USING MATHEMATICAL CONCEPTS TO ILLUSTRATE SCRIPTURAL AND SPIRITUAL IDEAS

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Christian mathematics faculty and students respond in differing ways to this idea of applying mathematics to Scripture, and vice-versa. Mathematics is man-made, while Scripture is inspired by God, so they should be disjoint entities. However it is well known that the Scripture uses analogies of familiar human objects and ideas in order to explain spiritual ideas.

My view is that a person who studies mathematics (any other subject may be substituted here and in the following) can enrich his understanding both of mathematics and Scripture by seeking to illuminate the concepts of one by considering the concepts of the other. It is not an attempt to prove that God reasons mathematically, any more than it is a hope that there is a Christian mathematics.

The story of Jesus and the centurion's servant in Luke 7 provides, for me at least, support for this endeavor. In this case, the Roman centurion understood the principle of Christ's authority to heal because of his concept of absolute authority and obedience gained through his career as a soldier.

> "Just say the word, and my servant will be healed. For I, too, am a man under authority with soldiers under me; and I say to this one, 'Go!' and he goes; and to another, 'Come!' and he comes; and to my slave; 'Do this!' and he does it.
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> Jesus marveled at him and said 'not even in Israel have I found such great faith.'"

My premise is that because I have a considerable knowledge of many ideas in mathematics, that these should serve to illuminate Scriptural passages and spiritual ideas, and that I should seek to communicate these to my students as appropriate. Several examples are now listed from a variety of courses and topics.

Example 1: Infinite limits (Philippians 3:10-14)

"I press on towards the goal" (verse 14). According to Matthew 5:48, this goal is "to be perfect, as your heavenly Father is perfect." This is for the believer an infinite goal.

How can we measure progress toward an infinite goal? "I have not already obtained it or have already become perfect, but I press on ... reaching forward to what lies ahead." In calculus, we say that our function must exceed all finite bounds. To apply this idea, we would need to discuss passages which describe some of the bounds that we need to exceed--ways that we can measure our spiritual growth. Some suggestions are:

Rejoice in the Lord (verse 1)
Worship in the Spirit of God (verse 3)
Glory in Christ Jesus (verse 3)
Put no confidence in the flesh (verse 3)
Count as loss all things (verse 7, 8)
To know Christ, and His power and fellowship (verse 10)

Finally, we know that an infinite limit is never actually attained. No matter how large a value the function may assume ($f(x) = B$), it is still true that $\infty - B = \infty$. In the spiritual realm, this can create a tension or frustration. However, I John 3:2-3 suggests that there is a "point at infinity." At the time of Christ's appearing, "We shall be like Him, because we shall see Him just as He is." This is the hope that can relieve the tension.

Example 2: Paradoxes of set theory (Colossians 1:16-19, I Corinthians 15:27)

When discussing the paradoxes of set theory, one needs to point out the problem with the use of the word "all." For example, in the barber paradox, should the barber be considered among "all those men who do not shave themselves?" In Colossians 1, we read that by Christ all things were created. Does that mean that he created Himself? "He is before all things" - is He before Himself?

In I Corinthians 15, Paul showed that he was aware of this possibility for confusion in thought. In verse 27, he uses this work all - "He has put all things under His feet" - quoting from Psalm 8:6. He then adds this comment, "It is evident that He is excepted who put all things in subjection to Him." One can then go on to discuss the problem of self-reference and the ways that this might be avoided in the theory of infinite sets.

Example 3: Isomorphisms

In an isomorphism, we set up a 1-1 mapping between 2 structures which preserves the essential properties of the structure. Often one structure is a familiar setting, while the other is new or unfamiliar. By means of the isomorphism, we purpose to understand the new structure by identifying it with the familiar one.

This illustrates the analogy idea. We set up correspondences between earthly (familiar) concepts and spiritual concepts. We hope that at least some of the characteristics of the spiritual entity is preserved by this analogy.

Heavenly realm		Earthly realm
God	↔	father
Christ	↔	son
Christ	↔	light
Christ	↔	lamb
Heaven	↔	city

Example 4: Sequences

We define a sequence as a function whose domain is a subset of the natural numbers. The order in which the elements occur is important. We try to determine the pattern of the general term and then the limit of the sequence, being given the opening terms of the sequence.

The geneologies in Scripture can be thought of as a finite sequence. In Matthew 1, we have Abraham, Isaac, Jacob, ..., Boaz, Obed, Jesse, David, Solomon, ..., Jacob, Joseph, Jesus. Certainly the limit person in this geneology is all-important. The New Testament describes us as entering this sequence in a spiritual sense, being "sons of Abraham" (Galations 3:7) and "children of God (Romans 8:16).

The first chapter of James presents the sequence of temptation - enticement, lust conceives, sin is born, sin is accomplished, death. The early terms of this sequence contains little hint of the limit of death.

Romans 10:13-15 contains a description of the sequence of salvation - sent, preach, hear, believe, call, be saved. The first 2 terms describe the responsibility of the preacher, while the next 4 terms describe the responsibility of the hearer. Paul reverses the order of the terms of this sequence for special effect.

Example 5: A model of an axiom system

The parables of Christ consist of a series of statements about some familiar objects. We can consider these objects to be the primitives and the statements to be the axioms. Then certain conclusions may be drawn as consequences of these statements.

Applications are made by assigning an interpretation to the primitives. This yields a model for the system. By this means, Christ often taught the people. For example,

1. The prodigal son (Luke 15:11-32).

   The primitives include the father and 2 sons, the far country, the fatted calf, the swine. In this passage, it is never stated that the father dearly loved the younger son, but this seems a reasonable theorem to conclude from the axioms stated in the parable. This particular parable has had numerous models, according to the interpretation that various ministers have given to the primitives.

2. The sower and the seed (Matthew 13:3-9, 18-23).

   This parable is interesting because it is one of the few parables for which Christ Himself gave the interpretation - the seed is the Word of God, the sower is the one who presents the Word, the thorns are the worries and riches of this world, etc.

Example 6:

Properties of an axiom system

Incompleteness
"Now I know in part" I Corinthians 13:12

Completeness
"Thou art intimately acquainted with all my ways ... Thou dost know it all." Psalms 139:3-4
"In Him you have been made complete" Colossians 2:10

Undecideable propositions

"But of that day and hour no one knows, not even the angels of heaven, nor the Son." Matthew 24:36

Categorical

Paul's arguments in his epistles seem an attempt to show that Christ is the categorical model (the only one) who satisfies all the prophecies (the axioms) concerning the Messiah.

Relative or Absolute Consistency

The first thing we verify in an axiom system is its consistency. If it is not consistent, then there is no point in working with it. Is the gospel consistent, and if so, is it relative or absolute? Does Christ furnish a model for its consistency?

Example 7:

The laws of logic

Two-valued logic (James 5:12)

"Let your yes be yes, and your no, no."

Law of Excluded Middle (Matthew 12:30)

"He who is not with Me is against Me."

Law of Modus Ponens

Most of God's promises are of the form $p \rightarrow q$. If the believer meets the condition p, we then assume that God will perform q. "If we confess our sins, He is faithful and just to forgive us our sins." I John 1:9 "Call unto Me and I will answer thee." Jeremiah 33:3

Example 8:

What constitutes a valid proof?

This question occurs frequently in mathematics, and also in connection with our religious beliefs. It makes for a good discussion topic. A few verses to consider are:

"Unless I shall see in His hands the imprint of the nails ... I will not believe." (John 20:25)

"The proof of your faith ... though you have not seen Him, you love Him." (I Peter 1:7-8)

"Your faith should not rest on the wisdom of men, but on the power of God." (I Corinthians 2:5)

"Let Him now come down from the cross, and we shall believe in Him." (Matthew 27:42)

"If they do not listen to Moses and the prophets, neither will they be persuaded if someone rises from the dead." (Luke 16:31)