Director's Comment

PETER FROGLEY

In September we will celebrate thirty years of ministry for Light Educational Ministries. The ministry began formally in Booleroo Centre, South Australia on my family's return from a year in Hawaii with YWAM.

I had been working with Margaret McIntyre in Christian Education since 1976 under the name Australian Christian Schools, which was disbanded with the establishment of LEM.

There have been many challenges and many wonderful memories of these thirty-plus years. We have made many great friends right across the nation through our work with Christian schools and home educators.

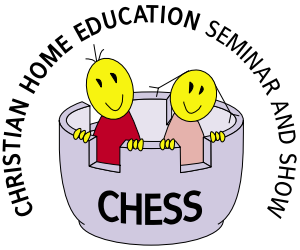
Many have contributed to the growth of Christian education in Australia—from the original Parent-Controlled group to ACE and CCS—so that today many thousands of children are able to enjoy a Christian education. Early on God made it clear to me that we were not to build a 'kingdom' of schools and we have endeavoured to be faithful to that call in seeking to serve wherever there has been opportunity.

PROJECTS

- We have added to the word list section of our phonics Teacher's Resource Kit and updates will continue as the year progresses.
- We are currently working on a complete rewrite of our aging *God's Plan for Me*. It is looking very good in full colour and will be a wonderful addition to the Grade K curriculum. This book will be available later this year.
- Another project on the 'drawing board' is a DVD of the phonograms showing mouth positions for ESL users, which we hope to begin work on in the new year.

THIS ISSUE

In this issue, *Exploring Christian Education* is titled *A Biblical View of Discipline*. This followed by an article on math from *Christian School Builder*. Food supplements are the topic for health. We also have some extended news of the work in Peru. Our book reviews this time feature some of the excellent publications on family from Shepherd Press which we highly recommend.



CHESS

We are excited that there will be some new blood in some of the seminars this year with Phil and Carol Oster taking seminars in Sydney and Perth. Carol is my daughter and she and Phil have been home educating their five children for nearly a decade. They will be able to provide a more hands–on approach and are looking forward to meeting many fellow home educators.

We have met many new home educators this year and trust we have been able to help them get established in this vital ministry.

The CHESS seminars are a great opportunity to check out resources first hand, to hear good teaching on home education topics and to meet other local home educators of like mind. It is always a great day. Further details can be found at **www.chess.lem.com.au**.

PERTH CHESS 2009

Date	Saturday 12 September
Venue	Bull Creek Westminster Presbyterian Church 32 Bull Creek Drive, Bull Creek
Cost	Single/Family: $10/$20
Phone	(08) 9524 2505

Overseas

EAST AFRICA

Tanzania

One of the teachers, Rebecca Lubilanji, with husband Patrick, is still here in Canberra following the birth of their first child, Olivia. They plan to return to Joshua Foundation in Arusha, Tanzania late in August.

Uganda

The schools in Kampala under COME Uganda, with Australians Frank and Michele Heyward, continue teaching LEM Phonics and I am booked to visit them in mid-November to see how they are doing and explore ways to assist them.

Kenya

Homeschooler Kay Symons and her husband are working in Mbale, Kenya and Kay is working on implementing LEM Phonics in the local school.

PAPUA NEW GUINEA

Port Moresby

Mesia and Iga Novau continue their work in Hula village (about 80km southeast of Port Moresby) as well as surrounding villages, and have helped several local churches establish Christian schools.

Western Highlands

The Baptist schools in Western Highlands Province have begun using LEM Phonics in their schools.

We are planning for Evelyn Garrard to travel to Mt Hagen in January 2010 to conduct further introductory training for these teachers.

Integrated Christian Schools

I plan to travel to Goroka in September to conduct further training for teachers in the ICS group of schools, many of which are located in the highlands of PNG. Several Baptist teachers from the Mt Hagen area also plan to attend. Training is so important, particularly in other nations, as LEM Phonics is so different to most language programs teachers have been exposed to.

PERU

Bob and Frances Relyea report:

We have held the first two of a series of meetings in their flat designed to train a select group of Peruvians in the specific areas of Creation Science and Christian Education. Both meetings have been met with appreciation and enthusiasm and the many discussions that have ensued have been meaningful.

During the month of May our team visited and held conferences in conjunction with LEM member schools in three cities on the far north coast of Peru. Plans were made at that time to return in August to give additional conferences and to make inroads in local universities through creationist messages.

In June we were able to visit and encourage members of LEM schools in the city of Trujillo where we held after-school conferences over two days and were also able to establish contacts with other Christian schools during this time.

What may prove to be the highlight of the year, to date, was the visit to 'Jim Elliot' Christian school (Trujillo) where the first six teachers in Peru proudly received their Canberra-designed certificates for having completed all of the modules of study in the LEM Diploma in Christian Education course. This is a big praise point and very encouraging, not only for the recipients, but also for the extension of the Gospel through Christian education in South America.

Enthusiasm mounts for Peter and Kaye Frogley's visit to Peru in October.

Light of Life

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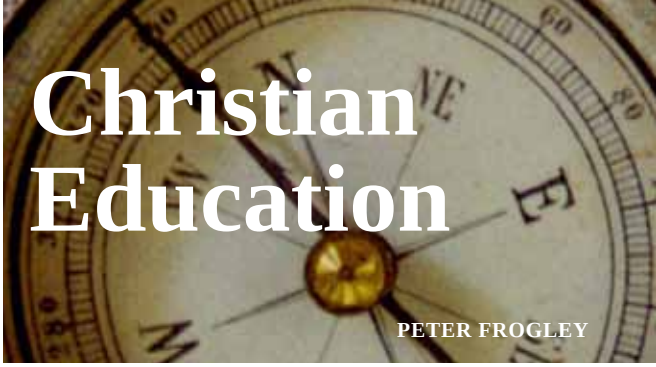
Exploring Christian Education



PETER FROGLEY

73 A Biblical View of Discipline

Discipline is a Christian concept based in the biblical idea of discipleship. Believers are called disciples, that is, those who are disciplined.

At its root, discipline demands obedience. God desires obedience from His people, not only because it shows that they love Him ('if you love me, keep my commandments'), but also because it is the way of life for which God has created us.

The Bible is a book devoted to the discipline of God's people. The message of the Bible is the redemption of wayward man to God's order. After salvation the Holy Spirit begins the work of sanctification in the believers life. This process of sanctification is essentially what the discipling of children is about.

THE NECESSITY OF DISCIPLINE

Because of man's predisposition to sin and its deadly consequences, discipline has been instituted by the Lord to conform us to His purposes.

Children need the discipline of God through parents and teachers that they might grow to be the man or woman God intends.

Psalm 139:24 tells us children are to be protected from the hurtful way. Because they are born with a sin nature, children will pursue the hurtful way unless there is some intervention. They are unable, of their own volition, to please God.

Foolishness is bound in the child's heart (Proverbs 22:15). It is the parents' task to remove children from the place of foolishness. The scripture further tells us that 'the rod of correction shall drive it far from him'.

Proverbs 22:6 tells us 'Train up a child in the way he should go; and when he is old, he will not depart from it.'

For the Jews, 'old' was about 13 and onwards. Whilst this scripture may not be a guaranteed proof text, it does bring clear instruction to parents as to the process of discipline. Training involves instruction and instruction is to show children the path of righteousness. Instruction makes clear the blessing of righteousness and the hurtful consequences of sin. Proverbs 8:36 says, 'He who sins against Me (God) injures himself'. The parents' task is to prevent their children from injuring themselves.

BRINGING DISCIPLINE

Fundamentally, discipline requires submission and obedience to the Lord Jesus Christ by faith, which is our salvation. I think that is what Paul was saying when he wrote 'Work out your own salvation with fear and trembling'.

Ephesians 6:4 instructs fathers to bring up their children in the discipline and instruction of the Lord. Discipline is the obedience to the father's word.

Instruction is given so that children have something to obey; and as they grow it brings the provision of a truth base which enables their godly decision making. Children grow in understanding of what is right and can thus be held accountable.

'To him who knows the right thing to do and does not do it, to him it is sin' (James 4:17).

Discipline is ultimately about self-discipline, but we need to understand this is a growing skill. Before the self-discipline stage, young children (up to 10–12 years) obey because of the authority parents carry.

LACK OF INSTRUCTION

Foolishness in the Bible is a very serious thing. 'The fool says in his heart, there is no God' (Proverbs 14:1). Biblical fools will end in hell, so biblical foolishness is not the light matter we often attach to the word in modern usage. Verse 9 of Proverbs 14 tells us that fools mock at sin. The child left uninstructed and untrained will laugh at sin, for the spirit of foolishness says 'there is no God'.

Proverbs 15:5 says 'A fool rejects his father's discipline.' Therefore, children need to learn the importance of hearing the instruction of a father, that they may gain understanding, keep his commandments, and live (see Proverbs 4:4–11).

WALKING IN THE SPIRIT

It is too easy to think we can train children without affecting their heart toward God. Our task is to train children to live, by the power of God's Spirit. Evangelicals call this being 'born again'—the work of God in the child's life. Without God children must strive to be good in their own ability, which is a legalism.

We are to instruct in righteous living as the major emphasis. Christians, including children, do not produce fruits of the flesh when they walk by the Spirit. 'If we live by the Spirit [i.e. are born again], let us also walk by the Spirit' (Galatians 5:16).

THE SPIRITUAL FRUIT OF INSTRUCTION—ONLY POSSIBLE IF BORN AGAIN

- Children learn what is pleasing to God—what is right, which produces holiness.
- Children learn the consequences of sin and the necessity for correction.
- Children learn to listen to their conscience. The Spirit can then begin to function as convictor and bring instruction to remembrance (John 14:26).
- As children obey their conscience (the Spirit's conviction) they learn to discipline or train themselves. This internal governance should be the goal of our educative processes.
- Children develop habits of good conduct and holiness that progressively enable them to transfer easily from the parent's external correction to the Spirit's internal (i.e. self) discipline. They will not have to go through the trauma of trying to break ingrained habits of sin.

The greater the internal control, the less need there is for external control—when they are old they will not depart from it. The emphasis is on the internal and not the external—many external

offences may stem from one internal problem, commonly an attitude of disobedience to God and to His authorities. When that problem is addressed biblically, self-control is enhanced.

TEACHING SELF-GOVERNMENT IN THE CLASSROOM

A system of fundamental rules, principles and ordinances for the government of the class are needed to provide the framework for self-government. The standard is the Word of God, and thus, the true teaching of self-government must draw children's attention to the centrality of the Word of God.

When children break a rule in the school consistently, they are confronted with their attitude first so that they can identify the cause. Children need to see the difference between the spirit of the law and the letter of the law.

PRINCIPLES OF CORRECTIONAL DISCIPLINE

Unfortunately our first thought about discipline is too often correctional discipline. Most discipline should be bringing godly order to a life.

There is a need for correctional discipline. Here are some of the principles that will prove helpful:

- The Law of God does not cleanse, rather it reveals sin.

  The law produces a heat of conflict (conviction) so that children come to realise that it is their disobedient nature that is the problem and not the Law (Romans 7:12–18; 1 Timothy 1:5–9 and Proverbs 22:15).

- It is a fundamental right of children to be disciplined (discipled). 'Do not withhold correction from a child' (Proverbs 23:13).

  Corporal punishment is an important part of biblical discipline. Although illegal in many places today, it remains the best method — because it is biblical (Proverbs 13:26; 23:13,14).

- Obedience in all things is a must for children (Col. 3:20, Eph. 6:1).

  Children should not be taught to obey to receive a physical reward (bribery or manipulation); yet a biblical reward such as a word of praise, an encouragement, giving of responsibility or service (in other words character awards) can balance with correctional discipline (Ephesians 6:1; Proverbs 11:18,19; Colossians 3:22,23,24; Matthew 25:21).

- Though internal self–government is the goal, external control on the basis of the Law forms the framework for self-government (Galatians 3:23,25; 4:1,2). External control is not for its own sake but rather to facilitate self-control.

- In bringing correctional discipline, the emphasis should be on the heart and attitude of the child, not only on the wrong action. This makes place for confession, prayer and forgiveness which cleanses the heart of sin and disobedience (1 John 1:9; Ephesians 6:1).

- Preventative discipline is the responsibility of the parent: setting appropriate standards, not leaving the children without restraint but providing them a godly order in which to walk with security (Proverbs 29:15).

A FORMAL ATMOSPHERE

We live in a day where formality is almost demonised — perhaps needed in an earlier time (before evolution kicked in). It seems to me, however, that if the atmosphere is casual it is much more difficult to define undesirable behaviours as most behaviours become acceptable.

Our tolerant society today favours a friendly and casual approach—often attempting to buy the children's favour. A more biblical approach will be God-centred as opposed to a humanistic approach that will be child-centred. A formal atmosphere sets the tone for obedience as it carries many more expectations of the child and thus more potential for discipline and a coming into God's order. Godly children know there should be restraint and thus order in life as they grow to understand that in godly order there is security, peace and purpose.

An established order is quite easily established and then strictly adhered to so that being in the place of instruction and learning is synonymous with a quiet and controlled (formal) atmosphere.

Further, a formal atmosphere implies and even demands respect for authority, which of itself reduces need for correctional discipline.

The more formal an atmosphere you create, the fewer issues of discipline you will experience. It will thus provide a better context to identify disobedience as sin, and in doing so easily opens the opportunity for biblical confession, prayer and forgiveness.

Please note: 'Formal' means orderly in a godly sense and not the rigidity and inflexibility of a man-centred system.

REMEMBER YOUR AUTHORITY

It is important that parents know that God has appointed them to teach their children by delegating His authority to them. When we recognise that we are operating in His authority it is unlikely we will abuse that authority.

Children can only truly learn when they are under the authority of, and in submission to, the teacher. This is fundamental for biblical education. Unless we open our hearts and minds to our teacher we will not receive a clear message. This is a fundamental problem in our world today and tragically it intrudes far too often into the church. There can be excellent impartation of knowledge by a teacher, but without submission there will be no true learning nor building of the character of Christ.

internal governance should be the **goal** of our educative processes

The vital element in Christ's character and in biblical education is obedience (Philippians 2:8) which is only possible when children are in submission to the authority under which God has placed them.

Submission is a key element in learning and discipline. The key to the parents' authority and ability to discipline biblically is founded in their own submission and obedience to God.

What are we endeavouring to do with our families?

We can have happy children who can fit well into the world and its system of values or we can disciple servants of God who will be able to build His kingdom for His glory.

Meet **the rest** of the family

JAMES S. MARTIN

I remember wondering as a school lad what the difference was between arithmetic and math.

I was dimly aware that math was some kind of clever, grown-up abbreviation for mathematics—a formidable usurper of the lowly, apple-counting arithmetic behind me. A few years more and even the noble mathematics fell to new esoteric machinery that was at once forbidding and mentally exhilarating—algebra. Somehow I perceived that upgrade as a badge of maturity; 'regular' mathematics was for the unfortunates who were still grappling with percents.

The fog eventually lifted after I met more of the math family. Allow me a few brief introductions. Mathematics is conventionally divided into a handful of separate, although interrelated, fields of study. The six main members introduced here are arithmetic, algebra, geometry, trigonometry, analytical geometry, and calculus.

ARITHMETIC

We start with the simple computation of figures and the four basic operations—addition, subtraction, multiplication, and division. This is the meat and potatoes of mathematics. 'All mathematics is essentially arithmetic in various guises,' wrote one mathematician in *Conquering Mathematics*. An oversimplification, no doubt. But it is true we must start with arithmetic, and arithmetic underlies the other branches of mathematics.

The four operations lead naturally to the useful concepts of fractions, decimals, percents, ratios, and proportions. Add a smattering of daily life applications such as counting money, time, and teaspoons; and you have a practical set of skills. For the workaday, nonscientific world, this is often sufficient. Many people actually survive our technological age amazingly well with only a basic grasp of arithmetic. They balance their checkbooks, follow recipes, and measure their windows with reasonable confidence and success.

The very facility with which ordinary boys and girls today manipulate numbers is a remarkable feat in itself. Thanks to the ingenious Hindu–Arabic number system, our sixth graders can compute what only highly trained experts could compute in medieval or ancient times. The lack of a zero and the unwieldy Roman numerals hobbled man's scientific progress for millennia.

There is vastly more to this humble member of the three R's than most people realize.

> Arithmetic is commonly supposed to be the simplest branch of mathematics. Nothing could be further from the truth.
>
> *J. R. Newman in 'The World of Mathematics'*

You can explain prime numbers to a ten-year-old, but the world's smartest man still cannot predict where to find the next prime. Karl Friedrich

Gauss, arguably the best mathematician ever, called arithmetic 'The Queen of Mathematics'. 'Higher arithmetic,' he wrote, 'is an inexhaustible storehouse of interesting truths'.

ALGEBRA

If arithmetic is a shovel, algebra is a backhoe. Algebra takes the basic rules of arithmetic and gives them a powerful new flexibility. This is achieved primarily by using letters to represent unknown values. To the uninitiated, the very sight of x's and y's being juggled around in computations is often what gives algebra its fearsome reputation. But it is exactly this abstraction—allowing unknown values to be manipulated in the form of letters that makes algebra so effective at problem solving.

The main workhorse of algebra is the equation. An equation is exactly what it sounds like—a mathematical statement of equality between two values. The genius of algebra is in its economy of symbols. For example, there are 20 boys and girls in my classroom. In the precise shorthand of algebra, this statement becomes the equation $b + g = 20$. If I had half as many boys and twice as many girls, I would have 22 students. Now, $\frac{1}{2}b + 2g = 22$. Here you have a pesky riddle reduced to two slim statements. In fact, condensing numerical relationships into such concise notation is the first of the two main skills of basic algebra.

The second skill is solving equations. You need to manipulate the b's and g's until you discover their exact values. This is no random hocus-pocus. Beginning algebra students devote much of their time to the logical, sequential exercise of handling algebraic terms correctly. (A few deft alterations to the equations above will reveal how many boys are in my classroom. Try it.)

Any third grader will insist that you cannot take four apples away from three apples. He is right, of course. Negative quantities do not exist. But algebra uses negative numbers—those less than zero—as an effective theoretical tool. This is another flexibility over arithmetic, even if keeping the signs straight is the bane of algebra students.

The **genius** of algebra is in its **economy of symbols**

An even more powerful theoretical tool in the algebraic toolbox is the *function*. A function is simply a special relationship between two sets of numbers. Think of the familiar formula for the area of a square: $A = s^2$. For every value s you plug into the formula, you get a corresponding value A. We say A depends on s, or A is function of s. The importance of functions is hard to overstate. Without the function concept, modern science would not exist.

Algebra is the working language for all the remaining members of the math family, excepting some aspects of geometry. One wit claimed, 'algebra begins with the unknown and ends with the unknowable'.

GEOMETRY

If you find algebra too abstract, geometry may be your cup of tea. The study of lines, angles, and shapes exercises your spatial perception. The applications to your physical world seem more readily apparent. That is why geometry flourished in ancient times while algebra languished. People

wanted straight roads, symmetrical architecture, and accurate property measurements. Greek geometers like Pythagoras and Euclid developed a systematic approach to geometry that is used to this day.

Euclid, the 'father of geometry,' set forth a handful of terms and *postulates* from which the whole system of geometry could be logically deduced. A postulate is a self-evident truth, a statement readily accepted without proof. 'Through any two points there is exactly one line' is a postulate. A *theorem* goes one step further; it is a general geometric statement that can be proved. By reasoning deductively from the given postulates, Euclid proved 467 theorems. Here is a familiar one: 'The sum of the interior angles of a triangle is always 180°'. The so-called Pythagorean theorem falls in this category also.

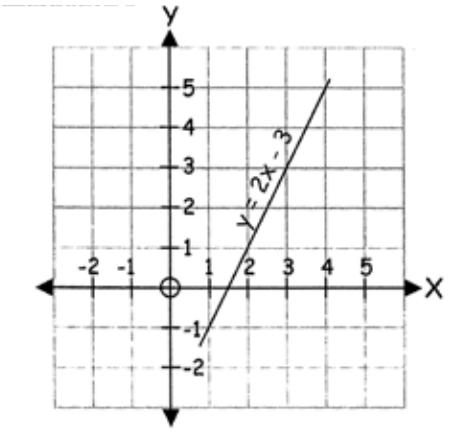
Numerous theorems deal with the properties of plane and solid shapes, as well as how to determine congruence or similarity between two shapes. The theorems taught in our Rod and Staff math textbooks concerning the measurement of plane and solid shapes are just a small part of a traditional geometry course.

It is this business of deduction that has kept geometry in the schoolroom for centuries. Proving theorems cultivates analytical thinking. As a younger lawyer, Abe Lincoln studied Euclid at night to sharpen his gift of logic and language.

ANALYTICAL GEOMETRY

Contrary to Ben Franklin's published wisdom, one of the most useful discoveries in mathematics was made by a man lying abed late in the morning. Rene Descartes, a French philosopher, allegedly received a flash of insight one morning in 1619 that allowed the brilliant marriage of algebra and geometry.

Descartes's bright idea was the *coordinate* graph, a simple grid numbered by intersecting number lines. The *x*-axis indicates horizontal position; the *y*-axis indicates vertical position. Thus every point in such a grid is described by two numbers, the *x*–value and the *y*–value. In this way the values of *x*'s and *y*'s in algebraic equations can be plotted on a graph and be portrayed as a line or a curve. A visual image of an equation!



Conversely, and even more usefully, this graph allows familiar geometric shapes to be expressed in algebraic terms. A circle becomes $x^2 + y^2 = r^2$, where *r* stands for the radius. A parabola could be as simple as $y = x^2$. Using Descartes's system, it suddenly becomes possible to solve thorny geometric problems with the concise language of algebra.

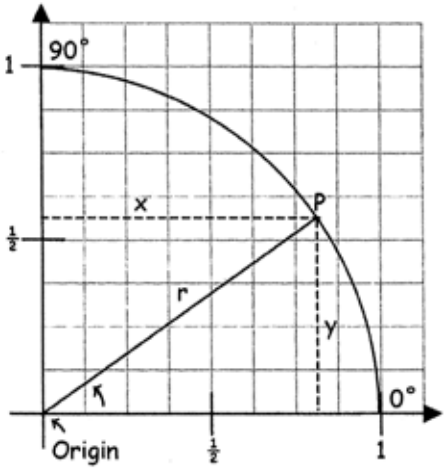
The secrets of the curves known as the conic sections, so abundant in nature, are readily unlocked by coordinate analysis. (Planets follow elliptical paths; a thrown ball describes a parabola.) So astronomy and physics took a great leap forward with analytic geometry. The path leads naturally to calculus.

TRIGONOMETRY

Before we peek at calculus, we must introduce a special branch of geometry so useful in science and engineering that it holds its own place as a separate study. Trigonometry is simply the study of triangles. The sides of a particular triangle, for example, one with angles 30°, 60°, and 90°, will be in proportion to the sides of 30–60–90 triangles of any size. Knowing how the sides of a certain triangle compare to each other helps us determine the properties of all other triangles having similar angles. This is the root idea of trigonometry.

If everything in our world was **shaped like a box**, geometry and algebra might be sufficient

What about the murky forest of *sines* and *cosines*? These are just convenient names given to the ratios of triangle sides. Imagine a radius arm anchored at origin sweeping upward from horizontal to vertical on the diagram below. As it sweeps through 90° of rotation, the *x*– and *y*–values of point *P* create a triangle of changing dimensions. At 0°, *x* is 1 and *y* is 0. At 45°, *x* and *y* are equal. By the time *P* reaches 90°, *x* and *y* have exactly exchanged values. At any angle, the *x*-value of *P* (compared to *r*) is the cosine; the *y*–value is the sine. From this definition and the Pythagorean theorem, you can derive the whole field of trigonometry.



And a big field it is! It is trigonometry that makes possible surveying and the mathematics of astronomy and navigation. Did you ever wonder how scientists know the sun is 93 million miles away? Or how Magellan found his way across the vast Pacific? Trigonometry even describes numerous phenomena in electricity, sound, and light.

CALCULUS

If everything in our world were shaped like a box and moved like a metronome, geometry and algebra might be sufficient. But the physical world is dynamic—constantly in flux. Falling objects pick up speed; the moon is constantly speeding up or slowing down. Even hot soup does not cool at a uniform rate. And shapes—most of God's created shapes do not yield to ordinary geometry. Consider the curve of an eagle's wing, or the lovely spiral of a seashell, or the craggy peaks of the Rockies.

Calculus is the mathematics of motion and change. The mechanics are complex, but the main ideas come from an ingenious way of thinking about the function concept. By defining the idea of a *limit*, calculus solves the old paradox

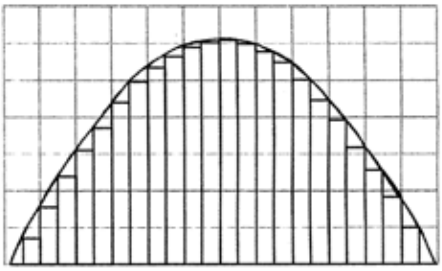
about the flea that always hops half the remaining distance and so can never reach the other side of the room.

A *derivative* is an expression that can describe the instantaneous speed of an object moving at changing speeds. Think of a speedometer, which keeps track of the speed of a car at any given instant as it speeds up or slows down. The derivative and its applications form the differential calculus, one of the two main branches of calculus. Differential calculus answers questions like these: How fast are you falling one second after you slip off the roof? What dimensions for a bushel box would require the least cardboard?

The *integral*, the basis of integral calculus, is an expression that can sum an infinite number of small but changing quantities. For example, if you travel at 35 miles per hour for 2 hours, the distance covered is the product of rate and time. But what if you start off from the stop sign and steadily accelerate to 60 miles per hour over the period of one minute? Now you need an integral to express the distance traveled. An odometer is an integrating instrument.

Integral calculus also solves many other problems in which changing quantities need to be summed. How do you find the area under a curve that is not a simple half circle, for example, the Gateway Arch in St. Louis? Integral calculus shows us how to divide an area into many thin slices and find their sum.

Compound interest, electricity, aerodynamics, water pressure behind a dam, increasing fish populations — these are all applications for calculus. In fact, calculus is the single defining invention for modern technology. It made modern mathematical science possible and perhaps inevitable. Without it, we would have no jets, no nuclear energy, no computers, no cell phones, no space travel, no satellites, and no suspension bridges.



Here ends our little tour. I wish you the joy of discovery. If you have enough time in your life, you may want to meet even more of the family — topology, analysis, probability theory — to name just a few.

Does it really take all this mental machinery to understand our world? Yes — in fact, it is deeply inadequate; we see through a glass darkly. Do men create or discover mathematics? That is a more difficult question.

The astrophysicist Sir Arthur Eddington suggested that the Divine Creator must surely be a mathematician. I think Paul would agree. 'By him all things consist... . In whom are hid all the treasures of wisdom and knowledge' (Colossians 1:17; 2:3).

reprinted with permission from 'The Christian School Builder', June 2009

Food **Supplements**

PETER FROGLEY, ADAPTED FROM JOEL ROBBINS

The question is often asked: 'Is there a need for food supplements?'

The answer is yes, absolutely! There are four reasons for this.

But before exploring these reasons we need to establish a foundational principle. The primary use of the nutrition the body assimilates each day is for our survival—getting our bodies through the day. The secondary function is fighting disease or maintaining health. Any nutrients that are left over at the end of the day can be used by the body for healing. This is one of the reasons why natural healing takes time. Our bodies need to pay back debts incurred by any poor living we have indulged in; whether it be poor food choices or lack of exercise. With this understanding we can begin to explore the case for food supplementation.

THE NEED

We need food supplementation because:

- The nutrient content of the fruit and vegetables available today, even organically grown, is far less than ideal.

  In developed nations today random sampling indicates that the nutrient levels of fruit and vegetables are dropping. This occurs because farmers are not replenishing the soil. Thus, if we are to eat a totally fresh and raw diet there is hardly adequate nutrient content to firstly take care of the body's needs, and then to have any left over for paying back any debts we may have incurred.

- The average person is not going to change to a more nutritious lifestyle overnight.

  Experience shows that people who make a gradual change will be more successful than those who attempt to change their eating regime in a day. In the process even the most dedicated will tend to have a splurge which will render their nutritional intake inadequate.

- Digestive problems developed through times of poor nutritional choices will hinder the full assimilation of nutrients from good foods.

  Naturopaths often assume digestive or assimilation problems, running tests to assess the extent of the problem. The tests help determine whether it is carbohydrates, proteins or fats the body is not handling well. That allows the recommendation of appropriate enzymes. The average westerner consumes a majority of cooked food that drains the body of its enzymes. When they begin to eat nutritious food their body cannot utilise

the nutrients due to poor digestion. Thus, generally there is a need for two types of supplements: digestive enzymes and food supplements.

- Healing success is tied to a person taking personal responsibility for his health.

  Healing will not take place by assuming that the doctor will fix it. People should look upon the doctor as a teacher; not as a healer. Whilst the doctor may advise certain supplements which may produce positive results, they will only be useful in the long term if people are inspired to make lifestyle changes by the improvement they have noted.

- As we spend money on supplements we are encouraged to get our money's worth by taking greater responsibility for our health.

- People have psychologically developed the idea that if you take pills you will get better, thus taking supplements aligns with this thinking and we believe we are going to get better.

people should look upon the doctor as a **teacher**, not as a **healer**

THE SCIENCE

The idea of a food supplement is to provide a supplement of *food* to the diet. Unfortunately, many supposed food supplements on the market, for example vitamins, may provide inadequate nutrition.

Vitamins are groups of chemically related compounds. There is a part of this complex that science identifies as the organic nutrient. In the case of vitamin C, this organic nutrient is ascorbic acid. Parts of empirical science believes this is the essence of the vitamin concluding that if these can be reproduced an appropriate vitamin can be supplied: that there is no difference between natural and synthetic vitamin C.

The problem is that this thinking does not take into consideration all the enzymes, coenzymes, antioxidants, trace elements, activators and numerous other naturally-occurring synergistic micronutrients that we may or may not know about at this time, by which the organic nutrient is rendered usable by the body. Some believe that the organic nutrient acts to protect all the cofactors allowing them to arrive intact at cellular level. The accuracy of this perspective is still be finally proven, but the principle of wholeness supports the proposal.

By 1996, 3,800 compounds had been identified in foods as being of nutritional significance. For example, approximately 200 forms of carotene have been identified yet it is beta-carotene that is placed in most vitamin products.

Science is able to synthesise about 20 isolated nutrients to use in vitamin products. The problem is that the body is not lacking one nutrient but a whole range, even of one vitamin, which means synthetic vitamins are highly likely to be inadequate.

For many years nutritional pioneers have understood the concept of whole food. For the body to heal itself the diet needed to be supplemented with that it was lacking—food. Thus the term 'food supplement' was coined.

Sickness is not due to isolated nutrients, or

organic nutrient deficiencies. Whilst some nutrients play a more important role than others, our bodies need to be receiving the full complement — not an isolated nutrient as is often the case with synthetic vitamins.

TYPES OF FOOD SUPPLEMENTS

Whilst there are three types of food supplement there is only one true food supplement.

True Food Supplements

The true food supplement is taken directly from a food source. The word *natural* applies here because these are vitamins, compounds and synergistic micronutrients taken from raw food. Nothing is added or extracted that would destroy or change their molecular, biological or biochemical combinations or actions. Basically all that is removed from the food is moisture and fibre.

These are processed at a temperature below 45°C in order to leave the enzymes active. A substance that is enzymatically active is capable of fermenting, souring, rotting, developing a bad odour, growing mould, attracting weevils and other insects. Because of the perishing capability of natural supplements they must be preserved, which is done by dehydrating and/or freeze-drying. They still have a limited shelf life.

Synthetic Vitamins

These are synthetic because they are synthesised in a laboratory from corn sugar and non-food compounds such as coal tar. Whilst the exact molecular formula is replicated, there are at least two problems with this type of product.

- These contain none of the co–factors that enable the body to use the vitamin.
- Although apparently the same, there is a problem with molecular spin which prevents the vitamin being metabolised by the body. The natural molecules spin to the right and the synthetic ones spin to the left.

Crystalline Vitamins

This is not a synthetic vitamin as it is sourced from food, but it has been distilled, diluted and fractionated to the extent that almost all synergistic co-factors have been eliminated. These products are often labelled 'natural', with the approval of authorities, because the original source of the vitamin was food.

many **synthetic vitamins** are **not usable** to the body

BIOAVAILABILITY

Finally, the one key factor to keep in mind when it comes to vitamin supplementation is that the nutrients that are being supplemented must be usable to the cells of the body. This is known as 'bioavailability'. In other words if the co-factors that God put in the vitamin have been removed or if the vitamin is in the wrong molecular configuration (spin) when ingested, then the vitamin is not usable to the body. Consuming such products is of little value to the body and as such cannot be seen as a food supplement.

We do need food supplements, but we need to ensure they are actually capable of supplementing our food supply.

LEM Phonics Teacher's Resource Kit

designed for schools

The LEM Phonics Teacher's Resource Kit has now been upgraded with new materials covering the Word List. We will continue adding to the kit regularly and advise when new materials are uploaded to your kit.

The TRK is only available on its own website with an access address and password exclusively dedicated to your school. Resources are easily printed from PDF files and duplicated for your class.

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Initial purchasers who purchase the TRK after 1 August each year will have access until the following year's end.

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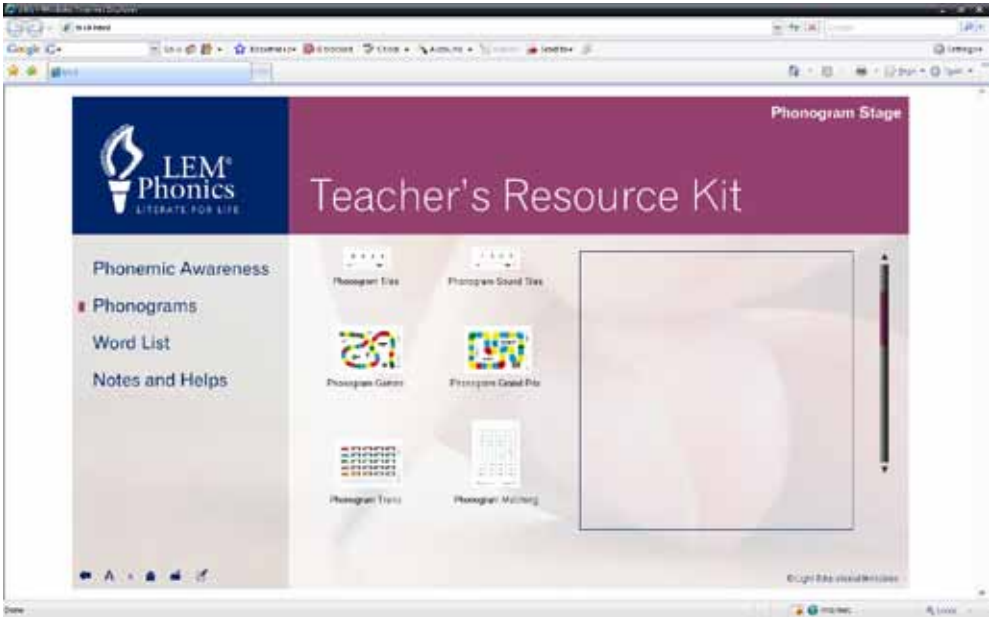

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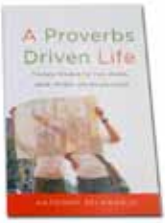

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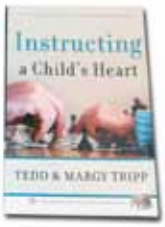

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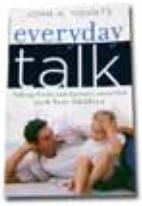

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LEM Phonics Corner

EVELYN GARRARD

My last article talked about mixing the 'Whole Word' method with the phonics method of teaching.

In that article I mentioned that using a predominantly pictorial method to teach reading causes the right hemisphere of the brain to develop dominance for processing linguistic material.

The mixture of methodologies can actually block literacy learning. Pamela Protheroe, in her book *Vexed Texts,* sheds a lot of light on the subject.

Protheroe explains that each hemisphere of the brain has the capability of processing language, but each hemisphere has a totally different way of doing it. The right hemisphere predominantly processes visual stimuli, and does it holistically (seeing words, phrases or sentences as a whole). The left hemisphere processes language sequentially, which will provide a much better result when the language is a sequential one as English. The right hemisphere cannot process sequentially, thus its use to process an alphabetic language would greatly limit the ability to process words and achieve a satisfactory understanding of grammatical concepts.

Early experiences with reading and print will have a large bearing on which hemisphere will achieve dominance for language processing, even though the left hemisphere is naturally suited for English.

Protheroe believes that picture-dominated text has been a culprit for causing right side dominance for language processing in so many of our children today. Is it not true that in most schools today pictures accompany the word if it is a whole word being taught, and pictures accompany the letter (or phonogram) being taught if phonics is being used?

Teachers feel the children need to have the pictures to show the meaning of the word, or to give the child a clue to the sound a phonogram represents. In almost all early reading material the text is dominated by pictures and, as the children try to read, they are looking to the pictures to gain clues for what the words say (or mean).

If children have a lot of experience in their early life using pictures as a tool to learn language, it will cause the right hemisphere to achieve dominance for language learning. Such dominance would limit skill in word processing and grammar.

Furthermore, the right hemisphere cannot process two things at once. If the brain is presented with two sets of stimuli (e.g. picture and words), it will focus on only one (which would be the picture because the right hemisphere processes visual stimuli), to the detriment of the other. This is largely why children become confused when given colourful picture books with print below or, even worse, superimposed. Besides not having the skills to decipher the word phonetically, they

cannot even focus on the word at the same time. Protheroe recommends that all early reading be done without pictures.

This approach also gives room for the imagination to create the mental pictures as the child comprehends the words.

Protheroe believes that children 'create meaning' as they read. Pictures would retard this mental thinking as a picture will restrict the meaning to one idea only, thus denying the child understanding through experience with text alone, with the shades of meaning which strings of words can convey. Such mental exercise without the props will enrich the understanding and use of language over time.

Reading researcher Geraldine E. Rodgers says about Noah Webster's (circa 1826) approach to reading and spelling:

> Teaching the reading of alphabetic print by its 'sound' is the correct way.
>
> Teaching the reading of alphabetic print by its 'meaning' is the incorrect way.
>
> Beginners should learn to read [sound-bearing] word lists purely by their letter sounds and with absolutely no reference to word meaning.
>
> Furthermore, just as in Webster's speller, they should be given lists of multi-syllable words to learn. In the beginning stages of reading, the emphasis should always be on the syllable sounds in words. Phonic programs which introduce "meaningful" texts for beginners to read before they have become proficient in reading word lists containing *all* phonic elements, are fostering the very bad habit of "meaningful" context guessing.
>
> *Why Noah Webster's Way Was the Right Way, DonPotter.net education page, 10 June 2004*

Noah Webster was right. The first thing to teach little children is how to spell orally and then how to read, multisyllabic words by the letter sounds. 'Meaning' should have nothing whatsoever to do with the initial stages of literacy. However, once the children's decoding has become automatic, they have become independent readers and are then ready for reading 'meaningful' texts. As was true for little Webster-taught children before 1826, children can then pick up the Psalms in the Bible and read them fluently—or can read anything else, for that matter.

It reminds me of the time my grandson Andy began to learn phonics with no pictures, just the single letters. He loved it and learned them quickly at the age of four years. Then we started to put the letters together to make words—no pictures involved, until we used 'sleeve cards' which had the word showing but not the picture. Once he had deciphered the word, he could find out if he was right by removing the sleeve which covered the picture. By this time he was reading every word he could decipher and needed the multiple phonograms.

Now at age six, Andy happily follows the text as the scriptures are read out in church, and can read complex text, which has no pictures to support it, quite fluently. I know he is a clever little boy, but I wonder if it would be the same if his earlier experiences were different!

Let us not fall into the trap of following the current norms in education just because that is the 'done' thing, but search out for ourselves what is God's way. That was how LEM began—searching out God's way for education. His way is best and His way works.