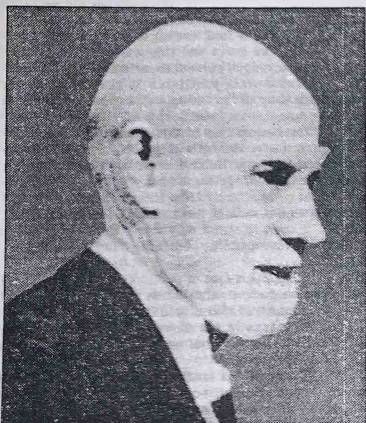


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Isthmus brings scientists, theologians, and philosophers together

"God does not play dice with the universe." — Albert Einstein

Isthmus: Relating science, religion



Associated Press

1981 Nobel Prize winner Dr. Roger Sperry.

... The future — which changes every instant. — Elias Canetti

By Bob Fenley

FOR SOME, the two great tracks of mankind's inquiry — science and religion — seem to stretch away like a railroad and converge at an infinite horizon. But for others, it is an illusion which affronts the intellect. Last winter, four Nobel Prize winning scientists were brought to Dallas for lectures and dialogues with two distinguished theologians. The purpose: Explore convergence with the hope of giving new perspective to human existence.

Sponsored by the Isthmus Institute, a local philosophical organization, the main presentations were

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held at the University of Texas Health Science Center from November to January, where they attracted steadily increasing numbers of people.

And while no one could rightfully announce that any great cosmic voids had been charted, the freedom of mankind to think and act independently, to enjoy the unexpected, to ponder the fascinations and frustrations of ordinary and quantum worlds and to experience the mystic satisfaction of the spiritual, all were paid homage.

The first Nobel laureate to appear in the series was Dr. Ilya Prigogine, a remarkable physicist who may have discovered the mathematical explanation for life. The newest concepts of physics, explained Prigogine, contain elements of randomness, of non-equilibrium and non-linearity. (In the physics of sub-atomic particles, for instance, scientists have found it impos-

sible to predict with absolute certainty position and energy at any given time. But scientists are able to rely on statistics. This is not unlike the situation of fans at a baseball game who know that a player who comes to the plate has a certain batting average. No one knows for certain whether he will get a hit, but his success generally follows his statistical batting percentage.)

There is, simply, a built-in principle of uncertainty both in human events and in the statistics of quantum physics.

"The fall of Rome was not ordained at the time the universe was formed," Prigogine said. This concept set the stage for the physicist to disagree with Albert Einstein who on one occasion declared, "God does not play dice with the universe."

In fact, said Prigogine, God really might play dice with the universe.

"Nature is not an automaton. Life is a beautiful expression of non-linearity. With life (including) spiritual activity of mankind, now you can have a much closer connection," Prigogine continued.

In response to the physicist's lecture, Schubert M. Ogden, a widely noted theologian from the Perkins School of Theology at Southern Methodist University, declared:

"Human beings ought to be taken as a revelation of what nature is. Religion, like science, is a mode of inquiry into nature," said Ogden, who is

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the author of *The Reality of God and The Point of Christology*.

"We are now going toward a new definition of what it means to life and act and love."

Prigogine won the 1977 Nobel Prize for Chemistry for his work on "dissipative structures," mechanisms which seem to violate the formidable Second Law of Thermodynamics by going from disorder to order. These "dissipative structures" might well include life itself as a mechanism that constantly renews and reorganizes.

This concept of ultimate chance opened a curious arena of inquiry: If God "plays dice" or invokes a chance or random operation of the universe, the important question is, as one listener put it, "With what intent?"

To Ogden, however, "God is being itself — the very principle of reality. He offered the following:

"If it's different from God, it is different from itself and if it is, it doesn't exist."

The next lectures were presented by Dr. Roger Sperry, 1981 winner of the Nobel Prize in medicine and physiology, and Dr. Brian Josephson, 1973 Nobel laureate in physics. They were joined by Dr. Albert Outler, the distinguished Methodist theologian who also is at Perkins and who is a noted ecumenist and delegated Protestant observer at Vatican Council II.

Sperry invoked the need for a new theology which would espouse conservation of nature, including renewability of energy and respect for the land.

But "society is on the wrong track these days when it continues to try to treat global ills with more and more science and technology." While they may achieve short-term goals, they eventually contribute to a vicious spiral of mounting population, energy demands and pollution.

A world-wide change in values and beliefs — a new global ethic — might be based on a union between the religious/ethical approach and the scientific method, speculated Sperry.

The dichotomy which has historically separated the two areas leads to current-day difficulties: "For instance, it's not easy to uphold the spirituality of man on the one hand and Skinnerian behaviorism on the other. Nor to find much of any spiritual inspiration if

one is convinced that the brain and mind of man are no more than a physiological machine governed throughout by the inexorable laws of physics and chemistry with no place anywhere in this system for the likes of a conscious self, freedom of will, moral responsibility and so on.

"If (previous) science is right, what's left for human dignity and where is any higher meaning if the whole universe, all reality is nothing but varied collections and compounds of sub-atomic particles all obeying the value-devoid laws and principles of quantum mechanics?" he asked.

Sperry won the Nobel Prize for his scientific investigation of functions of the right and left hemispheres of the brain.

New scientific thinking encompasses a pair of concepts which Sperry dubbed "vitalism" and "downward" causation. Vitalism as originally conceived was unacceptable to the scientific community because no "life forces" were apparent in inanimate chemical or physical mechanisms. But science was spotlighting the wrong area, he said: "You don't look for vital forces among atoms or molecules. You look instead among living things, the holistic properties of the entities themselves — horses gallop, fish swim, birds fly."

Sperry thinks "downward causation" is a relationship describing the process whereby higher mental and vital forces — those engaged in politics, psychology and religion — influence and control the inanimate molecules and atoms of the physical world.

Dr. Outler, whose prodigious mentality and wit made him an overwhelming favorite of audiences at the series, responded to Dr. Sperry, noting that science as we know it grew up in the 16th and 17th centuries in the matrix of dogma.

"Science always has been since its origins in the classical Greek world, rooted in human curiosity. It springs up out of a supposition of order of one sort or another and also out of an urge to control the human environment, said Outler.

"Religion, on the other hand, is rooted in wonder and in the urge to reverence. The aspiration for communion with the infinite, to live and to be at peace with the wholeness of what really is. Science cannot be content without clarity, proof, predictability. Religion cannot be content without a sense of the sacred —

of communion with the divine."

Some philosophers of science, he said, believe it is based on a cornerstone of denial of any sort of final purpose. Dogmatists of religion, on the other hand, demand that science serve orthodoxy or be discarded.

It was Brian Josephson, a physicist who had performed brilliantly in his field of superconductivity, who introduced the strongest feeling of mysticism into the deliberations.

Superconductivity — the property by which a substance carries a current of electricity without resistance — is deeply rooted in quantum theory and it was for this work that Josephson won the Nobel Prize in 1973.

Josephson, however, drew a differentiation between a "Celestial" reality and an ordinary reality. The former might be "kinds of fantasies" which seem to correspond to quantum mechanics.

"What is described by quantum mechanics seems not to be full reality but a set of possibilities — some of which may be realized and some may not be."

Josephson spoke of "unmanifest order which according to one theory is behind the observed happenings in quantum physics."

"One can sketch out very roughly what a new kind of science might look like — one in which God is present. The highest level of control would be conceived as as much more ideal intelligence than our own intelligence," speculated Josephson.

The fourth Nobel Laureate, Sir John Eccles, appeared on Jan. 29. A distinguished professor emeritus of the State University of New York at Buffalo, Sir John received his prize in 1963 for the discovery of how nerves use chemical transmitters to send messages.

Eccles set out to make a case for thought controlling action. "How can I, as a thinking being, bring about actions."

Eccles focused on the "supplementary" motor area of the brain which is where, he said, the mind is working with the brain.

"It's a question of motive, then intention and then the action."

The scientist detailed work on brain imaging which was developed in Denmark and which now is being used at the Health Science Center in Dallas. Not only

does this method of nuclear imaging show brain areas which have been damaged by stroke, it shows that there can be "intention" to move originating in the supplementary motor area which may not be put in action. The "intention" is sometimes not processed by the supplementary motor cortex.

There is, he said, a select site for the action of intention on the brain and this was to Eccles one of the most exciting of current experiments.

"You do rack your brain by intending and you do cause the cells to fire and this is being denied by all the materialists," said Eccles.

The bottom line of this reasoning, he said, is that there is a freedom of will intrinsic in the human intellectual process. He sketched the process of Parkinsonism as a proof against the materialistic view that movement comes simply from intention. In the Parkinsonism victim, he said, the message never gets through.

"I want to insist very much that we do have this moral responsibility stemming from free will from the ability of your mind to work on the brain."

"The importance of this lecture of Sir Johns is that here we have an alternative to the mechanist and reductionist traditions," said Dr. Outler.

"The crux of the matter is: Is there non-material influence on material process. And if this is so, how, why and so what?"

"We are in the tonal range that our thoughts affect our actions and that our lives are not at the blind mercies and cruelties of chance and necessities — the two oldest gods in the human pantheon," said Dr. Outler.

He quoted Dr. Roger Penfield as declaring: "The mind has an energy of its own."

"Could it be," speculated Outler, "that the brain is the mind's computer and the mind is the brain's programmer?"

The winter series was co-sponsored by the Department of Psychiatry and the Division of Continuing Education at the UT Health Science Center.

The Isthmus Institute, which takes its name from the often narrow avenue of land separation two large continents, will continue its presentations through the next year. The group seems steadfastly bound to the principle that there truly are convergences between science and religion and that these should be explored.