

THE COMMON GROUND OF SCIENCE AND RELIGION¹

JUDGING by all that we now know concerning the history of our species upon the earth, our science and religion had in the beginning a common origin. Both developed as a result of efforts to understand and interpret the order of nature. Primitive man had all the instincts that we now possess, including the "divine instinct" of curiosity, the urge to find out about things.

This is one of the distinguishing peculiarities of our species. The human mind is so constituted that it must have explanations. Any explanation, whether correct or not, is better than none at all. Effects must have causes assigned to them; and in the beginning there was little distinction between science and religion in the shaping of explanations.

Modern knowledge was lacking. The first man on the earth could only know the things that he found out for himself. He was confronted with a world full of mysteries—mysteries of many kinds. There were events occurring every day that had no visible causes. There was the blowing of the winds. Whence did they come? Whither did they go? Why did they shift, and wax and wane? Why blow in gentle zephyrs now, and again in terrifying storms? Overhead were the stars varying in brilliancy and in constancy, some fixed in position, others moving in definite companies, others straying alone. What did their position and their movements mean?

¹A public lecture delivered in the Physics Amphitheatre of the Rice Institute, April 15, 1937.

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Primitive man knew himself as a causative agent, and he conceived other causative agents like himself, only more powerful. He personified the winds and named them: Boreus was the north wind; Austrus was the south wind; Vesperus was the west wind, etc. And on the margins of old maps in our libraries one may still see pictures of these mythical persons with roundly puffed-out cheeks blowing in opposition toward the center. He personified the constellations and named them—Orion, Pleiades, and the others. Neptune ruled the waves and Jupiter hurled the thunderbolts. These have been called man's "baby-names" for the forces of nature. Such were the results of his first attempts at explaining natural phenomena.

Then there were casualties betimes that called for explanation. There were tempests and floods, volcanic eruptions and earthquakes, pestilences and famines. There was sickness and there were deaths. All these things were hurtful, capricious, and irresistible. In the face of such calamities "Help wanted" was, and is, and ever will be, the cry of the whole world.

Again he conceived of causative agents like himself, but invisible, free-ranging, and all-powerful spirits. Like himself they were capable of anger and of vengeance; capable, also, of kindness and of mercy. He conceived of them as persons and often he called them gods. Among them were many kinds of gods, good and evil. There were malignant gods that must be placated with gifts to satisfy their greed, with rites to allay their anger, and with favors to cajole their malevolence. Because they could inflict so great injury, these evil gods were worshipped most, and thus fear came to be the chief characteristic of primitive religion.

But there were also kindly gods, that had conferred great blessings, such as the knowledge of plants and animals fit

for food and clothing, and of plants and other earth-products useful for healing. These gods must be worshipped and besought to continue their favors. Some of our American Indians had attained to the idea of one beneficent god, the Great Spirit; and there is a particularly fine prayer to him quoted in Lindquist's *The Red Man in North America*, which runs as follows:

We are grateful for thy favors. We are grateful for all that has been given us. Continue to bestow these favors and withdraw them not; thy children live by thy bounty and without it we cannot live. Continue to listen and inhale this sweet incense as we speak to thee; forget us not, for we are here by thy power begotten, and without thy favor we shall despair.

The great hardships of life that so dominated the thinking of primitive man were in two principal categories as to fatality. There were first the things that must inevitably happen and that nothing could prevent. All that could be done about these things was to seek to foreknow them; and to that end he invented the methods of divination and augury, oracles, and prophecy. Then there were the evils that would come unless something were done to forestall them. For dealing with these, he developed magic and ritual. He had lucky days, and lucky numbers, and talismans, and fetishes, and charms in thousands, many of which still linger in our midst, though taken far less seriously now.

He thus shaped his practices in accordance with his scanty knowledge. His religion was consistent with his science. These early efforts at understanding and adjustment are by no means to be despised. They are first steps upward in the sphere of mind, and they are peculiarly human.

Then there were mysteries of a more personal nature. When sickness and death were all about him he asked himself hard questions—questions for which more modern science has no answer. Whence had he come? Whither

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would he go? His body would decay, but what of the spirit that governs? And to these questions he framed such answers as his limited knowledge and experience would allow.

“Religion reduced to its lowest terms is belief in the order of nature controlled by mind.” This is an indispensable belief, common to all mankind. In the beginning the control was believed to be simple and direct. Man conceived the controlling spirits to be like himself in their needs and in their passions—only far surpassing him in their powers. They work wonders and miracles, and these are no breach of natural law so long as that law is not understood. They are only manifestations of power.

The study of nature removes many occurrences from the realm of miracle, revealing proximal forces and the laws under which they operate. The mind in control is removed ever farther from the immediate event. The understandings first arrived at require amendment. A belief which has gained currency, and has long served as an anchorage for the mind in the midst of the mysteries of life, is slow to change. It is often far easier to make new discoveries than to alter old beliefs. New ideas lack the support of tradition. Dr. D. S. Jordan has said “Much that we have called religion is merely the debris of our grandfathers’ science.” The study of any of the great religions of the world will abundantly attest to this.

The simple panaceas of magic, so satisfying to the primitive mind, with the progress of knowledge cease to afford relief. The mystic control vanishes, but the weakness of the flesh remains. The mystery of birth lies behind us. The certainty of death is before us. Life’s “fitful fever” runs its swift course. The ancient question comes anew “If a man die, shall he live again?”, and, whether or not we insist on an answer, we must as social beings find some way of meeting

the exigencies of life and of making adjustment to them. We are ushered upon the stage of life through crises that we know naught of, and we are removed by forces we cannot stay. There is no other recourse than an appeal to a higher power which seems to rule eternally, and of which the high lights of our little lives seem to afford passing glimpses.

Religion is universal among men because of the universality of human need. Kipling has expressed this need in Kabir as follows :

My brother kneels (so saith Kabir)
 To brass and stone in heathenwise,
 But in my brother's voice I hear
 My own unanswered agonies.
 His God is as his fates assign;
 His prayer is all the world's—and mine.

Doing came before thinking—comes before thinking still. The crises of life had to be met with scant knowledge of their nature and causes—how very scanty is our knowledge still! Observations were made and judgments spoken and traditions became established before science had made much progress.

It took our species a long time to learn how to use its natural environment effectively. The gift of language set us apart from other animals. We are so like them in our physical being and so different in attainments as to seem like another order of beings. The differences began with language, with words as symbols of experience, making it possible to detach knowledge from the individual and to convey the results of experience to others. Ours is the only species that profits by the gains of the exceptional individual. Language is what makes this possible; and when language began to be written, making the gains permanent, then the rapid increase of knowledge began, and the cumulative nature of our social progress became apparent.

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Science and religion developed a long way together. And then in a more critical age, when science began to rely on physics, and religion on metaphysics, they split apart. While religion is one, creeds are many. Religious observances are pure and simple products of the folkways, developed differently among different peoples to meet social needs that are common to all alike. We are not born Catholics or Protestants or Mohammedans or Buddhists; we are made so by our early environment. Our religious observances are largely due to accident of birthplace and breeding. Wherefore it is not becoming to anyone to take overmuch pride in his own peculiar pattern of them.

Science walks by sight, but can see only a little way; and each glimpse into a new field reveals infinite unexplored reaches beyond.

What the eye of science discovers, affects the concepts that have grown up with our religion in two ways: first, it discovers laws. Events that have been called miracles it shows to occur in accordance with these laws. While not revealing ultimate causes it removes the causes ever farther and farther from the events, and makes the events look less and less like the work of human hands.

Second, it discovers processes of an intricacy of which the ancient miracle-mongers never dreamed. And in this latter day it has become clearly apparent, as might well have been anticipated, that some of the early explanations of the earth and its phenomena, that have come down to us out of antiquity attached to our religion, are based on faulty observations and lack of knowledge. There is, for example, abundant and convincing evidence that evolution is and has been the method of nature: but it is only a method and not a cause. Fifty years ago good old Dr. Newton Bateman, then President of Knox College, calm, dispassionate, devout, and

unafraid, was saying to us in a chapel lecture "Evolution is the method by which the builder wrought." It does not explain causes.

For most of us the uniformity of operation in nature's laws and the universal existence of order will imply a power in control: for inert things do not order themselves. The existence of things eternally valuable in human life will lead us to believe that that power has not made them merely for a brief flicker here and then for extinction. This is the field of faith. With all our modern aids our eyes cannot see so far.

Science and Religion agree in this that they both delight in the beauty of the world. Both delight to discover beauty, order and fitness; and it is everywhere evident even from the greatest unto the least of creation. David saw it in the starry night and exclaimed:

When I consider thy heavens, the work of thy fingers, the moon and the stars, which thou hast ordained;

What is man, that thou art mindful of him? and the son of man, that thou visitest him?

And the revelations of the telescope that have so magnified the power of our vision have magnified the wonders of the heavens in like proportions. Jesus pointed it out in the glorious array of the lilies of the field; and the poet, Thomson, saw it in the opening bud, and thus expressed it:

But who can paint
Like Nature? Can imagination boast
Amid its gay creation, hues like hers?
Or can it mix them with that matchless skill,
And lose them in each other, as appears
In every bud that blows.

An early British naturalist, Hogarth, saw it in dried seed capsules of plants and wrote to his friend Ellis: "I have gathered some little seed pods or vessels that show the

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pleasure Nature seems to take in super-adding elegance of form to all her works. When next you come to see me we will sit down together—nay, kneel down if you will—and look at them.”

The microscope opened a new world to the eyes of the observer, the world of infinitely small things, revealing new wonders as great as those of the heavens. The early microscopists expressed their wonder in the phrase “*Natura maxime miranda in minimis.*”

No wonder that the new vision has brought changes in our thinking, since before this most precious instrument had been invented, the elements of organic structure and the beginning processes in organic development could not have been known.

To me there is nothing else in this world so wonderful as the single cell in which each living being takes its origin, the fertilized egg cell. It is a microscopic bit of organized protoplasm, appearing well-nigh structureless, and with nothing in it to show what it is to become. Yet we know that everything that can come out of it is already potentially present on it. That man should start in this estate is the profoundest revelation of the microscope’s bearing on our religious thinking. Where can be found such evidence of unity as that which the microscope has revealed? One common substance, protoplasm; one common unit of structure and of function, the cell; one mode of increase, cell division; one mode of mixing strains, cross fertilization: all these basic things common to organic beings—plants and animals and man.

So man starts at this common level and all the gains of all the ages he must for himself acquire. This is a stubborn fact, of most profound significance. The initial cell divides and becomes an embryo. It takes on forms that are first

like lower and then like higher animals in plan of structure. It races down the road of ancestral history, never going astray though countless paths diverge. It increases to a host, and concurrently it differentiates into groups. The cells work together, massing themselves here, cleaving apart there, like well-drilled battalions to form body parts in infinite variety until the whole finally assumes human form. It will exhibit in the end in various combinations the characters of its ancestors.

This is human evolution, the evolution of the individual. It is fact, not theory. Every student in the biological laboratory may see it with his own eyes. For thirty years it was my privilege to show this development in the lower animals to college freshmen. In all that time I never have witnessed it myself without renewed wonder. This microscopic thing, the fertilized egg cell, is for me more than a wondrous miracle. It visualizes the eternal order of the universe before which I stand in awe.

That science and religion must have a common ground is determined by two fixed and inescapable conditions: first, science and religion grow out of the common earth; and, second, their concepts are alike products of the human mind.

It is a common earth that sustains us all, whatever our beliefs. We are earth-born. Out of the dust of the ground we are remade every day of our lives, and unto dust our bodies will return. On the earth we live; by it we live; of it we are. Earth-born joys and gladness, and earth-born woes and perils, attend our way through life. It is the common lot to be born to helplessness in infancy, to grow and develop and die; to possess an animal body made of the same parts as are other animal bodies and performing the same functions and to run the same course through life. Did not Job remind us that "man is born like a wild ass's colt." Each

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must start at the common level. Each must accept and use the materials of his physical as well as his social heritage.

The human mind is built on a firm base of physiologic responses that take care of the operations having to do with the upkeep of our bodies, and on a natural endowment of sound instincts that insure the continuance of our species. So much nature has done for us; this is the part of our education with which we are born. It is organized in our nervous system, and is as much a part of us as are hands and feet.

But there is one thing more, a thing that differentiates us from all other species. We have been endowed with "a mind that looks before and after," that considers causes and effects, that reflects upon the consequences of acts—not only the immediate consequences, but also those that are remote. Morality comes in here. This is where it was given to man, in the words of the ancient explanatory story of *Genesis*, "to eat of the fruit of the tree of knowledge of good and evil." Science comes in here, with the seeking after causes and methods. Religion comes in here with the seeking after the origin and destiny and meaning of life. All these began together with the earliest exercise of these gifts of the mind to us.

Finally, we may note that science and religion have at least one common purpose, and that is the knowledge of the truth and its application to human welfare. They may pursue different methods, and both may betimes grope blindly, but their aim is one. And the chief glory of our species may be found in the devotion and self-sacrifice with which the devotees of both science and religion pursue their labors.

It takes a poet adequately to express the religious feelings of a naturalist. Wordsworth has done it in his *Lines on Tintern Abbey*, as follows:

I have learned
 To look on Nature, not as in the hour
 Of thoughtless youth, but hearing oftentimes
 The still, sad music of humanity,
 Nor harsh, nor grating, though of ample power
 To chasten and subdue. And I have felt
 A presence that disturbs me with the joy
 Of elevated thoughts; a sense sublime
 Of something far more deeply interfused,
 Whose dwelling is the light of setting suns,
 And the round ocean, and the living air,
 And the blue sky, and in the mind of man;
 A motion and a spirit, that impels
 All thinking things, all objects of all thought,
 And rolls through all things. Therefore am I still
 A lover of the meadows and the woods,
 And mountains; and of all that we behold
 From this green earth; of all the mighty world
 Of eye and ear, both what they half create
 And what they perceive; well pleased to recognize
 In nature and the language of the sense,
 The anchor of my purest thoughts, the nurse,
 The guide, the guardian of my heart, and soul
 Of all my mortal being.

There is no more harmful idea abroad in the land than that science and religion are enemies. They are both imperfect instruments of the desires of our better nature.

JAMES GEORGE NEEDHAM.



