

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 entirely 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.

THE KUYPER FOUNDATION
P. O. BOX 2, TAUNTON, SOMERSET TA1 4ZD, ENGLAND
E-mail: scp@kuyper.org **World Wide Web:** www.kuyper.org
Tel. (01823) 665909 **Fax.** (01823) 665721

COVER PICTURE:

A page from a thirteenth-century manuscript of Jordanus Nemorarius' *De ratione ponderis* illustrating the bent lever problem (see Colin Wright's article "Mediaeval Science and its Relation to the Christian faith," p. 8ff.)

EDITOR
Stephen C. Perks

ASSOCIATE EDITOR
Colin Wright

REVIEW EDITOR
Matthew Wright

CONTRIBUTORS

Stephen C. Perks is the Director of The Kuyper Foundation.

Colin Wright is a software engineer and a former mathematics teacher from Neath, South Wales.

Derek Carlsen is pastor of Reason of Hope Church, Mutare, Zimbabwe.

S. Alan Corlew teaches Worldviews to seniors, and World History to sophomores at a Christian high school in San Antonio, Texas.

Nick Needham is Lecturer in Church History at the Highland Theological College, Scotland.

Hugh Flemming is a retired professor of Classics and Ancient History from the University of New Brunswick, Saint John, NB, Canada and an ordained Presbyterian minister.

VOLUME XII, NUMBER 3

JULY, 2002

CONTENTS

EDITORIAL

CORRUPTION

by *Stephen C. Perks*..... 2

FEATURES

MEDIAEVAL SCIENCE AND ITS RELATION TO THE CHRISTIAN FAITH

by *Colin Wright* 8

CANNIBALS

by *Derek Carlsen* 14

MICHAEL POLANYI'S CONCEPT OF TACIT KNOWLEDGE AND ITS IMPLICATIONS FOR CHRISTIAN APOLOGETICS

by *S. Alan Corlew* 16

AUGUSTINE ON LAW AND GRACE

by *Nick Needham* 24

BOOK REVIEWS

Alister McGrath, *Scientific Theology: Volume 1—Nature*

Reviewed by Colin Wright 26

Nick Needham, *The Triumph of Grace: Augustine's Writings on Salvation*

Reviewed by Hugh Flemming 31

Articles and reviews published in *Christianity & Society* represent the views of the individual authors and should not be taken as an official position endorsed by *Christianity & Society* or its editors. Readers are invited to submit previously unpublished articles for publication. A style-sheet can be obtained from the Editorial office. It is requested that authors supply a brief biographical sketch or c.v. for the contributors panel above. Manuscripts will not be returned unless they are accompanied by a stamped addressed envelope. Letters and comments are invited, as well as suitable anecdotes, questions, news items and feedback on any issues raised. Advertisements are accepted at the discretion of the editors. All manuscripts should be sent to the editorial office in England. Correspondence should be sent to the editorial office in England or by e-mail to: cands@kuyper.org. *Christianity & Society* is published quarterly by The Kuyper Foundation, a registered charity in England.

Designed and typeset by Avant Books, P. O. Box 2, Taunton, Somerset, TA1 4ZD, England.

Printed by Stuart Dick Printing Co., Kingsdale House, Martinet Road, Old Airfield Industrial Estate, Thornaby, Cleveland TS17 0AS, England.

Copyright © *Christianity & Society* 2002. All rights reserved.

Editorial office: *Christianity & Society*, P. O. Box 2, Taunton, Somerset, TA1 4ZD, England.
Tel. (01823) 665909 Fax. (01823) 665721
www.kuyper.org/Email: cands@kuyper.org

Subscriptions: four consecutive issues

UK: £12.00

Europe: £15.00 (airmail).

All other subscriptions: £20.00 (airmail).

Payment by cheque: cheques should be in sterling only drawn on a bank in the UK, made payable to "The Kuyper Foundation" and sent to: P. O. Box 2, Taunton, Somerset, TA1 4ZD, England.

Credit card payments: Please supply the following information: (1) card number, (2) expiry date, (3) name of card holder and (4) card statement address (plus delivery name and address if different from card holder and statement address). Credit card information may be sent to the address or fax number above, or emailed to: "cands@kuyper.org" (See the credit card payments form on p. 32).

EDITORIAL

CORRUPTION¹

by Stephen C. Perks

How is the faithful city become a harlot! it was full of judgement; righteousness lodged in it; but now murderers. Thy silver is become dross, thy wine mixed with water: Thy princes are rebellious, and companions of thieves: every one loveth gifts, and followeth after rewards: they judge not the fatherless, neither doth the cause of the widow come unto them. Therefore saith the Lord, the LORD of hosts, the might One of Israel, Ah, I will ease me of mine adversaries, and avenge me of mine enemies: And I will turn my hand upon thee, and purely purge away thy dross, and take away all thy tin: And I will restore thy judges as at the first, and thy counsellors as at the beginning: afterwards thou shalt be called, The city of righteousness, the faithful city. (Isaiah 1:21–26)

In this passage of Scripture Isaiah describes the state of corruption and immorality into which the people of Jerusalem had fallen, and he contrasts this deplorably fallen state with the glory of Jerusalem's former days. Jerusalem was the city of David, and of Solomon, the most famous of all judges. Solomon's administration of justice, his judgement, had been a legend in his lifetime. The queen of Sheba came to visit Solomon in Jerusalem because she had heard of his reputation, and she marvelled at the wisdom of Solomon in the righteous judgements that he made (1 Kg. 10:1–13). The case of the disputed child is the most famous of Solomon's judgements (1 Kg. 3:16–28). But Solomon's wisdom was a gift from God. Solomon prayed: "Give therefore thy servant an understanding heart to judge thy people, that I may discern between good and bad: for who is able to judge this thy so great a people?" (1 Kg. 3:9). And God answered Solomon:

Because thou hast asked this thing, and hast not asked for thyself long life; neither hast asked riches for thyself, nor hast asked the life of thine enemies; but hast asked for thyself understanding to discern judgement; behold, I have done according to thy words: lo, I have given thee a wise and an understanding heart; so that there was none like thee before thee, neither after thee shall any arise like unto thee. And I have also given thee that which thou hast not asked, both riches and honour: so that there shall not be any among the kings like unto thee all thy days. And if thou wilt walk in my ways, to keep my statutes and my commandments, as thy father David did walk, then I will lengthen thy days (1 Kg. 3:11–14).

The ability to judge wisely, therefore, was God's gift to Solomon because as king of Israel he sought not his own glory or wealth, but rather wisdom from God to rule, i.e. to judge the people, wisely. And this is the way that it should always be with rulers. Rule, kingship, presidency etc., is not

a business enterprise entered into for one's own benefit, in order to accumulate wealth and gain power. Rather, it is *service*, a ministry. The ruler is to serve God by dispensing justice according to biblical wisdom, according to the law of God. The ruler is a *servant* of God in this (Rom. 13:4). In the law of God the ruler is specifically forbidden to use his office in order to accumulate wealth and power for himself and is instead commanded to look to God's law for wisdom to judge the people properly (Dt. 17:16–20).

Furthermore, the Bible has much to say not only about the *office* of the ruler, i.e. the purpose or function of the ruler (e.g. in the case of the political ruler or magistrate this is the public administration of justice or judgement), but also about the *character* of rule, the *nature* of the kind of rule that God expects of those who exercise authority over others. This is what Jesus taught us about those who rule:

But Jesus called them unto him and said, Ye know that the princes of the Gentiles exercise dominion over them, and they that are great exercise authority upon them. But it shall not be so among you: but whoever will be great among you, let him be your minister [i.e. servant]: and whoever will be chief among you, let him be your servant (Mt. 20:25–27).

Jesus was not speaking here only about Church leaders. He is speaking about all rule and authority, about the very nature of *Christian* rule in whatever sphere that rule is exercised. The AV's translation here is less than adequate. The word translated "minister" (*διδάκωνος*) means "servant," but the word translated "servant" (*δοῦλος*) means "slave," hardly the kind of connotations that one normally associates with those who hold high office either in State or Church. The Christian doctrine of government is the very antithesis of the doctrine and practice of government espoused by and found in the world. The ruler is to be a *servant* and a *slave* to those over whom he has authority. He is to see his ministry as a sacred trust, and himself as answerable to God.

Solomon, when he ascended the throne and began his ministry as king of Israel, epitomised this Christian or biblical doctrine of rule. As a result he became the most famous judge of his age, indeed the most famous judge of any age, as Scripture foretold that we would (1 Kg. 3:12).

But just look what happened. The city of Jerusalem, she who was full of justice,—righteousness once lodged in her—had fallen into a state of utter corruption. And this fall began in Solomon's own lifetime; indeed, Solomon himself caused the people to fall by his own example. He erected idols and shrines to false gods for his foreign wives and worshipped Ashtoreth, the goddess of the Zidonians and Milcom, the abominable idol of the Ammonites (1 Kg. 11:1–14). He turned away in his old age from the principles that had guided him in his youth. And in turning away from God and disobeying his law in this way he led the nation into ruin. In the two hundred years or so from the time of Solomon to the time of Isaiah the nation of Israel steadily but surely declined until the nation was plunged into a cycle of religious and moral corruption that turned everything upside down. The rulers and religious leaders alike turned their back on God, corrupted his worship and abandoned his law, and the people followed them in their unrighteousness. And this is the very state of affairs that Isaiah describes.

This situation was a *social* problem. It was not just that a few of the leaders of the nation or a minority of people were unrighteous in their dealings with others. No, what Isaiah

1. This article is substantially the text of a lecture given originally at a conference at the Christian Evangelism Centre, Kanyama, Lusaka, Zambia, on the 26 May 2002, and subsequently at the New Covenant Church Christian Life Centre, Kabwe, Zambia, on 28 May 2002.

describes is the apostasy of the whole nation. This was a society-wide problem, a cultural apostasy. Listen to how Isaiah describes the situation:

Thy silver is become dross, thy wine mixed with water: thy princes are rebellious, and companions of thieves: every one loveth gifts [i.e. bribes], and followeth after rewards: they judge not the fatherless, neither doth the cause of the widow come unto them. (v. 22–23)

Here we see the whole corrupt state of society described. First of all economic corruption is described; second, political corruption; and third, the unrighteous and corrupt attitudes and actions of the people generally in their chasing after bribes and their neglect of the poor, weak and needy members of society. Isaiah compares Jerusalem to a harlot, a prostitute, and he tells us that murder has replaced righteousness as the ethos of the community. What a terrible fall! The faithful city had become utterly corrupt. Let us look more closely now at what this corruption consisted of.

1. First, there was economic corruption: “Thy silver is become dross, thy wine mixed with water” (v. 22). What Isaiah refers to here first of all is the *debasement of money*.² The practice of debasing silver was a process in which silver was mixed with base metals, e.g. tin, and the resulting alloy passed off as pure silver in the marketplace. Those who received this debased silver in exchange for goods and services would be unaware that what was being exchanged for their goods and services was only partly silver. Someone might agree to deliver a certain consignment of wine for a shekel of silver, for example, but receive instead of pure silver a shekel of debased silver, an alloy consisting of part silver and part tin. In this case he will receive only part of the payment, but he is unaware, at least at first, of the fact that he has been short changed, cheated by his customer. Thus, by debasing their silver in this way those who practised this sort of economic corruption could obtain goods and services by deception, paying less than the price asked for without those with whom they were dealing being aware that they were being cheated.

But of course this kind of corruption can only go on for so long before people begin to get wise to what is happening. And when they realise what is happening they start taking steps themselves to deceive those who are trying to cheat them by making payment with debased money. What will happen when the wine merchant eventually finds out that those with whom he is dealing are cheating him? What will he do? Well, Isaiah tells us here. He will start diluting his wine with water. He will start cheating as well. And so corruption spreads through the whole economy. No one can trust the market and everyone is “on the take,” trying to get the better of his neighbour.

Now, what Isaiah describes here, the debasement of currency, is very common, and has been throughout most of history. Indeed, debasement of currency has been, and continues to be, a common practice of banks and governments the world over. And the consequences are devastating for the economy. It is the debasement of currency that usually causes inflation. When banks and governments engage in this sort of thing they ruin their nation’s economy

2. See G. North, *An Introduction to Christian Economics* (The Craig Press, 1973), p. 3ff. and *passim*.

and impoverish the people. But bankers and members of governments themselves usually benefit at the expense of the rest of society. This is a form of corruption, and the Bible condemns it in no uncertain terms. When governments act in this way, or permit or license others (e.g. banks) to act in this way, they are not serving God by administering justice, which is their true calling under God; rather, they are serving themselves by defrauding others.³ This brings us, therefore, to the second part of Isaiah’s description of the moral corruption of Jerusalem.

2. Second, Isaiah tells us that the rulers of Jerusalem are rebellious—i.e. that they have turned away from God and rebelled against his word—and “companions of thieves; every one loveth gifts [i.e. bribes], and followeth after rewards” (v. 23). The very calling and duty of the rulers, namely the administration of justice, is turned into an opportunity to act corruptly, to pervert justice in return for a bribe, to plunder those who seek justice. Why? So that rulers can live in luxury on their ill-gotten gains, and all under the pretence of being judges and serving the people. Political corruption had got hold of Jerusalem.

Now, not much has changed since the days of Isaiah. This kind of political corruption still goes on and is rife in many parts of the world. The political office is prostituted and used as a means of personal aggrandisement for those in power. Those who gain political power use their position to better themselves or the group to which they belong; but they never tire of telling us that everything they do is a selfless act of service on the behalf of others. Yet politicians themselves always do very well out of their “service.” They love the power to push other people around, and the wealth that political power so often brings with it. But how many of these politicians see this office as a calling to serve God by obeying his law and administering justice according to his word? Very few. Political corruption is a great snare to those who rule, and it is, I am tempted to say, almost the prevailing condition of politics, and has been throughout most of history. Yet such corruption is condemned by God in the severest terms. Politicians are not supposed to rule in order to benefit themselves. God commands them to repent of their sins just as he calls all men everywhere to repent of their sins (Acts 17:30), and he demands that they rule justly according to his word.

However, we must make a further point here. Although this political corruption is so widespread in varying degrees that it seems almost that politics is inevitably linked with the corruption of power, Isaiah does not condemn the *office* of ruler, he condemns the corruption of the office. It is not politics *per se* that is at fault when political corruption prevails. There is nothing unholy or sinful about the calling and office of the ruler. Therefore politics is not an area that Christians should shy away from because it seems to be so contaminated by the world. Rather the reverse is true. Politics, like every other area of life, must be redeemed by Christ, and this inevitably means that Christians must get involved with the political process, not in order that they might secure wealth and power for themselves by participating in the corruption of the political office as the world does,

3. For a more detailed explanation of this see Stephen C. Perks, *The Political Economy of A Christian Society* (Taunton: The Kuyper Foundation, 2001), pp. 68–74, Chapter Four, “The Banking System,” pp. 99–145, and *passim*.

but so that justice might be done and God's law prevail in society. Christians must show an example to the world of how politicians should behave. They should pursue justice and refuse to take bribes. They must seek political office not for rewards, not for their own personal aggrandisement, but in order to serve God and the people he has given them to rule over. It is the wicked and rebellious hearts of rulers who seek only their own benefit from political office that Isaiah condemns, not the political office itself, which is a God-ordained institution that must be valued as essential to the good order of social.

3. Third, this corruption is not limited to the rulers. We have already seen how this corruption has taken root in the market-place. Of course, the "every one" of whom Isaiah speaks refers in the first place to the princes; i.e. every prince loves a bribe and chases after rewards. It is not just a few bad apples, but the whole of the ruling class who have degenerated to this level of corruption. But this does not happen in isolation from the rest of society. It has consequences for the whole of society. It is not only the princes, the ruling class, who have fallen into this state of immorality and corruption. Isaiah's strictures apply equally to the rest of society. For example, who is doing the bribing? Not the rulers. They are benefiting from this bribery and corruption of course. But they are not the only ones. Those who pervert the course of justice by bribing the judges also benefit. Corruption spreads like a disease across the whole of society. Politicians seldom keep it to themselves. By their own corruption of the political office they foster a climate or ethos of corruption within society generally, and so corruption spreads and permeates the whole of society.

This has very serious and damaging effects on society. For example, it hinders rational economic development and this leads to the withdrawal of investment. This point is especially relevant to the poor countries of the Third World. Foreign aid, while it does have a legitimate role in certain circumstances, cannot create a wealthy society. It can only alleviate a crisis. Where it is used outside a crisis situation, it actually hinders and sets back the development of a viable market economy that will enable a country to become economically independent. Aid does not do the job that investment does, and it is investment that is needed for economic growth. Aid is irrational from the economic point of view, though of course not from the humanitarian point of view, *provided* it is correctly targeted. But where aid is not correctly targeted it fosters economic servitude and this is extremely harmful for the economy and thus the nation. This is particularly true of government to government aid. Aid will not create a prosperous economy. The free market, however, when it is permitted to operate on the basis of just and moral principles—i.e. when the State fulfils its proper function of enforcing justice according to Christian standards—will provide the investment needed where those with the economic initiative necessary to develop the economy are permitted to do so. This is the only stable and sure way to economic prosperity.⁴

But what happens when corruption and bribery get hold of a nation? Those with capital will not invest. If they have invested in such a society this investment will be withdrawn the more corrupt society becomes because corruption hinders economic rationalisation. Corruption, when it gets a

hold on society, makes the development of a rational economy impossible. Investment dries up because investors will only tolerate so much corruption, and not necessarily because they have high moral principles either, but merely because the prevalence of corruption in society is *economically* disastrous. If investors can find a better return on their capital elsewhere, therefore, they will withdraw their investments and invest in economies that are not in the process of being ruined by corruption. Economic growth is thus severely hindered by the prevalence of corruption in the economy. And the State cannot effectively replace private enterprise in the economy. It is not possible for the State merely to take the place of private enterprise when the latter abandons a country because of the prevalence of corruption. Nationalised industries do not create economic growth, i.e. they do not lead to a growth in the creation of wealth. Rather, they make such growth more difficult. There has never been in history an economically successful socialist government. *All* socialist economic experiments have failed or are failing. Socialism does not ultimately share out the wealth in society; it merely shares out the poverty. Economic equality is in one sense the ultimate end of socialism; but it is not an equality of wealth. Socialism merely ensures that ultimately all men are equally poor, except of course the politicians, who use their power for personal aggrandisement at the expense of the people.

And when corrupt governments have frightened all investment away from the country, and plundered their own people, ruining the economy in the process, what will become of the weak and helpless in society? They will be forgotten. Therefore,

4. Fourth, where corruption gets hold of a society, where everyone loves a bribe and chases after rewards, society deteriorates economically and the weakest members of society are the ones who suffer most. Those who do not have the political muscle and economic power to help themselves or who are not able to play the game of corruption and bribery in order provide for themselves are shoved to the bottom of the social heap. And this is what Isaiah says "they judge not the fatherless, neither doth the cause of the widow come unto them" (v. 23). The helpless, for example the orphans and widows, are the ones who suffer most. This is not acceptable to God. He will not permit this situation to continue indefinitely. He commands us to care for the weak and the needy amongst us: "pure religion and undefiled before God and the Father is this, to visit the fatherless and widows in their affliction" (Js. 1:27). Our care for the weak and the needy means not only that we must give them help in their need, in their hour of crisis, but that society should maintain a just economic order in which the weak and the needy are not forced into hardship and poverty because the economic order is based on corruption and bribery, on the ability of those who are strong to exploit unjustly those who are weak.

Bribery and corruption are great enemies of prosperity. People think they are getting wealthier when they engage in corruption and bribery, when they take "back-handers," but ultimately this is an illusion. Why? Because corruption destroys the values and virtues that make economic progress possible, namely honesty, hard work and thrift. Without these virtues of honesty, hard work and thrift no society can prosper, and it is precisely these virtues that corruption destroys.

4. For a more detailed consideration of this point see *ibid.*, pp. 14ff.

A society in the grip of this kind of corruption is in a seriously dangerous situation. If the corruption is not dealt with society will collapse into anarchy, and history teaches clearly that anarchy is usually followed by harsh totalitarian rule. And so it was most of the time in antiquity. Likewise in the modern world where the light of the gospel of Jesus Christ has not been lit or where it has been extinguished. Either anarchy with abject poverty prevails, a situation in which economic progress is often shunned⁵; or totalitarian rule, dictatorship and oppression of society by a powerful political elite, again with poverty for the masses, becomes the order of the day.

Only Christianity can end these problems, by creating a different outlook, a different set of values that makes the rule of law and helping one's neighbour the prevailing ethos of society, rather than corruption and the unjust exploitation of the weak. History bears this out. Only where the Christian world-view has become dominant have these problems been overcome in sufficient measure to facilitate the development of rational economic growth and thus significant social amelioration across the *whole* of society.

But what happens when a Christian country, or a nation that claims to be Christian, or has been in the past Christian, turns away from God's law to corruption and bribery? How does God deal with apostate nations? Isaiah tells us here:

Therefore saith the Lord, the LORD of hosts, the mighty One of Israel, Ah, I will ease me of mine adversaries, and avenge me of mine enemies: and I will turn my hand upon thee, and purely purge away all thy tin: and I will restore thy judges as at the first, and thy counsellors as at the beginning; afterwards thou shalt be called, The city of righteousness, the faithful city. (vv. 24–26)

In these verses Isaiah tells the people that God will restore their judges as at the first, that righteousness shall be restored and the city saved from its corruption. In this God shows his mercy. But mark well the means by which this salvation is to be accomplished. God accomplished this by means of a “purging” or *smelting* away of the dross (v. 25). There is no smelting without *fire*. In order for the impurities in a metal to be removed, smelted away, the metal has to be heated up to a great temperature, so that the dross can be floated off. And this is how the LORD says he will remove the tin, the dross, the corruption, from Jerusalem. The Lord will avenge himself of his enemies by purging Jerusalem as the impurities of metal are purged away. He will turn his hand against those who have turned bribery and corruption into a virtue. He will turn against those who are companions of thieves, against those who love bribes and chase after rewards. He will turn against those who cheat their neighbours in the marketplace, and he will turn his hand against those rulers who abuse their positions of power and authority.

This process of purging away the sin and corruption of the people is a process of testing by *fire*, a process of removing the slag, the dross, of the nation by heating up the temperature until the pure silver is separated from the impurities that have debased it. When a nation gets into the state of apostasy described by Isaiah in this passage of Scripture the only way

to remove the corruption and restore justice and righteousness is through fire, that is to say, through the judgement of the LORD against his enemies. In this process of judgement the bad is cleared away, destroyed, so that righteousness can flourish once again. But the silver is heated up to the same temperature as the dross. The whole lump of alloy has to be subject to the fire. Only when the whole piece of metal, silver and tin mixed together, is heated to the required temperature is the dross able to be smelted off. Therefore the whole nation must go through this process of testing by fire, this process of judgement. Israel was eventually led away captive to Babylon, and the people had to suffer under the hand of those who conquered them. My point is simply this, that this process of testing by fire, of judgement by which the impurities are removed from society, is no jolly holiday for *anyone* in society. Nothing less than national calamity is often the means by which God accomplishes his purpose in purging apostate nations of the evil and corruption that have come to characterise their cultures. It has to be this way, otherwise how would the evil be removed? Purging, smelting away the dross, whether from silver or from nations, has to be accomplished by *fire*.

Now, I do not want anyone to think that I am here pointing my finger at Africa only. This message of Isaiah is highly pertinent to the UK and other Western nations as well. As the proverb says, “If the hat fits, wear it”! The point is that wherever we are, and wherever we live, we need to heed the message and learn the lesson before it is too late and our nation gets thrown into the smelting fire. If you are a corrupt person who takes bribes, if you cheat your neighbour in the marketplace, if you abuse the power and authority you have been given over others for your own personal gain, or if you are a politician involved in corruption at the highest level, your only hope is to repent, i.e. turn away from your sin to Christ in faith, seeking his forgiveness of your sins through his sacrificial death on the cross. Christ is the only hope for you and for your society. And turning to him in faith means turning away from corruption, from chasing after rewards; it means no longer accepting bribes or asking for “back-handers”; and it means helping those who are weak and downtrodden, helping your neighbours. We must put justice and mercy first. God requires this of us all, politicians included, since it is the duty of the political office to ensure that justice prevails in society. The plea of the widow and the orphan must come before us and we must not put our own personal gain before the justice due to others. We must seek to live righteous lives, i.e. lives dedicated to justice and mercy. This is not a private message to the devout only. It is God's message to the whole nation. The gospel is a public truth addressed to all men and all nations *as* nations.

If we do this, if we repent, God will restore our judges, and our counsellors, and our cities will be called cities of righteousness, faithful cities. Repent while there is time. Yes, God's kingdom will be established—nothing is more certain in history than this fact. The LORD of hosts will accomplish this. God's kingdom will be established even in Britain and Zambia, but unless our nations repent of their sins, the process by which God will establish his kingdom will be through the smelting fires of his wrath against all the ungodliness and unrighteousness of men *and* nations, who refuse to submit to Jesus Christ in humble faith and in obedience to his word. *C&S*

5. See the comments on the Lovedu in Helmut Schoeck, *Envy, A Theory of Social Behaviour* (London: Secker and Warburg, 1969), pp. 39–41.

MEDIAEVAL SCIENCE AND ITS RELATION TO THE CHRISTIAN FAITH

by Colin Wright

What person, devout and trained in true religion, although he could not yet contemplate these ideas, would, nonetheless, dare to deny—nay, would not even acknowledge—that all things which are, i.e., that whatever things are fixed in their own order by a certain particular nature so as to exist, are produced by God as their cause? And that by that cause all things which live do live? And that the universal soundness of things and the very order whereby those things which change do repeat with a certain regularity their journeys through time are fixed and governed by the laws of the most high God? This having been established and conceded, who would dare to say that God has created all things without a rational plan? But if one cannot rightly say or believe this, it remains that all things are created on a rational plan, and man not by the same rational plan as horse, for it is absurd to think this. Therefore individual things are created in accord with the reasons unique to them.

—Augustine of Hippo¹

INTRODUCTION

BEFORE we can even begin to consider our present subject we need to clear the path by clearly defining a couple of terms. These terms are well-known but the meaning they are now given is so wide and varied that it is often impossible to use them in a discussion without being seriously misunderstood. They are the terms *mediaeval* and *science*. The former is problematic because it assumes such a multitude of connotations; the latter is so for precisely the opposite reason—its meaning has been reduced to a single and well-defined instance of human activity.

Mediaeval: In common parlance to declare that something is “positively mediaeval” is to suggest that it is completely outdated. This stems clearly from the general perception that the mediaeval world was ignorant, unscientific and barbaric. On the other hand to be “modern” is to be knowledgeable, scientific and civilised. No doubt there has been considerable advance both in our understanding of the world and in our level of cultural attainment since the times regarded as mediaeval. Nevertheless, the stark contrast suggested can be shown to be utterly unjustified.

Let us try to give a clearer picture of what is involved in the term.

From a *historical perspective* the term *mediaeval* is generally understood in academic circles to refer to the period that began around the time of the fall of the Roman Empire and ended around the time of the Reformation or Renaissance. The limits are not exact. The era of St Augustine of Hippo, who died in 431 as the Vandals stormed his city, is generally regarded as an acceptable starting point. About the end of

the mediaeval period there is a divergence of opinion, depending largely it seems on one’s religious perspective. Thoroughgoing Protestants have generally regarded the Reformation, which began with Martin Luther’s *95 Theses*, as bringing down the shutters on the mediaeval period. Secular “scientists” have more generally tied the end to some stage of the Renaissance, seen as a secular and hence more enlightened movement of thought. More often than not they regard the publication of Nicolai Copernicus’ *De Revolutionibus Orbium Coelestium* [On the Revolutions of the Celestial Spheres]² in 1543³ as the most suitable starting point. Others prefer to fix the start of modernity with the work of the famous Paduan, Galileo Galilei, half a century later at the beginning of the seventeenth century, others with the publication of Isaac Newton’s *Philosophiae Naturalis Principia Mathematica* [Mathematical Principles of Natural Philosophy] in 1687.

In our estimation the end of the mediaeval period is difficult to define precisely. There was considerable overlap as thought developed from the dominance of a peculiarly mediaeval mindset to that of a peculiarly modern mindset. The watershed was probably the early sixteenth century but with the full changeover to modernity only coming after 1648 with the end of the Thirty Years’ War. But, as this indicates, one’s view of what constitutes mediaeval (or modern) is based on a *chronological* rather than an *ideological*

1. *Eighty-Three Different Questions*, trans. David L. Mosher (Washington, D.C., Catholic University of America Press, 1977) Question 46.

2. We have referred to some books by their original Latin title simply because that is how they are generally known. Translations vary widely and are unreliable for reference purposes.

3. This was also the year in which Copernicus died. His famous book was published (almost) posthumously. His pupil Bishop Giese of Kulm reported: “For many days he had been deprived of his memory and mental vigour; he only saw his completed book at the last moment, on the day he died.”

criterion. What changed was not the calendar but the way in which men think, the way in which they view themselves and their world. What is under debate is the nature and validity of those views. And we hope to show that the mediaeval period was, especially in its later times, one of ferment and profound thinking in matters theological, philosophical and scientific.

Science: In the twentieth century secular humanism finally won its centuries-old battle to redefine this term according to its own conception of things. This constituted in effect an abridgement—a serious abridgement—of the sphere and meaning of science. The word itself is derived from the Latin term *scientia*. The term referred to any form of knowledge or skill. This broad meaning-base continued to hold throughout the mediaeval period and, despite all the nuances it attracted, a consensus existed to the effect that science or *scientia* was any knowledge of an organised or systematic character. In some respects this is still evident in modern languages such as the German *wissenschaft* and the Dutch *wetenschap*. Though *science* may be an acceptable English equivalent the terms are much broader, implying what we might term an academic *discipline*. Thus Dooyeweerd wrote a trilogy on *rechtswetenschap* or *legal science*.

The restrictions imposed by modernity are two-fold. The first is in the use of the English word *science* itself, the second is in regard to the idea of what science is. There is nothing inherently wrong with limiting a word's meaning, or making its meaning more precise. English above all languages has engaged in this practice, simultaneously enlarging its vocabulary and giving its terms more precise meanings.⁴ In the English speaking world the term science is generally equated with an abbreviation of natural science, and this in turn includes little more than physics and chemistry. Other disciplines are regarded as science only in so far as they approach their subject from physical or chemical perspectives. Only that which can be expressed mathematically is now regarded as science. This is the essence of humanistic science. No one has analysed this aspect of modern Western culture better than the Dutch philosopher Herman Dooyeweerd, particularly in Part II of the first volume of his *New Critique of Theoretical Thought*. For now we shall be content with these preliminary remarks, and examine the mediaeval idea more analytically later.

The shifting pattern of mediaeval thought

The mediaeval period as we have defined it—roughly from 500 A.D. to 1600 A.D.—was a time of profound change in thought and circumstances. In my experience much of modern popular Protestantism has viewed the whole period as one uniform in thought, life and culture, largely after the pattern of the late fifteenth century, just before the Reformation. But the corruption and decadence of the early sixth century was not that of the Roman *church* but of the Roman *state*. And if many today regard the condemnation of Galileo as the nadir of mediaeval thinking, then the imprisonment, torture, and brutal bludgeoning to death of the Christian scholar and statesman, Anicius Manlius Severinus *Boethius*,

4. A Swedish student at Birmingham University in the sixties found the English range of words intriguing. Whilst in English he could speak of stretch, strain, tension, etc., in Swedish he only had the one equivalent of our stretch.

in 525 A.D. may be regarded as the nadir of a corrupt and barbaric empire.

By the eighth century Europe had quietened down; the Northern raids had stopped, and the invading barbarians had become the new settled population—a bit like the way the rebels of Woodstock in 1967 eventually became stockbrokers on Wall Street and put their kids through the best and most conservative schools. Under Charlemagne (742–814) a degree of cultural renaissance was achieved in the new Holy Roman Empire. There had indeed been, for much of this time, a dark age. But contrary to what the humanists would have us believe, this was not due to the cultural power of Christianity but to a combination of the lack of it and the perpetually unstable political and social situation caused by the invasions from the north.⁵ Even then there were flickers of light that broke the gloom: John Philoponus⁶ in Alexandria (490–570) who sought to inculcate a Christian vision of science, the historian Gregory of Tours (538–594), Isidore of Seville (560–636) in Spain, and Bede (673–735) in Northumberland. England too was privileged to be the home of the philosopher-king Alfred the Great (849–899), unfortunately only remembered for his lack of culinary skills, but an eminent scholar who translated the Bible, Augustine's *Soliloquies* and Boethius' *Consolation of Philosophy* into his native tongue, and bequeathed his Anglo-Saxon nation the priceless advantages of a Christian legal code.

With Charlemagne, as we said, cultural renaissance was in the air. Alcuin (735–804) reformed the educational system, making a hugely significant advance especially with his reforms of the Latin language as then used. During this time the foundations were laid in Europe in the cathedral and monastic schools for the future universities of Europe.

Increasing political and social stability meant that learning could grow and culture could develop. The eleventh century saw the rise of the first big stars, men like the stately theologian Anselm of Canterbury (1033–1109) and the eccentric genius Peter Abelard (1079–1142), the latter often regarded as the founder of Scholasticism.⁷ Their books are still in print and selling well. The following centuries saw the rise of a galaxy of great thinkers, whose intellectual prowess (but not cultural attainments) is still without equal. We mention but a few: Peter the Lombard (1100–1160) whose great work of systematic theology *Liber Sententiarum* [Book of Sentences] was used as the standard text for university

5. Moderns are too quick to forget the debt they owe to the Christians of these dark ages. As barbarism descended on Europe with the Northern hordes, culture was only preserved in the Christian community, and in particular in the secluded monasteries, where literature of every conceivable form was hoarded, awaiting a better day. They were cultural optimists in their theology with an astounding vision of the distant future that is difficult to conceive in our humanistic western culture.

6. At one point Philoponus questioned the received wisdom that stated that natural motion was circular and that moving objects left to themselves would come to a halt. He suggested that perhaps a better theory of motion would be one that accepted that “every body continues in a state of rest or uniform motion in a straight line, unless acted on by some external force.” The latter idea was not revived until it appeared in Newton's *Principia Mathematica* in 1687. It has now come to be regarded as such an obvious commonplace that it is a wonder anyone would think otherwise.

7. There are two autobiographies that no Christian with any self-respect ought to leave unread. The first is that of Augustine of Hippo—his *Confessions*—and the second is that of Abelard—*Historia Calamitatum* [The History of my Misfortunes].

studies in theology, philosophy and science for centuries.⁸ The structure of Lombard's four volumes is still retained today almost in its entirety by systematic theologians, dividing the subject into (a) the nature of God, (b) man and creation, (c) the incarnation and soteriology and finally, (d) the church, sacraments and last things.

The thirteenth century too brought great scholars onto the scene of history: Albert the Great (1206–1280) and his more famous pupil Thomas Aquinas (1225–1274). The latter's writings alone were able to supplant the hegemony enjoyed by an Augustinian system of thought that reigned almost unquestioned for nigh on a millennium.⁹

The nominalist school of the fourteenth century can boast great scholars. William of Ockham (1280–1349) was undoubtedly the greatest logician since Aristotle, perhaps equalled but not surpassed in our own time by the likes of Bertrand Russell and Kurt Godel. This school also produced such astounding scholars as Nicholas of Oresme (1325–1383) and Jean Buridan (1300–1358)¹⁰ in the fourteenth, and Nicholas of Cusa (1401–1464) in the fifteenth centuries respectively. Of the former Herman Dooyeweerd has reminded us:

Do not let us forget that the new mathematical science [of Galileo] had its precursor in the Occamistic school at the University of Paris in the 14th century. Remember that before Galileo the new concept of the law of motion was formulated in full mathematical precision by Nicolaus of Oresme who also anticipated the discovery of Copernicus and invented the method of analytical geometry before Descartes.¹¹

It should be observed that Oresme flourished some 150 years before Copernicus, 250 years before Galileo and Descartes. Thus discoveries that have been generally attributed to post-mediaeval scholars were in fact the product of the zenith of mediaeval learning.

The list is enormous and most of our readers will probably judge that we have wrongly left great men out. But as St Paul said in a higher context, "Time would fail me to tell . . ."

But we cannot fail to mention him whom we judge to have been the greatest mediaeval scholar of all, Augustine

8. During the mediaeval period following Lombard every Bachelor of Divinity had to lecture on the *Sentences* of Lombard, and a commentary on them was usually the scholar's first literary undertaking. Commentaries on the *Sentences* were still being written on a regular basis until well into the nineteenth century. Murdoch, *op. cit.* p. 275

9. Probably much longer actually. Thomas did not really come into his own as a cultural force until *after* the Reformation, when his system of thought was embraced and canonised by the Counter-Reformation. See, e.g., Heiko Oberman's comment in *The Cultural Context of Mediaeval Learning*, eds. J. E. Murdoch & E. D. Sylla (Reidel, Dordrecht, 1975), p. 344.

10. Buridan is remembered in philosophical folklore in connection with *Buridan's ass*. This proverbial ass, being situated half way between two equally delicious bales of hay died of starvation because it had no means of choosing one rather than the other. The tale has never been discovered in any of Buridan's writings however.

11. *New Critique of Theoretical Thought*, Vol. I, p. 202. Dooyeweerd gave no indication of his sources for this. Duhem is the obvious source but Oresme is not discussed in *Le Systeme du Monde* until volume 7, chapter 6, published posthumously in 1958. Dooyeweerd's comment was made in the original Dutch edition of his work in 1935. It may have been mentioned in an earlier trilogy of Duhem's on *Leonardo da Vinci* but I have been unable to get sight of this. Dooyeweerd's statement does need *some* qualification.

excepted, the Frenchman (I have to admit it!) John Calvin (1509–1543), truly the *Last of the Scholastics*.¹²

Why do these men not receive the accolades that are their due from moderns immersed in "science"? We shall have to enlarge upon this later, but for now we shall briefly maintain that their chief offence was to be Christian.¹³

The unity of experience in mediaeval thought

The modern mind cannot understand the mediaeval mind, whether in its early stage (Augustine, Philoponus, Boethius), its middle period (Anselm, Abelard, Lombard) or its final era (Oresme, Buridan, Cusa). This inexplicability expresses itself in numerous forms. Some insist on the sheer ignorance and backwardness of the period, others maintain that the questions they discussed were trivial or irrelevant or both, others that the period was one of mere linguistic hair-splitting debate.

And yet, if this were true, we would be faced with a number of puzzling and seemingly unanswerable questions. For there can no longer be any denying of the massive intellectual stature of many of the great names. It is now well-established, for instance, that the bulk of modern logic as formulated by and resulting from Whitehead and Russell's *Principia Mathematica*¹⁴ was already in the hands of the mediaeval logicians as their own discovery but was later lost or forgotten. This strongly suggests that the last thing such men were about was mere verbal hair-splitting or the discussion of irrelevancies. What, then, could they have been up to?

The moderns' problem is that they fail to appreciate a number of significant factors in mediaeval thinking. One of the most important of these was *its perspective on life*. For all its faults, the mediaeval perspective was, throughout its long history, a *Christian* one. But moderns cannot understand how what they call a "religion" could play such a central role in real life. Since the Enlightenment, Christianity has been increasingly forced out of the public arena until today even the majority of its devotees are opposed to the idea of its involvement in this arena. And since Christianity was virtually the only religion in Western society up to that point, its demise was regarded as the demise of all religion from the public arena. Little do moderns realise or understand that their own secular humanism is itself a religion—and a very strident and intolerant one at that.

Now it was precisely this *Christian* perspective that gave unity to mediaeval thought and experience. It was this perspective that gave rise to the specific questions in natural

12. I assert this whilst aware that Calvin stood at the threshold of a new order of things. He was also a genuine humanist and renaissance man in the best sense of those words. He stood both last in one line and first in another. Boethius was almost certainly the first Scholastic, being widely regarded as "Last of the Romans; first of the scholastics" See H. R. Patch, *The Tradition of Boethius: a Study of His Importance in Mediaeval Culture* (New York, Oxford University Press, 1935)

13. In the humanities their worth is generally understood and appreciated however. Their contribution to science is being increasingly scrutinised by historians of science.

14. Alfred North Whitehead and Bertrand Russell, *Principia Mathematica* (3 vols, 1910–1913), was fundamentally an attempt to logicise arithmetic. Russell in particular believed that mathematics and logic were indistinguishable. Its effect has been out of all proportion to its initial print run of a few hundred copies. While written in English its Latin title is in keeping with its esoteric nature.

science, philosophy, technology, the arts and all else with which the mediaevals were concerned. These questions are not independent of the cultural context in which they arise. Indeed, they are only genuine questions in so far as they are questions that the culture itself forces upon its thinkers. For moderns to suppose otherwise is both unscientific and anachronistic. Furthermore, we do not have time or space here even to begin investigating the problems due to *historical development*. Suffice it to say that even supposing earlier periods contained men of genius surpassing anything in our own era we could not expect them to deal with issues of their day using tools and information that were only developed much later. If they had limitations, they were by and large limitations of their time, and these should not be imputed to them as faults of their own making.

This specifically Christian unity of experience implied that many scientific problems would, in the first instance, arise out of the development of Christian theology. Indeed, are we not justified in asserting the validity of mediaeval thought in this respect in that it was directing to the solution of real, practical and pressing problems of its cultural context? To the degree that it was concerned with issues suggested by everyday life, rather than being engaged in ivory-tower speculations (like a good deal of current academia), is it not to be commended rather than castigated? To mention but one example: The doctrine of the real presence of Christ in the sacrament raised innumerable problems for theologians. Whilst today these theologians tend to be dismissed as dogmatists who had little concern with the consequences or implications of theological beliefs, they were nevertheless immensely concerned with the ramifications of any theological position. Among the questions raised was that of timing. At what point did the bread cease to be bread and begin to be the flesh of Christ? Indeed, was there any such cut-off point *in time*? The question raised the whole issue of one of the most interesting and perennial debates of philosophy in general and philosophy of mathematics in particular. It is the debate over the meaning of and relation between *discreteness* and *continuity*. In his excellent if eccentric work, *The Development of Mathematics*, Professor E. T. Bell wrote:

The whole of mathematical history may be interpreted as a battle for supremacy between these two concepts [discreteness and continuity]. This conflict may be but an echo of the older strife so prominent in early Greek philosophy, the struggle of the One to subdue the Many.¹⁵

And in their *Foundations of Set Theory*, Fraenkel and Bar-Hillel concurred that:

Bridging the abyss between the domains of discreteness and of continuity . . . is certainly a central, presumably even the central problem of the foundations of mathematics. . . . To understand the nature of the problem one should stress the fundamental difference between the discrete, qualitative, individual nature of number in the 'combinatorial' domain of counting (arithmetic) and the continuous, quantitative, homogeneous nature of the points of space (or of time) in the 'analytical' domain of measuring (geometry) . . . Bridging the gap between these two heterogeneous domains is not only the central but also the oldest problem in the foundations of mathematics and in the related philosophical fields.¹⁶

15. E. T. Bell, *The Development of Mathematics* (New York/London, McGraw-Hill, 1945), p. 13.

16. A. A. Fraenkel, Y. Bar-Hillel and A. Levy, *Foundations of Set*

Mediaeval theologians were fully aware of this problem and of how it impacted upon any doctrine of the real presence. In particular they understood the antinomies involved in seeking to explain continuity in terms of discreteness. They understood that time as a continuous phenomenon (for want of a better word) could not be reduced to a series—even an infinite series—of discrete instants. Thus there was no *last instant* when the bread was still bread, though there was a *first time* in which it was the body of Christ.

If we are to disagree with the mediaevals (and I think "criticise" would be too strong a word), it would be because we believe they made a seriously wrong turn in choosing to found all their science—theological and natural—on the Aristotelian theories of substance and accidents. Their cultural and historical context no doubt played a significant part in this, but this does not make it any the less reprehensible intellectually.

It may be argued that neither William of Ockham nor the nominalists, of whom he was a leading light, would have held to such a unity of experience. For sure, it is true that Ockham drove a wedge—more accurately a dirty big steam-roller—between theology and philosophy, that is, as we are constantly reminded, between Nature and Grace. However the situation was much more complex than that, but not one I want to explore in great detail here, reserving it for a future article devoted specifically to William of Ockham. Suffice it to say that the purpose of this split in Ockham's mind was the task of guaranteeing the integrity of two distinct paths to knowledge. The first is that of theology, which gains its knowledge from Revelation. The second is the path of rational enquiry. Ockham wished to banish the exercise of speculative reason from theology. This does not preclude the fact that one can reason about the knowledge gained by revelation, but the knowledge itself is unattainable by human reason; it is revealed by God. On the other hand Ockham wished to preserve the integrity of the other sciences from an *undue* pressure from theology. Whilst the pursuit of rational enquiry must always be within the bounds of what is supernaturally revealed, it nevertheless is a valid knowledge-gaining task. Human reason could never have come to a knowledge of the Atonement by rational enquiry. But human reason, not revelation, enables us to discover the proof of Pythagoras' theorem or the laws of free fall.¹⁷

The mediaeval contributions to science

But the application of physics, mathematics and philosophy to theology¹⁸ was far from being the only interest of the mediaeval period. From the eleventh century on especially there was a great deal of interest in mathematics, logic, linguistics, medicine and physics. And though these were all pursued from the standpoint of a Christian perspective on

Theory (Amsterdam, North-Holland Publishing, 1973), pp. 211–212.

17. This is not to deny that fundamental questions about the nature of human reason and its justification can only be adequately investigated and answered from a specifically Biblical perspective, i.e. on the basis of divine revelation.

18. A good account of how Aquinas, Ockham and their followers applied physics to theological problems may be found in Edith Dudley Sylla, 'Autonomous and Handmaiden Science: St Thomas Aquinas and William of Ockham on the Physics of the Eucharist' in J. E. Murdoch and E. D. Sylla (eds), *The Cultural Context of Mediaeval Learning* (Dordrecht, Reidel Publishing, 1975), pp. 349–396.

life they nevertheless were pursued as subjects in their own right. As early as the sixth century John Philoponus (490–570) of Alexandria thrashed out a thoroughly Christian critique of the prevailing Aristotelian belief in the eternity of the world, replacing it¹⁹ with a largely Biblical creationist alternative. In the process he also anticipated Newton's First Law of Motion²⁰ by one thousand two hundred years. In mathematics, Jordan of Nemore's *De Numeris Datis*,²¹ written around 1225, is now regarded as the first advanced algebra composed in western Europe. Largely ignored if not completely forgotten (certainly by the Enlightenment) until promoted by Pierre Duhem in his *Les origines de la statique* [The Origins of Statics] articles²², Jordan anticipated Francois Viète's concept of algebraic analysis by 350 years. Jordan is also recognised as the founder of mediaeval statics. The theory of the balance and the idea of static moment—so commonplace and accepted now as to appear trivial—were thoroughly worked out by Jordan and his successors. They understood the concept of resolution of forces, which we now take for granted and regard as a modern discovery. In the fourteenth century Merton College, Oxford produced a host of able scholars who developed the science of kinematics—notably Thomas Bradwardine, William Heytesbury, Richard Swineshead and John Dumbleton.²³ Of particular importance during this period was a willingness to re-evaluate the Aristotelian idea of teleological substances (is this not supposed to be the period when Aristotle reigned supreme and uncontested?) and to investigate nature in terms of observed phenomena rather than abstract metaphysics. Although the Merton school did not develop the ideas of impetus, inertia and gravity with the clarity of a Newton, they nevertheless laid the foundations for all later developments. They effectively broke the chains that had hindered scientific development, though we have to admit that the subsequent development was exceeding slow. It should not be forgotten, of course, that the mathematical tools and nomenclature available to later generations was only just beginning to be developed. Without these tools it is a wonder how much was achieved.

In addition, it cannot be emphasised strongly enough

19. See Philoponus, *Against Aristotle on the Eternity of the World*, Translated by Christian Wildberg (Ithaca, Cornell University Press, 1987) and Simplicius, 'Against Philoponus of the Eternity of the World' in *Place, Void and Eternity*, Translated by Christian Wildberg (Ithaca, Cornell University Press, 1991)

20. See the excellent recent translation of Newton's *Principia*—the first since 1729—in Isaac Newton, *The Principia* (Berkeley, University of California Press, 1999), translated by I. Bernard Cohen and Anne Whitman. It is prefixed by an amazing 370 page "Guide to Newton's *Principia*" by I. Bernard Cohen. Newton's three Laws appear on pp. 416–7.

21. Jordanus de Nemore, *De numeris datis*: A Critical Edition and Translation by Barnabas Bernard Hughes, O.F.M. (Berkeley, University of California Press, 1981)

22. These articles appeared in *Revue des questions scientifiques* in 1903–6 and were later incorporated into a two-volume work *Les origines de la statique* in 1905–6.

23. For an excellent anthology of, and commentary on, works of this period see the previously mentioned series *Publications in Mediaeval Science* from The University of Wisconsin Press including Marshall Clagett, *The Science of Mechanics in the Middle Ages*, Ernest A. Moody and Marshall Clagett, *The Mediaeval Science of Weights*, H. Lamar Crosby Jr., Thomas of Bradwardine: His "Tractatus de proportionibus" and its significance for the development of mathematical physics, and Curtis Wilson, *William Heytesbury: Mediaeval Logic and the Rise of Mathematical Physics*.

that it was Christianity *and Christianity alone* that made the two giant leaps forward that were absolutely essential to a successful scientific enterprise.²⁴ The former of these is the notion that the whole universe is of the same nature. Christianity was the first to de-divinise the heavens. Until the advent of Christianity, the heavens were viewed as possessed of a superior and ethereal nature at the least, and more often than not as being divine. As Duhem rightly pointed out, it was the decrees of Etienne Tempier, bishop of Paris, issued on March 8, 1277 against the Aristotelian view that laid the foundation for science's progress.²⁵ The other factor essential to science was the concept of an orderly and structured universe. The idea of science is meaningless without this order. The search for order is futile if there are no laws to find. Without these *Christian* factors modern secular science would not have got off the ground.²⁶

The mediaeval meaning of scientia

As we have seen, the mediaevals understood by the word "science" a much broader engagement with understanding our world than is implied in its modern English equivalent. Also they regarded the pursuit of science, or organised and systematic knowledge, as incorporating a wider understanding of knowledge than simply that of its mathematical aspect. Modern science works on the principle of *What my net doesn't catch isn't fish*, that is, *what cannot be expressed mathematically isn't science, and what isn't science isn't knowledge*, strictly speaking.

There is another significant difference between modern and mediaeval science, and that pertains to its end or purpose. Modern science—that is, humanistic science—is obsessed with and driven by the passion to *control*. This passion lies at the core of its rationale; it is what it is all about. Like the whole of the humanistic approach, this too is a secularisation of the Christian-biblical concept of lordship expressed in the *Cultural Mandate* (Genesis 1:26; 2:19–20; 9:1–7). But humanism has excised God from its perspective, and any idea of human subservience to an ideal higher than its own inordinate domination of its environment. Even non-Christians speak of its dark side and remark on the aptness of modern science's own perception of its task as a form of rape.²⁷

24. A third, if not even more fundamental, factor might be included: that of the linearity of time and its corollaries of progress and meaningfulness. To Augustine of Hippo we owe this inestimable benefit. His *City of God* effectively destroyed the Greek concept of cyclical time in western culture. As Christianity recedes, however, cyclical time is returning both to popular and scientific thinking. Stephen Hawking has a lot to answer for in this respect.

25. "... if we were to specify the birthdate of modern science, we would undoubtedly choose that year, 1277" — *Études sur Léonard de Vinci*, Vol. 2, p. 412; quoted in Stanley L. Jaki, *Uneasy Genius: The Life and Work of Pierre Duhem* (Dordrecht, Kluwer, 1984), p. 394.

26. Secular humanism is, unlike ancient Greek thought, a *parasite*. It is the secularisation of certain Christian themes and relies upon Christianity to provide its life. In so far as it succeeds in destroying its enemy, Christianity, it will destroy itself. Its current demise and plunge into post-modernistic despair is not so much an indication of its own failing as of the failure of western Christianity upon which it depends. Its attacks upon Christianity are reminiscent of the man sawing off the tree branch upon which he is sitting.

27. See, for example, Mary Midgley, *Science as Salvation: A Modern Myth and its Meaning* (London, Routledge, 1994), p. 76–77. Of course, in our politically correct age this manner of speaking has had to be suppressed, but it has not changed the attitude of scientists to nature.

It is the mediaeval failure to be aroused by this passion for control that perplexes moderns. But its agenda was radically different. As John H. Randall expressed it:

The Aristotelian science which the thirteenth century had so eagerly worked into its Christian philosophy of life aimed at an understanding of nature divorced from power over things. But during the sixteenth century more and more men began to hold that science should be directed, not merely to understanding and vision, but to a kind of understanding that might give power, action, and an improvement of the practical arts.²⁸

If mediaeval science was dominated by any idea it was the Augustinian idea of *fides quaerens intellectum*—faith seeking understanding:

Dost thou wish to understand? Believe. For God has said by the prophet: “Except ye believe, ye shall not understand” . . . If thou hast not understood, said I, believe. For understanding is the reward of faith. Therefore do not seek to understand in order to believe, but believe that thou mayest understand.²⁹

No one understood this better in the mediaeval period than St Anselm who developed it in his *Proslogion* meditations:

I do not endeavour, O Lord, to penetrate thy sublimity, for in no wise do I compare my understanding with that; but I long to understand in some degree thy truth, which my heart believes and loves. For I do not seek to understand that I may believe, but I believe in order to understand. For this also I believe—that unless I believed, I should not understand.³⁰

I would not want to argue that the mediaeval goal was better than the modern one, or even that on the other hand technical mastery was better than contemplative understanding. But they are *different* goals, and this should be recognised. One cannot judge the quality of mediaeval science by using the one criterion of goal as the only yardstick. There can no longer be any doubt that the mediaeval mastery of logic was superior to our own or that their technical skill was inferior.³¹

But what of the relationship between Aristotelianism and mediaeval science?

One of the leading reasons given by moderns for their distaste for and rejection of mediaeval thought is its commitment to Aristotelian philosophy in general and the concept of substantial forms in particular.³² In this regard it is

28. John Herman Randall, Jr, ‘The Development of Scientific Method in the School of Padua’ in *Journal of the History of Ideas*, Vol. I (1940), p. 177.

29. Augustine of Hippo, *Tractates on St John’s Gospel*, No. XXIX, §6 (*Nicene & Post-Nicene Fathers Series*, Vol. VII, p. 184)

30. Anselm, *Proslogion* c.1. Quoted from *Saint Anselm’s Basic Writings*, trans. by S. N. Deane, with introduction by Charles Hartshorne. 2nd ed, 1964 [1962] (La Salle, Open Court Pub). Anselm subtitled his book *Faith seeking understanding*. I have dealt with Anselm’s concept of faith seeking understanding in “St Anselm: Proving or Presupposing the Existence of God?” (*Christianity & Society*, Vol. VII, No. 4, Oct. 1997)

31. In some respects the latter is quite debatable. Compare our (British) Millennium Dome “tent” with any mediaeval cathedral. While the cathedrals have seen up to nine centuries, the Dome will be fortunate to outlive 25 years.

32. Aristotle’s influence has generally been attributed to new material obtained via Arab sources, but a far more pervasive and older tradition can be traced back to the massive influence on mediaeval

undoubtedly correct to regard modern science as an advance on mediaeval science. The influence of Aristotle, and through him of Greek thought more generally, was counter-productive.

The mediaeval enterprise was always one of seeking to know and understand the world as God’s world. In this we believe they were superior. But this need not imply that the methods or tools they chose to carry out this task were either adequate or useful. Dooyeweerd has rightly pointed out that the incorporation of Greek thought into Christian thought vitiated the latter. In regard to science especially, the point has been made particularly well by an Oxford scholar, Michael B. Foster, whose articles in the *Mind* journal³³ demonstrate how the Greek form-matter schema and its corollary of an *uncreated* universe destroy any hope of a genuine and progressive science. The reader would be well advised to consult Foster’s essays.

A final aspect of the mediaeval understanding of science needs to be explored. This is the mediaeval *methodology* of science, that is, how one goes about the scientific task, what its procedures are. The technical expression for the mediaeval approach gives us the clue: *more geometrico*—the geometrical way. Scholars were captivated by the wonder of Euclid’s system of geometry. No science had been developed so fully or so masterfully. So powerful has been the influence of this body of systematic knowledge that geometry was still generally referred to as “euclid,” in British schools at least, until well into the twentieth century. The success of Euclid powerfully suggested that all sciences should be done this way. Indeed, there are still attempts to extend this to modern sciences by *axiomatisation*.

In the Euclidean system one begins with the evident and draws logical conclusions to the less evident. The evident is contained in the *axioms* of the system. From these, logic reasons to other facts, theorems or truths. If the axioms are true so must the deduced theorems be true. By the time of Aquinas this methodology had become quite self-conscious: “Every science proceeds from self-evident principles,” says Thomas in his *Summa Theologica*.³⁴ By “proceeds” Thomas means “deduces its results.”

There is of course a sense in which modern science too proceeds in this way. It deduces possible consequences from its theories. The radical difference is that modern science proceeds to the next step of examining whether the *logical* consequences are actually obtained. It does this by *experiment*. But whilst the moderns are to be commended for the empirical base of their science their logic is far from impeccable, and their results are generally misconstrued—generally from engaging in the logical fallacy of asserting the consequent.

But how could Thomas justify theology as a science, which he and his cotemporaries evidently did? He raises this objection in the Question already quoted:

culture of Boethius. Howard Rollin Patch makes this point forcefully in his *The Tradition of Boethius: a Study of His Importance in Mediaeval Culture* (New York, Oxford University Press, 1935).

33. Michael B. Foster, “The Christian Doctrine of Creation and the Rise of Modern Natural Science” in *Mind* 43 (1934), pp. 446–468. See also his 2-part essay in the 1935–6 issues “Christian Theology and Modern Science of Nature.”

34. Thomas Aquinas, *Summa Theologica*, I, Q. 2. All quotations are from the New Advent translation of the Fathers of the English Dominican Province at www.newadvent.org/summa.

Objection 1. It seems that sacred doctrine is not a science. For every science proceeds from self-evident principles. But sacred doctrine proceeds from articles of faith which are not self-evident, since their truth is not admitted by all: “For all men have not faith” (2 Thess. 3:2). Therefore sacred doctrine is not a science.

His reply is to widen the base upon which scientific deduction rests. For natural sciences, self-evident principles apply as the starting point; for theology, divinely revealed principles function as the basic axioms:

Sacred doctrine is a science. We must bear in mind that there are two kinds of sciences. There are some which proceed from a principle known by the natural light of intelligence, such as arithmetic and geometry and the like. There are some which proceed from principles known by the light of a higher science: thus the science of perspective proceeds from principles established by geometry, and music from principles established by arithmetic. So it is that sacred doctrine is a science because it proceeds from principles established by the light of a higher science, namely, the science of God and the blessed. Hence, just as the musician accepts on authority the principles taught him by the mathematician, so sacred science is established on principles revealed by God.

So, for Aquinas, all *science* is comprised of a body, or bodies, of systematic knowledge deduced by pure logic from basic self-evident principles, whether these are obtained from an empirical investigation of the world or from an authoritative God.

The logic is impeccable, the method plausible, but the outcome was far from satisfactory. Why was this? Was it perhaps because the mediaevals were intellectually inferior to their modern counterparts? Far from it. Indeed, a study of their works suggests that they were often far superior intellectually. Their insights were often penetrating and, as we

might say, years ahead of their time. Their fundamental problem was that of founding their science on “self-evident” principles that were only self-evident within the cadre of Greek thought, especially Aristotelian thought. The dominance of the form-matter schema, however modified to fit within the Christian schema, could not fail to be destructive of their best intentions to understand the world as God’s world. In particular they accepted all too easily and uncritically the Aristotelian concept of teleological substantial forms, a metaphysical concept that was entirely the product of and dependent upon the Greek world-view.

If in this the mediaevals displayed their limitations, if in this they exhibited the constraints of historical lessons yet to be learnt—and which we have learned from their experience, and seen the clearer for standing on their shoulders—nevertheless it behoves to recognise their achievements, which were not few, and which were aimed at the glory of God for whom, when all is considered, they lived their lives.

POSTSCRIPT

The reader who has progressed beyond a mere cursory glance at this article will have noticed that it is inordinately documented. This was done quite deliberately. My aim has not been to establish my claims by overawing the reader by excessive authorities but rather to establish a *prima facie* case for a fair hearing. For many will regard what has been said as novel, and novel things—quite rightly—should always be approached with a degree of suspicion. The ideas I have propounded here are supported by a wide range of Christian and non-Christian sources which deserve the reader’s attention. *C&S*

CANNIBALS[†]

by Derek Carlsen

CANNIBALISM, in most societies, is viewed with extreme revulsion and categorically condemned. The idea of stripping human flesh off bones and eating it turns the stomach of most civilised people. Yet these same people will often openly participate in things as heinous as cannibalism and claim their actions are full of virtue. Blatant hypocrisy is not confined to our modern world; it is as old as mankind. Many of God’s prophets had to deal with such issues in their own generations and their words are an insightful commentary on our times too.

Micah, for example, was a prophet who fearlessly confronted the wickedness in his own day, not with vague generalities, but by pointing to the specific causes of his nation’s woes. This meant challenging the perversity of the political leaders and other influential and responsible members of society. He exhorted the national leaders to listen to his words and reminded them that they had been entrusted to their offices by

God in order to administer *justice* (Mic. 3:1). Micah spoke under the inspiration of the Holy Spirit and thus his strong words and emotions reflect God’s heart about national perversion.

Micah says those who had the God-given responsibility to make sure justice reigned in the nation actually hated what was good and loved what was evil. This doesn’t mean these perverse leaders agreed with Micah’s charges. Rather, they continued to portray themselves as people of justice, lovers of what was good and protectors of the nation and its helpless citizens. All the pomp and ceremony of political life was carrying on, masked and held together by accomplished actors who pretended to esteem and promote such virtues as honesty, integrity and selfless service. Many other civil and religious leaders, living for their own self-interests rather than for God’s glory (i.e. by seeking his truth and justice), openly supported the State’s perversion and hypocrisy. It is only with support that wicked politicians are able to coat society with a façade of legitimacy.

Micah would have no part in such hypocrisy and was not enticed by the lure of comfort, long life or riches. God’s truth and justice burned in his heart and so he fearlessly shredded his

[†] This essay was originally published as *Muse Time* paper 39 (October/November 2001), by Reason of Hope Ministries, in Mutare, Zimbabwe.

nation's thin veneer of legitimacy by exposing the rottenness of its "hallowed" leaders.

Those who should have been the guardians of justice in the nation were accused, before the bar of God's high court, of violating their solemn obligations. The charge was not that they had had a momentary lapse in fulfilling their responsibilities, but rather, that they loved and deliberately promoted evil in the name of justice. It is proof of extreme wickedness when those who ought to protect what is good and honourable, by maintaining justice, use their office to unleash evil upon society by aiding and abetting criminals and promoting lawlessness. Micah, having to witness the persistent wickedness of the nation's leaders and the consequent suffering of his fellow citizens, was filled with righteous anger. His description of the conditions that surrounded him reveal a political system that had reached the lowest levels of perversion and thus God accuses the leaders, saying: "You who hate good and love evil; who strip the skin from my people, and the flesh from their bones; who also eat the flesh of my people, flay their skin from them, break their bones, and chop *them* in pieces like flesh in the caldron" (Mic. 3:2, 3).

It is not possible to pervert the office of political leadership more than these leaders had done—utter perversion was now the accepted norm. These rulers were doing the very opposite of what leaders are ordained to do. They called evil good and good evil (Is. 5:20); they protected the wicked and devoured the law-abiding, thus God depicts them as no different to cannibals. As cannibalism brings revulsion to our minds, so too should the practices of such leaders—their conduct is even more wretched than that of man-eating animals.

Such leaders think the nation's people are there to be used as objects to help advance their own personal ambitions and riches. Thus, with cold-blooded cruelty, those who had been entrusted with the office of governing, mercilessly abused, crushed, ripped apart and disposed of the people they were meant to protect, until starvation and poverty was the sum total of their pitiful existence. It is noteworthy that all the outward *appearances* of a functioning State were kept in position. But why keep up the appearances? In such situations appearances are everything—tinsel and decorations are all these perverse leaders can appeal to as justification for their continuing in office and so they constantly point to these irrelevant trappings, demanding admiration and great rewards. The real "accomplishments" of wicked leaders, however, are death, misery and devastation, which are obvious to those who are groaning under these conditions. When leaders lose their legitimacy to rule, yet refuse to resign, they adopt a policy of brutal suppression mixed with play-acting in a desperate attempt to hold the façade in place.

On stage, dressed in pretty costumes, surrounded by glittering scenery and employing flowery speech, they act the part of dignified royalty, while behind the scenes, they viciously crush whoever dares to scoff at the tinsel or threaten their luxurious lifestyles. The thought of no longer being able so easily to increase their already massive personal fortunes is enough to turn them into violent despots. In the final analysis, all that corrupt leaders care about is their personal wealth and ambitions and in order to preserve these they will tell any lie and commit any act of wickedness. Whatever injustice or vice aids them in clinging onto their lucrative positions they will freely use—even if it means killing millions of people or destroying whole nations.

What becomes obvious, however, is that amassing wealth in this way is a monster that can't be satisfied. The one question wicked leaders can never answer is, "How much is enough?" Somehow, they *never* have enough, no matter how many billions they already have. The next step is typical, for in order to "satisfy" their insatiable appetite for riches, they have to depend

more and more upon lies and brutality—"absolute politics" necessitates deception and violence! The Russian writer, Leon Trotsky, called attention to this when he said, "The dictatorship of the Communist Party is maintained by recourse to every form of violence." And the Nicaraguan dictator, Anastasio Somoza, *demonstrated* it when opponents accused him of ballot-rigging, for he shamelessly replied, "You won the elections, but I won the count."

Micah describes a wicked conspiracy, hatched at the highest levels, whereby the powerful enrich themselves and protect one another, without a care for those who are being impoverished and destroyed in the process. If attaining their goals "necessitates" removing people's legal rights, prostituting the law and emasculating the whole justice system, it does not matter, just as long as the conspirators' fortunes are increased. Micah portrays these leaders as butchers who not only tear the skin off the defenceless, but eat their flesh as well. According to the prophet, the governed were so decimated by the greed and injustice of their oppressive rulers, that they were reduced to poverty and left languishing on the edge of their graves. Such ruthlessness imitates the savagery of wild beasts ripping apart the carcasses of their helpless victims. Not only was the people's ability to subsist destroyed, but they were flayed, cut up and boiled by the policies designed to enrich the elite rulers and their friends. To anyone who has a sense of justice, such inhuman brutality and callousness, committed by the ones who ought to have been protecting the helpless, is comparable only to cannibalism, which is exactly how the prophet depicts his nation's leaders—as cannibals!

To make matters worse, the perverse political rulers in Micah's day received encouragement and support from perverse religious leaders, whose only real concern was how best to advance themselves (Mic. 3:5–7). Thus, they refused to uphold God's standard of righteousness and challenge the flagrant political wickedness and injustice. Micah naturally turned his rebuke upon these self-serving spiritual leaders too, whose messages were shaped according to what they believed would best advance their own temporal interests. At the other extreme, there are religious leaders who do not openly support tyrannical leaders, but remain silent in the face of gross injustice—these are hirelings (Jn 10:12, 13).

Micah's corrupt leaders thought they could establish themselves and their nation, even though they despised justice, perverted everything that was legally upright, murdered and dabbled in every kind of iniquity (Mic. 3:9, 10). Both the religious and civil leaders in the nation had prostituted their offices and truth was whatever served their own perverse desires—they cared nothing about real *justice*, though they used the word repeatedly.

Micah paints a dark picture, but also presents a reason for great hope, because God is a God of justice and very much involved in the affairs of this life. From Micah's words, there is a basis for having real hope in our own dark days, because God has not changed—he will judge cannibal leaders in every age. When the oppressed people in a nation cry out, in sincerity, to the true God, the oppressors will be dealt with in the way they were dealt with in Micah's day: God pulled them up by the roots so that they would be forever removed—utter destruction was assured and re-growth was impossible. What a glorious and sure hope this is for everyone who is oppressed by tyrants! The wicked will not be able to stand when God judges, but will be driven away like chaff before the wind (Ps. 1:4–6). The wind is already blowing and the "chaff" cannot remain for much longer and *their* cry of distress and terror will not be heard by God (Mic. 3:4). The just must live by faith, trusting the Lord who has time and again shown that he judges powerful, wicked leaders and their puppets! *Think about these things! C&S*

MICHAEL POLANYI'S CONCEPT OF TACIT KNOWLEDGE AND ITS IMPLICATIONS FOR CHRISTIAN APOLOGETICS

by S. Alan Corlew¹

Prolegomena to Knowledge and Truth

ALMOST two thousand years ago Pontius Pilate uttered an epistemological question that has echoed throughout the ages: "What is truth?" Today, society's quest for an answer continues, and although there are many venues available for the search there is a tendency towards a polarity of views with little ground left in the center. On the one extreme, the realm of science is still thought by many to be mankind's one real hope for answering life's ultimate questions about reality, origins, and values. For those of this ilk, man is still viewed as ever progressing towards a future filled with more useful technology and an ever-broadening grasp on what makes the universe "tick."² Such a view of the universe has been summed up in following observations:

The scientific way of looking at and explaining things has yielded an immensely greater measure of understanding of, and control over, the universe than any other way. And when one looks at the world in this scientific way, there seems to be no room for a personal relationship between human beings and a supernatural perfect being ruling and guiding men.³

At the other end of the spectrum one finds the postmodern alternative, which asserts that truth is but a useful social construct, and that each community is free to construct its own "truth." For the postmodernist, there can be no

overarching "truth," no meta-narrative that can address the ultimate questions concerning reality, origins and values.⁴ Postmodernism has become pervasive in popular culture (consider the frequent use of "true for you but not for me") in addition to its increasing dominance across the academic disciplines. It has been noted that:

Today many eminent professors in some of our most esteemed universities disparage the ideas of truth, knowledge, and objectivity as naive or disingenuous at best, as fraudulent and despotic at worst. Indeed, the very words—truth, knowledge, objectivity—now habitually appear, in scholarly journals and books, in quotation marks, to show how spurious they are.⁵

The work of the Michael Polanyi can prove useful to the twenty-first century Christian who seeks to engage his contemporaries apologetically: those who cling to scientism as well as those who seek solace in postmodernism. For, in Polanyi's thoughts on both the nature of science and of knowledge⁶, the apologist can find a point of contact—a

able at <<http://www.bu.edu/wcp/Papers/Scie/ScieCorn.htm>> accessed 21 Nov. 2001.

3. Kurt Baier, "The Meaning of Life," in *Critiques of God*, ed. Peter Angeles (Buffalo: Prometheus Books, 1976), p. 296. Though views like those expressed by Baier are widely held among the public masses as well as by many in the sciences, there is one branch of science that in the past quarter century has seen many move away from positions that are grounded in the naturalist view of reality. The realm of physics has evidenced an increased willingness to acknowledge the necessary existence of something beyond the physical. See Paul Davies, *God and the New Physics* (New York: Touchstone, 1983), pp. vii–ix; also, Gordon H. Clark, "The Limits and Uses of Science" in *Horizons of Science*, ed. Carl F. H. Henry (San Francisco: Harper Collins, 1978).

4. For a sampling of postmodernism see: Hilary Putman, *Reason, Truth and History* (Cambridge: Cambridge University Press, 1981); Richard Rorty, *Contingency, Irony, and Solidarity* (Cambridge: Cambridge University Press, 1989); and Jean-Francois Lyotard's postmodern classic *The Postmodern Condition* (Manchester: Manchester University Press, 1984). For an analysis of postmodernism from a Christian perspective see: Gene Edward Veith, *Postmodern Times* (Wheaton: Crossway, 1994); Douglas Groothuis, *Truth Decay* (Downers Grove, IL: InterVarsity, 2000); and Millard Erickson, *Truth or Consequences* (Downers Grove, IL: InterVarsity, 2001).

5. Gertrude Himmelfarb, "The Christian University: A Call to Counterrevolution," *First Things* 59 (Jan 1996) available at <<http://www.firstthings.com/ftissues/ft9601/articles/himmelfarb.html>> accessed 23 Nov. 2001.

6. It is possible that some might criticise Polanyi's concept of "tacit

1. S. Alan Corlew teaches Worldviews to seniors, and World History to sophomores at a Christian high school in San Antonio, Texas. He will finish his course work this summer in preparation for his comps and thesis towards an M.A. in Religion/Philosophy from Wayland Baptist University, and hopes to pursue doctoral studies at some future date.

2. One need only to consider the popularity of the PBS series "Cosmos," hosted by the late astronomer Carl Sagan. His book of the same title is the largest selling scientific work in history. The series has been seen by some 600 million people in over 60 countries, and has recently been released on DVD. See Ray Bohlin, "A Eulogy to Carl Sagan," available at <<http://www.probe.org/docs/contact.html>> accessed 21 Nov. 2001, and Cosmos Studios' press release dated 27 Sep. 2000, available at <<http://www.carlsagan.com>> accessed 21 Nov. 2001. Additionally, consideration must be given to the widespread influence of Stephen Hawking's *A Brief History of Time* (New York: Bantam, 1997); it first appeared in 1988, and by 1997 was in its twenty-first revised edition. See Gustaaf C. Cornelis, "Is Popularization of Science Possible?" a paper presented at the Twentieth World Congress of Philosophy; Boston, Massachusetts, 10–15 August 1998 avail-

common ground—which may then be used as the jumping off point towards more meaningful discussions about the ultimate grounding of reality, origins and values: the character and nature of the one true God. It has oft been asserted that, “All truth is God’s truth.”⁷⁷ That this state of affairs should be the case seems properly basic, and yet it is not uncommon to encounter those who profess Christ and yet lack the ability to articulate what lies beneath the surface of what has sadly become a cliché among Christians. As the infinite creator of all that exists, it could not be otherwise than that the mind of God should contain perfect knowledge of all true propositions.⁸ Isaiah 46:10 informs us that God declares “. . . the end from the beginning, and from ancient times things which have not been one, saying, ‘My purpose will be established, and I will accomplish all My good pleasure.’”⁹ Elsewhere, God has asserted that he is the God of truth (Isa. 65:15–17), and Jesus as God incarnate stated that he was the truth (Jn 14:6).

The salient points relative to the present discussion of truth and knowledge and Polanyi’s work may be put forth as follows:

1. God is the source of all that is true, truth being but one aspect of his infinite nature.
2. Man carries in his being the *imago Dei*.
3. Man has innate knowledge of God’s existence placed in him by virtue of the *imago Dei*.
4. Because of his fallen nature, man tries to suppress this innate knowledge of God.
5. Though fallen, man nonetheless still carries the *imago Dei*. Even in his fallenness, he still at times acts in ways that demonstrate this truth.

Michael Polanyi’s work was evidence of the fact that fallen man still bears the *imago Dei*. His creativity in the realms of science and philosophy bear evidence of the truth that he was created in the image of the God who himself is creative.¹⁰ Though in need of redemption, fallen man cannot destroy the *imago Dei* that was placed in him by the sovereign act of the creator God. It is not only Christians who may

knowledge” as a misuse of the term “knowledge,” asserting that all he has identified is some type of belief that people may hold for unspecified reasons. Such attempts to make a distinction between knowledge and belief are not uncommon; they posit that while one may believe something to be true, one cannot also know it to be true. This attempted dichotomy seems to create more problems than it solves. For it would force one to reject innate knowledge as “knowledge,” thus leaving only empiricism as an epistemological basis for knowledge. However, as will be noted later in this paper, this position is self-refuting, and if innate knowledge must be rejected then we are left with no basis for knowledge and would have to conclude that we can know nothing. This is, however not philosophically satisfying for it too would be a self-refuting position since there would be one thing we could know, that we could know nothing.

7. An in depth fleshing out of this assertion is beyond the scope of this present paper. For a thorough examination of the underpinnings of this claim see Chris Schlect’s “Scriptural Worldview Thinking” in Douglas Wilson, ed., *Repairing the Ruins* (Moscow, ID: Canon, 1996), pp. 47–57.

8. Stephen Wellum, “Divine Sovereignty, Scripture, and Open Theism: An Evaluation.” Paper presented at the 53rd Annual Meeting of the Evangelical Theological Society, 14–16 Nov. 2001, Colorado Springs CO.

9. Unless otherwise noted, all biblical quotations come from the NASB (La Habra, CA: Lockman Foundation, 1995).

10. David Estrada deals with this relationship between creativity and the *imago Dei* within the context of a discussion of the Arts, see, “Christian Suspicion of the Arts,” *Christianity and Society* Vol. ix:4 (Oct 1999), pp. 21–22.

create things of beauty: beautiful because they reflect in some manner the truth of what God has made, which in turn flows forth from his nature.¹¹ In his *magnum opus*, *God, Revelation and Authority*, theologian Carl F. H. Henry has asserted that God is not only the source of truth and knowledge, but the giver of them as well.¹² He also notes that, “Christianity contends that God is truth, that revelation is the source of all truth, and that truth is one.”¹³

Along similar lines, Ronald Nash has observed of Augustine’s views on *imago Dei*, that man, having been made in God’s image can thus possess knowledge only because God constantly sustains him. Man must, of necessity, possess a mind (over against the physical organ known as the brain) in order to know truth; his brain alone is not sufficient towards attaining such a goal.¹⁴ These observations echo the thoughts of B. B. Warfield who posited that, “God, having so made man, has not left him deistically, to himself, but continually reflects into his soul the contents of His own eternal and immutable mind—which are precisely those eternal and immutable truths which constitute the intelligible world.¹⁵ Thus, apart from the providence of a gracious God who gives all good gifts (James 1:17), thought as humans everywhere experience it would be impossible.

Polanyi’s theories about knowledge and the way in which the human mind cognates rest upon the idea of knowing a “. . . knowledge that we cannot tell.”¹⁶ This is the basis of what he termed *tacit knowledge*. For Polanyi, this tacit knowledge was knowledge that was not learned, but known nonetheless.¹⁷ Polanyi’s concept reflects the biblical truth of innate knowledge as seen in man’s knowledge of God’s existence that was placed within him by the creator. This article will assay the implications of Polanyi’s work within the broad context of its application to apologetic endeavors to engage culture, giving consideration to both its positive and negative aspects of the same.

A Brief Biographical Excursus

Michael Polanyi’s work was multifaceted, and its influence has been far reaching.¹⁸ Born to a Jewish family in Budapest, Hungary in 1891, he was educated at the University of Budapest, receiving his Doctor of Medicine in 1913. This led to him serving as a medical officer in the Austro-

11. Francis Schaeffer, *How Should We Then Live?* (Westchester, ILL: Crossway Books, 1976), p. 97f.

12. Carl F. H. Henry, *God, Revelation and Authority*, 6 vols. (Waco, TX: Word Books, 1976–1983), Vol. 1, p. 223.

13. *Ibid.*, Vol. 1, p. 396.

14. Ronald Nash, *The Light of the Mind: St. Augustine’s Theory of Knowledge* (Lexington, KY: The University Press of Kentucky, 1969), p. 110f.

15. B. B. Warfield, *Calvin and Augustine* (Philadelphia: Presbyterian and Reformed, 1956), p. 397, as cited in Nash, *The Light of the Mind*, p. 111.

16. Michael Polanyi, *The Tacit Dimension* (Gloucester, MA: Peter Smith, 1983), p. 5.

17. *Ibid.*, pp. 5–9.

18. Much of the biographical information for this article comes from the audio documentary, “Tacit Knowing, Truthful Knowing: The Life and Thought of Michael Polanyi,” A Mars Hill Audio Report (Quinque, VA: Mars Hill Audio, 1999). Other sources consulted include: The web pages of the Polanyi Society, available at <<http://griffon.mwsc.edu/~polanyi>> accessed 30 June 2001; and “Leading Lights: Michael Polanyi,” The Deep Insight Trust; available at <<http://www.deepsight.org/articles/polanyi.htm>> accessed 21 Nov. 2001.

Hungarian army during World War One. He suffered a wound, and during a long convalescence formulated the basic ideas that would lead to his development of the theory of absorption, which in turn was formalised in his dissertation for a Ph.D. in chemistry in 1917. After making his mark with the theory of absorption, he later worked on topics such as the study of x-ray diffraction of cellulose fibers. This later work was done during his years at the Kaiser Wilhelm Institute in Berlin, where he remained until leaving for England in 1933. During World War Two, he became interested in philosophical issues. Attracted at first to the areas of economic and political philosophy against the backdrop of the war, he was later drawn into a search for a new epistemological system. This desire grew out of his dissatisfaction with the dangers of the scientism he observed growing out of logical positivism. As great as his achievements had been in chemistry, it would be in the area of philosophy that he would leave his most lasting legacy. There exists today a Michael Polanyi Society, a scholarly society that publishes *Tradition and Discovery*, a journal dedicated to the thought of Polanyi and its influence on present scholarship. They also hold annual meetings in conjunction with the American Academy of Religion and its Michael Polanyi Study Group. For a short time, Baylor University operated the Michael Polanyi Center, which sought further application of his ideas to the intersection of faith and science.¹⁹

Polanyi's transition from scientist to philosopher was made complete during the post-war years at the University of Manchester with the publication of *Science, Faith and Society* (1946). This work laid the foundation of thought that he would later flesh out more fully in such works as *Personal Knowledge* (1958) and *Tacit Dimension* (1966). The acceptance of his philosophical views reached its zenith when he was invited to give the Gifford Lectures at the University of Edinburgh in 1951. It was at this same time that he began to travel to the US for various lectures and guest faculty residencies at such prestigious schools as the University of Chicago and Princeton. Although he spent many years as a research fellow at Merton College, Oxford, it is ironic that over the last twenty-five years of his life that he was better known in the US than in Europe. What were the details of Polanyi's new epistemological system and what might its possible implications be for apologetic dialogue?

19. Housed in the university's Institute for Faith and Learning and directed by William Dembski, a leading figure in the Intelligent Design movement, the center's purpose was to explore opportunities for engagement between faith and academic pursuits. Though its existence was short, its influence was widespread, culminating in an April 2000 conference entitled "The Nature of Nature: Examining the Role of Naturalism in Science." Paradoxically, this was both the high point for the center as well as the cause of its demise, as the majority of the science faculty of Baylor (largely dominated by those still holding to some variation of scientism and/or theistic evolution) rose up in opposition to not only the conference, but also the very existence of the center. Eventually dissolved, the center was replaced by the less threateningly named Baylor Center for Science, Philosophy and Religion. Ironically this was placed under the interim directorship of a Baylor professor of Philosophy of Science who is presently co-editing with Dembski a representative selection of Michael Polanyi's writings, with an introduction and commentary. Those interested in this matter should consult Bill Heeren's "The Lynching of Bill Dembski," *The American Spectator* (Nov 2000) and "The Deed is Done," *The American Spectator* (Dec 2000-Jan 2001), both of which are available in online versions at <<http://www.gilder.com/amspec/classics.html>>.

The Genesis of Polanyi's Concept of Tacit Knowledge

Polanyi was highly critical of any view that saw science as the sole purveyor of truth, being guided by a perceived objectivity and detachment, which had earned for it among the general populace a reputation as fact gatherers free from any presuppositions in their search for ultimate reality. In actuality, the scientist acts upon what he already believes on some level to be true (tacit knowledge according to Polanyi).²⁰ In fact, Polanyi's own theory of absorption was first worked out in this manner during his military service. This almost cost Polanyi approval on his dissertation, as his advisor noticed some slight irregularities in his mathematical calculations. When, during the oral defence of the dissertation he queried Polanyi about the discrepancies, he was none too pleased to find out that Polanyi had done his research "backwards" of the norm.²¹

In this regard, the Christian apologist has found a potential ally, for he too must see the myth of rational neutrality as an enemy to his work. Of such positivist thought it has been observed that science counts as factual propositions only, ". . . those which science can process in the laboratory by an operational experiment terminate with reality."²² Such a view has been criticised as lacking the ability to move from the descriptive to the normative. This follows because a positivist basis for science cannot provide any adequate basis for formulating either ethical or metaphysical propositions.²³ Polanyi recognised that scientism was a threat to non-tangibles such as justice and beauty that could never be quantified by the scientific method.²⁴ If science were to be the sole arbitrator of truth, such concepts would no longer be able to be viewed as truths.²⁵ This conclusion logically followed from the presumed truth that such abstract concepts lay beyond the pale of the empirical investigation of science. While it is certainly true that one may recognise instances of justice and beauty, such manifestations are all that one may observe empirically. Lying beyond the senses are the non-tangible concepts. It was in the realization of such relationships between extra-physical concepts and their application to the physical world that Polanyi found the basis for what he would term tacit knowledge.²⁶

If one were to grant the assumptions of scientism, its principles could easily be extended into the disciplines of theology and ethics. Polanyi despaired at the thought of a society of moral lethargists who knew what was right but failed to act upon it since they no longer viewed it as any sort of ultimate truth. He rightly recognised that it was just such an application of scientism that was what lay (at least in part) behind the rebellion of the youth culture of the '60s and '70s.²⁷

20. Michael Polanyi, *Science, Faith and Society*, paperback ed. (Chicago: University of Chicago Press), p. 13.

21. "Tacit Knowing, Truthful Knowing."

22. John Edward Carnell, *A Philosophy of the Christian Religion* (Grand Rapids, MI: Eerdmans), p. 139.

23. *Ibid.*, p. 140ff.

24. "Tacit Knowing, Truthful Knowing."

25. Michael Polanyi, *The Study of Man*, paperback ed. (Chicago: University of Chicago Press, 1959).

26. Here, Polanyi argues for a unity of truth that leaves no room for a disjunction between fact and value.

27. Michael Polanyi and Harry Prosch, *Meaning* (Chicago, University of Chicago Press, 1975), pp. 32–35.

27. *Ibid.*, p. 23.

The late Francis Schaeffer viewed this pivotal period in a similar vein. Schaeffer suggested that such a correlation should have been anticipated. Commenting on the student unrest on the university campuses he questioned, “Why would anybody have been surprised? Many of the teachers taught the ultimate meaninglessness of man and the absence of absolutes . . . Was it not natural that one generation would begin to live on the basis of what they had been taught?”²⁸

These insights are also of interest to the apologist, for he too sees scientism as the enemy of the ultimate truth found in the nature of the one true God. It is impossible for the apologist to prove the existence of God (at least the biblical God) by employing Enlightenment influenced rationalism within a supposedly neutral arena. In Polanyi the apologist finds a friendly source to employ with the skeptic who claims that science is always on their side. Additionally, just as Polanyi saw a future society that knew what was right but failed to do it, the apologist recognises that fallen man knows God and his truth but refuses to submit to either (Rom. 1:18–23). Instead, he suppresses the truth so that he might pursue the sensate desires of his fallen nature.

Polanyi asserted that the popular view of science was not only dangerous, but just as importantly, it was not true. This observation was based upon his years as an internationally respected researcher. Polanyi claimed that in actuality no scientist could achieve an absolutely detached impartiality in their research; that as humans, their beliefs and experiences (that is their presuppositions) would always shape their work.²⁹ He further asserted that these presuppositions affected research at its most basic level: the choices made by scientists in deciding what to explore in research. He further proffered that one who is said (in scientific terms) to be “testing” a theory is in actuality doing nothing more than relying on his presuppositions, many of which he is employing at a non-conscious level.³⁰ Polanyi recognised that everyone sees the universe from the perspective of their inner selves, formulating opinions about it in human language shaped by human intercourse. To eliminate such a human perspective would lead to absurdity.³¹

Again, we see a view that is compatible with a presuppositional apologetic approach: everyone always operates from their presuppositional perspective, and not even science, the allegedly unbiased guardian of truth, can avoid this. It is important that each individual give consideration to the logical conclusion of their presuppositions. Polanyi saw clearly the implications of the presuppositions of scientism for science itself. He proposed that such an approach “. . . appeared to have produced a mechanical conception of man and history in which there was no place for science itself.”³² The basis of this truth is found in the scriptural admonition of Pr. 14:12. There we are informed that, “There is a way which seems right to a man, but its end is the way of death.” The human mind, affected by the fall deceives the individual into thinking that their understanding will lead towards a

particular goal, when in the end it does just the opposite, ultimately leading to their own demise. It is important to remember that in the OT, the heart is not so much the seat of emotions, but rather the seat of the mind and will—the whole of a person’s thinking and decision-making.

The need to think through to the logical conclusions of one’s presuppositions has been noted by more than one Christian theologian. Carl Henry has stated that in apologetic endeavors, the Christian must, “. . . reduce to absurdity the successively proffered alternatives to Christian theism and force the intellectual abandonment of speculative views.”³³ In like fashion, Polanyi rejected the skepticism to which scientism inevitably leads. This rejection was based upon his recognition that knowledge ultimately rests upon givens that themselves cannot be proved: such things as the nature of human beings, the world, and our ability to understand both. Once more one may see that Polanyi’s assertions ring true, for they agree with presuppositional apologetics, which in turn rests upon the “givens” of God and his Word. Schaeffer, speaking of the superiority of the Christian worldview over against the syncretism of the ancient Romans pointed to the grounding of the Christian view in the truth of God’s Word.³⁴

The Use of Tacit Knowledge

Polanyi observed that science actually operated within previously asserted givens. Without employing such assumptions as the basic consistency of the processes of nature, how could scientists ever hope to have confidence in results gained through observation? He asserted that belief always precedes knowledge; that scientists had to have faith in some certainty even to begin working on the acquisition of knowledge.³⁵ Without these presuppositions, scientific inquiry would have no starting point from which to operate.³⁶ In a like fashion, the apologist recognises that commitment to God’s revelation always precedes knowledge, that God as the ultimate norm for truth must be his starting point.

All of the above led Polanyi to conclude that some knowledge is rooted in the person, that is, that knowledge is tacit in nature. Commitment ultimately must be to things one can grasp but cannot prove, thereby requiring that one employ faith. Polanyi identified these skills as tacit knowledge. As has already been noted, he defined tacit knowledge as using that knowledge an individual knows, but cannot tell exactly what it is, or how they know it. This knowledge is employed in the working out of other knowledge, for Polanyi asserted, “. . . that tacit knowing is in fact the dominant principle of all knowledge, and that its rejection would, therefore automatically involve the rejection of any knowledge whatever.”³⁷ Polanyi goes on to expose the weakness of empiricism as the basis for knowledge, for he correctly

28. Schaeffer, p. 206.

29. Polanyi, *Science, Faith and Society*, pp. 11–14.

30. Polanyi and Prosch, p. 37.

31. It is significant to note that this position rests upon the sufficiency of language to communicate something meaningfully true; the importance of this assertion will be more fully addressed later within the context of using Polanyi’s thought in engaging those of postmodern persuasions.

32. Polanyi, *Tacit Dimension*, p. 3.

33. Henry, *God, Revelation and Authority*, Vol. 1, p. 241. Along similar lines, Gordon H. Clark has pointed out the inadequacies of constructing a belief system upon presuppositions that are in opposition to those of Christian belief. See *Thales to Dewey* (Unicoi, Tennessee: Trinity Foundation, 1997), p. 533f.; Colin Brown shows the bankruptcy of the logical conclusion of the presuppositions in Paul Tillich’s theology in *Philosophy and the Christian Faith* (London: Tyndale, 1969), p. 198ff.

34. Schaeffer, pp. 22–26.

35. “Tacit Knowing, Truthful Knowing.”

36. Polanyi, *Science, Faith and Society*, pp. 30, 35, 37–38.

37. Polanyi, *The Study of Man*, p. 13

asserts that if empiricism were a valid epistemological base, it could not be consistently applied, for it would become self-refuting, since knowledge of experience being the validator of what is true could not itself be gained by experience.³⁸

For Polanyi, tacit knowledge involved the relationship between two terms: we know the first term only by relying on our awareness of it for attending to the second. He asserted that the first was knowledge that was proximal, for it was innately in us; this knowledge in turn facilitated the second term of knowledge—that which he termed distal.³⁹ To clarify the meaning of this somewhat technical terminology, Polanyi enlisted several analogies.⁴⁰ He suggested that one is able to recognise the face of an acquaintance by tacitly registering recognition of the distinct features of the face, and then combining this knowledge (which we can articulate to some degree, but not fully) with the visual stimuli of the physical presence of the person in order to “know” whom they are interfacing with.⁴¹ Polanyi recognises, though, that a danger exists if one is to attempt to focus only on the particulars of an object. He notes that, “The structure of tacit knowing is manifested most clearly in the act of understanding. It is a process of comprehending: a grasping of disjointed parts into a comprehensive whole.”⁴² He further asserts that if one focuses too much upon the parts of a whole, one risks losing sight of the whole altogether.⁴³

In another analogy, Polanyi notes that there are many skills necessary for successfully riding a bicycle. Balancing is the key, and the correct balance is predicated upon a specific formula: to counter an imbalance, he noted that one must turn the bicycle away from it in a curve. Not just any curve will do, it must be one whose radius is proportional to the square of the bicycle’s velocity over the angle of imbalance. Polanyi posits that no one thinks in these terms when riding a bicycle, and very few people could even articulate the formula that is employed, if they are aware of it at all. It is just something that people do. For Polanyi, such knowledge was seen as dwelling in the person—it was tacit knowledge.⁴⁴

Once more one might find that Polanyi has correctly grasped truth, for underlying these assertions are the sure foundation of biblical truth. Several times in scripture the importance of seeing the “big picture” over against the smaller details is emphasised. Jesus frequently confronts the Pharisees for their attention to miniscule details at the expense of the larger whole. An example of this may be seen

in his rebuke of the Pharisees when he states, “Woe to you, scribes and Pharisees, hypocrites! For you tithe mint and dill and cummin, and have neglected the weightier provisions of the law: justice and mercy and faithfulness; but these are the things you should have done without neglecting the others” (Mt. 23:23).

For Polanyi, the tacit skills necessary to accomplish a task cannot be reduced to brute facts one memorises and then applies. This is true not only for simple biomechanical functions like riding a bicycle, but also more complex mental tasks such as the skill of medical diagnosis. If logical positivism were correct, then after medical school, doctors would move immediately into practice, bypassing internship and residency.⁴⁵ Such is not the case, for diagnosis requires tacit knowledge that can only be developed by intuitively using and applying it under the guidance of a more skilled diagnostician. These views parallel the truth of Scripture found in the first chapter of Romans: that all men have knowledge of God and his truth. In a sense, it might be said that this is tacit knowledge, though it has certainly been obscured by man’s rebellion, it is nonetheless there at some level. It could be further suggested that the apologist functions in a manner similar to the mentor. It is his job to bring to the surface that “tacit” knowledge of God.⁴⁶

To posit a parallel between innate knowledge and Polanyi’s concept of tacit knowledge seems a reasonable assertion. He observed, “For to see a problem is to see something that is hidden. It is to have an intimation of the coherence of hitherto not comprehended particulars.”⁴⁷ This is the same notion that all have personally experienced, and that those who have children experience a second time. No one has to teach a child the concepts of equal and just. When “goodies” are passed out to a group of children, any of them old enough to verbalise their cognitive thoughts will announce, “that’s not fair” if they perceive that they have not received an equal proportion of the treats. C. S. Lewis uses this as the starting point for his argument for an actual, objectively existing basis for the moral law that is written on the hearts of everyman.⁴⁸

The seventeenth century French philosopher, scientist,

45. “Tacit Knowing, Truthful Knowing.”

46. It is worth noting that though it is oft asserted that belief in God is but a socially constructed belief; no culture has been found that was by nature atheistic. All have had a concept of divinity; the differences are found in the nature of the divine. Both Calvin and Luther asserted that there was a “. . . general awareness of God that all men have. It is not a matter of the Scholastic proofs. It is a profound inner awareness of God over against us.” See Brown, p. 45. Polanyi even admits that humanity is wired to think in terms of the religious; he posits that this what makes religious belief plausible. See Polanyi and Prosch, p. 158ff. Assertions along similar lines can be found in the 7 May 2001 *Newsweek* cover story, “Religion and the Brain,” by Sharon Begley and Anne Underwood. These latter two examples reflect the truth of Rom. 1:19, which states that, “. . . that which is known about God is evident within them; for God made it evident to them.”

47. Polanyi, *Tacit Dimension*, p. 21.

48. Lewis goes on to expand upon this idea, showing that the only explanation for such a state of affairs is the grounding of the moral law in the personal God of the Bible; this is the only view of the world that can adequately explain what we experience both internally and externally. It is a presupposition that can be carried out to its logical conclusion since the failure of humans to live the Christian worldview consistently lies not in the worldview itself—it is without flaw as presented in scripture. The problem lies in the flawed sinful natures of humanity. See in particular pp. 17–30 in *Mere Christianity* (New York: Touchstone, 1996).

38. *Ibid.*, p. 21. For a similar analysis of empiricism from an explicitly Christian perspective see: Ronald Nash, *The Word of God and the Mind of Man* (Phillipsburg, NJ: Presbyterian and Reformed, 1992), pp. 71–78, 116–120.

39. Polanyi, *The Tacit Dimension*, p. 10.

40. For examples of this see: *Ibid.*, p. 8–13; *The Study of Man*, 28–33; *Meaning*, pp. 37–45. In his employment of several, varied analogies, it would appear that Polanyi was being consistent with his foundational presupposition—namely that the basis of all knowledge lies in a “knowing that we cannot [at least with clarity] tell.” For, if he were able to succinctly and clearly account for all that his concept entailed, he would then have posited some basis of knowledge that lay beyond what he had already claimed to be the basis of knowledge.

41. Michael Polanyi, “Transcendence And Self-Transcendence,” *Soundings* 53:1 (Spring 1970), p. 92.

42. *Ibid.*, p. 28.

43. *Ibid.*, p. 29.

44. Polanyi and Prosch, p. 41. This would seemingly be the explanation of the old saying that, “you never forget how to ride a bicycle.” It would seem that the basis of this truth lies in the innate knowledge needed to “learn” how to ride in the first instance.

and mathematician, Blaise Pascal asserted that, “There is a God-shaped vacuum in the heart of every man which cannot be filled by any created thing, but only by God the Creator, made known through Jesus Christ.”⁴⁹ The basis for this claim can be found in Scripture: 1 Cor. 4:4 states that it is God who gives us knowledge of himself; additionally, Eccl. 3:11 testifies that God has “set eternity in their heart.” Abraham Kuyper also addressed the concept of innate knowledge in his development of the argument for the spheres of authority.⁵⁰ Included in this would be the God-given character of the order of creation as found in Isa. 28:23–29. There one discovers that the knowledge of how to farm is taught to the farmer by God himself. This is accomplished not by some specific teaching of scripture, but through the structures of creation, delivered to the farmer via the experience of working with soil, seeds, and plough. Polanyi echoed the truth of this pattern in his conceptualisation of tacit knowledge. A grasp of that parallel can be noted by considering yet another analogy: the use of a stick pressing against the palm of one’s hand as one tries to find one’s way along a pathway in the dark. One is tacitly aware of the stick in one’s palm, yet on another level, which is more focused upon, one is aware of the far end of the stick as it strikes against obstacles along the pathway.⁵¹

Polanyi made the bold assertion that some of the greatest discoveries of science would never have been discovered if scientists only operated within the bounds of the narrow limits of detached analysis. He argued that unless the scientist presumed that the substance and method of science are sound he would never develop a sense of science’s value and acquire the skill of scientific inquiry.⁵² This could leave the scientist open to the accusation that he is working from within a view that is based on circular reasoning. While technically true, it is true only a narrow sense, and in reality, all views ultimately rest upon such a narrow line of circular reasoning.

The scientific method must first have an ordered universe for it to function properly. Without the presumption of the repetition of patterns inherent in order, scientific experimentation would be impossible. Science must presuppose the order, for it cannot use the deduction of the scientific method to “prove” its own starting point. This is also seen in the study of geometry, where one uses various “proofs” that themselves cannot be “proved.” Take for example the congruency of triangles; if one were to presume the truthfulness of any singular proof, it could in turn be employed to “prove” the others. But in both of these instances, the congruency of triangles and the order of the universe, a form of mildly circular reasoning has occurred. Yet, no reasonable person would challenge the validity of these assumptions. One may observe on their own the repeating patterns of the physical world (after all, have you ever seen the sun rise in the West?). In like fashion, one can note the similarity between two different triangles whose sides are of the same length. If one did not act with certain presuppositions, then no significant actions could ever be undertaken. This is likewise for the rationalists and empiricists who too must

assume their respective starting points to be true in arguing for the validity of their positions. The presuppositional apologist is not immune to this narrow circularity; he must begin with Scripture, resting upon the claim that the Bible is God’s Word because it says so. However, in doing so, he is arguing from no more logically invalid a position than the aforementioned examples.

Polanyi also recognised the link between knowledge and morality. He posited $2+2=4$ to be true not only mathematically, but morally as well. In like manner, he asserted that not only was $2+2=5$ a lie mathematically, but morally also.⁵³ In other words, to be true, knowledge must be morally correct. He stated that there was a profound interconnectedness between epistemology and ethics, and that the knowledge found in them obligated one to the responsibility of acting in accordance with the truths therein expressed. Once more we see agreement between the views of Polanyi’s system of tacit knowledge and the views of the Christian apologist who too recognises that all knowledge is ultimately ethical in nature. It is thus because he knows that God as truth is the ultimate source of knowledge, and therefore all knowledge must conform to its source: the nature of God himself. For, ultimately, ethics reduces to the question of conformity or non-conformity to the nature and character of God.

Closely related to this idea of ethics is the interconnectedness of the concepts of fact and value. A thoroughly Christian view must assert that there is no disjunction between the two. The point of unity between these two categories can be found in the fact that both derive their existence from God. What is true? As noted earlier, that which is consistent with the character and nature of the one true God, and also the thoughts that comprise the knowledge contained in the mind of God. God’s knowledge is exhaustive knowledge, “. . . because he knows all true propositions about everything that has been, is, and will be, and he does so in a manner that extends to the minutiae of the past, present and future reality.”⁵⁴ Polanyi recognised the existence of an intrinsic bond between fact and value that necessitated a unity of all true propositions.⁵⁵ If there could be a unity of value and fact in the sciences, he asserted that this must of necessity also be true within the humanities. He further posited that one could not know truth if all one knew was facts devoid of value. Polanyi held that facts must be internalised and employed (implying value), or they were ultimately useless.⁵⁶ Polanyi termed this concept “indwelling,” going so far as to assert that one sees God through the act of worship via indwelling.⁵⁷ In this regard we see a tension in the thought of Polanyi that manifested itself not infrequently (and will be addressed more fully later): a tendency to assert the need for an objective basis for truth on the one hand, while leaning towards a subjective verification of it at other times. However, all things considered, Polanyi’s

53. Polanyi and Prosch, p. 195f.

54. Paul Helseth, “On Divine Ambivalence: Open Theism and the Problem of Particular Evils,” *JETS* 44:3, (Sept. 2001), p. 493.

55. Polanyi, *The Study of Man*, pp. 37, 85.

56. Polanyi, *The Tacit Dimension*, p. 16; Polanyi and Prosch, p. 39.

57. Polanyi, *The Tacit Dimension*, p. 17; Polanyi and Prosch, p. 156. Regrettably Polanyi’s “God” was not the biblical God, for he saw the religions of the world as paralleling the different areas of scientific study. As each branch focuses on different areas of reality, Polanyi saw all religions focusing on different parts of the divine.

49. As quoted in Ann Lamont, “Blaise Pascal,” *Creation Ex Nihilo* 20:1 (Dec. 1997–Feb. 1998), p. 38.

50. Abraham Kuyper, *Christianity: A Total World and Life System* (Marlborough, N.H.: Plymouth Rock Foundation, 1996), pp. 49–60.

51. Polanyi and Prosch, p. 35f.

52. “Tacit Knowing, Truthful Knowing.”

concept of tacit knowledge intersects the truth of Scripture at many junctures, and offers the Christian apologist numerous potential points of contact with those who have affinities for viewing science as a sure means of attaining true knowledge. For, as has been demonstrated, Polanyi's system of knowledge undermines this popular view of science.

Polanyi and Postmodern Thought

Central to the views of the Enlightenment period was the assertion that fact was both public and universal, while value and opinion were private and particular. Conversely, the reigning paradigm of postmodernism holds that values and opinions are everything while facts are nothing. This reduces all thought to subjective value. Contrasting with both of these Polanyi argued that truth and values are neither relative nor subjective, and that there is no epistemological blank slate (despite John Locke's claim to the contrary), but that there is an ultimate basis for knowledge.⁵⁸ He argued that false ideas about these matters would ultimately destroy reality. Again we find essential agreement between Polanyi and the view of the biblical apologist who knows that there is an ultimate norm for both truth and value, but that that ultimate norm can be known personally, as contrasted with the abstract norm posited by Polanyi.

At one point, Polanyi assaulted head-on the notion of socially constructed truths and morals. He denounced in the strongest terms those who assert that each society is free to maintain its own standards of "truth," thus enabling them to have a society that functions efficiently within the bounds of those culturally defined standards. Polanyi noted that it was in this manner that anthropologists have upheld the propriety of such barbaric practices as head hunting. Furthermore, he pointed out that if there were no trans-cultural values, there would yet be one value that seemed pervasive: the claim that all societies should be free to practise their own values. He correctly asserts that this view would then become a trans-culturally cherished value, and thus the entire enterprise collapses as a self-refuting system of values.⁵⁹

Polanyi recognised the necessity for something more than an attempt at anthropological determinism as a basis for morals and truth. He went so far even as to appeal to C. S. Lewis' arguments against positivism as put forth in *The Abolition of Man*. Polanyi recognised that an impersonal universal mind such as that which was part and parcel of positivism would ultimately make meaning impossible, not only in science, but in everyday life as well. This follows from the view that nothing of value can come from something incapable of ascribing value.⁶⁰

Polanyi understood that for particular things to have meaning, they must be related to some overarching whole. Thus he hoped to guard against the systematic dismembering of a text's meaning by way of over analysing its constituent parts.⁶¹ In taking this position, he sat himself in opposition to one of the hallmarks of postmodernism—the deconstructing of texts, whereby the reader becomes the authority over its meaning (in contrast to the long held view of the author as authority over his creation). This, of course, raises questions of whether or not language is able to transcend

personal knowledge and communicate something of meaning beyond the self. Polanyi asserted that words had meaning, and that the meaning arose not from the subjective understanding of the receiver of the language, but in the object that the word designates.⁶² Additionally, he drew a parallel between a child learning to talk who does so only because he assumes that the words he hears have meaning, and the scientist who employs scientific doctrine and methods that can be used to communicate in a manner that will be understood by those who likewise know the "language."⁶³ Consequently, for Polanyi, words and their meaning were able to transcend culture. This view has been elaborated upon by one of his modern interpreters, who posits that for Polanyi, "... the pursuit of science transcends the limitations of culture."⁶⁴

This view of language as capable of communicating truth external of the speaker or receiver is essential to the truthfulness of the Christian message. From the beginning of creation, God used words to communicate with the creatures he had made to be his image bearers. God spoke to Adam in words that conveyed real content both before and after the fall. Jesus as God incarnate is said to be the Word made flesh (John 1:14). Language is not limited to the objects it refers to at any time and place. It is able to transcend both, allowing intelligent beings to share non-physical ideas. It is sufficient for communication between God and man in both the written revelation of Scripture, and in prayer.⁶⁵

There are those however who would lay claim to Polanyi as a point of contact between postmodernism and the disciplines of philosophy and science. It has been proffered that Polanyi is in actuality a scientist who has, "... abandoned the attempt to analyse science as the form of culture capable of complete objectivity, to analyse language solely in terms of its referential force, and to make representational knowledge impersonal and to split fact from value."⁶⁶ Such a position shows evidence of either a selective or less than thorough reading of the whole of Polanyi's work (as has been demonstrated by the preceding analysis of his writings). It is certainly true that there are aspects of Polanyi's thought that can be viewed as showing affinities for aspects of postmodernism. Chief among these was his concept of indwelling. However, it is also true that he continually asserts that the indwelling of information via tacit knowledge, though internalised, is not subjectified.⁶⁷ Making his view more clear he further asserts that each person has, "... some measure of direct access to the standards of truth and rightness."⁶⁸ Botez has chosen to ignore these disclaimers. It seems as though Botez has mistakenly assumed that since Polanyi's model for knowledge is *contra* modernism, it is de

62. *Ibid.*, p. 69f.

63. Polanyi, *Science, Faith and Society*, p. 45.

64. Sheldon Richmond, "The Two Cultures Problem," paper presented at the 20th World Congress of Philosophy, Boston, Massachusetts; pp. 10–15 August 1998. Available at <<http://www.bu.edu/wcp/Papers/Scie/ScieRich.htm>> accessed 21 Nov. 2001

65. Gordon R. Lewis, *Testing Christianity's Truth Claims* (Chicago: Moody, 1976), p. 115.

66. Angela Botez, "Michael Polanyi and Lucian Blaga as Philosophers of Knowledge," paper presented at the 20th World Congress of Philosophy Boston, Massachusetts; pp. 10–15 August 1998. Available at <<http://www.bu.edu/wcp/Papers/Comp/CompBote.htm>> accessed 21 Nov. 2001.

67. Polanyi, *Science, Faith and Society*, p. 46.

68. Polanyi, *The Study of Man*, p. 89.

58. "Tacit Knowing, Truthful Knowing."

59. Polanyi and Prosch, p. 26f.

60. *Ibid.*, pp. 27–30.

61. Polanyi, *The Tacit Dimension*, p. 18ff.

facto *pro* postmodernism. While Polanyi rejects essential elements of modernism, he likewise (as already demonstrated) rejects essential elements of postmodernism. One may correctly assert that Polanyi's thought is postmodern (coming after, or in reaction to that which may be identified as modern), but such an assertion fails to distinguish between postmodern and postmodernism—the former refers largely to a timeframe, the latter to an encompassing worldview.

Botez further claims that within Polanyi's tacit dimension, "Humans rely upon elements from their social location, tradition, and community in order to affirm that what they believe is knowledge."⁶⁹ Such a claim makes "truth" a prisoner of subjective opinion. It is at this point that an attempt to clearly articulate Polanyi views becomes a challenge. On the whole, the breadth of his writings lean towards an informed view of knowledge that recognises that humans are more than just physical creatures, that they possess another dimension that is beyond the physical. This aspect of humanity is succinctly articulated in his theory of tacit knowledge. He asserts the reality of non-tangibly existing things;⁷⁰ even more, he argues for the priority of the non-physical over the physical, insisting that

I shall say, accordingly, that minds and problems possess a deeper reality than cobblestones, although cobblestones are admittedly more real in the sense of being tangible. And since I regard the significance of a thing as more important than its tangibility, I shall say that minds and problems are more real than cobblestones.⁷¹

It is important to note that Polanyi's comments in the above passage follow on the heels of a thought that closely parallels the quote employed by Botez as evidence of Polanyi's rejection of an objective basis for epistemology.⁷² In both instances, Polanyi comments upon the nature of things to reveal themselves, at some future point, in unexpected ways that are not limited by one's ability to conceptualise in the present.

However, this is of no concern to the Christian, for it closely approximates the state of affairs that actually does exist in the world as we know it from God's revelation. 1 Cor. 2:9 states that there are, "Things which eye has not seen and ear has not heard, and which have not entered the heart of man, all that God has prepared for those who love him." Clearly, an inability to accurately conceptualise a future state of affairs does not preclude one from having some measure of understanding of future things. God as the source of metaphysical reality is himself spirit (Jn 4:24); thus, the physical realm owes its existence to the infinite spiritual existence of God. Additionally, the physical is only temporal, but the spiritual is eternal.⁷³ Again, the Bible gives us the basis of this truth, asserting that, "Heaven and earth will pass away, but My words will not pass away" (Mt. 24:35).

This is not to dismiss lightly the postmodern affinities read into Polanyi by Botez. However, the most problematic to deal with is not the insistence on the indwelling of knowledge for it to be true knowledge. Scripture asserts in

James 2:19 that intellectual acknowledgment of a true state of affairs (that God is one), is not sufficient for biblical faith, for it goes on to note that, "... the demons also believe, and shudder." Thus, the idea of internalisation of knowledge is not in and of itself problematic. The challenge for the Christian who would seek to make use of Polanyi's epistemological system as a point of contact between himself and the non-believer is how to deal with those aspects that do bear a correspondence to postmodernism. Such ideas include:

1. *Community as the loci of truth*—Polanyi depicts scientists as working in community to determine what constitutes scientific truths that are somehow binding on everyone.⁷⁴

2. *A pluralistic view of religion*—Polanyi sees all religions as having useful myths containing truth that is made manifest in the act of worship, allowing the worshipper to "see God" via their imagination fueled by the myth.⁷⁵

3. *The lack of an overarching meta-narrative for life*—Everyone can experience the reality of tacit knowledge since it is a framework that all facets of society work through; but the content is supplied by individual disciplines. Thus, each is free to cultivate its independent truth that has no authority beyond that discipline's pale.⁷⁶

One needs to remember that though Polanyi held that tacit knowledge was internalised, and thus contained an element of personalisation, it was not left unanchored to reality. He asserted that perception as an act of tacit inference must correctly correspond to the external reality that objectively existed outside of an individual's observation.⁷⁷ He posited that this reality was ultimately of some spiritual quality, even at times referring to the reality as God, and suggesting that humanity is able to sustain communication with, "... the same source that first gave men their society-forming-knowledge of abiding things."⁷⁸ It would also be useful to consider Polanyi's premises about tacit knowledge in a manner suggested by Jeff Siemon, lecturer in Presbyterian Studies at Christian Theological Seminary in Indianapolis. He has recommended that one approach Polanyi's thought along the following lines.⁷⁹

1. There is an intuitively moral level of knowledge that can be seen in the following:

- *You observe a stabbed body floating in a river.
 - Physics tells you there is light hitting your eyes; you notice how the body floats
 - Biology tells you the cause of death, and the rate of decay
- *But your focus *should be* that there has been a murder.

2. Science is Personal Knowledge

- *For something to be known, there must be a knower.

74. Polanyi, *Science, Faith and Society*, pp. 50–56.

75. Polanyi and Prosch, p. 154ff.

76. Polanyi, *The Tacit Dimension*, p. 83f.

77. Polanyi and Prosch, p. 108.

78. Polanyi, *Science, Faith and Society*, p. 83f.

79. Jeff Siemon, "Michael Polanyi: Alternative to Postmodern Philosophy," available at <http://www.cts.edu/FacHomePages/siemon/Power_Point/Michael%20Polanyi_files/frame.htm> accessed 3 June 2000. While Siemon provides several valuable insights, contrary to the power point presentation's name, he in the end succumbs to a pseudo-postmodern approach that focuses on "story" and "community" as key to communicating the exclusive message of the gospel.

69. Botez. 70. Polanyi and Prosch, p. 67.

71. Polanyi, *Tacit Dimension*, p. 32f.

72. Botez makes no citations in her paper, so it is difficult to ascertain with certainty the origin of her quote. The passage to which this paper refers is *Tacit Dimension*, p. 32.

73. David Noebel, *Understanding the Times* (Eugene: Or, 1994), p. 165f.

*How does Polanyi overcome “subjectivism”?

—Science is *personal knowledge* with *universal intent*

—I believe that you can know what I know and will find it true if you act on it⁸⁰

3. Applying Polanyi to Christian Faith:

*We proclaim, “Jesus Christ is Lord”

—We confess this as: *personal knowledge* with *universal intent*

In conclusion though, it would seem that overall, Polanyi’s view of knowledge presents more challenges than affinities for a postmodern perspective. Such an assertion rests not only on the previous analysis of his position, but on the claim he made for science. He held that the act of scientific investigation resulted in the creation of knowledge, but not a subjective knowledge, for though the choices made by the scientist as to what inquiry to pursue are his own, “What he pursues is not of his making; his acts stand under the judgment of the hidden reality he seeks to uncover. His vision of the problem, his obsession with it, and his final leap to discovery are all filled from beginning to end with an obligation to an external objective.”⁸¹

A Brief Analysis of Polanyi’s Tacit Knowledge

Though there is promise for how Polanyi’s theory of knowledge might be incorporated by sensitive and mature believers for apologetical endeavors, it is not without its flaws. Ultimately these derive from internal inconsistencies

80. This interpretation is diametrically opposed to that given by Botez, who claimed that, “Polanyi emphasises the role of the activity of the knower in the formation of knowledge and also is aware of their variability while insisting that we aim at truth ‘with universal intent’ although we can never quite get there.”

81. Polanyi, *Tacit Dimension*, p. 77.

(such as those seen in the application of Polanyi’s system to interacting with postmodernism). Other anomalies would include the lack of a sufficient basis for a view of morality that can fully escape some measure of subjective relativism. For example, the validity of scientific inquiry is not ultimately linked to whether or not it arrives at some theory that corresponds to reality—the only necessity is that it becomes part of, “. . . the whole system of scientific life rooted in a common tradition. Here is the ground on which the premises of science are established.”⁸² In a similar vein he later proffers, “Hence tradition, which the rationalist age abhorred, I regard as the true and indispensable foundation for the ideals of this age.”⁸³

A Brief Concluding Postscript

It has been demonstrated that Polanyi’s ideas in the area of epistemology as expressed in his concept of tacit knowledge are at several points in agreement with the ideas of presuppositional apologetics. However, Polanyi cannot be the starting point for an assertion of the truthfulness of God nor of his Word. Nonetheless, Polanyi’s work might be of particular help when engaging someone caught up in the view that science alone is the source of truth, and perhaps as well for those who are trapped in the subjectivity of postmodernism. One might be able to employ effectively Polanyi’s insights after granting the non-believer his or her view for the sake of argument; in so doing the Christian apologist might find a point of contact that enables them to draw to the surface the one ultimate tacit truth that has been placed in the hearts of all humanity throughout all time: “. . . that which is known about God is evident within them; for God made it evident to them” (Rom. 1:19). *C&S*

82. Polanyi, *Science, Faith and Society*, p. 52.

83. *Ibid.*, p. 83.

AUGUSTINE ON LAW AND GRACE

by *Nick Needham*

Do not be proud therefore, do not presume on your own strength, which is nothing; and you will understand why a good law was given by a good God, though it cannot give life. For the law was given for this purpose, that it might make you a little one instead of great—that it might show you that you had no strength to perform the law by your own power—and that thus, lacking help and destitute, you might fly to grace, saying, “Have mercy upon me, O Lord, for I am weak.”

—Augustine, *Expositions of the Psalms*, 119:129

“WHAT, then, was the purpose of the law?” (Gal.3:19) The apostle Paul’s question has often troubled the Church. So has Paul’s answer—or what people have thought his answer was. I remember once reading a Christian publication which defined a Christian as “someone who is 100 per cent committed to God,” or something of the sort. It’s the kind of loose statement that might make a superficial appeal to the young

and the idealistic, especially if they think sin means killing people and virtue means smiling and singing choruses about loving each other. There is only one problem: the definition is pure Pelagianism, and if it were correct, there has never been a true Christian on the face of the earth. According to Scripture, sin actually means the slightest deviation from God’s perfect law, even in my secret thoughts, feelings and

desires. “From within, from out of the heart, come evil thoughts” (Mk. 7:21). “There is no-one who does not sin” (1 Kings 8:46). “Cursed is everyone who does not abide by all things written in the book of the law, to perform them” (Gal. 3:10). So having a 100 per cent commitment to God means sinless perfection—absolute, unblemished and unceasing moral purity, in every thought, every feeling, every desire, every word, every action . . .

It is slightly self-defeating to define Christians in such a way that they are defined out of existence. Or at least, defined out of earthly existence. The only “100 per cent saints” are those in heaven, “the spirits of the righteous made perfect” (Heb. 12:23). On earth they were “righteous”—justified by faith and in process of being sanctified—but not yet perfect. Far from perfect. “We all stumble in many ways” (Jam. 3:2). Romantic idealism about the Christian life, as Augustine endlessly urged, is both harmful and stupid. If taken seriously, it reduces us to Soren Kierkegaard’s scornful verdict that “Christianity does not exist.” And surely then we can know that it is time to come out of the ivory tower, take off the rose-tinted glasses, and submit to a healthy, salty dose of biblical realism about Christian human nature.

Some, then, misunderstand the law—God’s moral and spiritual requirements of obedience and holiness—as a way of life that is perfectly within the Christian’s grasp. On the other side of the fence, there are Christians who will tell us that God’s law is quite irrelevant to the true believer. Many of our ills, they declare, can be traced to our foolish attempts to take the law as a guide for how God wants his redeemed people to live. We must forget the law, forget the commandments, forget the tyrannous Old Testament legalism of “duty” and “ought”; we must simply wallow in New Testament grace. Comprehend this, and the secret of joy and victory is ours! What such purveyors of secrets about how to be a victorious Christian do not seem to realise is that they are rejecting the central Christian tradition concerning the law’s positive function in the believer’s life, a tradition which survived more or less unmolested until the birth of dispensationalism in the nineteenth century.¹

With some people effectively defining Christians out of existence in their eagerness to exalt obedience to God’s holy law, and others defining the law out of existence in their eagerness to exalt the Christian’s experience of God’s holy grace, it is wonderfully refreshing to turn to the sanity of a teacher like Augustine, who finds a home for both holy law and holy grace in the life of the real flesh-and-blood Christian man and woman.

The Pelagian view of the law had at least the merit of simplicity. God had given the law to be obeyed. If we obey it, we tread the path to heaven. In fact, the law is our guide to heaven. The more we sin, the more we need the law to point us back on the right way. If we speak of God’s “grace,” that means the help he gives our free will to obey him; and that help is—the law! What about the gospel? Well, the good news that comes to us in Jesus Christ is that he is our perfect example of how to obey God’s law. What an inspiration his example is to our faltering wills! And Christ’s *teaching* helps us to obey even more easily, by making clear how enormous the stakes are: heaven if we get it right, hell if we go wrong. What good news!

Actually, it’s catastrophically bad news, said Augustine. *No-one* will ever get to heaven this way. Such a view of the law would be fine if we ourselves were fine, if human nature were fine. But human nature is corrupt. Our wills are in deep wilful bondage to original sin. It is only because Pelagius disbelieves in original sin that he can take so rosy a view of the law as a route to heaven, so starry-eyed a view of our ability to obey it. The awful reality, maintained Augustine, is that putting the law together with a fallen human sinner is a bit like putting a beautiful woman in the same room as a chronic seducer to teach him morals. She will merely arouse his lawless desires. The more forbidden the pleasure, the more desirable it becomes to the sinful heart. The law cannot save. Obedience to God’s commands is not the highway to heaven.

Why then has God given the law? First and foremost, Augustine argued, *to reveal to the sinner the true extent of his corruption*. By setting forth God’s holy commands in all their purity and clarity, the law shows what God requires of us; by stirring up and inciting our lawless passions, the law shows us just how fallen we are, how exceedingly sinful is our sin if it can respond so sinfully to God’s holy commands; by declaring the full measure of God’s holy hatred for sin, his righteous resolve to punish it in hell, the law makes us sigh and pine and cry for a Saviour. Who will deliver me from the plague of my sinful heart and the penalty it so richly deserves? Thanks be to God—through Jesus Christ our Lord!

The grace of the gospel, Augustine said, is not just the law in technical colour. The law *reveals* what is holy and righteous and good. But the law does not get down inside my will. It cannot take away my heart of stone with its “Do this” and “Do not do that.” The law is not transforming, regenerating, sanctifying. But this is precisely what gospel grace is! The grace of God in Jesus Christ gets right inside me, down into the deepest depths of my fallen free will, and changes me from within. Grace means a gift freely given; and Christ’s gift, the gift of all gifts, is the Holy Spirit himself, the third person of the Trinity, to dwell in my heart and make me new and beautiful on the inside by forming Christ in me. So gospel grace works on a totally different principle from the law. The law demands; grace empowers. The law reveals a standard of righteousness outside us; grace inscribes it on our hearts. The law inflames and provokes our sinful passions; grace quenches them and puts them to death. The law condemns us to hell for our disobedience; grace rescues us from hell by the forgiveness of sins, purchased for us and applied to us by Christ crucified and risen.

So who is the true Christian? Not the moral and spiritual superman or superwoman beloved of Pelagius—they exist only in their own imaginations, because they do not really know what sin is, never having understood the depth of the law’s demand. No, said Augustine, the true Christian is the imperfect, stumbling believer who “in all his sins accuses himself, and in all his good works praises God, counts himself a disgrace and gives to God the glory, and receives from God both the forgiveness of sins and a love of doing what is right” (*Against Two Letters of the Pelagians*, 3:14).

Is there then any place for the law in a Christian’s walk with God? Most certainly, answered Augustine. Although the law cannot give life, *life-giving grace puts this very law in our hearts*. Grace does not liberate us by giving us a licence to be unholy; it liberates us *from* unholiness and inspires us to take pleasure in God’s holy law. “Grace makes us lovers of the

1. Whoever dreamt up the “rapture” of the Church obviously decided to give it a trial run on the Ten Commandments first.

law,” Augustine declared (*On Grace and Free Will*, 38). After all, the problem was never in the law, but in us. When God’s free gift of the Holy Spirit gets to work inside us, he does for us what the law itself could never do, and that is to make us delight in God, delight in his holiness, delight in his holy commands. We still sin and are not yet perfected; but now, through the Spirit’s indwelling, the basic direction of our wills is *towards* lawful obedience, not away from it. Carefree sinning against a law we hated is replaced by a lifelong struggle to obey a law we now love. And Augustine was piercingly clear that the law which the grace-justified believer seeks to obey is the Ten Commandments. (He had some sensational wobbles about the Sabbath, but ultimately held that this too retains its relevance to the New Testament Christian.) “Surely no-one will doubt,” Augustine declared, “that God’s law was necessary, not just for the people of that time [the Old Testament], but is also necessary for us today, for the right ordering of our life” (*Against Two Letters of the Pelagians*, 3:10).

Finally, Augustine protested passionately against the Pelagian view that there were different ways of salvation, depending on the historical period in which people lived. The Pelagians were the original dispensationalists, and Augustine was not impressed. “We must not therefore divide the times,” he argued, “as Pelagius and his disciples do. They say that people first lived righteously by nature, then under the law, thirdly under grace” (*On the Grace of Christ and Original Sin*, 2:30). Of course, in one sense the Pelagians did not “divide the times” at all; they held that in all three “dispensations,” it was really *law* that saved. Nature, law and grace were three manifestations of the one way of life—“Obey and live.” Yet in another way, Pelagians did truly divide the times by restricting faith in Christ to the gospel dispensation.

Augustine countered this by arguing that Christ-centred faith has always been the core and the heart of salvation from the moment Adam fell, up to the end of time. If Adam and Eve were saved, it was not by striving to obey the law in the power of free will; it must have been by faith in the Saviour promised to them by God before they were exiled from Eden—“the Seed of the woman shall bruise the head of the serpent” (Gen. 3:15). Likewise Enoch, Noah, Abraham and all the patriarchs until Moses and the giving of the Ten Commandments: all saved by faith in the coming Seed. Likewise all godly Jews from Moses until John the Baptist: all saved by their forward-looking faith in the Messiah yet to come.

Augustine’s point was that there is only one way of salvation, the way of faith in the Son of God who destroys the works of the devil, and that there is therefore only one Church, only one body of the redeemed, all bound together in one grace, one gospel, one Mediator, the Lord Jesus Christ.

The distinction between law and grace does not mean different justifications, different Churches, different classes of citizen in the Kingdom. From Adam to the world’s end, everyone in heaven has arrived there by the same route: faith in the blood of the Lamb who sits on the throne. There will be no conversations in glory in which one says, “I got here by the law of nature,” and another, “I got here by way of Mount Sinai,” and another, “I got here by the gospel,” and another, “I got here by sinless perfection.” All will be united in one theme: “Worthy is the Lamb that was slain, for with your blood you purchased for God people from every tribe and tongue and people and nation.” And all God’s redeemed people, and the angels too, will shout “Amen!” throughout the ages of eternity. *C&S*

Book Reviews

[Charles Webster, who has been our book review editor for many years, has now stepped down. We should like to take this opportunity to express our gratitude to Charles for his contribution to the journal over the years. Our new book review editor is Matthew Wright. His email is: Matt.Wright@bristol.ac.uk]

A SCIENTIFIC THEOLOGY:
VOLUME 1—NATURE
BY ALISTER MCGRATH

Edinburgh: T. & T. Clark, 2001, 305 pages + index,
bibliography, cloth, £25.00, ISBN 0-567-08791-3

REVIEWED BY COLIN WRIGHT

THERE is something about McGrath’s style that makes me extremely uneasy. It has to do with his *perspective*. For at the end of the day it is his theological and philosophical perspective that determines the *meaning* of his discussion. And I am not sure what that meaning is. With much of his discussion,

though far from all of it, I find myself in agreement. But I suspect that what McGrath *means* is not what I would mean by the same terminology. And until we understand what McGrath *means* it is difficult to come to any adequate assessment of his contribution to a scientific theology.

My unease is compounded by the inclusion of McGrath’s name in the dedication to another book: Peter Heslam’s *Creating a Christian Worldview: Abraham Kuyper’s Lectures on Calvinism* (Eerdmans, 1998; reviewed here in July 1999). Heslam refers to McGrath, and four others, as “breathers of the Kuyperian spirit.” At first glance this would seem to indicate a commonality of spirit with my own and that of the Kuyper Foundation in general. But what does it mean to be *Kuyperian*? When I drew the attention of one Foundation member to the dedicatory list in Heslam’s book he fell about

in a fit of cynical, incredulous laughter. At least some of them, he assured me, were less Kuyperian than an Amsterdam tulip.

In light of this seeming commitment to the Kuyperian spirit it appears strange whom McGrath accepts as his bedfellows, that is, those with whom and amongst whom he carries on his discussion. For Kuyper is mentioned *only twice* in over 300 pages. The first merely draws attention to the existence of the 1898 Stone Lectures without making any commitment (p. 7), and the second on page 26 merely points to a seeming ambiguity in Kuyper's use of the word "science" as a translation of the Dutch *wetenschap*. In the latter instance the two footnotes attached to it are but the two sentences of the footnote on page 7 separated. There is no evidence that McGrath has even read the Stone Lectures, only that he has—at least—cursorily glanced through his Cambridge colleague's book about Kuyper. In a bibliography stretching to twelve full pages there is absolutely *no reference* to any work written by Kuyper, or even his colleague Herman Bavinck.

Strange too that in this volume we find no reference whatsoever to the intellectual heirs of Kuyper, namely the Amsterdam school of Herman Dooyeweerd and Dirk Vollenhoven, or their American counterparts of the Van Tillian and Toronto schools. They are neither discussed in the text nor listed in the bibliography.

I am puzzled. How does one go about writing 300 pages of theological science in the Kuyperian spirit without any reference whatsoever to Kuyper's magnificent and seminal work, *The Encyclopaedia of Sacred Theology*?

McGrath's silence regarding and total excision from his discussion of all mention of anyone of the Kuyperian mould must be taken seriously. McGrath is not a beginner. He writes books like others have hot dinners. He is a senior academic scholar who knows what needs to be included and excluded from a discussion. An omission of this scale has to be deliberate. And as such it is fair to assume that it says something significant about McGrath's perspective. This is particularly so in light of the fact he has given no indication whatsoever why this school of thought—to which it seems he is attached—should be excluded from the discussion. As McGrath will be well aware, in the academic circles in which he moves, no footnotes and no references is the highest form of disdain for any author. (Ludwig von Mises' widow once remarked that it was such a silence that above all else crushed her husband's spirit. Neither the Nazi persecution nor the outward contempt with which he was later treated at New York University had such a devastating effect upon him.) Indeed, in his preface (p. xix) McGrath makes it explicitly clear how important and significant the bibliographical information is. The works that he refers to, he says, "are the works which have led me to the conclusions set out in its pages." I might add that McGrath also disdains any reference to the eminent Roman Catholic theologian and physicist Dr Stanley Jaki, though on page 23 there is a passing footnote reference to one of his articles in the *Scottish Journal of Theology*.

McGrath's conclusions are clearly *not* drawn from the Calvinist Abraham Kuyper. The reader should study the bibliography and draw his own conclusions, but I suspect he will, like me, conclude that Thomas F. Torrance ("widely regarded as the greatest British theologian of the twentieth century," p. 77) has been the most significant influence along

with, to a lesser extent, the theologian Karl Barth, the first inspiration for McGrath's theological interest and by whose "exciting, challenging and inspirational" vision he was thrilled (p. xv).

Thus I have to take McGrath's claim to have written this work from an "evangelical perspective" cautiously. He explains this as "an approach to theology which insists that theology must be nourished and governed at all points by Holy Scripture, and that [it] seeks to offer a faithful and coherent account of what it finds there" (p. xix). Doubtless one can concur with this in a Kuyperian spirit; nevertheless, though it is *necessary* it is not *sufficient*. Holy Scripture, yes; but Holy Scripture *as what?* A collection of inspirational texts with moral authority? A standard religious text whose authority is its inspirational insights as traditionally accepted? Or the living, authoritative and infallible revelation of the self-authenticating I AM? In this volume McGrath perceptively, and rightly, puts the interpretation and understanding of the concept Nature before its use. But if he is to begin from a specifically Christian viewpoint or perspective then it will not do to pay lip-service to the "evangelical" tradition without delimiting this term with much greater precision than he has deemed fit. He undoubtedly is aware that the word is almost meaningless as a delimiter, as he is aware that verbal commitment to Holy Scripture often is unless it is accompanied by further delimitation. Barthians also claim to respect, if not reverence, Holy Scripture. The cry—and foil—of nineteenth century liberalism was "The Bible and the Bible only the religion of Protestants."

What does McGrath mean, then, by a scientific theology? It is not always easy to see, though he gives us a number of clues. He wants to "explore the relation between Christian theology and the natural sciences," he tells us (p. xi). This would have to be "grounded in and faithful to the Christian tradition, yet open to the insights of the sciences . . . it would be a proposal for a synergy, a working together, a mutual cross-fertilisation of ideas and approaches." (p. xi). Scientific theology seeks to "draw upon and interact with the methods of the natural sciences as an aid to theological reflection and analysis" (p. xvii). Mediaeval writers, he says, used philosophy in this role; he intends to replace philosophy with *natural* philosophy, that is, natural science (p. xvii). But he does not provide any justification for this, except to insist on "the assumption that this engagement is necessary, proper, legitimate and productive" (p. xvii). Mediaeval theologians interpreted and expressed theology in terms of philosophical concepts; McGrath will interpret and express theology in terms of modern natural-scientific concepts. I would question whether, indeed deny that, either approach is justifiable from a scriptural perspective. But McGrath seems blissfully unaware that such a perspective could possibly exist.

McGrath himself is aware that modern natural science theories and concepts are problematic. As he says, "Today, most scientists believe that . . ."—prefaced to a statement that is taken to be correct—has a disconcerting tendency, with the passage of time, to become "Yesterday, most scientists believed that . . .", prefaced to a statement which is now taken to be wrong—even though it was once believed to be right within the scientific community. A theology which is derived from, or justified with reference to, such 'certainties' is thus destined for oblivion with the passage of time" (p. 49). And this is not an incidental remark. He enforces it at numerous stages. Earlier he had insisted quite categorically that "A

theology which is grounded in the alleged ‘certain findings’ of the natural sciences will therefore find itself outdated with every advance in scientific understanding” (p. 11).

So why does he want to continue with the quest? Not only has he failed to delimit adequately his concepts of Scripture and Scripture’s authority, he has also abysmally failed anywhere in this volume to provide an adequate justification of his concept of theory. Of course he may respond that this will be the burden of the third and final volume. But this is to put the cart before the horse. What is the point in engaging in a debate whose terms are not defined until its close?

But then it becomes clear that McGrath is not as convinced of the fallibility of *modern* scientific theories as he first suggests. Naturally he wants to be cautious. History palpably demonstrates the folly of committing oneself to a particular scientific theory as absolutely true. So very early in his discussion he performs a subtle shift, though all in a good cause. For whilst trying to defend theological concepts against a formalist attack, he has to embark upon a realist theory that subsequently changes his whole outlook on modern scientific theories.

Let us break off here briefly to explain these arcane philosophical terms before we go any further. The difficulty however is that neither *realism* nor *formalism* have a univocal meaning. That is, there is not one meaning to cover all usages of the words. They have a variety of meanings depending upon the circumstances in which they are used. In this context realism is spelt out very well by McGrath himself, as making three general claims. Firstly, realism in his sense means that “there exists a reality . . . independent of and external to the inquiring human mind.” Secondly, he claims that “this reality can be known, however approximately . . . statements which are made concerning it cannot be regarded totally or simply as subjective assertions concerning personal attitudes or feelings.” Finally, he asserts that “it is possible to make statements concerning this reality which may be described at least as approximations to the truth.” (p. 75).

Formalism, or non-realism as McGrath tends to call it, views reality as “something which we construct, not something to which we respond.” He maintains that it implies that “we are at liberty to reconstruct realities as we please, in that they represent autonomous human creations.” (p. 75).

Doubtless, McGrath has a legitimate concern here. Are the concepts of “God” and “religion” essentially human inventions, or do they have some basis in fact, *in reality*? But the trap that McGrath falls into is to suppose that either *everything* must be viewed from a realist perspective or *everything* must be viewed from a formalist perspective. And so, in attempting to guard the reality behind the theological concepts that he espouses, he must perforce accept the reality of that which natural scientific concepts point to. Scientific theories then tell us the truth about what is there, rather than being, as Plato so eloquently expressed it in the *Timaeus*, “likely stories.” Incidentally, McGrath’s other failure here is to assume that statements about God are of the same order as scientific theory. This is not unusual today. It is a major failure of Western thought to suppose that the only true and genuine knowledge is that contained in theoretical concepts. God help the vast majority of people in the world if they had to rely upon a understanding and grasp of theoretical concepts before knowing God!

And so it turns out that McGrath commits himself to the view of modern scientific theories as almost infallible descriptions of reality as it truly is. On this issue he is exceedingly explicit and we shall quote him extensively (from p. 75) with interspersed comment. Firstly: “The simplest explanation of what makes theories work is that they relate to the way things really are.” But even patently false theories have often related to the way things really are. That is precisely why they were considered as explanations in the first place. They offered, as Plato says, a likely account of reality.

Secondly, he insists, “If the theoretical claims were not correct, their massive empirical success would appear to be totally accidental, or at best a stunning concatenation of coincidences.” But this fails to take account of the formalist position completely. The Copernican debate is perhaps the best illustrative example of this. For neither the heliocentric nor the geocentric theory can possibly inform us of the *truth* about the *absolute* motion of the solar system (or even Tycho Brahe’s system, in which the planets revolved around the sun but the sun revolved around the earth). They tell us the truth about the motion *relative* to some agreed point; in the former this point is the sun, in the latter it is the earth. Both theories are *fully capable* of explaining and predicting the motions of the heavenly bodies. It all depends upon one’s perspective. The heliocentric system offers a much simpler geometrical model but this is merely the perspective of someone standing on the sun. It does not tell us the truth about what is really happening. But McGrath makes an even bigger assumption here, one that I suspect is at least partially fallacious but that I have not yet had the time to research. It is an assumption that is widely, almost universally, held. It is the assumption that the “massive empirical success” of modern technology—I believe I am warranted in taking this to be McGrath’s meaning—is the outcome of scientific theory. I have yet to see any scientific defence of this assumption. Sure, most scientists, as well as laymen, will forcefully assert this, but can they prove it? And if so, why do so many in the medical profession, for instance, disdain the theoretical underpinning of homoeopathic medicine despite its massive empirical success?¹ The howls of protest I have heard on this score only serve to make me more suspicious of the claim.

Next, he adds: “What compels most working scientists to adopt a realist outlook is the outcome of their experimental procedures—such as the replicability of experimental results, . . .” This is just not true. Formalists also expect to see a replicability of experimental results—otherwise they abandon their theories just as realists do. Philosophical positions are not the result of experimental work but its presuppositions. Furthermore, “replicability of experimental results” is a myth, and that in two senses. Experimental scientists *do not* spend their time replicating other people’s work, at least generally. There is neither fun nor kudos in doing this, except in exceptional circumstances. They want to do *original* research, publish *original* papers. Neither is replicability in the sense McGrath probably means it (that a scientist can replicate his results endless times) in any way a test of scientific truth or accuracy. Take the classic case of the famous Michelson-Morley experiment of 1887 that proved,

1. The success of scientific theories, in cultures that are not influenced by the Western intellectual tradition, to explain empirical experience has been noted and documented by Paul K. Feyerabend in *Farewell to Reason* (London, New Left Books, 1999 [2nd ed.]).

so we are told, that light has a constant velocity to any observer. This still remains the bedrock of Relativity Theory. Yet a respected American physicist, D. C. Miller, persistently obtained the opposite results in numerous repeats of this experiment over a number of years.² His published results were quietly forgotten. Scientists wanted to believe in Relativity Theory and no facts were going to stop them. One could recount endless stories of this type of thing.³

So we can only smile wryly when we hear McGrath continue: “Realism is not a position adopted through group pressure or personal whim; it results from the relentless accumulation of experimental data, and the successful design and development of experiments to explore matters further. To put it bluntly, natural scientists are realists because of the force of evidence, not on account of pressure within the scientific community or the force of inherited assumptions. . . . Yet many of those engaging in the dialogue between science and theology from a theological perspective lack any first-hand experience of laboratory culture, or the design and implementation of experiments. The natural sciences are about *praxis* not just *theoria*.” Scientists, it appears, are the good guys, who stick to the facts; while philosophers who have never entered a laboratory and donned a white coat are amateurs who pontificate about matters of which they are ignorant.

Finally, McGrath insists: “Indeed, it can easily be argued that *theoria* is dependent upon *praxis*, in that the natural sciences tend to adopt a robustly *a posteriori* approach to the question of knowledge.” “Easily” indeed! If it is so easy why are so many insistent that it is not the case? It will not do to simply throw mud and insults. If his realist position is to be taken seriously, McGrath must back it up with a rational and coherent argument or we will but return his disdain.

But does all this debate about *realism vs. formalism* have any significance? McGrath certainly believes it does, and he intends devoting a whole volume of this trilogy to the issue. And, as we have intimated, it is vitally important if we are to defend notions of “God” and “religion,” for example, against any formalist claims that they are merely human words without any basis in reality. From our point of view it is highly important for another reason, too. For McGrath’s enterprise is one of constructing a scientific theology in which science plays a significant part. True, he wants science to have a *ministerial* role rather than a guiding one, but whether science will play such a submissive role is something McGrath does not seem to have considered. If scientific theory is only provisional, if it is a provider of explanation rather than truth, then he may get away with it. But as is well known, modern science is far from submissive. It claims to be the only way to true knowledge and defends its “findings” as unquestionably true and beyond scrutiny. It appears to me that McGrath’s reserve over this claim is not a genuine one.

2. See, for example, *Reviews of Modern Physics*, 5, 203, (1933). Recent replications of this experiment, I am led to understand, have again come to the same conclusion as Miller.

3. See, for example, Imre Lakatos, “Falsification and the Methodology of Scientific Research Programmes” in Imre Lakatos and Alan Musgrave, *Criticism and the Growth of Knowledge* (Cambridge, 1970) esp. pp. 147–149 where he recounts how Bohr’s theory triumphed over all the adverse empirical laboratory experiments beloved of McGrath. Einstein once remarked that he would have believed in his Relativity Theory even if Eddington’s experiment had refuted rather than corroborated it. For details see my “Karl Popper’s Scientific Enterprise Part I” in *Christianity & Society* Vol. xi, No. 1 (January 2001), p. 24.

He really does believe, as he so forcefully and persistently informs us, that modern science is *the* truth. And so I suspect that his reserve is not epistemologically based but merely a hedging of his bets.

His realist view of natural scientific theory, as he himself informs us, demands the acceptance of the results of natural science as a valid account of what the world is really like. How could such absolute truth play a minor, submissive and ministerial role in a dialogue with theology? McGrath is far too optimistic. But we shall have to come back to this if we ever get to review the second part of McGrath’s trilogy.

In Part 2 the author introduces us to the main burden of this volume. It is the concept of “nature.” This is the first of three themes to be treated in this trilogy: the second volume will concentrate on the concept of ‘reality’ and deliver a vigorous defence of a thorough-going realist philosophical, scientific and theological perspective, whilst the final volume will analyse concepts of theory and theory-generation.

The first chapter, entitled *The Construction of Nature*, is an important foundation for the study of the concept of “nature.” McGrath is to be commended for the pains he takes to provide a sound foundation for his dialogue between theology and natural science. For as he so rightly remarks: “It is impossible to address the relation of Christian theology and the natural sciences without a thorough examination of the complex notion of nature itself.” (p. 81) The chapter itself is a thorough and comprehensive review of the ways in which the term has been understood in the past and the ways in which it is used today. His wide ranging historical and philosophical analysis—from pre-Socratic Greek thought to Derrida’s post-modernism—leaves the reader in no doubt that this term, whose meaning we so easily take for granted as known and understood, has experienced a rich and diverse history. It simply cannot be taken for granted. And McGrath makes his point, that the concept is to a large extent socially-mediated. It is impossible therefore to discover any “neutral or self-sufficient notion” of nature (p. 133). From which it follows that nature cannot of itself provide us with universally valid knowledge: “How can nature shape our values and ideas, when that same nature has already been shaped by them? How can we construct a philosophy based on nature, when nature has already been constructed by our philosophical ideas?” (p. 133) But whilst the term for most “has become little more than a synonym for the totality of things,” McGrath offers hope of reclaiming the notion by filling it and undergirding it with the Christian concept of *creation*.

Now, the biblical doctrine of Creation is a neglected feature of modern Christianity. True, it is frequently and widely defended against any evolutionist alternatives, but its intrinsic importance and significance is generally neglected. The sole concern of these defenders is to uphold a biblical account of things against a seemingly atheist alternative.⁴ But the biblical understanding of Creation is far more significant than that, and this significance has been understood by at least some in every generation since apostolic times. Dooyeweerd understood it well; and his philosophy gave it equal status with the Fall and Redemption in the overall schema of a Christian world-view. For him Creation,

4. I say “atheist alternative” because, generally, where evolution can be accommodated without atheist implications, evangelicals are happy to embrace it.

Fall and Redemption is a trilogy of fundamental ideas that provide the basis for all human knowledge and understanding in every and any sphere of life.

McGrath understands this well also. And he sees it as his task in this volume to promote the Christian conception of nature as creation as a viable, if not the only viable, means of truly understanding the world.

He puts forward two distinct features of what he considers this Christian conception of creation to be. The first is the idea of creation as a structuring or ordering principle in nature. The second is the need of an *ex nihilo* (out of nothing) version of creation if that order is to have any meaning. His discussion is interesting and wide-ranging. It contains a number of useful insights and warrants a careful and thorough reading. Nevertheless, it contains, to our mind, some disturbing features—features which, we believe, ultimately undermine rather than foster the biblical view.

McGrath's two issues are roughly coterminous with the Old and the New Testaments respectively, that is, with what he refers to as the Jewish or Israelite view and the Christian view. As to the former, he regards the Old Testament, and particularly Genesis 1, as describing creation as the ordering by God of a pre-existing chaotic material: "The chaotic waste or void (*tohu wabohu*) constitutes the background to the divine creative activity. It is characterised as a potentially uncontrollable chaos, mingling primal uncreated darkness and a watery depth. The use of the images of 'darkness' and 'water' are widely thought to be indicative of the forces of chaos, which other biblical passages depict God as conquering" (p. 144). He develops this argument at length, finding it especially significant in the "prophetic tradition," as he calls it. As his conclusion of all this Old Testament study is explicitly and lucidly expressed, we shall quote it verbatim to avoid misunderstanding: "The major theme to emerge from the prophetic creation tradition is that of *ordering*. Creation represents the imposition of order upon formless matter, or the defeat of forces of disorder. It is certainly true that the *Chaoskampf*⁵ reflects beliefs which were once current in Ugarit and Mesopotamia; nevertheless, the prophetic tradition places a distinctive stamp upon these ideas. No longer is creation the result of a war between gods; it represents the free decision of a covenant God to create an ordered world—and that theologically grounded order is to be expressed politically, socially and legally" (pp. 148–9).

I cannot accept this view of Genesis. There are numerous reasons, many of which cannot be explained here because neither context nor space allow it. Nevertheless we have to give some explanation. The view rests upon the idea that the Hebrew phrase *tohu wabohu* (Authorised Version has *without form and void*) means *chaos in an ontological sense*. This is the ancient Greek view of matter, as it could be conceived independent of any form. There is no justification for this other than that those who espouse the idea want to find it there.⁶ It comports well with the idea that Old Testament religion is fundamentally indistinguishable from that of the surrounding cultures, but the Greek idea is wholly incom-

5. I.e., chaos-struggle (German, as in the well-known *Mein Kampf*—My Struggle—by you know who). McGrath is keen on foreign language definitions of things. Though there is a place for them, he overdoes it throughout this book and justifiably attracts the criticism of showing off.

6. We would invite the reader to peruse the excellent remarks of Keil and Delitzsch on these ideas in their commentary on this passage.

patible with and unknown in Holy Scripture. Both *tohu* and *bohu* occur on a number of occasions in the Old Testament and their usage strongly suggests that what is intended is no more than chaos in a physical, social or political sense. The very phrase itself—*tohu wabohu*⁷—occurs in Jer. 4:23, where it refers to the chaotic environmental, social and political chaos caused by invasion. Its use in Isaiah 34:11 suggests the same meaning. The Genesis usage points to the desolate and uncultivated state of the earth as it was first created. The rest of the chapter then explains how this desolation was removed and the earth filled with light and life.

When we come to the New Testament we enter a new realm of thought. McGrath sees "a significant disjuncture between Jewish and Christian doctrines of creation" (p. 155). This lies in the Christological dimension which Christianity applies to creation and in the addition of the idea of *ex nihilo*, that is, creation out of nothing. But why should the early Christians have developed a novel view of creation? McGrath at least attempts to answer the puzzle he has created. Firstly, the centrality of Christ meant that everything had to be interpreted in terms of a Christology. If original matter existed outside of and independent of Christ as Creator then Christ was not central to all existence. The line of reasoning is plausible but I do not believe the author has proved his point at all. It is conjecture based upon a preconceived view of Scripture that, as we shall see, has serious problems. But more importantly, he sees the development of the out-of-nothing idea as a reaction against the surrounding culture: it is, in part, "a reaction against the Greek teaching of the eternity of the world" (p. 160). Now this is odd. For has he not been telling us all along that, apart from its ordering, the world has been viewed in Scripture itself as eternally existing independent of God? Why was the Christian reaction one against a heathen conception of the eternity of the world and not against a Old Testament biblical conception of it? I suspect that at this point the question had occurred to McGrath too, for he suddenly changes his tack on page 160. Now it seems, maybe we have misunderstood what Genesis was saying. Maybe it was not referring to an eternal chaos after all. Maybe we just misread it that way: "The emphasis upon the earth as 'formless' strongly suggests that creation is to be understood primarily as 'ordering' in this context. *Yet the text is perfectly capable of being interpreted in another sense* [my emphasis—CW]—namely, that creation is to be understood as the calling into existence of the universe, and the imposition of order upon this new entity" (p. 160). His failure to find a thoroughly convincing rationale here leads him to look at other possibilities. The Gnostic Christians also had something to do with it. They believed in the idea of a pre-existent matter on which God later bestowed form. For them "the existence of evil in the world was [thus] to be explained on the basis of the intractability of this pre-existent matter. God's options in creating the world were limited by the poor quality of the material available. The presence of evil or defects within the world are thus not to be ascribed to God, but to the deficiencies in the material from which the world was constructed" (p. 162). Christians thus developed a doctrine of creation *ex nihilo* to counter Gnosticism.

I find this attitude towards Scripture and Church history extremely disquieting. It does not seem to me that it does

7. The *wa* is the Hebrew word for *and*. It is always joined to the word that follows it.

justice to either, especially the former. I do not see that it would be incorrect to draw the following conclusions from McGrath's statements on the subject. First, this appears to be a very weak view of Scripture. McGrath's Scriptures cannot and do not provide an authoritative Divine Word. They are simply the opinions of the time. McGrath may not intend this, but it seems to me that this is the logical implication of his views. The Old Testament documents say one thing, the New Testament say another. Christian doctrines do not seem to be divinely revealed but humanly deduced. Creation out of nothing in particular is a human construction developed to counter unacceptable schools of thought. To that extent how can it be a divinely revealed doctrine? There are corollaries: How is such a process of doctrinal development controlled and what criteria determine which human constructions get accepted as truth and which get rejected? Second, his view involves a serious bifurcation in Scripture between Old and New Testament. In effect, Christians rejected the Old Testament teaching on creation and came up with a better, more relevant version. I do not see how this comports with the New Testament writers' own views on the Hebrew Scriptures. Compare particularly Paul's understanding in 1 Timothy 3:16–17 and Peter's in 2 Peter 1:19–21. When McGrath speaks of the Christian *interpretation* of the Old Testament he performs a subtle shift in the meaning of the term. For it is not an interpretation of the Hebrew text that he describes but a *replacement* of its message with a new message. Third, has not McGrath undermined his whole defence of a realist theology here? I think he has. And in the process he has abandoned the idea of divine revelation as Christians have understood it for two millennia.

Thus, whilst McGrath has touched on some exceedingly important themes I do not believe he has done justice to Scripture. He claimed, as we have seen, to be seeking "to offer a faithful and coherent account of what it finds there." His theology, he hoped, would be "nourished and governed at all points by Holy Scripture" whereas in fact it has been nourished and informed—as has his view of Scripture—by a problematic and unscriptural natural science. Readers should nevertheless engage in this debate that McGrath has opened up and by means of interaction and dialogue come to a clearer understanding of the relation between the natural sciences and theology. *C&S*

THE TRIUMPH OF GRACE:
AUGUSTINE'S WRITINGS ON SALVATION
BY NICK R. NEEDHAM

Grace Publications, London: 2000, distributed by Evangelical Press (UK) and P&R Direct (US), paperback, 304 pages, \$14.00 US. ISBN 0-946462-58-5

REVIEWED BY HUGH FLEMMING

Dr Needham has crafted a magnificent book, one that every Christian should have at his disposal. It is at one and the same time an excellent historical source book, an insightful theological book and a devotional book to warm the heart and strengthen one's conviction that the doctrines of sovereign grace are indeed the doctrines of Holy Scripture and the historic Christian Church.

In his forward to the book Professor Paul Helm reminds us of several basic truths that are often forgotten, if indeed known at all by many modern evangelicals. The Protestant Reformation was not a revolution but a *re-formation*, a rediscovery of the gospel of God's sovereign grace as taught by both St. Paul and St. Augustine, a rediscovery of Catholic Christianity which the Reformers had inherited from Scripture and the Church fathers. Negatively, the Reformation was a repudiation of the medieval theology of merit and other corruptions of the Church, both in practice and theology. Positively, it was the theology of Augustine of Hippo and his emphasis on God's free and sovereign grace in Christ which he developed in his controversy with the Pelagians. It was this which particularly motivated the Reformers. An interesting reminder by Professor Helm brings this home to us most forcefully: "John Calvin once said that he would be happy to confess his faith entirely in the words of Augustine."

In his introduction Dr. Needham looks into several universally important questions. For instance, he asks: "Why should an Evangelical learn theology from a fifth century African bishop who believed in baptismal regeneration?" (p. 11). His answer, of course, is that Augustine of Hippo was the most influential teacher of theology in the history of the Church since Paul of Tarsus.

It was St. Augustine's masterful exposition of the doctrines of sovereign grace in salvation and the total inability of man to save himself that captured the hearts and minds of some of the most influential teachers of the middle ages such as the Venerable Bede, Anselm of Canterbury, Bernard of Clairvaux, John Wyclif and John Hus. There is one interesting name we should stop and consider carefully. We are told that, "even Thomas Aquinas, usually regarded as a bit of a villain by Protestants, was a devout 'Augustinian' in his convictions about the sovereignty of divine grace in the salvation of sinners" (p. 11). The author also mentions the obvious that is often overlooked, if known at all, by most modern professing Christians, namely that "the Protestant Reformers were devoted to Augustine's vision of grace. Theologically speaking Martin Luther and John Calvin saw themselves as doing little more than trying to restore true Augustinian doctrine and spiritual practice to the Church" (p. 11).

We are also given a short summary of the author's own introduction to St. Augustine. He explains that on holiday, about a year after his conversion, he decided to read the great saint's *Confessions*. He describes the result as follows: "It would not be too extravagant to say that I had no idea what was going to hit me. My mental and spiritual universe was transformed" (p. 11).

However, it was by studying the Bible itself that the author came to embrace the doctrines of sovereign grace and by this he was saved from thinking himself "some isolated eccentric." The noble Augustine and a multitude of others in the "Augustinian" family, such as the Puritans, had all built their theology upon these same biblical truths. The author refers to this acceptance of these doctrines as "a second conversion" (p. 12). From this point he was persuaded to read another book essential to a fuller understanding of Augustinian theology, namely Martin Luther's *Bondage of the Will*. The author closes this account of his initial encounter with St. Augustine by asking the same question that many of us have asked a thousand times: "Why had I never heard

theology like this being preached from pulpits?” (p. 12). In a succinct comment, laced with a measure of humour and facetiousness, the author makes this sad but all too true assessment: “Probably because preachers were too busy telling people to have experiences and be nice to each other” (p. 12).

Continuing in his introduction the author gives us a short but insightful summary of “Augustine’s life and outlook” (p. 13). His intention is only to give a “thumbnail sketch” of the subject, but he does include the account of Augustine’s own conversion, which he takes from the *Confessions*, 8:28–29). To some of us this raises an interesting question. If this is an account of his conversion how could he believe in baptismal regeneration without admitting to a glaring inconsistency? Or we could put the question the other way and ask: if he believed in baptismal regeneration what was this that he describes in his *Confessions*?

Next we come to St. Augustine’s on-going debate with Pelagius, which is presented to us under three headings. The first is (i) *Origins of the Pelagian controversy* (pp. 15–18). In two short paragraphs the controversy is delineated and summarised for us in an exceptionally clear and concise manner. Even one with no knowledge at all about the controversy could not help but see we have before us two irreconcilable theological positions. On the one hand the Pelagian view is explained by the author as follows: “We need to be clear that Pelagius was not just saying that *Christians* can obey God and be perfect. *Anyone* can. Pelagius had enough common sense to realise that God’s commandments are not just addressed to Christians. God, the Creator of all human beings, has commanded all to be virtuous and good. Therefore everyone can be virtuous and good, otherwise God has commanded the impossible. The secret of obedience lies in God’s most precious gift—free will.”

On the other hand Augustine’s view is explained as follows: “Granted his exalted view of free will, it is not surprising that Pelagius was shocked and offended when he heard a preacher in Rome quote favourably a prayer from Augustine’s *Confessions*, ‘Give what You command, and command what You will.’ This is found a number of times in the *Confessions*. For example, when Augustine is discussing his temptation to seek human praise” (*Confessions*, 10:60).

As we come to the end of this section we find the whole controversy summarised in one of those many delightfully succinct phrases, so typical of the author, that explains the whole controversy in a nutshell: “If Augustine’s salvation-motto was ‘Cast yourself on God!’, Pelagius’s was ‘Get on with it!’ Two utterly conflicting visions faced each other. There was a war in the making” (p. 18).

The second section dealing with the dispute itself is covered under the heading: (ii) *Augustine against the Pelagians*. It is in this section that Dr Needham introduces us to such historical figures as Celestius, the well-known disciple of Pelagius, Jerome, the brilliant linguist who, according to our author, “enjoyed a good theological fight,” (p. 19), bishop John of Jerusalem who, after a falling out with Jerome, sided with Pelagius, and Orosius, a Spanish presbyter, who became the most active foe of Pelagius. One might find the unfolding of the controversy interesting in light of the doctrine of papal infallibility. In her vindication of Pelagius the Christian East repudiated the North African Church’s condemnation of Pelagius. It was at this point that Augustine and his fellow African bishops appealed to Rome. It is

described as follows: “For Augustine and the Africans, everything now depended on pope Innocent. He was the bishop of the West’s most important church, which is what the popes basically were at that point—not yet “vicars of Christ,” although Innocent was the first bishop of Rome to insist theologically that his authority flowed from the apostle Peter. If Innocent also upheld Pelagius, the Africans were on their own . . . In January 417, Innocent excommunicated both Pelagius and Celestius until they should prove themselves to be true Catholics to Rome’s satisfaction. The Africans were jubilant; “the cause is finished,” pronounced Augustine. Unfortunately, a month later Innocent himself was finished, and his successor, pope Zosimus . . . cancelled the excommunication of Pelagius and Celestius. Everything seemed back to square one. (pp. 20–21)”

The stand off that followed soon led to violence and immediately caught the attention of the emperor Honorius who issued a decree condemning Pelagianism as a “pestilent poison.” The very next day, May 1st 418, about 200 African bishops sanctioned nine anti-Pelagian canons, “which formulated the Augustinian doctrine of sin and grace in uncompromising language.” Pelagianism was finally condemned at the Council of Ephesus in 431 (p. 21).

The final section of the introduction looks at the far reaching consequences of the controversy. It is surveyed for us under the heading: (iii) *The aftermath of the controversy* (p. 22). Those in agreement with Augustine’s position on the bondage of the will, the sovereignty of grace, predestination and perseverance of the saints continued the controversy with the Semi-Pelagians who held to a modified form of the earlier teachings of Pelagius. Basically the difference is that while the latter taught that anyone by his own free will could obey God, the former held that the grace of God was needed to help the free will obey God, i.e. repent and believe. Both, however, believed that it was man’s own free will that ultimately decided the issue.

It is in this section that the author introduces us to an important document, the *Indiculus* (“catalogue”), often neglected by Church historians and not given the emphasis it deserves. It appeared sometime between 435 and 442. This document summarises the Augustinian doctrines mentioned above in light of the decrees, decisions and liturgy of the Church. It was, to a large extent, instrumental in the triumph of Augustinianism at the French synod of Orange in 529 and given papal approval by Boniface II in 531 (p. 23). It is very helpful that the author includes both the *Indiculus* and the most important of the twenty five canons of Orange in Appendix 1. It is in this third section that the author himself makes the following pivotal observations which both illuminate the importance of this study and the reason for it: “Unfortunately the documents that enshrined the canons of Orange became lost in the mists of medieval history, and played no enduring part in shaping the Augustinian tradition until their discovery in the 16th century . . . And if we are indeed Reformed by convictions, then the apostle Paul is our father and Augustine is our elder brother. Family affection demands that we acquaint ourselves with the bishop-monk of Hippo. This is why I have put this book together. It is an introduction to Augustine’s own writings on ‘the doctrines of grace’” (pp. 23–24).

Most of the book is devoted to eight Augustinian doctrines. The first is: Creation, the Fall and Original Sin, then followed in order by: Free Will; Law and Grace; The

Incarnation and Atonement; The New Life in Christ; Predestination and Election; Sinless Perfection and The Perseverance of the Saints.

To illustrate the unique value of this work we will take but one chapter and examine it in some detail. This, of course, is arbitrary because each chapter is exceptionally valuable and useful in its own right; each of the eight chapters follows the same format *mutatis mutandis*. Chapter 6, for instance, deals with the doctrine of “Predestination and Election.” As a lead the author takes us to some succinct insight of St. Augustine himself on the subject. In this case the quotation is drawn from, *On the Soul and its Origin*, 4:16 (p. 206):

“I simply hold what I see the apostle has most plainly taught us: that owing to one man, all who are born of Adam pass into condemnation, unless they are born again in Christ; and that God has appointed to be regenerated before they die in the body, those whom He predestined to everlasting life, as the most merciful bestower of grace; while to those whom He has predestined to eternal death, He is also the most righteous awarder of punishment, not only on account of the sins which they add in the indulgence of their own will but also because of their original sin, even if, as in the case of infants they add nothing to it.”

In each case the author gives us an essay of several pages as an introduction to the subject. These cover the historical and theological background that arose due to the controversial nature of the subject. He begins by relating a personal anecdote when upon one occasion he and a fellow Christian attended a worship service where this doctrine was forcefully and faithfully preached. In describing the reaction the writer captures that universal experience many of us find familiar. He explains: “The doctrine of predestination and election had divided us, in feeling if not in friendship. What was warm joy to me was cold death to him” (p. 207).

The one Reformer who rejected the doctrine of predestination and election was Philip Melancthon; the more radical Anabaptists also rejected it, many even going so far as to reject the truth of justification by faith alone. John Bradford, one of the Protestant martyrs burned by Mary Tudor, came across some Anabaptists who rejected predestination and election. Even while in prison awaiting execution he was so moved by this rejection he took the time to write a treatise against these heretics. Bradford’s final assessment is quoted in the text as follows: “The effects of salvation they so mingle with the cause, that if it be not seen to, more hurt will come by them than ever came by the papists” (*Defence of Election*, preface [p. 208]). Little did Bradford know the full extent of his prophetic observation!

Sometimes we hear the charge that these doctrines were invented by St Augustine, that they were unknown before his time and that the Church fathers before him did not teach them. Apparently Augustine himself was also aware of these charges and gives a powerful response to them. In answering these charges the author lets Augustine answer for himself:

What need is there to search into the works of those who lived before this heresy [Pelagianism] arose, when they were under no necessity of troubling themselves to solve this difficult question? Without doubt they would have done this, if they had been obliged to answer such things. Thus it is, that what they thought of the grace of God, they have briefly and hastily touched on in some places of their writings, whereas they dwelt at length on those things in which they disputed against the enemies of the Church, in exhortations to every

virtue by which to serve the living and true God for the purpose of attaining eternal life and true happiness (p. 209.—*On the Predestination of the Saints*, 27).

The message the Church of the twenty-first century needs to hear could not be stated more clearly than in the challenge Dr Needham himself makes when he states: “If evangelicalism is ever to be restored to its true identity, so that it once more confesses the Evangel in its fullness and purity, it must recover its belief in God’s gracious, unconditional predestination and election of His people in Christ. In a sense there is a huge irony about this. The Reformers called the Roman Church of their day back to gospel purity, which involved a fresh confession of predestination. Today, it is Evangelicalism itself that needs to hear the same summons. One way the summons can be heard is to sit at Augustine’s feet” (p. 210).

There is another important theological matter brought to the fore in this section. It deals with the doctrine of one’s personal assurance of salvation. Augustine says that no one can know who the elect are in this present life, that only God knows for sure and that, outwardly at least, true faith and temporary faith are so much alike it is impossible to tell the difference. The Reformers held that while temporary faith and true faith are indeed similar for a time they are quite different in character. If the former does not persevere to the end it is because it is not true regenerating faith in the first place. Because of his belief in the doctrine of baptismal regeneration Augustine was forced to admit that one could have a genuine experience of regeneration which does not prove to be enduring. The important matter for Augustine was that the elect are not only given saving faith, but God also grants them the grace of perseverance. At this juncture it becomes very apparent, as our author points out, that: “His belief in the baptismal regeneration of infants complicated matters at this point” (pp. 210–11).

Today it is often taken for granted that if we are truly regenerate we need not pray for perseverance because it in itself is an integral part of regeneration. Such presumption would not have gone over too well with Augustine. He would have pointed out that one of the marks of the true Christian is that he prays for perseverance. Conversely, then, if one does not continually pray for perseverance how can he claim to be a true Christian? This same reasoning may be applied to our sanctification as well. If it is true for one it is true for the other. It would be difficult to find a more succinct way of summing up the whole matter than that statement given by the author when he observes that: “True faith will rely on God for its own continuance” (p. 212).

It is important that we conclude this chapter on “Predestination and Election” with the authors own brilliant clarification of this controversial issue. He observes that: “Augustine, then, did after all have a doctrine of the personal assurance of salvation. The faith of God’s elect is set apart from temporary faith by its constant prayerful reliance on God for the grace of perseverance. If I have all the other marks of being a Christian, and if I am sincerely praying for perseverance, I must hope and trust that God will indeed answer my prayer. “Far be it from you to despair of yourselves!”

We may think that Augustine’s view of assurance needs to be made somewhat richer and stronger. But he did have such a doctrine. Let us remember this, when we hear him saying that believers can have no certainty about their

perseverance. Augustine did say this: but by a happy inconsistency, it wasn't all he said" (p. 212).

The author has very skillfully sub-divided each chapter into a number of carefully chosen subjects, the commentary on each taken from Augustine's own statement on the issue. There are eight chapters averaging about twenty of these headings along with Augustine's exposition on each one, a total of one hundred and sixty. These along with the many references the author works into his own historical narrative and introduction to each chapter would give us nearly two hundred ready at hand references from the works of Augustine. Somewhere in this well organised and readily accessible body of theology one can find St. Augustine's answer to nearly every modern objection to the doctrines of sovereign grace.

In "Appendix 2" we are given some useful information on "The Writings of Augustine." At this point there is a casual unassuming statement by the author which could be considered the most important factor of all when contemplating the usefulness of the book. He says, "All the English renderings of Augustine in this book are my own." This is a remarkable feat in itself, especially since these "renderings" have been translated into English in a way which makes Augustine seem to be quite contemporary and easy to follow. For this alone we owe the author a huge debt of gratitude. We are also given a list of all the works of Augustine consulted by the author followed by the date(s) of composition. Under the heading of "Augustine's Writings" we are given a list of some modern scholars' translations and commentaries followed by a handy bibliography on Augustine.

There is a helpful innovation the author introduces that comes in handy when one wants to refer to some particular title mentioned in that it stands out in bold print. When thumbing through the book, because of this bold print, we are invariably held up on p. 12, where we stop and wonder whether or not Dr Needham has finished writing the script to his horror film: I was a Teenage Pelagian!

If we wish to follow in the footsteps of Calvin, Luther and the godly influential saints of the past Dr Needham has given us a powerful tool with which to begin the task. This is a book every Christian should own, every library should have available and every Church interested in a revival of God's truth should study. Not only is the book a great source of truth for the mind, but also wholesome food for the soul and a powerful source of fuel to warm the heart.

The publishers are to be commended for the sturdy binding. Our own copy has undergone some rough treatment over the past few months and is still as good as new.

Dr. Nick Needham is currently lecturer in Church History at Highland Theological College, Dingwall. He is the author of *2000 Years of Christ's Power*, a history of the Christian Church, parts one and two of which are published by Grace Publications. These are available in North America from P&R Direct, P. O. Box 109, Phillipsburg, NJ, 08865. We highly recommend that you get a copy and read it carefully. You will not be disappointed. *C&S*

IMPORTANT NOTICE!

Christianity & Society needs modern European language translators for translating articles into English. We need help in particular translating French to English at the moment but would also value the help of those who can translate Dutch, German and Spanish into English. If you are able to translate any of these languages and would like to help please contact the Editor (TEL. 01823 665909/ email scp@kuyper.org).

PAYING FOR SUBSCRIPTIONS BY CREDIT CARD

If you wish to pay by credit card for a subscription to *Christianity & Society* complete this form (which may be photocopied) and send it to the address below. Subscriptions (four consecutive issues) are charged at the following rates:

- UK:** £12
- Europe:** £15
- All others** (including **USA**): £20

I wish to subscribe to *Christianity & Society*.

Please debit my credit card. (Credit card payments can be accepted only on the following cards.) Please tick the appropriate box:

- Visa** (but *not* Visa Electron "E" cards)
- Mastercard**
- Eurocard**

Card number

Card valid from (if shown)

Card expiry date

Cardholder's name
and initials (as on the card)

Cardholder's statement address

.....

.....

Signature

This form should be sent to: *Christianity & Society*,
P. O. Box 2, Taunton,
Somerset, TA1 4ZD,
England

IMPORTANT NOTICE!

The Kuyper Foundation is a charitable trust with an international ministry. *Christianity & Society* is sent to many people around the world, including the Third World, and to many Christian ministries and institutes free of charge due to the high costs of First World literature in Third World countries and the financial constraints placed on many ministries operating in both the First and Third Worlds. In addition to this the Kuyper Foundation is committed to publishing high quality books that address important issues facing the Church and society from a distinctively Christian (i.e. biblical) perspective. In order to do this and further develop our work we need funding from those who believe in the cause for which we are working. The growth of our literature, publishing, web site, conference and lecture ministries, and the establishing of an institute to facilitate the further development of the Foundation's work, requires a significant increase in our financial support base. The limits of our work are established by the giving of those who support the Foundation financially.

*Please support the ministry of the Kuyper Foundation
regularly with your tithes and offerings*

How to make donations in the UK

The Kuyper Foundation can receive donations in any of the following ways: (1) cheques and postal orders. (2) The Kuyper Foundation is a charitable trust (registered in England) and can reclaim tax from the Inland Revenue on any donations made in the UK under the Gift Aid scheme. If you would like to support the work of the Foundation financially via the Gift Aid scheme and/or by regular giving please contact the Director, Stephen C. Perks, on any of the addresses or phone numbers below for a Gift Aid declaration and/or standing order mandate form. (3) Donations can be made with charity vouchers and cheques such as CAF, UKET and Stewardship vouchers and cheques. (4) We can also accept donations made by credit card (please include the following information: card number, expiry date, name on credit card, credit card statement address and amount of donation).

How to make donations from outside the UK

Donations from outside the UK can be made in any of the following ways: (1) The best way to send money from outside the UK is by credit card (please include the following information: card number, expiry date, name on credit card, credit card statement address and amount of donation, preferably in sterling—the credit card company will make the exchange calculation). (2) We can accept cheques written in foreign currency provided the amount is equivalent to £100 or more (the high costs of banking foreign cheques makes it uneconomic to bank foreign cheques for less than this). (3) Donations from outside the UK can be made by cheques or banker's drafts for sterling drawn on a bank in the UK, but banks usually make a charge for this service at the donor's end. (4) Money can also be "wired" to our bank from any bank outside the UK.

If you have any questions regarding methods of making donations please contact the Director on any of the addresses or phone numbers below.

THE KUYPER FOUNDATION
P. O. BOX 2, TAUNTON, SOMERSET TA1 4ZD, ENGLAND
E-mail: scp@kuyper.org **World Wide Web:** www.kuyper.org
Tel. (01823) 665909 **Fax.** (01823) 665721

DON'T WAIT FOR THE PANIC BUY NOW WHILE STOCKS LAST!

THE POLITICAL ECONOMY OF A CHRISTIAN SOCIETY

by Stephen C. Perks

Paperback • 420 pages • £14.95 • ISBN 0-9522058-3-1

Chapters include:

Economics and Economic Disciplines • Basic Concepts and Definitions • The Creation of Wealth • The Banking System • Economic Reform • Reform of Limited Liability Law • A Christian View of Interest • Help for the Poor and the Meaning of Jubilee • Social Regeneration and Political Idolatry • Wealth, Poverty and the Rich Young Ruler • Max Weber and the Protestant Doctrine of the Calling • Glossary of Terms • Bibliography • Scripture, Name and Subject Indices

“An excellent source of biblical economics for any businessperson, Bible student, or teacher, as well as those who have been struggling with certain economic issues, such as limited liability, Jubilee laws, taxation.”—Joe Johnson, *Business Reform*

The Christian Philosophy of Education Explained

BY STEPHEN C. PERKS

Hardback • 169 pages • £8.95
ISBN 0-9518899-0-7

Subjects dealt with include

• The Christian theory of knowledge • idolatry in educational theory and practice • the nature and role of education in the old and new covenants • naming the animals • education and dominion • education and civilisation • the role of the church in the provision of education • the nature of worship as it relates to education, and more

“As a teacher (high school through college and seminary), an instructor of teachers, and former dean of a K-12 program, I would say that we have needed this book for years, and I eagerly commend it to Christian parents, teachers, and (especially) school board members.” — *Greg L. Bahnsen*

A Defence of the Christian State:

THE CASE AGAINST PRINCIPLED PLURALISM
AND THE CHRISTIAN ALTERNATIVE

BY STEPHEN C. PERKS

Paperback, 240 pages, bibliography,
Scripture and General Indices, £12.95

Includes:

- *A critical analysis of the principled pluralist position*
- *An analysis of the Reformers' doctrine of civil government*
- *An exposition of the Christian doctrine of the State*
- *An exposition of the Establishment Principle*
- *Exegesis of Romans 13*

PRINCIPLED PLURALISM is the belief that the State should be a religiously neutral institution and that all religions should enjoy civil liberty and equality. In this book Stephen C. Perks provides a detailed critique of the principled pluralist position as recently set forth in *The Evangelical Quarterly*, a British evangelical theological journal. He sets out to show that religious neutrality in the political sphere is impossible, that *all* States, including so-called secular States, are religious institutions. The author argues that the evangelical case for principled pluralism fundamentally misunderstands the issues at stake and thus misconceives the proper Christian attitude to the political sphere. He then provides an exposition of the Christian doctrine of the State.

The Nature, Government and Function of the Church

BY STEPHEN C. PERKS

Paperback • 116 pages • £8.95
ISBN 0-9522058-1-5

THERE is perhaps no subject that Christians have discussed, debated and argued over more fiercely than that of the nature, government and function of the church. And the arguments have not been merely over denominational issues, but over issues within and specific to particular denominations, with representatives from various denominations sometimes holding some of the same views. But if it is true that this subject has been discussed at such length and argued over so fiercely, why does it need to be addressed again? Because, the author believes, the church has not yet arrived at a satisfactory conclusion regarding this matter. However, the message of this book does not primarily address narrowly denominational issues. Rather, the author attempts to set out biblical principles that can, in the main, be acted upon and applied in all Christian churches, regardless of denomination. In this way the author seeks to apply the Reformation dictum *Ecclesia reformata semper reformanda*—“the reformed church is always fit to be reformed”—to the modern church in order to encourage a more faithful practice of the church's great commission in our day.

available from

JAMES A. DICKSON (BOOKS)/TEL. 0131 448 0701
25 ELDIN INDUSTRIAL ESTATE, EDGEFIELD ROAD, LOANHEAD EH20 9QX

www.jamesdicksonbooks.co.uk

Also available from www.amazon.co.uk