



DIRECTOR'S COMMENT

PETER FROGLEY

Light Educational Ministries is enjoying a good year and the continuing favour of God. Over the twenty odd years we have been in ministry there have been significant changes. Some Christian schools that began with great vision and zeal have become little more than government sponsored institutions. There are still exciting examples of godly Christian schools and it is great to interact with them. Home education which was almost unknown has grown to be a significant sector in Christian education. But for us the major growth at the moment is in the area of publishing. Presently we are producing several books each year and we trust we can continue to do so.

Projects

- Volume 1 of *The Elements of Music* is now available in its new format, with a great looking folder for the Teachers Resource Kit.

The Elements of Music Volume 2 is progressing well and is scheduled to be ready by early in the second half of this year. In fact we are still hopeful for a launch at the Melbourne CHES.

Volume 2 includes a student workbook, Teachers Resource Kit, a book of Musical Arrangements and a Test Book.

- *Let's Teach Art* is available for Grades K, 1 and 2 and has been well received. *Let's Teach Art 3* is in editing and layout stage and should be available in the second half of the year.

This Issue

In this issue we have some articles that will extend your thinking about Christian education. In *Exploring Christian Education* I use a quote from Prince Charles as a take off point to consider the effect of modernism on our culture and our lives. We reprint an excellent essay by James Nickel, ex-LEM staffer, on Mathematics Education in the Twenty-first Century. I bring a report on China in the Phonics Corner, whilst in health I explore water.

Keep educating for the Lord!



EVENT CALENDAR

COMING EVENTS SEMINARS PROGRAMMES UPDATES



Christian Home Education Seminar and Show

2002 SEMINARS

We invite you to join us for the seminar nearest you where you will find a challenging, informative and biblical range of elective sessions, plus the opportunity to browse the wide range of resources and mix with new and old friends.

Check our website at www.lem.com.au for details and downloadable application forms for all CHESS seminars.

The CHESS programme for 2002 has begun with very good seminars in Geelong and Benalla. Hobart, Canberra and Rockhampton have missed out this year, but we expect to return to these locations in the future.

New venues this year are Townsville, Hamilton and Dubbo and we look forward to meeting many new friends in these locations.

CHESS SEMINARS FOR 2002

Melbourne	Monday 10 June
Brisbane	Saturday 10 August
Townsville	Tuesday 13 August

Sydney	Saturday 7 September
Dubbo	Tuesday 10 September
Perth	Saturday 21 September
Swan Hill	Thursday 24 October
Adelaide	Saturday 26 October
Hamilton	Tuesday 29 October

HOME EDUCATION SEMINARS—MELBOURNE

Organised by the Catholic Home Education group, Christian Home Education seminar is tentatively set for Saturday 12th October 2002. All are welcome to attend. Contact Ann Balkin on 03 5765 2297.

LEM Phonics

CHINA

Evelyn Garrard continues her work with the LEM team in Beijing, China, where she is completing the English as a Foreign Language (EFL) version of LEM Phonics. Some of our team have just returned from an exciting time in China which is detailed in the Phonics Corner on pages 24–25.

As the phonics and other programmes develop in China there is a growing need for many teachers. In particular, there is a need for Australians with a spirit of

adventure and service who would like to teach in China. We need singles and families for both short and long term assignments. Many have a heart for China and this is a wonderful opportunity to serve with a great group of people investing time in a nation which is destined to become a world leader in this century. This is a most important time for China with the Olympics in 2008, China's joining the WTO and the regulation that all Chinese children learn English. It would be difficult to imagine a better time to invest in China. Details of teaching opportunities are in the Phonics Corner on pages 24–25.

LEM Phonics in China is growing well, but as always with lots of challenges. Now that LEM Phonics is becoming available as an English for Speakers of a Foreign Language (EFL) programme it can be quickly adapted for use in other nations. We are awaiting God's timing to see LEM Phonics bless many nations.

INTRODUCTORY SEMINAR

LEM Phonics Introductory Seminars are conducted by our Registered Instructors and are announced through flyers included with the Light of Life and in our mailouts. Downloadable versions are also available on our website at www.lem.com.au.

A mid year **Phonics Introductory Course** will be at St Philips Christian College, Newcastle, 8th to the 11th July, conducted by Margaret Pond, one of our Registered Instructors. For details contact Margaret on (02) 4982 9002.

ADVANCED LEM PHONICS TRAINING PROGRAMME

The next **Advanced LEM Phonics** course will be conducted by Evelyn Garrard in Canberra from **6th to 17th January 2003**. The Advanced Course will be conducted over nine days, concluding on Thursday 16th. The successful students who wish to become Registered Instructors in LEM Phonics will then be able to continue on for the Friday to complete the necessary extra work. Please apply early as places are limited and pre-reading assignments are required. A flyer is enclosed, or visit the website at www.lem.com.au.

Kingdom Defence Trust

We commend you to the article in this issue from the new Executive Officer for the Kingdom Defence Trust, Mike Whitrow. Mike reminds us of the work of the Trust and announces some new initiatives being planned.

Donations to the Kingdom Defence Trust are always welcome and obviously necessary for the Trust to continue its most valuable work. Donations can be forwarded to KDT, PO Box 70, Belconnen ACT 2617

www.lem.com.au

If your friends or family want to know more about LEM, why not refer them to our website? There's a wealth of information about the organisation, our products and services, plus many downloadable resources and online ordering. Visit soon!

EXPLORING CHRISTIAN EDUCATION

43 'Modern Brutalism'

PETER FROGLEY

The heir to the throne of Australia, Prince Charles, has been made into something of an oddity by the media.

It is a tragedy that this has been allowed to happen as most of us are dependent on the media in forming our views on society and the world. The result is that the vast majority of the population are modernist, and accordingly, politically correct. Christians, too, have been influenced toward a politically correct position.

Many Christians give lip service to the idea that the media is biased against Christianity, but still believe most of what is presented because they have not developed an alternative. Dr Glen Martin of Indiana Wesleyan University, summed it up when he said, 'Ninety five percent of evangelicals are Marxist philosophically'.

Prince Charles is sometimes criticised by Christians, based on media reports, but the quote below provides us with an opportunity to consider him in a different light. His comments are on education and you may be surprised that he is so politically

incorrect. You may consider that some of the ideas he expresses in this article are not particularly Christian, but he is a thinker and does have some very important things to say. I suspect most of us would agree with the sentiments he expresses.

The quote of Prince Charles is from 2001 when he said:

In education the same doctrinal brutality reigns supreme resulting in a wasteland of moral relativism and the deliberate destruction of an approach that has always ensured the transmission from one generation to another a shared body of knowledge of a cultural, historical and moral heritage.

What has been the result of this brutal vandalism? A profound malaise, a deep disease, a disintegration and disfunctioning of the natural harmony of human existence. Modern ideology demands that history and tradition be pulled up by the roots... We must work in harmony with nature once again and reconnect man to the organic roots of his being, with the healing timelessness of living tradition... To treat the whole individual, not one part, to integrate the best of modern medicine with the best of ancient therapeutic wisdoms, to reconnect young people with literary and historical roots.

We have disintegrated to many of the possibilities of life—a deadly demolition job which was carried out by modernism. It has pulled up the roots of our tradition...

Certainly, I would be happier if there was not such a strong ‘new-age’ flavour to Prince Charles comments, but it is an excellent and very strong condemnation of modernism (humanism).

Prince Charles eloquently presents the fundamental reasons for the degeneration evident in education today. To explore his comments from a Christian perspective let us begin with the definition God gave me: Education is the unfolding of God; His character and His creation.

Moral Relativism

Modernism, with its presuppositional hatred of God and, in particular, of His Word, has consistently sought to undermine God’s ethical standards expressed in His commandments and has sought to replace them with ‘moral relativism’. (Moral is a humanistic term to describe man’s standards and relativism is the establishing of values dependent on circumstances or man’s opinions.) For years now our schools have been teaching this godless approach to life under the guise of a subject created specifically for the task: Values Education. In this subject children are taught that each of us has to develop a set of values that suit us. What God may think of this idea of developing autonomous values is not considered relevant. Indeed, it was the Devil who

conducted the first lesson in Values Education in the Garden of Eden when he said, ‘You will not surely die.’ God’s authority was questioned and then rejected as it is in Values Education. So, following Eve, modern education does not unfold God in education, rather it unfolds man and encourages his sin, calling it good.

Destroy our Heritage

Prince Charles then speaks of ‘the deliberate destruction of an approach (to education) that has always ensured the transmission of... heritage’. Our educational heritage has been to ensure that each succeeding generation understood the underpinnings of our culture and society. Modernist educators have deliberately endeavoured to ensure heritage is not taught by virtually eliminating history from the curriculum. Even when it is taught it is presented from a humanist viewpoint. Modernism sees no point in history, for if man evolved, and the modernist is convinced of this, then events of the past have been random events—accidents of evolution. Thus, there is nothing to be gained from the study of history, which is, by their definition, meaningless.

History, however, like all education, is the unfolding of God. The fingerprints of the providence of God are all over every page of history. Thus, it is not surprising that modern man does not want to study history nor retain the heritage or traditions history brings to enrich our understanding of life. The result is that we have a generation of

people who do not have any understanding of who they are because they do not know where they came from. They are rootless, aimless and frustrated with life. They have been trained to understand that the world has no meaning and that they are merely accidents of 'nature', presumably looking for somewhere to happen! Have you ever wondered why the Monarchy, and Prince Charles in particular, are vilified by the modernist media?

Why are our traditions so politically incorrect? What do these folk want for us and our children?

A Disintegration

Prince Charles calls all this 'a profound malaise, a deep disease, a disintegration and disfunctioning of the natural harmony in human existence'. I think we could call it sin—man's rebellion against God. Prince Charles has recognised the problem and has partly given the reason—'the natural harmony of human existence'. There is something beautiful and right about man, as he is made in the image of God, but sin has spoiled him. Prince Charles sees the problem and boldly denounces modernism. That is a great encouragement to me; that the man who is destined to be out next king (God willing) is a man of courage, willing to think and to speak his opinions whether they be popular or not. No wonder the

media does not like him. Despite the good things Prince Charles has said he has not presented any answer for the dilemma he describes.

'He who learns nothing from history is condemned to relive it'

GEORGES SANTAYANA

The Answer

Any answer worth our consideration, as Christians, must be found in God and His Word. Thus, we are not looking to *natural* harmony, but *regenerate* harmony or *new creation* harmony! We are to be about the restoration of the godliness of our heritage. The Modernism, that has become so pervasive today, needs to be replaced with biblical Christianity. Our reconstruction of our society must begin with the biblical regeneration of individuals, not with natural harmony; with a return to believing that the Word of God is authoritative and not to human efforts to bring harmony.

Man without God is rootless; there is nothing to which he can anchor his life. Modern man, having destroyed the links to God our heritage provided, has created a rootless and increasingly brutal society. Someone said, 'We are only ever one generation from barbarism'.

Prince Charles has identified the challenge, but it is for God's people to implement the necessary changes. This is our opportunity; we, or at least Christ in us, is the answer to the world's dilemma.

If we were politicians the nature of our task would be different, but we are educators—people concerned about the training of the next generation. It is our task to ensure that our children are educated with an 'approach that will ensure the transmission from one generation to another a shared body of knowledge of a cultural, historical and moral heritage'.

We have identified and understood the problem so it is now our task to apply biblical thinking and practice to the lives of each member of our family. The challenge is for us to begin to think biblically about every issue in life.

Prince Charles has spoken about two areas: moral relativism and the transmission of our heritage. Let's begin thinking about God's antidote and how we should apply it.

Moral relativism is combated by a return to the standards of God's law-word. God has provided us with a 'rule book', which defines acceptable human thinking and behaviour. This will lead us to:

- the way of salvation and thorough knowledge of the Bible
- godly family life and relationships that will produce godly character

- commitment to our church as God's agency of redemptive grace and which extends our godly relationships into the 'family of God'
- be servants in the wider community, demonstrating a new model, the one of absolute standards that sets people free to do the will of God.

As we fulfil each of these practices we will find ourselves referring to the exploits of those who have gone before us, for God says they were as an example for us (1 Corinthians 10:6). As we explore the past we will be amazed at how clever our forebears were—we will understand that our civilisation was built by men and women who sought the heart and Word of God to guide them in structuring family, church, and society to glorify God and protect us so that we might enjoy Him forever.

Prince Charles has given us a challenge. We are the people who know the truth that sets us free. Our forebears have established patterns of godliness which the enemy has taken from us. Today is our day, those who have gone before have done their task, some good and some bad, but—'you have been brought to the kingdom for such a time as this' (Esther 4.14).

Let us respond to Prince Charles' assessment, not by simply agreeing with him, but by living the answer. That is the reason for which the Lord Almighty has created you!

With decades of combined professional experience as a mathematician, systems analyst, and educator, **JAMES NICKEL** also holds **B.A. (Mathematics)**, **B. Th. (Theology and Missions)**, and **M.A. (Education)** degrees and is the author of *Mathematics: Is God Silent?* From 1981–1987 James Nickel was on staff with **LEM** teaching in our Christian school in **Booloroo Centre, South Australia**. He can be reached at jdnickel@juno.com.



MATHEMATICS EDUCATION

IN THE 21ST CENTURY

BY JAMES NICKEL

‘The plight of man is pitiable. We are wanderers in a vast universe, helpless before the devastations of nature, dependent upon nature for food and other necessities, and uninformed about why we were born and what we should strive for.

Man is alone in a cold and alien universe. He gazes upon this mysterious, rapidly changing, and endless universe and is confused, baffled, and even frightened by his own insignificance.... The life of man is solitary, poor, nasty, brutish, and short. He is the prey of contingent happenings. Endowed with a few limited senses and a brain, man began to pierce the mystery about him. By utilizing what the senses reveal immediately or what can be inferred from experiments, man adopted axioms and applied his reasoning powers. His quest

was the quest for order, his goal... to form patterns of explanation that might help him attain some mastery over his environment. His chief accomplishment, the product of man’s own reason, is mathematics.’¹

So pontificated the late Morris Kline twenty years ago in the concluding pages of his classic and controversial unmasking of the crippled state of mathematical foundations. Kline, by denying the comprehensive authority and applicability of God’s Word, especially in the area of epistemology, is left to his own meagre devices; and meagre they are. Assuming the autonomy of mans reason leads Dr. Kline down a thorn-filled path of uncertainty, insignificance, despair, and hopelessness. His new god, mathematics, is the only vehicle through which meaning and order can be carved out of a universe assumed to be void of the same.

It was not long ago that I read, for the pure enjoyment of it, a fascinating and almost unbelievable World War II escape epic by

David Howarth entitled *We Die Alone*. Nestled within its pages was an expose that echoed Dr. Kline's bafflement of hopelessness:

In his loneliness, he wished he was able to pray, and lying there waiting to die he tried to set his religious beliefs in order. But like so many young men of his generation, he had grown up without the habit of saying prayers. It was not any fault of his. He had been given a technical, scientific education, and there had not been much room in it for religion. It had given him, at the age of twenty-six, a materialistic view of life. He had done his best to live in accordance with Christian ethics, but nothing he had ever been taught could help him to believe in a personal God who watched over him in Revdal.²

Contrast the above with the testimony of Cornelius Van Til:

In it (Christian grade school) I learned that my being saved from sin and my belonging to God made a difference for all that I knew or did. I saw the power of God in nature and His providence in the course of history. That gave me the proper setting for my salvation, which I had in Christ. In short, the whole wide world that gradually opened up for me through my schooling was regarded as operating in its every aspect under the direction of the all-powerful and all-wise God whose child I was through Christ. I was to learn to think God's thoughts after him in every field of endeavour.³

The Importance of a Truly Biblical Outlook

The purpose of this essay is to articulate what I believe to be the direction for reform in mathematics education in the twenty-first

century. The twentieth century saw many attempts at reform in the government schools. For example, in the 1950s the reform focused on 'back to the basics.' The agenda for the 1960s was the 'New Math.' That approach proved to be a dismal failure and in the 1970s we saw a return to the 'basics'. The 1980s focused on the 'problem-solving' approach and the 1990s fad was 'group learning.' The mainstream of the Christian school movement was, for the most part, content to follow these reforms in lock step letting the 'blind lead the blind'. The problem with all these attempts at reform was (and is) an underlying and oftentimes unspoken assumption; i.e. the myth of epistemological neutrality. Proverbs 9:10 states, 'The fear of the Lord is the beginning (substructure) of wisdom and the knowledge of the Holy One is understanding'. This means that there can be no true knowledge about anything (and that includes mathematics) unless the Lord God of Scripture is first honoured and respected. All of our thinking in every realm must be done, in the words of Van Til, 'on the basis of the self-authenticating revelation of God.'⁴ It is only upon this basis that the quest for mathematical knowledge has any meaning. The current craze in government schools to 'get the math scores up' pales in comparison to the Biblical standard for pursuing knowledge. Where today do we hear confessions like the following made by Johannes Kepler (penned after a series of mathematical demonstrations)?

Accordingly let this do for our *envoi* concerning the work of God the Creator. It

now remains that at last, with my eyes and hands removed from the tablet of demonstrations and lifted up towards the heavens, I should pray, devout and supplicating, to the Father of Lights. O Thou Who dost by the light of nature promote in us the desire for the light of grace, that by its means Thou mayest transport us into the light of glory, I give thanks to Thee, O Lord Creator, Who hast delighted me with Thy makings and in the works of Thy hands have I exulted. Behold! Now, I have completed that work of my profession, having employed as much power of mind as Thou didst give to me; to the men who are going to read these demonstrations I have made manifest the glory of Thy works, as much of its infinity as the narrows of my intellect could apprehend.⁵

Let's face some hard facts. Culturally, those who understand a Biblical Christian perspective on mathematics (and every other area of life) are on the fringe of both society and, sadly, the mainstream church. This can be discouraging, but, according to God's Word, we are not to 'despise the day of small things' (Zec 4:10). One of the mysterious and wondrous ways of God is the way of the mustard seed (Matt 13:31-32).⁶ The Biblical command to salt and light the world comes through the slow, almost imperceptible process of leavening culture one generation at a time (Matt 5:13-16; 13:33). Let us make sure that our salt is pure sodium chloride and that our light is a floodlight and not some miniature flashlight. That means developing a

distinctively Biblical Christian mathematics curriculum; a curriculum that deliberately and conscientiously incorporates a Biblical view of knowledge, understands God's providence in history, and sees science as descriptive of the wisdom of God in Christ

math textbooks that contain nothing but a series of disconnected topics

as revealed in the patterned structures of creation. We should not be content with what I call 'mathematics-lite.' By that I mean the understanding and teaching of mathematics filtered through the sieve of unbelief no matter how popular and seemingly useful that sieve is.⁷ I would like to make three modest proposals that will I trust will turn 'mathematics-lite' into 'mathematics-heavy' and thereby properly reflect the glory of God.'

Skills versus Theory in the Creational Context

$2+2=4$. In what context do we understand this? We have only two choices. One states that this is just the way things are (the product of time + chance + matter) and then proceeds to teach 'math facts' (or math skills) in a purely mechanical and ultimately meaningless way. This perspective encourages the teaching of things merely 'in

the air' with no coherence or connected train of thinking. In the past century an almost uncountable number of math textbooks have been written that contain nothing but a series of disconnected topics (e.g. fractions to exponents to factoring to solution of equations to complex numbers to mathematical induction to permutations and combinatorics, to ... ad infinitum). Without an understanding of mathematics in the creational context, it is very easy for textbook writers to succumb to the 'meaninglessness of the particular facts.'

The other choice states that $2+2=4$ because this is the way the Triune God has structured both creation to reflect and our minds to think. From this perspective, the teaching of 'math facts' is now focused upon God and His creation. The student bathed in this God-centered atmosphere will ultimately confess, 'How great is the Creator Who has made both the mind and nature so compatible!' The student might even want to compose a psalm of praise to God as a homework exercise! Do not be surprised. This has been done before. One of the joys of reading the works of Kepler is to find psalms of praise cropping up periodically throughout his writings. This perspective also provides a basis for a true understanding and appreciation of the unity in diversity (reflective of the Triune God, the 'one and the many') and the patterned order (reflective of the wisdom of God in Christ) both in creation and in the structure of mathematics. The understanding of mathematics in the creational context brings true and ultimate meaning,

coherence, and connectivity to 'the particular facts' of creation and mathematics.

As we approach each mathematical topic, we should ask two important questions: (1) What information does this topic give us about the quantifiable nature of the created order? (2) How does this mathematical topic connect or cohere with other mathematical topics? As we answer these questions we will resolve a thorny dilemma that often appears in mathematics instruction; the dilemma of teaching math skills vs. teaching math theory. Oftentimes, these two positions are set at war with each other. This battle originated with the Classical Greek differentiation between arithmetic (the theory of number) and logistica (the practice of commercial arithmetic).¹⁰ It is mathematics as an art vs. mathematics as a trade (cf. electrical wiring to electromagnetic theory). The art and the trade must be combined and balanced. Too much trade teaching (the tendency of most elementary and high school textbooks) is like eating tripe while neglecting the steak. Too much art teaching (the tendency of most college textbooks) is like eating the steak without taste buds. Mathematical techniques (e.g. doing sums and products or factoring quadratic equations) can be boring and they can easily become mindless exercises. The student must be led to understand that they are the necessary details (i.e. the grammar) that must be mastered to properly understand greater issues (i.e. composing a paragraph). The logistics of mathematics should be taught or

introduced when needed for some larger goal; a goal that the student should firmly comprehend.¹¹

The Abstract/Concrete Connection

A good definition of mathematics is that it is an abstract formulation of ideas suggested by the patterned structure of God's creation. It is the artful use of the God-given reasoning processes to make connections (find unity in diversity) and then to infer and deduce new facts about creation; i.e. to discover the wisdom of God in Christ hidden in creation (see Prov 25.2). It is a series of significant assertions about the nature of creation; and its conclusions impact almost all the arts and sciences (either in the context of aesthetic beauty or dominion mandate applications).

Mathematics in abstract must be tied to its concrete foundations. Neglecting or ignoring this tie is like living on a diet of pea soup and carrot juice; it is 'mathematics lite.' Connecting mathematics to the physical creation is like eating prime rib along with a glass of Chardonnay; it is 'mathematics-heavy.' The absolutisation of abstract mathematics is form without substance; it is the shell without the kernel.¹² The concrete kernel is the physical creation. Mathematics is not ultimately an island to itself; pure, abstract mathematics in itself has nothing to say and it will say nothing to our students (except to drive them away from the subject).

Note carefully how Alfred North Whitehead describes the powerful connection between abstract mathematical concepts and the concrete:

The science of trigonometry arose from that of the relations of the angles of a right-angled triangle, to the ratios between the sides and the hypotenuse of the triangle. Then, under the influence of the newly discovered mathematical science of the analysis of functions, it broadened out into the study of the simple abstract periodic functions which these ratios exemplify. Thus trigonometry became completely abstract, and in this becoming abstract, it became useful, it illuminated the underlying analogy between sets of utterly diverse physical phenomena; and at the same time it supplied the weapons by which any one such set could have its various features analysed and related to each other (unity in diversity). Nothing is more impressive than the fact that as mathematics withdrew increasingly into the upper regions of abstract thought, it returned back to earth with a corresponding growth of importance for the analysis of concrete fact.... The paradox is now fully established that the utmost abstractions are the true weapons with which to control our thought of concrete fact.¹³

The Place of Science and History

I can remember when I taught mathematics courses in Australia that my students would often ask me, 'Mr. Nickel, I'm confused. What class are we in? Our schedule says that this is supposed to be the mathematics class, but it sure sounds like a history or science class to me!'

The content of a Biblical Christian mathematics curriculum must provide motivation, sustain the interest of the student, exhibit methods of the operation peculiar to mathematics, and demonstrate the chief benefits of mathematics in God's world. How? Tie the subject to the physical creation primarily science. The great nineteenth-century mathematical polyglot Carl Friedrich Gauss was fond of stating, 'Mathematics is the Queen of the Sciences.' In this context, we should motivate, interpret, and apply mathematics in a classroom with windows wide open to God's wonderful world (e.g. the honeycomb, the rainbow, sound, optics, mechanics, astronomy, etc.) and include wherever possible the broader implications, largely of cultural heritage, of what mathematics has accomplished.

The use of history as a pedagogical guide in mathematics teaching is extremely important (including the history of technology—a much-neglected topic). Armed with knowledge of God's providential control of history and a Biblical worldview, mathematical topics are greatly enhanced by an understanding of their associated history and personnel.¹⁴

A student who has a 'taste' of 'mathematics-heavy' in the context of these three proposals will be educated in a truly Biblical fashion. By that I mean that the student will have experienced the joy and pleasure of, in the words of Van Til, 'thinking God's thoughts after Him.'

Whither Mathematics Education in the 21st Century?

Like an ellipse with two focal points, I believe Biblical Christians should concentrate their mathematical reform endeavours in two key areas. First, recognizing the Biblical stress upon mentoring (i.e. discipleship), one focal point should centre on teachers and/or parents.

'Mr Nickel, I'm confused.

What class are we in?'

As the twenty first century progresses decade by decade, may God in His mercy raise up an army of instructors willing to do two things. First, repent of relying upon the 'sieve of unbelief.' Second, transform their mathematics teaching by renewing their minds in the Biblical worldview and reinterpreting their subject accordingly (Rom. 12:1–2). May these teachers not muddle the minds of their students with disconnected particulars, but may they kindle in them the fire of the Keplerian ethos according to Psalm 111:2, 'The works of the Lord are great, studied by all who have pleasure in them.'

The second focal point, closely tied to the first, should be the curricula (i.e. textbooks). The task of developing a distinctively Biblical Christian mathematics

curriculum is the vision of the author of this essay (starting with a set of high school textbooks). The task is a daunting one because of what it demands both in time and effort. The goal is to generate a set of books that manifests, borrowing from the words of Kepler, ‘the glory of God’s works, as much of its infinity as the narrows of my intellect can apprehend.’ May God grant His gracious approval upon such a vision and may it bear fruit that will remain for future generations to build upon.

REFERENCES

1. Morris Kline, *Mathematics: The Loss of Certainty* (Oxford: Oxford University Press, 1980), 353–354.
2. David Howarth, *We Die Alone* (New York: The Lyons Press (1955), 1999) 126–127.
3. Cornelius Van Til, *Why I Believe in God* (Philadelphia: Committee on Christian Education, Orthodox Presbyterian Church, n.d.).
4. Cornelius Van Til, *The Case for Calvinism* (Philadelphia: Presbyterian and Reformed [1963], 1979), 24.
5. Johannes Kepler, *Epitome of Copernican Astronomy Harmonies, of the World*. Trans. Charles Glenn Wallis (Amherst: Prometheus Books [1618–1621, 1939], 1995), 240.
6. An example of the mustard seed way is the Puritans of seventeenth-century England. The high proportion of Puritans among English scientists in this century, also called the ‘century of genius,’ is all the more striking when one considers the fact that the Puritans were never more than about four percent of the English population. See David Little, *Religion, Order and Law* (New York: Harper Torchbooks, 1969), 259.
7. I may challenge some sacred cows here, but I am referring specifically to the popularity in Christian schools (home school and day school) of the Saxon Math series and the University of Chicago School Mathematics Project (published by Scott, Foresman). These curricula may be useful as ‘stop gaps’ in lieu of something better but let us resolve to move onto something that is better.
8. Literally, the Hebrew word for glory means ‘heavy or weight.’ These words suggest the concept of significance or honour.
9. There, are a handful of non-confessional textbook writers, due to God’s gracious purpose, who have been able to make proximate sense and connection of the particular facts of mathematics, but not ultimate sense and connection (i.e., the Biblical God is the Author and Unifier of these facts). See the textbook, written by Harold R Jacobs as an example (published by W H Freeman).
10. Arithmetic was studied by the esoteric Greek philosophers and logistica was performed mainly by Greek slaves.
11. For example, one goal for the study of regular polygons (square, triangle, pentagon, hexagon, etc.) could be the analysis of packing problems and asking questions like: Why does the honeycomb consists of tessellated regular hexagonal prisms and what does this teach us concerning the God who created the bee to build these ‘structures in such a manner?’
12. We can thank the Greeks again for this tendency to divorce the abstract from the concrete.
13. Alfred North Whitehead, *Science and the Modern World* (London: Free Association Books [1926], 1985), 41. 14. I found it useful to quote mathematicians (along with other scientists and philosophers) at the beginning of math class; a technique that jump-started many worldview discussions.

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DEFENDING THE KINGDOM

A MESSAGE FROM **MIKE WHITROW**,
THE NEW EXECUTIVE OFFICER OF THE
KINGDOM DEFENCE TRUST



The Dilemma

As Christians, we live in a society that seems to be growing progressively more hostile to any expression of our faith outside ‘church.’

It’s as if we Christians can say and do almost what we like in church (and perhaps behind the closed doors of our own homes), but when it comes to living out our faith in the arena of social contact, business affairs, politics or the arts, we are quickly branded as bigots, prudes or fools.

As Australian society pushes God increasingly into the background, His followers are being progressively more marginalized. Yet the robust Christian faith of those who lived in days gone by was the major driver that ultimately delivered the personal, civic and political freedoms Australians enjoy today. Freedoms frequently used to speak out against and curtail the impact of Christianity itself.

Virtually every other religion except Christianity is given space for expression in

the public arena. But as soon as Christ’s followers speak out, or seek to act out their faith, they are howled down or even actively persecuted. While this should come as no surprise (John 16:33; 1 Peter 5:9 etc.), most of us who follow Christ would probably agree that we are poorly prepared and essentially unarmed against such harassment. The pressure to comply with the standards and expectations of those around us can be quite overwhelming.

Yet, like other religions, Christianity seeks to overcome other belief systems. But Christianity is unique among the religions of the world in that it worships a personal God, and its followers seek to spread their faith by application of the Word of God, not by the sword (as in Islam, for instance).

In Australia, legislation exists that has the effect of curtailing genuine expressions of Christian faith. One example is home education. Education Acts and Education Bills awaiting passage across Australia do or will ‘regulate’ home schoolers. A number of home schoolers in various states have already experienced this ‘regulation’. They have been forced to defend themselves in court against Education Departments seeking to implement the various regulations, by preventing families from



principles in the areas of ethics, law and government.

While it is not appropriate to go into details here, readers will doubtless be interested to learn that the Trust has already assisted in the defence of a number of Christian families who have been prosecuted because of their expression of their Christian faith—in homeschooling, for instance.

It has also helped with legal representation where believers have faced legal proceedings because of their faith.

The Trust is concerned to assist and offer guidance to those who genuinely profess faith in Christ, regardless of their particular denominational or other affiliation

Direct Help and Support

The process of litigation is inevitably long, drawn out and costly—often beyond the means of Christian families. The Trust can be in a position to offer direct help at different levels, and in different ways. Among them are:

- Alternative Dispute Resolution (ADR). The Bible teaches that Christians should not go to law against one another, yet Christians do have disputes from time to time. ADR refers to the use of mediation, arbitration and conciliation. It provides an efficient, cost-effective way to tackle such disputes without

continuing to educate their own children in their own home.

Other examples in a variety of fields could be cited—nurses expected to participate in medical procedures that violate their Christian conscience, churches wrestling with local councils over unbalanced interpretations of zoning regulations—to name but two.

When governments or other organisations take legal action against them, many Christians do not know where to turn for help. Few people in the community are equipped with sufficient knowledge of the law and have a sympathetic understanding of our faith. Christian leaders have been concerned for some time at the growing need to provide help in these circumstances.

The Response

There is now an organisation that can provide help in such situations. Founded in early 1999, the Kingdom Defence Trust is a non-profit charitable trust set up to further the Christian faith, and to apply Scriptural

‘going to law.’ There are also circumstances where ADR is an appropriate way to solve similar disagreements between Christians and unbelievers, and legal action can legitimately be avoided

- Referral to suitably qualified legal counsel where this is the most appropriate response
- Legal counsel to avoid litigation while still working toward a satisfactory outcome
- Legal assistance and representation, where this is appropriate.

There are many situations where litigation is not even contemplated, yet parties have disagreements they seem unable to resolve. In such cases, the Trust can provide guidance and advice from an objective yet sympathetic Christian perspective, based on the relationship between Christianity and the community.

Education

The Trust’s other major objective is to provide the Christian community with education about the Christian worldview and perspective. It plans to undertake this task by means of seminars and conferences in strategic locations around Australia. Launch of a newsletter is planned for later in 2002.

The Task at Hand—

I John 4:4

The Trust has already helped families and individuals facing prosecution or litigation around Australia. It has also sponsored a Christian student toward obtaining a law degree, with the objective of furthering the Trust’s objectives. But there is much yet to be done. At this stage, the Trust’s primary task is to inform the Christian community of its existence, and the availability of its services.

The Trust is committed to providing high quality, affordable legal representation at the lowest possible cost. Even so, legal action is invariably expensive and time-consuming. The Trust is solely dependent

legislation exists that has the effect of
curtailing genuine expressions of
Christian faith

upon the gifts of God’s people to ensure its ongoing ability to deliver such help to those who need it.

To Find Out More

To learn more, contact the Trust at PO Box 70, Belconnen ACT 2617. We will be happy to send an information pack, explaining the Trust’s program in more detail.

YOU'VE GOT TO BE MADE OF WATER

PETER FROGLEY



Water is most important for us because most of us is water!

Water is an amazing compound composed of two gases, hydrogen and oxygen. These two gases, with the introduction of a spark, make for an explosive combination, yet when combined make for a compound which is often symbolised by peace and tranquillity. Our bodies use water for every chemical and metabolic function and indeed we cannot continue to live without water.

HOW DO WE GET WATER?

There are three sources by which our bodies obtain water.

Food Consumed: By eating a naturally good diet we will obtain the major portion of our water needs. Real foods—raw fruit and vegetables—contain between 75% and 90% water. Because this water is pure it is our best source of water.

Oxidation of Food: As the body digests food it gives off hydrogen as a by product. As we breathe air the oxygen combines with the hydrogen to form pure water.

These two sources provide most of our need for water. It is only when we eat the wrong things that we need another source of water.

Direct Intake of Fluids: This is the drinking of fluids, which take many and varied forms, most of which are not good for us.

WHAT DOES WATER DO IN OUR BODIES?

Almost everything the body does requires water.

Transportation of Nutrients: These nutrients include minerals, vitamins, fatty acids, glycerine, glucose, amino acids and enzymes are dissolved in water to allow them to move through the body.

Cellular Fluid: Approximately 75% of the body's fluids are contained within the cells of the body and it is through this fluid that the various parts of the cell are contained and communicate. This fluid is known as intracellular fluid.

Extracellular Fluid surrounds the cells of the body through which nutrients are transported from the blood to the cells.

Blood plasma is 90% water with nutrients dissolved in it. The blood carries oxygen to the cells, whilst the plasma carries nutrients which are dissolved in the plasma.

Lymph: The lymphatic system has been called the ‘internal sewer system’ of the body. It is a system of vessels which carry waste products from the cells to the blood, through which the waste is transported to various avenues of exit from the body. These exits are the liver, colon, kidneys, skin and lungs. Lymph is the extracellular fluid that transports the wastes.

Temperature Regulation: Water is used to cool the body in two ways:

- Through perspiration, where the evaporation of water cools the body.
- When the skin and the underlying tissues are too warm, the blood will absorb extracellular fluid to help carry away the heat.

Gland and Organ Secretions: Water is the major component of the various secretions of the glands, organs and tissues.

WATER NEEDS

The body uses water each day which is secreted in various ways and this water needs to be replaced. If our bodies are not healthy we will need to drink more water. The best sources of water are distilled water, reverse osmosis filtered water and fresh, raw fruit and vegetable juices. In principle, drink only when thirsty, drink pure water and don’t drink with food as it dilutes the digestive juices.

REFUTATION

There are those who claim that pure water is not good for us as it contains no minerals.

The water obtained through eating fresh fruit and vegetables is pure water with nutrients and organic minerals. The inorganic minerals contained in mineral water are actually toxins and are harmful to our bodies.

Some claim pure water leeches minerals from the body, but this could only occur if we were to force ourselves to drink excess water. Our body is designed to tell us we need water by making us thirsty.

WHAT ABOUT DRINKING WATER?

Tap water contains harmful chemicals added to ‘purify’ the water, inorganic minerals and toxic chemicals which purification processes do not filter out.

Mineral water contains inorganic minerals. **Rainwater** tends to absorb atmospheric toxins, particularly where the air is polluted. **Well water** has heavy concentrations of inorganic minerals.

WHAT TO DO?

The best options for good drinking water are distilled water (distillers are available through LEM) or reverse osmosis filters. Home filter units generally remove most toxic wastes, but leave behind some impurities and inorganic minerals.

If you are concerned about the effect of water quality on your health we would recommend Norman Walker’s book *Water Can Undermine Your Health*, available from LEM for \$12.75 plus post.

The author is indebted to Dr Joel Robbins for the material used in this article.

Light Educational Ministries

THE ELEMENTS OF MUSIC

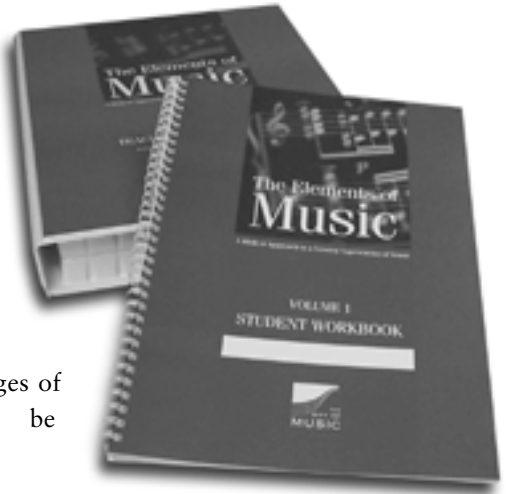
We have just released the second edition of *The Elements of Music* Volume 1. The course has been completely reorganised. We have considered the comments and suggestions we have received to produce a clearly superior product. This is the first year of the three year programme which will enable the non-music teacher or parent to effectively teach music theory, history and appreciation to approximately grade three exam level. The whole programme is presented from a thoroughly Christian perspective.

The **Student Workbook** is now just that, the book in which the child completes the written work for the programme. With your budget in mind we have reduced the price of the 110-page Student Workbook to **\$28.50**.

The **Teacher's Resource Kit** has been upgraded and is now housed in a very attractive presentation folder. The Teacher's Resource Manual is an 83-page spiral bound book containing the goals and philosophy, general notes for the teacher and the lessons for the programme. Also included in the kit are flashcards, charts and games; as well as a laminated grand staff chart for melody dictation. The two CDs with over two hundred aural questions are mounted in the folder. All this is just **\$95**.

This is a ground-breaking programme providing the necessary information to enable parents and teachers to provide high quality tuition in music for just \$3 per week—a fraction of the cost of professional music tuition.

Volume 2 of *The Elements of Music* is in the final stages of preparation and will be available soon.



Rod and Staff

Rod and Staff have released two new courses.

GRADES 9–10 BUILDING CHRISTIAN ENGLISH (GRAMMAR, WRITING AND RESEARCH)

Whilst earlier grades focused mainly on grammar this book emphasises composition, with sections on improving writing style, speaking style and editing skills.



Student Text **\$41.10**

Teachers Manual **\$52.10**

Test and Editing sheets **\$7.00**

GRADE 8 SPELLING BY SOUND AND STRUCTURE

Student Text **\$24.35**

Teacher Edition **\$31.20**

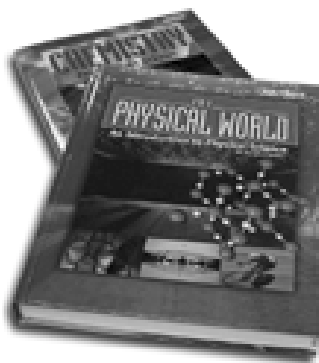
Bob Jones University Press

New science editions have recently been released.

Grade 9 The Physical World

Hard cover **\$76.90**

Grade 11 Chemistry **\$67.60**



A Beka Book

There are several new readers available in 'The Sons of Liberty' series:

Booker T Washington

James A Garfield

George Washington

Benjamin Franklin

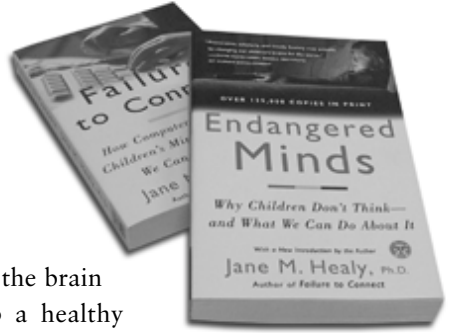
Abraham Lincoln

\$21.85 each



Jane Healy

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Health



Water Can Undermine Your Health by N W Walker is a thorough study on water and its benefits for us when in pure form.

107 pages **\$12.75**

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An economic commentary on the book of Numbers by Gary North. **\$36.55**



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Peter's
~~EVELYN GARRARD'S~~

LEM PHONICS CORNER

With Evelyn in China and my recent visit there it seemed appropriate to redirect the Phonics Corner this time.

LEM Phonics is being successfully used by hundreds of home educators across Australia and beyond as well as a growing number of both Christian and state schools, and it is also developing well in China.

CHINA—THE HISTORY

In early 1999 we received a fax from Tony Wong in China to say that Chaoyang District Education Department was interested in LEM Phonics for their English programme. In July three Chinese teachers arrived in Canberra and undertook the Introductory Course. Then in September Evelyn Garrard and I travelled to Beijing for a seminar at which 300 teachers were given basic training in LEM Phonics.

LEM licenced the Phonics Education Company in China to produce and market LEM Phonics materials. Then the challenges began as whole-word teachers began to object to the programme even though it was producing excellent results. Through many upheavals the folk in China

have hung on and the programme has begun to spread across China with about 50 seminars a year being conducted for teachers. Often our instructors need to go back several times and conduct further seminars as our Introductory Seminar is broken into three or four parts for the Chinese teachers. As we are teaching children who do not speak English we have had to adapt the programme as an EFL (English as a Foreign Language) programme. To help expedite this Evelyn Garrard has moved to China and continues the work on this EFL programme.

We have produced readers for China (which are available in Australia also) plus recordings of phonograms, the reading of readers and singing of nursery rhymes, which have been included in the Chinese workbooks.

TRAINING

The team in China began to understand how important teacher training was going to be as very few English teachers in China can speak fluent English. Thus a teacher training programme is now being developed which requires the assistance of some teachers from overseas. In addition, we have been able to enter an agreement

with Yuda College, the business arm of Peking University, to develop English and other programmes at tertiary level. To achieve this goal an agreement with TAFE NSW has been made to teach certificate courses in IT and Business Studies and again teachers are required for these courses, which are due to commence in September this year.

PHONICS COMPETITION

In May I travelled to China with our ‘nursery rhyme singers’, Phil Oster and his wife Carol (my daughter) and John Garrard (Evelyn’s son). We travelled 15 hours on the train from Beijing to Yuncheng from whence we travelled in mini vans over the mountains to Reicheng for an LEM Phonics competition. The first day was serious competition and it was rewarding to see and hear the Chinese children progressing so well in English through LEM Phonics.

The second day was performance day with 2,000 students plus teachers and some parents enjoying performances of nursery rhymes and short skits by the various schools represented. After three hours of excellent fun the children were treated to our singers performing the nursery rhymes. They were a great hit and the stage was soon crowded by autograph hunters.

The next day we travelled to outlying schools to see LEM Phonics being taught and for our singers to sing for and with the children—it was a great time.

We found that LEM Phonics is doing very well in southern Shanxi province, one of the poorer in China.



It was incredible to see the phonograms being taught in the classrooms of tiny Chinese villages

Returning to Beijing we had time for the Great Wall, Beijing sights and bargain shopping, Chinese style. The ‘young’ people then returned home whilst I flew to Hong Kong to met several contacts and especially the recently appointed LEM Phonics representatives there, Joseph Cho and Andus Li who operate the Faith Learning Centre. They are using LEM Phonics in a tutoring context, but they are also planning to reach out into the schools in Hong Kong.

NEED FOR TEACHERS

I was overwhelmed at the opportunities for people to go to China to teach. This is a most important time in Chinese history as we saw unprecedented growth and development and a huge demand for English teachers. It is an amazing country with 1.3 billion people and a recent law requiring all Chinese children to learn English. This could be your opportunity for service and to be a blessing in this great nation. Our work in China requires teachers in several categories:

- LEM Phonics teachers
 - To train teachers in the schools, which would mean travelling around China conducting seminars
 - To instruct high school graduates in English in preparation for study overseas
 - To train students at teachers college, both in LEM Phonics and teaching skills.

Teaching qualifications are not necessary, but you must be trained in LEM Phonics before commencing in China.

- Teachers for English, IT and Business to teach the TAFE subjects at Yuda College



The students thoroughly enjoyed 'The Aussies'



Medal Winners in the first LEM Phonics Competition

- Teachers to go to schools throughout China to assist in the implementation of LEM Phonics.

For further information on training, travel, accommodation, salary, etc. please contact LEM on 02 6259 3944.

Teachers are required from as early as September this year.



Have you clicked yet?

A WEALTH OF INFORMATION

Find out about the organisation, our resources, home education, LEM Phonics and LEM Publications.

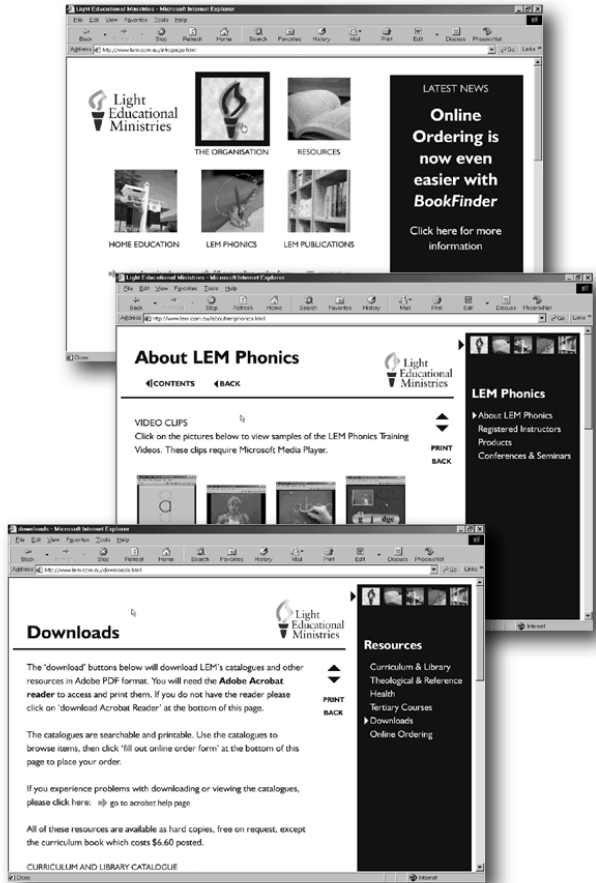
DOWNLOADABLE RESOURCES

- searchable, printable, current versions of our three catalogues
- curriculum information booklet
- registration forms for all conferences and seminars
- Booklets on LEM Phonics and Home Education
- *Light of Life*

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