

A lecture delivered in memory of Professor Charles Birch.

## *Science and Theology- both need new wine in new wine skins*

### **1. Introduction.-Charles Birch background**

### **2. Ever changing understanding of science and theology**

To help set a framework for our thinking on the nature of the interaction between Science and Theology I want to list four important challenges (Cauthen (2000)) arising from science that called orthodox theology into question and brought about a major revision of Christian thought.

- The first challenge was that the success of scientific method called into question truth claims based on supernatural revelation and tradition. Science has provided the modern world its most reliable standard of knowledge. Science is the dominant paradigm of truth about the world. Along with this there was in many quarters a loss of confidence in speculative reason under the influence of philosophers like David Hume and Immanuel Kant. In the minds of many they demolished the traditional arguments for the existence of God. This took place in the context of the Enlightenment, which urged people to think for themselves. It called into question all ancient traditions, superstitions, and any claims about reality that could not stand the test of enlightened reason. If we will use our reason to understand nature and history, we can make material and moral progress as we move toward an ultimate perfection of life on earth. Science was based on evidence we could test. It solved one problem after another. It worked. It was creating a picture of the world and of human beings that was so convincing to so many that it gradually weakened other ways of knowing or pushed them aside.
- The second challenge was that science undermined biblical cosmology. The Bible had provided Christian Europe its basic story of the origin of the cosmos and the structure of the natural world for 1500 hundred years. Between 1500-1900 of the Christian era, this understanding was demolished. The biblical picture was that of a three-story universe with the earth in the middle, heaven above, and hell below. This world came into being a few thousand years ago with all the species of plant and animal life reproducing after their kind. Adam and Eve were real people living in a garden that could roughly be located on a map. A series of discoveries from Copernicus to Darwin demonstrated that picture of the universe and of human origins to be in error. In 1859 the world was shaken by the claim that present species of life have evolved over a long period of time by natural selection to produce the forms of life that now inhabit the earth. The most disturbing feature of this theory was that human beings did not descend from Adam and Eve a

few thousand years ago but evolved from earlier species that could be traced back to the first beginnings of life on earth far in the distant past. The Christian world was deeply disturbed. A few came pretty quickly to the conclusion that Darwin was right. They saw that there was no point in trying to resist. Others were upset and simply refused to believe it. They insisted that the Bible not science gave us the true picture.

This, then, is the second impact of science. It undermined the biblical picture of the physical and biological world. The controversy raised by Darwin goes on today. Liberal Christians accept evolution and revise their view of the Bible and of the world accordingly. Fundamentalists still insist that Darwin was wrong and the Bible is right. Some want creationism taught in the public schools along with evolution.

- The third challenge was the fact that the scientific picture of a law-abiding world called into question the reality of miracle and the supernatural. Science pictures nature as a dynamic, causal network, self-contained and self-explanatory. There biophysical world is seen to behave in ways that law of science can describe and predict. Events occur in a law-abiding fashion. In this view miracles are suspect. The Bible is full of miracles.

Could Christians live everyday in a world that abided by the laws of nature and then go to church on Sunday and believe in miracles that violated them?

- The fourth challenge was that the picture of nature as a self-contained causal system called into question the need for a supernatural creator or for any reference to divine purpose. From the 17th century beginnings until the 20th century revolutions in physical science, the natural order had been described by science in mechanistic, deterministic, materialist terms. Nature consists of bits of material stuff - matter - organized into a machine that operates in accordance with inexorable laws. The natural order is at best a neutral and at worst a meaningless process. There are causes but no reasons or purposes in nature.

In nature there is no freedom, no meaning, or value.

This is the most powerful and daunting challenge of all. Science seemed to imply a universe that needed no God to create it.

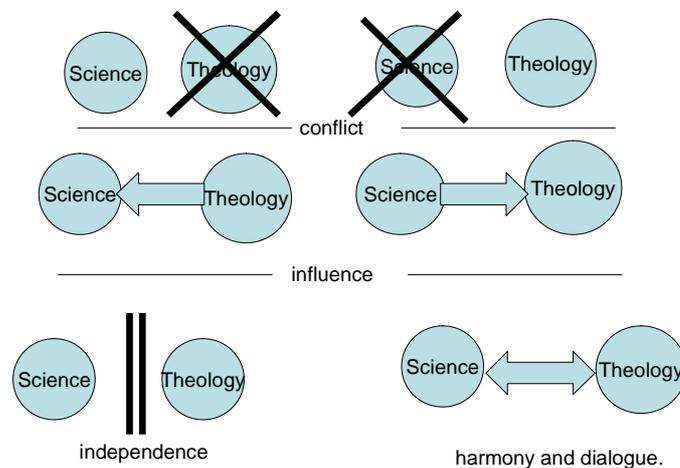
It was a machine that required no explanation beyond itself. This machine did just what it did do, not knowing or caring what it did or having any purpose in doing it .

In 1903 Bertrand Russell offered the most extreme summary of this outlook by saying that the world science presents for our belief is meaningless and void of purpose, an accidental collocation of atoms.

For over 300 years this mechanistic view was the view held by science and still many scientists hold the view that nature is full of causes but exemplifies no purpose.

### 3. Science and Theological responses: where have we got to?

Following the framework from Kenneth Cauthen's paper I have used a lot of short hand to draw out the issue as quickly as possible. Now let us consider the response of theology to these challenges. Historically there have been many ways in which scientists and theologians have construed the relationship between science and theology. The most common approach is to describe them as: conflict, independence, harmony and dialogue. Steven Bishop provides a diagram which I found helpful in considering where we are or where we have travelled with the interaction between science and theology.



Following Steven Bishop (2000)

#### **Conflict:**

This theological response says the literal interpretation of the Bible must be upheld about everything, and that if science says something different, science must be rejected. This theology holds the view that the Bible is inerrant, without error. It tells the truth about everything it mentions. It is right about nature, the universe, the origin of human beings, the reproduction of species, and so on. All of its historical claims are true. The miracle stories happened just the way the Bible says. There is to be no compromise of biblical truth. The Bible is the Word of God in a full, complete, total manner and in all respects. True science is in harmony with the Bible. Whatever contradicts the Bible is bad science.

#### **Independence**

This theology says that science and the Bible are both right within their own legitimate spheres of thought, but they deal with different aspects of reality. Therefore, there need not be any conflict between science and theology. They deal with two distinctly different aspects of reality. Perhaps the most

commonly held view amongst scientists is that science and faith are distinct independent non-interacting realms. It is this view that has enabled the 'uneasy truce' between science and religion to hold.

Science is about material reality and the operation of a mechanistic universe which is the outcomes of the natural order is at best a neutral and at worst a meaningless process.

Theology is about meaning, purpose and value.

The theological response here is that science is not to be contested on its own terms. If the scientific evidence shows conclusively that evolution occurred in the way that present-day science says it did, and then it must be accepted.

Theology must simply come to terms with it. The basic way of doing that is to distinguish between the realms that science and theology deal with. The discourse requires that there is agreement and ability to distinguish between two spheres of knowledge about reality.

This approach is deeply influenced by the philosophy of Immanuel Kant.

Kant distinguished between the realm of fact that science deals with and the realm of value purpose and ultimately meaning that is the realm of theology.

Many theologians in the 19th and 20th centuries have taken their clues from Kant. Karl Barth, Emil Brunner, Rudolf Bultmann, and H. Richard Niebuhr fall into this camp( Cauthen (2000)). Existential theology under the joint influence of Kant and Kierkegaard takes this approach .

The world, then, is one order of activities that human beings deal with in two different ways. On the one hand, we have the realm of fact, law, cause, and determinism. On the other hand, we have the realm of value, meaning, purpose, and freedom.

Science neither contradicts nor supports theology. It has its own methods and its own subject matter.

The same is true of theology. It cannot call into question the findings of science, but it can accept them whatever they are and then go on to make its own claims based on Scripture, tradition, reason, and experience.

It is important to recognize that this view holds that it does not matter to faith what science says about the nature of the world. In the 19th century and on into the early 20th the prevailing scientific cosmology was materialistic, mechanistic, and materialistic. Nature is a realm without freedom, meaning, and value. If 20th century science after relativity, quantum mechanics, indeterminacy, and the like no longer implies this particular world-view, then it does not matter much. Faith does not look to science for its foundations, and it is not threatened by anything that science could possibly say. Hence, theology can be basically indifferent to any and all cosmologies that implied by the scientific account of nature and the world of observable objects. Faith has to do with the decisions and commitments of selves in quest of meaning and purpose as moral personalities. The two realms may converse with each other, but neither can undermine or support the other.

### **Influence, dialogue and harmony**

The problem with the independence approach is that it largely accepts that science is neutral with regard to religious beliefs. Recent philosophers of science have all but reached a consensus on this point: the epistemological objectivity of science is a myth.

Science is a human cultural activity. Consequently, it is tainted, as is all human activity, with the cultural-religious presuppositions of the scientist (i.e. her worldview). Hanson has shown that observation, a foundation of science, is theory-dependent. Theories are also worldview-dependent. Scientist cannot escape their culture; science is not done in a vacuum. We cannot divorce science from worldview. Worldviews in turn are inherently theological; they are based on ultimate commitments that cannot be empirically or even rationally verified (or for that matter falsified); they are values often based on theological perspectives. Science and religious beliefs are then intimately related.

We can summarize this argument thus:

1. We all have a worldview
2. A worldview is shaped by religious commitments
3. All human activity is shaped by worldviews
4. Science is a human activity

Therefore,

5. Science and religious commitments are related; and
6. Science is not neutral

These conclusions, if valid, undermine the independence approach to science and theology and suggests interplay, interaction and dialogue.

This theological response does not make a sharp division between science and theology or between facts and values. Instead of a dualism between the world as known by disinterested observers, on the one hand, and committed moral selves, on the other hand, this approach speaks of different dimensions of the same events or things as objective entities. Science gives us a partial picture of the whole. It gives us one perspective on the world. The full and complete reality has many dimensions, some of which are not discerned by scientific methods. The part it deals with by its particular approach is completely true within those limits. Science abstracts from the whole and investigates nature in so far as it can be observed by the senses or measured and quantified with the aid of technology. Philosophy is needed to ask about the nature and meaning of the totality, about reality in its fullness and wholeness. Science gives us a perspective on the whole, but it does not tell us the whole truth about the whole of reality. Philosophy must do that, and theology does the same with the special task of interpreting the meaning of the Christian tradition within this framework. Process theology under the influence of Alfred North Whitehead is the best example of this approach. Instead of a sharp dualism between science and theology or between facts and values, the second speaks of part and whole. Science deals with the dimension of reality that its methods allow it to examine. Philosophy deals with the whole from

which science abstracts. Theology deals with the purpose and meaning, and spiritual experiential dimensions of the whole of reality and focuses on the reality of God in relation to the world and human beings.

#### **4. Enter Charles Birch: both science and theology need new wine in new wine skins**

This now sets the stage for placing in context the contribution that Charles Birch has made to the dialogue between Science and Theology.

He built on the foundations and thinking of Alfred North Whitehead.

Charles Birch in "*A Purpose for Everything*" wrote:

"The good news is that new wine is fermenting in both the vats of science and those of religion. Neither the new science nor the new religion can be contained in the old formula of a legal -- mechanistic universe; that is, the image of a universe running according to rules laid down by an external law-maker. It has become evident to more and more people that science cannot live with an interventionist God.... If science and religion are to remain alive their formulations cannot remain static. "

Charles used the words of Mathew's gospel to capture the metaphor. New wine cannot be put into old wineskins.

Charles Birch contributed by recognising that both our understanding of science and theology was undergoing new fermentation under the learning of not only of evolutionary, and molecular biology, quantum mechanics and post-modern thinking and analysis of the process of science discovery.

#### ***Both Science and Theology need new wine in new wineskins.***

Charles Birch goes on to write: "This is not a matter of making religion conform to each new model or discovery in science. It is a mutual matter. Science can be on guard to keep its concerns wide. Religion can point out the abstractions and false metaphors of science. Science can be a winnowing fan to religion, blowing away the husks to reveal the kernels. The encounter of religion with science compels it to purify its thinking about God from views of power that are sub-Christian. Together, both can discover the unity of nature. For if knowledge is one then each new discovery will involve some reshaping of the rest. As biology, for example, moves forward on its frontier at the molecular level, religion has a new way opened up for it also, just as evolutionary biology opened up a whole new province for religious thinking about creation."

In his well known paper "*Chance, Purpose and order of Nature*" Charles Birch challenges the mechanistic, deterministic views of Bishop Paley and others like him which have prevailed since the Enlightenment extolling a view of nature we have come to realize as ultimately destructive. Charles Birch asserts that it has often led us astray philosophically and theologically.

Birch asserts that mechanistic views have contributed to the threatened destruction of the earth.

What is needed are alternatives to the mechanistic orientation.

Charles Birch offers one such alternative. It emerges out of Birch's own dialogue with the best of contemporary science.

Birch's aim is to offer a non-mechanistic understanding of nature and to show how such an understanding elicits a new way of thinking about God. For Birch, the new sensibilities that Christians need in our ecological age include, among other things, more ecological ways of sensing the Divine.

The central issue in science and religion today is whether nature in its evolution has any purpose or ultimate meaning. Neither pure chance nor the pure absence of chance can explain the world.

In an interview in when he was 89 Charles Birch said:

" The first thing that one has to do I think is to accept the fact that there is such a thing as consciousness, and it cannot simply be ruled out eventually in terms of molecules and atoms doing things that are completely without any relationship to mentality at all. It's a view that says there are two aspects of consciousness, sciences deals with the objective facts, in other words what happens in your brain when you have a conscious thought? What happened to the cells of the brain when you have a conscious thought? But it leaves unanswered the question - I'm talking about science now - it leaves unanswered the question, but what about the feeling I have of consciousness. And there's a tremendous gap between what I experience and what science tells me, and this is the gap that somehow or other has eventually to be filled, or some alternative thought. "

Charles Birch having said that I worry that we could be on the slippery slope of "God of the gaps"? But let us continue.

I think we can agree with Charles Birch when he said: "The church lost when it accepted from the Enlightenment a reinforcement of the idea that God made the world and left it to follow its own laws. Science and religion became two separate domains."

Birch set it out clearly..."Science dealt with the secular realm while religion and theology had to do with a God who transcended that realm. God was removed from nature. And, as Tillich points out, when God is removed from nature, God gradually disappears altogether, because we are nature. If God has nothing to do with nature, he finally has nothing to do with our total being. "

For many that is precisely what the Enlightenment did.

They rejected the supernaturalistic God and became atheists.

Birch and I am strongly of the view that ..." today there is a longstanding, but urgent need for Christians to reassess their inheritance from the Enlightenment, to consolidate what was gained and to free themselves from the negative consequences.

The need deepens with each passing day.

A central affirmation of Charles Birch's work is the presence of the future in life, that human life feeds on purpose. Richness of life depends upon purposes we freely choose. That which animates human life animates alike the rest of the entities of creation. The evidence of science leads to a view of the universe as purposive in the sense that its entities exist by virtue of a degree of freedom which allows them a degree of self-determination.

In this postmodern ecological worldview the whole of the universe and its entities look more like **life** than like **matter**.

The appropriate image is no longer the machine but the organism. This view is counter-intuitive if we concentrate on the thinginess of things. Our failure to see the world in ecological or organic terms is because we tend to reify everything in it. The modern worldview which was born in the sixteenth century and which dominates our thinking to this day tends to interpret everything from the bottom up. We think of the universe in terms of building blocks like bricks and try to put them together into a universe. And what we get of course is a contrivance without feeling, without life. That is the tragic consequence of the modern worldview.

The most important change in the postmodern worldview is to interpret from the top down. It is to regard human experience as a high-level example of the rest of reality. It turns the modern worldview upside down.

There always has been a stream of thought and life that rejected the mechanistic worldview. We find it in the prophetic tradition in the Old Testament, in the teaching of Jesus and elsewhere in the New Testament and in the writings of the church fathers. It has been retained more by the Eastern tradition of Christendom than by the Western tradition. Today it finds its fullest development in the mode of Christian thought known as process theology building on the pioneering work of Alfred North Whitehead.

It is on this foundation that Charles Birch built.

He believed that there were three elements of religion: intuitive, cognitive and active. These give rise to:

**Passion:** the only appropriate response to faithful participation in that which matters most is with passion. It is Schleiermacher's 'feeling of unconditional dependence', Tillich's 'with infinite passion' and Jesus' 'with all your heart'. The existential or feeling side of life is intuitive.

**Philosophy:** the affective side of life seeks meaning in understanding, which is the cognitive and purposive side of life. It is Jesus' '*with all your mind*'. Paul admonished Christians 'do not be children in your thinking . . . in thinking be mature' (1 Corinthians 14:20). This is philosophy and theology.

**Program:** the feeling and the cognitive side of life are sterile until they find an outcome in action. By their fruits you shall know them. This is the practical side of life worked out in a program for life. It is Jesus' '*with all your strength*'.

To live is to feel, to think and to act. The call to the full life is to love with all our heart and mind and strength, these three. There is no more emphatic

utterance in all scriptures than that. I know of no greater commitment that life can make.

Rev. Dr Samuel Kobia, General Secretary of WCC wrote: Charles Birch was courageous and prophetic in using his knowledge and enormous gifts as an eminent biologist and a theologian. In 1975 he addressed the WCC's fifth assembly in Nairobi eloquently promoting the concept of sustainability. Speaking on the theme of *"Creation, Technology and Human Survival: Called to Replenish the Earth"*, he made *"a chillingly detailed analysis of the threats to human survival, whose total impact is so serious that "it demanded the positive 'de-development' of the rich developed world"*.

He asked what positively we could do, *"for if we cannot permit technology to have its head we cannot do without it."* Our goal therefore, he suggested, *"must be a just and sustainable society; and this demands a fundamental change of heart and mind about humankind's relation to nature."*

Charles Birch's scientific and theological foresightedness was such that *thirty five years ago* he laid down a strong foundation for *WCC's climate change programme*. To date we continue to be inspired by his insights and ideas and for a long time to come we shall remain deeply indebted to this faithful servant of God and humankind.

## **5. Some personal perspectives**

Today we are exploring an ethical Christian response to climate change. Thirty five years ago Charles Birch pioneered a way when he advocated:... *"a just and sustainable society; and that demands a fundamental change of heart and mind about humankind's relation to nature."*

Our task is to map a way forward in recognizing that Science and Theology need to be in active dialogue. Christian Theology has a lot of work to be done to build a new understanding based on wise and fresh insights into scripture and the life of Jesus that can reconnect us to nature and the process of creation which is ongoing.

Science has much to learn about understanding that these insights will be important to the values and meaning that drive and condition scientific effort. For we now know that science is a very human process which engages with and absorbs values and purpose and meaning. Clearly reason, theory, observation, objectivity and evidence are paramount and powerful but around which is embedded values often in unconscious ways.

For me as a scientist I know the power and beauty of the scientific method. Just to see nature and the creative process as a mechanism without purpose or meaning leaves me cold and alone and I know that I am warm.

I urge that we recognize that both science and theology need to become new wine in new wineskins. I see this as critical if we as a western society are to be part of a fundamental change in our relationship to nature. Thereby address at a fundamental level the need to live differently...more in harmony with the functions, limits and boundaries of the ecological systems of this planet.

Charles Birch set the direction and many others like Thomas Berry, Matthew Fox, Sallie McFague and Loran Wilkinson have begun to chart the course but in the end there are common themes:

- First we need to feel again, awe, wonder, and empathy with the earth and the ecosystems on which our life and breath depends...leading to wisdom.
- Second we need to understand our connectedness with the earth and that we are but a part of the earth and not separate from it. God cares for whole of creation of which we are but one part.
- Third we need to challenge and critique the institutions, structures and thinking that underpin our society in light of the above.

We need science and theology that together can lead us on this adventure. Both Science and Theology need new wine in new wineskins.

John Williams

1st September 2010

## 6. References

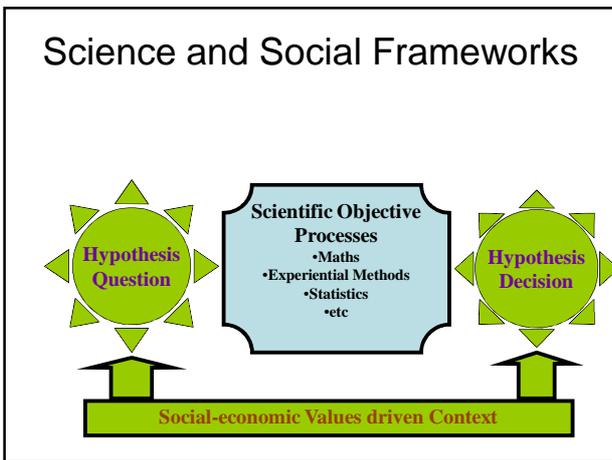
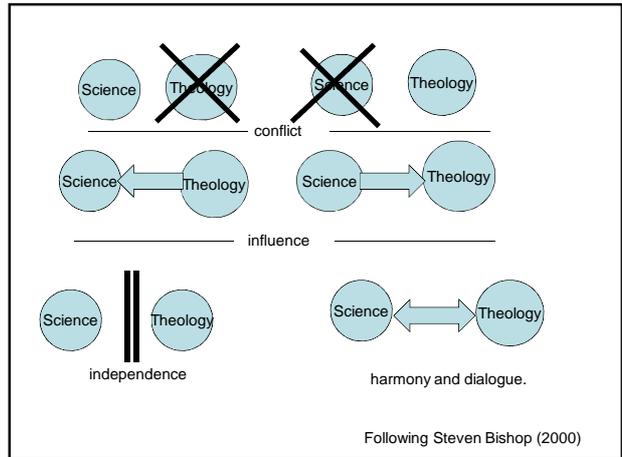
Birch, Charles (1990) - *A Purpose for Everything: Religion in a Postmodern World View*, Twentythird Publications, 1990

Birch, Charles (1990) - Chance, Purpose, and the Order of Nature. See at: <http://www.religion-online.org/showarticle.asp?title=2314>

Birch, Charles (2007) - *Science and Soul*, co-published by UNSW Press (Australia), 2007 and Templeton [Foundation](#) Press (USA), 2008. and radio interview at: <http://www.abc.net.au/rn/religionreport/stories/2007/2122324.htm>

Bishop, Steve (2000) - A typology for science and religion *Evangelical Quarterly* 72:1 35-56. see: [http://www.theologicalstudies.org.uk/pdf/eq/typology\\_bishop.pdf](http://www.theologicalstudies.org.uk/pdf/eq/typology_bishop.pdf)

Cauthen, Kenneth (2000) - Science and Theology see: <http://www.frontiernet.net/~kenc/science>



- ### This Mode 2 Science Knowledge Production is:
- 
- socially distributed,
  - application-oriented,
  - trans-disciplinary
  - subject to multiple accountabilities
  - science in the context of its application, ie "solutions" (science *not science off the shelf*)
  - complex systems plus adaptive management.
  - Ability to forecast scenarios, debate options and consider tradeoffs and alternatives.

