

What Is Proof

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We live in a millennium that is saturated with discoveries, proof, and evidence. There is an explosive growth in science, technology and even litigation, each one of which requires proofs and evidences. Since there is such an all-round need for proof, most people think that establishing truth is a simple affair.

While one can easily answer a question like "is their sign of fire" at the site of a reported arson, that is often not the only question that is asked. Other questions such as when did the fire start, was it accidental, and was there any attempt to aid it are questions that are no longer easy to answer. An array of evidences, subject to cross-examination, has to be brought in before one can say that something is convincingly established.

The same is the case in the more strict realm of science. Just because Newton witnessed the fall of the proverbial apple, it does not follow that the existence of the gravitational force was proved. On the contrary, it took many decades of deferent kinds of repeated experiments before the existence of the gravitational fall became apparent enough to gain (first) wide and (finally) universal acceptance. Obviously, the path of proof is neither eas nor always straightforward. Often one has to take a long and torturous journey before one can arrive at valid conclusion. For example, the presence of Black Holes was predicted decades ago. But Black Holes are entities that never allow anything to escape its gravitational pull. So there is no emission of light falling on it is absorbed completely, so there is no how does one prove that Black Holes are there.

Atoms and its constituents have been known for more than a century, but none has ever been seen. Electrons can at least be isolated into a steam, but at the next sub level of (what are known as) quarks it seems they can never be isolated. It also seems that unlike the electron, protons or neutrons, quark never exist in a free or independent state. Then how does one establish that quarks do exist, and on what basis does one believe that quarks are real. Providing proof is no longer easy.

The question of "what is proof" becomes more involved when one realizes that each field of knowledge has its own set of methods, tools, and canons of proof. So much so that what works in one case might be totally worthless in the other. Worse, many who need to use proof in their dealings with others often lack an understanding of the process of proof, and are ill equipped to handle the arguments.

Proof does not mean the same thing in logic, mathematics, physical science, and historical science or in legal investigation. Nor are proofs arrived at in these fields with the help of same tools or canons of proof. Similarly, disproving an assertion is also not done in the same way in these fields. Further it is not possible to disprove many kinds of assertion, especially when one handles historical and archeological data.

While the common man can easily manage his life with total disregard to proof, and while he can get away with flouting the canons of proof, a student if Bible and Science does not have that luxury. Any one who is even remotely interested in any aspect of Apologetics or Politics needs to familiarize himself with the basic principles of proof, evidence, and illogic in the field of proof. He should know the various criteria for proof used in different topics because those who attack the Bible often use proof that are legitimate in one field for supporting their arguments in another field where they might be inadmissible and totally invalid. Not recognizing this, or

not recognizing this early enough in a discussion has sent many Christian apologists in the wrong direction, leading to a pitiful conclusion in an otherwise strong case.

Types of Proofs

- a. Axiomatic Truth
- b. Logical Proof
- c. Mathematical Proof
- d. Empirical Proof
- e. Historical-Legal Proof
- f. Model-Based Proof
- g. Relational Proof

We will look at them in some detail

a. Axiomatic Proof: We mentioned earlier that as we go downwards in the tree of scientific knowledge, we arrive at increasingly basic level of truth. Each level depends upon a more basic and more fundamental level of truth for proof. However, finally one arrives at the most basic and fundamental level of truth, called Axiomatic Truth. Axioms are so basic and so fundamental in nature that no more simpler categories of truth exists to prove the axioms. They in themselves are universally self-evident truths and self-evident proof. Thus the Axiomatic Truth also function as the most basic Axiomatic Proof. They are universally self-evident and unchallengeable proof. A good example is: if B is equal to A and if C is also equal to A, then B and C will be equal to each other. There are many kinds of axiomatic proof and they can all be divided into two groups: Universal Axioms and Particular Axioms.

Universal Axioms or Universal Axiomatic Proof refers to that collection of axioms, which play a direct or indirect role in every field of knowledge. The axiom about the equality of A, B, and C mentioned earlier fall in to this category. However, those axiomatic truth or proof which are related to (or restricted to) a specific field such as Quantum Mechanics or Pharmacology, or historiography are called Particular Axioms. It is good for a student of Christian Apologetics to know both categories; much better if he can master them to a high level.

b. Logical Proofs: Logical is a fundamental science, and it is only the proper understanding and application of logic that has helped Modern science to grow so fast and in such an objective manner.

Logic deals with statements reduced to the most basic levels. When two such basic statements, related to each other in certain specified manner, are placed side-by-side, then certain inevitable deductions follow. Not only are they inevitable, but they also represent the only possibility.

Logic, its axiomatic principles, the methodology for using a series of logical steps to prove or deduce a truth has all been worked out in great detail. Errors arising out of faulty logic have also been identified. All of these have been defined, named, and classified into various categories. Algebraic expressions have been developed to aid this kind of deduction.

Proofs arrived at based upon the well-established canons of logic are called Logical Proofs, while all kinds of proof do have logic built into them, here we are using "Logical Proofs" in a more narrow way to the application of logical methodology to arrive at more universal proofs.

c. Mathematical Proof: All branches of mathematics contain a large number of proofs. All of them collectively are called Mathematical Proof. Both Axiomatic as well as Logical Proofs needs to be invoked to arrive at Mathematical Proofs.

For example consider two arithmetical series such as:

$$A = 1+0.1+0.01+0.001+0.0001+\dots\text{and}$$

$$B = 1+10+100+1000+10,000+\dots$$

Obviously, both the series will have infinite components and nobody can ever compute the total even if he spends the whole eternity to do so. Yet using the mathematical methods developed to analyze Infinite Series can be used to show that the sum total of series A will be a small finite number. The sum of the second Series will, at the same time, be infinite. Such proofs arrived at via logic and not by an actual compilation of the total, are called Mathematical Proofs.

Mathematical Proofs are Universal and are without exception within a given system, say the system of "Rational Numbers". However, it must never be forgotten by the Christian that Mathematical Proof should be applied only in the realm of mathematics, or in those areas of science which yield themselves to expression via some branch of mathematics. All the other uses are invalid and illegal.

For example, Muslims often point out that if God is three persons, He cannot be one. They often use the argument that $1+1+1$ is never equal to one. Christians often counter the Muslims by claiming that $1(1(1$ is always equal to one. However, if the Muslim asks why the multiplication sign should represent a property of God the Christian would be silenced. In fact any kind of mathematics-based reply would only silence the Christian if the Muslim begins to ask leading questions.

God is not Mathematics, but Person. So mathematical expressions cannot be used to prove or disprove the nature or existence of God. This is the approach to be taken when someone comes with the famous argument of $1+1+1$ is not equal to one. Only a right perspective of various kinds of proofs in general, and the mathematical Proof in particular, will help the Christian to effectively counter this kind of arguments.

The Mathematical Proof itself can be divided into Arithmetic, Algebraic, and Geometrical Proofs. While they all are interdependent, they also have enough distinctions so that one of them is not the same as the other. Further, never branches of mathematics have been developed in the last three to four centuries and these now find many applications in cutting-edge areas of research and technology. Proof in these fields often take methodologies totally different from what is applicable in arithmetics or Euclidean (normal) geometry.

c. Empirical Proof: This is the most common type of proof in science and technology, and it liberally and essentially uses axiomatic, logical, and mathematical proof.

Empirical Proof depends upon practical demonstration and assessment. This is done with the help of repeated experiments, preferably upon a large sample of experimental material. Repetition of experiment helps the scientist to apply statistical methods of analysis and reduce the margin of error. Ability to repeat helps also through crosschecking by others who repeat the experiment. Similarly, a very large sample is used so as to reduce the margin of error.

For example, if two new refrigerators of a company are tested for durability, and if one fails the test, the reliability of the machine seems to be only fifty percent. But if

one hundred samples are tested, and if only one fails, it can be deduced safely that the reliability is considerably high and that actually only a single piece (not fifty-percent of the production) was defective.

The smaller the sample, the greater is the error in the final result introduced by even a small variation, and that creates a false picture. Repeated observation or experimentation assures that factors that bias the process of gathering and analyzing the observation are caught and eliminated. This is the way in which the famous Piltdown-man fossil was found to be hoax. Empirical proof does not end with repeated experiments over large samples. The results are then analyzed with the help of statistical methods and the range of possible variation in the result and the margin of error are also calculated. This ensures that the computation is objective, and the variation in the results are real and not a byproduct of variations due to error.

The next step is to create mathematical model and compute the result. Often known data is substituted into the model, and the result is tallied with known results. If there is a statistically significant correlation, then a new set of values are supplied and the result is computed, a result that was not known previously. This theoretically predicted result is then tested against new experiments where the value used in theory is now used in the laboratory. If the theoretically predicted results match with the computed values, the theory that predicted all this is accepted as close to reality.

In this way, an empirical proof is obtained through a continual iteration and mutual interaction and feedback between experimental data, experimental results, and theoretical prediction. This is a very long process, but ensures accuracy of results, reduction of bias, and elimination of error.

Physical science such as Physics and Chemistry, Life sciences such as Zoology and Botany, Interdisciplinary sciences such as biochemistry and Genetics depend upon the Empirical Method and the Empirical Proof.

A caution is in order here. Since the Empirical Proof is the most common or the most dominating kind of proof in the sciences, and since ours is a society saturated with science, a good number of people erroneously assume that there exists only this one kind of proof, and that everything in the world has to be tested with the help of Empirical Proof. Another aspect of this error is the false assumption that everything (including such things as the existence of God) can indeed be proved or can (at least) be demonstrated by the Empirical Proofs. Nothing could be further from truth.

Empirical Proof can be used only to establish empirically testable entities or information. In other words, only matter and energy are directly subject to empirical proof. Things outside the domain of matter and energy such as history, or human behavior, cannot be subjected to strict empirical analysis. These fields need their own methods of analysis and proof.

d. Historical-Legal Evidence: One we leave the realm of pure empirical proof, there are a large number of fields that use a combination of all the proofs mentioned so far in conjunction with another one that can be called the Historical - Legal proof. The Historical - Legal proof plays a key role in study some sections of the Biological sciences and all branches of the sociological, psychological and historical Science. It also provides the bulk of information and evidence in everyday life, which in turn occupies the bulk of a person's life and the information aspect.

The Historical-Legal proof deals with events that are not repeatable. Things that cannot be brought to a small or even to a Cosmological Laboratory for repeating. Since these events are non-repeatable, the proof depends upon probabilities, and plausible reconstruction of the best way in which a certain event takes place or took

place.

For example, if a murder takes place, the police rounds up all the suspects, interrogates them and brings charges against all those who look suspicious. The police then present all material and immaterial evidence (in the form of the testimony of witnesses as well as the cross examination of the accused) In front of the learned judge. After all evidences are sifted and sorted the judge comes to the most probable conclusion and proclaims the verdict based upon that. Many things can go wrong in this process, but eventually the majority of deductions reach a high probability through a process of reviews and reconsiderations, somewhat similar to the repetition and analysis in the Empirical Proof.

Another example of Historical-Legal proof would be an Archaeological find. when a city is discovered, they compare this information available local history and folklore. One all of it is sifted and sorted, a deduction with high probably can be made. If artifacts, clothes, and human skeletons, mummies or pictures are found, many more deductions on a larger number of subjects can be made. Even a tentative history or time-table can be prepared.

In addition to the above, if inscriptions are discovered, and that also in large numbers, then plenty of information becomes available to reconstruct a history of that place. Detailed information has become available in this manner about numerous culture around the world. However, it is all "reconstruction" of one-time events and there is no way to repeat the experiment by making the people live again.

The unusual development of archeology and history in the world of knowledge, and that of forensic science in the legal world has advanced Historical-Legal proofs to a very high level. As a consequence, the more robust branches of science and technology have become great aids to this field. For example when a certain burial shroud of Turin was claimed by many to be the burial cloth of Christ, Radio Carbon tests by three independent laboratories showed that it was only a fake made during the Middle Ages.

In the same way, archaeological finds are often dated with the help of techniques in physics and chemistry, helping a more accurate reconstruction of historical dates. Since there are thousands of sites in the Middle East, millions of artifacts have been discovered. Using methods of modern dating, an increasing number of absolute dates are being found out, helping an increasingly accurate reconstruction of history with the help of historical evidence.

g. Legal-Logical Evidence: Connected closely with the Historical-Legal evidence is the Legal-Logical evidence. Often these two categories of evidence come into play in one and the same analysis, causing them to be confused with one another. However the Legal-Logical evidence is used chiefly in reconstructing history that has taken place over a long period of time, the Legal-Logical evidence is used to analyze and reconstruct a single event, such what is done by a detective who investigates a crime.

Obviously, to solve the mystery of a crime the detective collects all the physical and non physical evidence and reconstructs a picture of how the crime would have taken place and who the criminal might be. He would usually props two or more theories to himself or to a team of analysts who work with him. Then one by one they eliminate every proposal and every theory that is evidently unworkable. New evidence, if any, would be added to the picture as and when it becomes available. New questions are often asked and further investigations are done as soon as possible so that the available evidences such as foot prints in mud are not obliterated by the elements of nature, or even by a clever criminal. Once an exhaustive evidence-gathering and analysis is done, and once all unworkable models or theories are eliminated, what models are left are assumed to represent the truth or evidence.

Ideally only one theory should remain after the unworkable ones are eliminated, but this does not happen in many cases. In others, only one possibility remains, and that is accepted as circumstantial evidence. Many times the courts punish people on the basis of circumstantial evidence, but such evidence is not foolproof. This is the reason why many people even on the death-row are acquitted and left scott free when new evidence crops up to vindicate them as innocent.

Legal-Logical evidence is a powerful tool for reconstruction and evidence, but it is not foolproof. In the hands of a careless person, or a prejudiced person, or under the mounting pressure of activists, the conclusion can go wrong. In many cases people can even come to conclusions which are diametrically opposite to truth.

Legal-Logical proof heavily depends upon probability. Thus in the field of apologetics only those Legal-Logical proofs should be used, or admitted, that can be said to be "undisputed" evidences. All disputed evidences and circumstantial evidence should be rejected. They are not to be used to defend the Bible, and they are not to be admitted as evidence when someone uses them to attack the Bible.

h. The Relational Proof: This is a very special category or proof that everyone uses in everyday life, but does not pause to think about.

While mathematical, empirical, and logical proofs are great tools of learning, the bulk of the evidence does not come through those pathways. When a person opens the newspaper in the morning and reads of an earth quake, a war, or a tax-hike he accepts it without mathematical or empirical proof. When the newspaper announces a hike in petrol costs, or when it announces the distributions of a certain form by the local government office, he accepts this information as true. When the insurance company promises a large sum of compensation in case of a damage, the client believes it though he pays only a small amount to the company. However the absence of mathematical or empirical proof does not automatically mean that this is blind trust without proof. On the contrary, there exists a proof that is sufficient for the needs of the case, and that is called the Relational Proof.

People accept, and believe in a large number of statements and claims because these are made by people known to them. School students every day accept as true what their teachers tell them whether it be history or physics. The same goes with almost everything people accept in their everyday life as long as they live.

This seemingly blind acceptance is not blind at all. On the contrary, right from its birth a child learns to trust the words of its parents and also most people of society. He is taught to trust the teachers, the policeman, the elders, and even the neighborhood grocer. At the same time he is taught to distrust certain people and to be suspicious of certain others. Over the years as he "relates" to these people he discovers a very high probability to reliability in majority he finds unreliable. Unless a reason arises to doubt the statements of a person, he believes the words of people with whom he relates. He also finds additional truths through his own experience. He discovers that a certain pen is best for him, a certain doctor is an expert at diagnosis, and a certain office is efficient, reliable, and trustworthy. When he develops a hobby for history, he enjoys history books with the knowledge that the statements there are as true as possible. But when he reads fiction, he knows through his earlier experience that what looks highly probable in these books is still only fiction. Nobody in his right mind demands Mathematical or empirical proofs for these discoveries because they do not fall into the area of mathematics or empirical sciences.

People discover the major part of the information reaching them Relational Proof. This is a probability-based evidence and works very well in normal life. Within the Canons of Proof it occupies a very important position. Relational Proof plays an

important role in Christian Apologetics because it helps the discovery of many important truths including the existence of God.

What Is Not A Proof

People talk a lot about proof, specially when it comes to the reliability of the Christian faith. However, almost all of them think of only "empirical Proof" without realizing that this is not the only kind of proof used in the world of knowledge. In fact the empirical proof forms constitutes only a small part of proof, and the range of methods available and used for evidence includes at least eight important methodologies. In addition, most of them do not realize that the type of proof depends upon the type of information under consideration, with empirical subjects examined with empirical proofs and historical subjects examined with the help of historical proofs.

There is another common problem about proof. Many things which the common man (and even the learned ones) think as proof or evidence are not proof at all. This can be illustrated with the help of an incident. Few years ago an Engineering student approached me and told me that having read the Bible he received from me a few weeks ago, he had now come to argue with me that God does not exist. I welcomed him, offered a cup of tea, and asked him whether he would be presenting philosophical or scientific arguments. He promptly opted for scientific proof saying he preferred that because he was a student of science.

With amusement I awaited his arguments. He was silent for few minuets and then said he can dismantle any augments I presented for the existence of God. I had to point out that it is not I but he who came to demonstrate that God did not exist. Thus he had to take the lead.

To summarize an hour-long discourse, I kept insisting that he demonstrate what he claimed rather than asking me to speak and then refuting it. Finally he realized that he was not prepared to do what he claimed and went away with a promise to prepare better and come back. It has been two decades since then and he has not turned up.

Many people, even scientifically trained ones, entertain strange ideas about proof. They think that a thesis is proved just by stating it, comparing it, or by refuting another thesis. Proofs do not happen this way. If a person is able to refute all the proofs advance by another person (say, for the existence of God), he does not disprove the opponent's thesis. He only disproves the opponent's arguments. However, those may not be the only arguments or the best arguments which the opponent could have used.

Proof for any subject, (including the proof needed to disprove a claim) has to come in specific ways. In empirical matters the proof needs to be empirical and in historical matters the proof needs to be historical.

Though everyone talks of proof, most of them cannot distinguish between actual proofs and mere arguments. Not every argument is valid, let alone a proof. With this in mind, we list a sample of activities that people use as proof, but which are not accepted as proof by any legal system anywhere in the world.

a. Refuting The Opponent Does Not Prove One As Right: Arguments come up when there are two or more outlooks on a given subject, and each person tries to establish that his position is right and that of the opponent's wrong.

The most common strategy used is to refute the arguments of the opponent. Many debaters are good at refutation, and they do an effective job of refutation, and stop there. They assume they have proved their side of the argument, and many in the

audience also feel the same things, but actually they have not proved that they are right. They have only proved that the arguments presented by the opponent were wrong. More examination by a disinterested party would be required to determine if the arguments of the refuted side are weak, or whether only their presentation was weak. If the latter is the case, then the basic arguments still remain unrefuted.

For example, let us assume that a person tries to defend the scientific accuracy of the Bible using faculty arguments. Obviously, a learned atheist, rationalist, or Muslim Apologist would be able to refute those arguments. But this does not mean that they have refuted the Bible. Not at all. They have only refuted certain shallow and unlearned arguments put forward by an ignorant Christian.

Muslim debaters worldwide use this tactic against the Christian world. They would arrange a debate with a Christian who enjoys great name or position, but who has never had any exposure to debates or apologetics. The learned Muslim debater easily traps this Christian. Since he is a man enjoying high position in the Christian world, everyone in the audience assumes that he is at the same time highly learned in Bible and theology. They go away with the erroneous impression that the Bible has been refuted. What has actually happened is that a certain ignorant and unprepared Christian was silenced in a heavily loaded debate.

While refuting the opponent's arguments is a necessary part of proving one's position, the actual proof takes place only when using the right kind of proof (mathematical, logical, empirical, historical, etc.) he proves his point to the satisfaction of objective examiners.

Just because a person is good at debating, and just because he is able to refute the arguments of his opponents, it does not automatically follow that he has proved his point.

b. Possibility Does Not Mean Proof or Even Probability: All effects have a cause, and this is a foundational axiom of all objective investigation. However, a given effect can often be caused by more than one causative factor. This creates an interesting illusion about proof.

Very often people think that if the "possibility" of certain things taking place is shown, that it also proves that the event under consideration did take place according to the possibility that was established. This is a great fallacy, and is not a proof at all. Yet many people think that this is a substantial proof when in reality it is not even a remote proof.

For example, in the Evolution/Creation debate many who wish to end the debate ask whether God could not have created life through the process of "directed evolution". Of course, God could have chosen evolution as a tool if that were His approach. However, this "possibility" does not automatically amount to proof. We need to have clear statements in the Bible that tell us that God did use evolution as His vehicle. As long as such statements are missing, the possibility proposed by them remains only a hypothesis.

Many things are possible at the hypothetical or even at the real level. For example, since the Lord Jesus paid the penalty for the sins of all the world and therefore the "possibility" for everyone to be saved has been created. Yet we know that it is not a probable scenario because numerous other factors also come into play. Thus showing the possibility does not automatically lead to probability. And if it does not automatically lead to probability, proof and certainty are far away.

c. Mental Experiment Is Not Proof: Humans have the special capacity to create a vivid mental picture of reality. Dreams are but one example of such mental creation of reality. Dreams, however, are involuntary, while our concern here is with voluntary creation of mental images.

Writer, painters, theatrical actors etc. liberally use this human capacity of image-creation. Even technocrats and scientists use mental pictures to enhance their work. It is reported that the famous Benzene-ring in the Organic Chemistry was discovered this way. Actually scientists knew that a Benzene molecule has six carbon atoms and six hydrogen atoms, and that was the problem. They were unable to come up with a molecular structure which would satisfy the valences of these 12 atoms. It was then that one of them dreamt a snake swallowing its own tail. From here he extrapolated the picture and finally came up with the epoch-making structure of Benzene. Organic Chemistry would not have made a millionth of the progress had it not been for that mental picture.

Similarly, Alber Einstein, the father of Relativity Theory was very fond of mental experiments and popularized it in the Physics community. Mental experiments are frequently mentioned in MSc classes. Therefore the trained as well as the untrained often work under the notion that mental experiments can be used to prove or disprove scientific truths. This is far from reality. Fundamental truths of matter and energy can be proved only and only by experiments. That also, only by a statistically significant number of repeated experiments.

Mental experiments are good for conceiving many scenarios, but no unknown property of matter or energy can ever be discovered and proved by mental experiment alone. A laboratory component to test those deductions is always necessary. A good example of mental experiments and its pitfalls is the Aristotelian planetary system. The Greeks who developed this system did so strictly on the basis of their mental picture, and came up with the deduction that the Earth is the center of our Planetary System, and that even the Sun revolves around the Earth. Subsequent to this, they forced the astronomical data to fit into this picture rather than allowing the empirical data overrule every mental proof. Consequently, the erroneous Geocentric picture ruled for centuries, in spite of the accumulating evidences against it.

In the material world it is the empirical data which decides the truth. After all what "is" should decide what "can be" and not the other way round. This is the reason why no mental experiment in itself can prove or disprove anything.

d. An Appeal To An Authority Does Not Prove Anything: There is a famous slogan that "when the proof is weak, shout louder". The idea, even in jest, is that suppressing the opponent's faculties of reasoning are a standard technique used to hide the fact that one does not have rigorous proof.

Everyone knows that with sufficient effort one can find experts to support any school of thought, however bizarre that thought might be. Thus it is a standard tactic to "quote" experts when one cannot advance proof.

We have already noticed that empirical topics need experimental proof, historical topics need historical proof, and so on according to its own established and objective canons of proof. If such a proof is available, then there is no need for the "opinion" of people. If no proofs are available, then the opinion of people does not matter. Yet people keep using "opinions" because somehow or other they wish to establish their point of view, specially in areas not strictly controlled by empirical methods of proof.

For example, people who love to dismantle the Bible (using history and archeology) often quote this or that expert to "prove" that a given statement of Bible is false or questionable. This is not the way of objective proof either in favor or against the Bible. For each expert on one side of the argument, another on the opposite side can be produced. Thus these opinions do not settle the matter in favor of either

side.

A variation of this technique is to appeal to popularity. This comes in the form of statements like: everyone knows, everyone accepts, etc. Public acceptance does not mean anything. What they embrace with greed today, they will rabidly oppose tomorrow. Public opinion is based not upon proofs or objectivity, but upon a large number of subjective and emotional factors. Thus public opinion can never be used as a proof.

e. Proof From Silence Is Not Proof At All: This is a very important category of false proofs, and the Bible-student meets it at every step of Bible, theory, and apologetics. This means that "proof from silence" gets unusual weight, whereas it is not a proof at all.

The basic premise of "Proof from silence" is that if something is not found, then it does not exist. If I did not see a person in a particular place, he did not come there. If something is absent in a place, or if something could not be found in a particular place, then it did not exist in that place.

Let us consider an actual example for clarifying this kind of arguments. In the early chapters of Genesis we read about Camels. Radical theologians and atheists rabidly attacked these passages for decades saying that archeologists did not discover camels that early. Thus, they alleged conveniently that, these portions in Genesis were not written at the time of Abraham or Moses, but a thousand years after the purported event when camels were domesticated for the first time.

A few decades, and the presence of domesticated camels was discovered even before the time of Abraham. So much for proof from absence of the arguments which says, "we did not find it, so it is not true".

The same thing happened with their argument that Moses could not have written the first five books of the Old Testament because no written material from the time of Moses was ever discovered. This argument fell miserably when thousands of inscriptions from the time of Moses and before were found from Egypt and deciphered. This was followed by numerous discoveries that have extended known writings almost to the time of Noah.

The mention of Hittites in the Bible was attacked in a similar manner. Since the archeologists never found any mention ever of Hittites even till the close of 1800s, the theological radicals promptly declared this a myth. Then in 1900s they discovered the Hittite empire, libraries, and even the legal code.

There are a very large number of other things about which they argued against based upon silence. All these arguments turned to be premature and hasty. However, the radical mind never allows truth to distract them from their goal to attack the Bible.

When proof or evidence is absent, the maximum that one can say is that "evidence for the existence has not that "we have no evidence so it did not exist". Nobody allows the arguments "we have not been able to find a solution does not exist". In the same way, argument from silence cannot be used to refute or support any viewpoint. Lack of proof is not a proof.

f. Analogy Is Not Proof: On being questioned about proof of a matter, people often pick up something that is similar or analogous. They then explain or demonstrate this second thing, and imply that by doing so they have proved the first statement. They have done nothing of that sort.

To prove that a given statement or thesis, proof should be given for that statement and not for something analogous. A good example is the way people try to prove the Theory of Evolution by comparing it with the sprouting of a seed and its growth

into a tree. While there are some similarities between evolution and growth, they are not one and the same. The analogy does not prove anything. In fact, if similarity is taken as proof dissimilarity should stand as proof for the opposite. Thus in the hands of a skillful debater, argument from analogy can become a weapon to prove anything in the world. However, sophistry is no proof.

g. Circular Reasoning Is Not Proof: Circle reasoning is a common fallacy, in everyday and also in professional life. So much so that it even has a technical name: "Tautology".

A popular joke can be used to illustrate and explain Tautology and circular reasoning. A lawyer examines the accused.

Where is your house? Opposite to the Insurance Office. Where is this Insurance Office? Opposite to my house. And where exactly are these two buildings situated? They are situated opposite to each other.

Nothing is gained or added to knowledge by this verbal exchange. This is an easy and illustrative example. Circular Reasoning was used by the Jewish High Priests against the Lord Jesus. They brought Jesus to the Roman judge for condemnation. Since the Roman jurisprudence laid down a strict procedure, the judge to follow the path of:

Accusation -> Cross Examination -> Crime Proved -> Conviction -> Punishment

But this time they wished to the "Punishment" to follow arrest. The argument was: We arrested him, so punish him. But why punish him. Because he is a criminal. How can you say he is a criminal. The very fact that we arrested him proves he is a criminal, and so on. But when the judge examined Him procedurally, he had to declare, "I find no guilt in Him".

Circular reasoning, like the proof from silence can be used to prove anything in this world. Worse, the vocabulary and presentation can often be so convoluted that even trained people may not be able to detect the error. A good example is the "Geological Layer".

Biology textbooks frequently mention what they call the Geological layer. They claim that in many places one can find geological layers, with fossils embedded in them. They also claim that the lowest layers contain fossils of very simple creatures, and that as one goes up the layers, one discovers fossils of increasing complexity, exactly as predicted by the theory of evolution. On reading this in biology textbooks, everyone goes away with the impression that the Geologists were able to "discover" numerous geological layers, based upon which the biologist make their claim. Fair enough. This is what they really claim.

If the same reader takes a little time to pick up an introductory textbook of Geology, he will find the geological layer mentioned there. But, to the surprise of the more observant reader, he will also find that there is no "real" multi-layer structure anywhere in the world. On the contrary, he will discover that, there are many places with a smaller number of layers, which they use to create a theological multi-layer structure (which does not physically exist in any place in the world). What is most shocking is that they create this multi-layer structure, not on the basis of geological data, but on the basis of zoological data, based upon evaluations.

Here is the complete picture: the evolutionist says that geological layer show a gradation of fossil-complexity. But the geologist says the composite he prepares is based upon what the biologist dictates. In other words, both the biologist prepares a multi-layer chart of what he expects. The geologist takes this up and prepares a multi-layer composite. Then the Biologist goes ahead and claims geology proves his

theory.

Neither of them has done an "absolute calibration" or standardization of the scales. On the contrary they have been perpetrating a seemingly empirical system, which is based not upon empirical data but upon a theoretical expectation. Circular reasoning of tautology is more common in the world of reason than what anyone expects. Those who oppose the Christian faith also use it liberally. However claiming that "they are opposite to each other" does not prove anything.

h. A Theory Does Not Represent A Proof: Theory is an essential component of science and also of all the field of learning. So much so that researchers try to find a perfect match between theory and empirical observations.

However, a theory is of value only after it corresponds with the reality. Till then it remains only an unproved and unestablished hypothetical construct. Thus a theory is not a proof. It only represents a possibility according to whosoever proposed it. What's more, is only one out of numerous possibilities. Out of all these possibilities, only one can be right. At times none of the proposed theories will be right and all of them will have to be discarded.

Though theories are only unestablished hypotheses, people often present them as proof or fact. However, they cannot be used that way. Coming to Christian Apologetics, theories should not be allowed in any debate against the Bible. Nor should they ever be used to support the Bible in any way.

i. Anecdotal Evidence Or Hearsay Is Not Proof: There is never any shortage of people who try to establish their arguments with quotes and stories which are of no value for proof. We also all have our pet ideas. And also pet statements to support. For example, when talking about a certain debater, people would say, "he presented three points, and ended with three questions, and the opponent fled the scene". Once this statement is repeated a few times, almost everyone thinks that is truth.

Similarly, when it comes to establishing a pet doctrine, say the Tongues, everyone will have a found story about a grand uncle or aunt who spontaneously broke into other-languages. Then everybody argues over the genuineness of that story, forgetting that doctrines are not established that way. Doctrines are deduced and made sure with the help of a strict Bible-based procedure.

Just narrating favorable stories, incidents, or quotations do not amount to proof. Each category of truth has its own canon for establishing truth, and nothing else is admissible there.

j. Slogans Are Not Proof: Slogans are compact catch phrases that quickly grab attention and lead people to immediate action. Evaluation and assessment of the assertions, which is an essential activity, is often blanked out.

Slogans are powerful tools in the hands of advertisers, politicians, propagandists, and mind-manipulators. Obviously, slogans are used more for suppressing human reason than for a reasoned argument. Yet they are frequently used by clever debaters for winning arguments without using the due process of reasoning. Unfortunately, the public is duped into thinking that this clever debater won because he has better argument using which he has established the points in his argument. Actually nothing of that sort has taken place.

In the famous "Monkey Trial" in the USA, the Bishop Wilberforce in jest asked whether his opponent Huxley was descended from a monkey on his father's side or

mother's side. Sensing his opportunity, Huxely gave his famous slogan that "It is better to descended from a monkey rather than from a dishonest theologian". The slogan deeply hurt the reputation and standing of Bishop Wilberforce, not because of its objectivity but because it was a powerful slogan at that juncture.

The anti Christian movement is good at coining bad-name associations and mind-numbing slogans. However, anything proved that way is totally invalid and should not be accepted either to refute or to support the Bible

Christian apologists should be careful to spot and analyze slogans because they are powerful tools in the hands of manipulators. Unless these slogans are detected and analyzed in time, they can inflict much damage against the faith.

k. Philosophical Justification Is Not Proof: Philosophy is the result of man's quest to understand nature using his speculation, logic, and all the information available from all the branches of knowledge. Since there is a very high component of non empirical thinking in philosophy, the more the thinkers, the more are the schools of thought that develop. Many of them look plausible when expounded by proponents, but looks can be deceptive in Philosophy.

Since there is wide variety of philosophical thought available, anyone can any time pick up a suitable philosophy and argue for his case. His reasoning will look plausible, but he has not proved his point. Philosophical possibility or explanation is not proof. For example, when it comes to explaining difficult concepts from the bible, many people immediately fall upon philosophy for offering an explanation. Similarly, many radical thinkers use philosophy to refute Biblical doctrines. neither of them is correct, not sufficient as a proof.

Bible-doctrines are to be explained using statements from the Bible itself. For example, if someone wishes to explain (or refute) the doctrines of predestination of trinity, he must go strictly by the statements of the Bible.

Philosophical speculation can always be used to defend or explain predestination, trinity, the presence of evil, the problem of pain and creation/evolution. It can also be used to refute the very same ideas. There is little objectivity and often there is no empirical component. As a consequence, philosophical speculation cannot be used as a proof in empirical, social and historical subject.

l. A Model Is Not A Proof: A model is picture (verbal or mathematical) with the help of which researchers study complex phenomena or invisible entities. For example, the atom has never been seen. Yet we know many properties of atoms and subatomic particles, and would like to know the subatomic particles, and would like to know the precise way in which the subatomic particles are ordered in an atom. many Models have been proposed, of which the planetary model in which electrons revolve around a nucleus is known to all.

There is a range of models in science starting from the most simple to the incredibly complex ones. The weather forecast is a good example where they input the available data into a complex mathematical model that resides on super computers. Using this they are able to come up with useful deductions most of the time.

There are even models of human languages using which they try to study language-style and other complex phenomena. The Theory of Evolution is also a model, and there is a corresponding Creation Model. Model-making is an essential part of scientific investigation, and each day the process of model-making is becoming increasingly refined. As a consequence, people often confuse the model

with the reality. This is a false perception.

While models are being increasingly used in science, and while they are also becoming increasingly accurate a model still remains a hypothetical and theoretical construct. Thus presenting a good model is not equal to presenting proof. A good example is the claim made by some people in the 1960s and 1970s that their computer-analysis have proved that St. Paul has authored only four of the fourteen epistles attributed to him. Many people took this to be a strong proof, only to be told later that the deduction was based upon a totally inadequate and faulty model of language. When the same test was given to standard and well-known books, it indicated that their authors did not write them.

Scientific Models are important tools for research and study. However, they have certain sphere in which they are useful and valid. And use beyond that result in invalid results.

Presenting a good model is not equal to offering a proof. That is not the purpose of scientific models.

What Is A Scientific Model

A Christian Apologist can minister effectively in the twenty first century only if he has a clear understanding of "What Is Science". This is an era saturated with science and technology, and many attacks against the christian faith try to use science/.

Often the objections brought from sciences are based upon unestablished data or unproven hypotheses. Such evidence has no standing in a court of law, and we explained in detail why arguments based upon such information is invalid. The simple question, "Is it a fact of science or an unestablished theory" usually solves the problem. However, one category of scientific information creates some confusion for some. It is the "models" in science.

All branches of physical and social sciences these days use "models" liberally, and the average person does not know whether to consider a model as an fact or as a theory. Critics often take advantage of this ignorance and make tall claims against the Bible based upon models of science. However, even a basic understanding of what a scientific-model is will help the christian Apologist to dismantle these claims.

What Is A Model: Empirical sciences try to understand the way matter and energy function. Often such study depends upon the way an entity such as the atom is made up. Thus some understanding of the structure of the atom is needed to study the subject further. To do so they assume that the atom is made up if a massive core with electrons revolving around it. The properties of this structure are calculated, based upon known properties of electrons, protons, and the mathematics of circular motion.

Thus wherever there is an exceedingly complex entity, or something that is invisible, models are the way to study them. For example, the study of climate involves studying thousands of mutually dependant factors, many of which are not even properly known. Another example is the human language. Though speaking a language looks effortless, human language as an entity is an exceedingly complex phenomenon. Complex mathematical models are employed to study climate, human language and other such phenomenon on Super computers. It is the complexity of the model that demands such powerful machines. Much can be gained with the help of such models, yet models are not the final word in science. They are only an intermediate step in the scientific process of investigation.

Thus a Scientific Model is a representation of a complex entity or phenomenon, with this representation being an aid to a more objective understanding of what it represents. These representations or models can be of two types: qualitative and

quantitative, or descriptive and mathematical. Each one has its own merits and demerits, and it will be profitable to know a bit more about them.

Qualitative/Descriptive Models: Models which are created based upon more verbal descriptions fall into this category. All of us indulge in such model-based description. For example, all of us describe elephants and whales to those who have never seen them. This is model-making.

Scientific model-making is a bit more sophisticated. For example, Charles Darwin and followers spoke about the "survival of the fittest" and also "change through gradual adaptations". There is no way to express these ideas in a quantitative manner. Consequently they cannot be measured or analysed using mathematics.

Qualitative or descriptive models are very attractive because they are easy to describe, and easy to visualize. No mathematics or abstract concepts are needed. However, their accuracy is difficult to analyse. Unless there is a way to quantify or express them in terms of mathematics, it is not possible to analyse them objectively.

The birth of the Solar System is a good example. All of us have heard in our school texts that originally there was only the sun. Then a massive body passed by, and its gravitational attraction was so strong that it putted out a lot of material from the hot and molten sun. This material broke up, began circling the sun, cooled down and became the planets of the solar system. There is a similar story about the formation of the moon. According to it, a massive stellar object exerted a great gravitational pull on the earth. Consequently, a piece broke away from the earth, and began circling it. That is moon. What's more, there is a very large crater in the Pacific Ocean, a placer from where this piece could have broken away from the earth.

Both the above pictures look quite plausible, and that is why they are taught in School textbooks. Their power to depict complex phenomena in simple pictures is awesome and this is why descriptive models are so common and popular.

The greatest weakness of descriptive models, however, is their inability to yield to empirical or mathematical test. Only those models can be tested objectively that are quantitative in nature. A good example would be the two models from Astronomy mentioned above. Both of them look plausible, but once tested with the help of mathematical models they turned out to be unworkable. Today nobody takes them seriously.

Qualitative models do have a role to play, specially when they are the first stage in constructing a mathematical model of the same phenomenon. However, used by themselves they can totally mislead people because the human mind is adept at "imagining" many mental pictures which do not have a corresponding reality in the material world.

Quantitative/Mathematical Model: Mathematics has grown so fast in the last two centuries that today many physical phenomena can be represented accurately with the help of mathematical equations.

For example, the equation $ax+by+c=0$ represents an inclined straight line with as much accuracy as we wish. The equation $V=u+at$ represents the final velocity of an object moving with an acceleration. Using calculus and other branches of higher mathematics, very complex phenomena can be represented mathematically.

The accuracy with which scientists these days predict astronomical phenomenon in the solar system is a good example of mathematical modelling and its success. Also, the way they are able to send spacecraft to moon and other solar objects and

them back, all with split second accuracy in spite of the thousands pushes and pulls operating on the craft is another good example of the success of mathematical modelling.

The phenomenon under study is often represented in simple mathematical terms. Once this approximation yields an approximate result, more factors are added and the model is tested again. Several iterations finally yields models which are a satisfactory approximation of the reality.

This does not mean that today the scientists have successfully prepared mathematical models of all important phenomena. Not at all. The scientific study of nature is a never-ending quest, which throws out ten times more undiscovered phenomena at them as one mystery is solved. Thus there are numerous phenomena which defy such modelling, but what has been done so far is a great encouragement to those who study the unsolved questions of the Universe.

Models And Objective Truth: The qualitative and quantitative models are part of man's attempt to study Nature and discover the underlying laws. However, the models do not represent the final truth.

All models are only approximations. They are proposed at the simple and simplified level, and then compared with the actual phenomenon. The model is then reject, modified, or refined based upon feedback. This way the model moves from a crude approximation to a highly accurate and complex mathematical construct.

The process of defining and then refining a model may go on for decades or even more. For example the current model of the atom is almost a century old, but refinements are still going on and the final model is nowhere in sight. What's more, the discovery in the nineteen sixties of sub atomic particles known as quarks have shown that the structure of the atoms is incredibly more complex then what anyone could ever imagine, and that perhaps another century of additions and refinements will be needed to arrive art a comprehensive models of the atom.

The Use Of Models: Science and technology (including the social sciences) need to deal with numerous phenomena that are incredibly complex. Yet some kind of an approximate information is needed so as to handle that event or harness that phenomenon.

A good example is "Weather Forecast" with the help of models of climate. The most powerful super computers are employed for such studies, yet the results are far from perfect. Yet what these imperfect results yields are much more accurate than mere guesswork. They help agricultural scientists, town-planners, electric companies, and many such large institutions to plan their activities with some certainty. Such forecasts also help governments to plan import and export of agricultural commodities so that scarcity of foodstuff can be avoided.

Mathematical modelling helps technologists to come up with improved products that yield increasingly more reliable results. A good example is the CAT scanning machines which were invented only after a perfect mathematical model of scanning and reconstruction of the image was perfected first. The development of new medicines, new electronic gadgets, and even computers depends upon mathematical modelling.

Business that depend upon high-volume and high-traffic transactions depend heavily on mathematical modelling. A good example would be the operation of a credit card company. Their computers have to handle millions of transactions per second, and detect or control fraud, but computers can. They use fuzzy-logic (which is firmly based upon mathematical modelling) to detect the possibility of fraud, and catch the majority of people who true to cheat the system.

Thus mathematical modelling in science and technology helps physics, chemistry, engineering, medicine, economics, and even social sciences. In that way they are an important part of the modern scientific establishment.

The Scientific Status Of Models: A model is only an approximation. The qualitative models are an approximation only in appearance, and they may or may not have any correspondence with reality.

The quantitative models are closer to the truth, but how close they are depends upon how refined they are. However, no model (howsoever complex it might be) ever represents the phenomenon perfectly. Even the most complex and refined model is often only an approximation, and does not represent an established fact or law of science. Thus a scientific model is not admissible as an "evidence" in a legal inquiry.

When there are more than one model that try to explain the same phenomenon, one can compare them to see if one of them fits all the observations better than the other model. If there is no better fit, all models are considered equal. However if one fits the observations better it is considered a superior model. It is in this sense that the Creation Model is favoured by many over the Evolution Model.

Apologetics And Scientific Models: Since all models are approximations, the Apologist should keep reminding the audience that they are not "evidence". While people are free to choose the better model, these models can be used only as an aid to study and understanding, and not as legal or scientific evidence in favour or against any statement. Models cannot be used to attack the Christian faith. At the same time, scientific models cannot also be used to establish the truth of the Christian faith.

What Is Capable Of Proof (And What Is Not Capable Of Proof)

"Proof" is an essential part of man's daily activities, though most people are not aware of it. When someone places a postal stamp on an envelope, purchases a ticket before entering a bus or train, or when one places his rubber-stamp on a document, all of these form part of everyday legal proof.

Though we are surrounded with so many activities that involve proof and evidence, most of us do not take time to study the concept of proof. Even among researchers the ideas related to proof and evidence are often hazy. Consequently they end up claiming proof for things which are not capable of proof. They also claim to have disproved things which cannot be disproved. While such claims make no difference to the secular world, they do make all the difference to the Christian Apologist. It is his duty to expose the fallacies.

The first step is to understand what is capable of proof and what is not. Some of the important categories are given below:

a. Universals Cannot Always Be Proved: Statements which apply to a very large population cannot generally be proved.

For example, if someone were to try to prove that all ravens in the world are dark. It would be an impossible task as no one can physically locate and check all the ravens in the world. On the other hand, finding a single non-black (gray, brown) raven will immediately falsify such a statement. Thus falsification of universal statements is possible, but proving them is simply not possible in day-to-day life.

Coming to the Bible, if someone were to make a statement (as many radicals in 1800s did do) that the art of writing was not known at the time of Moses, he is making a universal statement. He is assuming that all possible information about all ancient civilizations have been discovered exhaustively. Any reasonable person can see the fallacy of this assumption because by the very nature of it, archeology and history can neither preserve nor deliver exhaustive information about such matters. They can be used to discover what existed, but cannot be used to make claims about what did not exist. It must also be kept in mind that even after 200 years of excavation, only about ten per cent of Bible-related sites have been excavated.

b. Only Mathematics Has Universal Proofs: While universal cannot be proved in daily life or life-related sciences like history, they can be handled in mathematics and physical science.

Thus one can prove that the sum of the two sides of any triangle (in plain geometry) will always be greater than the third side. In fact most of mathematics depends upon universals. Trouble arises when people expect the same thing to happen in other fields of study and try to prove things universally where it is not possible. Trouble also arises when they try to use mathematical proofs in non-mathematical areas such as theology. A prove or refute the doctrine of Trinity with the help of mathematics.

Physics, Chemistry, and other such physical science have many Universal Laws. One should always keep in mind that this Universality is much different from that in mathematics. While universality in maths is an essential part of the presuppositions. These presuppositions are in turn the result of a Bible-based theistic view of the universe.

c. The Existence Of An Object Or Phenomenon Can Be Proved: This happens to be the major function of all researches. They try to discover and study laws that exist about which one may or may not have prior knowledge.

Today every educated person knows about gravitational attraction. The whole universe is sustained by this force. People also know that carbon is the main constituent of Organic Chemistry, and therefore carbon is the main constituent of all living thing.

Moving to historical science, the existence of many of the Pharaohs (contemporary with Abraham), kings of Persia and Babylon (some of whom are mentioned in the Bible), Herods, Alexander the Great, the early Greek Philosophers and numerous other persons is known. Information is also available about the existence of numerous places, races, and people. Scientific investigation can demonstrate all that. But if one tries to prove that a phenomena, person, or people-group does not (or did not exist), things are not easy.

Common people, and often even researchers, assume that if a person, place or event is not mentioned in archeological records, then that person or place never existed. This is false deduction. Lack of the information is not proof, but only deficiency of material. In mathematics there are many problems for which nobody has been able to find a solution. But that does not mean that it is unsolvable, or that a solution does not exist. It only means that the present level of mathematical competence, or the routes taken so far to solve that problem, are not sufficient.

The existence of an object, person, or phenomenon can be proved, but it is not always possible to prove that someone or something did not exist. In other words non-existence cannot be proved in most cases.

d. Lack Of Proof Does Not Prove Or Disprove Anything: This is one area of proof where many people go wrong.

Though man has been studying nature for thousands of years, he has barely scratched the surface. What remains to be discovered is infinitely more than what has been discovered so far. This means that there are very large gaps and holes in man's knowledge of Physical as well as historical and social sciences. Consequently, a gap in information does not mean anything, least of all a disproof.

The Christian Apologist needs to keep this always in mind, specially when he faces those who attack the Bible from a historical perspective. These critics frequently use lack of information to mean lack of proof or even disproof. First of all, this is wrong in principle. Second, countless times they have been proved wrong. They claimed a certain person or race did not exist because no proof was found, and eventually proof came forth and their claims were exposed to be false.

The same mistake can be done in empirical sciences also. For example when AIDS started to become an epidemic in the late eighties and early nineties, many people claimed that AIDS does not spread through any bodily fluids other than blood. The reasoning was that the HIV Virus was never found in bodily fluids such as saliva or tears. However, this was a false claim. All what they should have claimed is only this much: "so far HIV has not been found in other bodily fluids, but this is not a guarantee that it shall never be found". And sure enough, HIV eventually made its appearance in almost all fluids emanating from the human body.

Whether it is the empirical science or historical, lack of proof does not prove anything either positively or negatively.

e. Each Thesis Needs Proof Belonging To Its Own Category: A statement may be historical, sociological, economical, or empirical in nature. It might also be logic-related or mathematical. The proof also should belong to the same category.

Historical information needs canons of historical proof, and empirical information needs experimental demonstration, not vice versa. A good example of mis-application can be seen in class rooms where teachers claim that Einstein's Relativity has proved that everything in this world (including moral values) are related. This is a totally wrong application because what Einstein postulated applies only to objects in motion, not to anything else. Further, even for objects in motion, this is only a "theory" and not a law. The Nobel Prize committee clearly recognized the theoretical and philosophical nature of the Theory of Relativity, and Einstein was not given the Nobel Prize for Relativity. On the contrary, he was awarded the Nobel Prize for explaining the Photoelectric effect on a sound mathematical basis.

Each claim should be established by the canons of proof that are applicable for that kind of information. Physics cannot be used to disprove ethical values, and history cannot be used to disprove Chemistry. The same with all the subject.

f. Circumstantial Evidence Is Not Proof: When the circumstances surrounding an event point to a certain person or cause, but when no direct evidence is available, a solution is proposed based upon what is called "circumstantial evidence". However, this is not proof, because a proof needs to be cent-per-cent accurate, and there should not be an exception to it.

Circumstantial Evidence, on the other hand, only indicates that a certain event was probably caused by a person or a certain cause. However, the every word "probable" shows that it is not certain. What is not certain is not acceptable proof.

While circumstantial evidence does have some value in legal investigations, deductions based upon them have on many occasions been demonstrated to be

totally wrong. Circumstantial Evidence has led to the conviction of many innocent people in the law courts around the world. The error did come to light in many cases and the original judgment was reversed, but often it was too late for the innocent person who was punished on the basis of more circumstantial Evidence.

Every Christian Apologist should remember that circumstantial Evidence is not proof. It is only an expression of probability less than one into error. Such evidence should not be used against or in favor of Bible.

Summary

Almost everyone in the world thinks that anything in the world can be proved or disproved. They are wrong in thinking so. At present only a well-defined set of things can be proved. These range from mathematical upto historical truths, provided the well-developed canons for proof in the respective areas are used. Anything that violates these canons is not a proof even if they are presented by the most respected scholar in the most sophisticated manner.

About The Author

Dr. Johnson C. Philip is a Christian Apologist based in Ernakulam. He received the degree of Th.D. in Apologetics in 1984 and Ph.D. in Physics (Quantum Chromodynamics) in 1991. He was awarded the DSc in Alternative Medicines in 2003 and DNYS in 2004. So far he has authored more than 2500 popular articles and research papers and more than 50 books in the fields of physics, communication, apologetics, and theology. This includes many Indian "firsts" like a Systematic Theology and a 4-volume Bible Encyclopaedia, both in the Malayalam language.

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