

Editorial

Nature is ever at work building and pulling down, creating and destroying, keeping everything whirling and flowing, allowing no rest but in rhythmical motion, chasing everything in endless song out of one beautiful form into another.

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Today's world is beset with many crises that are calling us to rethink our patterns of living. Energy shortages, environmental overloads, population explosions, cries for a just redistribution of wealth—crises such as these are forcing a reevaluation of values, attitudes, social institutions, and political structures around the world. However, underlying these specific, important problems is a still more fundamental problem grounded in what all such crises have in common: They are contributing to an increasing rate of change and uncertainty in our daily personal and collective lives. In an age of rapid change and much uncertainty can we find for ourselves as human beings a meaningful place in the scheme of things? Can we be at home in the universe?

Our sense of personal meaning depends heavily on our belief that the world has an order to it and that we participate in that order. But how do we dance to the music of the spheres if the tune is constantly changing? Unpredictable changes brought about by the chance interaction of causal chains of events constantly disrupt the biological, social, and personal aspects of our lives. With delightful surprise we watch as male and female chains of DNA recombine in unpredictable ways to create new offspring. Yet a pregnant mother's taking drugs to help maintain her health can affect the phenotypic outcome in quite unexpected, even disastrous, ways. Similarly societies around the world, each carrying out its own good purposes, can impinge upon one another in unexpected ways, forcing sudden reshifting of priorities and emphases in carefully worked out foreign policies and domestic practices. Individual lives too are constantly subject to chance: Our day begins well planned in our minds, but the plans are disrupted time and again by unexpected interactions with others who are simply attempting to carry out their own plans. Living with others means having to adapt continually to the unexpected that causally affects our destinies. What meaning can we find in such a world governed by chance and necessity?

Although the increasing rate of change makes this question a live one for us today, the question is not really new. A look at the history of thought in the Western world reveals that the problem of change is a fundamental issue. As long ago as the fourth century B.C. some philosophers and religious thinkers concluded that humanity is not at home in this world. Plato and his followers suggested that, even though this world might appear to be real to our senses, the transience or impermanence of particular events means that it is only a reflection—a second-class reality. For the Platonists, and also for modern scientists who seek to discover the invariant factors that produce change, the true reality is not this cavelike world of phenomena, of "puppets casting shadows on a wall," but the realm of ideal, permanent forms or of invisible, invariant laws and entities. However, when Christianity transformed its Jewish heritage into that of Greek Platonic thought amid the uncertainties

brought about by the dissolution of the Roman Empire, many Christians emphasized that this earthly city is not our true home. We are strangers here on earth, they said; life is a pilgrimage to that hidden reality which is not subject to the disintegrating effects of space and time.

In this issue of *Zygon* we suggest an answer to the problem of change and uncertainty that is different from that provided by some thinkers in the Greek-Christian tradition. Instead we affirm the aspect of Western heritage that stresses the goodness of the universe as the ongoing creation of a divine reality, whether the divine reality is understood theistically to transcend the spatial, temporal universe or pantheistically as the evolving universe itself—nature chasing one beautiful form into another. Like English bell ringers ringing the various changes that are allowed by the underlying pattern of the bells, the authors in this issue ring a few of the changes on the theme of the significance of human life in a universe of chance and necessity. Rather than following the interpretation of Jacques Monod that the interaction of chance and necessity leaves us homeless in the universe, leaves us alone to struggle in an existentialist manner to devise and carry out our own plans, these *Zygon* articles explore the importance of affirming chance and necessity, contingency and intelligibility as central features of an organic, evolving world. They suggest in various ways that we find our place in the scheme of things when in interaction with one another and the rest of nature we make our small contributions to preserving the past while at the same time transforming the past in the ongoing creative process of the universe's self-transcendence. Many of the results of these interactions may be too inconspicuous and subtle, even though at times far reaching, for us to envision fully with our conscious minds. Yet our experience does support the faith that what we do can be significant, even if unknown. From this perspective, living in the midst of change brought about through the chance interactions of causal sequences of events is recognized not as a threat but as the essence of living. It is understood as participating in the "life game" of the universe, which through random variation constantly seeks out new forms of life and culture that are potentially stable in suitable environments. If we react constructively to the new, unexpected opportunities that continually present themselves in our daily lives, we participate in the ongoing, creative, cosmic "symphony" of an evolving universe.

Two items deserve special attention. The first is an underlying theological, and perhaps scientific, issue that pervades these essays. Theologically is it more appropriate to think of God's relation to a universe of chance and necessity theistically (God is independent of the universe but acting on and in it), pantheistically (God is equivalent to the universe as a whole and hence the creation of the world is the self-creation of God), or panentheistically (God includes the universe but at the same time transcends the universe)? T. F. Torrance, in "God and the Contingent World," presents the theistic position; theism also is implied more poetically by A. R. Peacocke. The issue is whether a pantheist (perhaps in the tradition of Harlow Shapley—see his "Life, Hope, and Cosmic Evolution," *Zygon* 1 [September 1966]: 275-85) or a panentheist (perhaps in the tradition of Alfred North Whitehead) can deal with chance and necessity as well as these theists have. Is one of these positions rationally more credible than the others in a scientific age?

From a scientific point of view this theological issue of the relation between God and the world may be phrased in terms of whether the universe as a

whole is best understood as a closed or an open system. In order to make sense of the way things are is it necessary to postulate rationally a "permeable boundary" of the spatial-temporal universe through which information and efficacious activity can flow from a totally different reality (theism) or flow both into and out of the universe (panentheism)? Or does a scientific understanding of things support the notion of the universe being a very complex but nonetheless self-contained evolving system and hence the notion that the universe itself is ultimate reality (pantheism)?

The second item that deserves special attention is Max Rudolf Lemberg's essay. Although this essay does not address itself explicitly to the issue of change through chance and necessity, it does represent the ongoing exploration within the mind of a person who attempts to integrate the various facets of scientific, humanitarian, and religious insight. The closing pages of Lemberg's essay suggest that eternity is not something to be sought beyond our life in space and time but is rather something in our midst. Completed on the day he died after a sudden heart attack, the closing section of Lemberg's essay reflects on death from a naturalistic point of view and also from the point of view of one who is at home in the universe because he sees his place, even if a small one, in the larger scheme of things. Lemberg writes that those who interact with and influence others even in small ways for good or ill pass themselves on to future generations and hence belong to eternity.

As this issue of *Zygon* goes out around the world, aspects of Lemberg and of the other authors will continue to live. They will live in new and unexpected ways in encounters with readers who also are engaged in the cosmic adventure of creation by reformulating the precious religious heritage of humankind in the light of newly created and tested insights from the contemporary sciences.

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