

Science & Theology :

Are they at Cross - Purposes?

1. Creation :

The opening verse of the Bible reads : "In the beginning God created the heaven and earth. Now the earth was a formless void, there was *darkness* over the deep, (and God's spirit hovered over the water)" (Gen 1:1). And today the scientists are convinced that the Universe we live in is not only dark and empty but it is also cold. In answering the question why the sky is dark at night in spite of millions of stars, the scientists suggest that the energy of the light from the stars is absorbed by interstellar *empty space* and that is why the stars look fainter and fainter as viewed from here on earth. And though the temperature of a star is about 5,000 K ($^{\circ}\text{K} = ^{\circ}\text{C} + 273$), the temperature of interstellar space is only a few K (i.e. very close to $- 273^{\circ}\text{C}$). So the question arises are theology and science at cross purposes?

Again we read in the Bible : "Thus heaven and earth were *completed* with all their array. On the seventh day God completed the work he had been doing" (Gen 2:1f). Today the cosmologists and astronomers are of the view that there was indeed a creation, nearly eighteen billion years ago, when the universe we live in was born in an awesome explosion popularly known as the '*big bang*'. From radio-activity studies the earth is dated to about 4.5 billion years. From the fossil records the existence of developed life can be traced back to at least 3.5 billion years. The fact is that cosmic evolution both at the micro level and the macro level continues even today. But all this, in Biblical terminology and time-sense, took place within seven days! Now are not theology and science at cross purposes?

The words of Genesis read, "Yahweh God fashioned man out of dust from the soil. Then he breathed into his nostrils

a breath of life, and thus man became a living being" (Gen 2:7). Is this the scientific view of evolution, i.e. first there came into existence inanimate matter (heaven, earth, light - on the first day of creation) followed by the medium essential for the origin and existence of life, viz. water (on the second day), then life appeared, starting from vegetation (on the third day), evolving into *'every kind of living creature'* (on the fifth day) and finally ending up in human beings having intelligence and soul (on the sixth and final day of creation)? Doesn't theology here resonate with science?

2. Today's Reality :

Let us now turn to our day-to-day life! On the one hand we know and believe that God is the author and master of life. But on the other hand we see the growing demand for one's right to live and die with dignity. Dr. Koverkian is a physician in the USA who has assisted many to commit suicide especially those who suffer from Alzheimer's disease. And there is more and more support for legalizing euthanasia in many countries! The Church proclaims that God created human beings in His *'own image'* and after His *'likeness'* (Gen 1:26). But we now live in an age of test tube-babies, sperm bank, genetic engineering, plastic surgery, organ transplant etc. where a human being can be *'manufactured'* to the need of time and *'tailored'* to the prescription! Very often miracles (even those related to Jesus) seem to clash with science. For example, consider Jesus walking on the water (Jn 6:19). In faith we believe it but scientifically the law of gravity is here violated. Walking on water, according to physics, is impossible since if gravity fails in one part of the universe, it adversely affects the rest of the universe. So, scientifically what is very difficult does not exist or cannot take place. But theologically what cannot be understood in terms of known natural laws is a miracle and it is the prerogative of God. Very often religious people do not want their religion to be shaken by

science, just as the scientists do not want their science to be shaken by religious faiths.

3. Apparent Polarization :

Superficially there seems to be an apparent polarization between theology and science and they seem to come across to us as diametrically opposed: theology is the gift of the East to the West (eg. Buddhism, Hinduism, Judaism, Christianity, Islam-all from the East) while science is the gift of the West to the East (the significant scientists-Darwin, Newton, Einstein are from the West). Theology is experiential (internal realization leading to external action) but science is experimental (external observation leading one to internal understanding). Theology is a localization (in the sense of contextualization-e.g. theology of the developing nations may not be the same as theology of the industrialized nations) whereas science is a universalization with universal laws that holds good in all frames of references. And so theology is a pluriformity (finding unity in diversity) but science is a uniformity (seeking for the unification theory). It is permissible to speak of 'my religion', yet it is odd to speak of 'my science'! Thus theology is subjective ('I-Conscience-God' trio leading to ethics) and science is purely objective. In other words, theology is heart oriented (affective) but science is mind oriented (effective). This would imply that theology is personal and firsthand information (with respect to origin, meaning, purpose of life, death, eternal life, love of God and of neighbour, etc) while science is very impersonal and secondhand (eg. knowledge about heart attack, danger of cholesterol, microparticles in an atom, etc). In short theology is about absolute knowledge (mytery of God and eternity) while science is relative and approximate (knowledge of here and now).

Basically the difference between theology and science lies in the approach - a theologian and a scientist approach the question of existence differently: Science is based on

careful observation of events and experiments conducted; then on the construction of suitable and self-consistent theories. But there is a possibility to adopt a new approach based on different experiences, since no amount of positive observation can prove a theory but a single negative observation can destroy it (eg. Copernican astronomy giving way to Newton's absolute space-time, only to be challenged by Einstein's relativity, and now quantum mechanics' indeterminism reigning supreme). But Religion is founded on divine revelation and traditionally received wisdom and hence the true believer has no choice but to stand by his faith whatever the apparent evidence against it (e.g. the paradigm : Jesus Christ is fully human, fully divine; the Trinity as three persons in one God, etc). Creeds are not provisional as scientific theories sometimes are, but more like once-for-all-settled operational assumptions.

4. Contradiction vs Complement :

But the contradictions between theology and science are only complementary! : the common factor between religion/theology and science is the *search for truth*. Theologians are searching for the truth in the 'dark of the inner cave' as Teilhard de Chardin would put it and call it '*theologizing*'. And the scientists look to natural laws which explain the ultimate reality as *the TRUTH*. Science *has* a way of truth whereas religion *is* a way of truth. But the irony is that both theologians and scientists are often not sure whether they have obtained what they have been looking for, since reality is paradoxical. The reality of God, after so many centuries of search and meditation, is described as '*neti, neti*' (not this, not that). Mystics have spoken to us through the ages in terms of paradox (eg., John of the Cross). And the reality of the atom is described in similar words by J. R. Oppenheimer :

"If we ask, for instance, whether the position of the electron in an atom remains the same, we must say

'no' ; if we ask whether the electron's position changes with time, we must say 'no' ; if we ask whether the electron is at rest, we must say 'no' ; if we ask whether it is in motion, we must say 'no' ''.

This is the so-called 'uncertainty' principle. One cannot measure accurately the position and momentum of an electron simultaneously. And this uncertainty principle seems to echo the words of the Upanishads :

"It moves.

It moves not.

It is far, and it is near.

It is within all this, and it is outside of all this''.

Newton, the father of modern physics, once said, referring to his contribution to science: I am like a child collecting pebbles along the sea shore. Both physicists/scientists and mystics/theologians realize the resulting impossibility of fully explaining any phenomenon of reality and truth, but then they take different attitudes. Physicists are satisfied with an approximate understanding of nature. The mystics, on the other hand, are not interested in approximate or 'relative' knowledge. They are concerned with 'absolute' knowledge involving an understanding of the totality and transcendence of life.

Physicists have come to see that all their theories of natural phenomena, including the "physical laws" they describe, are creations of the human mind; description of our conceptual understanding of reality, rather than of reality itself. This conceptual scheme is necessarily limited and approximate, as are all the scientific theories and 'laws of nature' it contains. For example, even the quantum theory cannot explain the value used for the mass of the electron, nor can the field theory determine the magnitude of the electron's charge. So ultimately it comes to:

“Man (woman) follows the laws of earth;
Earth follows the laws of heaven;
Heaven follows the laws of Tao (Taoism-
i.e., any principle of God);
Tao follows the laws of its intrinsic nature
(which is not known externally)”.

This is put across poetically in different words by William Blake as :

“To see a world in a grain of sand
And a heaven in a wild flower;
Hold infinity in the palm of your hand
And eternity in an hour”.

5. Reality-Probability :

The opposition between science and theology is often a struggle to clarify to what extent causal explanations are compatible with real meaning and actual reality. Neither science nor religion arrives at certainties. They at best predict probabilities; but religion is looser than science and often can predict only a range of possibilities. While religion is fully operational, for religion has its own value system which permits the translation of principles into conduct, any scientific system is parasitic on some value system before it can become operational in life. At the same time when one looks from the vantage point of sophisticated scientific skepticism at the phenomenon of belief in God one is not much impressed. We see dogmatism, we suffer from wars in the name of religion, inquisitions, religious fundamentalism and persecutions. We see hypocrisy: people professing brotherhood but killing their fellow human beings in the name of faith, filling their pockets at the expense of others, and practicing all manner of brutality. We see a bewildering multiplicity of rituals and images without consensus. We see ignorance, superstition, rigidity of dogmas. The track record for belief in God looks pretty poor!

Is it possible, then, to find a meeting ground between science and religion? When we are able to say theologically that "a human is both mortal and eternal at the same time" and when we say scientifically "light is both a wave and a particle at the same time," we have begun to speak a common language. After all, both theology and science are busy with the future, trying to bring the absolute into the relative! In other words the reality is the same but attitude of observation and understanding are different between the scientist and the theologian.

This is possible when we accept that science is a kind of religion, since theology is a science and science is a religion in itself. In fact, science is the religion of skepticism. But it is the scientific attitude that enables us to transform our personal experience of the microcosm into a social experience of the macrocosm. Science as a religion represents an intrinsic improvement, an evolutionary leap, over a number of other world views—in this sense it has an international character. We speak of the worldwide scientific community. And it is beginning to approach a true community, to come considerably closer than the Catholic Church, so to say, to foster a true international brotherhood. Scientists of all lands are able, far better than most theologians, to talk to each other (Theologians of the West do not understand the theologians of the East)! To some extent the scientists have been successful in transcending the microcosm of their culture.

In mysticism, the universal interwovenness always includes the human observer and his or her consciousness, and this is also true in science, eg., in atomic physics. At the atomic level, 'objects' can only be understood in terms of the interactions between the process of preparation and measurement. The end of this chain of processes lies always in the consciousness of the human observer. Measurements are interactions which create 'sensations' in our consciousness - for example, the visual sensation of a flash

subject of our science and theologizing? (More than 130 wars have broken out in the Third World since the Second World War : the Third World provides the corpses ; the First World provides the weapons!). The Church as an institution is becoming a "service-station" rendering social service to the people - how much are we equipped to make this Church more relevant and meaningful today? What is the future of our theological reflections : ideal, or plausible, or likely? *'Ideal'* means a utopia where creative imagination finds alternatives ; *'plausible'* indicates reflections proposed and manipulated by experts having ready-made solutions for every possible problem ; and *'likely'* implies everything goes on as before, holding fast to consumerism, looking more to quantity than to quality. Do our contextualization and theologizing belong to any of the above-mentioned categories or to something totally unique or different? What are the characteristics of our society we live in? In the beginning there were the Pauline communities centered on freedom, Johannine communities centered on love, Petrine communities centered on authority. Today what is our local Christian community centered on? In this context we, as priests and religious, are called to the task of animation! Every local Church should take new but relevant theological and pastoral initiatives, develop new aspects such as incorporating new social, scientific advancements for the good of all, gather new experiences, and thus grow in the Spirit of Jesus. Day in and day out there echoes out the voice, "let my people go ." (Ex 5:11). And it is a daily challenge to us to respond to that voice as the animators of the Church in the case of the marginalized especially the poor and the Dalits and the unfortunates. So here the theologians have to concretely lay down the problem in society, eg. need of liberation, and the scientists have to work on achieving this goal of equality of all through making the universe a pleasant and fertile place to live in giving due care and respect to the environment.

8. East-West Exchange :

Though religions were born in the East, theologically ecclesiology has been elaborated in the West from a number of different perspectives : kerygmatic (Rudolf Bultmann); eucharistic (Jerome Hamer); ecumenical (Yves Congar); sacramental (Otto Semmelroth, Karl Rahner, Joseph Ratzinger); pneumatic (Hans Kueng, H. Muehlen). Now what is our contextualized ecclesiology and what contribution can we make scientifically for the betterment of human life in our society? In the same way though science originated in the West, we in the East, can contribute positively in the area of environmental science for the good of the world. One possibility is to harness naturally available energy, eg. solar energy, for the good of the people. There is sun in our land the whole year round and we can easily make use of the solar energy. This is an ideal way that the scientists too come to work for the common good of the people. Thus both theology and science can be complementary at the service of human beings in making life worth living on this planet and preparing, at the same time, for the time to say, "Come Lord Jesus" (Rev 22:20) at the end of this space-time sojourn.

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Books liberally used in the article :

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