

Christianity & Society

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Giordano Bruno was deeply engaged in and passionately obsessed with a magical, naturalist vision of the world that was diametrically opposed to that of modern science. Bruno conceived of himself not as a scientist (as we understand it) but as a magician. He was influenced in this respect by three Renaissance scholars—Marsilio Ficino and Pico della Mirandola of Florence, and Henry Cornelius Agrippa of Nettesheim. But above all he drew his inspiration—as they had done—from the two ancient volumes that, it was believed, had been written by a great Egyptian magician by the name of Hermes Trismegistus—Mercury the Thrice Great. The two books were called the Pimander and the Asclepius.

—Colin Wright
“Reflections on Recent Studies
Concerning Giordano Bruno” (p. 26)

Christianity & Society is the official organ of the KUYPER FOUNDATION, a Christian educational trust founded in 1987. The Kuyper Foundation exists to promote a renaissance of Christian culture in society by furthering awareness of the implications of the Christian faith for every sphere of life, including the Church, family and State. Its vision of Christian society was expressed in the words of Abraham Kuyper, the Dutch Christian theologian and statesman, who said: “One desire has been the ruling passion of my life. One high motive has acted like a spur upon my mind and soul. And sooner than that I should seek escape from the sacred necessity that is laid upon me, let the breath of life fail me. It is this: That in spite of all worldly opposition, God’s holy ordinances shall be established again in the home, in the school and in the State for the good of the people; to carve as it were into the conscience of the nation the ordinances of the Lord, to which Bible and Creation bear witness, until the nation pays homage again to him.” The Foundation seeks to promote this vision of Christian society by publishing literature, distributing audio-visual materials, and running lecture courses and conferences. The Kuyper Foundation is funded by voluntary donations from those who believe in the cause for which it works. More information on the ministry of the Foundation can be obtained from the address below or from the Foundation’s web site.

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COVER PICTURE:
An engraving of Hermes Trismegistus from
Jacques Boissard, *De Divinatione et Magicis*

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EDITORIAL

ILLITERACY

by *Stephen C. Perks*

WE live in a culture in which for most people the terms “intellect” and “intellectual” are dirty words. Illiteracy is all the fashion in Britain today. This can be seen at many levels. Despite the fact that more money is poured into the education system today than at any other time in our history, illiteracy is a growing problem in State schools, not a diminishing one. There is even a charity now dedicated to raising money to help solve the growing illiteracy problem among children in State schools. This is in addition to the already massive amount of taxes spent on the State education system. A good example of the growing illiteracy problem in our society is the fact that if teachers in State schools wish to write a letter to the parents of children in their classes that all the parents will be able to read, they must assume a reading age of eight. If a higher reading age is assumed the likelihood is that the parents of some children in the class will not be able to read the letter.

There are a number of reasons for this growing problem of illiteracy. Despite the fact that the government would like us to believe that the real problem is lack of funding and investment in the latest computerised technology etc., these things count for very little in providing a good education. In Britain the real problems affecting ability to make use of a good education are not lack of opportunity and poverty. Rather they are personal and family problems of a moral and spiritual nature. There is a hierarchy of needs in life for all people, and in the case of children the correct ordering of this hierarchy is essential to their being able to make good use of the educational opportunities before them. An education is of very little value to someone who is starving or freezing from lack of clothes etc. Before one can make use of a good education one needs to be fed and clothed. Most children have these needs met in our culture. But there is another vital priority that needs to be met before a child can make good use of an education, namely, a stable, loving and disciplined family environment. Without this it is unlikely that a child will be able to make good use of their education, no matter how good that education is. Most behavioural problems afflicting schools today boil down to a deficiency at this level. The Christian ideal of the family—i.e. the married heterosexual two parent family in which the husband and wife remain faithful to each other—is now in a minority in Britain. The decline of this ideal of the family has produced a culture in which a significant percentage of children are having to deal with situations such as their parents going through a divorce, or not having a father or mother, or their single parent’s dysfunctional relationship with the latest live-in partner etc. The emotional turmoil and pain that this kind of family instability causes makes it very difficult for those children having to live through it to make good use of their State-funded, information super-highway saturated educa-

tion. Until they have their home lives sorted out so that they can develop emotionally in a normal way they will not be able to make good use of their time in school. But do our Mammonist governments take this into account? Not in the least. They do not seem to be able to see past the ends of their own noses. The answer is always deemed to be money. Throw more money at education and we shall get better results. But it does not work. Things get worse not better because the problems are not financial problems, they are behavioural problems that have their root in society’s abandonment of Christian morality. Rather than trying to reverse this problem, our governments seem intent on stripping away as many of the Christian values from our society as they can. They are making the problem worse by their own espousal of secular values and their insistence on the creation of a secular culture. As a result children from dysfunctional families grow up with dysfunctional lives and contribute to the creation of a dysfunctional society in which the values and virtues of being educated (rather than merely schooled) are abandoned. Modern secular values and a highly educated society are ultimately conflicting ideals. The abandonment of Christian family values is one of the causes of illiteracy in our society.

Of course this is not the only cause of illiteracy. Another problem is the way television, and now computers, have changed the way people become informed. Information is not passed on by means of reading to the same extent. To a large extent TV and computers are replacing education with programming. The ability to think critically about the vital issues of life is not on the agenda today. Instead information cramming for the purpose of acquiring a “qualification” (i.e. a certificate) is what matters. This is achieved by drilling, not by the encouragement of understanding and critical thought about the real issues confronting the individual and society. And the passive intake of information via the media, TV, videos etc., in which images and the content of the message change constantly and nothing is studied in great detail, seems to have produced among very many people a shortened concentration span and an aversion to applying themselves, perhaps even an inability to apply themselves, in a disciplined manner to thinking for themselves. The result is that people leave school with their heads full of certain kinds of information but with very little understanding, and often no desire to understand the purpose of their lives beyond the mundane task of “getting on” in life. And this brings us to another cause of illiteracy in our society.

The fact is many people just cannot be bothered to use their minds. There are many who do not fall into the category of those who were not able to make good use of their education because a more fundamental human need was lacking in their hierarchy of needs in childhood. They went to school, availed themselves of the opportunities to learn and acquired the skills needed to become educated people. But in the end they might as well have not bothered for all the good it has done them. These are people who simply do not want to be educated, who do not want to understand the vital issues of life and interact with the world in which they live in such a way that they make a meaningful contribution to the development of human culture. Their aim in life is not to make good use of their lives, equipment for which is surely the proper purpose of a good education. Rather, the meaning of life is football, or the next holiday, or getting a better car etc., and the only real purpose of a good education in

their eyes is to facilitate their progress up the banal ladder of modern materialism. Such people pass through life passively, resisting by all means possible the hideous idea that any meaningful thought should take up residence in their minds. Despite their ability to use their minds constructively and meaningfully they object to any suggestion that they ought to engage their intellect in life as well as their emotions and passions, and they reject anything that might lead them to do this, particularly if it manifests itself in the shape of a book. This is functional illiteracy, a kind of self-imposed exile from the contemplation of anything meaningful and a refusal to consider using the mind in any way that would compromise this state of intellectual paralysis. There is another and much better word for this condition though: *ignorance*.

It is particularly troubling, however, that this culture of illiteracy is as strong in the Church as elsewhere, in some respects even stronger. Even many Christians who are able to use their minds and who are required to engage in intellectual activity for their jobs and hobbies will balk at having to do this in church or in relation to their faith. Ignorance is bliss for many Christians. In one Church house group I attended I was asked by a university graduate in physics to repeat a question I had asked, in words of not more than two syllables, so that he could understand it—a request that could not even be *asked* in words of not more than two syllables!

This worship of ignorance, particularly in regard to the doctrines of the Christian faith, has produced a serious deficiency in the Church's witness to the world. David Couchman's article "Mindless Christianity?" makes a very important point here. Apologetics—giving a reasoned defence of the faith—is required of all Christians. Understanding the faith is not an option therefore, but a requirement of effective witness to Jesus Christ. Emotional testimonies of conversion to the faith and the like will not fulfil our duty to bear witness to the truth of the gospel. We live in an age in which secular humanism has made a frontal assault on the intellectual veracity of the Christian faith, and moreover, in which the Church has, by and large, failed to defend the faith against this assault. As a result many Christians have swallowed, hook, line and sinker, the secular humanist myth of evolution. The facts are out and they stand witness against Christianity in the minds of many Christians no less than non-believers. Instead of challenging this error Christians have come up with "theistic evolution," which is an attempt to mould the Christian faith into a form that will accommodate the facts as interpreted by secular humanists. But this is nothing more than an accommodation by Christians to the religious apostasy of the modern age. The Christian doctrine of Creation and the doctrine of evolution are based on contradictory religious presuppositions. It is absolutely vital that in our apologetics we make this point clear. If we fail to make this clear and, having made it clear, fail to hold the non-believer to this point and demand that he address it, we fail to provide him with biblical apologetics that holds him to account for his religious apostasy.

This is why the traditional apologetic method of *relying* on evidence for the Creation is ultimately futile. It is the fundamental difference between the religious presuppositions of the believer and the non-believer that accounts for the conflict between evolution and Christianity. No matter how much evidence the Christian puts before the non-

believer the latter will always interpret that evidence in a different way because his basic presuppositions about the origin, nature, meaning and value of life are different. In other words, he starts from a different religious perspective, and it is this that accounts for his interpretation of the facts. Facts do not speak for themselves; they are spoken about by human beings with theories about what the facts mean (the role that religious presuppositions play in our thinking and the need for intellectual honesty and integrity are explored in Colin Wright's article "Reflections on Recent Studies Concerning Giordano Bruno"). This does not mean that evidence is of no value, that it does not have a role to play in apologetics. It most certainly does. But arguments from evidence must be set in a context that recognises and exposes the fundamental role that religious presuppositions—the non-believer's as well as the believer's—play in understanding and interpreting the evidence. When this is done the theistic evolutionist theory is seen to be no more than a compromise with the presuppositions of secular humanism and the dominant world-view created by those presuppositions, namely the atheist religion of evolution, and therefore just as inconsistent with the teachings of Scripture as the undirected, random evolutionary perspective of the non-believer.¹

It is refreshing therefore to be reminded of the fact that in the past Christians have so often been leaders of culture and science, not worshippers of ignorance or followers of the latest fads of apostasy. The vigorous intellectual tradition of Christianity is something the modern Church should cherish and emulate. We should aspire to be thinkers for Christ, not mindless morons addicted to chanting repetitive choruses that mean virtually nothing. God requires us to use our minds in his service, i.e. to *worship* him with our minds (Rom. 12:1–2). Frances Luttikhuisen's article "In Memory of the Versatile Puritan Divine, Dr John Wallis," and David Estrada's article on Samuel Rutherford remind us of our calling to use our minds for God by showing us some of the achievements of Christian thinkers of the past.

Similarly, Doug Baker's article on "Reading Difficult Poetry as a Christian Endeavour" shows us that appreciation of good poetry often involves intellectual effort. The more effort we are prepared to put into reading such poetry the more we shall get out of it. Our appreciation of much of the best in human culture requires us to be educated. Those who are illiterate and those who pursue ignorance as a way of life—i.e. those who are functionally illiterate—will have to be content with nursery rhymes. The same principle holds true in music and art.

The Church has always in the past proclaimed the importance of education and led the way in establishing

1. On presuppositional apologetics see Cornelius Van Til, *The Defense of the Faith* (Philadelphia: Presbyterian and Reformed Publishing Company, [1955] 1967); *A Christian Theory of Knowledge* (Nutley, New Jersey: Presbyterian and Reformed Publishing Company, 1969); *A Survey of Christian Epistemology* (Phillipsburg, New Jersey: Presbyterian and Reformed Publishing Company). On the importance of religious presuppositions as they relate to scientific work see Colin Wright, "Karl Popper's Scientific Enterprise" parts 1–3 in *Christianity & Society* Vol. xi, Nos 1–3 (Jan., April & July 2001); "The Presuppositions of a Christian Scientific Enterprise" in *Christianity & Society*, Vol. xiii, No. 1 (Jan. 2003). On the problems with theistic evolution (i.e. Christian compromise with the religion of evolution) see Stephen C. Perks, "Baal Worship Ancient and Modern" in *Christianity & Society*, Vol. xi, No. 4 (October 2001).

educational institutions. But why is education so important to the Church's mission? Not merely because the educated person can "get on" better in life and earn a larger salary etc., but because an educated society can pursue the cultural mandate and the great commission more effectively than an uneducated society can, and as Christians it is our duty to pursue the cultural mandate and the great commission. "The heaven, even the heavens, are the Lord's: but the earth hath he given to the children of men" (Ps. 115:16). As Christians we are called to develop the earth, physically and culturally, for the greater glory of God and to disciple the nations to Christ. This requires intellectual maturity. Unfortunately, intellectual immaturity as a way of life has become entrenched in the popular culture of modern Britain, and the Church has followed the world in this. If the Church is to fulfil her cultural mandate she must abandon her infatuation with ignorance and apostasy and provide vision and leadership for the world around her, and she must lead the way in developing an ethos of intellectual maturity and integrity that will bear fruit across the whole spectrum of cultural life. This is what the Church has done in the past, however imperfectly, yet with inestimable benefits for mankind as a result, and this is what she must do again. Christianity does not work by magic. God works through his Church—i.e. the members of his body on earth. When the

Church is faithful to her calling, when she dedicates herself to the works that God has called her to, the result is the advancement of the Kingdom for the greater glory of God and the benefit of the whole earth.

One of the difficult problems we face today is how to get the Church to recognise the importance of her cultural mission once again. Another problem is how to convince Christians that they must abandon the ethos of ignorance and intellectual immaturity regarding matters of the faith that presently hamstring their ability to pursue the cultural mandate effectively. Until we have addressed and overcome these problems the Church will remain ineffective in her calling to disciple the nations to Christ. A Church that is illiterate in her understanding of the faith and the cultural mandate will be unable to fulfil the great commission. As such she will have lost her saltiness and will be fit for nothing, except to be trodden under foot by men (Mt. 5:13). Unfortunately, this is the sad state of the Church on the whole in Britain today. If the Church in Britain is to recover from this condition she must pursue understanding and intellectual maturity in her practice of the faith. This means that Christians must repent of the culture of ignorance and illiteracy that presently dominates the life of the Church and dedicate their *minds* to God's service, as Christ commanded (Mt. 22:37; Lk. 10:27). *C&S*

MINDLESS CHRISTIANITY?

by David Couchman[†]

WE often teach a heresy in our churches. It is an apparently small heresy, but its results can be devastating. We teach that everyone is supposed to be an evangelist, but only a few gifted specialists are supposed to be able to defend the truth of the Christian message—perhaps people like Francis Schaeffer, or C. S. Lewis. This can lead us into an obsession with technique at the expense of truth. We somehow feel that if only we could get our evangelistic methods right more people would become Christians. The result is an endless round of "how-to" courses in evangelism. The Bible reverses this. It indicates that being an evangelist is a spiritual gift that only some people have.¹ But it tells all of us to be ready to give a reason for the hope that we have.² We should all be able to explain—at an appropriate level—why we believe the Christian message is true.

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1. Eph. 4:11. 2. 1 Peter 3:15.

Why does this matter? More than a million people in England stopped going to church in the years from 1989 to 1998. In 1979, five and a half million people were in church on an average Sunday morning. By 1989 this had fallen to 4.7 million, and by 1998 to 3.7 million. If this rate of decline continues, by the year 2016, less than one per cent of the population will be going to church.³ We may try to massage these figures in various ways to make ourselves feel more comfortable. For example, we may say that those who attended church out of a sense of social obligation or a desire for respectability have stopped, and that those who are left are the genuinely committed minority. Or we may note that people's patterns of church-going have changed—they attend less frequently, or attend mid-week instead of on Sundays. Or we may point out that many "Bible-believing" Churches are thriving and growing in spite of the overall decline. All these points may be valid, but they have the sound of someone whistling in a graveyard at midnight to keep his spirits up. They are poor attempts to hide from ourselves something that we know to be true: the Church is massively irrelevant to many people in our society today.

3. Brierley, Peter, "The Tide is Running Out," *Christian Research* 2000, p. 27–28.

Yet people's spirituality has not disappeared; it has merely been channelled into new directions. Our hunger for spiritual reality will never go away because it is part of our being made in the image of God. Hundreds of years before Christ the writer of Ecclesiastes said that God has "planted eternity in the human heart."⁴ In the New Testament, when the apostle Paul was speaking about God's provision in Creation, he told the people of Lystra that God had "never left himself without a witness,"⁵ and in his letter to the Romans he said that "the truth about God is known to them instinctively. God has put this knowledge in their hearts."⁶ Whatever else these passages mean, they surely include the idea that God has made us with a built-in awareness of his reality. As St. Augustine said: "You have made us for yourself, and our hearts are restless until they find their rest in you." One contemporary writer says, "spiritual awareness is a necessary part of our human make-up, biologically built into us, whatever our religious beliefs or lack of them."⁷ God has made us as spiritual beings, and we cannot avoid it. We shall always express this spirituality in one way or another.

In the past, perhaps people might have expressed their spirituality through traditional Christian beliefs and church attendance. Today, they are likely to express it in a much wider range of beliefs and lifestyles: the New Age, Buddhism, involvement in the Environmental movement, practising various kinds of meditation (some of which do not appear to have any religious content at all), and a rising tide of involvement in occult practices such as Tarot, horoscopes, and witchcraft.

We can also see this openness to spirituality in the way people respond to public tragedies such as the massacres at Columbine high school in Colorado, or at Dunblane primary school in Scotland. At one level, the flowers laid and the candles lit at Dunblane were tributes to the children who died. However, they were also expressions of the spiritual longings of those who lived. As John Drane put it: "Ordinary people were reaching out to find God in the middle of their distress and their sorrow."⁸ One of the clearest recent examples was the way people responded to the terrorist attacks on the World Trade Center and the Pentagon. More people in America went to church in the week or so after the attack than at any time since the 1950s.⁹ George Barna said: "After the attack, millions of Americans were desperately seeking something that would restore stability and a sense of meaning to life."¹⁰ Another example was the huge outburst of public grief over the death of Princess Diana. As Tony Lloyd said, the emotional reaction displayed after her death was an unprecedented phenomenon. Lloyd described it as "the greatest spiritual experience" the country had had that century. He went on to say that "the candles, the flowers, the silence of London in the two weeks after her death were motivated by a hungering for answers, a folk religion."¹¹

About three quarters of the people in Britain say they are aware of some kind of spiritual reality, even though they do not go to church. A recent report from Nottingham Univer-

sity¹² explored the spirituality of such people. Here are some of its findings:

(a) Many people believe in some kind of "god" (with a small "g")

(b) Many people believe in providence or fate. They often feel that "these events were meant to happen," or sometimes that "it just wasn't meant to be."

(c) Many people pray, especially in times of crisis or difficulty, and they say that they receive answers to their prayers. People are often aware of the supernatural realm—they have a sense of God's presence, an awareness of the presence of evil, or of the presence of the dead.

(d) However, although people can be more open to spirituality, many of them are still embarrassed to talk about it. In some ways, it remains a "taboo" subject.

In reporting these findings, we are not saying that these expressions of spirituality are valid; we are simply noticing that this is how it actually "works out" at a popular level for many people today. This spirituality is itself a response (however distorted) to the way God has made us.

However, although people today often see themselves as spiritual, they do not see themselves as religious, and they do not usually see any connection between spirituality and the Christian faith, or the Church. It is common to hear someone say, "I'm not religious, but I am quite a spiritual person." Or, as the actress Dervla Kirwan said recently: "I don't need an institution to enable me to commune with the god of my choice."¹³ When talking about religious broadcasting, the controller of BBC1 television put it like this: "Religion will always have an important place, but religion is more than just one faith. It's about spirituality as well."¹⁴ So at the same time as church attendance is nose-diving, people are claiming to be more open to spirituality. Clearly, then, the Church—and by extension, the Christian message—is not perceived as being relevant to people's spiritual quest. We need to ask why this is.

If we go back a hundred years or so, the Evangelical, Bible-believing Church was right at the centre of national life, and was hugely influential. What has happened in the intervening years to move us from the centre to the un-influential margins of society?

One of the most important Christian groups at the beginning of the nineteenth century was the "Clapham Sect." This group is best known for its successful campaign to abolish slavery. But, as Ken Curtis points out,¹⁵ they were not "single-issue" people. They also founded missionary societies, launched this country's State education system, and campaigned for reform of working conditions. Their reforms may have prevented Britain having the kind of revolution that rocked France in 1789.¹⁶

We should not under-estimate the huge importance of their achievements. Nor should we under-estimate their commitment, zeal, and sacrifice for the cause of Christ. And

12. David Hay and Kate Hunt, *Understanding the Spirituality of People who don't go to Church* (University of Nottingham: Centre for the Study of Human Relations, August 2000).

13. *Radio Times*, 14–20 April 2001, p. 154.

14. Lorraine Heggessey, controller of BBC1, in an interview in the *Radio Times* (24–30 March 2001).

15. Clapham Sect: so much owed to so few, www.gospelcom.net/chi/GLIMPSEF/Glimpses/glimps087.shtml.

16. See, for example, David Estrada, "England's Silent Revolution" in *Christianity & Society* Vol. XIII, No. 1, (Jan. 2003), pp. 15–28.

4. Eccl. 3:11. 5. Acts 14:17. 6. Rom. 1:19.

7. Hay, David, & Hunt, Kate, "Understanding the Spirituality of People who don't go to Church," Centre for the Study of Human Relations, University of Nottingham, August 2000.

8. John Drane, in the London Bible College video *The Hero*.

9. Reported in *Church of England Newspaper*, Friday 21st December 2001, p. 24. 10. *Ibid.* 11. C. Sugden, (ed.), *Death of a Princess* (Silver Fish Publishing 1998), p. viii.

yet, at a crucial point, they failed. They set up “practical religion” in opposition to serious thinking about the Christian faith: “True Christianity, they believed, did not entail entering the marketplace of ideas. They did not think it worthwhile to intelligently engage the skeptics, German Biblical critics, agnostics and atheistic philosophers of their day. Instead, they claimed, God had called them to a purely practical faith: to send forth missionaries, to help the poor and downtrodden, to better people’s manners. These were the things pleasing to God; not intellectual debate or true apologetics.¹⁷ In fact, a popular belief of theirs was that one could only prove the existence of God by looking deep within one’s own conscience.”¹⁸

Given the huge successes of the nineteenth century Evangelicals, we might think that their lack of interest in the intellectual credibility of their faith did not matter too much. But it led to many of their children and grand-children turning away from Christianity. As they grew up, they read the attacks of atheists and agnostics, and their parents and Churches had not given them the means to defend themselves against these attacks. As a result, many lost their faith.

In a recent article, Jonathan Rice charts the story of the author George Eliot (1819–1880). Eliot, whose real name was Mary Ann Evans, was brought up as an Evangelical and—as Rice points out—taught to love God with all her heart, but not with all her mind. At the age of nineteen, she was a committed believer, and her hero was William Wilberforce. But within three years, she had rejected her Christian faith entirely. The reason for this rejection was that she read two books of biblical criticism. One was Charles Hennell’s *Inquiry Concerning the Origin of Christianity*, and the other was D. F. Strauss’s *Life of Jesus*.

Having turned away from faith, Evans, like so many others of the children of the Clapham generation, sought to continue to live a morally upright life. She famously said that God was “inconceivable,” immortality “unbelievable,” and yet duty remains “peremptory and absolute.” However, without any ontological under-pinning, there was of course no reason why duty should remain absolute. In the 1850’s—by which time she was already a successful author—Eliot fell in love with George Lewes. Lewes was already married, and there were no legal grounds for divorce. However, he left his wife, and lived with Eliot. They lived together as though they were married until Lewes died in 1878. As Rice says in his article, “What a wonderful beginning and yet such a horrible shipwreck for Mary Ann Evans’ life.”

What is so desperately sad about this story is that the works that caused Evans to lose her faith have today been thoroughly refuted. Rice says, “No careful, thinking person today could ever lose faith by reading Strauss! . . . Why didn’t the nineteenth century English Evangelicals produce solid responses to Strauss and others?”

However, the story does not end there. The first generation—the “Clapham Sect”—were committed Evangelical

17. It has been suggested to me in a private communication that at least one member of the Clapham Sect, John Venn, the Rector of Clapham, did involve himself in the intellectual issues of the day, as well as in the fight for social justice. I have not yet been able to confirm this. However, whether or not Venn as an individual pursued the intellectual challenges to faith, I believe the contention still stands that the Clapham Sect as a whole did not.

18. Jonathan Rice, “Why do we need apologetics? The tragic failure of English Evangelicalism repeated by the Indian Church,” www.facingthechallenge.org/rice.htm.

Christians who did not concern themselves with defending the credibility of Christianity against intellectual attacks. The next generation lost their Evangelical faith, but tried to keep up some kind of moral life—not always successfully, as we have seen in the case of George Eliot. The following generation of descendants of the “Clapham Sect” threw out their grandparents’ moral standards as well, and plunged into a life of decadence. They became famous as the “Bloomsbury Group.” The historian Gertrude Himmelfarb charts the course of events:¹⁹ in just two generations, some members of the same families had gone from lively Evangelical faith to out-and-out atheism and immorality. Why? Because that first generation did not concern themselves with defending the credibility of the Christian message against intellectual attacks.

What does this have to say to us today? It suggests that if the Christian message is ever going to be heard again in the public arenas of our land and our society, it will not be because we adopt more sophisticated evangelistic marketing techniques. It will be because we recapture a concern for defending the truth of this message. It will be because we recognise that every Christian is supposed to be able to give a reason for the hope that we have.

There are two different ways that our faith can be challenged today. One we could term the “modernist objection” and the other the “postmodernist objection.” When I was a student, thirty years ago, it was possible to have a discussion with a non-Christian friend about (for example) the evidence for Jesus’ resurrection. We might not agree about the conclusion, but we both understood that it was a matter of objective reality: either Jesus did rise from the dead or he did not—and the decision had to be based on how we understood the evidence. If my non-Christian friend disagreed with me, his underlying view (however politely expressed) was likely to be: “How can you be so foolish as to believe that, in this scientific age?” For more than a century, the challenges to Christian faith came primarily from liberal theology, originating in Germany in the eighteenth and nineteenth centuries, and from Darwinism. The former taught us to disbelieve the Bible; the latter that there was no need for a creator. These are still “live” issues, and I will return to them below. However, today, as Christian believers seeking to interact with our society, there are new challenges that we did not face thirty years ago—or even ten years ago:

1. Truth has become a flexible concept for many people. What is “true for you” does not need to be “true for me too.” Today, truth is relative rather than absolute, socially constructed rather than discovered, personal rather than universal, and subjective rather than objective. So, for example, the feminist writer Dale Spender says “Truth is what we invent, not what we discover.”

2. Right and wrong are no longer something God-given, absolute, or even socially agreed. Today “I choose what’s right for me”—and no-one else has any right to criticise my choices. If I choose to sleep with my girlfriend (or indeed my boyfriend), that is just my individual lifestyle decision.

3. Christian faith has become privatised. If you want to be a Christian in the privacy of your own home or Church,

19. Himmelfarb, Gertrude, “From Clapham to Bloomsbury: a Genealogy of Morals,” www.facingthechallenge.org/himmelfarb.htm.

that is your choice—but you must not expect your Christian faith to have an influence on society at large. “I’m glad you’ve found something that helps you—but please don’t push it down my throat; it isn’t for me.”

So today the challenge is no longer “How can you be so foolish as to believe that?” Rather it has become “How can you be so arrogant as to think that one truth fits everyone?” Over the past few years, the organisation with which I work, Focus Radio, has been developing a new apologetics training course called “Facing the Challenge.” This course is designed to make us aware of and alert to the questions that people are asking today, and to equip us to respond to these questions biblically and effectively. Several hundred Churches and groups have already used the course successfully across the country (as well as in the USA and Australia). A wide range of Christian leaders have commended it. Revd David Jackman, of Proclamation Trust, calls it a “first-rate course” and says that “its range of study methods is brilliantly suited to both personal and group use.” Revd Robert Horn, the former General Secretary of UCCF, says that “This excellent course is clear, concise and usable—ideal for groups.” Wherever the course has been used, it has been very well received. When it was presented at last year’s Keswick Convention, one participant called it the “highlight of the Convention” and another said it was “well worth travelling over 300 miles to hear.” This course is designed to be used in churches, home groups, Christian Unions, and by individuals. It runs in six one-hour sessions that include taught material, study questions, practical assignments and background information. If you would like to find out more about it, please refer to the notes at the end of this article.

As well as this course, there is a growing body of resources to equip Christians to understand the postmodernist challenge. Two of the most recent and best are Marcus Honeysett’s *Meltdown: making sense of a culture in crisis*,²⁰ and Pete Lowman’s *A Long Way East of Eden*.²¹

However, when the weaknesses of the postmodernist challenge are made apparent, will the objector then turn to faith in Christ? Not necessarily. They are more likely to revert to the modernist objection. Instead of asking “How can you be so arrogant?” they turn again to ask “How can you be so foolish as to believe that?” Many people today still think, in a naïve and uninformed way, that Darwinism and liberal theology have discredited the Christian faith. Nothing could be further from the truth. A growing mass of evidence now supports the credibility of the Christian truth claim.

One plank in this evidence comes from the “anthropic coincidences”: over the past twenty or thirty years, astronomers and physicists have been surprised to discover some remarkable “coincidences” that make our lives possible. It looks as if the universe has been incredibly “fine-tuned” for human life.

For example, if the forces inside the nucleus of atoms were slightly different, either there would be no hydrogen atoms at all or else the universe would be nothing but hydrogen atoms. Either way, you and I would not be here. If the electromagnetic forces inside atoms were just a tiny fraction different, the various kinds of atoms needed for life

could not exist, and our lives would be impossible. And so on. One author lists more than thirty such remarkable “coincidences” in the way the universe is made.²² The chance of all these things being “just right” for us is much less than the chance of the same person winning the lottery not just once, but ten times in a row.

Scientists are struggling to know what to make of it. An article in *New Scientist* magazine says: “The Universe we live in seems to be a very unlikely place. Random processes and statistical fluctuations could easily have made it quite inhospitable to life. Are we just lucky? Or is there some deep significance to the fact that we live in a universe just right for us?”

The astronomer professor Paul Davies comes to the conclusion that “The impression of design is overwhelming.”²³ The late professor Sir Fred Hoyle—no sympathiser with Christianity—expressed the view that “a super-intellect has monkeyed with physics as well as with chemistry and biology.”²⁴ The astronomer George Greenstein says: “As we survey all the evidence, the thought insistently arises that some supernatural agency, or rather Agency, must be involved. Is it possible that suddenly, without intending to, we have stumbled upon scientific proof of the existence of a supreme being? Was it God who stepped in and so providentially created the cosmos for our benefit?”²⁵ The cosmologist Edward Harrison puts it like this: “Here is the cosmological proof of the existence of God—the design argument of Paley—updated and refurbished. The fine tuning of the universe provides prima facie evidence of deistic design. Take your choice: blind chance that requires multitudes of universes or design that requires only one . . . Many scientists, when they admit their views, incline toward the teleological or design argument.”²⁶

As a result of these discoveries, belief in a God who created the cosmos is now, in some senses a much more “respectable” option than it was a few decades ago. The historian of science Frederic Burnham claims that the belief that God created the Universe is “a more respectable hypothesis today than at any time in the last hundred years.”²⁷ Christians ought to be aware of these developments.

Of course, non-believing scientists struggle to come up with alternative explanations that will discount the anthropic coincidences. One such alternative explanation is to suggest that there are millions upon millions of parallel universes. If there are many such universes, the chances are much higher that one of them somewhere might be suitable for human life. However, this is pure speculation, driven, we suspect, by a determination not to find evidence of God’s reality even when it is under our noses. Were Christians to put forward such feeble arguments in favour of God’s reality, we would be laughed out of court—and rightly so.

22. Hugh Ross, *The Creator and the Cosmos* (Navpress 2001), pp. 154ff.

23. Paul Davies, *The Cosmic Blueprint* (Simon & Schuster 1983), p. 203, in Ross, *op. cit.*, p. 157.

24. Fred Hoyle, “The Universe: Past and Present Reflection” in *Annual Reviews of Astronomy and Astrophysics*, 20 (1982), p. 16, in Ross, *op. cit.*, p. 157.

25. George Greenstein, *The Symbiotic Universe* (William Morrow 1988), p. 27, in Ross, *op. cit.*, p. 158.

26. Edward Harrison, *Masks of the Universe* (Macmillan 1985), p. 252, 263, in Ross, *op. cit.*, p. 160.

27. David Briggs, “Science, Religion Are Discovering Commonality in Big Bang Theory,” in *Los Angeles Times*, 2nd May 1992, pp. B6–B7, in Ross, *op. cit.*, p. 31.

20. Marcus Honeysett, *Meltdown: making sense of a culture in crisis* (IVP 2002).

21. Pete Lowman, *A Long Way East of Eden: could God explain the mess we’re in?* (Paternoster 2002).

The point of all this is not to suggest that astronomy or cosmology in some way “proves” the truth of Christianity, but rather to show that the astronomical evidence now strongly tends to support the Christian worldview, rather than to oppose it; that even non-Christian astronomers are now attaching real credibility to the idea of a God who created the universe, and that such a belief carries more weight now than it did thirty or forty years ago.

Another growth area has been the “intelligent design” argument in relation to life. Over the past hundred and forty years, it has often been argued that evolution can explain the origins of life, including human life, without resorting to belief in a designer or creator. Thus the theory of evolution (which is supposedly a scientific theory capable of being proved or disproved by evidence) has often been co-opted as a metaphysical argument against faith in God.

Michael Behe is professor of Biochemistry at Lehigh University in the USA. His recent book, *Darwin’s Black Box*,²⁸ challenges received orthodoxy about evolution at the biochemical level. Behe uses “black box” as a term for something that looks simple from the outside, but its inner workings—how it does what it does—are mysterious or unknown. Behe says that in Darwin’s day, the cell was a black box. The technology just did not exist then to answer questions about how life worked at the biochemical level. He says that for more than a hundred years, the academic establishment has overwhelmingly accepted Darwin’s proposal that life can be explained in terms of natural selection working on random variations, even though the basic mechanisms of life were a black box. However, in recent years, scientists have come to understand much more about how life works at the biochemical level, and the result is a challenge to Darwin’s theory.

In the past, Behe says, scientists assumed that the biochemical basis of life was very simple. But the more they have discovered, the more complicated it proves to be. The result of discoveries in biochemistry since the 1950s is to show that life is based on complicated molecular machines. Behe says that for Darwin’s theory of evolution to be true, it has to be able to account for the molecular structure of life—and the purpose of his book is to show that the theory cannot do this.

Behe has identified a number of biochemical systems that he describes as “irreducibly complex.” An irreducibly complex system is one made of well matched interacting parts that all contribute to the basic function. Take any one of them away, and the whole system stops working. A mousetrap is an example of an irreducibly complex system—if you take any single part away, the trap does not work, and the mouse escapes. Behe says that such irreducibly complex biochemical systems could not be formed by a series of small changes, because the intermediate systems would not work.

In his book, Behe gives a number of examples worked out in detail, including the mechanism of blood clotting, cellular transport mechanisms, antibody defence against disease, and the cilium—a whip-like structure that some cells use to swim with. How could such complex biochemical systems have been produced gradually? What are the inter-

mediate stages by which they might have developed and how could they have moved from one stage to another? According to Behe, there are no answers. There is, he says, “an eerie silence” in the scientific literature about how such biochemical machines developed. There are no academic papers showing how such complex biochemical systems could have evolved by a series of small random changes.

Behe’s argument is that the existence of irreducibly complex systems is evidence for design in nature. The result of massive efforts by biochemists to investigate life at the molecular level is a loud, clear, piercing cry of “design!” He goes on to say that the conclusion of intelligent design flows naturally from the data itself, and not from what he calls “sacred books or sectarian beliefs.”

It is important to note that the argument from irreducible complexity is not the same as an argument that evolution does not happen. (Of course, Christians remain deeply divided between a literal “Creationist” understanding of Genesis and a metaphorical “theistic evolution” understanding.) Rather, this is an argument that—whether or not evolution happens—intelligent design is needed to account for the way we are made. The irreducible complexity argument is an argument against the kind of undirected, random evolution that has so often been used as a metaphysical argument to rule out belief in a designer and creator.

It is also important to note that, whereas the anthropic principle is widely recognised by cosmologists and physicists, the argument from irreducible complexity is largely the work of one man, and has not found yet wide acceptance by biologists and biochemists, although it seems to be gaining ground.

When we come to the claims of liberal theology, something similar happens: many of the more extreme claims of the liberals have now been shown to be nonsense (although you will still hear them parroted in out-dated television programmes and ill-informed magazine articles). A wealth of careful conservative scholarship has shaken the liberal foundations. Not only that, but new archaeological discoveries have repeatedly confirmed the basic historical reliability of the Bible.²⁹

The outcome of all this is that in archaeology, in theology, in astronomy and cosmology and biology, the Christian faith is a far more credible option now than it was fifty years ago. Sadly, many Christians seem unaware of these new developments. Why is this? The only explanation that comes to mind is that they have bought into the politically correct idea that Christian faith is a private matter. It is acceptable if I choose to believe it in the privacy of my own home, but I should not be making claims for it in the world of the academy, of education, of the media, of law and so on.

If this is the case, we are in danger of repeating the mistake of the Clapham Sect. We may be deeply concerned for personal piety, for evangelism, and for social change, and yet we may not be facing up to the challenges in the world of thought. If so, what will become of our children and grandchildren? *C&S*

28. Michael J. Behe, *Darwin’s Black Box: the Biochemical Challenge to Evolution* (Touchstone 1996).

29. See, for example, Alan Millard, *Discoveries from Bible Times: Archaeological treasures throw light on the Bible* (Lion 1985), or Jefferson White, *Evidence & Paul’s Journeys: an historical investigation into the travels of the apostle Paul* (Parsagard Press 2001).

THOUGHTS ON SCOTLAND

SAMUEL RUTHERFORD: A REFORMED MYSTIC?

by David Estrada

INTRODUCTION

As a retired professor I have now the freedom and opportunity to think and write on subjects which have been in my mind for a long time and due to other pressing obligations I could not attend to. Scotland, its theology, philosophy, and culture in general, has ever been one of these themes of interest. Several reasons—mainly of a philosophical and theological nature—may account for this predilection. As a student at the University of Barcelona I was early exposed to the thought of Thomas Reid, the founder of the Scottish Philosophy of Common Sense and one of the main critics of David Hume's sceptical empiricism. In the middle of the nineteenth century, and through the influence of French scholars, the University of Barcelona became a center of Common Sense Philosophy. This was indeed an extraordinary phenomenon: Roman Catholic scholastic philosophy cohabiting with the Scottish Protestant School of Common Sense Philosophy. Through Thomas Reid I entered the threshold of the important and influential thought of the great Scottish philosophers.

My interest in Scottish theology grew and developed in foreign soil. In my early twenties I enrolled at Westminster Theological Seminary, Philadelphia. Following the sound and solid teaching of the old Princeton tradition, Westminster Seminary persevered in the basic tenets of classical Scottish Presbyterian theology. Once again I was exposed to Scottish influence. One of my professors was John Murray, a Scotsman and one of the keenest biblical exegetes of our time. I soon became acquainted with the great names of Presbyterian theology—Samuel Rutherford, Thomas Halyburton, John Witherspoon, William Cunningham, James Bannerman, George Smeaton, the Erskine brothers, Thomas Boston, the Hodges, of Irish-Scottish extraction, etc. The first treatise I read on the sixteenth-century Spanish Reformation was written by the Scottish historian Thomas M'Crie. Later in my life, and as professor of philosophy, I have explored other areas of Scottish culture related to aesthetics, literature, science and political thought, which have greatly broadened my religious and cultural views. I can happily say that nothing Scottish is indifferent to me.

The series of articles I am preparing under the general

heading of *Thoughts on Scotland* does not follow a strict historical sequence. The scheme I intend to follow is simple. From different perspectives I plan to discuss authors and subjects which, in my estimation, have established essential points of reference in the general development of the religious and social culture of Scotland. Not being a native of that country, I pose a cautious question: is it not somewhat presumptuous on my part to write on a people and a culture in many respects different from my own? Whatever the answer, I trust the objective and benevolent judgement of the reader. In this series of *Thoughts on Scotland*, the first two articles are devoted to Samuel Rutherford. I advance two reasons for this choice. In the first place, since the distinguishing traits of Scottish religious and political ideas are already discernible in Rutherford's works, his writings contain valuable introductory information on the basic topics of our study. The second reason is of a more *sentimental* nature. One of the first books I read as a student at Westminster Seminary was Rutherford's *Letters*. This work made a deep impact on my spiritual life, and to a certain extent has coloured my views and sympathies with a people and a culture I greatly admire. From Rutherford I learned that the search for truth and knowledge is indeed far from being incompatible with a most intimate fruition of Christ's love and communion. Mind and heart are harmoniously bound in Rutherford's quest for knowledge in the indissoluble spheres of creation and redemption.

BIOGRAPHICAL SKETCH

Samuel Rutherford, remembered for his *Letters*, his contributions at the Westminster Assembly, and his theological works on important doctrinal and political issues of the day, was born in the year 1600¹ in the Scottish village of Nisbet, in Roxburghshire. His father had been a respectable farmer.

1. It is worth noting that several important men of the seventeenth century were born that year, or slightly before or after. Thomas Goodwin, for instance, was also born in 1600, while Cromwell, Robert Baillie, Richard Vines, and Jeremiah Burroughs were born the year before.

Rutherford received his early education at Jedburgh, and graduated from the University of Edinburgh in 1621. After studying theology, he was ordained by the moderate Anglican, Bishop Lamb, and appointed minister of Anwoth, Kirkcudbrightshire. At that time Anwoth must have been a romantic spot; the people were scattered over a hilly district and were quite a rural flock. Rutherford displayed remarkable diligence and zeal, as a preacher, pastor, and student, and soon took a leading place among the clergy of Galloway. “I have known many great and good ministers in this Church,” said an aged contemporary pastor who survived the Revolution, “but for such a piece of clay as Mr. Rutherford was, I never knew one in Scotland like him, to whom so many great gifts were given; for he seemed to be altogether taken up with everything good, and excellent, and useful. He seemed to be always praying, always preaching, always visiting the sick, always catechising, always writing and studying . . . Many times I thought he would have flown out of the pulpit when he came to speak of Jesus Christ. He was never in his right element but when he was commending him. He would have fallen asleep in bed speaking of Christ.”² Rutherford’s *Letters* clearly show that he was an exceptional director of souls, and one of the most moving and affectionate preachers in his time. He was as much distinguished for his learning and metaphysical attainments as for his eloquence and devotion. He received invitations to the chair of philosophy in more than one of the foreign universities, but such was his love of his native country that he would not desert her in the midst of her troubles.

Exile

In 1636 his ministry at Anwoth was interrupted. He was banished to exile in Aberdeen. Of his confinement in Aberdeen, and deprivation of his ministry, he writes: “It hath pleased our sweet Lord Jesus to let loose the malice of these interdicted lords in His house to deprive me of my ministry at Anwoth, and to confine me, eight score miles from thence, to Aberdeen; and also (which was not done to any before) to inhibit me to speak at all in Jesus’ name, within this kingdom, under the pain of rebellion. The cause that ripened their hatred was my book against the Arminians, whereof they accused me, on those three days I appeared before them . . .” Even in his removal from his flock, Rutherford discovered God’s providential wisdom, and acknowledged the preciousness of the spiritual lessons the Lord was pleased to teach him. He writes to his congregation: “I never knew, by mine nine years’ preaching, so much of Christ’s love, as He has taught me in Aberdeen, by six months’ imprisonment I never knew so well what sin was as since I came to Aberdeen, howbeit I was preaching of it to you . . .” And to one of his friends, he wrote: “My treasure is up in Christ’s coffers; my comforts are greater than ye can believe; my pen shall lie for penury of words to write of them. God knoweth I am filled with the joy of the Holy Ghost. And howbeit this town has been my prison, yet Christ hath made it my palace, a garden of pleasures, a field and orchard of delights . . . My spirit also is in free ward. Sweet, sweet have His comforts been to my soul; my pen, tongue, and heart have no words to express the kindness, love and mercy of my Well-beloved to me, in this

house of my pilgrimage.”³ His banishment lasted from September 1636 to February 1638 and was chiefly remarkable for the epistolary activity he displayed, the greater number of his published *Letters* belonging to this period of his life.

Activities and writings

The same year he returned to Anwoth, he was able to attend the signing of the Covenant in Edinburgh and participate in the sessions of the Glasgow Assembly. His stay at Anwoth was very short: St. Andrews, the old ecclesiastical metropolis, secured him in 1639 for a Professor’s Chair; and shortly afterwards he also became a colleague of Robert Blair in the University Church. St. Andrews was his home for the rest of his life, except for the years he spent in London during the Westminster Assembly, where he was sent as one of the Commissioners from the Church of Scotland. In July 1643 the Westminster Assembly began their sittings. Although it is generally accepted that the *Shorter Catechism* was drawn up by Dr. John Arrowsmith, nevertheless since there is a draft of that catechism in Rutherford’s hand writing in the library of Edinburgh University, his direct contribution in its final form cannot be discarded. For four years he attended the sittings of this famous Assembly and took an active part in the theological deliberations.

Rutherford was a prolific writer. In 1636 his first book, entitled *Exercitationes de gratia*—an elaborate treatise against Arminianism—appeared at Amsterdam, and attracted great attention both in Great Britain and on the Continent. It was on account of this treatise that he was sentenced to confinement to Aberdeen. In 1642 he published his *Peaceable and Temperate Plea for Paul’s Presbyterie in Scotland*, and the sequel to it, *The Due Right of Presbyteries* (1644).⁴ That same year his famous *Lex Rex, a Dispute for the Just Prerogative of King and People*, which has given him a recognised place among the early writers on constitutional law, also appeared. In this work Rutherford deals with a man’s duty as a citizen or subject and the magistrate’s right to exact obedience; it handles questions on the boundary line of ethics, natural rights, civil law and Christian obedience and service. It was followed by *The Divine Right of Church Government* (1646), and *Free Disputation against Pretended Liberty of Conscience* (1649). Among his other works are the *Trial and Triumph of Faith* (1645), *Christ Dying and Drawing Sinners to Himself* (1647), and *Survey of the Spiritual Antichrist* (1648). In 1651 he published *De Divina Providentia*, a work in which he assailed Jesuits, Socinians, and Arminians. [Later on, we will refer to some of these works, in considering Rutherford’s theological and political thought].

Purity of doctrine, centred around the biblical message of free and sovereign grace, was fundamental in his preaching, teaching and writing. He was zealous and uncompromising in the defence of God’s absolute Lordship in the salvation of sinners. From his early ministry to the end of his life, he became an outspoken critic of Arminianism and of the Laudian liturgical innovations. He was unyielding in his claim that Presbyterianism represented the true Church of

3. *The Letters of Samuel Rutherford* (Chicago: Moody Press, 1951), pp. 227, 248, 121, 357.

4. This treatise provoked Milton’s contemptuous reference to “mere A. S. and Rutherford” in his sonnet *On the New Forcers of Conscience under the Long Parliament*.

2. Thomas M’Crie, *The Story of the Scottish Church* (Presbyterian Armoury Publications, 2003), p. 48.

God. In his estimation, all other religious groups of the time—including the Independents or Congregationalists—represented a deviation from the clear teaching of the Scriptures on the matter of Church government. Unsympathetic to the tolerant views and rights of conscience advocated by the sectarian leaders of his day, he became also a severe critic of Cromwell's political and religious views. He lived in a time when men went to prison for their spiritual convictions and even suffered martyrdom for them.

Sickness and Death

From his early ministry to the very day of death, his life was marked by trials, afflictions, and persecution. During the first years of his labours at Anwoth, the illness of his wife was a bitter grief to him. He writes: "She is sore tormented night and day. My life is bitter unto me. She sleeps none, and cries as a woman travailing in birth; my life has never been so wearisome." She continued in this state for more than a year. Their two children also died in infancy. In 1640, he married his second wife, Jean McMath, a sweet and godly mother. Of their seven children, only one survived the father. During his residence in London, Rutherford was tried with many afflictions: several of his family died, and his own health began to give way. Yet, in spite of these sore trials, he was still able to write voluminously.

In 1647 he returned to St. Andrews to become principal of the New College there. His last days were assailed by the persecution which followed the Restoration in 1660. He was deprived of all his offices, and on a charge of high treason was cited to appear before the ensuing parliament. His *Lex Rex* was ordered to be burnt at the cross of Edinburgh, and also at the gate of St. Andrews College. By this time his health had completely broken down. He died on March 20, 1661. On his death-bed, he frequently repeated, "Oh for arms to embrace him! oh for a well-tuned harp! I hear him saying to me, Come up hither!" He departed just in time to avoid an ignominious death. Despite the fact that everybody knew he was dying, he was summoned to appear before the Council, at Edinburgh, on a charge of high treason. When the citation came, he said, "Tell them I have got a summons already before a superior judge and judicatory, and I behove to answer my first summons; and ere your day arrive, I will be where few kings and great folks come." When they returned and reported that he was dying, the parliament, with a few dissenting voices, voted that he should not be allowed to die in the college! Upon this, Lord Burleigh said, "Ye have voted that honest man out of his college, but ye cannot vote him out of heaven."⁵

THE LETTERS

Rutherford is specially remembered as the author of a remarkable collection of letters. They have made him to hosts of Christians the most beloved writer of seventeenth-century Scotland. He was licensed to preach, and yet in the "silence" of his exile he spoke to thousands of his countrymen and, after his death, to a countless posterity of believers. Rutherford lives in his *Letters*—an eloquent monument of Evangelical spirituality. In Charles H. Spurgeon's estima-

tion, the *Letters* were the nearest thing to inspiration to be found in the range of Evangelical literature. They are a religious classic, where the zeal for God's glory and love of the Lord Jesus Christ are a most vehement flame. The *Letters*, were first published anonymously at Rotterdam in 1664. The best and more complete edition of the letters was produced by A. A. Bonar in 1848. It appeared in Edinburgh, and included a sketch of his life and explanatory material regarding the persons addressed.⁶

In his *Letters*, Rutherford attains such heights of spirituality that a link with the most refined mystical literature of all times becomes unavoidable. His occupation with the loveliness of Christ leads him into flights of spiritual rhetoric which stand alone in Protestant devotional literature. It is strange—not to say astonishing—that Reformed theologians, who in their doctrinal treatises have so extensively and beautifully dealt with the "mystical union" of the believer with Christ, are, on the other hand, so reluctant to use the term *mystic* with reference to Christians in general and, in a more restricted sense, with reference to those who have been able to express their experience of close communion with the Saviour in a most verbose and poetical language, as is the case with Rutherford in his *Letters*. Not even A. A. Bonar—so familiar with his devotional production—was willing to include his name in the list of Christian mystics.

Under the suspicion of dissolving doctrine in pure sentiment, mysticism is often set over against theology. But this is not correct: sound mysticism combines in harmony the doctrinal and the experiential. Mysticism and theology go hand in hand. In true mysticism there is a harmonious correlation between theology and experience, between doctrine and feeling, between heart and mind. Furthermore, what theology *objectively* describes as being the "mystical union," the believer *subjectively* corroborates in the depths of his personal experience. Theology does not deny the fact that, above and beyond the precision of its doctrinal definitions, Christian experience can transcend the limits of the ordinary and reach raptures of numinous ineffability in the joyful fruition of a *personal* communion with the Savior. On the other hand, mysticism has also been suspected of pantheistic leanings. This is historically true in the neo-Platonic trends of unorthodox mysticism, in the "logos" conceptions of Rationalism, and in some forms of German pietistic mysticism, where the individual undergoes a substantial identification with an impersonal "All," or "Ultimate Reality." But this accusation cannot be levelled against genuine Christian mysticism, where the distinction between God and the creature is never obliterated and the oneness of the relationship never dissolves in a pantheistic identity.

As subjects and recipients of the mystical union, all Christians, in the degree they exercise their communion with the Saviour, *are also mystics*. The union between Christ and believer is effected by the Holy Spirit in a mysterious and supernatural way, and for that reason it is generally designated as *mystical union*. According to Hodge, "the technical designation of this union in theological language is 'mystical,' because it so far transcends all the analogies of earthly relationships, in the intimacy of its connection, in the transforming power of its influence, and in the excellence of its consequences."⁷ The mystical union implies reciprocal ac-

5. M'Crie, *op. cit.*, chap. 10, pp. 51, 53.

6. Our quotations are from the abridged edition; Moody Press, Chicago, 1951. 7. *Outlines of Theology*, p. 483.

tion. The initial act is that of Christ, who united believers to himself by regenerating them and thus producing faith in them. On the other hand, the believer also unites himself to Christ by a constant exercise of his faith. Being in Christ, believers share in all the blessings which he merited for his people. He is for them a perennial fountain springing into everlasting life. According to Jesus' own words, he is the vine and his people are the branches. Union with Christ is mystically expressed by Paul in his affirmation that he lives in Christ—"it is no longer I who live, but Christ who lives in me." (John 14:23; 15:4-5; Gal. 2:20; see also: Eph. 3:17, 5:23-32; 1 Pet. 2:4-5).

Being active recipients of the benefits of the mystical union with Christ, believers can also be included in the long list of the *mystics*. Nevertheless, a double distinction must be drawn here: (a) Not all believers have attained such a high fruition of the love of Christ as those who, in a traditionally understood sense of the term, are called "mystics." (b) On the other hand, not all those who have enjoyed a deep and close communion with Christ are also endowed with the sublime gift to exteriorise in poetically verbose language the riches of their experience. This double distinction specifies the sense in which the term "mystic" should be properly understood. In a *general* sense, then, by union with Christ, all believers are "mystics"—though not all have attained the same intimacy of communion with Christ. In a *particular* sense, the mystic, besides having had an overflowing experience of the love of Christ, has also been endowed with an extraordinary gift of language which enables him/her to speak of the love and beauty of the Saviour in quasi-celestial terms.

In the experience of the mystic, the common believer encounters a *model* of blessed communion with Christ, which can also be his as he exercises his faith in securing the never ending resources of unmerited grace, and yields himself completely to the leading of the Holy Spirit—the Giver of all the things of Christ. In the experience of the mystic, the believer finds an example to imitate and a challenging encouragement to apprehend *subjectively* the spiritual benefits which are his by virtue of the mystical union Christ sustains with the redeemed. The mystic—in accordance with the traditional understanding of the term, sets a *pattern of expression*. Not all believers—as we have already stated—have the gift to exteriorise in words of sublime grandeur their inner spiritual experience. The common believer finds an appropriate means of expressing his own mystical experience of oneness with the Savior in the language of the great mystics.

Moreover, mystical language, as a vehicle of spiritual expression, is not exclusively restricted to the classical works of the so-called great mystics. Many sermons, devotional treatises, and especially hymns, constitute another valuable form of mystical content and mystical expression. In the great hymns of the Christian Church believers of all ages have found a most loved and appropriate means of expressing the depths and riches of a lively faith and communion with Christ.

To this we should add that the *musicality* of the great hymns enhances the expression of the overflowing affections of the heart. The great hymns of the Church reflect the riches of our mystical communion with God and, at the same time, enable us to exteriorise the depths of this spiritual experience in sublime words of praise and adoration. Let us point out, in this connection, some of the English hymns written by

Newton, Doddridge, Toplady, Cowper, Watts, Berridge, Lady Huntingdon, Hart, Hammond, Mote, Charles Wesley and others.

In order to better appreciate the heights of spirituality Rutherford attains in his *Letters*, and to gain a general acquaintance with his writings, we have selected the following excerpts:

The sweetness of being soul-sick for Christ

"Since He looked upon me, *my heart is not mine own*. He hath run away to heaven with it . . ." "Oh, sweet were that sickness to be soul-sick for Him! And a living death it were, to die in the fire of the love of that soul-lover, Jesus!" ". . . There is such joy in the eagerness and working of hunger for Christ that I am often at this, that if I had no other heaven than a continual hunger for Christ, such a heaven of ever-working hunger were still a heaven for me. I am sure that Christ's love cannot be cruel; it must be a ruing, a pitying, a melting-hearted love; but suspension of that love I think half a hell, and the want of it more than a whole hell." "Oh, for a soul as wide as the utmost circle of the heaven that containeth all, to contain His love! And yet I could hold little of it. Oh world's wonder! Oh, if my soul might but lie within the smell of His love, suppose I could get no more but the smell of it! Oh, but it is long to that day when I shall have a free world of Christ's love! Oh, what a sight to be up in heaven, in that fair orchard of the new paradise; and to see, and smell, and touch, and kiss that fair field-flower, that ever-green Tree of life! His bare shadow were enough for me; a sight of Him would be the earnest of heaven to me . . . Christ, Christ, Christ, nothing but Christ, can cool our love's burning languor. Oh thirsty love! wilt thou set Christ, the well of life, to thy head, and drink thy fill? Drink, and spare not; drink love, and be drunken with Christ!"⁸

The infinite value of Christ

"God hath made many fair flowers; but the fairest of them all is heaven, and the Flower of all flowers is Christ." "I know no wholesome fountain but one. I know not a thing worth the buying but heaven; and my own mind is, if comparison were made betwixt Christ and heaven, I would sell heaven with my blessing, and buy Christ." "But God be thanked, I gave nothing for Christ. And now I protest before men and angels that Christ cannot be exchanged, that Christ cannot be sold, that Christ cannot be weighed. Where would angels, or all the world, find a balance to weigh Him in? All lovers blush when ye stand beside Christ! Woes upon all love but the love of Christ! Hunger, hunger forevermore be upon all heaven but Christ! Shame, shame forevermore be upon all glory but Christ's glory! I cry death, death upon all lives but the life of Christ. Oh, what is it that holdeth us asunder? Oh, that once we could have a fair meeting!" "Oh, if men would draw the curtains, and look into the inner side of the ark, and behold how the fullness of the Godhead dwelleth in Him bodily! Oh! Who would not say, 'Let me die, let me die ten times, to see a sight of Him'?" "Ten thousand deaths were no great price to give for Him . . ." "Oh, how ebb a soul have I to take in Christ's love! for let worlds be multiplied, according to angels' understanding, in millions until they

8. *Letters*, 249, 79, 35, 147.

wearily themselves, these worlds would not contain the thousandth part of His love. Oh, if I could yoke in among the thick of angels, and seraphims, and now glorified saints, and could raise a new love-song of Christ before all the world!”⁹

The beauty of Christ

“O fair sun, and fair moon, and fair stars, and fair flowers, and fair roses, and fair lilies, and fair creatures; but Oh ten thousand thousand times fairer Lord Jesus! Alas, I wronged Him in making the comparison this way! Oh black sun and moon, but Oh fair Lord Jesus! Oh black flowers, and black lilies and roses, but Oh fair, fair, ever fair Lord Jesus! Oh all fair things black and deformed, without beauty, when ye are beside that fairest Lord Jesus! Oh black heaven, but Oh fair Christ! Oh black angels, surpassingly fair Lord Jesus! I would seek no more to make me happy forevermore, but a thorough and clear sight of the beauty of Jesus, my Lord. Let my eyes enjoy His fairness, and stare Him forever in the face, and I have all that can be wished.” “Oh! Who can add to Him who is that great All! If He would create suns and moons, new heavens, thousand and thousand degrees more perfect than these that we now see; and again, make a new creation ten thousand thousand degrees in perfection beyond that new creation; and again, still for eternity multiply new heavens, they should never be a perfect resemblance of that infinite excellency, order, weight, measure, beauty, and sweetness that is in Him. Oh, how little of Him do we see! Oh, how shallow our thoughts of Him!”¹⁰

The inside of Christ’s cross is white and joyful

“Grace tried is better than grace, and it is more than grace; it is glory in its infancy.” “Our sufferings are washed in Christ’s blood, as well as our souls; for Christ’s merits brought a blessing to the crosses of the sons of God.” “Suffer we must; ere we were born, God decreed it; and it is easier to complain of His decree than to change it. It is true, terrors of conscience cast us down; and yet without terrors of conscience we cannot be raised up again: fears and doubtings shake us; and yet without fears and doubtings we would soon sleep and lose our grips of Christ. Tribulations and temptations will almost loosen us to the root; and yet, without tribulations and temptations, we can now no more grow than herbs or corn without rain.” “. . . My Lord Jesus hath fully recompensed my sadness with His joys, my losses with His own presence. I find it a sweet and rich thing to exchange my sorrows with Christ’s joys, my afflictions with that sweet peace I have with Himself. . . . He hath sealed my sufferings with His own comforts.” “I would counsel you to buy hope, but sell it not, and give not away your crosses for nothing: The inside of Christ’s cross is white and joyful, and the far-end of the black cross is a fair and glorious heaven of ease.” “. . . His cross is the sweetest burden that ever I bare; it is such a burden as wings are to the birds, or sails are to the ship, to carry me forward to my harbour.” “Christ and His cross are not separable in this life; howbeit Christ and His cross part at heaven’s door, for there is no house-room for crosses in heaven. One tear, one sigh, one sad heart, one fear, one loss, one thought of trouble, cannot find lodging there: they are but the marks of our Lord Jesus down in this wide inn and

stormy country, on this side of death. Sorrow and the saints are not married together . . .”¹¹

That idol which they call myself

“Oh, that I were free of that idol which they call myself; and that Christ were for *myself*; and *myself* a decourted cypher, and a denied and forsworn thing! But that proud thing, *myself*, will not play except it ride up side with Christ, or rather have place before Him. O myself (another devil, as evil as the prince of devils!), if thou couldst give Christ the way, and take thine own room, which is to sit as low a nothing or corruption! Oh, but we have much need to be ransomed and redeemed by Christ from that master-tyrant, that cruel and lawless lord, *ourself*. Nay, when I am seeking Christ and am out myself, I have the third part of a squint eye upon that vain, vain thing, *myself*, *myself*, and something of mine own.” “Oh, would to the Lord that I had not a *myself*, but Christ.”¹²

Christ the Captain of our salvation

“I am in sweet communion with Christ as a poor sinner can be; and am only pained that *He* hath much beauty and fairness, and I *little love*; *He* *great* power and mercy, and I *little* faith; *He* much light, and I *bleared* eyes. Oh, that I saw Him in the sweetness of His love, and in His marriage-clothes, and were over head and ears in love with that princely one, Christ Jesus my Lord!” “Oh, sweet stability of sure-bottomed salvation! Who could win heaven, if this were not so? And who could be saved, if God were not God, and if He were not such a God as He is? Oh, God be thanked that our salvation is coasted and landed and shored upon Christ, who is Master of winds and storms!” “I charge you to make psalms of Christ’s praises for His work of grace. Make Christ your music and your song; for complaining and feeling of want doth often swallow up your praises.” “Build your nest upon no tree here; for ye see God hath sold the forest to death; and every tree whereupon we would rest is ready to be cut down, to the end we may fly and mount up, and build upon the Rock.”¹³

“O sweet Lord Jesus, take wide steps!”

“I cannot tell you what *sweet pain* and delightful torments are in Christ’s love; I often challenge time, that holdeth us sundry. I profess to you, I have no rest, I have no ease, while I be over head and ears in love’s ocean. If Christ’s love (that fountain of delight) were laid as open to me as I would wish, oh, how drunken would this my soul be! I half call His absence cruel; and the mask and vail on Christ’s face a cruel covering that hideth such a fair, fair face from a *sick soul*. I dare not to challenge Himself, but *His absence* is a mountain of iron upon my heavy heart. Oh, when shall we meet? Oh, how long it is to the dawning of the marriage-day! O sweet Lord Jesus, take wide steps! O my Lord, come over mountains at one stride! O my Beloved, be like a roe or a young hart on the mountains of Separation (*Song* 2:17). Oh, if He would fold the heavens together like an old cloak, and shovel time and days out of the way, and make ready in haste the Lamb’s Wife for her Husband! Since He looked upon

11. *Ibid.*, 135, 253, 72, 185, 193, 199, 330.

12. *Ibid.*, 258, 277 13. *Ibid.*, 197, 261, 402, 49.

9. *Ibid.*, 151, 131, 143, 152, 162. 10. *Ibid.*, 281, 395.

me, *my heart is not mine own*; He hath run away to heaven with it . . .” “Learn daily both to possess and miss Christ, in His secret bridegroom-smiles. He must go and come, because His infinite wisdom thinketh it best for you.”¹⁴

CONCLUSION

As an eloquent example of piety and warmth Rutherford’s *Letters* stand unchallenged in the mystic heritage of Christianity. The *Letters* are a clear refutation to the often repeated accusation that Calvinism is “too intellectual, and forever

14. *Ibid.*, 268, 248–249.

suspicious of feeling.” In Rutherford’s *Letters*, the *doctrinal* and the *experiential* intermingle beautifully and harmoniously. Rutherford’s mysticism embraces the whole of man and leaves none of his faculties untouched. The *mind*, the *heart*, and the *will* combine with one accord in expressing the overtures of a blessed fellowship with the Saviour. The *Letters*, besides being a spiritual exegesis of a lively and loving relationship with Christ, also contain an earnest *pastoral concern* for the readers: the author wishes them to grow in grace, to the end that they may also achieve a similar closeness of communion with Christ. What Rutherford achieved by exercising his faith and dependence on the Spirit—“who freely gives of the things of Christ”—he also wishes the believing reader to enjoy and acquire for himself. *C&S*

READING DIFFICULT POETRY AS A CHRISTIAN ENDEAVOUR

by Doug Baker[†]

TEARS began welling up in my oldest daughter’s eyes. “But I just don’t get it,” Noelle sighed. Ruthlessly I refused to help, but rather repeated my earlier prompting, “Go back to what you *know*. What do you already *know* from the problem?” She was working on algebra story problems, and finding them to be as tricky and as quirky as we all did when we first encountered them.

How is she ever going to use this in real life? Will she ever encounter a situation in which she needs to figure out how many nickels and dimes Eliza has if she has three more nickels than Tori and twenty less cents than Al? What is the practical value of struggling for hours at the dinner table with our algebra?

That question has been raised by countless algebra students at countless dinner tables throughout the years. And countless parents have tried to answer it with examples of astronauts or architects using their algebra to do their jobs. And they are right; nearly everyone who has learned algebra uses it in one way or another in their normal lives. But there is a more universal and greater outcome of mastering such arts than simply usefulness. There is magic.

Magic

Let us first clarify what we mean by the word magic. Magic, as I am using the term, has nothing to do with Harry Potter playing quidditch while flying on his broomstick.

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Magic is the recognition of a connection between seemingly unconnected things. Magic is not merely a foolish notion of the past, but the daily experience of all of us. A couple of examples will hopefully persuade you to put down that rope and straw with which you are ready to burn me as a witch.

When I carry my two year old into her dark bedroom she points to the light switch and commands, “Light, light.” She doesn’t look up at the ceiling, at the light fixture, but rather at the switch which is distant from the actual source of light. Why? She has recognised that there is a mysterious connection between the moving of the switch and the brightness of the room. Because she knows nothing of the electrons moving on wires hidden in the walls, their physical connection is hidden to her. Therefore, to her the connection between the switch and the light is magic, and she smiles when Daddy works that magic.

But I have wired rooms, and have put in the switches and the lights. I understand that there is a real connection between the two which is just hidden from our eyes by a thin sheet of drywall. Therefore am I beyond the magic? The switch is now clearly understood as not magic but technology, but the magic is far from gone. Rather, it has been superseded by a far deeper and more wonderful sense of mystery. How can those tiny wires carry all of that power? The power to light up a room, to run a blender, to kill a person, and to burn down peoples houses—and the power to explode a bolt of lightning across the sky—is all carried and controlled in those little wires in my walls! How? Magic!

But some physicist will exclaim that it is not really magic, that he can explain the movement of those electrons and why they stay in that wire and don’t explode in lightning all over the place. What a wonderful thing to understand, and I wish

that I did. But even for that physicist, the magic is not gone but rather superseded by an even deeper and even more wonderful set of mysteries.

Such has been the experience of scientists throughout history. Once it was widely believed that rotting meat spontaneously turned into maggots. Then Francesco Redi performed his ingenious experiment in which he demonstrated that they were rather hatched from the eggs of flies. This breakthrough largely paved the way for the movement from a magical understanding of the universe toward the current scientific philosophy. But it did more than that. Though it removed one question from the realm of magic to the realm of science, it opened up more questions than it answered. One of those questions—What causes rotting?—became the life work of Louis Pasteur and Joseph Lister. They had seen through the science of Redi into a deeper realm of magic.

And so it goes with science. Each answer provides not final illumination, but rather a new and deeper set of puzzles. The working of the world, which had once been quietly accepted as mysterious, has now become both infinitely more complex and more puzzling. And for those who have looked into such things, the workings of quantum mechanics, relativity, and time reveal a magic which is beyond the comprehension of the rest of us. Each layer of the onion is only hiding the wonder of the next. Alexander Pope recognised this in his *Essay on Criticism*:

A little learning is a dangerous thing;
 Drink deep, or taste not the Pierian spring;
 There shallow draughts intoxicate the brain,
 And drinking largely sobers us again.
 Fired at first with what the Muse imparts,
 In fearless youth we tempt the heights of Arts,
 While from the bounded level of our mind,
 Short views we take, nor see the lengths behind;
 But more advanced, behold with strange surprise
 New distant scenes of endless science rise!
 So pleased at first the towering Alps we try,
 Mount o'er the vales, and seem to tread the sky,
 Th' eternal snows appear already past,
 And the first clouds and mountains seem the last;
 But, those attained, we tremble to survey
 The growing labours of the lengthened way,
 Th' increasing prospect tires our wandering eyes,
 Hills peep o'er hills, and Alps on Alps arise!

And that is why I love to see Noelle studying algebra, not to help her become a civil engineer, but to peel the onion and open new worlds of wonder to her eyes.

Deeper Magic

This process of moving from wonder into wonder is mimicked in most interesting fields of study, whether art or science. C. S. Lewis admirably illustrated it in theology many times, most notably in Aslan's conversation with Lucy and Susan after he had returned from the dead. Remember that he had allowed himself to be killed by the White Witch in the stead of Edmund the traitor. Then, as the sun rose, the table on which he had been murdered cracked and he returned to life. He explained:

It means that though the Witch knew the Deep Magic, there is a deeper still which she did not know. Her knowledge goes back only to the dawn of time. But if she could have looked a little further back,

into the stillness and the darkness before Time dawned, she would have read there a different incantation. She would have known that when a willing victim who had committed no treachery was killed in a traitor's stead, the Table would crack and Death itself would start working backward.

(*The Lion, The Witch and the Wardrobe*)

While it would have behoved the Witch to look into matters more deeply, it is even more vital to us as Christ's followers to peer closely. Jesus chided the Sadducees saying, "You are wrong, because you know neither the Scriptures nor the power of God" (Mt. 22:29). Let us seek to know both the Scriptures and the God of those Scriptures.

Eyes of Love

When I first met Christy, my wife, I could have told you everything that I knew about her in a few sentences. She was young, cute and very thin. Then after a year, I would have had to explain, give examples and exceptions and even after much describing I would have been unsatisfied. Now, after being married for eleven years, I would have no idea how to begin describing her. The more that I know her the less I am able to even attempt describing her. That is the way that it is with people; they are complex in a way that defies clear description. The only people that we can really describe comfortably are people that we don't know very well.

Just as in science and art, people will be found to be more complex and more interesting the more that we get to know them. There is no point at which we can say, "I finally understand that person. There is no more mystery in her or him to me." Every new hint at an insight only provides the backdrop for seeing a deeper and fuller mystery in the inner workings of that character. Parents all experience this when watching delightedly as their children grow and find ways to express themselves; they provide a source of constant amazement. If we miss the amazement in others, it is not that mystery is not present in them, it is only that we are not watching rightly.

What is the right way to watch in order to reveal mystery hidden under mystery? I don't know a better name for it than love. The eyes of love help us to see clearly. It is said that love is blind, but that is foolishness. The eyes of love are blind to the useless information that would be revealed to the eyes of any stranger, the mere outward appearances. But they see clearly to much deeper levels, sights which are hidden to the stranger. It is only love that opens our real eyes to see what is more real than the surface. Love lets us know things which could not be known without love. To a large extent, we are enabled to know people because we love them; we are not enabled to love them because we know them.

So it is through our love for a person that he or she becomes infinitely more complex and inexplicable. Through love we begin to see beyond the surface, to peel the onion of discovery, with every new layer being more delightful and perplexing than the previous one. But this process is not easy; it does not proceed without sustained effort and a large investment of time on our part.

And if we only get to know our spouses and children through this sustained loving effort, how much more intense will be the time and work required to get to know God? For God's ways are not like our ways and his thoughts are not like our thoughts. And how much more rewarding will the new discoveries be?

How do we get to know God? Consider the following journey of revelation along which many of us have come. As a young man I had latched onto the words of John, “God is love,” and hoped with those words to deny him any wrath at my sin, and especially final judgment. At the same time I knew that he was the eternal judge and that I had no hope in him. I knew myself to be damned. I was a fragmented person and my thoughts of God were fragmented. Then in the months before my conversion I was brought to see clearly that God’s love and his judgment could not be separated; he is a loving judge and his love is a discriminating love. I sharply distinguished between the objects of his love and the objects of his wrath. And I knew that I was not an object of his love. Then one night, God took me by the hand and overwhelmed me with the knowledge of his direct love which he had been showering for years on ungrateful me. The immense beauty of such a God overwhelmed me and I wept with gratitude and sorrow, in awe of his majesty and in love with his beauty. And the words “God is love” were made new to me and I knew them as if I had never read them before.

Over the years since then I have many times been stretched and torn by experiences and doctrine which, without calling his love into doubt, do require it to be proved again and again. And when he shows me afresh the boundlessness of his love, it is each time a new and deeper revelation that his love penetrates, even deeper than the obstacles which I have put in its way.

Difficult Poetry

When we read only simple books and simple poetry, we develop a faulty expectation of the landscape across which we as Christian pilgrims trek. Our minds become attuned to the notion, taught by many of our devotional and self help books just as much as by television, that struggles may last for a moment, but full resolution comes by the end of the movie. No moral or emotional quagmire will ever last more than an hour and a half. Of course this is never directly stated, but this expectation becomes ingrained from repeated examples.

So also with simple poetry. A constant diet of poetry and other reading which lends itself to being fully comprehended after only one or two readings leads us to expect the same from life, regardless of what the direct message of the poem may be. The meaning of a poem lies in the full experience of the thoughts and emotions and attitudes engendered while reading and hearing it, not only in its prose translation.

Today there are many poets who seek to embody the difficulties and joys of discovery in their poems, not just in the words but also in the experience of reading and coming to understand their poems.¹ They intentionally create difficulties for the reader to unite the struggle of the reader with the struggles expressed in the words. These poets can look back to Gerard Manley Hopkins as the originator (although he wasn’t quite) and only real master of their craft. Here we will consider his poem, *Spelt from Sybil’s Leaves*:

Spelt from Sybil’s Leaves:

Earnest earthless, equal, attuneable / vaulty, voluminous, . . . stupendous
 Evening strains to be time’s vast / womb-of-all, home-of-all, hearse-of-all night.
 Her fond yellow hornlight wound to the west, / her wild hollow hoarlight² hung to the height
 Waste; here earliest stars, earlstars, / stárs principal, overbend us,
 Fire-featuring heaven. For earth / her being has unbound; her dapple is at an end, as-
 tray or aswarm, all throughther, in throngs; / self in self steeped and pashed³—quite
 Disremembering, dismembering / áll now. Hear, you round me right
 With: Óur evening is over us; óur night / whelms, whelms, ánd will end us.
 Only the beakleaved boughs dragonish / damask the tool-smooth bleak light; black,
 Ever so black on it. Óur tale, O óur oracle! / Lét life, waned, ah lét life wind
 Off hér once skéined⁴ stained veined variety / upon, áll on twó spools; part, pen, pack
 Now her áll in twó flocks, twó folds—black, white; / right, wrong; reckon but, reck but, mind
 But these two; ware of a world where bút these / twó tell, each off the other; of a rack
 Where, selfwring, self strung, sheathe- and shelterless, / thoughts against thoughts in groans grind.

1. These poets are not to be confused with the obscurantists, who are another breed altogether. The obscurantists love to build obscurity into their poetry in order to give it an illusion of intellectualism. They often hide behind the notion that the poem means whatever the reader thinks that it means. Therefore their poems can have any and no meaning. I agree with Dr. Leland Ryken who recently told me, “In my courses, when I make a case for modern poetry, I begin by sharing my students’ pain regarding obscurity in modern poetry. I myself have no patience for certain kinds of obscurity and let my students know that.” Hopkins et al, on the other hand, have not made their poems obscure so much as they have made them tightly packed, requiring careful unpacking. They intend the unpacking to be part of the experience of reading the poem. It is significant that they have one primary focus in a poem. When Hopkins tells his friend Robert Bridges that if he will but read the poems aloud he will get the sense of them, he means that there is a correct reading of the poem. The process of unpacking is a process of coming to the sense of the poem which the poet had, not of giving it a meaning that we superimpose on it, as the obscurantists expect us to do. Telling the difference between the two is something that cannot be set forth in a set of rules; it is more of a connoisseurship than a technique, and only experience with a wide variety of poetry can equip us to readily distinguish the sweet wine from the dregs.

2. You have seen the hoarfrost on your windows on a cold winter’s morning. Through such a window we are able to see whether it is day or night, but shapes and colors are obscured. The word “hoarlight” evokes the image of such light at evening which serves to obscure more from our view than it reveals. In such a light all colours blend to one (black) and shapes and distances are muddled and easily confused. Driving instructors will all tell you that the most dangerous time of day to drive is twilight for just this reason.

3. This seems to be one of the many words that began in the writing of Shakespeare. It tends to mean “Smashed, beaten violently, dashed to the ground” and probably was used by both Shakespeare and Hopkins for its onomatopoeic quality. “If I go to him, with my armed fist I’ll pash him o’er the face” (from *Troilus and Cressida*).

4. A skein is a ball of thread or yarn, wound up on itself. Hopkins is now beginning the part of the poem in which this ball is unwound from itself and is rewound by the great separator onto two spools, the black and the white. That which we were unable to distinguish in the hoarlight begins to become clear as it is separated at the final day: two flocks, two folds.

Please don't make your children memorise that. It is not a children's poem. All the same, it may be better for them than learning the following which I have heard repeated from many young mouths:

God is great
God is good,
And we thank him for this food.
Amen.

Far from the hurried irreverence of the latter, *Spelt From Sybil's Leaves* forces a pause, a long pause, and work on the part of the reader. One can not even get the pronunciation and enunciation correct without a little practice. At every step of the way the reader is met with the need for concentration and work.

It is a poem warning its readers to watch for the moment when time will have run its course to the end and the impartial and unappealable judgment will begin. But more important than just the words is the series of thoughts and attitudes engendered in us as we struggle to unpack it. We probably begin with the certainty that whoever wrote it is an imbecile. What possible use could there be in reading such a pile of gibberish? We quickly move on to irritation at all of the strange accents which are marked; they make our tongues hurt a little as we try to decipher their rhythms. After a few more readings we become downright angry that Hopkins has been so obscure. Why doesn't he make himself clear if he has something to say? Soon though, lines and phrases begin to sift themselves into pockets which are understood as fragments. We begin to see hints that there really might be a method behind this madness. Slowly, if we have been very patient and have worked very hard, we find emerging from the confusion a clear and sombre warning of the final time when the clarity of God's judgment will send flying the shadows of confusion in which we now live.

Now the obscurity which once resided in these lines has been replaced by a surface clarity and a deeper mystery. The lines become at the same time beautiful and frightful, just as God is and his judgment will be. Look back at the series of emotions through which we have come in reading this poem. How nearly do they mimic the emotions through which many of us travelled when warned, just as this poem warns, to look with dread toward a coming judgment? And wasn't it only within a painful struggle that our minds were re-

aligned to see that those warning us were not imbeciles, but rather had been speaking with clarity all along?

The value of reading such poetry is many sided. It gives expression to the struggle inherent in life and helps us to expect such struggle. It leads us to repent anew as we see ourselves once again rebelling against those who first led us step by step toward the Cross. It guides us to look gently on those who as yet do not see with the clarity of our eyes, and to realise that we probably do not yet see as we ought.

Annunciation

There is another body of poetry that, while it is not so obscure, also requires time to unpack and to enjoy fully. In this respect let us look at John Donne's sonnet *Annunciation* from the series, "La Corona":

Salvation to all that will is nigh;

That all, which always is all everywhere,
Which cannot sin, and yet all sins must bear,
Which cannot die, yet cannot choose but die,
Lo, faithful Virgin, yields himself to lie
In prison, in thy womb; and though he there
Can take no sin, nor thou give, yet he will wear
Taken from thence, flesh, which death's force may try.
Ere by the spheres time was created, thou
Wast in his mind, who is thy son, and brother;
Whom thou conceiv'st, conceived; yea thou art now
Thy maker's maker, and thy father's mother;
Thou hast light in dark; and shutst in little room,
Immensity cloistered in thy dear womb.

In this poem most of the thoughts are understood at the first or second reading. There is no great difficulty there, but I could not call this a simple poem. Each of the statements about the coming son of this virgin is an imponderable, a pair of facts that are both true and yet apparently at odds with each other. The beauty and mystery of this poem is lost if we just accept it at face value and move on. We must ponder and dwell on the wonder that immensity has been cloistered in flesh. Donne intends us to be like Mary, who "treasured all these words and pondered them in her heart" (Luke 2:19). In doing so we will be led, through a process of discovery, to see more clearly how little we see and to worship the God whose thoughts are beyond finding out. C&S

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IN MEMORY OF THE VERSATILE PURITAN DIVINE, DR JOHN WALLIS (1616–1703)

by Frances Luttikhuisen[†]

THIS year marks the tercentenary of the death of John Wallis, the most influential English mathematician before Isaac Newton. It also commemorates the 350th anniversary of the publication of his *Grammatica Linguae Anglicanae*, a landmark in the history of phonetics and English grammar. Although Wallis is best remembered—when remembered—for his contributions in mathematics and linguistics, he was an amanuensis for the Westminster Assembly of Divines, a charter member of the Royal Society, and the author of articles on an extraordinary range of topics.¹ He produced critical editions of works by Ptolemy, Archimedes and Aristarchus of Samos on music, mathematics and astronomy and even invented a method to teach the deaf to speak. Wallis's theological writings include sermons and a commentary on the Westminster Shorter Catechism. The fullest account we have of his life is found in a letter to Dr Thomas Smith written in Oxford on 29 January 1697 in response to a request for details about his life to be used in a biography. The biography never appeared, but the original letter is in the Bodleian Library.² Additional information is found in a

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1. Though a prolific writer, Wallis did not use dedications for patronage. The majority were to scientific and academic peers and heads of colleges in Oxford. He did, however, dedicate *Claudii Ptolemei harmonicarum libri tres*, 1682, to Charles II and *Opera mathematica*, 1693–9, to William III.

2. MS Smith 31 and MS Smith 66, f31. The letter is reproduced in T. Hearne *Works*, Vol. III (Oxford, 1725).

memoir written by his great-grandson William Wallis, which appears as a preface to an edition of his sermons.³

Living in troublesome times, under many rulers, Wallis contrived, not without some loss of popularity, to remain on good terms with them all. Some historians refer to him as a genius, others as an opportunist. This paper is a report of my ongoing research on this versatile Puritan and with it I would like to show how his multiple contributions to Christianity and society certainly do away with the cliché of Puritans as “Englishmen who had accepted the Reformation without the Renaissance.”

FORMATIVE YEARS

John Wallis, the third of five children, was born in Ashford, Kent, where his father, the Reverend John Wallis, was a minister. His mother, Joanna Chapman, was the daughter and heiress of Drew Sanders, an eminent London merchant. When young John was six years old his father died. Due to an outbreak of the plague in Ashford, his mother sent him to Tenterden, Kent, where he attended a private school kept by a Scotsman, James Mouat, who taught him Latin. When the school closed down a few years later, he was sent to Felsted, Essex, to study under Martin Holbech, where he learned Greek and some Hebrew. During the Christmas holidays of 1631, at the age of fifteen, he made his first acquaintance with mathematics when one of his younger brothers showed him a book on “how to write and cipher, or cast account.” He rapidly mastered the basics of the subject, but since it was intended that he should have an academic degree, and not a trade, his curiosity for mathematics was discouraged and he was sent to Emmanuel College, Cambridge, where he received a BA in 1637 and an MA in 1640. At Cambridge he improved his Latin, Greek, and Hebrew, but his main interest was logic. Convinced that all knowledge can be useful, he also took courses in ethics, physics, metaphysics,

3. W. Wallis, *Sermons now first printed from the original manuscripts of John Wallis . . . to which are prefixed memoirs of the author* (London, 1791). Also see: C. J. Scriba, “A Tentative Index of the Correspondence of John Wallis, F.R.S.,” *Notes and Records of the Royal Society*, 22 (1967), 58–93; *Notes*, 25 (1970), 17–46; and Kemp's “Introduction” (see note 14).

anatomy and “the speculative part of physics [medicine],” though he had no intention of becoming a physician.

Since there were no vacancies for a fellowship at Emmanuel, he took holy orders and became chaplain to Sir Richard Darley at Buttercramb, Yorkshire, and the following year to Lady Vere, widow of Sir Horatio Vere,⁴ at London and Castle Hedingham, Essex. It was the time of the Civil War between the Royalists and Parliamentarians. One evening a letter in cipher was brought in, relating to the capture of Chichester. Wallis succeeded in deciphering the letter and continued to use his skill to decode Royalist messages for the Parliamentary party.⁵ The Parliamentarians, for whom he showed further sympathies by signing the Solemn League and Covenant, rewarded him with the rectorship of the church of St Gabriel’s in Fenchurch Street, London. (That same year he also inherited a handsome estate in Kent from his mother, making him a man of independent means for the rest of his life.) The next year we find him acting as secretary to the Westminster Assembly of Divines and through this he was given a fellowship at Queens’ College, Cambridge, to pursue studies in divinity. The following year, however, he married and gave up the fellowship because fellows were not allowed to be married.

Back in London, another event took place that would also shape his future. He relates: “About the year 1645, while I lived in London (at a time when, by our civil wars, academical studies were much interrupted in both our Universities), beside the conversation of divers eminent divines, as to matters theological, I had the opportunity of being acquainted with divers worthy persons, inquisitive into natural philosophy, and other parts of human learning; and particularly of what has been called the New Philosophy, or Experimental Philosophy.” This enthusiastic group would eventually become the Royal Society of London.

He signed the Remonstrance against the execution of Charles I. Nevertheless, his reputation as a cipher-breaker earned him Cromwell’s respect and the post of Savilian professor of geometry at Oxford in 1649. Although some historians argue that his appointment was due more to a favour than to his achievements in mathematics at the time, nevertheless, it marked the beginning of a period of intense mathematical activity that lasted until his death. Moreover, geometry was still closely linked with the study of Greek and the classic authors and Wallis’s formation as a linguist was to be a great advantage in this respect.

In 1653 he published *Grammatica Linguae Anglicanae* and three years later *Arithmetica Infinitorum*. Meanwhile, he also found time to earn his DD and to preach.⁶ In 1658, he was also appointed keeper of the archives at Oxford—an appointment that caused considerable controversy.⁷ That same year, Wallis, who with others desired the restoration of

the king, employed his art of deciphering on the side of the Royalists, so that at the Restoration he was received with favour by Charles II, and his appointments were confirmed.⁸

Despite his intense secular activity, Wallis remained faithful to his religious upbringing: “As to Divinity (on which I had an eye from the first) I had the happiness of a strict and religious education. Whereby I was not only preserved from vicious courses, and acquainted with religious exercises, but was early instructed in the principles of religion, and catachetical divinity, and the frequent reading of Scripture and other good books, and diligent attendance on sermons. (And whatever other studies I followed, I was careful not to neglect this.)”

WALLIS AND THE WESTMINSTER ASSEMBLY OF DIVINES

Shortly after the Long Parliament began its work, the House of Lords appointed a committee to study all innovations in the church concerning religion: “a general Synod of the most grave, pious, learned and judicious divines of this island, assisted by some from foreign parts professing the same religion with us, to consider all things necessary for the peace and good government of the Church.” The committee consisted of ten Lords, twenty Commoners, one hundred and twenty-one Divines,⁹ and three scribes: Henry Roborough, Adoniram Byfield, and John Wallis. Wallis was only twenty-seven years old at the time. Unfortunately, the full manuscript of the Assembly’s proceedings is lost. Nevertheless, from excerpts of John Lightfoot’s *Journal*, Robert Baillie’s *Letters*, and George Gillespie’s *Notes*, we can venture a few general conclusions as to the scribes’ roles.¹⁰

The Assembly met every day from nine to one. The afternoons were reserved for committee meetings. The purpose of the three committees—presumably one for each of the major participating parties: the Presbyterians, the Independents and the Erastians—was to discuss proposals presented in the general assembly in the morning and prepare new proposals backed with appropriate texts of Scripture. One of the major tasks of the Assembly was to draw up a Catechism. Anthony Tuckney, one of the members of the committee commissioned for this undertaking, had studied at Emmanuel College, Wallis’s Alma Mater. They may have met during their student days.¹¹ This may

University of Oxford . . . Now, for the Savilian Professor to hold another place besides, is so downright against Sir Henry Savile’s Statutes that nothing can be imagined more, and if he does he is downright perjured. Yet the Dr is allowed to keep the other place still” (from Wood’s *Lives of Eminent Men*).

8. *National Encyclopaedia of Useful Knowledge*, Vol. XII (London, 1851) p. 731.

9. Two were foreigners: Samuel de la Place and John de la March from the French Congregations of London.

10. In his autobiographical letter to Thomas Smith, Wallis gives a long account of the meetings—a source none of the Church historians consulted allude to. The fact that Wallis did not hold a degree in theology at the time may explain why his name does not appear in the Instructions (e.g. [Instruction 2]: “That scribes be appointed to set down all proceedings, and those to be divines, who are out of the Assembly, namely, Mr Henry Roborough, and Mr Adoniram Byfield”); [The layout of the assembly]: “Before [for the Mr Prolocutor] stand two chairs for the two Mr Assessors. Before these two chairs, stands a table, at which sit the two scribes, Mr Byfield and Mr Roborough.”

11. Herbert Palmer, a man of great piety and learning—termed by

4. When governor of Brill, Sir Horatio had appointed the Puritan exile William Ames chaplain of the English soldiers there.

5. His mastery of the art brought him international fame. Even Leibniz asked him for his method (which Wallis refused to disclose). In 1689, suffering from failing eyesight, he was still busy working on “200–300 sheets of very difficult and different ciphers for the Elector of Brandenburg.”

6. Among the manuscripts kept at Bodleian Library there is an entry entitled “Notebooks of Thomas Aldersey, 1653–89” These notebooks contain notes on sermons heard at Oxford, London and Cheshire, taken by Aldersey. Of the sixteen sermons heard at Oxford in 1653, five were by Dr [John] Wallis.

7. A contemporary, John Aubrey, wrote: “In 1657 [Wallis] got himself chosen (by unjust means) to the Custos Archivorum of the

also explain why, though as a scribe without a vote, yet Wallis was allowed to have a voice in the committee discussions.¹² Hetherington describes Wallis's involvement thus: "It has been also conjectured, that the first outline of the Catechism may have been drawn by Dr Wallis, one of the scribes of the Assembly at that period. . . . This conjecture may have arisen from the fact that he wrote a short treatise, entitled, 'A Brief and Easy Explanation of the Shorter Catechism;' which was so much approved of by the Assembly that they caused it to be presented to both Houses of Parliament. But in truth, as has been already suggested, the framing of the Catechism appears to have been the work of the committee, and not of any one individual."¹³

In the preface of his "Brief and Easy Explanation"—which by 1662 was in its eighth edition—Wallis provides more details: "That which I have done in it, is only the adding of those shorter questions, which are answered by Yes, or No, standing directly opposite to them, whereby several particulars of the large Answer are distinctly pointed to, and briefly explained to the apprehension of weak capacities, which they would be apt either not to observe, or not to understand, if they did only learn that large Answer by rote. All which is done without charging the learners memory: for to answer these short questions, is not so much an exercise of the memory, as of the judgement, being able to distinguish between the truth and falsehood; assenting to the one, and denying the other."

WALLIS, THE LINGUIST

In 1653, the year the Westminster Assembly concluded, Wallis published his famous *Grammatica Linguae Anglicanae*. Written in Latin, the *lingua franca* of the day, it is a pedagogical grammar for foreign learners regarded as one of the first systematic grammars of English. Wallis challenged the idea that grammar should start with categories and standards set for Latin. It was the first attempt to describe English in terms of its own characteristic structure, instead of in terms of Latin. To simplify the structure of the verb, he established a separate category of "auxiliary" which he further subdivided into "complete auxiliaries" (*have* and *be*) and "defective auxiliaries" (*do*, *shall*, *will*, *can*, etc.). Furthermore, he stressed word order and elevated prepositions to the status of a major category because "The English language does not have a variety of different cases . . . instead we use prepositions to convey all the meaning which in Greek and Latin are expressed partly by different cases and partly by prepositions." His grammar was not meant to be a comprehensive survey of the language, but a survey of those features foreign learners would not expect from their knowledge of Latin. Wallis's was not the first grammar of English, nor was it the first endeavour to cater to the needs of foreign learners.¹⁴

Baillie "the best catechist in England,"—was also a member of the committee and a close friend of Wallis's.

12. Another example of Wallis's "voice" in the discussions is recorded by Wm. Prynne (*Canterburies Doome*, 1646, p. 73), who says that at Archbishop Laud's trial in 1644 Wallis witnessed against the Archbishop,

13. W. M. Hetherington, Ch. 5 "Conclusion of The Westminster Assembly," *History of the Westminster Assembly of Divines*. (London, 1856).

14. Wm Caxton printed the first manual for merchants around 1483. Besides several vernacular bilingual dictionaries—John Palsgrave (English-French, 1530), William Thomas (Italian-English, 1550), John

Apart from the merits of his approach, which have been amply dealt with by Kemp and Howatt,¹⁵ little has been said regarding Wallis's proposed audience. Wallis states his purpose clearly: "I have undertaken to write a grammar of this language because there is clearly a great demand for it from foreigners . . . for instance there are many people, particularly foreign theologians, whose great ambition is to study *Practical Theology*, as it is normally taught in our tradition. It is known that in this field our public teachers, with God's help, have had outstanding successes . . ." Wallis published his Grammar the same year the Westminster Assembly concluded. In his autobiographical letter he relates how very much he benefited from hearing the debates. There appears to be a close link between his experience at Cambridge, his experience at the Assembly, and his potential readers.¹⁶ Robert Baillie described the opening session thus: "At length the appointed day came; and on Saturday, the 1st of July, the members of the two Houses of Parliament, the divines, and a vast congregation, met in the Abbey Church, Westminster." The components of this "vast congregation" interest us here. Baillie himself was a behind-the-scenes solicitor of foreign support for the Presbyterian platform. He frequently wrote to other synods and national groups, pleading for them to make their views known to the Assembly, so as to sway it in favour of the international Calvinistic standards. Who were the foreign observers and where did they come from?

The Huguenot wars had sent waves of refugees to England in the sixteenth century.¹⁷ The persecuted Anabaptists and Mennonites had fled to Germany and Poland; the Socinians to Transylvania; and the Calvinists to Switzerland, England and Holland. From the approximately one million Huguenots in France, about 25 per cent—25,000—fled to Holland. By 1620, 10 per cent of all inhabitants of the Dutch Republic were born in foreign countries. The Thirty Years' War (1618–48) sent many more Europeans in search of political, intellectual and religious freedom flocking to Holland.

Both the call for "[learned and judicious divines] from foreign parts professing the same religion with us" and "foreign support for the Presbyterian platform" solicited by Baillie seem to refer to their Dutch connections. One of the leading Dutch theologians of the day, president of the University of Utrecht, was Gisbert Voet (Voetius), a fervent opponent of Cartesianism and a leading figure of Protestant orthodoxy. The connection of practical theology and science was crucial for the Dutch divine. Of his work *Selectae disputationes theologicae*, (5 vols 1648), volumes 3 and 4 are dedicated completely to practical theology. Voet had many foreign students, especially Eastern Europeans. In the six-

Florio (Italian-English, 1598), Randle Cotgrave (French-English, 1611)—around 1580 a series of manuals specifically designed for the teaching of English to the French Huguenot refugees in London appeared: Jacques Bellot's *English Schoolmaster* (1580) and *Familiar Dialogues* (1586).

15. J. A. Kemp, (ed.) *John Wallis's Grammar of the English Language*. Facsimile (bilingual) reprint with an Introduction (London: Longman, 1972); A.P.R. Howatt, *A History of English Language Teaching* (Oxford: Oxford University Press, 1984).

16. It would be interesting to know the percentage of divines at the Assembly who had studied at Emmanuel College. Among the subjects offered there, Wallis mentions "systematic and polemic theology."

17. For a well documented study on the foreign refugee churches in England, see A. Pettegree, *Foreign Protestant Communities in Sixteenth-Century London* (Oxford: Clarendon Press, 1986).

teenth century the route of studies of the Hungarian students led mostly to Wittenberg to study with Melancthon and his circle. In the seventeenth century, however, the counter-reformation took them to the universities in the Netherlands. János Apáczai¹⁸ was one. Thanks to a grant from the Transylvanian Evangelical church, he spent five years in Holland (1648–1653). There he first learned about Puritanism—imported to the Netherlands from Britain by the Puritan divine William Ames (Amesius).¹⁹ It was undoubtedly men like Apáczai who Wallis had in mind.

Nevertheless, Wallis did not write his Grammar exclusively for theologians to learn English. At the end of the paragraph, he adds “. . . But it is not only theological works; all kinds of literature are widely available in English editions . . .” Though his initial target audience may have been foreign theologians, by 1653 he was sufficiently involved with the natural philosophers of the Baconian “invisible college” to know that foreign scientists were another potential market.

On phonetics

Sharing the general belief that the principal obstacle foreigners encountered when learning English was its pronunciation and its complex relationship to the orthography, Wallis devoted more than half his book to the topic: *Tractatus de loquela* (Treatise on speech, or on the formation of all speech sounds). Until the seventeenth century, phonetic descriptions were mainly auditory, not articulatory. Wallis’s merit lies in putting forth a complete articulatory system for describing speech, that is, a systematic classification of consonants and vowels based on tongue position.²⁰

On etymology

Chapter XIV of his *Grammatica Linguae Anglicanae* is entitled “On Etymology.” He uses the word in the sense of word-formation and derivation. In the 4th edition (1674), Wallis almost doubled the length of this chapter, and in the 5th edition (1699) it was again expanded. It is divided into two sections: regular word formation (verbs from substantives; adjectives from substantives, prefixes, diminutives, augmentatives, occupational substantives, etc.), and remoter derivations (common meanings in consonant clusters, words derived from Latin and Greek, or words that are combinations of two others—e.g. *gruff* from *grave* and *rough*).

WALLIS, THE MATHEMATICIAN

Wallis’s first serious acquaintance with mathematics took place in 1648. The book that had fallen into his hands during the Christmas holidays of 1631 was one of the rudimentary

arithmetic books used to teach addition, subtraction, division and multiplication by the reckoning masters in the abacus schools.²¹ The study of mathematics in England was still in its infancy. University education was classical in nature and even though arithmetic was one of the subjects of the *quadrivium*, under the influence of scholasticism its usefulness was seriously questioned in comparison with its companion subjects: grammar, logic and rhetoric—the *trivium*.²²

In 1648, probably at the suggestion of Dr John Wilkins, Wallis read Oughtred’s *Clavis mathematicae*.²³ The book included a description of Hindu-Arabic notation and decimal fractions, and a considerable section on algebra. Wallis’s love of mathematics, which he had not found the opportunity to pursue, was given free course and he soon began “to produce mathematics of his own.”²⁴ His appointment as professor of geometry at Oxford marked the beginning of intense mathematical activity for him that lasted almost uninterruptedly to his death.

A chance perusal of the works of the Italian physicist Evangelista Torricelli stimulated Wallis’s interest in the age-old problem of the quadrature of the circle. Wallis presented a new approach to the theory of quadratures based on what he had learned from Oughtred and published it in *Arithmetica Infinitorum* (1655), in which he also laid the foundations of differential and integral calculus. In his tract on conic sections, published the same year, Wallis introduced a symbol that could be traced out infinitely many times. The symbol had been used as an alternative to M (1000) in Roman numerals. Two years later, in *Mathesis Universalis*, he introduced negative and fractional exponential notation, another important advance in mathematics.

In 1673 he published his great treatise on algebra, *De algebra tractatus historicus et practicus*. It was the first serious attempt in England to write on the history of mathematics. The result shows a wide range of reading of the classical literature of the science. The treatise also contained the first systematic use of formulae. By applying algebraic techniques rather than those of traditional geometry, Wallis contributed substantially to solving problems involving infinitesimals. A complete collection of his mathematical works—*Opera Mathematica*—was published in three thick folio volumes (Oxford, 1693–1699). The third volume includes some theological treatises, as well as his treatise on harmonics and Latin versions of works of Greek geometers (Ptolemy, Porphyrus, Briennius, Archimedes, Eutocius, Aristarchus

21. The so-called “abacus schools” or “reckoning schools” taught computational mathematics, commercial arithmetic and currency exchange. The study of mercantile arts began when Venetian traders were exposed to the Hindu-Arabic numeral system. Soon Hindu-Arabic symbols began replacing Roman numerals in account books, and the abacus was giving way to computations performed with pen and ink. Some early textbooks include the *Treviso Arithmetic* (Treviso, 1478), *Suma de la art de arismetrica* (Barcelona, 1482), and Luca Paccioli’s *Summa arithmetica geometria proportioni et proportionalita* (Venice, 1494).

22. Wallis explains his lack of mathematical skills thus: “Mathematicks (at that time, with us) were scarce looked on as Academical Studies, but rather Mechanical—as the business of Traders, Merchants, Seamen, Carpenters, Surveyors of lands and the like, and perhaps some Almanack-makers in London” (Kemp 1972:8).

23. William Oughtred (1574–1660) was an Episcopal minister. He was a self-taught mathematician. Several of the men who would later form the Royal Society—including Boyle—were first introduced to mathematics through Oughtred’s book.

24. By this, he probably meant *Treatise of Angular Sections*, which remained unpublished for forty years.

18. Apáczai later became the leader of the Hungarian Puritan movement.

19. Apáczai read William Ames’s Latin translation of the Puritan treatise “English Puritanism.” Wallis was certainly aware that a text written in Latin guaranteed a much wider readership among students of theology.

20. Interesting attempts prior to Wallis were made by Petrus Montanus of Delft in 1635 (written in Dutch), and by Robert Robinson (1617) in England. For a detailed study of Wallis’s treatise see Kemp, *op. cit.*

and Pappus). The mathematical works alone occupy about 1800 pages.²⁵

WALLIS AND THE ROYAL SOCIETY

During the 1630s and 40s, a group of professors at Gresham College had been making great advances in applying mathematics to problems of navigation, especially the longitude problem. Gresham College was not the Salomon's House of Francis Bacon, but some of its professors were becoming interested in the new philosophy. John Wallis joined them in 1645. He later recalled meetings in London: "[We] met weekly, at a certain hour, under a weekly contribution for the charge of experiments, with certain rules agreed among us. There, to avoid being diverted to other discourses and for some other reasons, we barred all discussion of Divinity, of State Affairs, and of news (other than what concerned our business of philosophy) confining ourselves to philosophical inquiries, and related topics; as medicine, anatomy, geometry, astronomy, navigation, statics, mechanics, and natural experiments . . . These meetings we held sometimes at Dr Goddard's lodgings in Wood Street, on occasion of his keeping an operator in his house for grinding glasses for telescopes and microscopes; and sometimes at Gresham College." These weekly meetings continued until 1649 when part of the group—Wilkins, Wallis, and Goddard—moved to Oxford and two years later formed the Philosophical Society of Oxford.

Towards the end of Cromwell's rule, some members of the Oxford Philosophical Society were gravitating back towards London to rejoin the group meeting at Gresham College. The result was the formation of the Royal Society in 1660 (incorporated by Royal Charter in 1662). Both groups consisted of men of Puritan sympathies. In fact, forty-two of the 68 charter members were Puritans. Showing the true spirit of Puritan independence, the Royal Society supported itself by publishing scientific papers. Beginning in 1665, Henry Oldenburg, the secretary of the society, published its monthly *Philosophical Transactions*. Here for the first time was a means of mass-producing the results of scientific research. This in turn created a need for a clearer, more simplified English very different from the English of Shakespeare or the Elizabethans.²⁶ Non-mathematical articles were written in very plain English but mathematical theses continued to be written in Latin.

The English Puritans had an important role to play in promoting the new science of the seventeenth century.²⁷ Of course there was no single unified movement and Puritans

displayed many different views on a range of important theological and political subjects, yet there were some common threads. Many shared a profound belief in "the priesthood of all believers," and this tended toward an anti-authoritarian attitude in matters of civil, scientific and religious policy. Robert Boyle believed that scientists more than anyone else glorified God in the pursuit of their tasks because it was given to them to interrogate God's creation. At the same time, the Protestant inclination toward individualism encouraged them to question received authority in science and to engage in the direct observation of nature. To people like this, it was not sufficient to be book-learned.

When it came to science, Puritans often enthusiastically embraced the more "humble" sciences such as agriculture, forestry, medicine, marine technology, and land-surveying; they often made pleas for less abstract learning and for greater use of maps, models, and experiments. From the beginning the Royal Society was especially interested in navigational instruments. Theoretical discoveries were "spin-offs" from this practical work. It was also strong in practical mathematics and statistics.²⁸ Its interest in the study of the nature of air was closely related to the perennial problem of *damps*—the inflammable gas existing in mines. The growing demand for iron in Britain put heavy strains on the coal mining industry, but the deeper one dug the greater the danger of explosions and the more difficult it became to drain the water from the pits. Experiments with pumps would eventually lead to the invention of the steam pump to drain the mines.²⁹

WALLIS, THE NATURAL PHILOSOPHER

Wallis's numerous contributions —on the barometer, the thermometer, the compass, the resistance of air, the laws of motion, the Torricellian tube, on statics, on dynamics, on momentum, on the tides, etc.— were papers first read at the meetings of the Royal Society and later published in the Society's journal. In 1661, Robert Moray, a fellow member of the Society, had reported exceptionally high tides on the western coasts of Scotland. In 1666, Wallis contributed to the topic with "An essay of Dr John Wallis, exhibiting his hypothesis about the flux and reflux of the sea . . ." (*Philosophical Transactions* 16). Until Moray's time, the times of high and low tide and the range of the rise were simply observed, not recorded. Work on the collision of elastic bodies and laws of impact had also occupied the Royal Society since 1663. To this Wallis contributed with *Mechanics, or Tract on Motion* (1669–71) in which he refuted many of the errors regarding motion that had persisted since the time of Archimedes; he also gave a more rigorous meaning to such terms as force and momentum.

Accurate measuring devices were vital to carrying out

25. For a full survey of his contributions to mathematics see: V. Sanford, *A Short History of Math* (New York: Houghton Mifflin, 1930) and L. Hogben, *Math in the Making* (New York: Doubleday, 1960).

26. One peculiarity of Elizabethan prose is that nouns, adjectives and even verbs often come in pairs, or Euphuistic doublets, as they are sometimes called. A change to simplification can even be seen in the wording of the Catechisms: What is man's "chief end" (Shorter Catechism)—"chief and highest end" (Larger Catechism).

27. Oxford university was under attack at this time from various factions who attacked both the way it was governed and the curriculum. Not all Puritans agreed with the new learning. Two staunch opponents were Henry Stubbe, philosopher, physician, and the first professor of Arabic in Oxford, and Lewis Maidwell, the advocate of an English academy on the French model "to polish and refine the English tongue."

28. For example, William Petty, based on statistical methods, put forward the theory that an economically strong country is not one which has great treasures but one which has the capacity to produce goods. In 1662, John Graunt drew attention to the stability of statistical series obtained from registers of deaths and Edmond Halley showed how to calculate annuities from them.

29. Denis Papen, a French physicist working in England and admitted to the Society in 1682, conceived the idea of using steam to drive a piston in a cylinder. Papen's idea was taken up by Thomas Savery who invented a steam-powered pumping engine in 1698.

proper research and the Royal Society prided itself on its instruments: the air pump; microscopes; lodestones, barometers, thermometers, Torricellian tubes, and pumps of all sorts. Various liquids were being experimented with in thermometers and a number of scales proposed. Experiments concerning the transmission of light, sound, magnetism, the possibilities of combustion and respiration in a vacuum, were related to finding means for divers to breathe under water, which led to experiments on artificial respiration as well as experiments in underwater navigation.³⁰ The incorporation of applied subjects, and the adoption of a pragmatic attitude to questions of logical rigour distinguished the new science from traditional approaches.

WALLIS, THE THEOLOGIAN

Wallis's years at Emmanuel College had left their mark. His philosophical position seems to have been close to that of the Neoplatonic philosopher and theologian Nathanael Culverwel, who may also have been one of Wallis's mentors.³¹ Culverwel quotes with approval the criticism of Lord Brooke published by John Wallis in 1643 under the title "Truth Tried" or "Animadversions of the Lord Brooks Treatise on the Nature of Truth." Emmanuel College, founded in 1584 by Sir Walter Mildmay, a moderate puritan, aimed to educate godly ministers and good preachers. By mid-seventeenth century the college's original Puritan character had given way to the views of the Cambridge Platonists. Though Culverwel is listed with the Cambridge Platonists—Whichcote, Cudworth, Glanvill, Smith, and Henry More—he can hardly be counted as belonging to the group. Neither a Platonist nor a latitudinarian, he remained constant to Calvinism, and, on the whole, to the Puritan spirit. But he was far removed from the extremists of his party, of whom he writes that "if you do but offer to make a syllogism, they will straightway cry it down for carnal learning." Two propositions sum up his doctrine: (1) That all the moral law is founded in natural and common light, in the light of reason; and (2) That there is nothing in the mysteries of the gospel contrary to the light of reason. These two propositions seem to have been a constant in Wallis's life.

When the monarchy was restored, Charles II appointed Wallis as one of the royal chaplains and nominated him as a member of a committee to revise the Book of Common Prayer. Having learned much during his years as scribe to the Westminster Assembly, and having showed great sympathy with the Presbyterians, he represented them in the Commission. The changes were basically of a linguistic nature: removal of archaisms, clarification of ambiguities, the use of the Authorised Version for all biblical quotations, etc.

In the latter part of his life Wallis appears to have become loyal to the Church of England. In fact, Wallis was one of the few divines of the Westminster Assembly to conform to the

terms of the Act of Uniformity in 1662. The fact that he had taken an active part in the revision of the Prayer Book, which was enacted then, may have been a decisive factor. In 1689 the king appointed another commission for a further revision of the Book of Prayer. Wallis may very well have been asked to participate again. This revision called for doctrinal changes, not linguistic changes. It was at the early stages of the Trinitarian Controversy³² and a movement arose urging simplicity (e.g. the omission of the Athanasian Creed and objectionable phrases in the liturgy). Socinian influences had come to England towards the end of the seventeenth century and the most widespread of these influences was the tendency to reduce Christianity to the essentials. The crucial question in the controversy was what is meant by one God in three persons. Seeing the doctrine of the Trinity attacked, one bishop after another came forward to defend it.

A great stir arose at Oxford when a book appeared entitled *The Naked Gospel* (1690) by the Rector of Exeter College. It held that to be a Christian meant simply to have faith in Christ, and that to require assent to speculations about his nature or the Trinity not only was useless but has done much harm. A heated controversy ensued which ended in the book being burnt. At this juncture, Wallis, who was already in his mid seventies, turned his attention to one of the hardest problems in theology. He thought the doctrine of the Trinity could be made clear by a simple illustration from mathematics. To believe in one God in three equal persons seemed to him as reasonable as to believe in a cube with three equal dimensions. The length, breadth, and height are equal; yet there are not three cubes but one cube; and if the word "persons" is objectionable, then say three "somewhats." Dr Wallis carried on his discussion under the form of letters to a friend—eight in all. Each letter exposed some fresh point for attack and brought forth a fresh Unitarian criticism, so that before he was done Wallis had explained the doctrine from the orthodoxy of Athanasius to the heresy of Sabellius.

Wallis also took the matter up in his sermons. He introduced the expression "somewhats" thus: "David was at the same time, son of Jesse, father of Solomon, and king of Israel. Now if three persons, in the proper sense of the word 'person' may be one man; what hinders but that three divine persons, in a sense metaphysical, may be one God? And what hinders but that the same God, distinguished according to these three considerations (those of God the Creator, or God the Father; God the Redeemer, or God the Son; and God the Sanctifier, or God the Holy Ghost) may fitly be said to be three persons? Or if the word 'person' does not please, three 'somewhats,' that are but one God?"³³ Although his position of Savilian Professor of Geometry at Oxford and his involvement in the activities of the Royal Society in a great measure excluded him from ecclesiastical affairs, his interest in theology had not waned. After his work on the Trinity (1691), he published another on the traditional Christian Sabbath (1692)³⁴ and the practice of infant baptism (1697).

30. In 1620, Cornelius van Drebbel, a Dutch engineer working in England, had built a submersible for James I, consisting of a wooden frame covered with water-proof leather and oars extending through the sides, that could navigate at 4 or 5 meters below the surface of the Thames River. In 1701, Halley built a diving bell with glass port-holes that he took down off the English coast.

31. Nathanael Culverwel received his BA from Emmanuel College in 1636, only one year before John Wallis.

32. The Trinitarian Controversy started in 1687 with the publication of the *Brief History of the Unitarians or Socinians* and *Brief Notes on the Creed of St. Athanasius*.

33. John Wallis, *Three sermons. To which is added, an appendix on the mode of baptism* by Jonathan Miller (Newark, 1802) p. 61.

34. Reprinted in *A defense of the Christian Sabbath. Part the second: being rejoinder to Mr Bampffield's reply to Doctor Wallis's discourse concerning the Christian Sabbath* (Oxford: 1694).

WALLIS, THE LOGICIAN

Besides being a celebrated mathematician and grammarian, Wallis was also a logician. His last major work was *Institutio logicae* (Oxford, 1687). Logic had long been intertwined with mathematics, but never quite forming the same area of inquiry.³⁵ Wallis's contribution was intended to provide a foundation of undergraduate learning. For Wallis, the purpose of teaching logic was to lay "the foundations of that learning, which they are to exercise and improve all their life after," its merits being "to manage our reason to the best advantage, with strength of argument and in good order, and to apprehend distinctly the strength or weakness of another's discourse, and discover the fallacies or disorder whereby some other may endeavour to impose upon us, by plausible but empty words, instead of cogent arguments and strength of reason."

In answer to the debate over whether logic and mathematics were both necessary for mind-training purposes, or which was preferable, an anonymous student wrote the following in 1701: "Logical precepts are more useful, nay, they are absolutely necessary, for a Rule of formal arguing in public disputations, and confounding an obstinate and perverse adversary, and exposing him to the audience or readers. But, in the Search of Truth, an imitation of the method of the geometers will carry a Man farther than all the dialectical rules."

MISCELLANEOUS CONTRIBUTIONS

On sound and music

Wallis's work on sound extended beyond phonetics and phonology to include also music and mechanical sounds. His interest in music went back to his student days. Before entering Cambridge, he had already "learnt the rudiments of music." Several newly invented musical instruments were presented at the meetings of the Royal Society. Samuel Pepys describes a conversation regarding "the nature of sound."³⁶ In another entry he mentions a recital by an Italian group of singers "at which Mr Hooke, Sir George Ent, Dr Wren and many others [very likely John Wallis] were present." A conversation with Sir Robert Morey, who "understands the doctrine of musique very finely," led Pepys to consider various musical matters, such as the problem of setting words to music. Pepys may later have consulted Wallis on the subject.³⁷

When Christiaan Huygens first visited the newly formed Royal Society in 1661, he showed his telescopes and his clocks, and also discussed his theories of sound, tone and harmony.³⁸ Wallis, who believed in the interrelatedness of widely varying disciplines and in the special importance of

those—mathematics, music and physics—which exhibit harmony and balance, made his contributions to the subject with a critical edition of Ptolemy's *Harmonics* in 1682.

On memory

Already as a young student, Wallis made a distinction between rote learning—memorising—and understanding. In his autobiography, he comments: "It was always my affection, even from a child, not only to learn by rote, but to know the grounds or reasons of what I learnt; to inform my judgement as well as to furnish my memory." His statement regarding brevity in the Shorter Catechism illustrates the same opinion: "Answers are briefly explained [not to overcharge] the learner's memory: for to answer these short questions, is not so much an exercise of the memory, as of the judgement . . ."

Wallis himself had a prodigious memory. He slept badly and often did mental calculations as he lie awake in his bed. One night he found the integral part of the square root of 3×1040 and hours later wrote down the result from memory. This fact attracted notice and two months later he was challenged to extract the square root of a number with 53 digits. The following morning he dictated the 27-digit square root of the number from memory. Wallis was 53 years old at the time. It was considered important enough to merit discussion in the *Philosophical Transactions* of the Royal Society of 1685.

On teaching the deaf

John Bulwer's *Chirologia—the National Language of the Hand* (1644) aroused great interest in deaf education and BSL (Basic Sign Language). In 1661–1662 Wallis taught two deaf-mutes to speak. He made much of his achievement and even presented one of them—Alexandre Popham—before the Royal Society. Wallis maintained that he had worked out his method to teach the deaf to speak on his own, based on the description of sounds contained in his *Tractatus de loquela*.³⁹ This led the mathematician and Canon of St Paul's, William Holder, to experiment with the education of the deaf too. A few years later, Holder published *Elements of Speech* (1669), a treatise on the mechanisms of speech, in which he claimed that he had taught Popham to speak first. Holder's claim sparked a heated quarrel that lasted for years. Finally in 1678 Wallis published *A Defence of the Royal Society* where, in more than thirty pages, he attempted to justify himself and refute Holder's allegations.⁴⁰ Be that as it may, these were the first efforts to suppress sign language in favour of teaching deaf people to speak.

On calendar reform

In 1692 Wallis was consulted on the convenience or not of accepting the Gregorian calendar. There was considerable controversy in Protestant countries over the new calendar. Already in 1582 the English secretary of state had consulted with John Dee, the leading mathematician of the

35. In the great medieval pedagogical classification of subjects into the *trivium* and the *quadrivium*, logic, or "dialectic," was part of the *trivium*, alongside grammar and rhetoric, to be studied before and more prominently than the four mathematical subjects of the *quadrivium*—arithmetic, geometry, music, and astronomy.

36. M. H. Nicolson, *Pepys' Diary and the New Science*. (Charlottesville: University Press of Virginia, 1965) p. 37.

37. J. Wallis, *Letters to Samuel Pepys, 20 April, 1688* (Bodleian MS Rawl. A. 171, ff 26–7).

38. Huygens described the 31-tone equal temperament in *Lettre touchant le cycle harmonique*. This has led indirectly to a tradition of 31-tone music in the Netherlands in this century.

39. Wallis included a section "Teaching the dumb to speak" in the 4th edition (1674) of his *Grammar*.

40. It seems that Holder had actually been the first to teach Popham, but the boy had forgotten all he had learned when Wallis got him.

day. Dee found that the calendar had not only slipped out of line by ten days since the time of the council of Nicaea, but that it had slipped by eleven days since the time of Christ, hence an eleven-day adjustment was needed. Between pope Gregory's ten-day reform and Dee's eleven-day reform lay a great theological divide. Dee saw calendar reform as part of a much wider agenda. Restoring the calendar to its position at the time of Christ had close parallels with the Protestant mission to return Christianity to its roots. By accepting the eleven-day error, England would lead a sort of "Protestant counter-reformation of the calendar." For Dee, the reformed calendar could also play a significant part in Britain's imperial role. Wallis maintained Dee's position and continued to advise against the Gregorian calendar.⁴¹

HIS QUARRELS

It was a time when discoveries gave rise to long and sometimes acrimonious controversies among contemporaries, relating both to the subjects themselves and to priority of discovery. Wallis's life was embittered by quarrels with his contemporaries. Hobbes' attack in *Leviathan* (1651) on the academic credentials at Oxford brought a sharp rebuttal from several professors there.⁴² This debate degenerated into an attack by Hobbes on Boyle and the group then in the process of forming the Royal Society. Wallis also became involved in a long and bitter dispute with Hobbes regarding his claim to have solved the problem of "squaring of the circle."⁴³ Wallis refuted Hobbes's geometry as a means of discrediting his philosophy, which Wallis saw as a dangerous mix of atheism and pernicious political theory. The dispute began with technical issues in mathematics and grew to encompass questions of theology, philology, politics, and the very nature of reason. Wallis did not seem to leave his

41. Great Britain finally accepted the Gregorian calendar in 1752.

42. The opposition to learned societies exhibited by Hobbes and others became virulent about 1653, when the parliament debated the "propriety of suppressing universities and all schools for learning as unnecessary."

43. See: D. M. Jessep, *Squaring the Circle: The War between Hobbes and Wallis* (Chicago: University of Chicago Press, 1999).

contemporaries indifferent. Either they admired him⁴⁴—as in the case of Pepys—or came to blows with him—as in the case of Thomas Hobbes, Henry Stubbe⁴⁵ and Anthony Wood.⁴⁶ In *Life and Times* (1680), Wood goes so far as to describe Wallis as an enemy of King and Church and indifferent to what master he served, "a liver by perjury . . . ambitious and impudent . . . impaling his wife's arms with his, whereas she was but a poor wench and came in her blue petticoat and green stockings to Oxford⁴⁷ . . . Cozening and cheating the University by spending their money in his own business at London."

HIS LEGACY

The year of Wallis's birth—1616—coincided with that of the death of Shakespeare; his death—1703—with the birth of John Westley. He had the intellectual curiosity of the Elizabethans and the individual character of the Independents. Wallis was a "Renaissance man" in the true sense of the expression, versatile in an amazing range of diverse subjects— theology, mathematics, natural philosophy, music, logic, and applied linguistics. The death of Wallis marked the end of a century and also the end of an era of great "Renaissance" Puritans. C&S

44. In his *Life of the learned and reverend John Wallis S.T.D.* (1735), John Lewis, Minister of Mergate, wrote: "Though while he lived he was looked on by the more rigid and zealous party men in the University with a jealous eye, and suspected as not thoroughly well affected to the Monarchy and Church of England, he was yet very much honoured and esteemed by others . . ."

45. Stubbe and Wallis had had their first confrontation when Wallis was appointed keeper of the archives.

46. Wood claimed that as Keeper of the Archives, Wallis had mistreated him badly by refusing to let him have any books out of the archives and by even taking away his key.

47. The few things we know about Mrs Wallis are her name—Susanna Glyde,—her children's names—John, Elizabeth, Anne—and that she died at the age of 65. I find the description of her stockings extremely interesting. Green stockings were a luxury! Green was the most expensive dye at that time, used mainly to dye silk. Wood found Susanna's blue petticoat and green stockings ridiculous; I perceive individualism and character. Being the extraordinary person Wallis was, he would certainly not have sought out an ordinary wife!

THE POLITICAL ECONOMY OF A CHRISTIAN SOCIETY

by Stephen C. Perks

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CONTRARY to much popular opinion, economics is not a subject that is religiously neutral. The way the economy works is intimately bound up with fundamental issues of right and wrong, and what one judges to be right or wrong is itself intimately bound up with one's religious perspective. It is necessary therefore that the Church should bring the moral teaching of the Bible to bear on the economic issues that face modern society. If Christians are to do this effectively, however, they must be informed. Ignorance of the economic realities upon which so much of life depends will vitiate the Church's ability to speak prophetically in this area and call the present generation back to faithfulness to God's word.

REFLECTIONS ON RECENT STUDIES CONCERNING GIORDANO BRUNO

by Colin Wright

IN 1964 the University of Chicago Press published a book written by a researcher and Reader in the History of the Renaissance working at the Wartburg Institute, University of London. The author's name was *Frances Amelia Yates*, and the title of her book was *Giordano Bruno and the Hermetic Tradition*.

Yates' *Bruno* quickly became the focal point of a whole new way of looking at the man and his place in history. Yates did more than write a book about Bruno; she re-defined his place in history. A long tradition had held that Bruno was the prototype martyr in the cause of modern science. Bruno had been burned at the stake in 1600, ostensibly for maintaining three dogmas dear to modern atheists: the mobility of the earth, Copernican heliocentricity and, above all, the idea of an infinite universe. From the Enlightenment on, the modern scientific community has done all in its power to hold up this image of Bruno as a martyr for the right and truth of its atheistic philosophy against the error and tyranny of religion.

Yates subjected this thesis to a critical and searching examination, and came to the conclusion that Bruno was far from being a "modern" Enlightenment-style scientist. She claimed that Bruno was deeply engaged in and passionately obsessed with a magical, naturalist vision of the world that was diametrically opposed to that of modern science. Bruno conceived of himself not as a scientist (as we understand it) but as a *magician*. He was influenced in this respect by three Renaissance scholars—*Marsilio Ficino* and *Pico della Mirandola* of Florence, and *Henry Cornelius Agrippa* of Nettesheim. But above all he drew his inspiration—as they had done—from the two ancient volumes that, it was believed, had been written by a great Egyptian magician by the name of *Hermes Trismegistus*—Mercury the Thrice Great. The two books were called the *Pimander* and the *Asclepius*.

Yates' case appears compelling. Her volume is one of the most cogently argued theses I have ever read. She pursues her goal with relentless and implacable logic, supporting her argument at every turn with quotation from and commentary on Bruno's text. Indeed, the only fault I could find with Yates' text is that all the quotations are in the language of the original. There was good reason for this: Yates had a mountain to climb if she were to convince the academic world of her thesis. There must be no suspicion that she had imposed her own interpretation on Bruno's text. To that

extent her decision was commendable and fully justified, but difficult for those who did not have her vast scholarship and mastery of foreign languages. Perhaps a new edition should include a translation in the footnotes. Still, Yates' careful and comprehensive discussion of the content of her quotations almost makes them redundant: they are just there as witness to her claims. What's more, she brings to her work style and panache rarely seen in academic publications. One would hardly guess that this was a serious academic text. But it is not trivial either. It is just that Yates could write amazingly good English. Despite the almost arcane nature of her subject I was entranced, and read it with the avidity usually reserved for science fiction. Yates was of the old school: born in 1899 to modestly well-to-do parents, she grew up in an intellectual culture that is now lost to England for generations at least, if not forever. Socialist levelling-down has ensured that the kind of education Yates underwent has disappeared from the land, other than in isolated pockets of resistance.¹

What is striking about this publication is the powerful effect it had in academia. Its thesis was largely novel, but it received critical acclaim almost universally, overcoming traditional views with almost consummate ease. It did help of course that Yates was already an established and internationally recognised authority on Renaissance culture. She was approaching 65 years of age when the book was published. Her reputation had already been built upon such works as her *The French Academies of the Sixteenth Century* (1947), *Love's Labours Lost* (1947, republished 1975 in *Astraea, The Imperial Theme in the Sixteenth Century*) and *The Valois Tapestries* (1959). Furthermore, this work was not the result of some tenuous hypothesis but of a matured long-standing study that began in 1949 after study into the work of Ramon Lull, who had a profound influence upon Bruno. Her later publications, and the honours that flowed her way, only seemed to enhance and support her thesis.²

1. The socialist chairman of our local Education Committee in 1974 informed me quite unashamedly that they had decided on replacing the grammar school with a comprehensive one for the following reason: the grammar school gave the few a first class education and everyone else had only a mediocre education in the secondary modern schools. This was unfair, so *everyone* in future was to have a mediocre education.

2. No adequate biography of Yates appears to have been written to date, but Trapp concluded his Dictionary of National Biography

It did not seem as if anyone in future would have the temerity to suggest that Yates might have been wrong. But since Frances Yates' death a new generation of Bruno scholars has arisen, one that has little sympathy with her work or outlook.

Prominent among these in recent years has been Ramon Mendoza with his 1995 contribution entitled *The Acentric Labyrinth—Giordano Bruno's Prelude to Contemporary Cosmology* (Elements Books: Shaftesbury, Dorset and Rockport, MA).

When compared with Yates' work, this volume turns out to be a quite different kettle of fish. It lacks the charm of Yates' polished English, the depth of her critical acumen, and the soundness of her arguments. Yates supports all she has to say from the sources; Mendoza annotates his work in the most meagre fashion and even then with little real relevance to what he is saying. We have here a clear case of the master and the apprentice. Now, obviously it would be unfair to form a final judgement on the validity of either case without some reference to Bruno's original work, but for most this is not going to be possible as little of it is available in translation. Nevertheless, it would be easy to be persuaded by Yates' presentation, whereas Mendoza left me quite unconvinced. Not least among the reasons for this (more of which I shall expatiate on later) is that this former Jesuit-priest-turned-secular-humanist³ clearly displays that he has an *agenda*. Now, in and of itself this is not a bad thing. Passion about one's subject is quite proper and to be expected. But when it gets out of hand, when it becomes a *crusade* and personal agenda takes priority over sound argument and a sincere desire to know the truth, however much that may hurt, the situation becomes quite unacceptable and unconvincing.

Mendoza's book I found very difficult to read. Whereas I got through my first reading of Yates in a few days, I struggled with Mendoza for two months. There were many reasons for this, but not least among them was the lack of structure in his argumentation. Mendoza flits all over the place like a moth round a candle, and just when you think you have caught his gist he goes off in another direction. A reasoned and structured response to his work would be exceedingly difficult. And so for that reason I have elected to concentrate on four areas—four trends—within his modus operandi.

To begin with, then, the nature of his attack on Yates

article in the following way: "She held honorary D.Litts. from Edinburgh (1969), Oxford (1970), East Anglia (1971), Exeter (1971), and Warwick (1981). She was also an honorary fellow of Lady Margaret Hall, Oxford (1970). In 1970 she was Ford lecturer at Oxford. She won the senior Wolfson history prize (1973) and the Premio Galileo Galilei (1978). Elected FBA in 1967 she was also a foreign member of the American (1975) and Royal Netherlands (1980) Academies of Arts and Sciences. In 1972 she was appointed OBE and in 1977 DBE. Frances Yates's unselfconsciously magisterial presence was offset by charm and a sort of grand dishevelment. She worked single-mindedly and unremittingly, cared passionately for the people and problems she studied, and firmly defended her strongly individual views. Above all she strove to understand Renaissance thought, especially in its issue in contemporary action and in its continued potency. History was to her an encyclopaedic discipline, concerned as much with ideas and aspirations as with facts and events. She died 19 September 1981 in a nursing home at Surbiton, leaving the bulk of her estate to found research scholarships at the Warburg Institute, where her books and papers are preserved."

3. The inside back cover describes him as "a Cuban-born former Jesuit priest" and in the text itself (p. xxiv) Mendoza describes himself as "a secular humanist."

and her colleagues is not primarily academic but personal. He does not set out to vanquish her *argument* so much as her *character*. I doubt he was particularly conscious of this. Most people who engage in this sort of thing rarely are; they just don't know any better. No doubt he thought that he was doing a fine job of demolishing her arguments. But in point of fact he never does. Throughout the whole of his 250 pages he never really comes to grips with her argument once. It is the motives behind her stance that he reprobates, her intellectual honesty and integrity that he attacks.

The offensive begins on the first few leaves of his Introduction: he refers to "Yates's sweeping and unqualified judgement of Bruno as being 'nothing more than a Renaissance magus'" (p. xv). I was intrigued by this on two levels: firstly, as I had read Yates' book before meeting this I was at a loss to understand how her argument could have been styled "sweeping and unqualified." I will have to let the reader decide the matter by consulting Yates for himself, but "sweeping and unqualified" strikes me as the very antithesis of what Yates was actually doing. What's more, I was intrigued by the phrase he put in single quotes: "nothing but a Renaissance magus." I was even more intrigued when I came across it on more than one other occasion in this book. It is repeated *three times* on page 169 alone, where Mendoza asserts that this is the "central thesis" of her book. What was intriguing about it? Well, she had made it very clear early on in her work that this was not her thesis and what's more, I could not find the phrase in her book at all. Puzzled by this, I sought out Dr Mendoza and asked him for chapter and verse. He was good enough to reply, and gracious enough to admit that he "truly regretted having put in quotation what may indeed lead to the conclusion that I attribute the phrase *verbatim* to Francis Yates." He admits that he "cannot recall having read these exact words anywhere in Yates' book." Nevertheless, he thinks that he can draw this conclusion from what she did write. Maybe he can. But to express his conclusion in this manner is absolutely *verboten*. It is reprehensible to put one's own interpretation into quotation marks, as any third rate undergraduate will tell you—and Mendoza is not a third-rate undergraduate but a Doctor of Philosophy. Quotation marks used in this way always have indicated a direct verbatim quotation of a person's words. What Mendoza really intended I don't know. I suspect his admission is quite genuine and that he had no malicious intent to ascribe the phrase to Yates directly. But this only points up all the more clearly his limited grasp of what constitutes a reasonable and fair intellectual argument.

But this is not an isolated incident. He says that "Yates's indictment of Bruno was *uncritically accepted* [my emphasis—CW] by one of her American epigones, the Hungarian-born Benedictine monk, Stanley Jaki" (p. xv). Having read Yates, Jaki "*hastened* [my emphasis—CW] to serve to the English-speaking public a translation of Bruno's first Italian cosmological dialogue, *The Ash Wednesday Supper*" (p. xv). He "presented his *impulsive* [my emphasis—CW] translation of the dialogue in an introduction heavily seasoned with abundant monotonously unkind footnotes." Note the personal attacks, which I have italicised. They themselves are *uncritical*, for he never attempts even to justify his language. It is pure assertion. And why should Jaki not heavily season his introduction with *unkind* footnotes? Mendoza's task is not to moan about their *unkindness* but to expose their *inaccuracy*. He does not even begin to do so. In fact, as an example of unkind

writing nothing beats *The Acentric Labyrinth*. Nothing is more unkind than to style someone a mere *epigone*: a later and far less distinguished follower of a school. Jaki would, quite justifiably, have found this a most hurtful and unjustified attack on his intellectual integrity and academic status.

So what is Mendoza's overall perception of the Yates agenda? Let me quote him *verbatim*, so that there is no misunderstanding: "Yates and Jaki cannot avoid being ranked among the latest representatives of a long lineage of devout Christian Bruno detractors, whose common (perhaps unconscious)⁴ interest has been to keep alive the black legend that was launched by the Church as soon as the embers of Bruno's pyre cooled off" (p. xvi). Again, assertion but no proof. What Mendoza charges against this conspiracy we can fairly charge against him: "All of these claims were at first supported by very scanty scholarship; almost all of it was pure rhetoric and apologetic polemics" (p. xvii). And so the book goes on. I can only—*unkindly!*—suggest that perhaps this is the reason *The Acentric Labyrinth* was published by a minor publishing house specialising in the occult and the mystical rather than a leading academic publishing house.

Did Yates in fact maintain that Bruno was "nothing but a Renaissance magus"? She certainly never directly claimed that he was so. Her words in fact suggest the opposite. She says: "The book is *not* a monograph on Bruno; it sets out to do *only* what its title states, to place him in the Hermetic tradition. Before a final reassessment of Bruno is possible *other studies are necessary*" (p. x all italics are mine—CW). The reader would do well to peruse the whole of the paragraph from which this is taken. Yates' task was a limited one, that of relating Bruno to the Hermetic tradition—unless you want to believe the conspiracy theories. Mendoza's logic is appalling. Since when has anyone ever maintained that being X means that one is *nothing but X*? Does the fact that Mendoza is a Cuban imply that he is *nothing but a Cuban*? The whole idea is preposterous, and only someone blinded by a prejudice would presume to say so in print.

On a more intellectual level, there are a number of serious issues raised by Mendoza's style of argumentation. And they are extremely relevant to the way in which we should be reconstructing our Christian scientific and personal outlooks on life.

The first issue concerns the way in which we should view the past, and in particular what people thought, and how they thought, in the past. This is of paramount importance because we are largely governed by the way in which we perceive the past. One might almost say that we are what we perceive our past to be. And, as I hope to show in a later series of articles on Genesis 1–10, the way in which we perceive our *origins* has crucial ramifications in every aspect of life.

Let us now turn to a second matter of concern with regard to Mendoza's style. As we have just said, the perception of origins is extremely important to our perception of the present. In other words, a grasp of history is essential to a true understanding of ourselves. But having conceded this we have to beware of the fallacy that history serves the purpose of justifying some position or other that we hold dear. That this is a leading purpose of history, if not the only one, is a common fallacy. An opinion cannot claim validity

on the strength of its age any more than it can on the strength of its novelty.

How this idea is worked out in defence of a cherished position varies with circumstances. Theologians appeal to a tradition of long-standing, or even to a single group or period in the past that appears to them as the ideal. Philosophers can be equally given to this specious form of reasoning. When arguments cannot attain the end then the assignment of labels often does the trick. To call someone a Platonist on the one hand, or a scholastic or existentialist on the other, is sufficient justification to damn a man's opinions and justify ignoring him.

In what way, then, does this apply to *The Acentric Labyrinth*? Well, the whole thesis is based on the premise that Bruno anticipated all of modern science. Yes, really, this is hardly an exaggeration. It seems Bruno had already developed all the leading features of modern cosmology, Newtonian science, Einstein's Relativity Theory and Quantum Mechanics long before any else even thought of them. Not only so, he was the first to propound these ideas. He relied on no tradition or precursors. That anyone should arrive at all the major conclusions of modern science four hundred years before the modern theories were invented is just plain silly. Even the author should have been able to see this if he were not so much under the spell of his conceits. Mendoza is determined to vindicate Bruno against his treatment by the Roman Church, the Church from which Mendoza is himself a self-confessed apostate. And this crusade has so clearly overridden any academic acumen he may have possessed that he makes the most extraordinary claims in favour of his hero.

In any case, I believe the idea of precursors is an exceedingly problematic one. Pierre Duhem, the French Roman Catholic physicist, went to great lengths to demonstrate that all scientific theories have their origin in earlier ideas. There is nothing new under the sun. In some way and to some degree all ideas have been thought of in earlier times. But what Mendoza does is to ignore completely the context—the historical, social, political, philosophical and scientific context—of Bruno's theories. He tries to make out that here was a man four hundred years before his time. This is why he cannot understand Yates' case. Yates never belittled Bruno's scientific work, she merely placed it in a context. She reckoned that context was hermeticism. And whatever the strength of her case, it certainly has far more merit than Mendoza's.

So it really does not signal a great intellect if someone appears to come up with a theory long before it is generally accepted. And if in these pages I have previously referred to the remarkable achievement of John Philoponus in suggesting that maybe natural motion should be considered linear rather than circular, this is not because he anticipated the truth later propounded by Isaac Newton (I have my doubts whether it is a truth) but rather that so far removed from the only culture that has accepted this novel idea, he was able to overcome every obstacle of his cultural heritage to suggest it. He was thinking laterally, or "out of the box" as the expression now is. He was prepared to be self-critical about his own cultural inheritance and about what it took for granted. Most of Bruno's ideas were far from novel in this sense, though they were not generally accepted in his day. It seems we should make an exception in the case of the acentricity of the universe but even here he was not totally original.

4. Throughout his book Mendoza insists on including these "get-out" clauses. He has to: he makes no attempt to justify his mud-slinging assertions and needs some way out if they are challenged.

But Mendoza is not content to inflate the importance of Bruno's contribution and to ignore completely the cultural context in which his ideas have to be understood. He naively assumes that modern science is *the* truth, and this despite the fact that he then proceeds to undermine the validity of even Einstein's ideas. As we say, he wants to have his cake and eat it. The crusading zeal with which he promotes Bruno and fights the dark forces of the Christian religion blinds him to the most obvious facts that even he cannot refrain from commenting on. Most notably, that no scientific theory has ever stood the test of time. They are not simply replaced by "better" ones but by contradictory ones. Philosophy of science refers to them as incommensurable. That is, one cannot be understood in terms of the other. They look at things in entirely different ways. They even have different and contradictory "facts." So, even before *The Acentric Labyrinth* hits the remainders list, Mendoza's facts and theories will have changed.

Were the Cardinal-Inquisitors (as Mendoza likes to style them) right in condemning Bruno? As far as burning him alive at the stake I believe all right-minded people will answer a resounding *No*, and be filled with revulsion that anyone should have to endure such torture at the hands of his fellowman. Implicit in Mendoza's argument is that this must mean Bruno was right in his views and, further, that the authorities were wrong to take any action against him. He makes an exceedingly feeble case to defend Bruno's theological orthodoxy, unbelievable in light of the fact he so explicitly and frequently points to Bruno's heterodoxy. Bruno was a million miles from Christianity. This may or may not require the intervention of political authority (and remember the Church was to a large extent the political authority at the time) but Bruno was involved in far more than a debate about arcane theological doctrines. He was out to start a revolution. He may have talked of free speech, academic freedom and intellectual openness, but he meant these for himself. He had a radical plan that involved replacing Christianity right across Europe with his own hermetic religion. And he intended to do this not by gentle persuasion but by political force. The Church and the State had every right to fear. Indeed, a violent rebellion occurred in Calabria in 1599 under the leadership of Bruno's pupil Tommaso Campanella, while Bruno himself was under interrogation in Rome.⁵ Bruno, Campanella and their ilk were determined to bring peace and concord to Europe even if it meant universal conflagration.

At around the same time as Mendoza's book appeared, a University of Rome professor was preparing her own offering for the press. In 1999, Hilary Gatti's *Giordano Bruno and Renaissance Science* was published by Cornell University Press. Gatti is, like Mendoza, concerned to bury the Yates thesis, and to replace the "hermetic" Bruno with a "scientific" Bruno, the "champion of a new cosmology and precursor of a Baconian investigation into natural causes outside the sphere of metaphysics and theology" (p. 1). But if Gatti offers us a much more measured and less frenetic response to Yates, nevertheless she is just as concerned to disentangle Bruno from the taint of being a magus and install him in the pantheon of the greats of modern science. She too speaks of "the remarkable modernity of some aspects of Bruno's

scientific theory" (p. x). But while being critical of Mendoza for devoting "limited attention to the historical, renaissance context of Bruno's thought" which, she adds, "must be the basis on which any claim for more modern intuitions is founded," she likewise sees Bruno's science as based on the mechanistic model of early modern science. When she speaks of the "historical, renaissance context" she implicitly assumes that this context was Baconian rather than hermetic, mechanistic rather than magical.

Now, there is something very confusing about all this. Perceptions of what constitutes magic and what constitutes genuine science are introduced that seem to lack any real understanding of the history of scientific thought, the philosophy of scientific thought or the nature of scientific theory. And in the process contradictory statements and meaningless argumentation abound. Yates is not free from this. Her sharp dichotomy between hermeticism and modern science—at least the reality of it not the confused popular perceptions of it—is picked up by Gatti early on in her study. It gives her a powerful stick with which to beat her. But Gatti does not come out of this unscathed either. Rather than seeking to understand the developing systems of thought through the ages, she simply takes the same tack as Yates: she assumes the incommensurability of the two systems (hermetic magical gnosis and modern science) but now places Bruno in the other camp. It is as if the fight is over who may legitimately claim Bruno as "one of us."

Gatti herself insists that that "so many scientists of the early modern period, up to and including Newton, are known to have read extensively in such subjects and to have considered them integral parts of their culture" (p. ix). In other words modern science, at least in its early stages, was far from being as "modern" as we often suppose. But Gatti still wants a cleavage between science and hermeticism and is determined—against her own admissions—to get it. This can somehow be maintained by supposing that "Bruno's concern with such subjects . . . could be seen as surrounding and complementing his concern with the new science." What can this possibly mean? I suspect very little. Her thesis of Bruno's modernity can only be maintained by insisting that he lived in two worlds (hermeticism and science) and that these two worlds had no real inner connection. The lack of coherence in her argument is telling and continues to dispose me very forcefully to the major features of Yates' thesis.

Mendoza's ideas are equally confused. He sets out to defend Bruno as a scientist and to refute any suggestion that hermeticism was other than a hobby on the periphery of his life and thought. But somewhere along the way he seems to have lost his way. Bruno is defended not because he abandoned a mystical and metaphysical science but because he anticipated a modern science that is also mystical and metaphysical. Those who read through to the later chapters of *The Acentric Labyrinth* will be amazed by the view of science propounded there. So while Mendoza's Bruno performed the incredible feat of anticipating most of twentieth century science and is to be declared a great scientist because of it, he also did not anticipate it but rather anticipated what is now succeeding it. In Mendoza's mind, this is a heady cocktail of Hegelianism, Bergson's *élan vital*, and evolutionistic pantheism. Not facts but the speculations of a bold imagination form the basis of modern science. And it is this that really justifies calling Bruno a modern! So it comes as no surprise

5. Yates included an interesting chapter (ch. 20) on Campanella and his relationship to Bruno.

to hear that physical, i.e. scientific, explanation of facts is impossible. “Facticity,” he says “is inaccessible to physical explanation; it is a metaphysical problem” (p. 189). He has abandoned science for bold imaginative speculation. And this shows in the way he can shrug off the most insistent factual problems:

The primordial plasma cannot be viewed as sheer chaos, but rather as a hotbed of order, no matter how undifferentiated that initial plasma-continuum of energy may have been. We are thus faced with a stunning paradox: the seeds of order are already embedded in the dark womb of chaos!⁶

An exclamation mark serves as sufficient to extricate him from the illogicalities of his thinking and of the facts that scream in his ears. He goes on:

There is yet another highly paradoxical cosmological fact which, until now, has not received a satisfactory scientific explanation. It is the apparent [actual—CW] contradiction between the second law of thermodynamics and the continuous emergence in the universe of countless systems of the highest complexity and order.⁷

To get back to Gatti. There is no doubt that her book is much better written than Mendoza’s. It attempts to be scholarly rather than polemical. Gatti reasons her way carefully through her arguments, documenting fully at each step. It is thorough if ponderous. One might term it, rather unkindly perhaps, an *academic* book.

Still, there are imponderables here. As with Mendoza, there seems to be no clear and unambiguous understanding of what either Bruno or modern science is about. Take, for example, the vexed question of Bruno’s approach to mathematics. I say “vexed” because his mathematical views are embarrassing to modern science. The fact is that Bruno’s science was not *mathematical* but *pictorial*. Yet *mathematics* is the key to modern science. Gatti voices her dilemma: “No fully satisfactory explanation has yet been put forward of the presence in Bruno’s mathematical doctrine of mythological elements which seem to pertain to a different sphere of discourse.”⁸

But “fully satisfactory” to whom? Yates has a fully satisfactory explanation if we accept her thesis regarding the hermetic context of Bruno’s science. Gatti is ducking the issue here. Yates *cannot* be right, so these “mythological elements” can only “*seem* to pertain to a different sphere of discourse.” Perhaps they *do* pertain to a different sphere of discourse? Why will Gatti not admit the possibility, why will she not admit that she may be wrong, that Yates may be right? Two paragraphs on she virtually concedes the point but draws back at the last instant. Having outlined what she confesses was Bruno’s *own* evaluation of what he was doing in his book *De triplici minimo*, she comments, “It suggests that Frances Yates was right to look for the clue to Bruno’s mathematical doctrine in the three emblematic temples of

6. *The Acentric Labyrinth*, p. 191. Why are supposed contradictions in Christian teaching proof of its falsity but in scientific thought proof of its wonderful and complex character?

7. *The Acentric Labyrinth*, page 191. But does Mendoza not say that there could be no scientific explanation of facts? And why is this contradiction only apparent? Obviously because it has to be so or he’s sunk and his whole world collapses around his ears. The contradiction is real and needs facing. Evolutionism is doomed until it can resolve the issue.

8. *Giordano Bruno and Renaissance Science*, p. 147.

Apollo, Minerva, and Venus” (p. 147). But this cannot be, so she adds: “. . . even if she failed to place them in their proper mathematical setting.” How so? Because “they do represent properly mathematical concepts, *even if they are apparently far removed* [my italics—CW] from the mathematics that would develop in the seventeenth century based on the idea of a direct relationship between mathematical entities and the natural world.” To my mind, Gatti has conceded defeat to Yates here, whatever her reservations to the contrary. Notice here too, as with Mendoza, the subtle use of the word *apparent*. Is it not true that we use this word in these contexts only when we have to acknowledge the fact but are still unwilling to do so? I will let the reader judge. Gatti cannot explain how Bruno’s mathematical concepts are *far removed* from what she believes they should be. The explanation, I would contend, is that her view of Bruno’s scientific enterprise is seriously flawed. Yates offers a much better, because much more coherent, explanation.

What can we learn from this struggle? There are, I believe, a number of lessons that emerge. Above all, we have to develop intellectual and historical integrity. I would stress the qualifying words *intellectual* and *historical*. We are not discussing moral integrity here. No doubt, at the end of the day, we cannot compartmentalise our lives according to their various aspects. But we can distinguish between them. Failure of moral integrity is built on the intention wilfully to deceive. But our authors would be horrified, and rightly so, to be accused of any such motive in their attack upon Yates (and in Mendoza’s case on Christianity). The problem is not that they are out to deceive but that they *really believe* what they say. (I will not go into the question of how this commitment to a viewpoint is itself ultimately founded in a religious commitment, generally one that is in apostasy from God) Their sincerity in this respect cannot be disputed.⁹ Their failure lies rather in the fact that their interpretations are not neutral but founded in religious, philosophical and cultural presuppositions that have already—before they begin their historical and scientific studies—determined the way in which the facts will be understood. Failure of intellectual integrity consists in having ignored these presuppositions—indeed, often regarding them as non-existent—and arguing the case *as if* the opponent’s facts were part and parcel of their own outlook and not their opponent’s.

Such failure of intellectual and historical integrity is not the privileged domain of non-Christians. Unless Christians work within a consistently Christian outlook in any scientific field—whether it be the mathematical sciences or the so-called social sciences (I prefer the term *normative* for these)—and unless they do so with a clear and self-conscious understanding of the implications of that outlook, they too will arrive at conclusions that are inherently fuddled, intellectually unacceptable and, worst of all, inimical to the faith they hold dear.

What does this mean in practice? First and foremost, it demands a determination to be truly self-critical about our own presuppositions. We need to be clear about what they

9. I would not want to be thought here to be suggesting that there is never any insincerity. It afflicts us all, Christians included, at times, especially in those moments when self-justification rather than truth becomes the over-riding factor in our response to criticism. But I would contend that, *on the whole*, most people do and say things out of sheer belief in the rightness of what they espouse rather than with malice aforethought, deluded though they may be.

are and what they should be. We need to be open about the part played by these presuppositions in all our scientific deliberations and conclusions. We must not mask these presuppositions, as modern thought has done for much of its history until recent times.¹⁰

Secondly, in our critiques of opposing systems we must be aware of the presuppositions that undergird them, and respond to them accordingly. It is not intellectually honest to expect an opponent to accept the defeat of his argument on the basis of principles he does not accept. It was for this reason that Dooyeweerd developed what he termed *immanent criticism*. He described this as a “placing oneself at the starting point of the theory which is to be judged,” and in his inaugural lecture at the Free University, Amsterdam, he explained it as “getting to know every system from inside out, from its own basic starting point.” He added:¹¹ “Criticism is only valuable when it begins to enter into the writer’s train of thought with complete honesty, drawing from his epistemological premises the necessary conclusions, pointing to what is unsatisfactory in the conclusion and from there to the untenability of the starting point.” One of the simplest examples of this would be the refutation of scepticism. Scepticism holds, and holds absolutely, that there is no absolute truth. No doubt the fact that *Christianity is true* is sufficient warrant for a Christian to shun such teaching as erroneous. But this would hardly convince a sceptic. And it relies on a dogmatic statement that is just not true if scepticism is true. But if we approach scepticism in Dooyeweerd’s manner, that is, investigate its coherence *in terms of its own criteria*, we can show that it is fallacious. For scepticism denies its own presupposition. If there is no absolute truth then the statement that *there is no absolute truth* cannot be absolutely true. The sceptic must be required to explain how he can justify maintaining a thesis that, even on his own criterion of consistency, refutes itself.

A further area in which we must seek to be historically honest is in the way we sift the facts. The truth we find may not always be to our taste. Why does it concern us that it should? Does our commitment to truth rely on the historical acts of others? Why is it so important to us that historical figures should be seen to be of our school or party? Why do we feel compelled to label them with the stark alternative of either *for us* or *against us* absolutely? One thoroughly honest and transparent Christian of my acquaintance—a teetotaler by conviction—completely ignores all the historical (documentary) evidence that the Puritans (as he calls them) were consumers of alcoholic beverages simply on the grounds that being godly folk, they could not possibly have been other than teetotal. His concern to have them on his side—and

10. Modern thought now seems to be much more open to admitting the part played by presuppositions—historical, cultural, religious, etc.—in the formation of theoretical (and naive) concepts. However, I suspect from my reading of some of them that the case is not quite so simple. It seems to me that while they admit the part that presuppositions *actually* play in concept formation, they do not really believe that this *ought* to be the case. Our limited natures, developed as they are by biological and cultural evolution may well mean we can *never* get to the ideal, but that neutrality with respect to all presuppositions *should* be the ideal. Rousas Rushdoony, Cornelius Van Til, Herman Dooyeweerd and Dirk Vollenhoven clearly believed—from a Christian perspective—that no knowledge is *ever* possible except within the framework of a set of religious presuppositions.

11. The quotations from Dooyeweerd are taken from Roger Henderson’s excellent study *Illuminating Law: The Construction of Herman Dooyeweerd’s Philosophy, 1918–1928* (Amsterdam, 1994), p. 53.

they could not be “on his side” unless they walked in his footsteps completely—overrode every consideration of historical integrity. And his case is not unique; indeed, it is almost universal.

There are lessons to be learned from the study of history. There are lessons to be learned from study of Giordano Bruno’s history. We do not need to take sides or, rather, insist that he be of one camp or another. The passion to justify ourselves, our beliefs and our actions through the process of pigeon-holing historical characters is historical dishonesty by nature and practically useless. Whether Giordano Bruno was Christian or non-Christian, magus or scientist, really has little relevance, in and of itself, to our day. And an argument over these issues can only be of significance if the outcome is a better understanding of the way in which scientific ideas develop in general, and how they developed in Western culture. For if we can accurately analyse and understand this scientific development, the development of perhaps the greatest cultural force in the last four hundred years, we will possess the knowledge and wisdom to steer a better course ourselves into the future. History gives us the opportunity to gain valuable experience without the disadvantage of having to make mistakes ourselves. Rather than looking back to a supposed golden age, we ought to be thankful that we live in later times, when mankind’s journey through life has enabled it to gain a wealth of experience that should make the future more pleasant, productive and worthwhile. *C&S*

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BOOK REVIEW

A PERSONAL ODYSSEY
By THOMAS SOWELL

Touchstone, 2000, 308 pages, \$15.00, ISBN 0-684-86464-9

REVIEWED BY STEPHEN HAYHOW

ONE of the most important modern writers on social matters today is Thomas Sowell, currently of the Hoover Institution. This was reinforced for me on reading *The Vision of the Anointed* recently. There Sowell argues that our lives and society are being governed, controlled and shaped more and more by a new elite, an intelligentsia. The anointed implement policies and strategies that are funded and pursued whether or not they succeed. In other words they are ideologically driven rather than results driven. They are the outworkings of a politically correct creed, not the results of study, observation or experience. Another aspect of this vision is that the anointed pursue a perfectionist vision of the world, as opposed to what Sowell calls the tragic vision. The tragic vision accepts that we live and function in a fallen/twisted world. Hence there is an element of risk in life, which consists of a series of trade-offs, or decisions. Thus it is impossible to remove all risk and danger in this tragic, or as we might say, fallen world. However, this is not so for the anointed, who want to pursue a risk-free world. The result? More controls, more limitations, more government regulation. The net result? The erosion of personal freedom. This is why Sowell is a lone prophet for freedom, responsibility and liberty today.

A Personal Odyssey is Sowell's own account of his humble beginnings and the development of his career to its current position. Sowell was born in the deep south, raised in difficult family circumstances and eventually moved up to New York and lived in Harlem, where he was schooled. This was an immense change for the young boy. Sowell describes one of the new experiences upon arriving in New York City as his friend took him to a public library: "... he took me one day to a kind of place where I had never been before and knew nothing about, a public library. Impressed but puzzled as to why we were in a building with so many books, when I had no money to buy books, I found it difficult to understand at first, as Eddie explained to me how a public library worked. Unknown to me at the time, it was a turning point in my life, for I then developed the habit of reading books" (p. 16).

Nearly all men who understand the world and make a mark in it are readers. Mark Twain pointed out that there is little difference between a man who can't read and a man who doesn't. At this time Sowell became a reader.

After going through school, working in New York often in sewing shops, moving from job to job, Sowell eventually joined the Marines. In fact he was called up during the Korean conflict and was located in the corp for photography. Here he developed a life-long interest in photography, but was never sent to the front line.

It was the Marines that bought Sowell his ticket to a higher education, for on being discharged he had the opportunity to attend college and gain a degree. Eventually he went on to Howard University, on to Harvard and then Chicago under Milton Friedman. After that it was a government job and then teaching and writing. Sowell's observations and unorthodoxy in teaching became a magnet for opposition. At the same time

his social and political views were starting to move from Marxist to Libertarian. Sowell's approach developed into one where hard work, scholarly excellence and the thorough thinking through of issues were primary. He says of one class, "From my apartment I could see the girls lining up outside the library before it opened at 8 A.M. They were conscientious students, by and large, and, many were quite bright. But the focus of their efforts was good grades to take home, not a drive to understand or to develop their own analytical powers. They wanted to receive a pre-packaged education, and that was not what I offered" (p. 143).

During the race riots of the 1960s he complained that too many black faculty members were "joining in" the revolution, instead of doing a thorough job as professionals. He saw this as a distraction from what would really improve the lot of other American blacks.

Readers who are familiar with Sowell's main books will enjoy this autobiography as it fills out the man and his personal struggles in the face of opposition, a disadvantaged background and unpopularity throughout his writing career. It reminds us that here is a man who does not write from the ivory tower, but as one who has struggled for what he has and is, and believes that the same can be true of others. *C&S*

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