

## Introduction

There is a wide assortment of excellent books out there if one is interested in the science of quantum mechanics or superstrings theory. What the shelves are missing are books on the science of timelessness, true even though the three most remarkable physicists of the last century, Albert Einstein, Richard Feynman, and Stephen Hawking, each concluded from their own individual accomplishments in science that the actual Universe exists apart from our sense of time. Each scientist developed their own unique way of understanding timelessness. The renowned Stephen Hawking, who holds Newton's chair at Cambridge has been the most adamant and regularly refers to another mode of time in which the Universe has no beginning or end. None of these scientists have said that time is purely an illusion. It appears more accurate to say that in the same way the permanent pages of a book tell a changing story, the past, present, and future moments of our lives all exist simultaneously in another kind of time. Today, Hawking and others call this other realm *imaginary time*, even though this other form of time should probably be considered more solidly existent and more tangibly real than our own time.

What all scientists agree on is that we have begun to enter the golden age of astronomy and cosmology. Quite suddenly we have reached a period when the most important questions physicists have asked over the past one hundred years are finally being answered by hi-tech probes and the Hubble space telescope, as they extract the needed information from distant galaxies and as they map the echo left over from the big bang. Already this golden age has produced startling revelations about our existence. For example, the Wilkinson Microwave Anisotropy Probe (WMAP) determined with unparalleled precision that the large-scale cosmos is spatially flat. The geometry of the overall cosmos shows no indication of being curved into a figure eight or any kind of closed circular volume that would allow the cosmos to be spatially limited. And so, it appears the stars and the galaxies, the physical cosmos we live in, extends outward in every direction infinitely without end.

Many scientific minded philosophers have in the past imagined the greater Universe might be timeless and infinite, as far back as Parmenides and as recent as Giordano Bruno, and many today in and out of science are convinced that quantum theory indicates an infinity of parallel worlds within the inner space of particles and energy. But this probe has in fact transported us into a very different age of learning, both for science and all of humanity. In scientifically concluding the cosmos is infinite we are no longer discussing various scenarios of how the cosmos might be, we are finally discussing and exploring one scenario of how the cosmos actually is. Consequently we are now being led toward a much deeper and very profound understanding of the cosmic big picture. However, there is one recognizable stumbling block... the second law.

The sixties was distinctly a time when people began to question and challenge established ways of seeing the world. Many recognize that movement was greatly influenced by two scientific theories that had finally gained wide acceptance, the big bang model and Darwin's theory of evolution. Both theories provided insight into how our world changes over time, and both greatly influenced the youth of that period, myself included. However, informative as both theories were, unfortunately there was no lasting change, as there was no pot of gold at the end of the rainbow. The theory of evolution and the big bang both expose details about the past, but neither revealed what the universe is evolving towards. Consequently the knowledge bestowed from these new comprehensions, although wonderfully educational, fell short of exposing any sense of deeper meaning or purpose to the evolution of the cosmos.

The reason both theories failed to provide any type of enlightenment as to what the universe and life are about, can be summed up in five words: *the second law of thermodynamics*. The most psychologically disturbing law found in science is without question the second law which claims that everything in the universe evolves from an ordered state to a more disordered state as time evolves. The second law has been written about extensively, it is one of the two most basic laws of nature, but the underlying conclusion which everyone must draw is always the same. In moving toward disorder the universe is winding down, it is dying. So the grand lesson of science has become that the long-term evolution of the cosmos has no ultimate purpose or goal. Our beautiful universe is dying. This conclusion is forced upon every person who learns the second law, and in fact the second law hangs over science and humanity like a black cloud.

It is easy to imagine how much more interested people would be in science today had we instead discovered that our universe is evolving into something meaningful, and not simply dying of disorder. Imagine instead that scientists had discovered some deep purpose to time. Imagine scientists had found the order of the universe is ever increasing, moving us steadily toward some incomprehensible perfection. We all occasionally stop and contemplate the world, and how we scientifically view the universe's future effects us on many levels. Knowing the universe has a future goal, knowing time has an innate purpose, would at least subtly influence each one of us, and eventually it would undoubtedly change humanity.

Could the second law be wrong? Actually, today the second law stands as one of the most fiercely defended laws in science. It describes the most basic way that the cosmos changes with time. Most believe it will never be overturned. Only there is one thing to consider. Something totally unexpected happened recently in science, and it is something that promises to dramatically change how we view the distant future. In the summer of 1999, NASA officials and a team of scientists in a television broadcast announced one of the most startling discoveries ever made, a discovery comparable even to when Edwin Hubble first

discovered the galaxies are expanding away from one another. NASA scientists using the Hubble space telescope had carefully verified the discovery originally made in 1998 and were ready to officially announce the findings. On NASA television a large group of scientists announced, “the expansion of the universe is presently accelerating.”

What does this discovery mean? Since the Big Bang was first discovered it was thought that all expansion was slowing down, decelerating ever since time began 13.7 billion years ago. But careful measurements of galactic distances measuring the brightness of a special type of supernova revealed distinctly that expansion is no longer in decline. After slowing for nearly eight billion years, the deceleration of expansion turned to acceleration approximately six billion years ago. Apparently there are two phases to the life of the cosmos, one where expansion slows as time moves away from the point of the big bang, and one where expansion accelerates. What are we accelerating towards? The universe is moving directly toward the opposite extreme from which time began, the state of absolute zero. What is absolute zero? Absolute zero is the timeless whole of all universes.

Science is now in an unprecedented adjustment period. Old questions must be reconsidered, such as, what is the future like? What is the final result of time? What is absolute zero? Could this acceleration change our bleak outlook of the distant future? The discovery that the expansion of the cosmos is now accelerating was not a complete surprise to me personally, as I had written three books between 1994 and 1997, all prior to the '98 discovery, in each book explaining that time is moving toward absolute zero. Although I agreed with the big bang model I departed from the conclusions of mainstream scientists who argued that time will never reach the ground state of zero.

The primordial vacuum of science, the inexplicable emptiness of eastern philosophy, the classic idea of nothingness, creation itself, cannot be found in the direction of the past. The ground state of zero exists in the direction of the future, and very plainly and evidently so, once one considers without assumptions what we know of the universe from basic physics and cosmology. We know in science that the universe is cooling and expanding toward absolute zero, not away from it. Furthermore, there is no evidence of a “creation from nothing” in our past, only increasing density and energy. Most scientists know this to be true, and yet today we continue to project nothing into our past (and reject its obvious presence in the future) based on assumptions that our existence necessarily begins in the past.

In the now famous Big Rip scenario three physicists led by Robert Caldwell mention the possibility that time ends at the “ultimate singularity”. More recently the bright and popular physicist Sean Carroll of Caltech in a presentation given to other physicists has stated “our actual universe evolves to empty space” as if this is plainly evident. What is the universe accelerating toward? The simple

answer is that, as if shot from Robin Hood, the arrow of time has turned on its rocket boosters and is flying straight at the perfect zero center of the target. We can expect it to become increasingly commonplace for scientists to openly state that time ends at a ground state of absolute zero or empty space. If we take a small step backward and look at the big picture, a final end of time at the ultimate singularity of zero derives from accelerating expansion as equally obvious as the big bang past derives from expansion. And once the goal of our universe is seen and understood, the really big picture finally starts to make sense.

The reason acknowledging the true location of zero is vitally important to science is because the void of empty space in our future isn't really empty. The zero of physics isn't a cancellation of everything. Absolute zero is the sum of everything, the sum of all universes, all possible states, and all life. Zero is Einstein's timelessness. The big bang most certainly happened, and time does begin in a highly ordered state, but the tiny Alpha singularity in our past is merely one of two special types of order in nature. Present in our future there exists another type of order; the true state of highest order, i.e., perfect balance, neutrality, unity, perfect symmetry, the great infinite whole. As impossible as something this profound seems, an ultimate state of oneness really does exist as a physically real stage in the life of our own expanding space-time, directly in the future. Our universe is literally in the process of merging together with all other universes in the greater multiverse, and this book contains the map to prove it.

In Terry Gilliam's movie *Time Bandits*, a small band of God's helpers steal a map of the Universe which allows them to travel through special portals that bridge different periods of time. Seeking gold and jewels, the bandits invade periods of history which in the movie are portrayed as different regions of a larger timeless Universe displayed on the map. Turning that story line into non-fiction, in this book we are going to sneak a peak at God's map. We are going to map the timeless realm of all possibilities (sorry, portals not included). And once we cross into this timeless realm, the panoramic view of the big picture unlocks a real magical chest of gold and jewels, in the form of ultimate knowledge about why the universe is this way.

In science today a completely new way of seeing the universe is emerging. Science tends to study the small, the constructing parts of a system, and so the direction of learning is from the bottom-up. Scientists have managed genuine miracles in discovering the tiny building blocks of the larger world. But rarely do scientists ever attempt to view the greater whole Universe from a top-down perspective. There has been one major exception to this rule in the recent past; the physicist David Bohm.

In his younger years David Bohm was a student and close friend of Albert Einstein. As a physicist Bohm made major contributions to the development of nuclear physics and quantum theory, but in his later years Bohm encountered a book written by Jiddu Krishnamurti, an eastern philosopher, and Bohm was

surprised to find there were many ideas about wholeness in this book that related to his own ideas about quantum theory. Bohm later was led to write *Wholeness and the Implicate Order*, a book in which Bohm claims that there are two kinds of order in nature.

Bohm laid a foundation but never realized the full extent of his own claim, but he was certainly correct. Still unbeknownst to the science of today, there are in fact two distinct and separate types of order in nature, rather than simply order and disorder. One order exists in extreme in our past, the other kind of order exists in extreme in our future. And so the universe isn't dying. Rather our universe is evolving away from the powerful influences of one type of order toward a more powerful other type of order in the future.

Having spent a lifetime exploring the idea of eternity and the infinite whole, and having mapped the timeless realm, I discovered profoundly that we exist caught in between two great powers. The emergence of orderliness and life, all the intricate becoming of nature, the systemization we know as the forces of nature, all result from the natural struggle between these two great powers. The theory of two orders is an entirely new science and of course anything new always sounds incredibly complex, but in fact the fifth chapter which explains the two orders is extremely straightforward and simple, it can be explained to a grade school student. The two orders could instead have been discovered in the age of philosophers, by Plato or Aristotle. But somehow it was overlooked, and consequently here we are today having trouble fitting all the pieces of the cosmic puzzle together.

It turns out that there is a very good reason the expansion of the universe is accelerating. All time in every universe moves toward the balance of a universal zero. Although it is a bit startling to clearly recognize that time has both a beginning AND an end, in discovering timelessness we also find that our single cosmos is like a story in a great book that tells an infinite number of stories. All the stories; my story, your story, exists forever. We are led finally to imagine a deeper level of reality, even from a purely scientific perspective, where all life across infinite worlds exists eternally unified within an implicate ground state of zero, forming an omniscience ever present in our own future. A bit too profound I know to be good hard science, but here comes a truly extraordinary way of seeing the Universe.