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# SPIRITUAL EVOLUTION

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SCIENTISTS DISCUSS THEIR BELIEFS

Edited by John Marks Templeton  
and Kenneth Seaman Giniger

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## INTRODUCTION

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In planning this book, we invited a number of distinguished figures in the world of science, each known to be a believer in a Divine Being, to write about the experience or experiences that led them to this belief.

We received acceptances from figures representing such areas of scientific interest as astronomy, biology, chemistry, genetics, medicine, physics, and zoology from Australia, England, Germany, and the United States.

The standard description of arrival at believing is a dramatic one, best described in the Bible story of the conversion of Saint Paul (Acts 9:1–18; 22:1–16; 26:9–18). Paul, then known as Saul of Tarsus, was a major government persecutor of the early Christians. In the course of this task of persecution, he was on a journey to Damascus, when a light from heaven shone around him and the voice of the Lord spoke to him. This experience led to his career as the Apostle Paul.

None of the writers in this volume attest to such a “road to Damascus” experience. Their experience of belief varies, ranging from childhood influences to adult intellectual processes. And the form that belief takes also varies. Most of the writers speak of membership in mainstream Christian churches. We were, unfortunately, unable to find

fundamentalist Christian or non-Christian scientists to participate, but we do not doubt that such scientists exist.

This book, then, is testimony to the fact that belief in God does not conflict with the rigid principles by which the men and women of science must test the truths of their scientific discoveries. Science and religion can and do coexist and their convergence offers mutual benefits.

JOHN MARKS TEMPLETON



MY DAMASCUS

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CHARLES BIRCH

**T**here was a time when I thought that religious conversion was a one-off affair, as indeed it seemed to be for Saint Paul on the road to Damascus. I am not so sure now that it was even so for Saint Paul. I rather now think that I need to be converted day by day. That process had, for sure, its beginning for me, but it wasn't a once and for all phenomenon.

I was brought up as a low-church evangelical Anglican in the city of Melbourne. Sin, saving souls, a literal interpretation of the Bible, miracles, and the efficacy of the sacrament of Holy Communion were the order of the day. I accepted the lot in a formal sort of way, but the rough terrain came during adolescence. I quite suddenly came to an awareness that I was just not good enough. Even such righteousness as I might have possessed, I was reminded, was "but as filthy rags." I was quite unable to understand the powerful new urges of adolescence. I believed I must be very sinful. I read the *Confessions* of Saint Augustine and said to myself, that is I. This self-diagnosis was supported by a fundamentalist group called the Crusaders with which I got involved at Scotch College where I went to school. I never really felt at home in that group. Indeed I felt very embarrassed. I didn't want to confess my sins, whatever they were, in public and I didn't feel at home with what were called personal testimonies. I didn't have one to tell but perhaps that is what I needed. I

didn't know at all what they meant by giving my life to Jesus, which they pleaded me to do. How, I asked myself, could I give myself to someone who lived two thousand years ago and whom I had never met? "Be willing to break the ice," I remember being told. I think it meant that I was to try to get over the first hurdle on the path of conversion and the rest would follow on a smoothly laid down track.

In the long hours of the night and in the early morning I pondered on all this. But all I felt was that life was a great burden and I was unable and unworthy to carry it. There was a picture in my copy of *Pilgrim's Progress* of Christian traveling on his long journey with a huge bundle on his back. Later on in the book was another picture of Christian having reached the foot of the cross and behold the bundle falls off his back to the ground. That is what I wanted to happen to me. Why didn't it? Then quite suddenly, I remember the time and the place, I asked myself, Why am I burdened with a sense of sin when Jesus says your sins are forgiven? For me that would mean that the past is the past and I could begin again right at that moment with a clean slate. I wouldn't have to carry that burden on my back anymore. So I prayed and asked for the burden to be lifted. It was. I considered myself saved.

I was by then an undergraduate at the University of Melbourne, convinced that I had the answer to life's meaning. I became a Sunday school teacher and went to evangelical meetings. My mother took me to some of them as she was a bit inclined in that direction. At least, she felt that the answers might lie there. For four undergraduate years this was my position. My classes in biology emphasized the fact of evolution but that was of little concern for me. The Bible taught otherwise and creationism was what I had to believe. I had a religious faith that encompassed the whole truth about the world. My faith was firm and my direction fixed. I wanted to convert the world. Looking back, I realize that I had not learned to think while I was an undergraduate.

Things changed when I became a graduate student at the University of Adelaide in its premier agricultural research institute. My colleagues appeared to be either atheists or agnostics. That I took religion seriously seemed very odd to them. My supervisor in particular had thought it all through and regarded religion as anti-science and a source of much evil in society. I had many discussions with him,

especially when we went far into the desert on field trips. I was quite unable to defend my position intellectually. It was full of holes. My religion did not mix with my science.

Then came my second conversion. It was an intellectual conversion. The seeds of doubt had been sown and now I desperately wanted to know how to deal with them. My faith, which had given me a tremendous sense of meaning in life, was falling apart.

The beginning of a resolution to my pressing search for meaning came through the Student Christian Movement. It showed me there was an alternative interpretation of Christianity to the fundamentalism I was brought up to believe. When reassurance began to reestablish itself, it came like the weaving together of strands. I was conscious of a bottom forming under me. I tried to break it down. The strands refused to be broken. The effect was to reestablish a fundamental trust with respect to the meaningfulness of human life. I found some of the former elements came back, different from the old, no longer borrowed at second hand. For better or for worse, they were mine.

The elements of my first highly emotional conversion that came back renewed were the experiences of forgiveness, the courage to face the new, the sense of not being alone in the universe, and all that could be called the values of existence as revealed in the life of Jesus. God as the source of all value was "nearer than hands and feet, closer than breathing." The experience of God was real. The interpretation was different. This new understanding came by degrees.

I had a new problem now. The science I was becoming more familiar with presented me with a mechanistic universe, which provided no clues to the meaning of life and life's fundamental experiences of value. It had nothing to say about my feelings, which were to me the most important part of my life. How could they fit into a mechanical universe? I started on a new journey of discovery. It began when my newly found mentors in the Student Christian Movement, especially one of them, urged me to read A. N. Whitehead's *Science and the Modern World*. I felt it was written especially for me, particularly chapter five, "The Romantic Reaction." On reading Whitehead my mind flashed back to a lecture I had heard as an undergraduate, but did not understand then, by my professor of zoology, W. E. Agar. It was on the

philosophy of biology. I remembered just enough about it to realize that Agar had discovered that, for him, Whitehead was fundamental to understanding philosophical problems raised by biology. So I wrote and asked him what I should now read. He replied that I should immediately read Charles Hartshorne's recently published *The Philosophy and Psychology of Sensation*. Agar added that he had himself just completed a book on a Whiteheadian interpretation of biology, modestly called *A Contribution to the Theory of the Living Organism*. Its first sentence read "The main thesis of this book is that all living organisms are subjects." That is what I needed to know. How was a biology, which looked at organisms as objects, to be reconciled with the idea of organisms as feeling subjects? I came to understand that Agar was a biologist who accepted mentality, feelings, and sentience as real and not just epiphenomena. Moreover, he identified three areas of biology that seemed resistant to a completely mechanistic analysis.

These three areas were developmental biology or embryology, behavior, and evolution. Agar was a brilliant cell biologist. He was educated at King's College, Cambridge, and at the age of thirty-eight was elected a fellow of the Royal Society. His book initiated my exploration of biology in the light of Whitehead's system of thought. Much later I was to find similar fellow feeling with the geneticist Professor C. H. Waddington, who told me on one occasion that, as an undergraduate in Cambridge, he had read all the works of Whitehead. This reading had greatly influenced both the problems he chose to work on and the manner in which he tried to solve them. As for myself I never brought all these ideas together in book form until quite recently, when I produced five books on this subject (Birch and Cobb 1981, Birch 1990, Birch 1993, Birch, Eakin and Mc Daniel 1994, Birch 1995).

As a graduate student, besides reading as much of Whitehead and Hartshorne as I could, I also read the dialogues of Plato as being highly relevant, and on more specifically religious topics I read as much of Harry Emerson Fosdick as I could lay my hands on. He was at that time the pastor of the great interdenominational, interracial, and international Riverside Church in New York, hard by Columbia University. He was a great preacher and had an evangelical liberal theology that had got him into trouble with the General Assembly of the



Presbyterian Church in the United States when he was pastor of Manhattan's First Presbyterian Church. He was charged with heresy but responded that he would be ashamed to live in this generation and not be a heretic. This was the time, said Reinhold Niebuhr, in which the old evangelical piety of American Protestantism, so vital in its earlier form and so potent in taming an advancing frontier, had hardened into a graceless biblicism and legalism.

Fosdick had fought his way through the fundamentalism of his youth to a rational faith. Many a student, in particular, had his faith restored and saved by this great preacher so far ahead of his time. From time to time I still refer to one or other of his many published sermons and I always try to make a pilgrimage to Riverside Church when in New York. On the first visit I made in 1946 (the year of Fosdick's retirement), I was able to tell Fosdick what an influence he had been to me and other students I knew in Australia. So I am delighted that one of his hymns "God of grace and God of glory" is included in *The Australian Hymn Book*. It was written for the dedication of Riverside Church in 1931:

Set our feet on lofty places;  
gird our lives that they may be  
armoured with all Christ-like graces  
in the fight to set men free.  
Grant us wisdom,  
grant us courage,  
that we fail not man nor thee.

In the 1950s when I was doing research at Columbia University, I became a member of Riverside Church. Later, as a link with Australia, I presented to the chapel of Wesley College in the University of Sydney a set of silver plated individual communion chalices identical with those used at Riverside Church.

An account of my journey as a graduate student would not be complete without indicating how important it was for me at this stage to have the friendship of those who had gone further on the journey than I had. In particular there was one senior person in the Student Christian Movement in the University of Adelaide. He was then a

lecturer in philosophy. Toward the end of my time as a graduate student in Adelaide I wrote about him in the national journal of the SCM without mentioning either my name or his. I called my contribution "Somebody." It read in part as follows:

I had just graduated at the University. It was a strange feeling, I was supposed to know so much, yet was inwardly conscious that life was a mystery to me. There were threads of meaning in parts, but they became tangled once I tried to follow their course, and try I did—desperately. There were things about God I felt I ought to believe, but I didn't know why. Some of my colleagues called them fantasies of the imagination. I began to wonder myself. At times I would have thrown religion overboard, partly for moral and partly for intellectual reasons. Yet I shrank from the prospect of a youth bereft of idealism. Then things changed. That was when somebody came. He had strong convictions about Jesus and God. The threads in his life were not tangled. I know now why mine were, they were a mixture of false and true strands. I didn't know that then—not until he came. There was something compelling about his convictions. In the friendship that followed he didn't teach me so much as show me where to discover God. He led me to still waters. He was helping me to do what I never thought I could do before. He was what Emerson said of a friend, "what we need is somebody who will help us to do what we can." I see now that he believed in me when I didn't believe in myself. His was a faith in the infinite possibilities God's universe holds for human beings and a faith in the capacity of each of us to respond.

He was a missionary, not the sort who goes to foreign countries but one in our midst. I came to the conviction that the greatest service we can render anyone is to show that person what he or she can be. On the highways and byways of Palestine, Jesus of Nazareth was that Somebody to everyone who needed him; to the woman at the well in Samaria, to Zacchaeus up a tree, to Peter and James and John by their nets. In the last hour that life held for him, despite the agony of the cross, he was that Somebody to a wretched thief on a cross beside him. There is an old evangelical hymn that begins, "Somebody came," and then asks, "Was that somebody you?"

My new discoveries of the meaning of my life led me to be dissatisfied with the prospect of a career devoted entirely to research. I loved research and the research institute in which I was working, but I

wanted also to be more involved with people. The obvious way to do that was to combine research with teaching. I felt I needed experience in a teaching and research department. I can even now vividly recall the exact spot on the winding road going up the foothills behind Adelaide when I made a decision. I was riding on my bicycle and stopped for a break. Stretching out below me were the extensive grounds and buildings of the Waite Agricultural Research Institute. They symbolized full time research for me. That was great, but not enough. Moreover, I was fast becoming more inclined to fundamental problems in biology instead of applied agricultural ones, which had involved me thus far. On that spot I made a decision to seek further experience in a biology department overseas.

The obvious place for population biology in the late 1940s was the University of Chicago. Furthermore, I had a lurking feeling that perhaps I had got myself on a false path about life's meaning. I had done that once before with fundamentalism. In Adelaide I was antipodes away from the process thought of Whitehead. I needed to test out my convictions in a completely different environment. To Chicago I went.

Unknown to me, when I set out for the University of Chicago to do research and sit in on biology courses, that university was, at that time, the world center of process (Whiteheadian) thought. Professor Charles Hartshorne was in the department of philosophy. In the Divinity School were professors Henry Nelson Wieman, Bernard Meland, Bernard Loomer, and Daniel Day Williams. To add yet more to these riches, the most distinguished professor in the department of zoology, where I was to be, was Sewall Wright. Not only was he one of the four founding fathers of the neo-Darwinian synthesis of evolution (the others being Sir Ronald Fisher, J. B. S. Haldane, and Theodosius Dobzhansky), he was also a Whiteheadian and close friend of Charles Hartshorne. Some years later in 1953 Wright gave the presidential address entitled "Gene and Organism" to the American Society of Naturalists. It was a closely argued case for the gene as an organism and therefore a subject and not a mere object.

My days in Chicago were spent in the laboratory interspersed by sitting in on courses on evolution, genetics, ecology, and process theology. I learned a great deal about university education of a sort I had

never known before. Robert Maynard Hutchins was the brilliant young chancellor of the university who, through his unusual vision, was transforming the University of Chicago. He said he wanted a football team that was proud of the university, not the other way around.

These were heady days. My new experiences were reinforcing the foundations of my thinking. I knew I was on a road I would not now leave. While I was at the University of Chicago, I got to know Ian Barbour who was then completing his Ph.D. in physics and who later was to become a world leader in the relation of science and religion. Over the years we have had many discussions on this subject. Early on he gave me reinforcement as a physicist who was reconciling physics and religion while I was trying to do the same with biology.

I came to know Charles Hartshorne and his wife Dorothy in subsequent years both on his visits to Australia and on mine to the United States. One day I asked him whom else I should get to know. He immediately replied, "My most brilliant student, John Cobb." So began a friendship with John Cobb, of the Center for Process Studies at Claremont, California, which led us to work together on process thought and biology. Our work led to a consultation at the Rockefeller Center for Consultations at Villa Serbelloni in Bellagi, Italy in 1974 and a book *Mind in Nature* (eds. John B. Cobb and David Ray Griffin). Later Cobb and I wrote together *The Liberation of Life: From the Cell to the Community*.

In my years overseas I remained involved in the Student Christian Movement as part of the World Student Christian Federation. My first truly ecumenical experience was as one of the representatives of the Australian SCM at the first world conference of Christian Youth in Oslo in 1947. After that meeting I went on to spend a week at a chalet in Grindelwald, Switzerland with a group of European students who had suffered grievously in the war. My roommate was a German student who had been captured by Australians when serving in the German Army in North Africa! I realized how terrible war is—a few years earlier I would have been required to regard him as an enemy. From that moment on, I felt a certain empathy with German students, an empathy that was to develop when my involvement with the World Council of Churches brought me into various parts of East Germany.

Thanks in part to the Australian Student Christian Movement, I was for twenty years a member of the working committee of the World Council of Churches that dealt with science, environment, and technology. During this part of my life the World Council of Churches was virtually staffed by former students of the Student Christian Movement. The SCMs throughout the world were a sort of a training ground for the world ecumenical movement. We seemed to know one another. Most of my involvement with the WCC was with staff member Dr. Paul Abrecht. He had come from Union Theological Seminary in New York in the great days of Reinhold Niebuhr. His influence prevented me from running away with too utopian visions, and to recognize the ambiguities in almost everything we do.

My researches in the ecological aspects of evolution brought me to work in the laboratory of Theodosius Dobzhansky, first at Columbia University in New York, later in Brazil, and still later when he came to work in my laboratory at the University of Sydney.

Dobzhansky was a challenge to my thinking. He was a strict Darwinian and famous as such. But all the time lurking in the back of his mind was his upbringing in Russia in the Orthodox Church. How could he link the two? That was a problem for him when we first met. He was not enthusiastic about the synthesis of science and religion, which I was discovering through A. N. Whitehead's thought. He was more interested in the synthesis of Teilhard de Chardin, who was both palaeontologist and priest. He was drawn to the Omega notion of Teilhard that there was a final goal to which cosmic evolution moved. However, he rejected Teilhard's central tenet (which is also Whitehead's) of a "within of things." This is the notion that every individual entity, from quarks to humans, has a subjective aspect, which in humans is manifested as consciousness.

I persuaded Dobzhansky to come with me to some lectures by Paul Tillich. He immediately became attracted to Tillich's concept of "ultimate concern," which is essentially Tillich's synonym for the word God. How, Dobzhansky asked, could human concern for ultimate concern have evolved? This pursuit resulted in his book *The Biology of Ultimate Concern*. Dobzhansky was struggling, as was I, with the problem of the evolution of the subjective. My Whiteheadian solution was

that the subjective in some form existed all the way from quarks to people. Dobzhansky argued that the subjective (such as mentality) emerged at some stage in the evolution of animals. We ever remained to differ on this subject, as is evident in his later book *The Biological Basis of Human Freedom*. But my many discussions with Dobzhansky, both in the laboratory and in the jungles of Brazil and Australia, helped me to see the central importance of the issue. Neither Dobzhansky nor I had much support from the leading evolutionists of the day, such as Ernst Mayr and G. G. Simpson, who were his close friends and strict mechanists in their thinking. They inclined to blame me for leading Dobzhansky astray from the strictly mechanistic path.

The evolution of mentality, or as I prefer to call it, the subjective, is precisely the problem Whitehead (1933) had laid out clearly when he wrote:

A thoroughgoing evolutionary philosophy is inconsistent with materialism. The aboriginal stuff, or material, from which a materialistic philosophy starts is incapable of evolution. This material is in itself the ultimate substance. Evolution, on the materialistic theory, is reduced to the role of being another word for the description of the changes of the external relations between portions of matter. There is nothing to evolve, because one set of external relations is as good as any other set of external relations. There can be merely change, purposeless and unprogressive. . . . The doctrine thus cries aloud for a conception of organism as fundamental for nature (p. 134).

The conception of organism, which Whitehead called the philosophy of organism, involves a radical departure from the interpretation of living organism as machine. It is the principle that sees human experience as a high-level exemplification of reality in general. All individual entities from quarks to people are understood to be constituted by something analogous to experience as we know it in our own lives and which, for want of another term, is called experience. Hence an alternative name for Whitehead's philosophy of organism is the philosophy of panexperientialism. It involves the proposition that mentality cannot arise from no-mentality. Subjectivity cannot emerge from something that is not subjective. Freedom and self-determination cannot arise

from something completely devoid of freedom and self-determination. Instead of sentience or experience being a late arrival in the evolution of the cosmos it is there from the first entities of the creation. All individual entities from quarks to people have in common with human experience that they take account of their environment through their internal relations. Most western thought has focused on external relations (that push or pull). An external relation does not affect the nature of the things related. An internal relation is different. It is constitutive of the character and even the existence of something. As Tennyson put into the mouth of the adventurous Ulysses, "I am a part of all that I have met."

The principle of panexperientialism is implicit in the rhetorical question of quantum physicist J. A. Wheeler, who asked, "Here is a man so what must the universe be?" We cannot know what the universe is in its fundamental nature unless we take account of the experiencing human being who evolved within it. From a universe which at its early stage consisted of hydrogen there evolved complex molecules and eventually humans. These and everything in between were potentialities from the foundation of the universe.

Where then does the concept of God fit into this scenario? In my earlier unenlightened days I had imagined God as a divine engineer who manufactured things much as a watchmaker might make a watch. But Darwin showed that concept just did not square with what he was discovering in the theory of natural selection of chance variations. Darwinism was a mortal blow to the natural theology of his day. It did not of course rule out the possibility of another concept of God. My next step with Whitehead moved in that direction.

In contemplating the cosmic evolutionary process Whitehead argued that "the potentiality of the universe must be somewhere." By "somewhere," he meant "some actual entity." He named that actual entity the mind of God. More importantly the nature of divine activity in the universe is that of loving persuasion. I became very aware that the concepts of divine omnipotence and ruler are no longer applicable, but that persuasive love is the only power that matters. I was brought back to the image of Jesus as the meaning of love in human life and that same love as a divine influence in the whole universe. God acts by

being felt by his creatures, be those creatures protons or people. God as persuasive love is ever confronting the world with the possibilities of its future.

This became a very personalistic view of God for I was able to recognize that the God who influenced human life was at work in the same way in the rest of the creation. I was finding a new meaning for divine purpose. Previously I had thought in terms of the design image. But the potentialities of the universe and the way they are realized are not in the form of a blueprint for the future. I came to see that it was misleading to speak of a divine design. The term design connotes a pre-conceived detailed plan, which is one reason why Darwinism dealt such a severe blow to the deism of William Paley's *Natural Theology*, which Darwin had read as a student at Cambridge. The term purpose is better than design as it does not carry this connotation. Nothing is completely determined. I learned that from science. The future is open-ended. I came to see that one reason why this is so is that God is not the sole cause of all happenings. God exercises causality always in relation to beings who have their own measure of self-determination. God is our companion in the creative advance toward the realization of as yet unrealized possibilities. "In every event," said Martin Buber, "we are addressed by God." So it is of the rest of the creation.

All this led me to a new understanding of the meaning of providence. Providence is a difficult word with a number of meanings. It does not mean a divine planning in which everything is predetermined, as in the making of a machine. Rather it means that there is a creative and saving possibility in every situation which cannot be destroyed by any event. The form of power that is most admirable and creative is not a coercive power but one that empathizes with others and empowers them.

It is true that some events in the history of the cosmos, including human history, have more significance than others. These are peak events. I used to think of them as special acts of the power of God intervening in a special way in the world. I now see that that way of looking at peak events turns God into an agent of mechanical intervention, even into a magician. It replaces persuasive love with fiat.

But what of the evil in the world? I never found credible the notion that all was created perfect until humans entered the picture and



then all went awry. Yet evil, both in nature and in human life, is a reality. I came to see that if God is understood as that factor in the universe that makes for novelty, life, intensity of feeling, consciousness, and freedom, we must recognize that God is also responsible for the evil in the world. If there were nothing at all or total chaos, or if there were only some very simple levels of order, there would be little evil. There would instead be the absence of both good and evil. Earthquakes and tornadoes would be neither good nor evil in a world devoid of life. Only where there are significant values does the possibility of their thwarting and their destruction arise. The possibility of pain is the price paid for consciousness and the capacity for intense feeling. Evil exists as the corruption of the capacity for love. Thus God, by creating good, provides the context within which there is evil. In this view evil springs not from providence but from chance and freedom, without which there could not be a world.

I learned from Paul Tillich, both in his classes in New York and from his sermons, that our only adequate response to God's persuasive love, the love of ultimate concern, is infinite passion. This is the "with all" of which Jesus speaks. We are called to total response of heart and mind and strength. It seems to me in looking back that my evangelical beginning taught me the response of the heart but it let me down in an adequate response of the mind. The Student Christian Movement taught me the meaning of giving an intellectual account for what I believed. It is as though I experienced God first and spent the rest of my life seeking to explain what I had experienced. And the more I understood the more I was able to experience. That brings a vividness to human experience as expressed by T. S. Eliot:

We had the experience but missed the  
 meaning.  
 And approach to the meaning restores the  
 experience.  
 In different form.

Yet the heavenly city of Enlightenment has not arrived. I learned from Reinhold Niebuhr that the will to live truly is readily transmuted in human lives into the will to power. The will to live truly is transmuted by overweening self-interest into a will to power that is

destructive. The same person who has the capacity for transcending self-interest also reveals varying degrees of the power of self-interest and the subservience of the will to those interests. I now know that conversion is not a once and for all phenomenon. I need to be reborn day by day, hour by hour, for self-interest is not annihilated once and for all time. I think that is because there is a valid side to self-interest that can be creative. When I give a lecture I want it to influence my audience. To do so, I need to put on a dramatic performance. I then become important; indeed, the lecture is not likely to be much good unless I also receive satisfaction from it. I get satisfaction from the response of the audience but I should not let my satisfaction become excessive. I need to be eternally vigilant if I am not to fall over backwards on this knife-edge of life.

If we are co-creators with God, it is important for me to know if our contribution is lasting or if it fades with death. The question is relevant not just in relation to my death but to the ultimate death of the universe as understood by cosmologists. I have never been able to accept the notion of human purpose if there is not some cosmic purpose to which human purpose contributes. Yet I never found the notion of postmortem rewards and punishments at all appealing. What I eventually did find helpful was Whitehead's proposition that it is as true to say that the world experiences God as the world is created as to say that God experiences the world as the world is created—that everything we do and everything every creature does makes a difference to God. The universe would never be as it is if we had never been! God is both cause in creating the world and effect in experiencing the world. There is biblical testimony to a God who is deeply involved with his creation and with its joys and suffering. God is not the producer of the play who stands in the wings watching the performance. God is on stage feeling every feeling with utter intensity (Rom. 8). So in this sense God saves the world as it is created and every creation becomes a novel experience for God. This is the most speculative part of Whitehead's thought about God. Like other intellectual constructions about God, it is to varying degrees provisional in character. Subscription to creeds is a danger to the integrity of conscience. Yet there remains the necessity of some meaning of a cosmic purpose that transcends the world and all its

experiences as it is created. Some doctrine of immortality is needed in a purposive cosmos. Many churches put this in terms of affirmations of detailed belief. For me it is not belief but faith.

The essence of Christianity for me is incarnate in the person and teaching of Jesus. It is faith in God as ultimate concern. It is faith in the divinity of men and women revealed in Jesus. It is faith in the possibilities and sacredness of human life and in the life of all creatures. I feel called to respond to ultimate concern with all my heart and mind and strength. So I have increasingly felt across the years the necessity of being able to give an intellectual as well as an experiential account of my faith.

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