Also b	y Roger Ellman:					
	THE ORIGIN AND ITS MEANING					
	ON THE ORIGIN OF THE UNIVERSE AND ITS MECHANICS, THE MECHANISM AND ORIGINOF INTELLIGENCE, AND THE IMPLICATIONS FOR THE INDIVIDUAL AND SOCIETY					
	ON THE NATURE OF MATTER					
	THE ORIGIN OF THE UNIVERSE CREATED MATTER FUNDAMENTALLY WAVE IN NATURE, NOT PARTICULATE					
	THE PHILOSOPHIC PRINCIPLES OF RATIONAL BEING					
	ANALYSIS AND UNDERSTANDING OF REALITY, TRUTH, GOODNESS, JUSTICE, VIRTUE, BEAUTY, HAPPINESS, LOVE, HUMAN NATURE, SOCIETY, GOVERNMENT, EDUCATION, DETERMINISM, FREE WILL, AND DEATH					
	GRAVITICS					
	THE PHYSICS OF THE BEHAVIOR AND CONTROL OF GRAVITATION					
	THE TROUBLE WITH THE HUBBLE LAW					

AN ALTERNATIVE TREATMENT OF REDSHIFTS IS EVIDENCED BY FOUR INDEPENDENT OBSERVED COSMOLOGICAL EFFECTS

### RESOLUTION OF THE "SPOOKY" PROBLEMS OF QUANTUM MECHANICS

THE WAVE NATURE OF PARTICLES AND LIGHT RESOLVES EINSTEIN'S "SPOOKY" ENTANGLEMENT PROBLEM AND THE "WEIRDNESS" OF QUANTUM MECHANICS

HOW TO TRAVEL TO AND EXPLORE MARS OR ALPHA CENTAURI B

USE OF FUEL IS IMPRACTICAL FOR SPACE EXPLORATION. THE ONLY FUEL-FREE ACCELERATION FOR SPACE EXPLORATION IS BY CONTROLLED GRAVITATION, AND THAT IS THE ONLY MEANS FOR A FLYING VEHICLE TO EXPLORE A DISTANT PLANET AND THE ONLY MEANS OF TRAVEL TO IT.

PRIME OBJECTIVE TIME, PRIME OBJECTIVE SPACE

EINSTEIN INSISTED ON TWO UNIVERSAL PRINCIPLES:

1 – DENIAL OF A PRIME FRAME OF REFERENCE

2 - AND LIKEWISE DENIAL OF PRIMARY TIME

Neither of those denying principles is correct.

It is here shown that there is a prime frame of reference, objective space. And, it is here shown that there is one grand overall flow of time, objective time. Correcting those denials removes their adverse affects on Science and on Society

<del>\_\_\_\_</del>

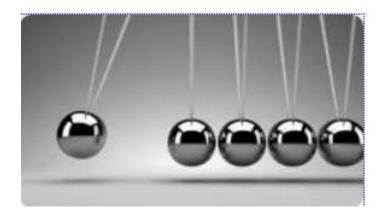
THOUGHTS IN REFLECTIONS ON LIFE

POETRY AND SCULPTURE

\_\_\_\_\_

HOW THE BRAIN PRODUCES THE MIND AND CONSCIOUSNESS

IS IT POSSIBLE FOR THE BRAIN TO UNDERSTAND ITSELF, TO EXPLAIN CONSCIOUSNESS ? YES.



## ON THE NECESSITY OF CAUSE

"Every thing has a cause; and that cause has a cause; and "ad infinitum". That is the only scientific "Law" not needing "Experiments" to establish it. But there are cases in contemporary science that fail to provide a cause.

- Einstein's gravitation contends that mass curves space but lacks a cause or mechanics for the curving of space and of space being "curveable",
  - The "spooky action at a distance" of Quantum Mechanics lacks a cause.
- The particle theory of the photon cannot withstand causal analysis. Such cases mean, because they lack dependence on causality, that their theory is in error.

### ROGER ELLMAN

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On the Necessity of Cause

#### ON THE NECESSITY OF CAUSE

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### ABOUT THE AUTHOR

The-Origin Foundation, Inc. is a non-profit organization founded to foster independent scientific, mathematical, and philosophical research.

The author of the present work, Roger Ellman is the General Director of the foundation.

Roger Ellman has published over fifty professional papers on topics ranging from physics, cosmology, and astrophysics to artificial intelligence and mathematics.

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The American Society for the Advancement of Science,

Cambridge University, United Kingdom

The Library of Alexandria, Egypt

The Russian Academy of Natural Sciences, St Petersburg

The Hungarian Academy of Sciences, Budapest

A Science Conference in Shang Hai, China

He is author of eleven books in addition to the present "On the Necessity of Cause".

His education includes graduate studies at Stanford University after graduating from West Point, the United States Military Academy.

#### PREFACE

"Every thing has a cause; and that cause has a cause; and "ad infinitum". That is the only scientific "Law" not needing "Experiments" to establish it because every day life continuously demonstrates it. But there are cases in contemporary science that violate that principle, that fail to provide a cause. For example:

- Einstein's General Theory of Relativity contends that mass curves space but the theory lacks a cause for the curving of space and of space being "curvable",
- The "spooky action at a distance" of Quantum Mechanics lacks supportive cause.
- Heisenberg's Quantum Mechanics and Uncertainty are missing sound causation.

## Those defective theories have, and have had, profound adverse effects on society as follows.

Science on the large scale, that is science dealing with the fundamentals of reality and the universe, has always had, and still has, a major effect on the non-scientific, social, general philosophic thinking of that science's society and its leaders.

From the "Enlightenment" and the "Age of Reason" through Newton and the "Clockwork Universe" through to now Einstein's relativity, Bohr's Quantum Mechanics, and Heisenberg's probabilistic uncertainty, the thinking, beliefs and behavior of society have been strongly influenced by their then current science.

So today we have a society that bases its life on the general belief in, and acceptance of, that everything is relative, indeterminate, probabilistic, that there is no absolute Truth.

The great damage that such thinking does is the license that it gives to create, choose, decide upon one's own "reality" and then act accordingly.

Such thinking ultimately gives us war, rapine, holocausts, genocide.

And, upon the science of the  $20^{\rm th}$  and 21st Centuries that gave us those ideas we can lay some of the responsibility for the horrors and tragedies of the those Centuries.