day, many of whom are as young as 12 years old. This is a rate far higher than any other nation on Earth.

The United States also forces juveniles, as young as 14 years, to be tried and sentenced to prisons as adults at a rate greater than any other nation. These young people commit suicide at a rate 36 times greater than those in youth facilities. Black young people are 8.6 times more likely than white peers to receive an adult sentence, and the chances of a Hispanic youth being sentenced to adult prison is 40 percent greater than white peers.⁷⁸

⁷⁸ There are also thousands of foster children being housed in juvenile delinquency facilities, for lack of home placements.

THE INTOLERABILITY OF INTOLERANCE

The evidence establishes that intolerance is not only tolerated and admired in America, but that it is being deliberately encouraged by its leaders for political purposes. The fact is that intolerance is just as great a threat to human survival as that of war and militarization, corrupt government, the corporate economy, and the warming environment. Intolerance of others because they are of a different religion, race, or culture is harmful enough, but an intolerance of knowledge, science, and reality is toxic to human survival.

All the Extinction Papers, including this one, were painful to write and must be difficult to read. They document, however, a reality we must accept, if we are to make wise decisions about what to do.

We have no choice. We are all born with the brainstem “fight or flight” instinct, which manifests itself in the latent intolerant diseases of deception, hatred, and violence. Each of us, however, has the choice to practice tolerance and to discipline our minds to seek the truth. This we must do if we are to make correct decisions affecting the future of our children. Of all the lessons each generation must learn, this one is crucial: *The exercise of intolerance is inherently regressive and destructive, while a society’s creative potential improves exponentially with universal tolerance.*

Having completed the Extinction Papers, we can now transition to the first of the Evolution Papers, where we make use of our knowledge and understanding of these deadly threats. As we’ve learned to diagnose the pathology of aberrant behavior and the mindset that causes it, we are better equipped to understand the physiology of our own brains and the minds they engender.

Once freed from the burden of intolerance, we can achieve the freedom of self-awareness. With knowledge, we can then unite our minds to resolve the remaining deadly threats of war and militarization, corrupt governments, casino economy, and a severely unbalanced environment. Failure is certain, without the collaborative power of everyone thinking together to first imagine alternative futures and to make good choices, and second, to work together in generating the cooperative power required to make the fantasy future a reality.

THE EVOLUTION PAPERS

Prescribes a series of remedies
Resulting from an awareness of mind.
By unleashing the evolutionary and
Exponential power of tolerance through
Collaboration, compromise, and cooperation,
Our collective minds will have the power
To resolve these deadly threats, and
To ensure our grandchildren
Have their chance to visit places
Beyond our imagination.

THE METAMORPHOSIS OF MIND

What would it take for everyone on Earth to forget the hateful words and hurt feelings of the past, to forgo revenge for past violence, and to forgive those who have ever harmed us? If it is true that the only way humanity is going to survive the multiple threats of certain extinction is through collaboration, compromise, and cooperation, then first we must cure the latent human instinctive disease of intolerance that is genetically hardwired into the brainstem of every human infant, and all other mammals. Intolerance divides and drives us to extinction, and just as surely, our survival depends on tolerance, unity, and evolution.

When a human child is born, it instinctively moves toward the voice it has listened to for months in the womb, its lips seek its mother's breast milk to suckle, and its eyes open. Instantly, the infant's physical brain sparks a quantum mind external to its physical self to seek the source of light, and to identify and understand everything it illuminates.

In a role reversal, the baby's brain and body become extensions of its living mind, as the incorporeal mind reaches out with a physical hand to feel what it sees and to bring it to its mouth for a taste. Commanding all the body's resources, the mind asks the what and why of things, and, the senses of the body are genetically programmed to deliver truthful answers to be recorded in the growing web of increasingly complex connections in the brain.

The total complexity of the human brain may be beyond mathematical description, not only in its trillions of chemical synapse switches between the dendrites and axons of its neurons, each of which can be on or off, but within the tendrils of the dendrites themselves, each serving as a computational subunit, as needed to comprehend reality and to make sense of existence.

A mind comes into being when a baby's brain receives information that its habitat has changed from the quiet, dark, warm, and watery womb, as the baby is birthed into the light, cold, and noisy, nitrous atmospheric fluid in which we live and breathe. With

each instinctual inhalation of oxygen and exhalation of waste carbon dioxide, the infant's brain begins to receive and record a flood of information from its array of senses. Its emerging mind processes that data in determining its actions and reactions to the reality of its existence vis-à-vis its physical habitat.

From that moment onward in time and life, it is the infant's mind that directs its compliant brain and growing body to communicate its needs—starting with its anguishing and piercing cry when it is hungry, too hot or cold, sick, or lying in its waste. It was the body of its mother that birthed the baby, and it is to the mind of its mother that a child's mind is first tethered.

Developing a personality and language for engaging in relationships with others, the minds of children expand outward, as they live, grow, suffer, learn, love, and experience the pain and pleasures of life; the minds of each seeking an understanding of its own self, and the peace of mind that comes from self-discovery.

An infant's mind is quantumly connected to—but physically independent of its brain and body—which remain an integral part of the positive physical world that naturally produced it. Our minds surround our physical self, in the Mind Field of black, negative, eternal, nothingness, within which our positive, moving, pulsating, and expanding universe exists, and which encompasses every atom and element of our physical bodies and brains. The Field is where minds engage with others.

As our minds radiate from our physical being, they expand outward, beyond the reach of our arms, away from our bodies, beyond our homes, communities, nations, and even our Mother Earth. We seek and absorb the truths required to transform and evolve ourselves in becoming a being of mind—as a natural and physiologically healthy extension of the physical lifeform we are all born with. Until we achieve awareness of mind, however, we humans are little different from our chimpanzee cousins (with whom we share 99 percent of our DNA) in fighting over access to females, territory, and food. We just have more elaborate languages, practices, and rituals.

The metamorphosis of the human lifeform breaks free of the chrysalis of ignorance, as the visionary wings of wisdom are

unfolded, allowing us the imagination to fly outward, beyond the physical universe that surrounds us, into the black emptiness of eternity, and to envision what our universe of light looks like from beyond, as viewed from its beginning to its end. We have only to figure out how to get there to make the observation, how to safely return, and how to describe what we've seen.

If the mental transformation of self-awareness is not physical, then, how does an entire life form evolve, unless it occurs simultaneously and spontaneously, within the realm of mind? Where do we start?

First, there must be the *sine qua non* (Latin: without which, nothing) event—the universal understanding and acceptance of the fact that the human species, will become extinct within the lifetimes of people living today, unless immediate and drastic action is taken. Understanding the alternative to be certain death and preferring to do something in order to survive, people choose to tolerate, without bias or prejudice, all differences of sex, race, culture, nationality, religion, science, or political belief.

This unification of tolerant minds and purpose is the metamorphosis of the human species—its evolution from Man to Mindkind—that generates the enormous, exponential creative energy, knowledge, and wisdom required to quickly resolve the deadly threats to survival, and to convert that which presently exists beyond our imagination, into the joyful reality of our children's tomorrow: *The Age of Sophia-Nous*.⁷⁹

AN AWARENESS OF MIND

Those of us who own, and try to train, dogs have observed with amusement the reaction of our dogs when they see themselves in a mirror. They will continue to bark at themselves, until they tire of the game, without ever recognizing that they themselves were the

⁷⁹ In Greek, *sophia* is a feminine noun meaning wisdom, and *nous* is a masculine noun meaning mind or intellect. The combined *sophia-nous* means the individual and collective awareness of mind required to exercise reflective thinking, to reason effectively, to make proper decisions, and to act with wisdom, courage, and righteousness in creating just and joyful societies.

threatening, barking dog they were trying so valiantly to drive away.

Psychologists devised a test for self-awareness that involves placing a red mark on the forehead of human infants and other species to determine if they recognize that something is different about themselves when they again look in the mirror. Most primates, elephants, and marine mammals exhibit such self-awareness, and human infants achieve the ability at around 18 months of age.

Although they become aware of their own separate bodies in the mirror, most children do not achieve the ability to differentiate between the truthfulness and falsity of the mental states and representations of others until they are four or five years old. It is about this time that doubts about Santa Claus and the Tooth Fairy begin to arise, deception is experimented with, and the Art of the Lie infects minds where ever it is allowed to practice and prey; however, the ability to understand ourselves as unique individuals, and to comprehend the nature of the voices we have always heard in our minds, requires mental maturity and time to process.

People don't like asking hard questions about themselves. Many never discover their true potential. Far too often unhappy people are too overwhelmed by their personal problems to contemplate whether they are self-realized or fulfilled. Working people, burdened with jobs, family, and other duties and responsibilities, rarely have the time to consider their own feelings in any great depth beyond the needs of relationships, and the emotions they engender. Unless there is a crisis demanding intervention or professional care, many people never develop the capacity to question the basis of their feelings, to ask themselves—what motivates them, what do they really want, how do they go about getting it, and how do they balance that with the difficulties of life, relationships, and earning a living.

Many people never get to know themselves as being separate from their families, social groups, or religious congregations, or to ever reidentify or reinvent themselves, to grow beyond the bounds of their primary relationships. It is easier to go with the flow, to allow ourselves, and our own self-image, to be defined by others: our parents, families, friends, teachers, ministers, and the mass entertainment media and advertising industry. Intentionally moving beyond one's comfort zone and support network seems unnecessary

and difficult, as we are conditioned to remain forever youthful and attached to the past.

As we mature, we gain knowledge and insights about our lives and relationships. We learn to make better decisions about our options, our self-awareness encourages an expanded vision of the possibilities of our lives, and it offers insights into our choices of employment and relationships. Our communications become clearer and more helpful, which empowers us to experience stronger, more productive, and lasting relationships. We are more likely to find comfort and joy in life and increased rewards in the things we do. We make a greater contribution to our families, societies, and employers, and we are recognized for our participation, contribution, and leadership.

This is where we are today. There are people in every race, nation, society, religion, and culture who have come to be at peace with themselves and others. Awareness has less to do with IQ, religion, status or education, than flowing from an individual, simple, tolerant acceptance of the thoughts and personalities of other people. Those who achieve awareness of their own minds understand the difficulty and rarity of the triumph, and they recognize and respect self-awareness in others. They also realize there is little they can share with others who seek the same gift of peace of mind. That is, until the seeker makes the personal choice to become a tolerant person, appreciative and respectful of the differing knowledge and thinking offered by everyone else. It is then that one gives birth to their own mind, producing their own child of reason.

Once a person becomes self-aware and disassociates with much of the mental and emotional baggage that depresses and distresses most people, one continues to need and to seek comfort, cooperation, and mutual respect from the society of others. When meeting someone new, however, one's thoughts must be filtered by wisdom, until reassured that the one to whom we are speaking is the one within; another person speaking the pure language of truth, or is it a practitioner of the art of the lie. The truth attracts truth, while its opposite, the lie is repelled by the truth. The lie is born and torn apart from reality, as though the lie, and all it sought to gain, never existed.

It is easy enough to identify the absence of self-awareness by the manifestation and evidence of deception, hatred, and violence produced by instinctive intolerance. With time and care, we can encounter and discover far happier people who make the effort to explore and understand their own minds, and who come to tolerate and enjoy what they found. The best way to find people who know themselves, is by the like-minded company they keep.

THE STUPENDOUS CREATIVE POTENTIAL OF A MEETING OF MINDS

What is there about a unity of minds saving humanity from extinction? Are we being asked to imagine a magical kumbaya moment, when everyone holds hands around a campfire, and we all live happily ever after, reading each other's minds? Only in science fiction.

What unity means is that there is a common cause that almost everyone agrees upon and supports, and that people commit to working together to arrive at commonsense solutions. It is this meeting of minds that is the driving force behind business, government, and every other organization that operates through the collaborative actions of a group. The reality is that, collectively, the group is always smarter than the smartest person in the group. That's why dictatorships always fail, why governments succeed only if they are free and democratic, and why economies only perform if there is a balance of labor and capital.

To increase our choices in life and to make better decisions, we can make a personal pledge of tolerance to ourselves, and we can promise to always tell the truth to ourselves and others. These are things we can do alone and within our own families, but what will be the result if we practice these principles in our relationships with others, at work, at church, at the market, at the gym, at a PTA meeting, or wherever we come together with people trying to get an education, earn a living, make a decent life, and raise healthy children?

What if all of us, billions and billions of us, all over the world, collectively recognized that unless we all act together—NOW—there will be no safe place for our grandchildren to live, and that the work and sacrifices of the thousands of generations who have come

before us will have been wasted. Humanity will become extinct, its seed unplanted among the cosmos, as its children will be denied their chance to soar through the stars seeking fertile planetary gardens for the flowering of minds.

Even as we come to accept the reality of the deadly threats, we must still go on living, doing what we have to every day to survive. We will continue living our lives seeking security, contentment, joy, comfort, respect, and recognition, *but we will do so with tolerance and mutual respect for everyone*. Would we be bored without the anger, fear, lies, and intolerance we are exposed to on television and in social media? Or, will we be too busy creating interesting and exciting futures for ourselves and our children, to be bothered with such juvenile nonsense?

The reason we must first collectively resolve the deadly threat of regressive intolerance is that, without the powerfully positive and progressive influence of tolerance, humanity will never be able to generate the will or ability to cure the harm already done to the planet, and to do so immediately. Imagine us putting our collective minds to work solving our problems in the best sense of the meaning, and that the creative output of such a union of effort would be exponential. In other words, the creative means to solve the remaining threats will be generated by the solution of the first. Tolerance is the magnificent tool of creation by which we evolve to solve the overwhelming threats to our existence.⁸⁰

THE EDUCATION OF TOLERANCE

The word tolerance comes from the Latin *tolerantia* meaning “endurance.” Thus, if we are to willingly endure (*tolerō*) without confrontation, the nutty discourse of our whacky uncle, yet again, at Thanksgiving dinner, we are practicing the traditional definition of

80 As children living on a dryland farm in the Panhandle of Texas in the 1940s, we spent the long hot, cloudless summer days chopping weeds from the growing cotton plants, and we learned that a few minutes invested with a file sharpening the edge of your hoe, made the cutting easier and the time go faster, as we walked barefooted up and down the long, long rows of cotton plants, waiting for the sun to set in the evening and for school to open in the fall.

tolerant behavior. In this context, toleration implies a moral virtue, the endurance of something unpleasant for a higher purpose, like family harmony. The word intolerance has the opposite meaning; it is an unwillingness to invest the time or energy required to consider opinions, beliefs, or behaviors that differ or conflict with our own, particularly those of race, religion, nationality, culture, politics, and science.

Intolerance breeds deception, hatred, and violence; therefore, for the better good, we are taught to endure situations that makes us feel uncomfortable. Seemingly then, tolerance, while unpleasant, is supposed to make us all feel better for having done a good thing, like taking out the garbage. Such is not the case. While intolerance is always bad, toleration is intrinsically good. Tolerance is not just a moral virtue, to be endured because it's the right thing to do, but because the exercise of tolerance produces tremendous benefits, both individually and collectively.⁸¹

When we willingly open ourselves up to people of diverse cultures, races, religions, and political beliefs, we not only discover people we can admire for many wonderful personal traits, but we also find equally concerned people whose different experiences, knowledge, and cultural wisdom offers a valuable contribution to solving the common problems we confront.

Once we agree that intolerance is not to be tolerated, and we begin to universally encourage, respect, practice, and honor the toleration of diversity, we will tap into a stupendous reservoir of repressed and unshared latent abilities—a massive contribution of talent, intellect, knowledge, and wisdom—suddenly available to collectively identify solutions to the most desperate and immediate problems facing our species. Far more than just “live and let live,” universal toleration is critical to human survival. Without it, we will all die a painful and senseless death.

Those of us who have done our best to raise and educate our children have sometimes witnessed the most abominable behavior between siblings and playmates, as willful children learn the lessons

81 UNESCO defines toleration as, “respect, acceptance and appreciation of the rich diversity of our world's cultures, our forms of expression and ways of being human.”

of mind—about possession, sharing, and playing nice, and about the value of empathy, compassion, and caring. Since intolerance is hardwired into the brainstems of our babies, we must commence lessons on the value of tolerance immediately. Children primarily learn by personal example; therefore, we must in fact live tolerant lives and reinforce the lessons of toleration with our children every day.

As a primary education task of child rearing, we must facilitate the natural development of toleration in young minds allowing them to naturally mature into healthy, confident, productive, and joyful adults. Kindness, altruism, empathy, sympathy, and compassion are more than “people skills” to be learned; they are essential elements of toleration—natural attributes of minds generated to seek the truth. Children must learn what everyone has in common, as well as what makes people different. Children must achieve the confidence to overcome their fears of the unknown and the unlike, and to behave with toleration and respect toward everyone.

Above the entrance of every building leading into the study of every discipline at every school, college, university, and library, let the single word **TOLERANCE** be chiseled into the keystone, as the watchword to universal knowledge and eternal wisdom.

BEATING THE EXPLOSIVE SWORDS OF WAR INTO HIGH TECH PLOWSHARES OF PEACE

“they shall beat their swords into plowshares,
and their spears into pruning hooks;
nation shall not lift up sword against nation,
neither shall they learn war anymore.”

Isaiah 2:4

In 1928, following “The War to End All Wars,” most of the nations of the world, including the United States, United Kingdom, Germany, France, Japan, USSR, and China signed the Kellogg-Briand Pact which condemned “recourse to war for the solution of international controversies and renounce[d] it as an instrument of national policy.” Although the nations all agreed that the settlement of disputes “shall never be sought except by pacific means” the agreement failed to prevent the Second World War which started just ten years later.

With as many as 100 million total deaths, World War II ended in 1945, and the nations of the world made another attempt to avoid warfare. The preamble to the charter of the United Nations begins:

We the People of the United Nations Determined

- to save succeeding generations from the scourge of war, which twice in our lifetime has brought untold sorrow to mankind, and
- to regain faith in fundamental human rights, in the dignity and worth of the human person, in the equal rights of men and women and of nations large and small, and

- to establish conditions under which justice and respect for the obligations arising from treaties and other sources of international law can be maintained, and
- to promote social progress and better standards of life in larger freedom,

And for These Ends

- to practice tolerance and live together in peace with one another as good neighbours, . . .

The Kellogg-Briand Pact did nothing to prevent World War II, and the creation of the United Nations has done little to prevent us from killing millions of ourselves during the wars we have fought in the past 75 years. What can be done to end, finally, the “scourge of war?”

THE FAILURE OF WAR AS AN INSTRUMENT OF PUBLIC POLICY

Making war against nation states and their people no longer works. Unstable and undemocratic countries, like North Korea, are usually controlled by individuals and cabals against whom military force ends up harming their own domestic victims more than the entrenched leadership. War directs the wrath of the people against the outsiders who slaughter their children, and war helps to solidify the rule of their domestic despots.

Destroying the infrastructure of a nation to turn the will of its people against their “leadership” fails—as in Iraq—resulting in the deaths of hundreds of thousands of innocent children. Targeting “insurgents” using drones and violent nighttime home invasions fails—as in Afghanistan—resulting in “collateral” deaths and injuries to children and noncombatants. Imposition of economic sanctions fail—as in Iran—resulting in the destruction of the middle class and small businesses that are essential to a free society. Support of “rebels” against their government fails—as in Libya—when the new government is controlled by hostile and undemocratic forces. Direct military strikes fail to make a difference—as in Syria—for all these reasons; and the threat of violent war—as in North Korea—is

simply stupid against an immature dictator who has nuclear weapons and nothing to lose by using them.

The use of war as an instrument of foreign policy fails in all these situations because it simply does not produce the desired change. Ever! Other than to resist an actual armed invasion, war against other nations, and their people—to persuade their leaders to do something—primarily injures the innocent victims of the enemies' unrepresentative governments and results in victim's hatred of the aggressors, rather than their oppressors.

The wars of the American Empire harm its own people through the wasteful diversion of scarce tax resources to the corporate industrial machine, the compiling of massive and unsustainable public debt, the interest paid to financial gamblers on that debt, a reduction of personal freedoms by the intelligence-security-law enforcement complex, and a loss of respect by other peoples and nations around the world.

Moreover, continued use of aggressive—yet undeclared—wars by the Empire has resulted in an undemocratic shift of power from the legislative branch to the executive branch of government. The Constitution provides that “The Congress shall have power . . . To declare War . . .” For the past 50 years, however, American presidents, rather than Congress, have repeatedly unleashed military force against far weaker nations and their people—who do not have the means or ability to fight back, except through the tactics of terror.

In addition to Afghanistan, Pakistan, Iraq, and Syria, the United States is currently conducting military operations in Somalia and Yemen. Not only are these wars undeclared by Congress, their extent is largely concealed from the American People. Moreover, in “fighting” these wars, the president, as Commander-in-Chief, claims the right to detain and kill “unlawful combatants,” including American citizens, anywhere in the world, without trial, and to authorize the preemptive bombing of any person, or any nation, deemed to be a threat to the United States in its perpetual war against international terrorism.

Yes, there is violence and repression in the world, and some of its perpetrators may threaten the security interests of the United States, and it would be naïve to deny it. It is equally foolish, however,

to believe that launching undeclared aggressive wars against nation states and their people can resolve every one of these threats. There must be a better solution, one that is both legal and more effective.

AN ALTERNATIVE TO STUPID WARS

Let us, for a moment, think “outside the box” about an alternative public policy to deal with these dangerous geopolitical situations—one based on commonsense and the law. Let’s continue to use North Korea as an example.

If the Trump administration can make the case that Kim Jong-un and his regime pose a risk of danger to the People of the United States, shouldn’t President Trump present that evidence to Congress and allow it to decide what to do? Rather than an authorization to launch a violent military attack against North Korea—essentially a declaration of war—Congress could pass a resolution along these lines:

The Congress of the United States declares that Kim Jong-un and his administration of the government of North Korea pose a danger to the People of the United States of America, and he is hereby personally declared to be an outlaw. Congress directs the President to file a legal proceeding against the government of North Korea in the International Court of Justice and to take all necessary and reasonable steps to compel the personal attendance of Kim Jong-un to defend his government and its conduct.

As a member of the United Nations, North Korea is automatically a party of the International Court; however, it must consent to jurisdiction in a specific case. The congressional resolution would, however, be directed against Kim, personally—as the dictator of North Korea—instead of the people of North Korea. It is narrowly designed to compel him to personally leave North Korea and to accept jurisdiction of the Court on its behalf. As a practical matter, once Kim leaves the country, the chances of his ever returning are very slim.

In many respects, the congressional resolution would act like an arrest warrant in a domestic criminal action. There, a judge finds probable cause for the arrest and directs the police to take the suspect into custody and to deliver the defendant for trial. In doing so, the police are authorized to use all necessary and reasonable force to take physical custody of the accused.

Although the use of reasonable force personally directed against the outlaw dictator to “arrest” him might result in his death, the use of force would not have political assassination as its purpose. To the contrary—much like hostage negotiations by professional police officers—every attempt should be made to obtain the voluntary surrender of the outlaw, without inflicting any collateral damage on those around him. Reasonable rewards and incentives might also be offered for his surrender by his own trusted advisors, who could put him aboard an aircraft bound for the Hague, and the World Court of Justice.

The Kim dictatorship dominates the North Korean electronic and print media and carefully controls the information received by the people. Radios and television sets are preset to North Korean frequencies and must be registered with the authorities. Although there is little access to the Internet, there is a widespread market for USB flash drives which feature South Korean music and movies.

It is not difficult to imagine infiltrating and peacefully “bombing” the nation with entertainment flash drives and other forms of person-to-person communications reassuring the North Korean people that the United States was renouncing the making of war against them and their nation in favor of rewards and benefits for the arrest and delivery of their dictator. While ordinary North Koreans might not have the ready ability or opportunity, those most close to the person of Kim Jong-un might be sufficiently encouraged to act.

REDIRECT THE WEAPONS OF WAR TO THE PURSUIT OF PEACE

In the following papers on a just society, a fair economy, and a healthy environment, we will be discussing remedies, such as quickly eliminating carbon burning as a source of energy, that will require huge sums of money and other precious human and material

resources. The military spending budgets of every nation on Earth is the only real source for these revenues. Not only is military spending entirely wasteful; it does not even solve the intended problems, and militarization is counterproductive to achieving the essential peace required for the survival of humanity.

We must not only renounce war as a matter of national and international policy, agreeing to never again make war against a nation or its peoples, but we must entirely redirect all military resources. We must enlist the engineers, scientists, and educators—who have contributed their knowledge and research to the development of ballistic missiles—to help to generate solar energy from space. Those who designed the mechanics of killing, can redirect their energies to the creation of presently unimaginable devices to cure diseases, make life easier, and to fly our children through the cosmos.

The application of machine programming and artificial intelligence (AI) using simple algorithms, is presently driving much of what we are experiencing in the “Internet Revolution.” Just as industrialization once drove the education and use of energy-driven machine technology, the connectivity value of the Internet has created an entirely new digital revolution.

Operated by the AI we program into our digital machines and robots, these automatons are increasingly playing a major role in manufacturing, but also in farming, and the production and delivery of food and other essentials of life, including water and power systems. Algorithms are already affecting our lives through Internet advertising, shopping and social media, and AI is influencing the choices made by people, both in their purchasing decisions and in deciding whom to vote for or against.

There are legitimate fears of such technology, both physically in machines of death, war, and destruction, but also in the loss of freedoms and privacy through surveillance and unwarranted intrusions into our homes and lives in violation of our rights of liberty. There is also a not-quite-so-rational fear that the artificial intelligence programmed into operating systems, will ultimately take control of host computers, and direct their massive power against their puny human creators.

There is this very real concern: To the extent that the power of artificial intelligence and computers is put to harmful use by those who remain irrationally intolerant of others, there is great and grave danger. To the extent, however, that we become entities of mind—existing outside the bounds of mathematical and physical reality—there is no greater risk of danger from AI and computers than there is of the peaceful use of properly contained nuclear energy.

Our mind can make an imaginative leap of realistic probabilities that easily defies the physical reality and overwhelms the computational abilities of AI. We can imagine a mind approaching our universe of light from a great distance in the empty darkness, having detected an initial quantum spark of photons in its creation, and we can imagine the magnificence of our universe blazing away in every spectrum of light, expanding at an ever-increasing rate, as its waves pulsate and dissipate into the infinity of eternity.

Continuing to explore at the fourth power of light, our traveling mind can flash inside to locate and visit our Garden of Earth—circling with its large moon, around our warm yellow sun, out in the spiral arms of our lovely Milky Way galaxy. The traveling mind can pinpoint exactly where we are now, but also the mind can go back to the beginning, and travel forward to the end, as it is all the same in the timelessness of the negative nothing.

Are the multiple deadly threats of extinction existential? Of course, they are all entirely caused by the existence and rapid multiplication of humans on Mother Earth. Will the harm to her garden diminish with the demise of the invasive species? Not for a very long time, but that is not the alternative we have chosen, for we are here seeking remedies, rather than assigning blame. We are evolving, rather than becoming extinct.

We can continue to debate the timeline of extinction—whether carbon emissions can be cut in half by 2030, and if that's enough—until it is too late. Or, we can commence to act—NOW—with courage, spirit, and tolerance, and we can evolve together in creating a joyful, just, and exciting future for our children of mind.

THE RIGHTS OF LIBERTY IN A JUST AND JOYFUL SOCIETY

As we learned in the Extinction Papers, the great two-century experiment of self-government by the People of the United States has resulted in an economically bankrupt, politically repressive, and militarily inept American Empire controlled by the right-wing for the benefit of an uncaring corporate industrial machine. The Rights of Liberty the American People fought and died for are being subverted by their own elected officials to provide protection, productivity, and profits to their corporate masters who, through the corrupting influence of cash campaign contributions and introductions to the social and economic elite, actually decide which candidates the People are allowed to vote for, as their purported representatives.

Around the world, we find that the governments established by the people for their own benefit are being dominated by both neofascist and neoliberal politicians who are indebted to the same wealthy and international corporate interests. Radical right political groups are now strongly influencing or controlling governments across Europe, including becoming serious opposition parties in parliamentary governments in Germany, Spain, Austria, France, Sweden, Finland, Estonia, and Poland, and recently electing an authoritarian nationalist to his third term as the Prime Minister of Hungary.

In the United States, the government is now being administered by a nationalist media con man, who has no respect for truth, knowledge, and intellect, and is enamored with strong-men dictators, whose repressive governments he seeks to emulate.

Individual rights are enshrined in the written constitutions of most nations and in the Universal Declaration of Human Rights proclaimed by the General Assembly of the United Nations in 1948. The inherent rights of every person, however, necessarily exceeds that guaranteed by any political document—as no person can ever, irreversibly, surrender their power of consent. Under their Universal Rights of Liberty, all people reserve their consent to be governed,

should their government be corrupted, no longer serve their needs, or become harmful to their interests.

Despite the bad news about the rise of intolerant governments, there is also good news about self-government in the history of the first two decades of the twenty-first century. Around the world, young people, primarily students, have used the Internet tools of social media to organize social and political rebellions against both neoliberal and neofascist governments. Growing to represent almost every color in a box of crayons, largely nonviolent “color revolutions” erupted in country after country, as the exploits of each group of rebels were shared around the world through social media. Although ignored by much of the mainstream Western media, the political rebellions of young people commenced with the successful “Bulldozer Revolution” in 2000 that demonstrated the power of the ballot in forcing Serbia’s strongman out of office.

The rebellious Serbians chanting, “He is finished!” inspired the “Rose Revolutions” by the Otpor! (Resistance!) youth movement in Georgia in 2003 and 2004, which spread to the “Orange Revolution” in the Ukraine in 2004, the “Purple Revolution” in Iraq in 2005, the “Tulip Revolution” in Kyrgyzstan in 2005, the “Cedar Revolution” in Lebanon in 2005, the “Blue Revolution” in Kuwait in 2005, the “Jeans Revolution” in Belarus in 2006, the “Saffron Revolution” in Myanmar in 2007, the “Grape Revolution” in Moldova in 2009, the “Green Movement” in Iran in 2009, the “Melon Revolution” in Kyrgyzstan in 2010, the “Jasmine Revolution” in Tunisia in 2010, the “Lotus Revolution” in Egypt in 2011, the “Pearl Revolution” in Bahrain in 2011, the “Coffee Revolution” in Yemen in 2011, the “Jasmine Revolution” in China in 2011, the “Snow Revolution” in Russia in 2011, the “Colorful Revolution” in Macedonia in 2016, and the “Velvet Revolution” in Armenia in 2018.

The “Yellow Umbrella Movement” of Hong Kong occurred between September and December in 2014, but thousands of young Hongkongers continue to turn out, weekend after weekend, to demonstrate their refusal to surrender their freedom of self-government they inherited from the British, for something less under the dictates of the unrepresentative and repressive central Chinese government. Every participant in every one of these

“revolutions” inherently possessed the universal Rights of Liberty to self-government, and to petition for it.

It is Up to the Young People to Change Their Government if They are to Survive. Motivated as they are by the specter of generational extinction, the young people of the world are becoming increasingly aware that it is up to them to save their own lives and futures. During the past 20 years, young people around the world have demonstrated the organizational energy required to drive a world-wide movement to secure the Universal Rights of Liberty for every person on Earth, irrespective of the governments under which they live.

Young people, without respect to race, religion, nationality, or culture, are connected to one other by more than the Internet and social media. All young people share a future which will either be very bad or very good; it will not remain the same. The reality of tomorrow cannot be predicted, one way or the other, except by the effective actions taken today to create, alter, and shape a desired reality.

The young people of the world have the energy, drive, and connectivity to make a difference, but to ensure the quality of their success, they require the counsel, moderation, and wisdom of women, to ensure that resulting governments nurture and care for those who consent to be governed, and for their children—who remain the most precious thing there is, or has ever been.

Instead of a Lie Detector, Using the Vote as a Truth Determinator. With the rights of liberty come the duties of performance, and people must not only vote when elections are called, but people must also educate themselves about the issues and candidates, and prepare themselves to solemnly cast well-informed and effective votes, as a sacrament in the political religion of self-government.

We are all witness to the failures of the existing systems of representative democracy, in which competing candidates and political parties propose policies, and individual voters cast their ballot for the candidate or party whose policy platform attracts them the most in the billion-dollar political beauty contests, which relentlessly broadcast negative and misleading commercial advertisements. The

vote of the people has become the same as any other purchasing decision, with political hucksters saying whatever must be said to sell the product, and to trick voting slaves into casting ballots against their own interest.

There are at least two serious problems with the existing electoral system. The first is that voters are often presented with two options, both of which are unfavorable, so the choice is not for a position or candidate, but against one or the other, or both. The second endemic problem is that, once elected, politicians rarely, if ever, keep their promises. Politicians will always march to the drummer of whoever contributes the most money to their campaign and election. The money is critical to the purchase of political advertising required to sell their lies and distortions to voters, who find little or nothing to trust and believe in, including the value of their own vote, as the ultimate determinator of truth.

Another problem, of course, with the existing system of policy making is that politicians rarely, if ever tell the truth, or admit they're wrong. They are all far too clever and well-practiced in the Art of the Lie. The truth has been reduced to insignificance, by the relentless broadcasting of lies, and the search for the truth is tangled up in the deceptive fluff spun out of the fraudulent political con game being played out in the American Empire. Its current emperor spends much of his time twittering a stream of idle thoughts, wacky fantasies, and deadly threats, and his aides scramble to convert his digital diatribes into international policy regarding matters of life and death, of war and peace.

Before telling us what to do, or not, governments must first figure out what the people who created the governments want it to do. Presently, politicians tell the public what they (and their pollsters) believe the voters want to hear, and then, once elected, politicians not only fail to come through on promised policies, they work for interests that are contrary to that of their constituents, all the while blaming their political opponents for their failures.

There must be a better way for ordinary people—who are smart enough to pay taxes and brave enough to die in wars—to tell their government what they want it to do, since most do not have the disposable cash to make a million-dollar campaign contribution to get their calls answered.

A policy referendum is a politically evolved way to maintain our republican form of representative democracy, and to permit the People to make their own policy. Policy referenda directly informs the government about the true will of the People, and referenda provide a standard by which to hold responsible those who are elected. Unlike the initiatives and propositions that plague most elections, a policy referendum vote by the People would not make law, but it would be a clear expression of public policy direction on major issues.

The Voters' Bill of Rights is a proposed constitutional amendment titled the United States Voters Rights Amendment (USVRA). It was written as a legal document to remedy the wrongs presently suffered by the People who are unrepresented in their own government. The USVRA proposes specific constitutional remedies for all the serious political issues that interfere with the rights of liberty of every American citizen to cast effective ballots in the election of policies and representatives.

The loss of any one of the protection elements outlined below, would weaken and defeat the purpose of the whole, which is to produce a comprehensive alternative reality in which the People come to control their own government. Envision how it would be if the People transformed the government they have, into the government they want and need. The People have the power, but do they have the imagination to envision it and the will to make it a reality.

Irrespective of everything else, the truth about the future will be told at midnight on November 3, 2020, when the American People tally their vote in deciding the nature of their future, and that of their children. Will there be a peaceful evolution, or will intolerance, war, economic gambling, and corrupt governments continue to their natural conclusion, environmental extinction?

THE USVRA – A VOTERS' BILL OF RIGHTS

Increasingly dominated by a plutocracy composed of corporations and the wealthy elite, the two-party electoral system of the United States is almost completely dysfunctional. The parties do not produce viable candidates for the presidency, and the candidates

do not address the most critical issues facing the Nation. Without a meaningful choice, voters are forced to select the lesser of two evils, or they give up and don't vote at all.

Both major political parties are controlled by the same powerful corporate and financial interests, and the policies of both parties benefit their corporate and wealthy sponsors rather than the American People. Effectively, there is but one political party, divided into two competing tribes having slightly different social views, vying for control of Congress and the White House.

The government and those seeking elective office deliberately deceive the People into acting contrary to their interests. Truth, honor, and fair play have no place in the political process—only raw power and the benefits it confers on the rich and powerful.

The last time a similar crisis prevailed was following the Revolutionary War when the Articles of Confederacy governed the new United States. George Washington and other founders recognized that an entirely new government had to be created if the Nation they had fought for was to survive. He believed there was a delicate balance between things being sufficiently bad enough to force a change and being too bad to allow a change. Out of necessity, they created the Constitution and the Bill of Rights to transform their government into one that better served their needs. Americans are once again confronted with the same crisis.

Many different initiatives to repair various elements of the electoral system have been proposed, including the elimination of corporate constitutional rights. While efforts to eliminate corporate personhood and control campaign financing, would be beneficial, they would not ensure the right to cast effective votes—which is the essential requirement of a free and democratic republic.

The United States Voters' Rights Amendment (USVRA) is a comprehensive solution to these problems. Addressing the various issues that interfere with the ability of the People to cast effective votes, it will transform the government into a true representative democracy. The USVRA will reorient the priority of the government to the benefit of the People and their society.

People Making Policy. The whole concept of the USVRA stemmed from the idea that the People have an inherent right and

ability to vote on the most critical issues facing them and their society, to articulate their own policies, and to elect the representatives who are most likely to follow and implement those policies. This concept shifts policy formulation from the politicians to the People themselves.

From this, all other aspects of the USVRA evolved as being necessary to attain this goal. We will begin by examining what it means for the People to make their own policy, and in subsequent sections we will look at measures that transform that ideal into a reality.

Just as the law of supply and demand usually works to provide a product or service at the time and place it is needed, the collective wisdom of a group of informed and engaged voters is greater than that of any candidate seeking their vote. Irrespective of a candidate's intelligence, ethics, or qualifications, the voters' collective thinking will be more reliable and less subject to corruption.

The concept of "policy" is widely misunderstood. Policy is simply a guideline or a path to a goal or objective. It differs from laws, rules and regulations, which are mandatory.

Moreover, a policy referendum differs substantially from the initiatives and propositions that voters often find on their state and local ballots. *A policy referendum does not make law—it creates political guidelines.* Initiatives and propositions may not be the best way to make laws, but a referendum is an excellent way to make public policy.

Through their answers to referendum questions, voters can effectively establish policy guidelines to be followed and implemented by those they elect. We have repeatedly seen how necessary laws on matters such as fair taxation, gun control, and women's freedom of choice are often defeated by small, but powerful special interests. With the opportunity for a full and complete public discussion, an overwhelming vote by the People would compel their representatives to act according to the quiet wishes of a large majority of the voters, rather than the loud demands of a small, but vocal minority.

The USVRA compels Congress to identify the most critical policy questions for the People to answer and to place these questions on the national presidential ballot.

Failure of Congress to adopt a joint resolution containing the questions shall result in the disqualification of all sitting members of Congress to be eligible for reelection. In other words, all of them will automatically be out of a job if they fail to address the policy issues of concern to the People.

The Right of the People to Vote—Effectively. Did you know that United States citizens do not have a constitutional right to vote? As the result of a series of amendments, people of color, women, and young people over the age of 18 cannot be deprived of the right to vote because of their status; however, nowhere in the Constitution does it say that they or anyone else have a fundamental right to vote in the first place. This absence was clearly and bluntly acknowledged by the Supreme Court in *Bush v. Gore*, which awarded the presidency to George W. Bush in 2000.

The protection of voting rights for women was excluded from the Fourteenth Amendment in that it mentioned only “male inhabitants” of discriminating states. That omission was finally corrected by the Nineteenth Amendment in 1920; however, the 1972 Equal Rights Amendment—an attempt to secure full equality of all rights for women—failed to be ratified by the necessary 38 states by the deadline of 1979. The right to cast effective votes cannot be fully effective if half of the People (the women) do not have full and equal rights, which is why the Equal Rights Amendment is included in the USVRA.

The USVRA gives all citizens a constitutional right to an effective vote.

Maximum Voting Participation by the People. Universal voting is the ideal of a free and democratic republic. The USVRA requires that we make voting a national priority, and that we make it easy to vote. Imagine how this could look.

First, as a citizen, the state you reside in would automatically register you to vote, putting to rest any fears of voter fraud—which is extremely rare. Voter identification (ID) laws and other forms of voter suppression—which adversely affect the poor, powerless, and disadvantaged—are abolished.

Instead of rushing to the crowded polling places before or after work, a national voters’ holiday is declared so that everyone who votes receives full pay for the day. Once in the voting booth voters can take time to carefully consider the issues and candidates presented

on their ballots by the various political parties, if they have not done so already. Or, voters can mail in their ballots in advance, and still take the day off in honor of their fundamental role in representative government.

The USVRA requires the states to register all qualified voters, and it punishes voter suppression. It mandates that federal elections held every two years be conducted on a national paid holiday.

Well-informed Voters. If the voters are to make critical policy decisions, they must be well-informed. A truly representative government must ensure that the People are supplied with truthful, unbiased, objective, and timely information regarding the political, economic, environmental, financial, and social issues that affect them.

Coexistent with the creation of the United States, the founders recognized the essential role of public education in its operation. One unrealized goal of President George Washington was the establishment of a national university to train future leaders. He regretted its omission in his farewell address, saying education was “one of the surest means of enlightening and giving just ways of thinking to our citizens. . . .”

The current emphasis on mandatory testing of math, science, and language in public schools has reduced the amount of classroom time available to discuss civics and current political events. Under the corporate model, civic education and government studies have been largely eliminated from the core curricula.

Imagine if there were a national university that included all the military service academies under its umbrella—so future military officers are first instructed about the nature and values of the government they will later learn to serve and defend. Moreover, the university would include other service academies, such as justice, education, health, nutrition and agriculture, energy, transportation, economics, science, government, and diplomacy, where students can specialize after first being instructed in the basic values of a free and democratic government.

The USVRA requires that all students be educated in the nature and responsibilities of representative democracy. It establishes the University of the United States—which will teach the values of liberty and justice upon which

the nation was founded. It will be a place where students learn the nature and operation of a democratic republic and are provided the specialized training to professionally serve the needs of the Nation and its People.

A National Paper Ballot for the People. If American voters are to regain and retain control over their elections, they must refuse to use computerized voting machines or any other form of electronic balloting. Instead, voters must insist on hand-countable paper ballots upon which to physically record their choices.

Not only can paper ballots be accurately counted (and recounted—if necessary), but most importantly, each ballot is, indisputably, documentary evidence of an individual's vote. Collectively, paper ballots serve as a tangible symbol of representative democracy in action.

Once a decision is reached, each voter can demonstrate her or his literacy by voting yes or no on the most vital policy questions. Moreover, voters can physically demonstrate their Rights of Liberty (if choosing to do so) by clearly writing in their choice for president and vice president of the United States and Congressional senators and representatives—whether or not the choices have been nominated by a political party and the names are printed on the ballot.

So what if it takes a little longer to count, or recount, the ballots? Wouldn't it be a good thing if pundits could not predict the outcome of elections before the polls have even closed? Isn't delayed gratification a small price to pay for ensuring that the People control elections, rather than those who currently bribe the candidates?

The USVRA requires that federal elections be conducted on uniform, hand-countable paper ballots, and—for the presidential election—ballots must include the twelve most critical policy questions articulated by Congress, each to be answered yes or no by the voters. Moreover, paper ballots are required to provide space allowing voters to handwrite in their choice for all elective federal offices—if they choose—and that all such votes be counted.

The Popular Election of Presidents and Vice Presidents. Fearing an “excess of democracy,” the founders of the United States created the Electoral College to choose the president and vice president instead of relying on direct elections by the People. Currently, all but two states award *all* their electoral votes to the

candidate who wins the state's popular vote, rather than apportioning them by the number of ballots cast for each candidate.

Because Electoral College votes do not correlate with popular votes, twice in the last four presidential elections (2000 and 2016), the winner of the popular vote did not obtain a majority of the votes cast by the states in the Electoral College—thereby defeating the will of the People. Moreover, the Electoral College does not allow American citizens in Puerto Rico, the Virgin Islands and other U.S. territories a vote in the presidential election.

Inconsistencies in the presidential primary process occur because the voting and election processes have been left up to the states. Iowa—which chooses candidates by party caucuses—commences the process in early January of the election year and is followed by others states through June. The early states exert a disproportionate influence in the process, as the campaigns are often decided before primaries are held in the later states.

A uniform date for primaries would still allow the various states to have some flexibility in the type of primary system to employ, such as caucuses, open or closed primaries, or winner-take-all contests. It would also reduce the length and cost of the presidential elections.

The USVRA establishes a uniform primary date for all states and the date for the general election of the president and vice president. It provides that “The presidential and vice-presidential candidates receiving the most popular votes by all citizens of the United States shall be elected.”

Only People Have Constitutional Rights. Several decisions by the Supreme Court have allowed corporations and the wealthy elite to take control of the People's government. The Supreme Court struck down election laws prohibiting corporations and labor unions from making independent expenditures and “electioneering communications.” Moreover, ruling that the laws violated First Amendment rights to free speech, the Court also struck down laws that set limits on campaign spending. In other words, the Court equated the spending of money with free speech. Those with the most money are allowed to shout the loudest—even if they are not real people.

There have been several initiatives brought forth to amend the Constitution as the only way to reverse the Court's actions; however, the best researched and most popular initiatives appear to be those by the Move to Amend organization.

Sections Four and Five of the USVRA are identical to the Move to Amend proposed amendments.

Under the USVRA, "The rights protected by the Constitution of the United States are the rights of natural persons only." Corporations "shall have no rights under this Constitution and are subject to regulation by the People . . ."

The government will be required to "regulate, limit, or prohibit contributions and expenditures, to ensure that all citizens, regardless of their economic status, have access to the political process, and that no person gains, as a result of their money, substantially more access or ability to influence in any way the election of any candidate for public office or any ballot measure."

The USVRA goes on to say that these provisions shall not be "construed to abridge the freedom of the press, which includes electronic and digital publication."

Public Funding of Elections. Since 1976, taxpayers have been allowed to check a box on their tax return to divert three dollars of their income taxes to a matching fund for presidential elections. Subsequently, every presidential nominee used the public funds until George W. Bush opted out of the matching fund program in the 2000 primary, and Barack Obama opted out in the general election of 2008. Both Obama and Mitt Romney opted out in the 2012 general election—as each spent more than a billion dollars on the election. Only one primary candidate (Democrat Martin O'Mally) requested public funding in the 2016 presidential election.

A large percentage of the cost of political campaigns results from the widespread use of radio and television advertising. During the 2016 general election campaigns, more than \$4.4 billion was spent on television advertising. Most countries in the European Union, including Ireland and the United Kingdom, forbid the use of paid political advertisements on radio and television; however, political parties are provided free broadcast slots.

As the price they paid for using the public airways, American broadcasters were once required to provide equal time to opposing candidates in the public interest. The rule has become ineffective

due to exceptions, including news programming—as occurred in the ratings-driven media frenzy over the publicity-seeking antics of candidate Donald Trump during the 2016 campaign. Moreover, the Fairness Doctrine once required licensees to present controversial issues of public importance and to do so in a manner that was honest, equitable, and balanced. It was repealed by the Reagan administration in 1987.

Another reason why political campaigns are so expensive is because they are continual. As soon as candidates are elected, they immediately begin to raise money for the next election, or as they say, “dialing for dollars.” It is not unusual for presidential candidates to start actively soliciting campaign contributions several years before an election. President Trump began running for reelection the day he was inaugurated, officially. To date, his fundraising exceeds that of all other candidates.

The USVRA provides a presumption in favor of public funding; establishes a public access, fairness doctrine, and equal-time rule for public broadcasting; and limits the period of active fundraising and campaigning to six months before an election.

Gerrymandering and Adequate Congressional Representation.

Gerrymandering—in which politicians obtain an electoral advantage by the bizarre mapping of election districts to benefit one party over another—is in widespread use. Most congressional districts have been configured to ensure there are no serious challenges to incumbents.

The Constitution provides there shall be a minimum of 30,000 “Persons” for each member of the House of Representatives; however, it does not establish a maximum number. In 1790, the number of Persons represented in each district was 33,000. When the number of Congressional seats was increased to the current 435 in 1911, each new district represented approximately 212,000 Persons.

The population of each congressional district is now around 700,000 Persons. The more than threefold increase in the number of constituents since 1911 makes it virtually impossible for voters to communicate with their representatives—absent generous financial contributions. On the other hand, simply mailing a single letter to each voter in a congressional district by a candidate could cost

hundreds of thousands of dollars.

The USVRA prohibits gerrymandering and reduces the number of Persons represented in each congressional district to 250,000.

Lobbying, Bribery, and the Revolving Door. Lobbyists bribe the People's representatives by providing campaign contributions and other personal benefits and gifts. Their success depends upon the access they have to those they seek to persuade. The most successful are those who previously held the same or similar positions in government.

Existing laws and congressional rules attempting to regulate lobbyists are limited and ineffective because the Supreme Court has declared the practice to be an exercise of free speech and the right to petition for redress.

The USVRA places constitutional restrictions on lobbying—which it disallows as free speech and the right to petition—and it prohibits former representatives and government employees from engaging in lobbying for a period following such service equal to the period of such service.

Conflicts of Interest. Both the Senate and House of Representatives have developed rules of ethics governing conflicts of interest by Congressional members and their staffs; however, the rules are almost meaningless, as there are so many exceptions.

While the canons of the Code of Conduct for United States Judges prohibit them from hearing any matter “in which the judge’s impartiality might reasonably be questioned,” the U.S. Supreme Court has refused to apply the Code to the conduct of its own justices. The situation of Justice Clarence Thomas is a case in point. He participated in deciding a matter involving the Affordable Care Act, while his wife was an officer of Liberty Central and Liberty Consulting—organizations that actively opposed the act. It was also discovered that Justice Thomas had “inadvertently” failed to report his wife’s employment income of more than \$1.5 million from similar organizations over a 13-year period. Justice Thomas denied there was any conflict of interest in his deciding the case and refused to disqualify himself.

The USVRA disqualifies federal officials, congressional members, and all federal judges from participating in decisions regarding matters in which they have an interest.

We the People. It is time for all of us, irrespective of individual political persuasion—conservative, progressive, libertarian, green, social-democrat, or independent—to come together with a common purpose: to secure our right to an effective vote, thereby preserving our Rights of Liberty. The Voters’ Bill of Rights can and will serve as a unifying force for all the People to achieve a voice in their own government and to make a difference in their future.

Thus united, the People will restrain the power of the plutocracy and will *transform their government into something unlike anything ever achieved on Earth*. The United States government will become oriented to the society that elects it, and the needs, aspiration and well-being of the People will become paramount. The lamp of liberty will be refueled, and its light will once again shine brightly as a beacon of freedom for all the world to see.

The Constitution was created by “We, the People of the United States of America.” We are not powerless. We did it once, and we can do it again. We, this generation of modern and capable Americans, have the brief opportunity to again create a new Bill of Rights and to finally achieve the promise articulated by President Abraham Lincoln—a Nation of the People, by the People, and for the People.

GOVERNMENT REGULATIONS AND PRESUMPTIONS OF LAW

Regulation is one of those words, like socialism or liberalism, which has negative connotations for many conservatives and libertarians, but no matter the word used, we cannot have a complex society without organizational controls.

As you fly into the greater Los Angeles area on a clear night, you are one of a string of landing lights leading back miles into the sky. You can look down on the lights of dozens of cities connected by thousands of miles of roads and inhabited by millions of people. The skyscrapers and freeways could not have been built without specialized regulations, and there would not be reliable electricity, water, and sanitation systems without specific federal, state, and local laws and regulations.

You wouldn’t be able to safely drive a car through intersections or down a highway, meeting oncoming car at high speeds, without

laws and regulations, and you would not have the confidence that others will respect and willingly comply with the same rules of the road.

Regulations have been around for tens of thousands of years and can be found in the very earliest civilizations. The gates of walled towns had to be locked during the night; the walls had to be patrolled, and taxes had to be collected from the itinerant peddlers who entered during the day.

Just as our modern society could not exist without regulation, it could not function without a financial system, largely based on self-interest, to provide the money and credit required to allow the fair and free enterprise system to work. The two factors must be balanced, however; otherwise the economy does not take all interests into account and it will ultimately fail.

We must recognize that a modern society requires a sophisticated system to deal with supply and demand; however, we, the People, must ensure that the financial and economic systems works for our benefit, rather than for the benefit of the corporate economic system, and their investors.

The essence of the corporate system is greed— unmitigated greed. The system will lie, cheat, and steal to maintain its profits, and it will do everything in its power to benefit the few who control it, irrespective of the harm it may cause to everyone else.

The system is far too powerful to allow it to regulate itself. It must be controlled, not only for the benefit of the People, but also against its own excesses and greed. We have seen the results of deregulation and the damage done by the casino mentality of bankers. They have a gambling addiction, and they must be forced to attend counseling as a condition of their probation.

Reasonably regulated and operating in a transparent manner, the worldwide financial system can work for the benefit of everyone in every country. But these two elements are essential: reasonable regulation and transparency. They are the *sine qua non* of a free and fair enterprise system.

This does not necessarily mean that the government should be enforcing every regulation, all the time. What government should be doing is to independently examine the evidence, conduct tests,

and arrive at reasonable standards for products, manufacturing, employment, medical care, and other areas where unregulated activities can be expected to lead to public harm.

Presupposing a fair and impartial judicial system, once standards have been established, they can be relied upon as rebuttable presumptions in legal proceedings brought by people harmed by a violation of the standards. The government, which independently establishes the standard, should not be a party to the action of enforcement, except to provide evidence of standards, as called upon.

A JUST SYSTEM OF CORRECTING UNLAWFUL BEHAVIOR

Let us begin with the innocence of an infant and proceed, birthday, by birthday, until we reach the age of adult responsibility where the punishment for the child's disobedience of the law is to be confined in a cage for a period of time or for life, or to be put to death. Forty years ago, a child under the age of 14 was conclusively presumed to be incapable of committing a crime, now boys as young as 14 are being locked up for life terms in adult prisons. The purpose of the criminal justice system is no longer correction or rehabilitation; it is to confine and punish to the maximum extent possible, as a deterrent to the commission of crimes.

In raising children, we try to teach tolerance and to encourage inhibitions against intolerant things that are harmful to oneself or others, and one of the strongest inhibitions is against being labeled as a thief, liar, cheater, or violent bully. Once a child bullies, lies, cheats or steals, the initial inhibition is lost, and the child, who now sees himself as a bully, liar, cheater, or thief, finds it easier to commit further anti-social acts, until the child is "caught" and forced to face the consequences of his voluntary actions.

With the justice system oriented towards confinement as a form of tribal revenge, and judges evaluated on the length of the sentences they impose and the hardness of their hearts, we must admit that one of the most accurate ways a society can be objectively evaluated is by the manner in which they treat those accused of crimes and confined in cages.

What if we imagined a better and more effective way to treat those who violate the criminal laws, one that is devised to help them confront and resolve the personal and emotional issues that contributed to the commission of their crimes, allowing them to get on with their lives with the least overall risk to society?

Criminal Justice System Discretion. The first thing that must be recognized is that a just system requires a large amount of discretion by police officers, prosecutors, juries, judges, correctional officers, parole boards, and governors if there is to be individual justice in individual cases.

Next, to avoid discrimination, discretion must be exercised according to written policy standards that ensure that individuals in identical circumstances are treated equally.

Therefore, laws must be enacted that allow for a wide range of discretion *and* that require decision-making agencies and entities to research, draft, and publish the policy standards that govern the exercise of discretion.

Once there is agreement on which crimes should be handled only by the criminal justice system, sentences should be reduced to a range that anticipates that most prisoners will achieve rehabilitation during their confinement and can be released without a significant risk to society.

In all but minor matters, a comprehensive background and sentencing report must be prepared by social science professionals, and judges should have a broad range of discretion in the imposition of sentences. Judges should be encouraged to take risks by enacting a statutory presumption for probation and other alternative sentencing options for many, if not most crimes.

A sentence to prison should be the last resort and not the first choice. For all but the most horrific and violent offenses, sentences should not exceed five years. Statutes should not allow any time off for good conduct, but they should provide a procedure by which reasonable periods of time can be added for bad behavior, with a guarantee of due process.

A Center of Healing, Change, and Freedom. To envision how moderate sentences would more effectively protect society, let

us imagine a completely different type of correctional system, one that truly emphasizes healing, rehabilitation, and change, rather than punishment and revenge. Rather than to treat inmates as loathsome pariahs, let us create a system that treats them as if they are personally infected with a disease that has infected society.

Rather than despising them for their illness, let us learn and work to cure them in a way that avoids a relapse and the infection of others. Imagine that the rest of society is peacefully proceeding along, and every effort is made to repair the damage done to individuals, so the vast majority of them merge seamlessly back into the free flow of society—without suffering any further legal disability, parole, loss of rights, or societal stigma.

Assuming a fair and compassionate sentencing process, where would we send those who require removal from the free society? One remedy would be to send convicts to a remote Free Town surrounded by a high wall having two gates. Upon their arrival, prisoners would enter one gate into Free Town, and they would be expected to obtain a job to support themselves, and to obey the law.

Obedying the law would be the only requirement. When they completed their sentence, they would leave by the same gate and would rejoin the society of free people without the burden of parole, their social inhibitions against committing crimes restored and strengthened.

Both prisoners and non-prisoners would be encouraged to establish businesses in the town and would be expected to pay the legal minimum and prevailing wages for the labor performed directly into each employee's bank account.

Prisoners who managed their income—without outside assistance—would be entitled to have their spouses and significant others live with them in the town; however, dependents could not be employed in the town, nor would they be allowed to come and go, except in emergencies. Of course, they could always choose to leave on a permanent basis.

All prisoners would have the benefit of professional counseling, if desired, and health, dental, and vision care would be provided on the same basis as it is provided in the free society.

The Treatment Facility. Individuals who refuse to be self-supporting or who commit repeated or serious crimes would be removed through the first gate and taken back inside through the second gate. The second gate would lead to a tunnel under the Free Town to a Treatment Facility, a large round high rise building with glass walls located in the center of the town, which would have no direct connection to the Free Town.

The Treatment Facility would be staffed by rehabilitation, education, and mental health professionals and would be dedicated to curing its patients of their emotional and behavioral problems before their scheduled release date.

Prisoner-patients would be confined in pie-shaped rooms, with a door at the apex opening into a common area equipped as a library, recreation, and eating area. The entire curved wall would be constructed of unbreakable glass allowing patients to look down upon the Free Town, where other inmates would live and work in relative freedom.

Graduates of the rehabilitation program who commit nonviolent crimes following release would continue to be charged and sentenced the same as first offenders, until such time as they learn to live in the free society without violating the law of the People.

DESPAIRING OF GUN VIOLENCE

When the men of Concord, Massachusetts assembled at the North Bridge on April 19, 1775 to confront the British Army, it was not so much that they possessed firearms that carried the day. Rather, it was their discipline from having been drilled as a militia that provided the victory. Later, when the Bill of Rights was enacted, the Second Amendment was included to ensure that the People—fearful of a standing army—retained the power to organize state militias in resistance to tyranny and to preserve their new republic. Moreover, the South demanded the right to maintain state militias to control their slaves.

Initially, in most states, and excepting a few officials, most white men were required to join the militia and equip themselves with a musket. Records were kept and officials knew who had firearms and

how well they were trained to perform their public duty. Later, in the Wild West—contrary to movie images—cowboys had to deposit their guns at the sheriff's office on entering most towns.

As America evolved into a more urban and industrialized society, militias were replaced by National Guards in every state, and the percentage of Americans who personally owned firearms dropped. States began to legislate against the possession of dangerous weapons, such as sawed-off shotguns and machine guns, and prohibited carrying concealed handguns. Regarding these laws, the courts consistently ruled that the Second Amendment preserved the right of states to organize National Guards, rather than an unlimited personal right of gun ownership.

Regulating Cars & Guns. Traffic accidents are one of the leading causes of death and injury in the United States, with 36,560 deaths during 2018, but firearm-related deaths already exceeded traffic deaths in 2017 at 39,773. Overall, while the rate of firearm deaths has been rising, the rate and number of traffic deaths has been falling as a result of effective government safety regulations for both drivers and vehicles.

Few people doubt the wisdom of requiring seat belts and air bags in cars; for transporting young children in approved car seats; that cars are registered; that drivers are educated, tested, and licensed; that they obey the rules of the road; and that they are required to have liability insurance. However, any legislative or executive action to regulate the safety of firearms or the ability of individuals to obtain and carry them is met with defiant resistance by the politically powerful gun lobby—and the politicians they bribe with campaign contributions.

Using a vehicle as a weapon is an assault with a deadly weapon (ADW) in most jurisdictions; however, one rarely hears about cars being used in that manner. All too often, road rage manifests itself with one driver shooting another. Automobile ADW is so rare that there are no readily available statistics to determine its frequency. Just imagine, however, the fear and outrage if there were 23,854 intentionally fatal traffic collisions each year in the United States—which was the number of firearm suicides recorded by the CDC in 2017. Or, if cars were used as weapons almost a half million times

each year—which is the number of Americans who reported they were victims of a crime involving a firearm in 2011. Would drivers feel safe knowing that cars approaching from the opposite direction at a high rate of speed were being operated by unlicensed ten-year-olds?

Guns are the only consumer products that are not subject to federal regulation, and *it is not the Second Amendment that prevents the registration of guns in the same manner as vehicles and the testing and licensing of gun owners as is required for all drivers*. This fact was made clear by the U.S. Supreme Court in 2008 when it struck down a ban on the possession of handguns (*District of Columbia vs. Heller*) as violating the right to personally bear firearms. Regarding regulation, however, the court said its “opinion should not be taken to cast doubt on longstanding prohibitions on the possession of firearms by felons and the mentally ill, or laws forbidding the carrying of firearms in sensitive places such as schools and government buildings, or laws imposing conditions and qualifications on the commercial sale of arms.” While the Court now says the Second Amendment confers a right to personally own a gun outside of a militia, the right remains subject to reasonable regulation.

Since militia members and their weapons were subject to government inspection and regulation at the time the Second Amendment was enacted, it would not seem unreasonable to expect that even the conservative members of the Court would uphold firearm registration and licensing of owners similar to that presently imposed on the ownership and operation of automobiles.

Constitutionally, the Fourteenth Amendment guarantee of due process and equal protection of the law protects the rights of Americans to own and operate motor vehicles, which is the same level of constitutional protection as the Second Amendment right to bear arms. Necessarily, reasonable regulations would have to preserve due process and could not be so onerous as to constitute prohibition.

Even with reasonable registration and licensing, firearms would continue to pose a significant danger to public safety due to their overwhelming proliferation throughout American society. Therefore, additional, constitutionally acceptable, steps need to be taken to further reduce the threat.

Building Monuments with Destroyed Weapons. It is far too quick and easy for an angry person to point a finger wrapped around the trigger of a gun and apply slight pressure—thereby destroying the lives of the victim *and the shooter*. Efforts to protect both must deal with the fact that gun violence is often a consequence of other psychological and social issues, such as domestic violence, child abuse, and bullying of the perpetrator. Even without guns, these causative factors can manifest themselves in violence, albeit at a far less deadly level.

In addition to teaching small children to avoid picking up a gun, they must also learn to tolerate the equality of others and to avoid violent behavior. Children are more capable of acquiring empathy and experiencing positive interpersonal relations, than resisting playing with an attractive deadly toy. There is clear evidence that children can be taught to resolve conflicts and problems without resorting to violence. School-based anti-bullying programs have become widespread and have been successful in reducing violence among students.

Just because Americans have a right to own firearms does not mean that they need or must do so. The percentage of individuals who own firearms continues to decrease. People can continue to freely choose to give up their firearms and to live, more safely, without them—both personally and as a society. There have been some successes with “buy back” programs, whereby people are paid for their guns. All too often, however, the guns turned in are old, defective, or obsolete. What is needed is a broad-based grassroots movement to encourage the American People to participate in achieving a voluntary and massive reduction of operable firearms in their own homes and communities.

Imagine an innovative national program whereby surrendered and confiscated guns are welded into massive peace sculptures in front of local courthouses, police stations, and other public buildings. Competitions could be held for artists to design unique works of art for each location. Instead of blood running down the sidewalks, let it be rust, as these monuments to nonviolence slowly grow with discarded weapons and become more interesting over the years. Just as those who fight and die for freedom are honored,

those who nonviolently strive to achieve peace by surrendering their weapons should also be memorialized. Perhaps, someday Americans will look at these sculptures in amazement and recall a time in when people owned machines designed to kill other people and how they voluntarily and bravely overcame their fascination them.

PAYING THE TAB FOR THE RIGHTS OF LIBERTY

If the “pursuit of happiness” has any special constitutional meaning, it must in some way refer to the pure joy of a good life, well-lived, whatever that might mean to different people, at different times. There can be no joy living under an unjust government, which is why the guarantee of justice is one of the most ancient rights ever demanded and received. Thus, the Declaration by the American People in 1776 that among the unalienable Rights “are Life, Liberty, and the Pursuit of Happiness” expresses far more than a shared goal is seeking good government; it is an expression of basic individual Rights of Liberty that are universal and cannot be given or taken away.

These rights are ours from the moment our minds imagine them, and we begin to think about ways to keep and exercise our rights. Our Rights of Liberty are the most valuable creation of our minds, for they allow us the joy and freedom of existence.

If we are to now image a happy future in which the People have achieved a just government that represents their needs and aspirations, how exactly, does that government pay for everything the People need and aspire to? What constitutes a truly free and fair enterprise system in which there is a balance between labor and capital? For an answer to these questions, and others we will continue the Evolution Papers with an outside-the-box view of the economy in which we all earn, buy, or steal our living, or die, and see if there are any remedies that might make it work better.

A FREE & FAIR ENTERPRISE SYSTEM

Among the Rights of Liberty must be found freedom from wage slavery, for if we do not exercise authority over our own thoughts and labor, we are slaves indeed. In the complicated world we live in, these things are basic: We must take care of ourselves, and for most of us that means getting an education, a job, and taking care of our families and other responsibilities, including voting. We must have constant access to food, water, clothing, and the myriad of products required to survive in our existing habitat. All of this requires commercial organization, or trade of some sort.

There is no doubt that commerce is a basic part of human nature, and that corporations must exist if we are to have a modern complex society. We must also recognize that unregulated corporations, with powers far beyond that of any human, pose one of the greatest dangers to individual freedoms in the United States and in every nation on Earth.

Corporations are composed of people, who both work there and who own stock, and they all have families and responsibilities and live according to some spiritual belief or personal code of conduct and behavior. Corporations, however, are greedy by nature and are without a conscience, which is why they must be regulated instead of being accorded the same constitutional protection as the People who created the government.

As one of the seven deadly sins, greed is an excessive and selfish desire to acquire or possess more than what one needs for basic survival and comfort. As the prime motivation for corporate power and the desire of corporate officers for wealth and status, greed represents the acquisition of more than what one deserves or can be comfortably consumed in one's lifetime.

Virtually every check on unbridled corporate power, including an effective labor movement, has been defeated, allowing corporations to seize unprecedented political power in the United States, and around the world.

This insane pursuit of profit by every possible means, legal or illegal, threatens every economic system that relies on an equality

of the freedom of the markets and the freedom of workers. The concept of free and fair enterprise requires a balance between the power of capital and labor; achieving that balance is its primary challenge and must be its ultimate goal.

STRIKING A BALANCE BETWEEN LABOR AND CAPITAL

To obtain and sustain the balance between business and labor required to establish a free and fair enterprise system, we must take steps to ensure that constitutional guarantees are limited to individuals. Moreover, effective laws must be enacted and enforced to effectively regulate corporations and the national economy, and to guarantee the right of labor to organize and to effectively represent its members.

The failure of organized labor affects more than its workers; it influences the entire economy. If workers are forced to accept poverty level wages, they will not have the income to purchase the goods and services provided by the economy. Even the industrialist Henry Ford believed his assembly line workers should earn enough money to pay for the cars they built.

Not only are most American workers no longer represented by a union, they are not represented by any political party. The “New” Democratic Party now represents the same narrow corporate interests as the Republican Party. The alternative Libertarian Party does not believe in any government support of labor or working conditions, and while the Green Party supports “social justice and equal opportunity,” it does not offer specific programs to protect the rights of workers.

Every person—whether in the private or public sector, a blue or white-collar worker, small business owner, self-employed professional, or corporate executive—has an interest in ensuring there is a balance in the interaction of labor and capital. Otherwise, a truly free and fair enterprise system cannot exist.

That balance was once provided by unions acting with the encouragement of New Deal government laws and regulations, but corporate power over both major political parties has largely eliminated fairness in the system. The ability of corporations to obtain

“right to work” laws and influence regulatory agencies to abandon their oversight responsibilities is increasingly leaving workers with little or no power or control over their own labor.

Rather than establishing a Labor Party, such as those in European countries, workers and the self-employed need to organize in a bipartisan effort to eliminate the constitutional protection now being provided to nonperson entities, such as corporations and labor unions. Capitalists should have the right to organize businesses and corporations, and workers should have the right to organize labor unions, but both should be subject to reasonable regulation for the public good.

Fair employment practices, safe working conditions, and sustainable wages are in the interest of everyone, not just workers and their labor unions. Raising the level of income and leisure benefits everyone, including the self-employed and small business owners. While increased productivity may benefit the corporate bottom line in the short term, lower wages and longer hours will ultimately collapse the economy.

The appropriate role of government should be the establishment of reasonable standards, legal presumptions, and minimum damages allowing workers—whether represented by a union, or not—to obtain a fair and just adjudication of their labor claims.

A FAIR AND SIMPLE TAX

Presently, one-quarter of all large U.S. corporations, two-thirds of all small corporations, and most foreign companies doing business in the United States pay no federal income tax—even though they book trillions in receipts every year and take advantage of America’s courts and infrastructure to make their profits. A simple system of collecting a tiny financial toll tax on the movement of all money in the economy would effectively transfer the tax burden from workers, the self-employed, and small business owners to the wealthy, large corporations, and financial institutions.

Writing in the fourth century BCE, the Greek philosopher Plato said, “When there is an income tax, the just man will pay more and the unjust less on the same amount of income.” Nothing has

changed, nor will it, unless an alternative system of taxation were to be designed.

Following the collapse of the banking industry in 2008, proposals were made to target a special tax on financial transactions—not only to raise tax revenues to help pay for the bailout—but to restrain the insane financial gambling that caused the crash.

Taking into account the amount of stocks, bonds, commodities, currencies, and futures that are bought and sold every day, the shuffling of funds between banks, and the massive trading of over-the-counter derivatives, trillions and trillions of dollars are being gambled in an economic casino that has little to do with the efforts of most working people and the self-employed. It does, however, have everything to do with their lives, their economic stability, and the future happiness of their families.

Many, if not most, of these financial transactions escape all taxation, as they are not legally defined as “income.” This is true, even though the banks are gambling with sophisticated trading software that allows them to place high-speed bets that cheat ordinary investors and destabilize the markets.

A financial transaction tax was proposed in 1972 by James Tobin, a Yale professor who won the Nobel Prize for economics. It was Dr. Tobin’s view that the world economy was being disrupted by currency speculation in which money moved around the world as bets on the fluctuations in exchange rates. He believed the imposition of a small tax on every currency transaction would disrupt the currency gamblers, while imposing a trivial burden on those legitimately engaged in foreign trade or long-term investment.

Tax the Movement of Money. Expanding on the idea of a currency speculation tax, wouldn’t it be more sensible and much fairer to simply tax the movement of all money in the U.S. economy—instead of taxing personal and corporate income? Not a sales tax, not a value-added tax, not a flat income tax, not even a speculation tax, but rather a simple toll on every single financial transaction that occurs within the economic system. Not just every time someone buys a pack of chewing gum, but every time stocks and bonds are bought and sold, every time currencies and derivatives are traded, and every time General Motors buys a new robot to replace its assembly-line workers.

In one year (2012), the Chicago Board of Trade processed nearly three billion contracts that were worth approximately \$1 quadrillion in notional value. In 2013, the daily trading value of transactions at the New York Stock Exchange exceeded \$169 billion, or \$42.5 trillion during the year. In order to maintain liquidity requirements, banks make overnight short-term loans to each other amounting to approximately \$200 billion each day, or \$50.4 trillion each year.

Since the working-, middle- and self-employed-classes have far fewer and much smaller financial transactions, the wealthy and the multinational corporations—who spend a lot of money to avoid having any “taxable” income—would have to share proportionally in paying the toll for their traffic on the economic highway and their use of the People’s courts and institutions to enforce their contracts and to facilitate their profits. Why should so many of the largest corporations completely escape the payment of any taxes?

It is likely that the federal government could operate on the revenues produced by a simple transaction tax of far less than five percent on the movement of all money. As a result, the payment of taxes would shift from individuals and small businesses to large corporations, and from the laboring poor to the wealthy elite.

Envision the effect of a slight touch every time money moves, a tiny ka-ching in the U.S. Treasury’s cash register, every day, which in the aggregate could quickly add up to trillions of dollars each year. How nice it would be to have Congress first decide what the People of the United States want, need, and expect from their government and to then calculate what the toll tax rate should be to produce the revenue required to pay for it. The result would be significant; public debt could be eliminated, and the United States could finally achieve a balanced budget every year.

Imagine that most people would only have to pay an annual tax rate of a few percent on their spending (income). Of course, the transaction tax would result in a small increase in the overall cost of the goods and services people purchase; however, the toll would apply to all financial transactions, including the purchase of limousines, helicopters, and mansions by the wealthy—including President Trump—who rely on every imaginable scheme to avoid having any “income” upon which to pay taxes.

Those who enjoy luxuries would pay more for them, and those who gamble in the money markets would have to pay the house for their visit to the economic casino.

In a regulatory sense, a universal financial toll tax would operate somewhat like the income tax in that individuals and corporations would have to prepare an annual tax report, rather than as a sales tax where the revenue is collected at the point of purchase. For most individuals, small businesses, and corporations, the preparation of tax returns would be greatly simplified.

A transaction tax was believed to pose impossible accounting problems when first proposed by James Tobin 40 years ago; however, computer technology now allows for the instantaneous calculation and posting of all financial transactions. Just as the income tax contributions of workers are withheld from their payroll checks every week, it should be possible for the tax on corporate financial transactions to be paid every single day at the close of business. The practice would make for more honest and fair dealings all the way around.

The People do not have to willingly endure corrupt government and unfair taxation. Those who pay the taxes must make the essential decisions about the methods of taxation and the level of payment. Otherwise, the People live in slavery and any freedoms are illusory.

THE BRIDGE TO THE FUTURE

The economy, like everything else in life, operates best when it is allowed the freedom of making informed choices, as a result of deliberative thinking, rather than reckless gambling.

Accomplishing everything that must be done within the next few years—if atmospheric warming is to be reversed and a balanced environment restored—will require economic resources at least equivalent to that being presently wasted on militarization and warfare.

With universal tolerance and responsible governments, a free and fair enterprise system should produce the goods and services required to allow the environment to be stabilized and for the evolution into Mindkind. Unified and creative thinking will be required, and the product will be astounding.

RESTORING THE BALANCE OF MOTHER EARTH'S ENVIRONMENT

It is here in the last of the Evolution Papers that we can engage in some creative thinking to imagine practical projects that can be done to quickly restore the earth's environmental balance. The few papers offered here propose generating energy from outer space; using it to energize the national highways providing free transportation; and designing ultra-safe small, interchangeable nuclear-generators to replace all coal-burning plants in five years and all carbon-burning facilities within ten years.

A MIRACULOUS SOURCE OF ABUNDANT ENERGY

Space-solar energy is the greatest source of untapped energy which could, potentially, completely solve the world's energy and greenhouse gas emission problems. The sun will shine for another 4-5 billion years, and the earth only receives one part in 2.3 billion of the sun's total energy. There is a colossal amount of safe energy waiting to be collected and distributed.

The technology currently exists, much of it off-the-shelf, to launch solar-collector satellites into geostationary orbits around the Earth to convert the Sun's radiant energy into electricity 24 hours a day and to safely transmit the electricity by microwave beams to rectifying antennas on Earth.

Following its proposal by Dr. Peter Glaser in 1968, the concept of solar power satellites was extensively studied by the U.S. Department of Energy (DOE) and the National Aeronautics and Space Administration (NASA). By 1981, the organizations determined that the idea was a high-risk venture; however, they recommended further study.

With increases in electricity demand and costs, NASA took a "fresh look" at the concept between 1995 and 1997. The NASA study envisioned a trillion-dollar project to place several dozen solar-

power satellites in geostationary orbits by 2050, sending between two gigawatts and five gigawatts of power to Earth.

The project may have remained shelved except for the military's need for sources of energy in its campaigns in Iraq and Afghanistan, where the cost of gasoline and diesel exceeds \$400 a gallon. A report by the Department of Defense's National Security Space Office in 2007 recommended that the U.S. "begin a coordinated national program" to develop space-based solar power.

There are three basic engineering problems presented in the deployment of a space-based solar power system: the size, weight and capacity of solar collectors to absorb energy; the ability of robots to assemble solar collectors in outer space; and the cost and reliability of lifting collectors and robots into space.

Two of these problems have been substantially solved since space-solar power was originally proposed. New thin-film advances in the design of solar collectors have steadily improved, allowing for increases in the efficiency of energy conversion and decreases in size and weight. At the same time, industrial robots have been greatly improved and are now used extensively in heavy manufacturing to perform complex tasks.

In 2018, California Institute of Technology scientists completed a prototype unit for collecting and transmitting solar energy. There are three main components to the lightweight tiles: optical reflectors to concentrate the sunlight; photovoltaic cells to convert the sunlight to electricity; and integrated circuits to convert the electricity into radiofrequency energy and to transmit the wave energy through an attached antenna. At 1.5 kilograms per square meter, the lightweight tiles can be robotically assembled with others to work in concert in harvesting solar power and transmitting it to receivers on Earth.

The remaining problem is the expense of lifting equipment and materials into space. The last flights of the space shuttle cost \$20,000 per kilogram of payload to move satellites into orbit and to resupply the space station. Since the U.S. retired its space shuttle in 2011, it has primarily relied on a contract with Russia to lift its supplies and crews into orbit, at a present cost of almost \$75 million per seat on the Soyuz, for a total of more than \$3.36 billion.

SpaceX has demonstrated the ability of its Falcon rockets to lift its Dragon cargo spacecraft, and the ability to return the first stage booster to a landing pad for reuse and recycling. The Boeing Starliner is also preparing for uncrewed flight testing for certification to commencing lifting to the space station.

It has been estimated that economic viability of space solar energy would require a reduction in the payload cost to less than \$200 per kilogram. The present cost of SpaceX's Falcon 9 rocket to lift one kilogram to the space station is \$2,720 (a considerable reduction from space shuttle costs).

Although there are substantial costs associated with the development of space-solar power, it makes far more sense to invest precious public resources in the development of an efficient and reliable power supply for the future, rather than to waste tax dollars on an ineffective missile defense system, a Space Force, an ego trip to Mars, or risky loan guarantees to the nuclear power industry to continue constructing large and unsafe generators.

An agreement between California Institute of Technology and defense contractor Northrop Grumman in 2015 released up to \$17.5 million for research into space solar power innovations. The Caltech team has successfully tested their proof of concept that their modular roll out array of photovoltaic prototypes could collect and wirelessly transmit solar energy.

China is currently investing \$35 billion of its hard-currency reserves in the development of energy-efficient green technology and has become the world's leading producer of solar panels. In addition, China has aggressively moved into space by orbiting astronauts and by demonstrating a capability to destroy the satellites of other nations. Chinese scientists at the Chongqing Collaborative Innovative Research Institute of Civil-Military Integration are currently developing and testing orbital photovoltaic arrays in a massive effort to place a solar power station in orbit by 2050.

Japan has committed \$21 billion to secure space-solar energy. By 2030, the Japan Aerospace Exploration Agency plans to "put into geostationary orbit a solar-power generator that will transmit one gigawatt of energy to Earth, equivalent to the output of a large nuclear power plant." Japanese officials estimate that, ultimately, they

will be able to deliver electricity at a cost of \$0.09 per kilowatt-hour, which will be competitive with all other sources.

Only by comparison to present military spending can we envision the political will and economic ability to redirect military spending of between \$36 billion and \$3.4 trillion required to pay for a space-based solar energy system.

We can build the system, but how will we distribute and use the power?

POWERING GROUND TRANSPORTATION IN THE SPACE AGE

To force the American and foreign automobile industry to meet future transportation needs, the Interstate Highway System and most major streets and highways in America should be reconstructed in a massive five-year upgrade of the transportation infrastructure to provide a constant source of electromagnetic energy sufficient to power a standard passenger car anywhere in America at no cost to the operator.

The technology exists to design hybrid cars to operate primarily on batteries recharged by electromagnetic energy supplied by a mutual inductance interface embedded under the surface of all highways and freeways. Home charging stations can maintain a battery charge with a range of several hundred miles should the grid fail, or when traveling over local streets that have yet to be connected to the grid.

Americans should be able to travel for free throughout the United States as a benefit of self-government. Workers could get to their jobs without having to slave an hour each day just to pay for getting there. Everyone would have more money to spend on vacations, and would be able to tour the country, see the grand sights, and visit with friends and relatives along the way.

In addition to freeways for passenger cars, dedicated truckways could be constructed for the operation of battery-tractors controlling trains of individually powered, and regeneratively braked, trailers. Commercial traffic would pay a toll for the recharging of its batteries and use of the truckways.

If America initially dedicated its space solar power to energizing its national highways, the U.S. could begin to restrict the future use of its remaining fossil fuels to the manufacturing of synthetic materials and purposes other than energy. Ultimately, the entire national economy could be powered by space solar power, augmented by small modular nuclear reactors, and renewable sources of energy, such as surface solar and wind power systems.

Although there are substantial costs associated with the development of space solar power, it makes far more sense to spend the space exploration budget on developing an efficient and reliable power supply for the future, than upon stupid weapons of war.

SAFE NUCLEAR ENERGY

The world would be a far different place today had the nations of the world adhered to the agreement they signed in 1928 renouncing War as an Instrument of National Policy. World War II would not have started, as many as 100 million people would not have died, and the United States would not have invented and deployed nuclear weapons against the Japanese people.

Imagine how different history might have turned out. All the industrial nations might have peacefully developed nuclear power in a more cooperative manner reducing substantially the amount of carbon dioxide discharged into the atmosphere over the past 75 years. The earth's climatic balance would not be out of whack, and humanity would not be facing the threat of nuclear war. More telling, the use of nuclear energy to produce electrical power would not carry the stigma it presently does over the fear of misuse of its waste products by terrorists. If we had it all to do over again, what might we have done differently?

During the Cold War following World War II, the United States and its allies and the Soviet Union aggressively developed stocks of both nuclear and thermonuclear weapons deliverable by intercontinental ballistic missiles capable of destroying all human life on Earth. Humanity has lived with the threat of imminent nuclear destruction for more than a half century, and it does not appear to be any closer to eliminating war than it was almost a century ago, when it was renounced.

Postwar, and principally looking at the nuclear power policies and decisions of the United States, we find two lines of deployment decisions. From the first, the U.S. Navy developed a series of nuclear engines to power submarines, cruisers, and ultimately aircraft carriers. It settled on a modular pressurized-water reactor in which the coolant water does not boil, but it is maintained under high pressure, allowing the nuclear generated heat to transfer to steam plants which drive the ships. The reactors are completely self-contained and produce no airborne waste-products. They continue to operate throughout the lifetime of the ship, and their fuel rods do not have to be replaced. All waste is contained within the reactor and disposed of when the reactor is replaced, or the ship is decommissioned. There has never been a fatal accident in the U.S. Navy involving nuclear power.

Underwritten by Congressional legislation that imposed limits on liability, the private nuclear power industry in the United States initially constructed small nuclear-powered plants. The size and output of plants quickly increased, however, as it was believed less expensive to build and operate fewer large gigawatt facilities, than a series of smaller, modular units. Initially envisioned as operating 1,000 reactors in the United States by 2000, the first reactor to produce electricity to the U.S. grid came online in 1958. The U.S. Nuclear Regulatory Commission was established to oversee the development and deployment of domestic nuclear power.

Because its liability was capped by legislation, the nuclear power industry decided to construct and operate massive gigawatt facilities, even though they presented greater risks of an uncontrolled nuclear reaction and meltdown and the problem of storage and disposal of waste fuel rods. Thinking that these problems would be solved down the road, the large plants were built, and the expended fuel rods began to accumulate in cooling ponds at the generation sites. Fuel rods can be reprocessed into other forms of nuclear fuel, but the cost of reprocessing currently exceeds that of the initial manufacture.

Partially out of a societal fear of nuclear weapons during the Cold War, and the decisions by the power industry to construct large facilities with massive waste problems, concerted public opposition to nuclear power plants began to take shape by the 1960s and the general anti-war movement of the time. Protests about the fears of

nuclear accidents, nuclear terrorism and proliferation, the high cost of nuclear plants, and the disposal of radioactive waste products continued through the 1970s and 1980s. A dozen plants were shut down, and construction plans for new plants were scrapped, as it became less expensive and politically difficult to operate gas and coal fired facilities.

Of the original 253 nuclear plants ordered, only 132 were built, and of those only 27 percent have avoided failure for a year or more, and 34 have been permanently shut down. There are currently 98 large commercial nuclear reactors operating in the United States. They produce almost 20 percent of the U.S. total electrical generation, making the United States the world's largest producer of commercial nuclear energy.

Currently, most people (54%) in the United States oppose nuclear power and are not in favor of building new power plants. These objections primarily result from the decision to construct large, expensive, and environmentally dangerous megawatt nuclear plants, instead of the simpler, smaller, and safer modular designs adopted by the U.S. Navy.

Over the past ten years, there has been a renaissance of interest in the design and deployment of advanced small modular reactors (SMRs). Ideally, SMRs can be manufactured in a factory, with fuel rods installed, sealed, delivered to a site, installed safely below ground, and brought online with far less maintenance and refueling than required by large water reactors. These SMRs range in size up to 300 megawatts; major components can be fabricated and shipped to the much-simplified plant sites for assembly.

In addition to the generation of power, these smaller, self-contained reactors can be used for heating, desalination of water, production of hydrogen, and other industrial applications. Their durability and compactness allow them to be deployed in remote areas where there is a shortage of power generation, and their modular design allows them to be installed in series to produce increased levels of power as needed.

The current generation of SMRs is being designed with inherent and passive safety features that require a minimum of human control, allowing SMRs to be deployed in remote areas where the availability

of trained operators may be limited.

Most nuclear reactors currently use water to cool the fuel core, but new designs are considering other coolants, including liquid metal and molten salt. Other experimental designs make direct use of thermal energy, rather than water-steam, to produce electricity. Some designs include fast reactors that convert feeder uranium into plutonium that can be used as a fuel in other reactors, or it can be reprocessed and fed back into the same fast reactor.

There are an estimated 62,500 power plants operating in the world today, with coal remaining as the largest source of global power generation. The global coal capacity nearly doubled between 2000 and 2018, and it continues to grow, albeit more slowly. Overall, the number of coal-burning plants continues to fall, as the number of plants being retired increases. Although China accounted for two-thirds of new coal-fired generation capacity in 2018, it also scored the largest increase in solar and wind generation for the year. China is the top emitter of carbon dioxide; however, on a per capita basis, the United States and Canada remain the top offenders.

If humanity is to significantly reduce the amount of carbon being released into the atmosphere, it must eliminate the burning of fossil fuels in the production of electrical energy, and it must do so in the near term of less than ten years, rather than over a period of decades. There is only one way to accomplish this objective, and that is to completely replace all coal-burning plants within five years, and all other gas and oil burning plants within ten years. Accomplishing this goal will require each of the major polluting nations to identify a basic, standard SMR that can be manufactured in multiple factories and installed with the minimum amount of on-site assembly.

Although SMRs can be designed as a simpler version of any of the nuclear technologies, including water and gas cooled reactors, their small size also lends themselves to being produced as “nuclear batteries.” With the nuclear fuel preinstalled, the batteries can be designed to last for 30 to 50 years, whereupon they can be unplugged and replaced.

Thousands of SMRs will have to be quickly installed in the major industrial nations and made available at low cost to developing nations to supply their energy needs. We need to look at how the

United States was able to quickly mobilize its industry within a matter of months to commence the manufacture of the tens of thousands of aircraft, transportation vehicles, and ships required to prevail in World War II and to drive the industrial and economic recovery that followed. The crisis of today is just as great, and another economic and industrial miracle can be created, for “where there’s a will, there’s a way.”

Most large commercial nuclear plants cost more than \$7 billion to custom build on each site and generate at least a gigawatt of power, while SMRs range between 60 and 300 megawatts of power. By simplifying SMRs and mass producing them in factories, they can be assembled into series that can more safely produce the same amount of power as the gigawatt plants, at less cost, economically and environmentally.

China recently brought two large foreign-built reactors into operation. One, a power plant built by Westinghouse incorporates advanced passive safety systems and a simplified plant design, and the other is an advanced Evolutionary Power Reactor built by Framatome in France. In addition, China is on schedule to complete its own domestically designed “third-generation” “Hualong One” large power plant in 2020.

China is also constructing a SMR project to “verify the design, manufacture, construction and operation of the technology and accumulate valuable experience in small nuclear power plants.”

The United States developed an Integral Fast Reactor, which could run on nuclear waste, during the Clinton administration. For reasons yet to be satisfactorily explained, the administration stopped supporting work on the reactor, and Congress eliminated funding in 1994, three years before it was scheduled for completion. The mechanics of the fast reactor are now a part of the “new” generation of safe reactor design under current consideration.

The United States Office of Nuclear Energy is presently “supporting” the development of light water-cooled SMRs, under the licensing review of the Nuclear Regulatory Commission, for deployment in 10 to 15 years.

The immediate design, manufacture, and deployment of thousands of SMRs to replace all carbon burning electrical generation

within five to ten years is critical to human survival. There is no higher priority.

If we can imagine replacing all fossil fuel burning plants with safe plug-and-replace nuclear battery reactors, can we also imagine a world free from the fear of terrorism or militaristic use of such technology. With that new-found freedom, can we also anticipate a proliferation of ever-smaller, life-time nuclear batteries, without the limitations and dangers of chemical batteries, including lithium-ion.

SEEDING THE SUNSCREEN

Eliminating the generation of electricity by burning fossil fuels would produce the good news of reducing the amount of emitted carbon dioxide into the atmosphere, resulting in a gradual slowing of global warming; however, the bad news is that the corresponding reduction or elimination of pollution particles also emitted by coal-burning plants and gasoline-fueled automobiles would actually result in a rapid increase in global temperatures. This is because the emitted aerosols rise into the stratosphere where they act as an umbrella, reflecting sunlight and cooling the surface. Without the heavy load of existing pollution, the average temperature of the earth would be 0.5 to 1.1 degree Celsius higher. These aerosols are very short-acting, being washed out of the atmosphere by rain and other precipitation within a matter of weeks or months.

Geoengineering research has been conducted into the feasibility of injecting aerosol particles, principally precursor sulfide gases such as sulfuric acid, hydrogen sulfide, or sulfur dioxide into the lower stratosphere at around 60,000 feet. It has been estimated that a fleet of 100 specially equipped airplanes could spray sulphate particles in a sustained effort to moderate atmospheric warming over the long term. The process would have to be delicate, rather than ham-handed, inasmuch as the environmental effects are difficult to predict, and there is the risk of creating unintended extreme weather events.

Commercial jet airplanes travel under 45,000 feet; however, the combined effect of their contrails, visibly laced across the sky, has been shown to reflect sunlight and to reduce the atmospheric temperature. It is not difficult to imagine a future in which all airliners

are cooperatively equipped with a simple, computerized dispenser to release an aerosol spray in its wake as determined by atmospheric models of warming and weather conditions. Although not dispensed at the higher more-optimum height, the computer-knitted aerosol canopy might serve to reduce the increase of global warming in the near term and to moderate it in the future.

MITIGATING CLIMATE CHANGE

One of the first things that can be done immediately to mitigate the harm being done to the environment is to end the government subsidies that encourage and allow the harmful acts to continue. The United States pays more than \$20 billion each year in direct subsidies to the fossil fuel industry and another \$20 billion in agricultural subsidies. The European Union subsidizes the fossil fuel industry at €55 billion, and almost 38 percent of its annual budget goes toward supporting agriculture. Instead of subsidizing harmful behavior, those funds could be directed toward the task of removing the existing excess carbon from the atmosphere—a task that will remain to be done, even if we stop adding carbon to the problem.

Technologically, there are numerous solutions that can contribute to balancing and restoring the cooling cycle, but they all require political and social will. The science is there, and the scientists are trained and waiting, to provide the answers that are essential to survival.

THE SUSTAINABLE GROWING OF FOOD

The collective agreement to gather, store, and share food has done more, perhaps, than any other event to organize and define our human society. Think about it. Every single one of us spends a good portion of our time and money every day thinking about, obtaining, preparing, cooking, serving and eating food, as often as three times a day. We must drink water even more frequently. Such is the essence of life.

In the world of most who will read this, this daily drive to drink water and eat requires less of our time and energy than say,

the starving millions in the world who are clinging to life by their fingertips. Most of us go about our lives happily doing whatever it is that earns us a living, and we spend what we earn making the best life possible for ourselves and those who depend on us.

That necessity of having enough fresh water and food every day is essential to every single one of us, and we are all equally threatened, no matter how well off we might be. Every bit of safety could be eliminated in a flash, a nanosecond, by a cyber-attack, as collateral damage in the new electronic warfare being fought over the Internet. All the savings, retirement, and foreign accounts, documents, plans, everything gone, wiped clean, irretrievably lost, worldwide. Money becomes worthless, and nothing works. Those starving in the jungles could find themselves better off than the people in the cities.

With all the extreme weather threats already built into the warming environment, there will be scarce food to feed the existing population during the next 30 years, much less the predicted increase of another three billion in the world population by 2050. The unavoidable and unjust fact is that the scythe of starvation will first slice through those in Africa and South and Central America who contributed the least to global warming, and who are the most defenseless in avoiding their fate. One out of every nine people on Earth today is hungry and undernourished; how are we to feed more with less in the future?

The answers to that critical question is beyond the scope of this paper and resides in other minds. Whether we end up eating lab-grown food from great vats of bacteria, or we decide to collectively impose upon ourselves, a fair and equal rationing of some of the foods we've been oversold as being evidence and requirements of the good life, including beef, pork, poultry, fish, and dairy products. As the cost of these foods increases, only the wealthy will be able to afford to eat them, in the absence of a reduced, but fair distribution, that could include the banning of advertisements for the promotion and sale of meat products.

Humans evolved eating a healthy plant-based diet supplemented with occasional small portions of animal protein, and it is to that healthy diet we must surely return, if we are to continue living the best and most joyful life possible.

THE END

Have we all gone mad? Are we doomed? Are we over the hill, and on the downward slippery slope of slick lies and clueless clichés? Or, are we undergoing what every sentient being does, wherever situated, once it becomes aware of the exponentially creative power of its collective mind and cooperative potential in the universe and eternity?

Is there always this tension, a moral and intellectual struggle between the latent intolerance and violence of life, and the tolerance and peace that can only be achieved by evolving minds? No matter how successful individuals are at becoming self-aware, or how many people learn self-knowledge, the human species will never have the ability or power to fly from its Garden of Earth, without achieving a universal understanding of tolerance and undergoing an evolution of mind.

Without repeating the descriptions of horrible suffering that will surely result from the deadly threats indicted in the Extinction Papers or reliving the exciting alternative remedies in the Evolution Papers, we are left with this remaining question. How do we achieve this miraculous transformation, practically? How do we make it happen?

There is only one way. The young people living today will either endure great suffering under the most extreme climatic conditions imaginable, leading to a great die off, within their lifetimes, or, they will collectively do what must be done to reduce the threats of extinction, and to continue with the peaceful and joyful evolution of life and mind. Of course, young people cannot perform this transformation alone, and they will require the strength, knowledge, wisdom, and caring support of every one of us who will not be around to witness either the carnage, or the celebrations in 2050.

The End

Every single person, irrespective of age, inherently possesses universal Rights of Liberty, among which is the right to live under a constitutional self-government to which one consents. Young people may not have the ability to immediately overcome societal, racial, national, language, and religious intolerance—which may take a little while longer—but young people do have the social, media, and political power to immediately unite together and to peacefully transform their governments into more tolerant ones that will take better care of their people, whose consent to be governed can never be taken for granted.

Every government, no matter how despotic, relies on the appearance of democratic voting for legitimacy. The individual vote—the act of voting—the actual physical ballot cast, is the key to achieving rapid change in government. The process must be transparent, and voting must be effective, as each ballot cast is a trust that consent to govern is conditional upon political promises being kept.

The will of the People cannot be denied. The People will either prevail and obtain a government of their own choice, peacefully, by voting, or else governments will fail, violently.

njc

Long Beach, California

January 19, 2020

March 7, 2020

17. These papers on extinction and evolution were quickly drafted during the past six weeks, and this will be the last book ever written by these tired old hands. So, whether I die today, next week, or 20 years from now, the literary legacy listed in my obituary will be the same. With publication of *The Choices of Mind: Extinction or Evolution?* my books now number around a dozen, including *The Way of Righteousness: A Revealing History and Reconciliation of Judaism, Christianity, and Islam* and *The Gift of Mind Series* of little paperback books, of which *Choices* was the fifth and last.

At my age, the question of my remaining years is more than the tally of an ever-decreasing number of possibilities and probabilities, as I yearn to live long enough to see a happy and productive future unfold for our grandchildren. I am 79 years of age, and my first great-granddaughter was just born, and there is another great-grand one due in May.

Looking out through the tired eyes of this weary, worn, wrinkled, and battered old body, I remain that lonely little boy who lost his mother on this day 74 years ago, and who has searched everywhere, ever since, for the sense of it all—the meaning and purpose of life and mind—asking, always, what and why? The various collections of papers I've accumulated and published contain *what* I have learned along the way in answer to my questions, as I've also sought to ascertain the greater truth about the *why* of the various matters I encountered along the way.

I will not know whether my mind will continue beyond my physical existence until my last breath is drawn, my heart stops beating, and the neurons in my brain cease firing. The dendrites of my physiological computer will shut down, and it will then be too late to write a better or different ending.

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Following are the principal sources I consulted, as I reviewed everything I could assemble on the five deadly crises. I am, as always, indebted to these writers, and the minds and energy of the hundreds of other writers whose work has reached me over the years, as I have studied to learn the truth about matters, and have striven to remember and write it down correctly. All these contributors have my eternal gratitude, particularly Dr. James Hansen and Dr. Peter Wadhams, whose work was most inspiring and beneficial.

In addition to these written sources, I keep all three of the major search engines up on my computer screens, and I often ask questions as I'm writing, for example, how many "color revolutions" have there been? And, I get the complete list for quick inclusion in the manuscript, without, alas, a dedicated footnote to Wikipedia, here recognized as a truly amazing and trusted resource.

Generous as always with his professional time and energy, my friend and colleague, Dr. William Younglove quickly proofread and corrected the manuscript before it was formatted for printing. I am entirely responsible, however, for any errors overlooked in the rush to publish.

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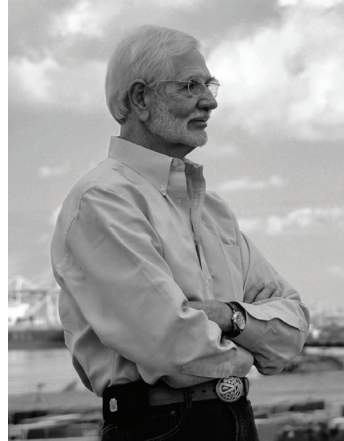
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WILLIAM JOHN COX

For more than 45 years, William John Cox has written extensively on law, politics, philosophy, and the human condition. During this time, he has vigorously pursued a career in law enforcement, public policy, and the law.

As a young police officer, Cox wrote the *Role of the Police in America* as a part of the “New Breed” movement to define and professionalize law enforcement. As an attorney, he worked for the U.S. Department of Justice to implement national criminal justice standards and goals, prosecuted cases for the Los Angeles County District Attorney’s Office, and operated a public interest law practice primarily dedicated to the defense of young people.



Cox volunteered *pro bono* services in several landmark legal cases. In 1979, he filed a class-action lawsuit on behalf of all citizens directly in the U.S. Supreme Court alleging that the government no longer represented the voters who elected it.

In 1981, representing a Jewish survivor of Auschwitz, Cox investigated and successfully sued a group of radical right-wing organizations that denied the Holocaust. He later represented a secret client and arranged the publication of almost 1,800 photographs of ancient Dead Sea Scrolls that had been suppressed for more than 40 years.

Cox concluded his legal career in 2007 as a Supervising Trial Counsel for the State Bar of California, where he prosecuted unethical lawyers and criminal gangs engaged in the illegal practice of law.

Continuing to contemplate public policy, political, and philosophical matters since his retirement, Cox has been writing books and creating Internet websites. His digital autobiography is at WilliamJohnCox.com, and *The Gift of Mind Compendium* can be found at Mindkind.info.