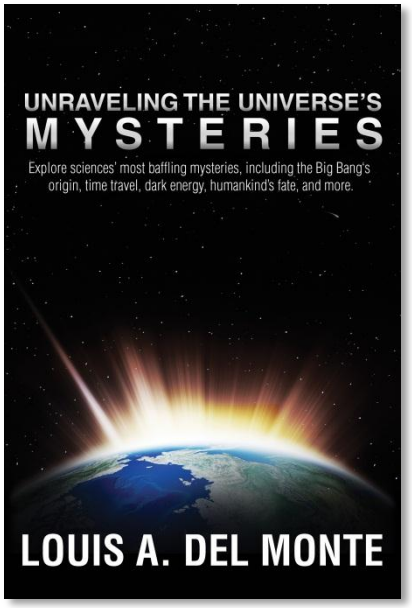
DIGITAL MEDIA KIT

FOR **LOUIS A. DEL MONTE**

Physicist Author Speaker

BOOK TITLE: *Unraveling the Universe's Mysteries*



Author: Louis A. Del Monte, Minnesota

Page count: 300

Genre: Non-Fiction, Science & Cosmology

Website: www.louisdelmonte.com

ISBN: International Standard Book Numbers

Paperback 978-0-9881718-0-0

Hardcover 978-0-9881718-2-4

eBook 978-0-9881718-1-7

Library of Congress Cataloging 9780988171800

Publisher: Louis A. Del Monte

To request a book copy, interview or additional information, call: 1-800-576-1643

PRESS KIT TABLE OF CONTENTS

ABOUT THE AUTHOR

Louis A. Del Monte

Louis A. Del Monte is an author, physicist and the Chief Executive Officer of Del Monte and Associates, Inc. For over thirty years he was a leader in the development of microelectronics for IBM and Honeywell before forming a high-tech e-marketing agency and authoring his first cosmology book, *Unraveling the Universe's Mysteries*. He has a B.S. degree in Physics and Chemistry and an M.S. degree in Physics, published numerous technical papers, and developed several patents fundamental to the fabrication of integrated circuits. Del Monte is the recipient of the H.W. Sweat Award for scientific/engineering achievement and the Lund Award for human resource management excellence.

SYNOPSYS *Unraveling the Universe's Mysteries*

Unraveling the Universe's Mysteries offers a rare glimpse into scientific mysteries that have baffled scientists over the last century. It bravely takes the reader to the edge of science where proof is scarce, and the line between physics and metaphysics blurs. Explore the latest science theories regarding:

What caused the Big Bang?

Is there a multiverse?

What role does string theory play in modern science?

Is time travel possible?

Is dark energy/dark matter real?

Are there other Earths?

Are we alone?

What ultimate fate does humankind face?

Can science prove God exists?

BOOK INDEX

Section III: Are We Alone?

REVIEWS for *Unraveling the Universe's Mysteries*

"A delightful tour of the wonders of the universe. Lou Del Monte gives a concise description of how science has labored at unraveling the universe's mysteries."

- Dr. Todd Ell, Technical Fellow, UTC Aerospace Systems

"Engaging…thought provoking examination of today's scientific mysteries. Well thought out approaches…well presented solutions."

-Brian Link, BSME, MBA
Director – Fortune 500 Aerospace Corporation

GOODREADS REVIEWS:

Indiebookzone
rated it 4 of 5 stars

Louis Del Monte's Unraveling the Universe's Mysteries is an exciting, whistle-stop tour of the Big Questions that have occupied scientists over the course of the 20th century and right up to the present day. The book opens with an examination of the Big Bang since, although it is a phenomenon widely accepted within the scientific community, there is still no consensus as to where the energy required for the actual Bang came from. Del Monte also offers a discussion of multiverse theory, a speculative theory that competes with that of the Big Bang, which is particularly interesting as it offers an alternative to one of the seeming cornerstones of scientific understanding but is far, far less well-known among the general public. Additionally, Del Monte discusses the nature of the Big Bang itself, another issue that divides scientific opinion, and summarises the various explanations that have been offered for its very occasion. He also doesn't shy away from considering what the universe was actually like prior to the Big Bang.

Of course, the nature and origin of the Big Bang is only one puzzle that exists in science and so Del Monte moves on to consider numerous other areas of current inquiry. He investigates: Where is the Missing Antimatter?; The Mysterious Dark Matter; Is Dark Energy Real or Simply a Scary Ghost Story?; The Mysterious Relationship Between Time, Existence and Energy; Is Time Travel Possible?; Time Travel Paradoxes; The Mysterious Nature of Light; The Energy Enigma; The Quantum Universe; How is the Universe Going to End?; Is There Another Earth?; Are There Advanced Aliens?; and even more. There is definitely something for everyone here.

Clearly all of the topics considered in Unraveling the Universe's Mysteries are active areas of scientific research and so Del Monte's explanations allow readers to have as up-to-date an understanding as is possible. Of course, any account based on cutting edge discovery and centred on still very active areas of scientific research will have to rely to some degree or other on

speculation and supposition, but Del Monte provides detailed analysis and verifiable authorities throughout his discussion and so his explanations are sound. He uses well established formula and sources to justify all of his reasoning and often uses real world examples in order to make the more complex issues easier to understand. Although having a scientific background would no doubt make grasping the many difficult issues discussed far more straightforward, this is by no means necessary as Del Monte's clear explanations and reasoning make Unraveling the Universe's Mysteries accessible to all.

Given the broad scope of its contents, Unraveling the Universe's Mysteries is a hugely ambitious book. Del Monte clearly has a great love of science and wishes to share this enthusiasm with readers at the same time as informing them. However, no doubt in his enthusiasm to cover as many topics of interest as possible, some sections/ideas seem a little rushed. For example, the idea of M-theory as a potential Theory of Everything is fascinating and could have justified far more discussion. Additionally, the more esoteric chapters considering the nature of extraterrestrial life, the future for mankind and the God v Science debate all felt a little hurried. The information involved was clearly presented and incredibly interesting, it just would have been great if there had been more of it. With such rich subject matter, Unraveling the Universe's Mysteries could have been a much longer book or even a series of books.

Unraveling the Universe's Mysteries is an entertaining and informative book that is bound to aid and increase readers' understanding of science. It will be interesting to see what subject(s) Louis Del Monte tackles next.

Enid Brightman
rated it 5 of 5 stars

As Louis Del Monte notes in his introduction to Unravelling the Universe's Mysteries, science is rapidly evolving and scientific knowledge doubles approximately every ten years or so. To illustrate this fact, Del Monte points to the three theories that were held to be universal truths as recently as the beginning of the 20th century:

1. Time was an absolute, independent of distance and movement of observers to an event.

2. The universe consisted of the Milky Way galaxy.

3. The universe was eternal and static.

Of course, as Del Monte goes on to explain, all three of these theories have now been proved incorrect. In order to establish just how fast-moving the world of scientific understanding is, as well as to establish the investigative approach that he will take with the rest of the book, Del Monte examines each of these "false" theories and presents the empirical evidence that proved them to be incorrect. So, for example, in the case of the first of these theories, it was Albert Einstein's theory of special relativity that proved its undoing.

As well as highlighting the fact that the 20th century was a golden age of scientific discovery, a period that yielded more breakthroughs than any previous century, the discussion of these three key scientific fallacies serves demonstrate the innumerable questions that science poses and the difficulty with reaching a "certain" conclusion. According to Del Monte, this problem gives rise to the Del Monte Paradox whereby "each significant scientific discovery results in at least one profound scientific mystery."

With this in mind, Del Monte has written Unraveling the Universe's Mysteries in order to investigate and provide insight into some of science's greatest outstanding mysteries. This could, of course, be a potentially mammoth (arguably unattainable) goal and so Del Monte wisely concentrates on three main areas of inquiry: (1) What Caused the Big Bang? (2) What Mysteries Still Baffle Modern Science? and (3) Are We Alone?

All three of these areas clearly involve complex problems and potentially hard to grasp theories and ideas, but Del Monte presents his discussion in a very readable fashion. Unusually for a hard science book, his is a first person narrative, but this fairly informal style gives the book something of a conversational tone and so makes it a pleasure rather than a chore to read his explanation of complex principles. The chapters are short and the discussion flows well, with bite-sized chunks of detailed science being provided alongside clear and authoritative explanations.

Although Unravelling the Universe's Mysteries is a book that would suit the layman, it would also inform and entertain those with some or even detailed scientific knowledge. While the information provided is straightforwardly presented and neatly explained, Del Monte covers a lot of complex ground in this book and so there is plenty of information and analysis to keep readers of all levels of scientific understanding engrossed. For example, in the second section alone Del Monte covers topics as difficult and varied as absent antimatter and the existence of dark energy, the nature of light and the truth of the quantum universe. There's also plenty of speculative science (the possibility of time travel and the related problem of paradoxes, the existence of alien life and the wisdom of making contact, etc) to keep fans of Michio Kaku's recent books entertained too!

Unravelling the Universe's Mysteries is an excellent science book that covers a huge range of material in a very accessible fashion. The work of many famous scientists - Einstein, Dirac, Plank, Heisenberg, Hawking, Turing, etc - is discussed and analysed and, where necessary, clear use of equations is made to illustrate the topic under discussion. Del Monte has done a great (and convincing) job with his analysis, occasionally including references to articles which could provide useful further information for readers, and really succeeds in highlighting the majesty of science and the still monumental numbers of mysteries that are waiting to be solved.

In the Media

Nov. 14:

Physicist Louis Del Monte Introduces New Theories to Address Perplexing Scientific Mysteries

Author Louis A. Del Monte's new book, Unraveling the Universe's Mysteries, is available on Amazon.com.

Nov. 16:

Physicist Louis Del Monte Launches YouTube Channel, Louis Del Monte

Author Louis A. Del Monte's new book, Unraveling the Universe's Mysteries, is available on Amazon.com.

Nov. 20:

Big Bang Science Mysteries Explained by Physicist, Louis A. Del Monte

Key mysteries surrounding the Big Bang science theory are discussed and explained on YouTube channel, Louis Del Monte, and in his new book Unraveling the Universe's Mysteries.

Nov. 21:

Virtual Particle Pairs Yield Clue to Origin of the Big Bang Science Theory, Claims Physicist Louis A. Del Monte

Louis A. Del Monte helps audiences understand the origin of the Big Bang science theory by first explaining the role of virtual particles on his YouTube channel, Louis Del Monte..

Nov. 27:

Physicist Louis Del Monte Introduces the Big Bang Duality Theory

Louis Del Monte YouTube channel series provides insight to new theories that explain the universe's mysteries.

Nov. 28:

Physicist Louis Del Monte's New Theory Explains Universe's Initial Inflation

Louis Del Monte YouTube channel series provides insight to new theories that explain the universe's mysteries.

Dec. 18:

Physicist Louis Del Monte's New Theory Explains Universe's Missing Antimatter

Del Monte explains one of the greatest scientific mysteries of the universe, the missing antimatter in the universe.

Dec. 21:

Physicist Louis Del Monte's Theories Capturing Wide Attention

Del Monte presents his new theories about the origin of the universe and other scientific breakthroughs

ARTICLES

What Caused The Big Bang? *(1 of 4)*

By Louis A. Del Monte

While it is widely accepted by the scientific community that the universe resulted from the Big Bang, the origin of the Big Bang remains one of modern science's greatest mysteries.

The Big Bang theory holds the universe evolved from an infinitely dense energy point that suddenly expanded 13.7 billion years ago. Significant cosmological evidence supports this theory. However, the Big Bang theory does not explain the origin of the infinitely dense energy point.

Two recently published books, available at Amazon.com, tackle the question head on. They are:

- A Universe from Nothing: Why There is Something Rather Than Nothing, (2012), by Lawrence Maxwell Krauss
- Unraveling the Universe's Mysteries, (2012), by Louis A. Del Monte

In essence, both books attribute the formation of the infinitely dense energy point to a quantum fluctuation in a super-universe. This begs two questions:

1. What is a quantum fluctuation?
2. What is a super-universe?

A quantum fluctuation is a theory in quantum mechanics that argues there are certain conditions where a point in space can experience a temporary change in energy, such as an increase in energy. When this occurs, the increase in energy can give rise to virtual particles.

A super-universe, sometimes referred to as the "Bulk" or the multiverse, is type of universe capable of giving rise to quantum fluctuations resulting in one or more universes.

The theory that a quantum fluctuation in the Bulk gave rise to the infinitely dense energy point is similar to a phenomenon we observe in a laboratory vacuum. According to the U.S. Department of Energy: Newton: Ask a Scientist, "Quantum Fluctuations," 2004, "Particles can 'pop up' out of a vacuum so long as they do not have too large a mass or do not last too long."

The significant difference between the theories forwarded in the aforementioned books is that Unraveling the Universe's Mysteries argues that the formation was not a single infinitely energy dense particle (a "singularity"), but a particle pair (a "duality"). The particle pair consists of one single infinitely energy dense particle of matter and another of antimatter. The Big Bang occurs when the particle pair collides in the Bulk and initiates the Big Bang. Hence, it is named the Big Bang Duality theory.

Numerous observations about virtual particles suggest a "duality," meaning that virtual particles appear as a matter-antimatter pair. Although, there is no scientific consensus that virtual particles always appear as a matter-antimatter pair, this view is commonly held in quantum mechanics. In addition, this creation state of virtual particles suggests energy neutrality, which maintains the conservation of energy.

The Big Bang Duality theory is compelling because it allows us to explain the almost complete absence of antimatter in the universe, a mystery that continues to baffle modern science. This mystery is unraveled in Del Monte's book and will be discussed in a future article.

The entire concept that it is possible to get something from nothing is counter intuitive. Indeed, it may sound like a new science fiction story. However, it was Paul Dirac, a British physicist and Nobel Prize Laureate, who first postulated in 1930 that empty space (a vacuum) consists of a sea of virtual electron-positron (matter-antimatter) pairs, known as the Dirac sea. This was experimentally confirmed in 1932. Modern-day physicists, familiar with the Dirac-sea theory of virtual particles, claim there is no such thing as empty space. They argue it contains virtual particles.

This is hard, if not impossible, to believe. Our entire universe came from nothing. Welcome to the edge of science, where physics and metaphysics blur.

The Reality of Time (2 of 4)

By Louis A. Del Monte

Philosophers have been pondering the nature of time for at least the last 2500 years. The key question boil down to: is time real or is it a mental construct?

We often equate time with change, such as sand flowing through an hourglass. However, imagine if there were no change. Would time still exist? To address this question, let us take an example from *Unraveling the Universe's Mysteries* (2012), by Louis A. Del Monte (available at Amazon.com). The example will be a thought experiment. We do not currently have technology that permits us to perform this example in a lab, but performing it in our minds will illustrate the point.

Consider an atom frozen at absolute zero. All motion in the atom would stop. I am aware that this thought experiment violates the laws of thermodynamics and quantum mechanics. However, please remember it is a thought experiment to illustrate point. The purpose of this thought experiment is to allow us, conceptually, to separate existence from change.

From the standpoint of the atom, there is no change. All motion has stopped. Yet, the atom continues to exist. This raises the question: what does it mean to exist? One possible scenario is to equate existence to movement in the fourth dimension. If the atom were to move in any of the typical three-dimensional spatial coordinates, the atom would have kinetic energy associated with that movement. Similarly, one could argue that an atom moving in the fourth dimension would also have kinetic energy.

In Einstein's special theory of relativity, the typical three-dimensional spatial coordinates are what we experience in everyday life, namely height, width, and length. The fourth dimension is also a spatial coordinate, but is equal to *ict,* where $i = \sqrt{-1}$, *c* is the speed of light in empty space, and *t* is time, representing the numerical order of physical events measured with clocks.

If we want to express movement in the fourth dimension, we would need to use the mathematical discipline of calculus. If we want to calculate the kinetic energy associated with that movement, we would use the relativistic equation for kinetic energy. These calculations have been performed and are documented in aforementioned book, *Unraveling the Universe's Mysteries.* For the sake of brevity, I will only present the result here. The kinetic energy associated with moving in the fourth dimension is:

$$KE_{X4} = -.3mc^2$$

Where KE_{X4} is the energy associated with an object's movement in in the fourth dimension X_4, *m* is the rest mass of an object, and *c* is the speed of light in a vacuum. I have termed this equation the Existence Equation Conjecture.

What does it mean? My interpretation is that existence requires negative energy. In fact, even for a small object like a cupcake, the negative energy would be enormous, typically about equal to an atomic bomb, only negative.

In my book, *Unraveling the Universe's Mysteries,* I used the equation to explain the physics behind time dilation. I will just briefly describe here that I compare the kinetic energy required to extend the life of a muon (a negatively charged fundamental particle about 200 times heavier than an electron) to the energy required to satisfy the Existence Equation Conjecture for that extended life. Correlation of the experimental results of accelerating a muon (i.e. adding kinetic energy to the muon) to increase its existence (known as time dilation) are within 2% predicted by the Existence Equation Conjecture.

Many of you may wonder why I added the word "Conjecture." I have only one solid data point and feel the scientific community should weigh in on the validity of the equation. Therefore, I consider it a conjecture at this point.

If the equation continues to hold up under scientific scrutiny, then we have a new insight into the nature of existence.

It is hard to believe or even imagine that the simple state of being (existence) requires negative energy. Welcome to the edge of science, where physics and metaphysics blur.

Dark Matter May Be Energy *(3 of 4)*

By Louis A. Del Monte

Ever since its discovery by Fritz Zwicky (California Institute of Technology) in 1933, scientists, philosophers, and laypeople have pondered: what is dark matter?

Let us start by delineating the nature of dark matter based on current scientific observations:

- It is not in the visible spectrum. We cannot see it. It does not absorb or emit electromagnetic radiation (i.e. light).
- It does not strongly interact with other forms of energy or matter.
- It does exhibit gravitational effects. For example, it can bend light via its gravitational effects similar to the way ordinary matter is able to bend light.
- It makes up about 95% of the matter in the universe.
- It is concentrated within galaxies and acts almost like glue holding all the stars together in a constant fixed orbit around the center of the galaxy.
- It is absent between galaxies.

The most popular theory of dark matter is that it is a slow-moving particle, which travels up to a tenth of the speed of light. Scientists call the mass associated with dark matter a "WIMP" (Weakly Interacting Massive Particle).

On the surface this would seem to be a reasonable theory, but two issues raise serious concern about the existence of the WIMP particle:

1. The Standard Model of particle physics does not predict the WIMP particle. The Standard Model is highly regarded as one of modern science's most successful theories. Since the Standard Model does not predict a WIMP particle, we have a serious basis to question whether the WIMP particle exists.

2. All experiments to detect the WIMP particle have to date been unsuccessful, including considerable effort by Stanford University, University of Minnesota, and Fermilab.

In my book, Unraveling the Universe's Mysteries, I suggest a new line of research and theoretical enquiry. I posit the theoretical understanding of dark matter lies in M-theory (the unified theory of all string theories). I am not suggesting we abandon our current research, but rather broaden it.

Consider these hypotheses.

• Dark matter is in one of the not spatial dimensions of M-theory: Since finding the WIMP particle has proved elusive, it may not reside in the typical three-dimensional space where we conduct our experiments. M-theory posits eleven dimensions. This opens up the possibility that the WIMP particle may reside in one of non-spatial dimensions predicted by M-theory.

• Dark matter is not a particle, but a quantum (discrete packet) of energy: Dark matter may not be a particle, but a quantum of energy. We know that mass and energy are equivalent from Einstein's famous mass-energy equivalence equation, E = mc2, where E is energy, m is mass, and c is the speed of light in a vacuum. This would also explain why the Standard Model does not predict the WIMP particle.

In my book, Unraveling the Universe's Mysteries, I suggest experimental methods to determine the validity of the above hypotheses.

It is hard, if not impossible, to believe that most of the mass in the universe has eluded detection and may not be mass, but energy.

Welcome to the edge of science, where physics and metaphysics blurs.

What's Causing the Expansion of the Universe to Accelerate? *(4 of 4)*

By Louis A. Del Monte

It is widely accepted throughout the scientific community that the expansion of the universe is accelerating. Scientist ascribed the expansion to new unknown cause termed "dark energy." Some scientists argue there is a fifth force, beyond the four fundamental forces—gravity, strong nuclear, weak nuclear, and electromagnetism. This new force is "repulsion," and it is causing the universe's expansion to accelerate. However, to date there is no conclusive evidence that a fifth force exists.

In my book, Unraveling the Universe's Mysteries, I present a theory that existence, which is movement in time, requires enormous negative energy. I also derived an equation, named the "Existence Equation Conjecture," which models this behavior. Due to the enormous negative energy implied by the Existence Equation Conjecture, I theorized that it is drawing the energy required for existence from the universe, namely from the space between galaxies. In effect, I hypothesized that the energy required for existence gives rise to what science terms dark energy, and it is causing the accelerated expansion of space.

This theory is speculative. However, comparing experimental data to the predictions of the Existence Equation Conjecture suggests the equation is valid. For example, in Appendix II of Unraveling the Universe's Mysteries, I demonstrate the Existence Equation Conjecture agrees with experimental data within 2%.

If movement in time (i.e. existence) requires enormous negative energy as suggested by the Existence Equation Conjecture, the energy has to come from somewhere. I suggest it may be coming from the space between galaxies. We know from laboratory experiments that vacuums contain energy. For example, vacuums can give rise to virtual particles.

Here are the answers to two questions that may be on your mind:

1. Why don't galaxies expand? I believe the answer is dark matter, a mysterious form of matter that seems to glue galaxies together.
2. Why is the expansion accelerating? We observe that the furthest galaxies are accelerating the fastest, even to the point of exceeding the speed of light. I suggest that the space between those galaxies has been losing energy the longest. Thus, they exhibit the effect of that loss the greatest.

It may be hard, if not impossible, to believe the universe's accelerated expansion may be necessary to sustain existence. Welcome to the edge of science, where physics blurs with metaphysics.

CONTACT

www.louisdelmonte.com

To request a book copy, interview or additional information, contact:

1-800-576-1643