

WORSHIP: A SCIENTIST'S APPROACH

PROLOGUE

The popular image of a scientist is that of an arrogant mastermind. He or she knows so much about the mechanics of the world that he can penetrate outer space, generate energy from the sun, compute at fantastic speeds, create life in a test tube, or destroy the world in a nuclear explosion. But for the vast majority of scientists the image of arrogance could not be further from the truth. One is humbled by the vastness of the universe, by the wonder of life and the beauty of its mechanics, and one is chastened, even frightened, by the power that the advancing knowledge provided by science is progressively placing in human hands. And, one way or another, the awe and wonder lead to some form of worship.

While many scientists distance themselves from the conventional forms of worship which we have inherited, for this scientist, and for significant numbers of others, the Sacrament of the Holy Eucharist provides a meaningful vehicle of worship for one of a scientific mind. One is led to ponder at the way this central act of worship of the vast majority of the Christian Church has evolved. Only in comparatively recent years have scholars made meaningful attempts to trace the early development of this rite, but it seems clear that the form in which we have it today is fuller and more meaningful than the primitive rites of the early Church, although the evidence available to us on this issue remains contentious. Its present forms permit people of diverse perspectives to join together in a communal worship.

In the pages which follow it is proposed to progress through a Celebration of the Holy Eucharist as viewed by a scientist. One must be careful to avoid the impression that this is being presented as the only way. But on the other hand, the claim is put forward that this is a valid and acceptable, and meaningful, way of worshiping through the Holy Eucharist. This description is offered with two thoughts in mind; firstly in the belief that it may be of interest to fellow scientists, where it may possibly enrich their approach to worship, and secondly for those for whom science appears to be opposed to their religious ideals, in the hope that they may become more understanding of the scientist, and of his or her vision of the meaning of life.

1

In our time, scientists know more about the way creation works than at any time in the history of the Universe (or so we believe). This understanding is the legitimate realm of the scientist. But with all this knowledge of the "How?" of creation, most scientists are moved to contemplate the next question, namely "Why?" Some dismiss it as a meaningless question, but many -- perhaps most -- see it as the valid question arising from the logic of the scientific paradigm. Pursuing this, we know that the character of an artist (be it painter, sculptor, architect, or musician) is reflected in that artist's works. And so one looks for something or someone from which creation may emanate. The scientist's vision of a "Creator" may well prove to be more abstract than that of the classical theologian, but again we can claim it as a valid image. And in the shadow of that image we contemplate our smallness, and the way we have not always enhanced the beauty of creation, in every way; in our interpersonal relationships and our use or misuse of our environment. We are humbled by this thought, and humiliated, and, with the more classical churchman, we can join in the act of humility as we view the Source of All, afar off, and cry:

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Both intuitively and intellectually, we have a concept of good and bad, right and wrong, but we are also conscious of a perverseness which, despite this knowledge, leads us to do what we know to be wrong. This is what the Church, in its ancient wisdom, calls sin. Sin is a "Churchy" word, associated with Holy piety, but despite this, it remains the best word to describe this ubiquitous human failing.

In all the great religions of the world we have the expression of this understanding. In the ancient Jewish faith we have the story of Adam and Eve, which tells us that the acquisition of the concept of good and evil represents the highest development of the human mind, and placed us humans in the community of the Creator himself. There developed the desire to be able to escape from the burden of one's history of wrongdoing, so that it did not damn us for eternity; so that it became possible for us to make a clean start. We seek forgiveness, or better, justification, that is to be able to move forward as if the sin had not occurred. Our ancient Jewish forbears were very conscious of this, and evolved complex and expensive rituals to express remorse and seek reconciliation. This is particularly expressed in the book Leviticus, culminating in Chapter 16, in which we have the formulary for what was to become the annual Day of Atonement for all Jewish people. Here the priest transfers the sins of Jewry to an animal which is chased out into the wilderness to die, (the "Scapegoat") and with him die the sins of the people. Jesus gave us a much fuller vision of forgiveness in the fulfillment of that rite (as we shall refer to later). But in our introductory rite to the Holy Eucharist we contemplate this failing we have, and seek reconciliation with our Creator to permit us to participate in the joy and grandeur of the later parts of our service.

As we approach the "Gloria in Excelsis", we receive a ray of light in the message of the Angels at the first Christmas. We have a promise of peace if we are of "goodwill"

*Glory to God in the Highest,
and peace to his people on earth.
Lord God, heavenly King,
almighty God and Father,
we worship you, we give you thanks,
we praise you for you glory.*

The result of sin is the opposite of peace in every way, and thus the promise of peace implies the overcoming of sin. To achieve this we are reminded of the prerequisite of remorse in the middle section of the canticle, and we humbly seek mercy and rehabilitation.

*Lord Jesus Christ, only Son of the Father,
Lord God, Lamb of God,
you take away the sin of the world:
have mercy on us;
you are seated at the right hand of the Father:
receive our prayer.*

In the final section we have a glimpse of the Creator and the vision of that Creator that we have through the human link extended to us in the visitation of Jesus, which (again) will be more evident later in the service.

*For you alone are the Holy One
you alone are the Lord,
you alone are the Most High,
Jesus Christ,
with the Holy Spirit,
in the glory of God the Father.
Amen.*

Then follows the brief prayer or Collect for the particular day of the Church's year. The Society of Ordained Scientists has composed a Collect which gives emphasis to scientists' particular concerns as they contemplate their role in God's world.

*Almighty God, Creator and Redeemer of all that is,
source and foundation of time and space,
matter and energy, life and consciousness:
grant us (in this Society....),
and all who study the mysteries of your Creation,
grace to be true witnesses to your glory and faithful stewards of your gifts;
through Jesus Christ our Lord.
Amen.*

2

We now come to the instructional part of the service. It seems that at one time there were four readings from Scripture; the Law, the Prophets, the Epistle, and the Gospel. Now, in general, we have the last three. In listening to these readings, the scientist may well be more analytical than the average person. Frequently the presentation and context of these writings are predicated and coloured by the way the writer understood the mechanics of his environment (i.e., the world), in his time. We now often see these things quite differently, and although it is easy to be conceited, we can, with care and humility, feel we understand this aspect of our existence more meaningfully. For some people this produces irreconcilable conflict. Indeed, for some scientists this is so, leading to their forsaking of the Church entirely. But if we remember that these old writers were not concerned primarily with how things happened, but rather why, then we can translate their message into our present day context, and reveal visions that are as valid today as they ever were. Indeed, sometimes the message can actually be clarified by our more modern scientific paradigms.

It is worth spending a few moments considering this problem. It proves very difficult for some people, particularly for those from a Protestant tradition. To attempt to put this into perspective we must review some of our history.

The Church is, and by its nature has to be, made up of a spectrum of people, all with their differing aspirations, and all with the failings inherent in our humanity. And there have been instances where downright evil people have had significant positions and influence. One of the causes of the Reformation was that the influence of the Church was being misused, both temporally and spiritually. Christians were being told what to believe and do, and deviation from these prescriptions brought dire consequences. The Church had become an instrument of power, both spiritually and temporally, and this situation was challenged by those involved in the movement of revival and inquiry that we call the Renaissance. This led to the formation of breakaway groups that we call the Protestant Churches, where teaching was, at least initially, much less dogmatic, with much greater emphasis on searching the evidence, particularly the Bible, and in forming one's own spiritual visions. Unhappily, it was not long before these Protestant Churches became at least equally

dogmatic and prescriptive in their demands of unquestioning faith as the pre-Reformation Church. The present writer once heard the distinguished novelist and Christian, Dorothy Sayers, make a very telling and significant aside during a lecture. She said that the Reformation tended to replace an infallible Church with an infallible book, and for many of the Protestant groups that remains so today. We have our literalists, who insist that the Universe was created in six days, and although that particular vision is, by and large, accepted as representing only the vision of the time when it was written, every scientific finding which modifies a picture that can be derived from Scripture raises problems for a significant number of Christians. The scientist who believes himself to be a Christian sees Scripture as the record of wisdom, depicted in the context of the materialistic paradigms of the time of its writing. The vision of the meaning of life, and a vision of good that is more than that which works, is what we look for. We still see human life as part of something much greater -- part of some Grand Design, behind which is a Grand Designer, with a Purpose.

Some suggested readings for a special service might be:

Lesson 1 Genesis 3: 21-23 or Wisdom 7:15-26

Lesson 2 1 Corinthians 13: 11-12 or Revelation 21: 1-4

Lesson 3 John 1: 1-14

Interestingly, Psalms, which may be recited or sung between the lessons, often display an appreciation of Creation in a manner similar to that of a present day scientist. Examples are Psalm 19, and Psalm 111, the second verse of which, in the Latin version, is engraved over the entrance to one of the most significant physics laboratories in the world, the Cavendish Laboratory at Cambridge, in England. It is believed they were put there at the request of Professor James Clerk Maxwell, who was responsible for developing the mathematical equations which are the basis of modern electrical engineering.

The sermon, or homily, is part of this instructional section. One listens to this with a view to learning some new aspect of the theme of the day. However, a scientist may be disappointed because few clergy have enough scientific background to appreciate his or her approach to truth. When this happens, it should not be a disaster for a scientist, even if he or she is unable to be satisfied by the preacher's vision of the subject, because the overall purpose of the service is celebration and worship, and that is yet to come.

3

To approach the worship section, we recite one of the ancient creeds.

We believe in one God

Some will say that for a scientist this has to be hypocrisy. It is probably true that the meaning attached by the scientist to this profession of faith differs from that attributed to it by others, but the honest expression of faith by anyone should not be the subject of unconstructive criticism by others. We should remember that Christ asked his followers, "Who do people say that I am?", and then "But who do YOU say that I am?" That is surely what each of us is required to do at this time, not only in relation to Jesus, but to the totality of Deity and our relationship with Deity.

We then, in our prayers, pray for the Church everywhere in all space and in all time. Unfortunately, in our time, this prayer or litany has been allowed to become dominated by the particular concerns or interests of the person who leads the prayer. But we must all be careful that we personally pray for all creation at this time.

The act of contrition has already been referred to, but there is often a specific act inserted here, as we approach the climax of our worship. This position reflects our desire to be clean as we approach the altar.

We now approach the element of the service which is essentially worship. We are exhorted to:

Lift up your hearts

and we respond:

We lift them to the Lord.

We are then invited:

Let us give thanks to the Lord our God.

and we respond:

It is right to give him thanks and praise.

The priest then reaffirms this, and invites us to join with all people of every age and everywhere in so doing and in worshipping, and we approach the Presence.

In so doing we refer to Isaiah's vision (Isaiah 6: 1-4:

In the year that King Uzziah died I saw the Lord seated on a throne, high and exalted, and the skirt of his robe filled the temple. Seraphim were in attendance on him. Each had six wings: with one pair of wings they covered their faces and with another their bodies, and with the third they flew. They were calling to one another:

"Holy, holy, holy, is the LORD OF HOSTS: the whole earth is full of his glory."

As each called, the threshold shook to its foundations at the sound, while the house began to fill with clouds of smoke.

This passage can be a puzzle. On a number of occasions and in various places in the Bible, it is asserted that no-one has ever seen God. But here we have Isaiah claiming to have done just that.

The researcher in science spends most of his or her time trying to make sense of their observations. Just very occasionally, for a brief moment, things make sense, and one has a vision of a Grand Design. It is suggested that it is this type of vision that Isaiah had. It is a wonderful, even intoxicating, moment. We have a brief description of the magnificence of that moment as experienced by the prophet. That vision of the Presence is one we incorporate in our Liturgy, and have done so since early times in the Christian Church. As we contemplate this we may bear in mind also the embellished description of the writer of Revelation in the fourth chapter.

What does each of us picture as we contemplate the Presence in our worship? I venture to suggest that this element in the Liturgy is frequently allowed to pass with little significance to the worshipper. But for the scientist this is, at least in part, the fulfilment of those flashes he or she has in their research. The Grand Design is there; although we see it, to use Paul's imagery, "As through a glass, darkly". But it is magnificent. The Creator's Creation, the laws of order, and the beauty of their

working are there. The mystery is at least partly revealed, but sufficiently to stimulate our faith in its final and complete Revelation. Jesus is recorded as saying of us humans, "By their fruits you shall know them". Surely, if this is true of us, it is a valid thing to say of the supreme Creator. God, in all his divinity, is revealed to us, at least in part, in the wonders of his Creation.

But as we have seen, discovery of order in Creation leads us to contemplate the question "Why?", and to seek a purpose. At this moment our faith in a purpose, and our urge to seek it, are stimulated. Through Sigmund Freud we have learned that virtually all animal action, including that of the human, arises from sexual biochemistry, and that includes love, and the inquisitiveness which makes a scientist. However, the mystery of a possible destiny remains a mystery, but here in the Presence, we are reassured of the destiny. We see that Freud's sexual biochemistry is but part of the means of achieving that destiny. The puzzles of life that we see all around us, such as evil, pain, and our own perversity in doing the wrong even though we know the right, i.e. our sin, somehow promise to make sense within that Grand Design, and even contribute to the magnificence. Here is the ultimate in grandeur; beauty, joy, fragrance, and love. The vision involves all the senses; sight, sound, smell, touch, and taste.

Appreciation of the essentially superlative nature of this moment has stimulated artists of every kind to lavish their finest efforts on beautifying it. The architecture of the area of the Altar, the embroidery of the Altar frontals and other decorations, including the vestments of the Ministers at the Altar, and all the other accouterments of the service, represent the finest that can be produced with the limitations of ability and money. The smoke seen by Isaiah is often reproduced with sweet smelling incense. But perhaps the musicians have given some of the finest and most diverse expressions of magnificence to this moment. In all musical settings of the Mass, the Sanctus represents the climax, within overall works which usually are the finest efforts of any composer. Although it was not written as a liturgical Mass, that of J.S. Bach in B Minor is perhaps the greatest. The upper voices singing "Sanctus" provide a magnificent tracery or embroidery, which resolves itself into a superlatively beautiful sequence of chords, while the orchestra dances around them. And the bass voices seem to depict us heavy footed mortals stomping around in elephantine joy. The rhythm simulates the swinging of the censer. All this gives way to a heavenly dance in the fugue of "Pleni sunt coeli", to be superseded by the unleashed exuberance of the double chorus dance of the "Hosanna". The wonders of science as seen by the scientist are entirely in tune with these visions of people of earlier eras.

Can anything following this be other than anti-climax? On the contrary, the greatest is yet to come.

In its contemplation of primordial origin, ancient Hebrew wisdom envisioned God and the Spirit of God, in darkness (Gen. 1,1-2). While the parallel should not be pressed too far, science also tends to think of a duality at the beginning of Creation as we know it -- there was matter/energy, and the laws of physics. Implied also, was darkness. Along with this, most scientists have a concept of a "Grand Design", of which they can see only a tantalizingly small part. The nagging question that the scientist is led to contemplate is the possibility of ultimate purpose.

Although some scientists will deny a belief in an ultimate purpose, this is usually because they insist on defining the word too narrowly. But it is difficult to conceive of any serious-minded individual not seeing some purpose in their lives, and thus envisaging some overall purpose in life itself, even if they are quite unable to enunciate what that purpose may be.

The ancient Hebrew wisdom had physical light as the first ingredient of creative development (Gen.1,vs.3). However, subsequently, in Old Testament writing, the word "Light" referred not only to

physical light, but to enlightenment and understanding; light was associated with that which was positive and good, and darkness with ignorance; that which was negative and bad.

The writer of the Fourth Gospel, in his Prologue (Jn. 1,1-18), sought to modify our concept of primordium in a significant way. While he agreed with the first two verses of Genesis, he claims that the description is incomplete. In that primordial darkness there was a light which the darkness could not extinguish or overwhelm. Thus, light was not subsequent to the primordial beginning; it was there from the beginning. The writer uses other terms in conjunction with light, namely life, which he identifies with the light of us humans. But above all, he uses the Greek word "Logos"; a word which seems to have been used at different times and places with somewhat different meanings, but seemingly with the common thread that it referred to a significant human preoccupation of the time. In our present scientific age it would seem legitimate to envisage it including purpose. It was this light, life, logos, which assumed human form roughly 2000 years ago.

Since the earliest Christian times there have been differing approaches to the Faith, and "Schools" of thought evolved. We read of the schools of Carthage, Alexandria, Jerusalem, Constantinople, and Rome. In time, two became dominant, Rome and Constantinople. The Western Church (i.e., Rome) has tended to focus on what God does -- in his works. This is clearly in harmony with the visions of the scientist, and it may be contended in this context that this very thrust to examine and contemplate God's works may have stimulated the pursuit of science and scientific understanding in the Western world. But the Eastern Church (traditionally centred in Constantinople) has had its thought more biased toward the nature of God. In the same way that science provokes us to look beyond its domain to seek a purpose, it is similarly appropriate that we should move Eastward in our thoughts to look at the Biblical record to see Purpose and significance rather than history, along with subsequent evolution of thought on these matters. We see a similar movement of emphasis as we move from the synoptic Gospel narratives to the fourth Gospel narrative.

Jesus' teachings as related in the Gospel narratives show us how to live this present life, but then we have another attempt by the darkness to overcome the light in the Crucifixion. Its success was only apparent and temporary _ the light triumphed!

The drama of the last meal shared with the immediate followers represents the institution of the timeless institution of the Sacrament we have with us to- day. In it, Jesus, the light, life, logos, human face of God, identifies his substance (body and blood), with the food and drink that we need and enjoy in this life (bread and wine) and invites us to consume it. In accepting it we accept our unity with the light, life, logos, and all the responsibilities that go with it. Now we are not just passive observers of the magnificence of the Sanctus -- we are an integral part of it. Here also we have an advance on the picture we have from Genesis. In the Adam and Eve story we are seen to receive our most advanced understanding (of good and bad) as the result of sin and disobedience, implying that this was not the Divine intention. Here, in the Sacrament, we are invited to receive it, the implication being that this is the Divine desire.

We need to reflect on this approach, because the emphasis differs from the conventional one we have received from the Church. That emphasis is on Redemption. The present approach is in no way in contradiction with this, and Redemption remains an essential part of the Sacrament. However, in our time this element has tended to lose its force, because, in some measure, the concept of forgiveness has been accepted by society. Our justice system is now much more oriented to the rehabilitation of a criminal than to revenge, or even to punishment. In a way this change represents success for the Gospel, but it means that we must now move on to see that forgiveness and redemption are for a purpose, and we are challenged to proclaim that purpose.

Traditionally the Sacrament has been predicated by the belief that Christ, the Logos, the Son of God, was sacrificed once and for all time, in place of the annual animal sacrifices of the Day of Atonement rituals, and by virtue of that, in Holy Communion we receive grace, and justification for our sins. The foregoing picture in no way lessens the import of this _ indeed, this Redemption is a necessary prerequisite for our consummation of and into the Logos and the Purpose. Immediately before we receive communion we make a final cry for forgiveness as we say or sing:

*O Lamb of God, that takes away the sin of the world,
have mercy on us -- Grant us peace.*

But we now amplify the traditional vision of our unity with the Creator that has been part of the traditional picture, the amplification being achieved by seeing perhaps a little more of the Creator through his Creation. Furthermore, Redemption is the preparation for entering into our ultimate roles as partners with God in his Divine Purpose. Our acceptance of the Sacrament represents acceptance of the challenge to participate as fully as we can discern it, in the fulfillment of God's purpose for the world in which he has placed us.

4

We should now depart, in joy and happiness to "Love and serve the Lord" as one of the responses has it. One of the brief prayers of the Church of England seems to strike the right note.

*Almighty God,
we thank you for feeding us
with the body and blood of your Son Jesus Christ our Lord.
Through him we offer you our souls and bodies
to be a living sacrifice.
Send us out
in the power of your Spirit,
to live and work
to your praise and glory.
Amen.*

There may be a temptation to linger with various prayers, which is sometimes counter-productive, in that they can seem to doubt that we have indeed been redeemed and unified with the Creator and that further supplications are necessary. But again the musicians have captured an appropriate note. The final prayer of Bach's B minor Agnus Dei begins with a quiet humble supplication for personal peace. As it progresses the tone becomes more confident and joyful, until finally the triumphant ascending scales of voices and trumpets have us rejoicing that we have indeed been granted that prayer.

EPILOGUE

While it is counterproductive to prolong the service rather than "Go out into the world to love and serve the Lord", it is appropriate to consider carefully the implications of what we have done, and where it should lead. Isaiah's vision shows the way. Following the vision of the Deity which has already been quoted we have:

Then I said, "Woe is me! I am doomed, for my own eyes have seen the King, the Lord of Hosts, I, a man of unclean lips, I, who dwell among a people of unclean lips".

Here we accept the need for Redemption before we can take our place in the Divine Destiny and Purpose. Isaiah then goes on:

One of the Seraphim flew to me, carrying in his hand a glowing coal which he had taken from the altar with a pair of tongs. He touched my mouth with it and said, "This has touched your lips; now your iniquity is removed and your sin is wiped out".

In the Holy Eucharist our Redemption from sin has been consummated, and the elements of Holy Communion have replaced the live coal. Isaiah continues:

I heard the Lord saying, "Whom shall I send? Who will go for us?" I said: "Here am I! Send me." "We have accepted the same challenge to "Go in peace to love and serve the Lord". Isaiah then hears God's challenge, "Go, tell this people: However hard you listen, you will never understand. However hard you look, you will never perceive. This people's wits are dulled; they have stopped their ears and shut their eyes, so that they may not see with their eyes, nor hear with their ears, nor understand with their wits, and then turn and be healed."

Here is the challenge, and the dire warning of the frustration that will accompany it. It is the frustration familiar to any teacher, and one with which Jesus was totally familiar. He taught in parables, in which there were no clear answers, but rather a requirement to think, and produce an answer or plan of action based on basic principles and the use of our God-given intelligence. In response to the disciples' question as to why he taught in this way, Jesus quotes our passage from Isaiah, seemingly almost cynically:

"For this people's mind has become dull; they have stopped their ears and shut their eyes. Otherwise, their eyes might see, their ears hear, and their mind understand, and then they might turn to me, and I would heal them." (Matthew 13:15)

The scholars tell us that the explanation which follows (vs. 18-23) was an insert of the writer, and not provided by Jesus, because such an explanation would defeat the requirement to think.

Any scientist who has a fortress mentality, and who is not objectively critical in his thinking, contributes absolutely nothing to the body of understanding, and certainly is a useless teacher. It is perhaps in this required wisdom, which is more readily demonstrably present or absent in a scientist than in some other disciplines, that science can contribute to modern day understanding of religious faith, and help to bring it out of the mind's museum into a relevant contemporary context. And from the parable of the talents we learn that failure to make use of these gifts, and whatever others we may have, will lead to personal disaster.

Cyril E. Challice