

Understanding the Universe: The Biggest Answer to 'Who Am I?'"

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(OPENING SLIDE is black) asteroid

(SLIDE) The ancient question “Who am I?” is normally answered **(SLIDE)** by some combination of one's belief system, present condition, personal history, and ancestry. So my answer might be:

(SLIDE) I am a man, a husband, a father; I was a chemist, born in California, have done a lot of traveling; My ancestry is Irish, Welsh, English, and Cherokee.

Another person might answer less literally: **(SLIDE)** I am a child of God, a traveler among men. I seek truth. I come from a long line of seekers going back to the mists of time.

Your answer might be very different. Perhaps our answers would depend on who asked the question.

My point is that answering that big question involves everything about you, in particular your cosmology, your understanding of the world as well as your historical perspective. So the biggest answer I know of, the one that includes all answers was offered by the Kiowa Native American N. Scott Momaday **(SLIDE)** who wrote in a very, very short story: “Who are you?”, someone asks. Comes the answer, “I am the story of myself.” My interpretation of “the story of myself” is the 13.7 billion year story of myself, right up to this moment including all that has happened to me and to my ancestors – whatever has shaped me. That is who I am and that is who you are.

Now a few words on my experience over the last 20 twenty years teaching that big story, in particular what I have experienced as successful and unsuccessful.

A culture that thrives in a specific environment, say, an island somewhere, over time will have created a cosmology, including a creation story, that is consistent with that environment, an understanding that makes their experiences in that environment sensible, meaningful. **(SLIDE)** If someone from this culture visits another cultural environment, maybe another island, then it must deal with brand, new experiences and the possibility that these new experiences can't be understood, that is, made meaningful within the traveler's original cosmology. So that traveler must somehow deal with two cosmologies.

It is likely, I suspect, that our traveler would choose to maintain its original cosmology as while considering the second cosmology as inferior in some way. That is the usual approach. It is well-known and called ethnocentricity. (Adam Etinson in the NY Times (Feb 18) on ethnocentricity. Summarize?) I would say that Joseph Campbell summarized it clearly when he said, “Myth is what we call other peoples' religions.”

It might happen that our intrepid traveler decides to somehow integrate the two cosmologies into a meta-cosmology. That would certainly be a bigger cosmology. If successful, both cosmologies would then make complete sense, that is, be completely meaningful each within its own separate environment. I suppose this is what anthropologists must do or try to do. However, it is not so easy to do.

Using Thomas Berry's phrase we could say that our individual must engage in a “Great Work” in order to successfully expand its cosmology to incorporate the second culture's cosmology.

Thomas had something different in mind when he used the phrase “The Great Work”, **(SLIDE)** the title of one of his last books. He had in mind not just expanding one cosmology (historical story) to incorporate a second distinct cosmology, but to expand a given cosmology, while including the original

cosmology, to the much more inclusive cosmology consistent with our current knowledge of the dynamics of the Universe and Earth in both historical time and visible space. That is, to nest one's current cosmology within what has been named "The New Cosmology".

Of course, Thomas was speaking primarily to the western world. So the starting cosmology he was most concerned with is our current, modern, western scientifically, technologically, economically, industrially, and biblically based cosmology.

Thomas refers to this process as the development of a "functional" cosmology and that is what I wish to focus on today. Now, I must admit that I can't remember reading or hearing Thomas define what he explicitly meant by that word. But I read and heard enough of his thoughts to believe that I got his point well enough.

There are two extremes to our cosmological representations of the world: mythological and literal. By mythological I mean expressed in words and stories that do not necessarily correspond to actual events and conditions that have existed or even could exist. On the contrary the words and stories are aimed at culturally accepted patterns and beliefs and are primarily teaching, enculturation stories. A literal cosmology would be based on events, processes that are perceived to actually happen or have happened in the past. And, of course, there are mixtures of the two.

As examples we can harken back to my examples of answers to the big question. **(SLIDE) (SLIDE)**

(SLIDE) (Both a mythological and a literal cosmology can be dysfunctional or functional. A dysfunctional literal cosmology might present the Earth as flat. A functional literal cosmology would present the Earth as a globe. So a functional literal cosmology is developed from evidence that is reliable, that can be consensually tested and verified, that is reasonably independent of the human researchers and observers. This is what we would call today a scientific or reliable knowledge-based cosmology.

A dysfunctional mythological-symbolic cosmology might be one that involves witches, magic, slavery, evil beings of various sorts, etc.

An example of a functional mythological cosmology would be the Australian Aboriginal Dream Time stories. These are stories of creatures who long ago in their adventures shaped the land in certain ways. Having learned these stories the people could walk the land and never get lost as they can easily recognize the shape of the land and the corresponding stories to know where they are located. This is essential for survival in the Outback. Some Native American cultures also have such stories.

Now, I admit that my classification scheme is not very good. I am sure that many of you have already thought of exceptions to my simple system. That is OK. I know that there are lots of problems with my definitions. If we had been having this discussion several thousand years ago, it might have been easier to classify cultural cosmologies. Cultures were more separate and independent then. But in the last couple of millennia, especially the last several centuries, there has been a lot of mixing of cultures and their associated cosmologies. So I offer this scheme for discussion purposes only.

(SLIDE) Our modern, western cosmology and especially our American cosmology are real mixtures. First we have the fairly large number of folks who take literally both the Hebrew Bible and the Christian New Testament, that is, historically literally accurate. These we call creationists. They can explain everything. Then we have the scientific-technologists who don't accept any non-physical, non-

chemical, non-biological reasoning in understanding current and past Earth, Universe, or human processes, that is, scientific evolutionists. But, of course, they can't explain everything. Then we have the rather large, I suspect, number of folks who don't really care about either mode of explanation. They just try to make life as reasonable as possible.

Of course, these are not separate categories. There is some, maybe a lot of overlap. (Here is a reference to young Earth geologists: <http://www.earthmagazine.org/article/creationism-creeps-mainstream-geology>)

There is indeed a hearty mixture of mythological and literal aspects to the "American cosmology". Indeed, what is mythological and what is literal would be hotly disputed among these groups.

(SLIDE) Whether this is a single complicated cosmology or several cosmologies mashed together, the result is in any case dysfunctional. Why? How can I dismiss the whole deal as dysfunctional, especially all those scientific, evolutionists types? Because beneath it all is the very powerful and implicit assumption that the **Earth was created for us humans**. I am sure you would agree with me in the case of the creationists. But it is also true for the evolutionists, at least for most of them. Present company excluded, of course.

(SLIDE) When is the last time we asked permission of the non-human world to modify Earth, for example, to build a bridge or a housing project or a highway? Miriam MacGillis did. Explain later Sounds weird? Of course it is weird hearing with the assumption that Earth was made for humans. But it was standard procedure for many cultures for thousands of years. Actually not doing it is what is truly weird or strange or at least unusual in human history. Irish story, maybe later. (Rossport, Co. Mayo, northwest. Pub)

A corollary of that assumption is that the human is the apex of creation and therefore entitled to not only own the Earth, but to do with her what we wish. This false assumption has been raised to the level of revelation among creationists and other people of faith and at least to the level of common sense, common law among most others. So even though it is blatantly incorrect, it is very difficult to correct.

(SLIDE) At one time I thought that to correct this all we needed to do was to present the facts, the new knowledge and PRESTO all the misconceptions would disappear. We would instantly realize that since during Earth's 4.5 billion year tenure for a good three fourths of that time the only living creatures were single-celled organisms (bacteria and archaea). Multi-celled creatures have been around some 700 M years. And humans for a few million years. So we have only recently joined the community of Earth life. Obviously then we were not essential for the process.

Until very recently there is no evidence that humans were any significant historical influence in the evolution of Earth life. In fact, there is an enormous amount of evidence against it. (Please note that I consider the last 20,000 years to be recent.) The pretty well established historical facts are that around one million years ago the population of all humans was at most 55,000. There were several species around at that time, not Homo sapiens, but our direct ancestors, Homo erectus, was one of those species. Later around 70,000 years ago we, Homo sapiens, again almost went extinct when there were no more than several thousand adults. We were not even significant predators until perhaps 50,000 years ago. Until then we were primarily prey animals on the African savanna.

"Aha!", said some folks. That means that since it took 4 By to create us, we are the reason for the process. "What, I replied. Where did you get that conclusion?" "Well, we are the last to evolve." "What about the AIDS virus. It emerged only a few decades ago. Does that mean that it is the reason

for the 4 By process?" I learned that starting with the answer was one sure way to arrive at the answer.

It took me a while to realize that many folks had this assumption that humans were the reason there is an Earth in the first place, that the human adventure is central and the other living creatures as well as non-living participants like rivers, oceans, mountains, etc. are the backdrop for the human drama.

Another response that took me by surprise was by one who might be called a cognitive creationist. This is someone who believes that evolution works for the body but not the mind. The mind and/or soul comes through some other usually unspecified process different from the non-human mind.

(SLIDE) Well anyway, I learned that a literal science-based cosmology, even though quite correct and quite necessary for the future safety of Earth simply doesn't appeal to a lot of folks. Looking back I guess I should not have been surprised. After all colleges/universities have been teaching evolution for decades and it has not been well accepted in this country at least.

(SLIDE) Here is what Joseph Campbell felt should be done (slightly updated).

"I would say that all our sciences are the material that has to be mythologized. A mythology gives spiritual meaning - what one might call rather the psychological, inward meaning, of the world of nature round about us, as understood today. There's no real conflict between science and religion ... What is in conflict is the science of 2000 BC ... and the science of the 21th century AD."

(SLIDE) Campbell knew from his life's studies, indeed, his life's passion that we humans are not creatures of facts; **we are creatures of stories.** So the Great Work must involve integrating the mythological-religious experience and the objective experience. Poets do this well; but we need poetry expressly educating in what Thomas Berry called "a multivalent mode" of understanding Earth. Thomas Berry, Brian Swimme, Mary Evelyn Tucker, Miriam MacGillis, and many others have come forward in this respect over the last 30 or 40 years.

In particular I love this quote of Thomas' **(SLIDE)**

It's all a question of 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 how the world came to be and how we fit into it, is no longer effective. Yet we have not learned the new story. Our traditional story of the universe sustained us for a long period of time. It shaped our emotional attitudes, provided us with life purposes, and energized action. **(SLIDE)** It consecrated suffering and integrated knowledge. We awoke in the morning and knew where we were. We could answer the questions of our children. We could identify crime, punish transgressors. Everything was taken care of because the story was there. It did not necessarily make people good, nor did it take away the pains and stupidities of life or make for unflinching warmth in human association. It did provide a context in which life could function in a meaningful manner.

For today's discussion I might add to Thomas' quote that when "we awoke in the morning and knew where we were" we also knew who we were.

(SLIDE) So I will end with how I have chosen to present the big answer. It isn't exactly poetry. It really isn't anything like poetry. I am just not a good poet. But I have found that appreciation, thankfulness, gratefulness can elicit a receptivity, a response similar to poetry. It changes historical facts into something else, something that one can hold not only intellectually but also heartfelt. Gratitude is a very powerful entry into the mythos of creation.

To end then I will extend my first answer to the question “Who am I” by extending the story of myself to the whole story. In doing so I will give the biggest answer to the ancient question.

(SLIDE) So I am Irish, Welsh, English, and Cherokee. By that I mean that I carry the genes of these ancestors but also some aspects of their culture, those aspects that affected their health, etc. And I am grateful that those ancestors made the choices they did that I might be alive now.

(SLIDE) Some 3 million years ago Australopithecus afarensis walked the African savanna. Lucy was one of them, maybe possible our direct pre-human ancestor. In any case she walked upright. That capability was the result of the choices she and her fellow australopithecines made over the course of some millions of years. I am grateful that they made those choices even though I don't know what those choices were. In any case you and I inherited those genes. So you and I are part A. afarensis. And I am grateful.

But those choices available were dependent on Lucy's environment, the savanna. Had she-they lived in a different environment they would have made different choices and then maybe, maybe I wouldn't be standing up here talking to you. So we carry not only Lucy's genes for walking, but also the shape of the savanna. So you and I are part savanna. And I am grateful.

(SLIDE) You and I are a creatures with four limbs, tetrapods. The genes that make you a tetrapod evolved with a clever fish named Tiktaalik, who chose to live in very shallow water some 375 million years ago, presumably to avoid predation by the big hungry fish who lived in deeper water. Tiktaalik made a series of life style choices that resulted in having muscles in its fins so it could navigate the shallow muddy waters. Those muscles are in us today. So you and I are fish, lobed-fin fish to be exact. And I am grateful.

(SLIDE) And let's not forget that little juvenile Sea Squirt that some 500 million years ago who developed cartilage vertebrae. We all still carry not only that Sea Squirt's genes, we also carry that cartilage in between our bony vertebrae. So you and I are part baby Sea Squirt. And I am sure we all are grateful.

Well, you can see where I am going with this.

(SLIDE) And on and on.
The mammalian ear so I can hear.
The fish eye so I can see.
Bacterial respiration so I can breathe.
DNA so I can live.
Supernovae so we can exist.
Universe birth so all can exist.

(SLIDE) I am the story of myself, the whole Story, the Story of humanity, the Story of life, the Story of Earth, the Story of the Cosmos.

And I am grateful.

Later during discussion ask if anyone noticed that I said “it” for the cosmological traveler.
(Hernias, vas deferens loops over ureter, optical blind spot, some nerve that is poorly located.)
Ear, tooth, eye, fingers, Asteroid