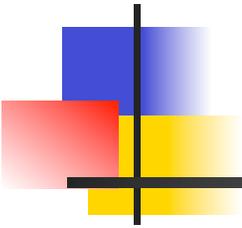


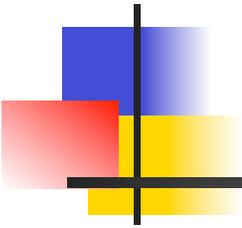
COSMIC EDUCATION

By Michael and D'Neil Duffy
AMS Conference - 2012



Cosmic Education is Maria Montessori's Main Agenda for Elementary Education

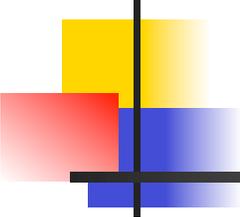
The cultural subjects of Geography,
Biology, History and the Physical
Sciences are the heart of the
Montessori curriculum –
priority over Math and Language



Cosmic Education is Maria Montessori's Main Agenda for Elementary Education

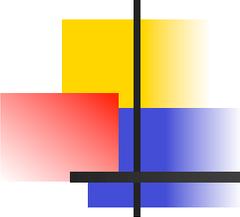
“Let us give the child a vision of the whole universe... No matter what we touch, an atom, or a cell, we cannot explain it without knowledge of the wide universe.”

Maria Montessori - *To Educate the Human Potential*



The Nature of Cosmic Education

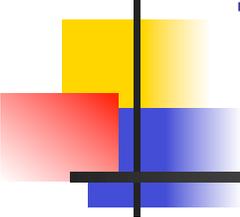
- Where do I come from?
 - ancestry / past
- Who am I?
 - identity / present
- Why am I here?
 - cosmic task / future



The Content of Cosmic Education

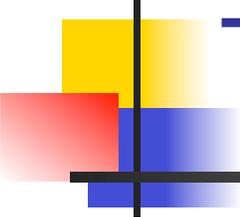
The Great Lessons

- Creation Story
- Timeline of Life
- Timeline of Humans
- History of Language
- History of Math



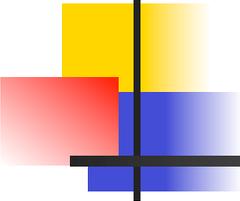
The Content of Cosmic Education

- There seems to be a big gap between the Big Bang (Creation Story) and the emergence of life on Earth (Timeline of Life)
- Room for Story of the Stars / Solar System and Story of the Earth to fill the gap
- The Timeline of Humans includes the Story of Human Emergence, the Story of Civilizations, and the Story of our Nation.



The Content of Cosmic Education

- Story of the Universe - Creation
- Story of Stars / Solar System (new)
- Story of the Earth (new)
- Story of Life - Timeline of Life
- Story of Humans - Timeline of Humans
- Story of Civilizations (ancient times)
- Story of One Nation (modern times)
- (Timeline of Language and Timeline of Math integrated into those areas of study)



The Pedagogy of Cosmic Education

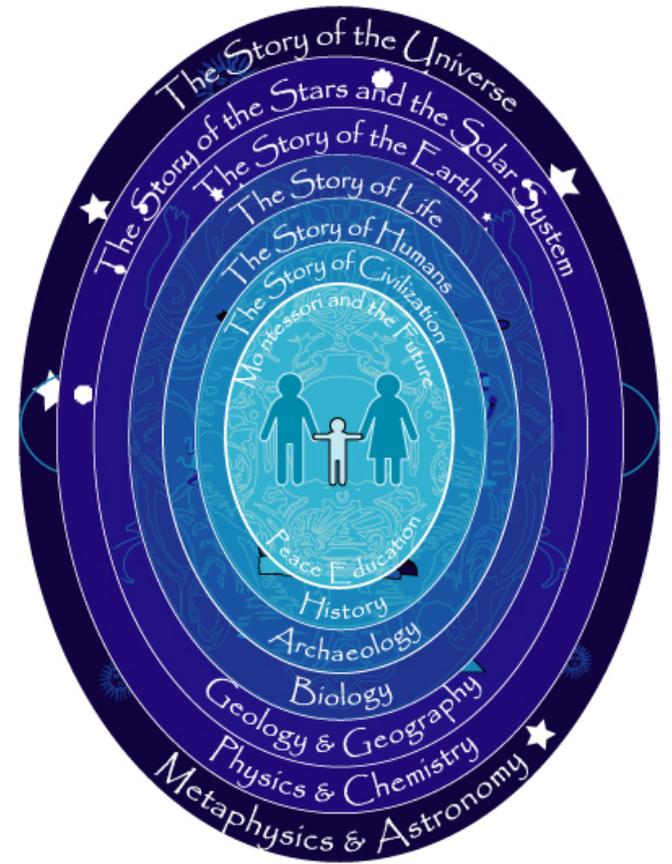
- Story – the job of the teacher
- Study – the job of the student

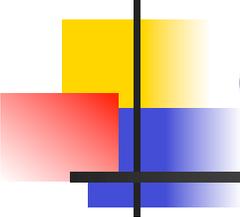
The Content of Cosmic Education

- Cosmic Education integrates Astronomy, Chemistry, Geology, Biology, and History into a single, comprehensive series of origin stories within stories

Where do I come from?

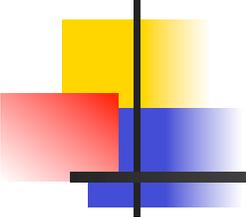
Who am I?





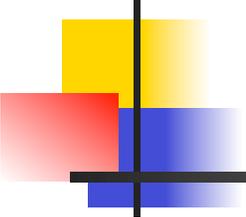
Cosmic Ed and Big History

- At the university level, Cosmic Education is called “Big History,” dealing with history from the Big Bang to Earth life



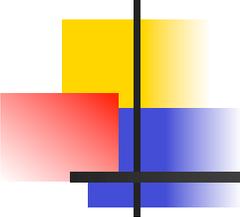
Big History

- Course taught by Professor David Christian (and an increasing number of other professors)
- 48-lecture series from The Teaching Company: “Big History: The Big Bang, Life on Earth, and the Rise of Humanity”
- Wrote book entitled “Maps of Time: An Introduction to Big History”



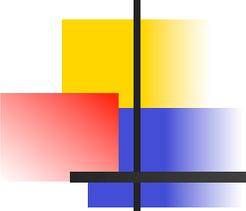
Big History

“Big history surveys the past at all possible scales, from conventional history, to the much larger scales of biology and geology, to the universal scales of cosmology. It weaves a single story, stretching from the origins of the Universe to the present day and beyond, using accounts of the past developed within scholarly disciplines that are usually studied quite separately.” - Intro to course guidebook



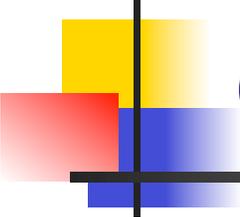
Big History

“Human history is seen as part of the history of our Earth and biosphere, and the Earth’s history, in turn, is seen as part of the history of the Universe. In this way, the different disciplines that make up this large story can be used to illuminate each other. The unified account of the past assembled in this way can help us understand our own place within the Universe.” - Intro to course guidebook



Thresholds of Big History

1. Creation of the Universe - 13 billion years ago
2. Creation of stars - 12 bya
3. Creation of chemical elements in dying stars
4. Creation of planets and Earth - 4.5 bya
5. Creation of life on Earth - 3.8 bya
6. Creation of our species - 250,000 years ago
7. Creation of agriculture - 11,000 years ago
8. Creation of the modern revolution

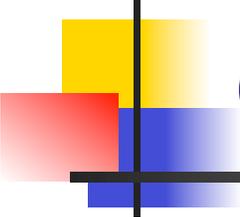


Outcomes of Cosmic Education

So what?

How does this change the
world in which we live?

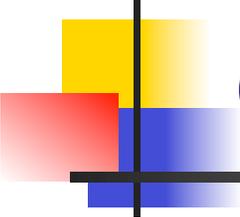
How do we answer:
“Why am I here?”



Outcomes of Cosmic Education

Maria Montessori believed that Cosmic Education produces a new kind of human being - a new stage of evolution - where we become conscious of our unity

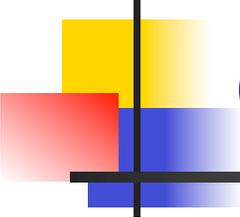
- with other humans
- with planet Earth
- with the universe



Outcomes of Cosmic Education

Peace Education

- Peace comes not from the conquest of the strong but from real harmony of peoples
- That harmony comes from the realization that we all share a common ancestry and that we are all one family
- Human unity in diversity is the point of consciousness that comes from cosmic ed



Outcomes of Cosmic Education

“True peace makes us turn our thoughts to the triumph of justice and love among men, to the building of a better world where harmony reigns.”

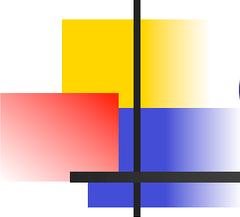
Montessori - 1932 Geneva

“Preventing conflicts is the work of politics; establishing peace is the work of education.”

Montessori - 1936 Brussels

“Education is the best weapon for peace.”

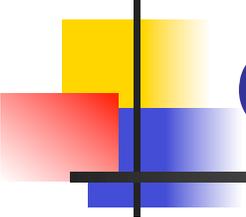
Montessori - 1937 Copenhagen



Outcomes of Cosmic Education

Ecozoic Era

- This term, coined by Swimme/Berry, is a time when humans live in unity with nature instead of exploiting it at the peril of all
- This comes from a consciousness of our shared ancestry and interdependence with the Earth - animals, plants, water, and air
- It is part of the cosmic task of humanity to become the stewards of the Earth

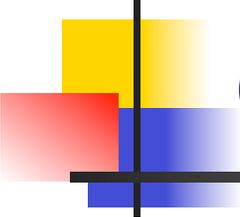


Outcomes of Cosmic Education

“Human intelligence has become almost all-powerful and today has arrived at a point where it can dominate the energies of the world and penetrate the most intimate secrets of life... instead of being a parasite, he is the one who not only enjoys the environment, but is the most active of agents who are destined to modify and perfect it.

“...Man acts as the cosmic agent who refines and perfects the creations of nature...”

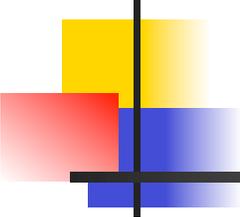
Montessori - 1946 India



Outcomes of Cosmic Education

The Omega Point

- This term, coined by Teilhard de Chardin, implies human consciousness becoming one with “The Spirit” animating the universe
- This is where Montessori education becomes a real source of spirituality not tied to any specific religion

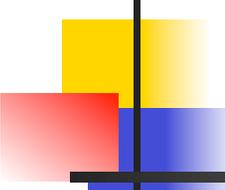


Outcomes of Cosmic Education

“The realization that the cosmos is not static, that it is still unfolding, bids us to be open to new possibilities. What is the next step in the ongoing evolution? Is it a spiritual one rather than a physical one? Are we converging toward a spiritual unity – an omega point – as Teilhard de Chardin suggested?”

“Perhaps the most significant spiritual benefit of cosmic education is that it gives both children and adults a sense of purpose in their lives – a sense of belonging to an entity much greater than themselves, in which they can play an important part. Montessori called this role a cosmic task.”

Aline Wolfe – Nurturing the Spirit



Resources to Know About

- Brian Swimme and Thomas Berry, The Universe Story (Harper, New York, 1992). (+ new book)
- David Christian, The Teaching Company “Big History” DVDs or the book Maps of Time (Berkeley: University of California Press, 2004)
- Jennifer Morgan trilogy - Born with a Bang, From Lava to Life, Mammals who Morph (Dawn Publications, 2002, 2003, 2006)
- James Lu Dunbar series – Bang!, It’s Alive (The Universe Verse Books 1 and 2 – available online)