

THE BIBLICAL EDUCATOR

"To know wisdom and instruction; to perceive the words of understanding" Proverbs 1:2

* Institute for Christian Economics, 1980
Editorial Office: 1007 E. North Street, Anaheim, CA 92805
Subscription Office: P.O. Box 25, Sterling, VA 22170

MATHEMATICS: IS GOD SILENT? PART II

by Larry L. Zimmerman

From the perspective of mathematics-as-art or human invention, mathematicians cannot explain why mathematics appears as a unity. H. W. Turnbull, in the preface to the fourth edition of his book, *The Great Mathematicians*, said, "It is remarkable that, with these trends towards generalization in each of the four great branches of pure mathematics, the branches lose something of their distinctive qualities and grow more alike."

The fact that mathematics applies to nature also is inimical to the mathematics-as-art viewpoint. John Von Neumann referred to the relationship of mathematics to the natural sciences as "quite peculiar," even though he claimed it was the "most vitally characteristic fact about mathematics." (*The Mathematician, Collected Works*, ed. by Taub, Vol. 2, p.2.

There is another definition of the character of mathematics, one that flows out of theistic, creationist presuppositions. It is possible, that mathematics is an entity which always exists in the mind of God, and which is for us the universal expression of His creative and sustaining word of power. It is clear that the answers to the two questions posed previously come easily out of this definition. It accounts not only for the unity found in mathematics but also for its "peculiar duplicity" as delineated by Von Neumann and many others.

What happens when the implications of this theistic description of mathematics encounter the general revelation of God in the world and His special revelation in His Word? Do the implications square with reality? Well, the Scripture has it that "the worlds were created, beautifully coordinated, and now exist, at God's command; so the things we see did not develop out of mere matter;" "Christ continues to uphold the universe by His mighty word." Words and commands depend on thought. Unlike our words, God's word is only quantitatively different from His thought.

So we would expect the deepest scientific probes into the micro- or macro-cosmos to reveal a language fabric in which are woven the forces and relationships governing the tangible creation. This language fabric should itself be suggestive of an intellectual antecedent, an orderly, powerful, infinite universe of thought, "a terra incognita of pure reasoning" which "casts a chill on human glory."

And this is exactly the case. No matter what world-view they profess and what else they would label mathematics, eminent mathematicians past and present would agree that the foregoing paragraph is describing precisely mathematics, though some of them would claim that the underlying thought structure is spun out of their own minds.

F. E. Browder of the University of Chicago, writing in *The American Mathematical Monthly*, (April, 1976) speaks not about mathematics simple, but Mathematics I (counting, measuring, calculation), Mathematics II (applications to other disciplines), Mathematics III (research or "pure" mathematics, corresponding to what I have labeled the "language fabric,") and Mathematics IV, "the transcendent ideal of mathematics as a fundamental and universal form of knowledge."

A more poetic, almost biblical description of Mathematics IV was given by Cassius Jackson Keyser: "Transcending the flux of the sensuous universe, there exists a stable world of pure thought, accessible to man, free from the mad dance of time, infinite and eternal." ("Human World of Rigorous Thinking," *Scripta Mathematica*, N. Y., 1940, p. 77)

The German physicist Heinrich Hertz, who discovered radio waves by following a mathematical hint proposed by James Clerk Maxwell twenty-three years earlier, evidently also was impressed with the force of thought behind the mathematical language he found in creation. He said, "It is impossible to study this wonderful theory without feeling as if the mathematical equations had an independent life and an intelligence of their own, as if they were wiser than ourselves, indeed wiser than their discoverer." (*The Miscellaneous Papers of Heinrich Hertz*, London & New York: The MacMillan Co., Sept. 1889)

It is obvious that Browder's Mathematics I and II are also accounted for by the theistic description of mathematics; we gain entrée to the "divinely ordered world of ideas" by clues from the tangible, creational expression of that thought. In history, examples abound of physical researches triggering mathematical discovery. For instance, Newton discovered the calculus from experiments in mechanics, building on discoveries made by Kepler as he devised formulas to measure wine-casks. Karl Friedrich Gauss, attempting to solve the problems which arose from his work in geodetic surveying, discovered the concepts which sparked the mathematics of relativity and of conformal mapping.

However, having gained access to Mathematics III and IV through the doorways of I and II, we, created in God's image, can trace out the beautiful patterns of His creation language purely by thinking, without reference to the tangible, creational base of which they are models. This is the aspect of mathematics which leads some mathematicians to conclude that it is a creative art, not realizing they are "thinking God's thoughts after Him."

Now the word "create," for many mathematicians, really refers to processes of discrimination, selection, and arrangement, even style. In these areas, mathematicians do display a "creativity" akin to the best in art. The problem comes when misplaced pride of ownership in a piece of research blurs the distinction between the mathematics excavated and the tools used for its excavation, to borrow Philip Jourdain's analogy. Even some Christian mathematicians allow pride to divert them from God's instruction: "My thoughts are not your thoughts."

The head of the mathematics department of a prominent Christian college told a group of Christian school teachers, "About all you can do is explain to your students that while mathematics is a tribute to our human intellect, God was the one who gave us our minds." Then he quoted to them Leopold Kronecker's famous attempt at compromise, "God made the integers, all else is the work of man." ("Jahresberichte der Deutschen," *Mathematiker Vereinigung*, Bk. 2)

Later I heard a University of Oregon professor, half serious, also quote Kronecker. In his office after class he readily admitted no way could Kronecker be correct. Because of the obvious internal and external unity of mathematics, he agreed either none of mathematics originates with God or all of it does.

G. H. Hardy, the mathematician who regarded God as his personal enemy, could not avoid the obvious when he said, "I believe that mathematical reality lies outside us, and that our function is to discover or observe it, and that the theorems which we prove and which we describe grandiloquently as our creations are simply notes of our observation." (*Men of Mathematics*, E. T. Bell, Simon & Schuster, N. Y. 1965, p. 2349)

DEBATE AND APOLOGETICS

The Apostle Paul wrote in his letter to the Ephesians that the purpose of pastors and teachers was "to perfect the saints for the work of the ministry." All the saints are to minister, not just "the minister." Peter, in his first epistle, gives us one way in which all Christians are to be ministers: "Be ready always to give an answer (apologia) to every man that asketh you a reason of the hope that is in you" (3:15; cf. Prov. 15:28; Tit. 1:9-11). Gordon Clark explains the Greek: "Apology, of course, in colloquial English, is nothing like what Peter meant. The verse could better be translated: Be ready to give the inquirer a course in apologetics." The demand for all Christians to be able apologists is great enough, but is intensified in an age of moral rebellion and cultural collapse. In our day we must be prophets, injecting into every immoral situation the demands of God's Law and the consequences of disobedience. This means confronting the political and economic realities of day to day life with the Word of God. How can Christian schools best raise up a generation of prophets? In the first two parts of this series we have seen how a program of competitive academic debate is well suited to foster the basic skills of thinking so essential to learning. We have also seen that this same program sharpens these skills by having students analyze humanistic political systems in terms of the Word of God. We will now explore the potential of the speech and debate program to fulfill the mandates of Eph. 4:12 and I Peter 3:15.

Broadly speaking, there are three advantages conferred upon participants in a thorough speech and debate program. First, communication skills are developed. In an age of cultural decline such as our own, we see the decline in language, thus affording an important opportunity for Christian Reconstruction. Since far too many in our day are the illiterate results of the public schools, our first apologetical line of offense is oral communication. We do well to heed the words of Charles Spurgeon: "Brethren, let none excel us in power of speech: let none surpass us in the mastery of our mother tongue." A decline in communication skills is a reflection of a self-centered existentialist mentality. The Bible, in the hands of dedicated Christians, has always shaped the language of its culture.

The organization of thought demanded in the debate situation assists the Christian apologist/minister in making his apology organized and easy to follow. He himself is better able to follow his opponent. Composition skills are enhanced, assisting in writing as well as speaking.

A second area of skills, already discussed in this series, is the important ability to listen to an opponent's ideas, break them down into their important presuppositions concerning the doctrine of God, man, and the Creation, show how his conception of the future under his ideas does not conform to the laws of God's world, and render the Scriptural response. This is, of course, the essence of the apologetic. But unless we have the communication skills to spread the Word, our analytical skills can achieve no gain for the Kingdom.

Jeremiah tells us of the third necessary apologetical skill: "Then the LORD said unto me, Proclaim all these words in the cities of Judah, and in the streets of Jerusalem, saying, Hear ye the words of this covenant, and do them." We cannot retreat into our churches like nuns and monks and criticise the humanists, while they destroy us with their disobedience. Such retreat is itself disobedience. The prophet is marked by his public and open confrontation with apostasy. These days only the atheists are outspoken. As a result, humanistic thinking is so common that we are used to it, and it is seldom detected. Humanists daily assert that there are no standards of right or wrong, or that the government must solve all our problems even if it involves disobedience to God's Law. The usual Christian response (if any) is (under his breath) "well, it's a free country." Well the Bible says that no country is a free country; no country is free to disobey God's Law and not expect judgement. Therefore the Christian must openly speak out. This is the obvious advantage to a program of speech and debate. There is no insurmountable barrier to a Christian defending the Word of God before one, ten, or one hundred people. The Scriptures say we must; God's promise of victory says we should; a Bible-centered program of speech and debate ensures that we can.

With regard to public speaking abilities, we have heretofore mentioned only debate. There are also a number of individual speaking events; events that demand a five- to ten-minute speech on current events with only two minutes of preparation; speeches of interpretation that allow oral reading of significant written works (allowing a distinctly Christian interpretation); and events of original oratory, where the student composes and memorizes a ten-minute speech.

Of course the first place to begin dominion is in the public school speech tournaments, with the understanding that it is not merely an academic activity, but that the Word of God must be spoken to the hearts of other students and the judges "with meekness and fear" (I Peter 3:15). This would be a great witness for God and His Law. We may expect some trophies. As Dorothy Sayers puts it, "after the age of 14 they should be able to overhaul the others hand over fist." God may also bless our work by granting our opposition truly repentant hearts.

The Christian is involved in politics and economics whether he likes it or not. The obedient Christian is involved in terms of God's Word. Rushdoony writes, "Politics cannot produce character: Christianity must. The decline of faith is a decline of character and a decline of character is the forerunner of political decay and collapse. Christianity has an obligation to train a people in the fundamentals of God's grace and law, and to make them active and able champions of true political liberty and order."

AN EDUCATIONAL COMMENTARY ON THE BIBLE

by Rodney N. Kirby

#1 - "Scripture and Education"

"All scripture is given by inspiration of God, and is profitable for doctrine, for reproof, for correction, for instruction in righteousness: That the man of God may be perfect, thoroughly furnished unto all good works."

(II Timothy 3:16-17)

"The Bible is not a textbook in education; it is a redemptive book." So runs the battle-cry, which this writer has heard time and again. Whenever one begins going directly to Scripture before (or, heaven forbid, in opposition to) the "scholars," he is accused of being a Biblicist, and of misusing the Scripture.

Is it legitimate to go directly to individual texts of Scripture, and from them derive educational (or economic, or psychological, or legal) principles? There are many ways we can approach this question. One is by studying what the word "redeem" (as in, "The Bible is a redemptive book") means in Scripture. When we do so, we find that a "redeemed" individual is one whose whole life (material as well as "spiritual") is saved from destruction, and saved unto obedience to God.

We may look at our text for this lesson. Here, Paul says that Scripture is profitable for instructing a man for every good work. There being no limitation on "all" in the context, we may take it in a broad sense—all good works, in every area of life, are informed by God's Word. Thus, we are not speaking only of "religious" works, but of good works in business, economics, the arts, government, medicine, education, etc. If one wishes, for example, to be a successful businessman, he does not first of all attend Dale Carnegie lectures, but must first of all study the Bible (economic practices, interpersonal relations, etc.), and seek to apply it to everything that he does. So also with the educator.

Now that we see that the Bible applies to education, how does it apply? There are two ways we may apply Scripture—thematically and textually.

In the thematic approach, we take various passages of Scripture (as properly interpreted), and systematize them into a theme or principle. We then may apply this theme to a given area of study. The legitimacy of such an approach is seen in a study of the nature of Scripture. The Bible, as the Word of God, reflects the nature of God. God is a unified, self-consistent God, and so is His Word. The Bible is not a hodgepodge religious anthology of many books; it is one book, all internally self-consistent. Thus, we may apply a theme or principle to our study.

One example of such a theme would be the Biblical teaching on "the nature of man." For example, how the educator views the child will determine how he teaches that child. If the child is believed to be naturally good, the teacher will allow the child to do whatever he wishes. The teacher has become corrupted through the years; therefore, the child knows better than the teacher what he should learn. However, if the child is by nature sinful, as all of Scripture testifies, then he cannot be trusted to determine what is right. The teacher, as she is instructed by Scripture, knows more than the child what he needs, and will

direct the classroom activities.

The textual approach to Scripture applies individual texts (again, as properly interpreted) to the area of study. Even as the Bible as a whole is inspired, so each text is inspired (verbal plenary inspiration), and is thus profitable for all good works.

It is at this point that the objection arises, "The Bible is not a textbook in education." If by this one means the Bible is not a systematic presentation of educational theory and practice, the statement is correct. But, in this sense, the Bible is not a textbook in anything—including theology. This has not prevented great men (Hodge, Berkhof, etc.) from so systematizing the theology of Scripture. Even so, we may derive a systematic educational theory from the texts of Scripture.

Another problem arises here—there are very few texts which speak specifically of education. Are we limited to these few texts? Is it a misuse of Scripture to apply texts which speak of other subjects to education? We must remember that the whole of life, being created by one God, is a unity, and is interrelated. We cannot separate life into many isolated compartments. This unity means that what is true in one area of life is often true in other areas as well. Note in this regard Deut. 25:4, which specifically applies to agriculture, and notice how Paul (infallibly) applies it to church life in I Cor. 9:9ff. Paul here shows us that we may determine the underlying principle of a text, and apply that to fields other than that of which it specifically speaks.

This study will be concentrating on such textual applications, even though we will bring in the important themes of the Bible as they arise.

There are three aspects of education which we will be examining. These are based on the Particle/Wave/Field perspectives described in Vern Poythress, *Philosophy, Science and the Sovereignty of God* (Presbyterian and Reformed).

The first aspect is content. What do we teach? This would include both curriculum, and the truth taught in each subject. The second aspect of education is methodology. How do we teach the content we have? What methods most effectively present our content? The third aspect is discipline. What is the classroom context in which we teach? What is the best classroom atmosphere for us to use our methods to present the content?

Obviously, these three aspects are interrelated. The content will determine the methods used, in that different subjects will require different methods. Also, the methods chosen imply discipline—teacher-directed methods (such as lecture) require a strict discipline. Discipline teaches certain content; an undisciplined classroom teaches the children that there are no standards (such as God's Law) outside of themselves to which they must conform.

Too many Christian educators ignore one or another of these aspects. Some (such as many fundamentalist Baptist schools) concentrate on content (no evolution), and do not think through their methodology. Others (many "Reformed" educators) apply Scripture to methods, but castigate those who apply it to discipline as being "Biblicistic" and "legalistic". We must diligently apply Scripture to all three of these aspects, if we desire a truly Christian education.

In future articles, we will examine texts in Scripture and apply them to these three areas of education. This will be with a view to enabling us as teachers consciously to bring our teaching in line with the Scripture. Next month we will begin with Genesis 1:1, "Creation and Education."

BOOK REVIEW

BY J. S. Larson

Psychology as Religion: The Cult of Self-Worship, by Paul C. Vitz, William B. Eerdmans Publishing Company, 149 pages, \$3.95.

An orthodox, Christian critique of psychology as a religion of self-worship is given in this well-defined analysis by Dr. Vitz. His intense criticisms are a forthright indictment of today's "me" generation. He presents today's psychology and its effects upon today's society, setting forth the logical conclusions of its presuppositions.

Dr. Vitz begins by presenting who he considers the four most influential theorists of our time—Erich Fromm, Carl Rogers, Abraham Maslow, and Rollo May. Although he does not consider them to be major thinkers, the popularization of their works has succeeded in distinguishing them. The popularization of their theories has come in the form of encounter groups, but more specifically T-groups, Gestalt therapy, est, and creativity workshops. He points out their commonality in the self as the center of all things, their philosophy often making use of religiously oriented words.

As for the origins of selfism, Vitz points to Ludwig Feuerbach, a left-wing follower of Hegel, mid-19th century. He directly or indirectly influenced Marx, Nietzsche, Huxley, John Stuart Mill, Freud, and Dewey.

Surprisingly enough, he indicates Christianity as introducing the basis for the selfist movement within the United States. Two mid-1900 popular Protestant ministers, Harry Emerson Fosdick and Norman Vincent Peale introduced such notions as "self-realization", "becoming a real person" and the like from the pulpit. 18th and 19th century Christian pietism is also pointed out as having been a precursor of encounter groups because of the emphasis on a strong inner experience of the self. (p. 74).

Vitz observes a serious difficulty in selfism as being the neglect of coming to grips with the question of responsibility. Since there is such a preoccupation with the self, all else is considered secondary when viewed in an overall perspective. An indication of this can be seen in a preoccupation of one's own feelings in the development of commonly used linguistics of the day. "In conversation and in students' papers it has become common for 'I feel' to be substituted for 'I know' or 'I think'..." (p. 58)

Another example of the effects of selfist theory can be seen in today's economics and the extreme advancing of a consumer-oriented society.

It certainly proved convenient that just as Western economies began to need consumers there developed an ideology hostile to discipline, to obedience, and to the delaying of gratification. Selfism's clear advocacy of experience now, and not inhibiting or repressing, was a boon to the advertising industry which was finding that the returns on appeals to status and product quality were diminishing. (p. 62)

However, because of the economic turns of the day, Dr. Vitz points out, "it has become very hard to actualize oneself at today's prices." (p. 62)

A tendency of selfism spreads its effects in other areas other than language and economics as well. A central emphasis of today's psychology is on creativity. It is seen as a means of expressing one's potential, always seen as inherently good. Since man is good by nature, bad potential is not even considered as a possibility. The Christian, however, has a perspective of creativity altogether different from that of the humanist psychologist because of the basis of philosophy:

...all creativity has its origin in God; and to claim that an individual human is really creative is either silly or blasphemous. A person can express his individual capacity in a creative fashion only by aligning himself with God's will. Real creativity requires a soul cooperating with God—a soul who becomes God's loving agent in all its activity however mundane. There is certainly no Christian basis for the massive egos so common in the modern artist. There is an important Christian valuing of creativity, but the creative act is viewed as a gift from God, in its greatest sense, the gift of life for man and all living creatures and the gift of existence to nonliving things. (p. 63)

Dr. Vitz continues with a valuable criticism of psychotherapy. The main problem is viewed as its "neurotic preoccupation with the individual patient." (p.83) So destructive is this tendency that it can be attributed a great deal more responsibility in destroying a patient's family life than in reinforcing it. He likens the therapist-patient relationship to the lawyer-client relationship. However, most usually those accused (the children, spouse, parent, etc.) never get their day in court, so strongly self-centered is the therapy. (Even to Freud's surprise, by way of outside information, the accusation by an adult of having been sexually abused as a child was found to be false.) (p. 84)

His analysis continues by seeing today's psychology, this selfism, for what it is. "To worship one's self (in self-realization) or to worship all humanity is, in Christian terms, simple idolatry operating from the usual motive of unconscious egotism. Unconscious or disguised self-love has long been recognized as the source of idolatry." (p. 93)

Although selfism has begun to wane to a certain degree, a whole generation has been influenced by it. Today's government and educational system is thoroughly controlled and swayed by the idolatrous humanistic concepts of selfism. The union of the two can especially be exemplified in our nation's sex education programs and the current growth of interest in thanatology (Death and Dying). The former is taught in a coldly objective manner (the partners as scientific objects) completely outside God's plan. The latter is seen as a wall rather than a doorway.

This critique is not without constructive suggestions as to what we as Christians can do: 1)begin a persistent withdrawal from the anti-Christian activities of the modern state, 2)support more legal challenges by Christians to tax-supported secularization (i.e., public education), 3)enroll one's children in existing Christian schools or begin one's own school if necessary (p. 112), and 4)organize support for persecuted Christians around the world. (p. 114)

However domineering and prevalent this cult of self-worship seems to be in our society today, Dr. Vitz sees enormous opportunity in the future. The young people of today have been reared on selfist psychology. "It is this group... which is especially committed to the career as the ultimate source of fulfillment." (p. 132) He concludes by briefly describing the tragic potential of this group of young people and sees this as the setting for a "new pre-Christian stage." Evangelization reaping a great harvest is considered to be in our future if we take advantage of this setting.

In another ten years millions of people will be bored with the cult of the self and looking for a new life. The uncertainty is not the existence of this coming wave of returning prodigals, but whether their Father's house, the true faith, will still be there to welcome and celebrate their return. (p.135)

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