#### RECOVERING THE HUMAN STORY

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I am a practicing infectious diseases clinician that believes that understanding the modern observations of scientific cosmology are fundamental to understanding how we conduct ourselves in our daily lives as citizens of this planet. In addition, having this understanding has assisted me in caring for patients at the edge of their life and to provide compassionate and competent medical care.

Key Words: collective consciousness, cosmology, human history, living matter.

### Возвращаясь к истории человечества

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В статье мною, как практикующим медиком в области инфекционных заболеваний, выдвигается тезис, что понимание современных трудов в области научной космологии является фундаментальным для понимания того, кто мы есть в нашей повседневной жизни как жители нашей планеты. При этом, обладая вышеупомянутым пониманием, я могу оказывать более отзывчивую и компетентную медицинскую помощь пациентам на грани их жизни и смерти.

Ключевые слова: живая материя, коллективное сознание, космология, история человечества.

#### The human story

In 1988, Thomas Berry wrote in The Dream of the Earth: "It's all a question of a story. We are in trouble just now because we do not have a good story. We are in between stories. The old story, the account of the world came to be and how we fit into it is no longer effective" [Berry, 1988]. In the search to chart the anarchic and unmapped account of our existence, it is crucial to return to the beginning where all human affairs start which is to understand how things came to be [Berry, 1988]. We can achieve this by recovering our human story [Weinstein, 2007] in the cosmic stage by unveiling the journey of the universe. Learning the journey of the universe will provide us with a window onto a world of consciousness and perception that will assist us in processing and understanding of our lives, shape our emotions and instincts, energize our actions and provide us with a life purpose. Indeed, we are at a

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point in the human evolutionary account where we may consciously impact our common destiny.

## Recovering the story of the journey of the universe

Stories retain our memories and are pillars of our intergenerational cultural transfer and our relationship with nature, and of our cosmologies. Our dependence on learned behaviors acquired through storytelling may have played a central role in establishing our human uniqueness by allowing some relaxation of natural selection processes for preservation of genomic stability [Varki, Geschwind, Eichler, 2008]. In One Hundred Years of Solitude (1967) [García Marquez, 2007], Gabriel García Marquez reminds us of the importance of storytelling and the imprinting of memories into our perception of our human essence. In this tale of magic realism, a gypsy recounts the story of the Buendía family in the imaginary town of Macondo that at some time, it was infested from an insomnia plague, and as time went by, all family members lost their memory and thus lost track of their identity. The gipsy rewrites the story of the town in the book that we read by reminding the Buendía family of their genealogy and their stories. This tale illustrates how culture is directly linked to behavior as individuals and as a species in the form of memories by reiterative forms of social learning such as storytelling.

Life and the human condition emerged through an umbilical bloodstream of forces and particles that brought us into a larger cosmic community that flows in a perennial narrative. It is a tale that is colored with an intimate connectedness across time and space that does not find closure; spanning across darkness and brightness, interfacing between life and death, and transforming from past into present. To understand the shape and texture of the story of human life, we must acquire a deep appreciation of the dynamic processes that have taken place over billions of years of the evolving universe.

The testimony of the universe suggests that shapes and forces of nature follow iterative processes and cycles that have taken place trough a step-by-step choreography that began from the events that led to the inflationary period of the big bang to the origin of galaxies. These same dynamic forces are also responsible for the convoluted circuitry of blood vessels in the human body, to the roots of trees and plants, or the perfect symmetries of seashells. Living matter even in the face of great transformations archives our ancestral stories: our biological hardships, trade-offs and molecular compromises. Geological memory is proportional to time and imprinted on a molecular scale. Equally, the pulse of the universe is engraved in the behavior of matter and energy encoded in a cosmic clock that with recent observations made with the aid of the *Hubble* and *Kepler* telescopes tells the stories of the observable universe. From these findings, we can reasonably assume that events that occurred almost 14 billion years ago are as influential in the human experience as those that take place during the transition of the human embryo in the maternal micro-cosmos. Thus, the origin and makeup of humankind is woven in a continuum of patterns and rhythms of nature within a cosmic fabric made of matter, space, and time.

The forces that govern our atomic and subatomic particle machinery are the same ones responsible for the origin and evolution of the galaxies and probably the same responsible for the waves of the oceans and of the origin of human feelings. More specifically, the human existence is connected with the journey of the stars: our flesh and bones are made of the heavy elements conceived on the stardust from su-

pernovas. The activity of hydrogen ions (H+) that are crucial in the evolution of galaxies and stars also determine the structure and function of biological life. The homeostatic mechanisms of the stars involving H+ and other elements are similar to those that take place on living matter. For example, the tightly regulated acidity of bodily fluids needed to support life is a direct function of the concentration of H+. Similarly, the main source of energy for supporting every physiological process of life is provided by the synthesis of adenosine triphosphate (ATP) through the diffusion of H+ through concentration gradients across intracellular compartments. There is as much life contained in the nuclear reactions of a star as there is on the building of molecules of ATP by the flow of H+: the production and utilization of energy is the process that provides direction to life. The flux of information that determines human development dictated in deoxyribonucleic acid (DNA) is synchronized to a larger cosmic beat in a world of endless environmental and cultural renovations.

The great transformations of matter occurring in galaxies resulting on the birth and death of stars inevitably recap our ultimate fate: life and death are inherent transformations of our natural history and our story. The early phases of cleavage of the fertilized egg transforming into thousands of cells of the developing embryo simulate the expansion of the universe and the formation of billions of galaxies in a matrix of dark matter combined with dark energy directing the expansion of the universe. From conception to all phases of human development, we extract and maintain energy from the environment. We return that energy and matter contained in our cells when we die. Regardless of the depth of our graves, our destiny is certain: we are continuously eliminated and simultaneously preserved at subatomic, atomic, and molecular levels. Our sorrows, our tears, and our laughs return as flowing energies to continue a perennial journey through space and time. Death in the universe implies biological breakdown under a cycle of renovation of matter and energy: the balance is neutral on the cosmic scale.

# Why must we recuperate our human story by learning the story of the universe?

Imagine glancing through the window of the International Space Station staring at planet earth. What you will encounter is an awe-inspiring sight that reveals that we are part of a much larger explanation of evolutionary convergence of accounts told on a universal dimension. This human sense of wonder is the same that drove our ancestors quest for scenic beauty giving rise to the origin of civilization in the first place as it has been suggested by modern observations at archeological sites in Southern Turkey [Mann, 2011]. Recovering our story by developing a deep appreciation of the journey of the universe, our cosmic heritage, and of our standing in it, provides us with a life purpose. Recovering our story in this cosmic stage ameliorates our vulnerability and orchestrates the patterns of our emotions, instincts, and beliefs. Intergenerational cultural transfer of our universal story maybe the most important contribution of our collective consciousness to our children and grandchildren by introducing two guiding principles: humility and hope; and thus give the future some satisfying direction.



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