

SCIENCE AND THE BIBLE  
EVIDENCE-BASED CHRISTIAN BELIEF



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CHRISTIAN BELIEF

Ted Burge

  
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Jesus said,  
God is Spirit  
and those who worship him  
must worship in Spirit  
and Truth.

—JOHN 4:24

I still have many things to say to you,  
but you cannot bear them now.  
When the Spirit of truth comes,  
he will guide you into all the truth.

—JOHN 16:12–13

And the truth will make you free.

—JOHN 8:32



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## Foreword

 RELIGIOUS BELIEF may go beyond what can be inferred from the evidence of the world about us, but it must never ignore that evidence. A faith which rides roughshod over what reason and observation tell us of our situation not only can never in the end hope to commend itself to more than a minority, but will also cut that minority off from the bulk of humankind and distort the souls and corrupt the integrity of those who hold it.

Over the last 300 years our knowledge of the universe and ourselves has grown with exponential speed and, in the view of many, has left religious and, specifically, Christian belief far behind. But a good number of those well qualified to judge are convinced that the core beliefs of Christian faith are still of crucial importance for human well-being and do not in fact conflict with our new knowledge. Faith can stand firm on the evidence.

Among those especially well equipped to present this fresh account of Christian belief, Ted Burge occupies a distinguished place. As an emeritus professor of physics in London University he has unchallengeable scientific credentials. But as a committed layman of the Church of England, whose books of private and public devotion, *Lord of All*, *Hear Our Prayer*, and *Lord for All Seasons*, are widely valued for combining spirituality and realism, he has become known also as someone of authentic contemporary faith.

In *Science and the Bible: Evidence-Based Christian Belief* we have the latest prayerful fruit of the interaction between his scientific and theological study and reflection, and we can only be deeply grateful for what will, I am sure, prove for many a stimulating and timely resource.

The Right Reverend John Austin Baker, M.A., M.Litt., D.D.



## Preface

 THE TITLE OF THIS BOOK raises the question “On what do people base their Christian beliefs?” Many Christians would answer without any hesitation, “On the Bible, of course,” and they would include a wide range of emphases and interpretations. Others would reply, “The teachings of the Church,” and again there would be a variety of churches, denominations, and traditions. Yet others, when pressed, would want to say they are based on their personal experience, with a whole spectrum of contributions—individual spiritual experience, influences in the home, in a church, and in schools and universities, experience of other religions, and experience stemming from their knowledge of the Bible, science, history, and the arts.

As a member of University staff, in the course of my research, I had been deeply interested in the obtaining of evidence in a particular field, nuclear physics, and how to evaluate it. As a Christian with a robust interest in theology, and particularly its relation to science, it seemed to me that I simply had to study the evidence for and against my beliefs. This book is the result, and its obvious limitations in treating such an enormous subject are an open invitation to fellow believers, or disbelievers, to continue the study, or criticize this contribution. It is expected to be of interest to those who value their religious beliefs, or lack of them, and feel that they need to be supported by deeper study both of religious evidence and related scientific and other discoveries and beliefs.

We need to examine what we accept as evidence for our religious beliefs, and also what we see as evidence for our scientific beliefs. Generally speaking, our scientific beliefs are based on the authoritative statements of respected scientists. Evidence for religious beliefs has a

wider range of qualities than evidence from science. Individual religious experience cannot be the same for everybody, and interpretation of evidence is a deep problem, especially when the evidence is found in the text of the Bible.

The results of science that are relevant to religious beliefs are unlikely to be influential if science itself is not respected. Some people seem to have an inbuilt fear and distrust of science, and much of this is because they do not have sufficient knowledge of the methods of science. Distrust of science is sometimes based on misapplications of technology rather than on fundamental knowledge of the Universe, which is the proper realm of science. For me, knowledge of science is knowledge of God's creation and often helps to identify some of the things we can say about God.

## Acknowledgments

 MY TITLE was suggested by a seminal volume, *Evidence-Based General Practice*, by Dr. Leone Ridsdale, a sometime colleague of my wife. Published in 1995, the book reflected the interests of the *Evidence-Based Medicine Working Group* (1992), based in Ontario, Canada. This approach to medicine continues to excite interest and command respect.

Several friends have read this present book, or parts of it, at various stages in its development. In particular, I thank Bishop John Baker for his detailed and perceptive comments and for providing the foreword, Professor Owen Gingerich, Professor Bill Hull, and the Reverend John F. Foster, S.J., for their commendations. Helpful comments were made by Professor Roy Niblett, the Reverend John Green, and friends in Painswick—retired teacher of religious education Judith O’Riordan, retired teacher and Roman Catholic Kate Davie, former missionary and retired social worker Alison Robinson, retired chartered accountant Hywel James, and Elizabeth Finsberg. Bill Varah recommended the books by Rohl and by Phillips on the new chronology for archaeology.

The editorial assistance of Templeton Foundation Press has been much appreciated. The final text is my own choice, and no blame for errors or infelicities attaches to any of those who made comments.

Some of the material has already been published elsewhere, as acknowledged in the text.

Finally, I warmly acknowledge the help given by my wife, Elizabeth, who has provided continuous encouragement during the five years of preparation of this text, and has commented with care and attention on the whole text.



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## Evidence

## TYPES OF EVIDENCE

 EVIDENCE is that which is ground for belief. That which is evident can be seen, or is clear to the mind, or is obvious. Probably the most common idea of evidence is in a case at law, and is the basis for a judgment of innocence, guilt, or not proven. A judge or jury is called upon to decide the nature of an act and its cause, and often to decide the intent of the accused. It may not be the sort of evidence that forms the basis for a religious belief, nor are religious beliefs determined by the equivalent of a judge or jury.

The bases for religious belief relate to an inquiring person, seeking answers to questions such as “Who or what made me?” and “For what purpose?” The evidence considered will start from personal experience, deeply influenced by religious beliefs of family and friends. The evidence of the Bible often takes on a central role and its accounts of historical and other events become important features. The main difference from contemporary evidence is the inability to cross-question the sources. This is also the case in considering evidence of other historical events, with documents from a variety of dates and in different languages. Commentaries on the Bible, and discussions of beliefs, will also provide bases for Christian belief.

An important distinction needs to be recognized between oral testimony given by a particular person, together with documents written by individuals or groups of people, and technologically discovered scientific evidence. The experience that lies behind scientific evidence is nearly always available to all suitably qualified people. It too is communicated by oral testimony and documents but appeal can be made

by the interested person to the phenomena originally observed. There are, however, some unique or very rare events in nature.

Questions about the universe and its formation are part of the search for religious beliefs, and are increasingly being answered by scientific studies. The nature of a Creator God is clearly revealed, in part, by studies of his Creation. In the last six hundred years tremendous discoveries about the nature of the solar system, the basic laws of physics, the evolution of the physical universe, and the evolution of human beings have been made.

Evidence in science relates mostly to observations and experiments that can be repeated anywhere, at any time, but these usually require considerable expertise and sometimes require expensive equipment. Apparatus is designed to extend the powers of direct human observation. Optical microscopes are well-known instruments, but nowadays for some research it is necessary to supplement them with electron microscopes that are able to show individual molecules. Optical telescopes are supplemented by radio-telescopes, with large arrays of aerials for the highest resolution of stellar objects at extreme distances. Microphones for hearing, chemical apparatus for smell and taste, and pressure-sensitive devices for touch also extend the powers of observation of our five senses. An important characteristic of much modern equipment is the automatic recording of the evidence, relatively free from immediate human interpretation, but requiring subsequent careful evaluation.

One aspect of scientific observations that needs to be brought out into the open is the possibility of being mistaken in what is thought to have been seen or heard. This is such a common experience that, once it is identified as something to be aware of, there is usually little difficulty in devising means to avoid or minimize its dangers, at least in serious science. If you know what you are looking for you are more likely to find it, and if you see something that appears to be “new” it needs further study before it is accepted as important or rejected as spurious.

At a deeper level of physics research, there are particles such as neutrinos that are exceptionally difficult to detect and identify; they can

travel from pole to pole of the earth 100,000 million times with only a 50 percent chance of hitting something. The entities known as quarks cannot be observed one by one, but only when bound together in twos or threes. At this point some people ask, “Are such particles real?” This is a particularly relevant question when the particles are hypothetical, some of which are referred to as “virtual” particles, which are vital for the success of new theories. Some critics, both within and outside science, sometimes make much of this and similar questions, which invites the other question, “What is reality?” but I shall not consider such matters in this book.

In a court of law, evidence is submitted by witnesses under oath, who are then open to cross-examination by opposing lawyers. This can be a very demanding experience. By means of penetrating questions, implied distrust, and suggestions of reasonable but untrue alternatives, the task of a jury to determine the “facts” of the case can be made either easier or more difficult, and either way the verdict can be false. Hearsay evidence, statements made out of court by someone not present to testify under oath, is generally excluded in Anglo-American cases, although there are exceptions. One reason for this exclusion is the lack of opportunity to cross-examine the absent person. There are clearly differences between this legal approach to reliable evidence and attempts to establish the reliability of the sort of evidence usually encountered in studies of historical events, and in the reported events and sayings of the Bible and other sacred texts.

Oral evidence usually involves individual experiences of that person and, in contradistinction to scientific evidence, no other person can expect or claim to have the same identical experience. It may be very similar, and be expressed in similar words, but this achieves little of the universality and repeatability of experiences in science. Again, documents available as evidence have been written by one or more individuals and have been influenced by the writer’s interpretations, and his or her need to select words to convey that evidence, quite apart from errors in transcription. Ancient documents, such as those used to attempt to establish an agreed text for the books of the New Testament, are often available in several versions with alternative readings,

and with omitted or added verses. The evaluation of such evidence is a significant part of biblical scholarship.

In the act of reading documents, in order to establish what the reader considers to be reliable evidence, another layer of individual interpretation enters, in some cases including the difficulties of translations. A great deal of collaborative research may be necessary to reach conclusions that are received and believed by a majority, if indeed such a majority is achievable. This is perhaps nowhere more obvious than in the approach to the Bible and other hallowed writings that are held to be of great importance. The Muslim belief in the need to study Arabic in order to read an agreed text of the Qur'an is easy to appreciate.

The statement "that which is evident can be seen or is clear to the mind" illustrates the need to distinguish between literal and metaphorical interpretations. "Seen" literally means "observed by the eye" but it is also used in relation to the appreciation both of immediate evidence, from whatever source, and conclusions drawn from that evidence, seeing with the mind or the heart. This is a guide and a warning in the evaluation of all sorts of evidence. The use of words that can be taken literally, ambiguously, or metaphorically is common in both theological and scientific statements and can lead to serious disagreements. Evaluation of the meaning of such statements is part of the demanding work of theologians, and spills over into the experience of believers in general. A sensitive appreciation of the richness of metaphor can resolve many of the problems associated with key Christian beliefs.

Scientific documents containing theoretical data and developments have the advantage of including much mathematical material that is almost entirely unambiguous, and most of it is readily understandable by qualified people in all languages. Even so, there remain individual interpretations. Experts do of course sometimes disagree, and further research is needed.

## ABSENCE OF EVIDENCE IS NOT EVIDENCE OF ABSENCE

In many situations it is desirable to have more evidence to assist our judgments and consequent decisions. This is particularly so in cases at

law where the required decision is “Guilty” or “Not guilty.” The usefulness of an alternative result, “Not proven,” as in Scottish law, is then obvious. Sometimes provisional decisions need to be revised when extra evidence, supportive or conflicting, is presented. For those previously declared “Not guilty” it is only recently that this has been considered desirable and legal, although, in the United Kingdom, the Court of Appeal has always been used when circumstances change.

Although it could be said that insufficiency of evidence is endemic in science, it has less serious consequences. Final decisions do not feature in science in the way that they do in cases at law. Scientists are forever seeking new evidence, whether to falsify an earlier conclusion or to reinforce earlier observations by repetition or by providing greater accuracy.

Many instances occur in the Bible where we wish there were further evidence. We select one from the Old Testament and one from the New. The clearest example is provided by archaeological studies in Egypt and Palestine relating to David and Solomon. Only in Israel are there references to the name David in archaeological material, and the interpretations of both of the only two items found have been challenged. One, discovered in 1993 at Tel Dan, appears to read “king of Israel” and “king of the house of David,” possibly dating from one hundred years after the time of David. Another inscription is provided by the famous Moabite stone, in the Louvre, with a cast in the British Museum. It was erected by the Moabite king Mesha about 840 B.C.E. (before the Common Era), and was discovered in 1868, but not authoritatively translated until 1994. This stone was broken into over fifty pieces by Bedouin who distrusted negotiators offering to buy it. Some thirty-eight pieces were subsequently tracked down and a tattered paper “squeeze” or “cast,” made before the stone was broken, assisted the reassembly and translation. The phrase “house of David” is achieved by inserting the initial “D” of David in a damaged word but there has been disagreement among the archaeologists and Hebrew scholars. The Moabite stone is important as the earliest evidence of the worship of Yahweh. It also provides confirmation of some of the details of historical events in 2 Kings 3:1–7.