For me, science is a means of answering questions coming out of curiosity or need. Real science has some kind of driving force in it and might be an individual undertaking. How babies discover the world by putting objects to their mouths and banging toys on the floor are the start of scientific research. “How could science have emerged differently?” does not tickle my curiosity nor do I need to know, but “How could science have emerged differently, in order to have solved open basic enigmas for humankind today?” would peak my curiosity and probably be felt like a need to know for society. This more narrow frame is a guiding principle for the discussion below.

The biggest enigmas we face today are probably the eternal questions of life and death, of matter and mind, of self and soul and consciousness. We have established a scientific understanding of the physical universe that seems fairly complete but we are far from able to include physical and nonphysical/mind phenomena into a common model. However, these phenomena seem to have reached a new level of maturity today. Physics, neurology and biology have all saturated to a high level of competence. We live in the age of psychology where more and more of human activity is connected to human psychology and we are in a process of understanding this realm. Different forms of meditation techniques are introduced and being put to scientific scrutiny. Meditation can also be seen as a means of probing the functionality of the mind and the consciousness. Scientific research has shown that extrasensory perception, out of body experiences, reincarnation and near death experiences probably exist as real phenomena. The “alternative” movement seems to be in a random state outside scientific interest but has a long record of experiences that deserve more scientific attention. UFO encounter reports from official archives of the USA and other nations are available. I feel that a new understanding must be there somewhere in the misty unknown. And it seems ripe to be picked, eaten and digested based on our present state of knowledge. Why has science so far fallen short on the basic questions, and could a different emergence of science have made a difference?

We know that any science necessarily has a foundation of accepted dogmas that are not proven and cannot be proven by the science itself. These dogmas represent a limiting frame for scientific research. The frame is stable until unsolved observational enigmas pile up and only a modification of the foundational dogmas is able to support a new understanding of the real world that includes a solution of the enigmas.

Our most fundamental dogma of science today is probably: “Mathematics is the language of science. Any truth in natural sciences can be expressed in mathematics”. This is not much disputed, but the strict logic of mathematics might not be valid at the edges of the physical universe. We know that energy (a single particle) might have two different states simultaneously such as shown by quantum mechanics. And Russell's paradox may lead to a breakdown of pure logic for mathematical discussions.

Another dogma for today's science is what we could call the world view, which is much disputed. Today we find many different specific world views. Attempting to simplify, we group them into three groups.

1: Atomism, more or less what is called materialism today, was established in ancient Greek and Indian philosophy. This belief entails the view that our world consists of two substances: small indivisible pieces (called atoms or elementary particles) and empty space. Materialism today asserts that thoughts and conscious impressions have no energy in themselves and are created by physical substances such as those found in the brain.

2: Mind-body dualism holds that the physical universe and the mind are two different kinds and cannot be unified into a single model. This was proposed by the philosopher René Descartes in the 17th century.

3: Pantheism assumes that all types of (physical) energy are in some way infused with a varying degree of life or consciousness.

Materialism is today the preferred world view in academia and it has been very difficult to do research using other frames of understanding because of harassment from the establishment. The result is a very poor understanding of mind, consciousness and “spiritual” issues in the natural sciences of academia. This has not always been the case. Isaac Newton lived around the year 1700 and was an alchemist as well as a mathematician and physicist. In other words: he was open to a possible influence from mind to matter. That was a fairly normal attitude at that time, but there has been a change towards believing in a purely materialistic view. One episode might have contributed to that. A German physicist Johann Karl Friedrich Zöllner wanted to explain spiritual phenomena by a fourth spatial dimension. In the late 1870s he publicly defended Henry Slade against accusations of fraud in a London trial. Slade called himself a magician and held seances performing tricks that we today see performed by illusionists. Zöllner blemished the whole physics community. As a result a unison scientific community strongly opposed spirituality as a possible explanation of inexplicable phenomena. Ever since, this has been a trademark of “scientific truth” maintained in most universities. This attitude might have been beneficial for developing the technology of the present day. But could we have missed a scientific development towards a more advanced and mind related technology? Nikola Tesla, the founder of alternating current and the electric distribution grid is known to be interested in what we could call spiritual issues. He has said that “The day science starts to research nonphysical phenomena, it will make more progress in one decade than in all the previous centuries of its existence.” Why is this ignored by science?

We might have had a new Socrates posing difficult questions to the mainstream, but poisonous ridicule and neglect would have stopped him.

Science could have emerged differently with a hairy Beatles science group where Paul and John joyfully stimulated each other's creativity with Ringo always supportive in the back, while the spirituality of George did not always fit in but came out on its own. The hypothetical scientific Beatles had no group of supporters screaming for more, so they never surfaced.

Has the academic culture come to a position where curiosity and creativity in some fields are suppressed? There is a saying that science advances death by death. Is it at all possible to change such a culture within a timeframe less than several decades?

Science has no proposal for modelling nonphysical matter that could be the energetic foundation of mind and consciousness. Will mainstream review its materialistic world view if such a model is available? Proposal for a physical model supporting mind and consciousness follows.

Newton's laws, special relativity, general relativity and quantum mechanics are accepted as they are.

String theory: The foundational assumption for string theory is that all tiniest bits of energy/matter can be modelled as vibrating strings, resembling a violin string. Each string can vibrate in several different ways, such as back and forth along the string or to the sides in different manners in three or more spatial directions/dimensions. A specific set of vibrations make a specific particle with different qualities such as possible interactions with other specific particles.

Each end of an open string must be connected to something called a brane (from membrane). A brane can be a membrane/surface, a room or an entity of any other dimensionality. Our universe is proposed to be such a 3-dimensional brane. A string particle or force can exist within a brane or have ends in two different branes. Closed strings with no free ends may cross brane boundaries and act between particles in different branes. The only known closed string is the graviton which carries the force of gravity. General relativity says that gravity acts by matter particles changing the density of empty space and in that manner influences other matter particles in all branes being around. Open string particles interact by joining ends for a short while when bumping into other particles in the same brane.

The energy of a basic string is much greater than the energy of strings making up physical particles. That is explained by strings of physical matter having quantum jitter cancelling most of the energy. Does this mean that most strings, i. e. normal

uncancelled strings, are not visible in our physical universe but could reside in other parallel universes/branes?

String theory also defines supersymmetry. For each physical matter particle there must be a supersymmetric force particle, and for each physical force particle there must be a supersymmetric matter particle. The problem is that these supersymmetric particles have never been found. Supersymmetric particles should also have something like 1000 times more energy than the physical particles.

The mathematics of string theory does not work unless there are at least nine spatial dimensions (compared to the three dimensions in our universe). An 11th dimension called (time-) dilation or coupling strength is also needed. String scientists never found the extra dimensions in our universe, so they have assumed that they are curled up and compactified to such a small size that they are not observable.

If we assume that all dimensions are open, then string theory is capable of modelling two nonphysical three-dimensional universes that are all around us parallel to our physical universe. All universes have separate spatial dimensions and they have their own separate empty spaces called vacua by physicists. The different spaces may also have different particles with e. g. different energy levels. Gravity is the only known force that can act between these universes. If there is any energy in the two universes of the mind, we should be able to measure its influence on the physical universe. Cosmologists actually have been able to measure such an influence. It is called dark matter and dark energy because no one has been able to find the source of the influence which causes some form of gravity. Measurements show that the two assumed nonphysical universes together contain 19 times more energy than we have in the physical universe. Is this an indication that mind technology can be extremely powerful?

What could really be the dilation dimension mentioned above? We know that the speed of time can be observed very differently at particular moments. In cases of very strong concentration such as in a car crash, some persons have experienced that the scope of view is very narrow and the world is experienced in slow motion. In this case, the experienced speed of time is very slow. On the other hand, during long meditations some experience that the scope of view is expanded inwards. The mind is very open (“deepened”) so that spontaneous activity can float freely and sometimes be very still. This is the opposite of concentration. When meditation is finished, the time lap experienced during meditation can be much shorter than you would experience in a normal wake state. Several hours or days can be experienced as some few minutes. Experienced speed of time has been much faster than normal. Speed of time or scope of view could actually be a separate dimension of a cosmos that includes both matter, mind and consciousness.

Matter multiplied by force multiplied by distance makes energy. All three branes mentioned above have the qualities to contain energy in this respect. We also know that the physical universe is expanding faster and faster. The mind universes are also probably doing the same. If we go back in time to the Big Bang, we know that energy cannot appear or disappear, only change form. So what could have happened in the Big Bang? Super symmetric particles and their vacua could have separated from energy particles in an energy space because of the eternal expansion and temperature decrease. This is called phase shift in chemistry such as when water changes to ice. The Big Bang could actually be a cosmic phase shift from a single form of pure energy to matter and mind.

So where is consciousness in this scenario? I would prefer that we define it as not part of the mind. We are able to observe thoughts, emotions and memories that are part of the mind. The observer must necessarily be different from the observed. I would also prefer to combine the one who acts with the observer and call it the innermost me, me the life, or consciousness.

Luigi Fantappiè was a well known Italian mathematician. In the 1930s he was aware that quantum mechanics showed that negative energy could be part of the real world and that the most influential physicists discarded that as a possibility since negative matter never had been observed. Fantappiè started to explore the qualities of negative energy and found it to have the same qualities as “life”. Any process using negative energy should have negative entropy, i. e. make order. Any process using negative energy should have a cause in the future. Everything we do has a goal or a cause which is in the future. If the negative energy is in a universe parallel to the universe where the process is applied then we need no negative matter for the mathematics to be correct. If consciousness is based on negative energy which is found in a fourth parallel universe, then quantum mechanics is satisfied and consciousness is well defined for natural sciences. All forms of life, minerals etc are examples of processes having negative entropy making order out of arbitrary mixed forms of physical energy. According to string theory there might be an open string with one end in the consciousness brane and the other end in one of the branes carrying positive energy. We could call that force “identification”. We are identified with our thoughts, emotions and physical body while “we” are really something else. The quality of life could be attached to all kinds of physical and mental matter/energy.

A physical entity such as an animal could actually consist of a physical body, a dark matter body and a dark energy body that are interconnected by forces like gravity. This complex body could be controlled by a small piece of the cosmic consciousness. Our attention can be able to wander between our three bodies and the three different universes such as during wake, sleep and deep sleep. Each part body could have sensors and acting organs for use in its specific universe. Spiritual development could

increase our ability to observe and act with the different bodies as our consciousness incorporates more and more of the total cosmic consciousness.

This world view can be called an extended materialistic world view and it supports both dualism and panpsychism.

Experience from meditation can support this world view. Many experienced meditators are aware that we may have three types of thoughts that come and go during meditation. Rational thinking like in a wake state. Magico metaphysical thinking like in dreams, and intuitive thinking also called nonphenomenal thinking like in deep sleep. Mediation widens the scope of view inwards so that we get in better contact with our nonphysical bodies and their sensors. We are not normally capable of observing nonphenomenal thoughts when being self conscious. But intuitive thinking is the source we use when “being in flow”. It is the source of artistic creativity. Intuitive thoughts resemble quantum waves that can be expressed in many ways and collapse to a certain expression when we give it form in the physical universe. Consciousness with a specific personality and a specific culture and a specific physical environment decide the actual expression of the nonphenomenal entity onto the physical universe.

The discussion above makes a sketch of a model that could have been established if science had emerged differently. Is academia willing to break its frame of scientific research and take natural sciences to the next level?