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R.E.D. CLARK

Creator God or Cosmic Magician?

A study of the idea of creation, in contrast to magic, as an explanatory principle and of the value of the Judeo-Christian idea of creation in science.

Is God a cosmic supermagician? The language used to describe His creative acts sometimes gives the impression that this is the way Christians think of Him. Are such thoughts warranted?

Consider a common line of argument. It is claimed that this or that feature of nature — the condensation of dust clouds to form suns or planets, the origin of life from lifeless matter, a miracle recorded in the Bible, and so on — cannot be explained in terms of the concepts of science no matter what assumptions are made. They must, therefore, be due to divine intervention: to creation, to miracle. There is, we are told, no other conceivable explanation.

Often the claim is fully justified: there *is* no other — at least no other *plausible* explanation. Nevertheless the argument is weak to the disbeliever while even the believer often looks askance. Why?

Three main reasons may be given:

1. The argument appears to imply that what cannot be explained by science must be explained by God. God, then, becomes a "god of the gaps" and someday may be squeezed out as science advances its frontiers further into the unknown.
2. It is objected that words like *creation* or *miracle* explain nothing. In the Western world we do not allow magic as an explanatory principle: is God-magic to be reckoned as more reputable?
3. Complaint is often made that creation spells the dead end of human inquiry. If events are due to God, what is there more to be said? Even the scientist who is a committed Christian may wonder at times if the God who called him to devote his life to science really wishes to stop him thinking in so abrupt a manner.¹

Gaps

The first objection will not be explored in detail. It appears to be a pseudo rather than a genuine difficulty. It is included because by repetition it has become a cliché in recent years. However, a few comments may be in place.

First, no one believes — perhaps indeed no one has ever believed — that what cannot be explained by science must necessarily be explained by God. This is at once apparent if we remember that in the Middle Ages such events were often ascribed to devils. God is invoked not because other explanations fail, but because some events are suggestive of His master mind. They show evidences of His planning or of His goodness and mercy.

A point commonly overlooked is that when we are considering origins we are never concerned with gaps. There is no gap for future science to fill between the beginning of creation and what happened before that beginning. To make God creator is to place Him at the beginning of a train of causes. Gaps are not in the picture.

We can think of God not only as creator of nature but also of the purposefulness which we see around us; but it is difficult to think of purposefulness as a gap between two bodies of well-established scientific knowledge. (If it is indeed a gap in any sense it is not one which science is likely to fill.)

To illustrate this point, we might consider, for instance, the earthquake at Philippi (Acts 16) in which the apostle Paul was involved. It is possible, no doubt, to "explain" this earthquake, like all other earthquakes, in terms of sudden release of stresses in the earth's crust. But when we read the New Testament story this is not at all what strikes us. The miracle is not the release of stress which certainly comes within the scope of science, but the *synchronism* between this release and the prayers and needs of the Christian. It is difficult to think that such synchronism will ever come within the purview of science and almost impossible to think of it as a 'gap' between two domains of knowledge with God in the middle who is being squeezed out as the gap closes. Strange thinking!

It is evident that vague talk of closing gaps will not do. In any given case we have but to state clearly what we suppose to be the thought processes that are taking place and we will see that the gap objection is irrelevant.

Magic

Let us turn to the more serious objections. Suppose we consider a particular event - say the creation of the universe or of the first living organism - about which we conclude that it happened as a result of the direct creative power of God. We are agreed, let us suppose, that no further scientific search for the cause is necessary; we are satisfied that divine fiat provides the answer to our search. What then?

In the past the orthodox have too often tended to reply, Why, nothing! God is the explanation and you cannot investigate God. He alone is in control of His universe: He has but to say the word and it - *anything*, absolutely anything He commands - just happens!

The deep sense of piety revealed by such an assertion is not in question. It is understandable if many Christians (in common with Jews and Muslims) out of a sense of profound respect for and adoration of God, should be content to believe that if God merely tells something to happen, it will happen immediately and automatically. Yet it is easy in this way to degrade God's activity to a kind of magic. As in a fairy story, a castle is created in response to a wish!

It is often overlooked that this tendency to magnify God by ascribing to Him all power *in the magicians' sense* is incompatible with grounds for belief in God which are commonly advanced. If we point to wonderful design and thoughtfulness apparent in nature as evidence of a mind beyond the world of sense, we deny that God is a magician. The magic wand that produces in a moment that castle of our dream is not endowed with a mentality that thinks and plans the architectural detail of the edifice. It elicits wonder, perhaps, but not adoration, appreciation, or thankfulness.

When we turn to the Bible we find little to support that view of God which makes Him the supermagician. He is creator of the worlds. But a magician does not create; he merely expresses a whim and things create themselves. God, on the other hand, works on six days and rests on the seventh. The wonder of His wondrous works fills the minds of His creatures. The psalmist of old, contemplating the human body, sees in it evidence that God's knowledge is too wonderful and fearful for man; again, no fit description of a magician.

In the New Testament the story is the same. When Jesus effects a cure, He senses that power has gone out of Him, yet

the magician of our imagination has but to wave his wand and the results costs him nothing. Our Lord says, "My Father worketh hitherto and I work." Before He leaves the world, Jesus speaks of going to prepare dwelling places for His disciples: words which again are surely incompatible with the notion that God has merely to utter magic words in heaven and the dwelling places will fall into place of their own accord! Paul bows in prayerful adoration when he discerns one small facet of the wisdom and knowledge of God. Knowledge and wisdom are needful to the artificer of intricate mechanism and to the planner of strategy; not to the magician. Similarly the apostle John sees the New Jerusalem descending from heaven adorned as a bride for her husband, again implying that care and trouble will have gone into her making.

It can hardly be doubted that this is the teaching of the Bible. Yet not unexpectedly there are passages where thought is eclipsed; passages where God's command, His word, or His will is said to make things happen. We eclipse our own language in the same way without implying a magical relationship between the command and the effect. The general who orders his army to advance expects obedience, but not automatically as if by magic. The factory manager declares that a commodity will be put on the market on a certain day and it is done; again not by magic. We use our common sense in interpreting such language; we must do the same in reading the Bible.

Let us face it: there is nothing in the Bible to warrant the belief that because God is almighty He can create without doing work. If such a God were to exist, He would inspire neither loyalty nor devotion. If the gifts He bestows on man cost Him nothing, man need feel no thankfulness, no sense of obligation to the Giver. In contrast, the Christian message proclaims the trouble, care and — in the life and death of our Lord — the suffering of God for the sake of humanity.

God in Islam

At this point it will be helpful to contrast the Christian view of God the creator with the Muslim view which, at least in its extreme traditional form, makes God the great magician.

In their desire to magnify the greatness of Allah, Islamic philosophers, culminating in al-Ghazali, opposed the Aristotelian doctrine of causes in nature. To claim that natural events take place because they are caused, and to claim that causes and agents lie behind the natural order, it was asserted,

is to fall into the error of the pagans who people the earth with gods and demons. But Allah, and Allah only, is in control of His world. There are no causes in nature. It is not even correct to say that the existence of the world in past time is the cause of its existence at the present moment, for the world is incapable of existing by itself and needs to be recreated anew all the time. (No agreement was reached as to how many new creations occurred in one second of time.) Similarly, since God is the only cause, there are no wills in the world other than His will: it is an illusion to imagine that by our will we can make events happen.

Averroes was the last of the Arabic philosophers to accept the Aristotelian notion of causes. He was deemed heretical in his time, but as "the Commentator" on Aristotle he exerted great influence on the Western world through Aquinas and others long after his death. Averroes adopted the extremist attitude of orthodoxy but in reverse. Instead of overstressing the direct acts of God, he understressed them. Miracles did not fit well into his scheme, which made God out to be almost as impersonal and distant as Aristotle's Unmoved Mover.

Thus, after three centuries of controversy, culminating at the end of the tenth century, Ash'urite orthodoxy won the day. It is still the accepted doctrine in Islam. Inevitably it has left an enduring influence on the lives and thinking of the followers of the Prophet.²

Allah was so great that no one else mattered, or even existed. Man became a marionette obeying the master of the show. Sin was unreal or at least could not be considered a cause of sinful actions. Despite some promising starts in earlier centuries, science - which like ethics is concerned with the study of causes - was rendered stagnant. Since Allah was great and controlled all things, man found himself with little incentive to help himself. In catastrophe he bowed to Fate. Whatever happens is, after all, but the will of Allah; and that cannot be opposed.

Thus, in Islam, Allah is near to becoming the supermagician before whom man can only remain passive. The mind of the magician is unintelligible, mysterious; he is the "wholly other." Since God is the only cause, His creatures - who are not in this respect made in His image - cannot begin to understand His doings. Islam has no place for the words of Jesus, "The servant knoweth not what his lord doeth, but I have called you friends" (John 15:15). Nor can Islam understand the suffering of God in Christ; it denies that Jesus died on the cross (though on this point the Prophet himself appears to have held orthodox Christian doctrine³).

In Islam we may see the ultimate consequences of conceiving of God as a magician. It is important that Christians avoid even unintentionally, language which suggests this conception.

Consequences of Creation

The scientist and technician of today are well aware of the difficulty of constructing things that work. New designs must be thought of, creatively, over and over again until something serviceable is made. It seems nonsense to suggest that this labour can be short-circuited. The more we learn of the complexities of organic nature, the more unlikely does it seem that those vast complexities arose either by evolution during the relatively very short time available (only a few aeons, according to evolutionary uniformitarianism) or suddenly in automatic response to a command of God. Similarly, when for some reason a mechanism in the human body fails, can we believe that it will be put right immediately, effortlessly, magically by an angel in response to prayer?

Before developing this line of thought further, it will be well to consider a possible criticism. Are we not picturing God as altogether too limited and manlike when we suppose that because our creative efforts involve hard mental and physical work, He also is involved in labour? Perhaps. Yet it may be doubted if we honour God at all if we take the alternative view. Should we think of Him as in some way like that which is real and within experience, something which calls for our respect and even love; or should we think of Him as something wholly mythical, the imaginary magician who commands no respect? Scripture freely applies such words as *work* to God. Can we profitably change its language? We may grant that the "arm of the Lord" is no literal arm, that the "word of God" is not a literal word spoken in the vacuum of heaven, and that the "work of God" is not literal work in the human sense; yet analogical words are not easily replaced with profit. Let us be content to think of God in the biblical way even though, in the last resort, we know that God's thoughts and deeds are higher than man's and in their fullness far beyond his comprehension.

Magic in Psychology

How do conceptions of God influence us as individuals? It is instructive at this point to take a cue from psychoanalysis. Psychoanalytical therapy depends upon bringing the patient to

the point at which he reenacts the original situation that marked the beginning of his breakdown. Relaxation, hypnosis, or drugs are used to recover the early memories. The trauma, the long forgotten early twist to life which started as a rebuke, a snub, a misunderstanding, a rudeness, an indication that the patient was unwelcome, an accident which removed him from home, or a death followed by devastating loneliness, is now brought back to consciousness. In "transference" the therapist himself plays the role of the offending person, ambivalently loved and hated, who occasioned the breakdown.

The entire setup of analysis, coupled with lack of wisdom on the part of the analyst, will often, as Kent has observed, destroy the beneficial effects which might have accrued. Why? Because the patient looks to the therapist for a cure. He makes him doctor of his soul, he puts him in the position of "an authority who knows, who can cure, or even possesses magical powers." Just when the patient begins to understand himself and cure is in sight, he reacts so violently against his therapist that treatment may have to be terminated.⁴

This, accepting Kent's analysis, is simply because the therapist has allowed himself to become the magician. The past has been reenacted; the therapist has become the original mother, husband, or grandmother responsible for the trauma. But this time he is more. He is counsellor, physician, and god of magic, too. Then why, if he is a good and moral man, or god, does he not preserve the patient from his trauma? It is no wonder the patient rebels. He rejects advice. He works revenge on the therapist by allowing himself to go to pieces, so inflicting punishment by thwarting the therapist's hope that a cure will be effected⁵.

We will be in danger of acting in the same way if we think of God as the supermagical physician of the soul, or the magical creator of the world. In great trouble a man will sometimes turn his thoughts to God his creator, only to reject God, whom he blames for allowing the situation to develop in the way it has done. What right had God to create him as he is? Or the world as it is? The magician has only to say his *abracadabra* at no effort at all to himself, and all he wishes will come to pass. Why does not God, the magic God, save us from our troubles in the same way? How can we believe in God, or trust in His goodness, or feel thankful to Him, when He does not lift a finger in aid? It is against this God that man rebels, failing to notice that the God he rejects is not the biblical God at all but the magic god, the chimera of his imagination. Souls cannot be mended by *abracadabras* spoken on high.

Chain from Heaven

Let us be content then to accept creation in a real, not a magical, sense. But can we progress from here? Is it not still true that if God created something no more can be said? Is not creation still a dead end to human thought, the denial of God's gift of a questioning mind?

By no means. It is instructive to ask how some of the great creators of science in the past, men who believed in creation passionately, faced the dilemma. The answer we find in Kelvin, Tait, Balfour Stewart, Stokes, and others is one which goes back to an idea grounded in the classics. Lucian tells of a threat by Zeus, "I will let down a chain from heaven and you shall hang on it." The ancient Stoics made good use of the imaginary chain, which was later revived in the early scientific era, notably by William Wollaston (1659-1724).

Suppose a chain hung down out of the heavens from an unknown height and ... a question should arise: What supported ... this chain: would it be a sufficient answer to say, that the first (or lowest) link hung upon the second (or that next above it), the second, or rather the first and second together upon the third ... and so *ad infinitum*? To assert (that there is an infinite effect without an efficient cause) ... would be as great an absurdity as to say, that a finite or little weight wants something to sustain it, but an infinite one or the greatest does not.⁶

In yet later days the analogy was often referred to as, for example, by George Gabriel Stokes in his address to the British Association in 1869:

We know not how many links in the chain of secondary causation may yet remain behind; we know not how few ... Let us fearlessly trace the dependence of link on link as far as it may be given us to trace it, but let us take heed in thus studying second causes we forget not the First Cause, nor shut our eyes to the wonderful proofs of design which, in the study of organized beings especially, meet us at every turn.⁷

The picture is one of the great chain dangling from the sky. You look upward but can see little through the mist. You climb and explore it link by link. You satisfy yourself that each link is carried by the one above; but since the whole chain does not come crashing to the earth, you know that somewhere — perhaps far above — the entire chain must be held up in a way

that involves some new principle, something which is not just another link in the chain.

The point of the analogy is that our belief that the entire chain is somehow held from above does not and cannot discourage us from exploring the link next higher up. It is the same in science. We may push our causal sequences as far back as we will, but the overall conviction that nature is not its own explanation remains. "When we discuss nature as a whole" said Kant in 1785, "we must necessarily assume some divine arrangement, but we are not exempt from the obligation to pursue the chain of natural causes as far as possible."⁸

Other analogies are, of course, possible. Tait and Stewart thought in terms of a seemingly endless avenue of trees with the sun shining through from the farther end.⁹ The brilliance of the sun determines the beauty of the sight, but this self-evident fact will not deter a man from venturing farther down the lines of trees. He will not argue to himself that if he proceeds too far he will explain away the sun.

Another profitable analogy of which more use might well be made is afforded by words. The philologist tracks a verbal form back from language to language: his science consists in doing just this. But he does not doubt that ultimately at some point in the distant past words were created, even though no one on earth has ever witnessed the creation of a language.¹⁰

Influence on Scientists

Influenced by what we may call the "chain-philosophy" of creation, William Thomson (Lord Kelvin), a firm believer in creation for his entire life, was led to explore many avenues of thought. He often insisted that the power to analyze, to look for causes, was itself a creation of God. To fail to look for causes because God Himself is a cause was therefore, in his view, to nullify part of God's own creation.

Throughout his long life, Kelvin never ceased to look for causes, for causes of causes, and for causes of these in turn. Seeking a cause for the escape of heat from the earth, he became in the end the founder of geophysics and the joint discoverer of the second law of thermodynamics. His speculations on the formation of atoms, suns, and planets had a profound influence on the science of his day.

The sheer venturesomeness of Kelvin's speculations was possible only because of his underlying certainty that behind all lay the power of the creator God. Science, in his view, could never lead a man to disbelieve in God.

Clerk Maxwell seems to have thought along even bolder lines; his thoughts were always startlingly fresh. In a vast universe, with its myriads of atoms, was it conceivable, he wondered, that God would put each one of them individually in its proper place? This is what the second law of thermodynamics seemed to imply: the laws of science involved the running down of the availability of energy, or the rise of entropy; so that there must have been a time, not infinitely remote, when the process started. Before that there must have been either a creation out of nothing, or a "running up." In either case it was tantamount to creation by God.

Maxwell early recognized that belief in creation is of great value in science, and he applied the creation idea fearlessly in his thinking. In the above instance, his belief led him to speculate on the possibility that God first made gigantic numbers of elementary minds or spirits which could then move the atoms in obedience to the divine command.

Strange idea! He let it simmer for twenty years; and then, in 1871, he published his conception of the unit mind, able to circumvent the second law by wathing for fast molecules and letting them pass through a trap door while their colder and slower fellows were left behind. In this way, by mind alone — but mind possessing information — he showed that the second law might be reversed. Today this idea is of vast importance, for it lies at the basis of information theory. Maxwell had shown, in fact, that information and entropy can be balanced against each other. His mode of thinking may seem strange to us, but it shows that for him at least a belief in creation did not stifle thought.

When Maxwell turned to the question, What is God likely to have created? the result was even more striking. Faraday (but more explicitly Maxwell himself) reckoned that it was dishonouring to God to suppose that He had created the universe out of atoms and nothingness, but chiefly of nothingness or space. This led him to the view that space must be a created 'thing,' and therefore one possessed of properties. It was the search for these properties that led to the prediction of and finally to the discovery of radio waves.

Least Action

Many other examples of the stimulating effect of the doctrine of creation in the scientific field might be cited. One in particular may be mentioned here, the discovery of the principle of least action by Leibnitz and Maupertuis, his disciple (1751). This important principle owes its discovery to the consideration that, if God made the world, it is reasonable to suppose that He would have done so in such a way that events would take place with the maximum economy of effort. Leibnitz and Maupertuis went into raptures of enthusiasm over their discovery, believing that here at last they found clear evidence of a Supreme Intelligence reigning over nature.

Today, as Planck points out,¹¹ the principle is still as difficult as ever to understand without reference to purpose or intelligence. Consider a single photon, or packet of light, from a distant star as it enters the earth's atmosphere. The refractive index of the air changes all the way down to the ground as the photon approaches the surface of the earth, yet the photon continuously bends in its movement in such a way that it will eventually reach the surface in the least possible overall time. How does it know which path of all the millions of possible paths to take? The invention and creation of a law of this kind can hardly be a matter of blind chance.

It is interesting to note that we do not encounter this economy of effort in all natural processes. In some, as in the reproductive process, there is a principle of selection at work: not every acorn becomes an oak, not every tadpole a frog. Yet in basic processes of nature, principles of efficiency and economy of effort often operate. The gradual processes by which the energy of a foodstuff is released for storage are a marvel of ingenuity. The catalysts of the organic world, like the biochemical pathways, are wonderfully efficient. It is not unreasonable to ask if we can sometimes discern a principle of least action in the creative powers of God, such as we might expect to find utilized by a creator rather than a magician.

Suppose it is God's intention to bring about a certain event. How may we expect Him to set about it? A least-action principle might suggest that He would often wait until conditions were ripe for the event in question to take place spontaneously, or on the application of a small triggering impulse, rather than that He would bring it about at just *any* time and *any* place. In this way intervention would be minimized.

Though it would be wrong to limit a creator God by insisting that He *must* make use of such occasions only, frequent use of them might help to distinguish creation from magic.

These considerations introduce the question of miracle — a large subject beyond the scope of this paper. Suffice it to say that although by no means all Biblical miracles can be regarded in the light of the above suggestion, a great many certainly can. The creation of woman *de novo* would involve far more creativity than that of a woman from a man; in the Genesis story God chooses to make use of a man. God could have divided the water of the Red ("reed") Sea directly, but used an east wind. Miraculous earthquakes are mentioned in the Bible, but only in an earthquake zone. Naturalistic explanations may be advanced for some of the ten plagues of Egypt, their natural sequence strongly suggesting economy of miraculous effort on God's part. Psychological 'explanations' of conversions, such as that of the apostle Paul, are plausible though by no means wholly adequate. Many other examples might be given.

In addition to this, even a casual reading of the Bible reveals a God who often guides events in seemingly trivial, naturalistic ways. In the Book of Esther the hand of God is revealed, though no explicit mention of God is made.

In mathematical analysis the points at which very small alterations in parameters cause vastly different outcomes are known as points of singularity.

If we then trace the causal chain up toward heaven, uncertain as to whereabouts in that chain new factors outside our experience must enter, it will be reasonable (as Balfour Stewart and Clerk Maxwell pointed out a century ago) to look for intervention at points of singularity.

Explanation

We turn to our last point.

Has the hypothesis of creation explanatory value? If we attribute an event to God's creative activity, are we saying more than that the event just happened? Are we explaining it in any accepted sense of the verb *to explain*?

All explanation depends, in the last resort, upon analogy with inner experience. It would be meaningless to explain natural events mathematically if mathematics were totally

unfamiliar to us; it would be meaningless to explain them in terms of forces or energy, were it not that we experience pushes and pulls in our muscles and are aware of the expenditure of energy. It would be meaningless to accept the view that other people are endowed with conscious minds were it not that self-awareness is familiar to us. We understand the outer world in terms of the inner; we can do no other.

Turning now to creation, though it is true that we have no direct experience of the creation of matter or energy out of nothing, it is indubitable that the sense of creating new organization, as in dreaming, thinking, or speaking, is among the most familiar of all experiences. Moreover, it is creation of organization, of order, rather than of matter or energy, which most impresses us about the external world — not the mere fact that there is something rather than nothing, but the fact that this something is an organized whole: a cosmos, not a chaos.

For us, creation out of nothing still lies beyond the limits of intelligibility. To say that God made the world out of nothing explains nothing; God may have done so (for this is said to be the teaching of the Bible, though not all have agreed¹²); but for us it is still like magic. Unless or until we can find a link with experience we cannot speak of such creation as *explanatory*, though we may accept that it is true. However, we need to consider the possibility that a link with experience will someday be discovered.

Concerning creation of the *order* of the universe, we can understand this by analogy with our inner experience of creation. Creation by God is the only rational explanation of the natural world order that man can envisage. Though to our inquisitive minds, creation is by no means as sophisticated an explanation as we (or the rational part of us) would like, it is not in principle any less satisfying than many other kinds of explanations which we commonly accept without question. Arguments commonly used by atheists against belief in God can mostly be used in attacking belief in atoms or the forces of nature, and so forth; but such arguments are but rarely pursued in these other directions.

In conclusion, we may say that the Biblical stress on God as a working creator makes sense. It offers a rational explanation for much in nature that would otherwise be ascribed to chance and chaos. It points to purposefulness, instills reverence, and encourages science and investigation generally. Though, in some contexts, the creator God may occasionally seem like God the supermagician, this arises only on account of our present limited experience and understanding. It is emphati-

cally not the aspect of God's creative activity to which we should direct major attention. God is the working creator, creator of man, creator of the wonders of nature, and creator of the cosmos.

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