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2942

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Institution: Oklahoma State University

Location: Stillwater, Oklahoma

Title of Study: A STUDY OF THE RELATIONSHIP BETWEEN THE BIBLE AND THE NATURAL SCIENCES

Pages in Study: 41 Candidate for Degree of Master of Science

Major Field: Natural Science

Scope and Nature of Report: Through the study of the relationship between the Bible and the Natural Sciences many concepts of nature are considered. An approach is made through the history of the situation in order that the differences concerned are brought to light. The testimonials of outstanding scientists from different areas of natural science are presented. Many of these scientists are responsible for controversial theories such as the theory of evolution. Evolution is in evidence both in biology and in geology. The present laws of human conservation are based upon scientific discovery, but were practiced by the Jews under God's direction. The physical laws of conservation are the means by which God has helped man progress. The natural resources are the provisions by which man has subsisted. The physical sciences present many interesting questions with Scriptural reference. Among these are the shape of the earth, the length of the day, the origin of the earth, and the natural cycles.

Findings and Conclusions: When the scientist was finally able to publish his discoveries, many new ideas caused the old concepts to be thrown out. The testimonials of scientists disprove old ideas about the atheistic scientist. These testimonials prove that the nearness to nature causes a nearness to God. The many laws of nature have Scriptural references and some are in detail. The theory of evolution is outlined in the first chapter of Genesis. It is proven in the embryo of the human, and it is in evidence in the crust of the earth. Human conservation is ordered by God in both the Old and the New Testaments. The conservation of our natural resources is mentioned in the Bible. The first chapter of Genesis tells the story of the Creation of the Universe. In fact, the Bible, although not a textbook, reveals the secrets of nature.

ADVISER'S APPROVAL

James H. Lunt

A STUDY OF THE RELATIONSHIP BETWEEN  
THE BIBLE AND THE NATURAL SCIENCES

by

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Bachelor of Science

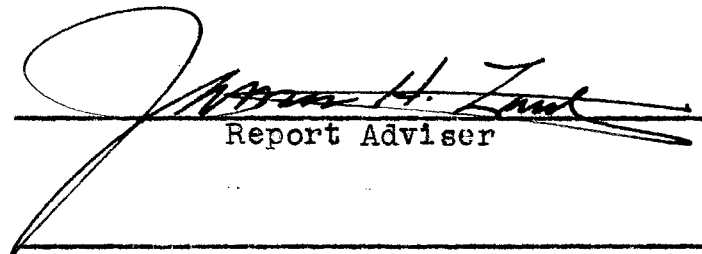
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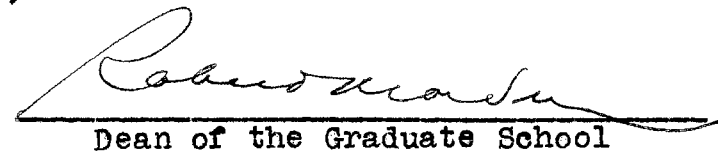
Tampa, Florida

Submitted to the faculty of the Graduate School  
of Oklahoma State University  
in partial fulfillment of the  
requirements for the degree of  
MASTER OF SCIENCE  
May, 1958

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THE BIBLE AND THE NATURAL SCIENCES

Report Approved:

  
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## PREFACE

During the five years of science teaching in a rural high school, I encountered many cases where the scientific phenomena was challenged. The challenge came from students and adults alike. This fact led me to the decision of research from which this paper was written. I first broadened my knowledge in the scientific problems approached in this report: evolution, conservation, and physical science. Since the opinions of experts in both science and religion were necessary, I spent time reading literature which related the various sciences to the Bible. Finally, I reviewed the historical background of the topic. Such a background was necessary in order to bring to light the many biases which naturally opposed the advance of science. All that remained to be done after the preparation was to search the Bible to find portions of Scripture which would illustrate examples of natural science.

Indebtedness is acknowledged to Dr. James H. Zant for his helpful and inspiring guidance; to Mrs. Hattie Mae Gallo-way for her continuous encouragement and help; to Dr. Zant's office help, all of whom were always ready to assist if called upon; to Mrs. George Kienlen, the typist, and to all the members of the Institute for their kind encouragement.

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## CHAPTER I

### INTRODUCTION

The writer of this report has spent extensive time on research concerning that which he believes to be the most interesting topic of all scientific study, the abridgement of science and the Bible. Whereas the subject today is of minor importance to both the church personnel and their counterpart, the layman, it does introduce some interesting historical sidelines, some controversy, and some categories of interest to all. This report consists of a discussion of the above topics.

In the past, and, to some degree, in the present, man has been exposed to certain personal beliefs which he has held to be true regardless of evidence to the contrary. In a sense, however, he has not been all to blame. Thought control in the form of dogma was a stumbling block to scientific discovery. Man's feelings and initiative were not considered, nor was his ingenuity if it meant it was to take him from the way described by a certain few. This condition was to be the cause of the almost entire cessation of learning during the Middle Ages. There were men, though, who had the courage to bring about a change. To these men it was the divine help of God that was responsible for this success.

The scientist who comes forth with a discovery which is definitely against dogma must certainly be exposed to the wrath of the mass. Such wrath backed by the spiritual leadership tends to make one very cautious in his revelations. Many of our greatest discoveries were made by Christian men and women who, with their great faith in God, were not afraid to disclose what experiment had proved. Their testimonials stand as a monument that the scientist, in view of his work, cannot be atheistic for long, but must surely become closer to God as he works close to nature and her laws.

There is much to be found in the Bible as to the relationship that it has to the natural sciences. Though the many differences have been ironed out with the great advances in education, there are still those who would attempt to confuse the issue with wrong interpretations. Ideas and theories like those of evolution have been twisted and turned into something altogether different from the true meaning. This has caused many of the state legislatures to prohibit the teaching of evolution in the public schools. That the Bible is not a textbook is an established fact; however, the coincidence of evolution as defined by Darwin is found among its pages. The same is true of other issues of controversy which were in the foreground in the past, issues such as the shape of the earth, the length of the day, the origin of the universe and conservation. These subjects will be discussed scientifically and references will be given to Scriptural evidence.



The laws of living were handed down from generation to generation and were used under God's direction. These laws have been the nucleus of the present day laws of conservation. The subject of survival, always on man's mind, is the basis of the present day laws of hygiene. These, too, are mentioned in the Bible.

Science is a quest for truth, the truth of natural phenomena; the Bible is a quest for truth, the truth of spiritual survival. Scientific truth is acceptable only as long as it holds together, but the truth of the Bible is acceptable because it does hold together. This report is the result of several months of study concerning the relationship between the two truths and man's influence upon both. It is a description of man's accomplishments from the day he began to search for this truth of nature. In this report will be found the testimonials of scientists, their tributes to God, whose revelations paved the way for their successes.

The very nature of this report limits its scope to only those questions which are closest to man in this day of fast traveling and faster living. It is not intended to degrade the religious beliefs of others, but only to bring out those weaknesses of man in his relationship with the sciences.

## CHAPTER II

### HISTORICAL BACKGROUND

A wise man will hear and will increase learning.<sup>1</sup>

And ye shall know the truth, and the truth shall make you free.<sup>2</sup>

According to St. Augustine an educated man must experience the essential unity between reason and faith through merging himself with the great laws of the universe. After that, he should look into the face of God to find all earthly conflicts dissolving. Throughout history one discovers that, rather than increasing in learning as the portion of the Scripture states, the wise man let himself be influenced by the Golden Age Theory which held that perfection was in the past. The advance of science was hindered by the interpretation of the Word by scholars who failed to coordinate that which was in the Bible with that which was observed in nature.

Since the beginning spiritual leadership has exerted a great influence upon the people. This influence reached into the classroom and, as a result of secular interpreta-

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<sup>1</sup>Proverbs 1:5

<sup>2</sup>John 8:32

tions, was responsible for bringing the masses up in a manner believed to be approved by God. Any deviation from dogma was considered to be heresy, and the perpetrator was punished. The Jews, fortified by the jealousy and might of the chief priests, condemned and crucified Jesus because He was teaching a Gospel different from that which had been taught them. The Christian leaders of the Middle Ages used the Inquisition to convict and to punish the heretics. The Inquisition and the threat of excommunication were the tools of the Roman Church in the control of the education and the living standards of the people under their jurisdiction. Because of these threats many scientific discoveries had to await the advent of the Reformation and the Renaissance before the scientist dared reveal them. The attitude of the Popes and scholars is best explained in the following quotation:<sup>3</sup>

The Popes traced their origin back to the times of Antiquity, and the scholars and the theologians of the Church in the times of Scholasticism became more and more inclined to acknowledge not one but two revelations, the Gospel and the works of Aristotle.

Since, to them, Christ and Aristotle were regarded as both the center and the culmination of history, the authority of Christ and Aristotle was supposed to be established forever.

Martin Luther, inspired by the works of St. Augustine,

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<sup>3</sup>Robert Ulich, History of Educational Thought (New York, 1945), p. 90.

was the first person to be successful in a religious reform. There were many others to follow. This caused many different interpretations of the Scriptures to be revealed. The Reformation made it possible for the individual himself to read and enjoy the Bible. It meant that one did not have to believe that which someone told him but that he could interpret the Word for himself, and thus he could find inspiration and wisdom from it. Jesus tells man to "search the Scriptures."<sup>4</sup> A study of the manner in which the Bible was written and the manner in which the Lord Jesus taught the multitudes reveals that the common man was taken into consideration. The Bible, therefore, was intended not as a reference book for the elite but as a book of inspiration for the masses.

The greatest advances in science began during the period known as the Age of Reason. It was during this period that a great desire for learning was realized. With this desire came the opportunity for many scientists to observe and to reveal new discoveries. As new theories became known and tested, the old Greek influence of Aristotle came to a test. Lavoiseur and Priestly, through their experiments with oxygen, proved that the phlogistan theory was a myth. Copernicus theorized that the sun was the center of the universe, and consequently was responsible for throwing out the old Ptolemic ideas of the system. In the field of biology the myth of spontaneous generation was proved as false by

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<sup>4</sup>John 5:39

Redi and by Spallenzani, who followed him. There are many more examples which bear mentioning, but it is beyond the scope of this report to do so. Suffice it to say that this was the age in history when the ancient philosophy and science of the Greeks was thrown out and the newer concepts of natural science, based upon observation, were adopted.

This has been a brief description of the relationship between the Church organization and the education of the people. The importance of this history rests with the reader. The author feels that it was necessary in order that he might relate the mistakes of yesterday to the biases of today, and prove that inferences from natural sciences are confirmed by faith.

## CHAPTER III

### THE SCIENTIST AND GOD

I said, Days should speak, and multitude of years should teach wisdom

But there is a spirit in man: and the inspiration of the Almighty giveth them understanding.

Great men are not always wise.<sup>1</sup>

Many of history's great scientists have taken inspiration from the Bible and have in turn given to this world the assurance of future centuries of convenient and peaceful living. It is true that many of the great discoveries have had disastrous debuts, but the scientist continues to improve in order that mankind may be served.

The Bible is God's word and nature is God's work. This being the case it is reasonable to assume that the Bible may be called a source of information for a better understanding of the laws of nature as well as a source of inspiration for a better way of life. Mary B. Hesse has this to say of the Bible and the laws of nature:<sup>2</sup>

The God of the Bible is the God who is in control of history and nature, who has a purpose for it which is intelligible to men, and therefore reasonably to be expected to govern nature according to law which man can discover and understand, not according to mere whim.

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<sup>1</sup>Job 32: 7-9.

<sup>2</sup>Mary B. Hesse, Science and the Human Imagination (New York, c1955), p. 58.

To Galileo the Bible was not a scientific textbook, but revealed spiritual truths that men could not discover by observation, in terms familiar to the early Hebrews. To Sir Isaac Newton and most of his English contemporaries, science seemed to afford proof of the existence of God as the Almighty Lawgiver. Both of these men were, in part, responsible for some very revolutionary theories in their time. Galileo, who adopted the theory of Copernicus, was condemned and was forced to recant by inquisition. Newton caused a mild turmoil among the scholars of his day with his law of universal gravitation. Johannes Kepler, a contemporary of Galileo, also considered one with heretic tendencies, regarded scientific discovery as a process of the revelation of the greatness of the Creator.

Webster defines a testimonial as a token of regard or admiration, in acknowledgement of services rendered. To many of the great scientists God has been an inspiration. Through Him they have been able to work their problems to a successful solution. Their faith in God has been so strong that their testimonials may be used as evidence that the further one digs into the mysteries of nature the closer he comes to God.

Linneaus, the botanist of the eighteenth century, who is responsible for the present system of classification of plants and animals, said, "In the unfolding blossom I saw God in His glory passing near me, and I bowed my head in worship." It is difficult to understand why, as one sees

before him the mighty oak spring from the little acorn, there are some who believe that science is incompatible with religion.

Johannes Kepler, a heretic in the days of the Reformation and a devout Lutheran, formulated what are now known as Kepler's Laws of Planetary Motion. As he observed the stars through his telescope he said, "My God, I read Thy thoughts after Thee." This statement is from a man whose laws of nature had torn down a belief that the planets, being perfect creatures of God, followed the most perfect of orbits, namely, circles.

Lord Kelvin, the British physicist who demonstrated the thermodynamic soundness of the absolute temperature scale testified as follows: "I believe that the more thoroughly science is studied the further does it take us from anything compared to atheism." He also had this to say about science and God: "If you think strongly enough you will be forced by science to the belief in God, which is the foundation of all religion. You will find it not antagonistic, but helpful, to religion." These are two good testimonials that God's work is nature and that the more one studies nature the closer he comes to God.

Louis Pasteur has been referred to as the Father of Modern Medicine because of the great steps he made toward the cure of disease. His faith in the Lord is evidenced by this prayer: "God grant that by my persevering labors I may bring a little stone to the frail and ill-assured edifice



of our knowledge of those deep mysteries of life and death where all our intellects have so lamentably failed." Over his tomb in the Institute Pasteur is found the inscription:<sup>3</sup>

"Happy is he who carries God within him, an ideal of beauty to which he is obedient, an ideal of art, an ideal of science, an ideal of the fatherland, an ideal of the virtues of the Gospels."

Although it is accepted as being a true law of nature by the scientist today, the theory of evolution is frowned upon by many of the laymen. Charles Darwin, while he was on a trip around the world, observed the history of nature in the making. From his investigations he arrived at some conclusions which formulated the theory of evolution. In his revolutionary book, Origin of Species, Darwin has this to say:<sup>4</sup>

"There is grandeur in this view of life, with its several powers, having been originally breathed by the Creator into a few forms or into one; and that, while this planet has gone circling on according to the fixed laws of gravity, from so simple a beginning, endless forms most beautiful and most wonderful have been or are being evolved."

Charles Darwin attributed his success to his prayers to the Lord, God.

Thomas Huxley, the British scientist and lecturer, used his talents to champion the theory of evolution of Darwin. He considered the Bible as the Magna Charta of the poor and the oppressed. Huxley believed that the Bible

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<sup>3</sup>C. Raimer Smith, The Physician Examines the Bible (New York, c1950), pp. 194-198.

<sup>4</sup>Charlotte and William Irvine, Charles Darwin, Origin of Species (New York, c1956), p. 134.

should be treated as literature and not as dogma. Huxley has this to say of the Bible:<sup>5</sup>

"The Bible has been the Magna Charta of the poor and the oppressed. Down to modern times no state has had a constitution in which the interests of the people are so largely taken into account; in which the duties, so much more than the privileges of rulers are insisted upon, as that drawn up for Israel in Deuteronomy and Leviticus. Nowhere is the fundamental truth that the welfare of the state, in the long run, depends upon the righteousness of the citizen, so strongly laid down. The Bible is the most democratic book in the world."

Many of our top scientists today hold such a strong belief in God that a group of them signed a statement called "Joint Statement upon the Relation of Science and Religion, by Religious Leaders and Scientists". This statement ends with this paragraph:<sup>6</sup>

"It is the sublime conception of God which is furnished by science and one wholly consonant with the highest ideals of religion, when it represents Him as revealing Himself through countless ages in the development of the earth as an abode of man in the agelong inbreathing of life into its constituent matter, culminating in man with his spiritual nature and all of his God-like powers."

Mary Hesse has this to say of the scientist and God:<sup>7</sup>

"There is no finally satisfying synthesis, but there are Christian thinkers who try to serve the Lord with their whole heart and soul and mind, and there are scientists who seek after the truth according to the light which is given to them."

This chapter has dwelt on the subject of the scientist and God. Man has expressed his love of God by testifying

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<sup>5</sup>P. Chalmers Mitchell, Thomas Henry Huxley, Vol. I, (London, c1900), p. 246.

<sup>6</sup>Smith, p. 194-198.

<sup>7</sup>Hesse, p. 162.

to it. He has been taught that faith can do much for him if he will only exercise it. A reference is now made to this verse from the Hebrews:<sup>8</sup>

Through faith we understand that the worlds were framed by the words of God, so that things which are seen were not made of things which do appear.

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<sup>8</sup>Hebrews 11:3.

## CHAPTER IV

### THE BIBLE AND THE THEORY OF EVOLUTION

It would be mere folly to attempt to emphasize the relationship between the Bible and the biological sciences without first introducing some of the controversy concerned. The Bible claims to have the interpretation of the absolute truth. This truth, accepted by all who believe, is to prepare man for life to come. To some, however, this truth has been related to some of the other aspects of life. One who believes in the Creator must also believe that, as Creator, He must have set up the laws of nature to serve man.

There is a difference, though, between the truth interpreted by the Bible and that truth claimed by science, the relative truth. Science, which must work with induction and deduction, both of which have the weaknesses associated with man, is limited. Science is limited because it can deal only with that which can be measured and observed. God is infinite. He is the Creator. He is absolute. He is beyond the scope of the scientist.

Much conflict has arisen from this search for the truth by the scientist and the claim of truth extended by the Bible. In the study of the biological sciences one comes across the most outstanding example of controversy in science, the evolution theory of Darwin. The controversy

arises from two main sources: the evolutionist, each one of whom has his own private interpretations, and the special creationist who still believes that God created all life in its present form.

In order that evolution may be discussed it will be necessary to list the postulates of the theory of evolution. A summary of this theory is stated as follows: (1). Beings now living have descended from different beings which have lived in the past. (2). The discontinuous variations observed at our time level have arisen gradually from causes which now continue to be in operation and which can be studied. (3). If we could assemble all of the individuals which have ever inhabited the earth a fairly continuous array of forms would emerge.

The three areas of study through which the theory of evolution may be defended give scientific proof that the theory not only states the order in which man has made his appearance on earth, but also the gradual changes which life has undergone since creation. These areas of approach are embryology, geology, and the occurrence of mutations.

Throughout the development of the embryo forms of life are present which coincide with the phyla of the animal kingdom. After the egg is fertilized it becomes a zygote, or one-celled animal. This is the lowest and simplest form of life. It then develops into the morula, a colony of cells. The blastule is next. It is like a hollow ball of cells known as a volvox. The next stage in the development is the

gastula which resembles the coelentrates, the phylum of which the corals and the jellyfish are members. The neurula, which resembles a worm, is next. The worm follows the coelentrates in the classification of the animal kingdom. A transition then takes place as the embryo changes from the invertebrates to the vertebrates as it takes on the properties of a fish and has gills. It then, in order, resembles a reptile, a generalized mammal, a primate, and then finally, after nine weeks, takes the shape of a human and gradually develops until birth.

Another record of evolution can be found written in the rocks. A reference is now made to the well-known geological time-table. This table shows the gradual change in form of life as it appeared on earth and apparently sets up a pattern of the whole creation. Table I shows the relationship between the different forms of animals and the time that they appeared on earth. It must be more than mere coincidence that the forms observed in the development of the embryo also fit in the same chronological order as the geologists have discovered the appearance of similar fossils in the crust of the earth.

During the Archeozoic era is found the appearance of the first life. This is proved by the type of deposits found in this layer, graphite and limestone. The zygote, the morula, and the blastula have properties similar to the animals which appear during this period. The coelentrates show up during the Proterozoic era. Other invertebrates

TABLE I  
GEOLOGICAL TIME-TABLE

Era	Period	Characteristic Life	Embryonic Stage
Azoic		Nothing living	
Archeozoic		Graphite and limestone deposits	Zygote, Morula, Blastula
Proterozoic		Primitive invertebrates. Scanty fossil records. Algae	Gastula and Neurula
Paleozoic	Cambrian	First trilobites, earliest rocks with abundant fossils	Fish Sea animals
	Ordovician	Early vertebrates. Dominance of Trilobites and other invertebrates	Fish
	Silurian	First land plants. Rise of fish to dominance	Fish
	Devonian	First land animals	Reptiles
	Mississippian	Rise of amphibians Complex invertebrates	Reptiles
	Permian	Last of Trilobites and dominance of reptiles	Reptiles
Mesozoic	Triassic	Earliest mammals	Mammals
	Jurassic	Flying reptiles, birds, mammals	Mammals
	Cretaceous	Last of dinosaurs. Early mammals and birds. Flowering plants and insects.	Mammal
Cenozoic	Eocene	Reptiles giving way to mammals	Mammals
	Oligocene	Modern plant life and mammals dominant	Mammals
	Miocene to Pleistocene	Many modern animals well-developed. Man-like ape. Man.	Primates Man

also appear. The gastula and the neurula stages in the embryo have similar properties. The Cambrian period through the Silurian periods reveal the beginning of the fishlike creatures upon the face of the earth. The continuation of forms in the embryo persist, because now it, too, is fishlike. The next type of animal to appear is the reptile. This was during the Devonian era. It also is revealed in the embryo in the same order. The three top layers of the earth's crust are those which correspond with the Mesozoic, the Cenozoic, and the Pleistocene periods with the mammal, the primate, and the human appearing chronologically. The pattern in the embryo continues in the same order.

The facts which support the theory of evolution have been proved through the conclusions of scientists. A summary of these facts is as follows:

(1). All living things have originated from one common ancestor, the single cell.

(2). The variations which have occurred have arisen gradually, both in the embryo and in the crust of the earth.

The fact that many mutations have occurred from time to time is another possible proof of evolution. Among these mutations are the vestigial organs found in the human body. There has been much speculation that these organs were at one time functional, but, because of environmental conditions, have been rendered useless. In some mammals the appendix and the caecus together seem to function as an organ of food storage for slow digestion. Among the other



vestigial organs in the body are the coccyx at the end of the spinal column, the ear muscles, and the tonsils. Why are all of these strange organs, which apparently have no function, a part of the human?

The scientist has not been able to answer this question, but he does have two possible assumptions which could be aids to the interpretation of evolution. He may assume that the use of these organs has already been defined and that they are no longer necessary because of environmental changes. He may also assume that their use has yet to be defined since changes are still in process.

So far the question of evolution has been discussed from a scientific point of view. There is another aspect to be considered, however, the Biblical interpretation. Much confusion has resulted from the numerous translations of the Scriptures by the many denominations. This has led to the controversy which springs from the attitude of the Christian to do that which he believes the Lord desires him to do.

A story of the evolution of the human can be found in the first chapter of Genesis. One need only to read and study this chapter to find revealed before him the gradual appearance of the different phyla which led to the creation of man. No one is sure of the authenticity of this chapter; however, it must be more than coincidence that the story of the Beginning is unfolded in the Bible exactly as the geologist has discovered it from the layers in the earth's crust

and fossils. Did Moses know how life developed? Only God really knows.

Following is a list of firsts found in Genesis I. The order of occurrence parallels that of the theory of evolution.

(1). Non-life to life: verses 1-12. In the beginning.....let the earth bring forth....

(2). First terrestrial plants: verses 11 and 12... grass, the herb yielding seed....

(3). First marine plants and animals: verses 20-23. Let the water bring forth....

(4). First mammals: verses 24 and 25. Let the earth bring forth the living creature....beast of the earth....

(5). First appearance of man: verses 26-28. Let us make man in our own image.

(6). Asexual to sexual reproduction: Genesis 2: 18-25.

The use of the Bible is not defined as a scientific text, but as a means to the way of life detailed by God. Since the truth of creation remains with God, man should not allow any type of diversion to interfere with his beliefs, but should try to understand what our Lord meant for him to do. Humans are superior only because He made them so. He must have had a reason for this.

The references which follow may be interpreted as signs of evolution:

....and out of the earth shall others grow. Job 25:6.

A reference is made to worms. Job 25:6 and Ps. 22:6.

All go unto one place; all are of dust and all turn to dust again. Ecclesiastes 3:20.

Similarities of man and beast. Ecclesiastes 3: 18-22.

Lord made thee and formed thee from womb. Isaiah 44:2.

And makest men as the fishes of the sea, as the creeping things, that have no ruler over them. Habak 1: 14.

Natural growth from seed to adult plant. Mark 4: 28.

This has been a discussion of the merits of the theory of evolution as an approach to the relationship between the Bible and the biological sciences. It is not an attempt to interpret the Scriptures. It is only a source of information as well as an attempt to justify evolution. This portion of Scripture may well be the answer to those who believe that God created man on the spur of the moment.

I will praise thee; for I am fearfully and wonderfully made: marvelous are thy works: and that my soul knoweth right well.

My substance was not hid from thee when I was made in secret, and curiously wrought in the lowest parts of the earth.

Thine eyes did see my substance, yet being unperfect; and in thy book all my members were written, which in continuance were fashioned, when as yet there were none of them. Psalms 139: 14-16.

## CHAPTER V

### THE BIBLE AND HUMAN CONSERVATION

Know ye not that ye are the temple of God, and that the Spirit of God dwelleth in you?

If any man defile the temple of God, him shall God destroy; for the temple of God is Holy, which temple ye are.<sup>1</sup>

Conservation is defined as the preservation, or the official care or supervision of something. Human conservation, therefore, must mean the care and supervision of the body by the individual. This may be done by 1. living physically, mentally, and morally clean; 2. by preventing disease; and 3. by promoting good health through community endeavor. Unfortunately for many persons the above practices are seldom used together. Hygiene is a science which is mentioned extensively in the Bible since the Jews were instructed to follow the laws of living. These laws are still in use today by devout Jews, and many of them are the nucleus of the present laws of sanitation set forth in civilized communities.

Hygiene is the science of the preservation of health. It may also be defined as a sanitary science or as a system of principles or rules designed for the promotion of health.

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<sup>1</sup> 1 Corinthians 3: 16 and 17.

All of these definitions have Biblical references. Although not complete, these references will suffice as a guide and as a possible incentive for further Bible reading.

Five principles of good health are cleanliness, good diet, temperance, wholesome activity, and sufficient rest. Although the following list refers to the individual, it could be applied to other classifications of hygiene.

### Cleanliness

Wash after touching germs. Leviticus 15: 21.  
 Wash in water to be clean. II Kings 5: 12.  
 Wash you. Make you clean. (Refers to moral cleanliness) Isaiah 1: 16.  
 Touch no unclean thing. Isaiah 52: 11.

### Good Diet

Don't defile oneself with rich food. Daniel 1:8-13.  
 Eat that which is good. Isaiah 55: 2.  
 Eat in a clean place. Leviticus 10: 14.

### Temperance

To knowledge, temperance, to temperance, patience...  
 II Peter 1: 6.  
 No law against temperance. Galatians 5: 23.  
 Mastery through temperance. I Corinthians 9: 25.

### Activity (work)

Do all work in six days. Exodus 20: 9.  
 Commit thy works unto the Lord. Proverbs 16: 3.  
 There is time for all work. Ecclesiastes 5: 12.  
 Be strong and work. Haggai 2: 4.

### Sleep

Heart needs rest in night. Ecclesiastes 2: 23.  
 Sweet sleep of a laboring man. Ecclesiastes 5: 12.  
 Sleep in the night. I Thessalonians 5: 7.

The laws of community health today are the result of scientific research. These laws do, however, parallel those

which are mentioned in the Bible as part of the law of the Jews. The code of sanitation emphasizes isolation of contagion, disease control by water purification, and proper waste disposal. All three of these classifications are found extensively in the Bible. The following list is from the Law:

Isolation. Leviticus, chapters 13 - 15.

Disease control

Water purification. II Kings 2: 19-22.

Waste disposal Deuteronomy 23: 12-14; Leviticus 8:17;  
Exodus 29: 14; Leviticus 4: 11.

Because of their laws of hygiene and their good practices of waste disposal and drainage, the Jews were less in need of the healing art than others. Early medical practices appear in the Bible as midwifery.<sup>2</sup> Many diseases are mentioned in the Bible. Among these are leprosy, boils, fever, palsy, consumption and plague. Medicine is mentioned in the following:

Good like a medicine. Proverbs 17: 22.

....hast no healing medicine. Jeremiah 30: 13.

....in vain use many medicines. Jeremiah 46: 11.

....leaf for medicine. Ezekiel 47: 12.

"Physician" is also mentioned in many places. Although healing is associated with faith by Jesus, the physician still is considered with the sick in many of the verses

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<sup>2</sup>Genesis 25: 24-26; Genesis 38: 27-30; Genesis 35:16-19

referring to it. He has this to say of physicians:

....physician to embalm....Genesis 50: 2.

....in his disease sought the physician.  
II Chronicles 16: 12.

Physicians of no value....Job 13: 4.

Is there no physician there? Jeremiah 8: 22.

Whole need not physician....Matthew 9: 12.

Had suffered many things and had many physicians.  
Mark 5: 26.

Luke as the beloved physician. Colossians 4: 14.

Even though many of the present day concepts of natural science have been the result of tedious and precise experimentation, they were not unknown to the people of Biblical days. A survey of the science of human conservation and its relationship with the Bible produces further evidence that the Creator meant for man to put that which he has learned to practical and beneficial purposes, the welfare of His own.

Obey my voice and I will be your God, and ye shall be my people: and walk ye in all the ways that I have commanded you, that it may be well unto you.<sup>3</sup>

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<sup>3</sup>Jeremiah 7: 23.

## CHAPTER VI

### CONSERVATION OF THE NATURAL RESOURCES

One of the most important problems of man today is that of survival. To assure himself of a secure future is the aim of all. It has been a fairly recent acknowledgement, however, that the greatest means to this end is through the conservation of the natural resources. The problem of conservation is so important that organizations have been formed for the purpose of setting up and enforcing laws to assure man of the future use of these resources. Concern for these important substances is so great that scientists are continually working to find substitutes that may be used in place of the fast decreasing resources. Substitutes, however, require the use of raw materials derived from forests, soil, wildlife, minerals and fuel, all of which are in the category of natural resources.

In the first chapter of Genesis where the story of Creation is told, God told man that he was to be the highest form of life. He gave man "...every herb bearing seed,... every tree,...every beast of the earth...it shall be for meat."<sup>1</sup>

He not only provided for food, but, upon occasion,

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<sup>1</sup>Genesis 1: 29-30.



has warned man to save today lest he starve tomorrow:

"...and lay up corn...seven years...against seven years of famine."<sup>2</sup> God also gave instructions to Noah "...bring forth with thee...both of fowl and cattle and of every creeping...that they may be fruitful..."<sup>3</sup> This was another order of conservation that man may be supported. Jesus made mention of saving when He had finished feeding the multitude "...gather up the fragments that remain, that nothing be lost."<sup>4</sup> In Deuteronomy there is a reference to God's provisions in that man must work to get them: "...and wells not digged,...vineyards and olive trees which thou plantest not."<sup>5</sup>

To be sure, God has provided for man that he may eat. He has given the forest, the herb, the animals and the soil. All of these not only represent an economic potential, but also give man something beautiful to look at, an excellent example of the beauty of nature. With this gift comes the warning that man must care for these provisions that he may subsist during times of famine.<sup>6</sup>

The most significant reference to conservation that is found in the Bible could quite possibly be these verses from Genesis:

Thorns and thistles shall it bring forth to thee;  
and thou shall eat the herb of the field;  
In the sweat of thy face shalt thou eat bread, till  
thou return unto the ground; for out of it wast thou taken:  
for dust thou art, and dust shalt thou return.<sup>7</sup>

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<sup>2</sup>Genesis 41:26-36.    <sup>3</sup>Genesis 8:17.    <sup>4</sup>John 6: 12.

<sup>5</sup>Deuteronomy 6: 11.    <sup>6</sup>Genesis 41: 26-36.

<sup>7</sup>Genesis 3: 18-19.

With the above portion of Scripture the subject of minerology is introduced. A knowledge of the composition of the earth's crust is found in Job.<sup>8</sup> In this chapter many of the important minerals used by man is mentioned. It refers to God's storehouse. There is also a very significant verse concerning soil erosion: "He cutteth out rivers among the rocks; and his eye seeth every precious thing."<sup>9</sup> One needs only to think of the Grand Canyon to visualize such a picture. It is the same as saying that the earth will supply man with his necessities.

The following list is a reference of the mention made in the Bible of some of the minerals used by man in those days. It is by no means a complete list, but it does give an idea of how these various substances were used.

Hosea 1: 10 ...sand of the sea...	sand
Job 20: 23 ...iron weapon,...bow of steel	iron
Genesis 19: 24 ...brimstone and fire...	sulfur
Deuteronomy 27: 2 ...set thee up great stones, and plaister them with plaister.	plaster
Ezra 8: 26 ...talents of silver,and of gold.	silver,gold
Revelations 21:18 ...pure gold like unto clear glass	gold, glass
Genesis 6: 14 ...and shalt pitch it within and..	pitch
Revelations 4:6 ...sea of glass like unto crystal	glass
Deuteronomy 32:13 ...oil out of flinty rock..	fuel oil

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<sup>8</sup>Job 28: 1-11.

<sup>9</sup>Job 28: 10.

The sciences of mineralogy and metallurgy are concerned with the mining and the purification of minerals. Mineralogy is the science of minerals. In the following list will be found reference to the knowledge of this science by those of Biblical times. It is not complete since such completion is beyond the scope of this report.

Job 28:2 Iron is taken out of the earth.

Job 28:6 ...and it hath dust of gold.

Job 28:1 Surely there is a vein for the silver, and a place for gold where they find it.

Deuteronomy 8:9 ...out of whose hills thou mayest dig brass.

Metallurgy is defined as the science and art of extracting metals from their ores and of purifying these metals. Since these metals were used by man, a knowledge of metallurgy was necessary. There is an indication of such knowledge in the Bible. The list which follows refers only to those metals which were most important to man in those days. The method is the only difference between today and then.

Psalms 12:6 ...as silver tried in a furnace of earth, purified seven times.

Jeremiah 6:29 The bellows are burned, the lead is consumed with fire.

Job 28:2 ...and the brass is molten out of stone.

Ezekiel 22:20 As they gather silver, and brass, and iron, and lead, and tin, into the midst of the furnace, to blow fire upon it, to melt it....

God said that all life was created from dust and that all life will return to dust. Since all life consists of a great many minerals, then the whole idea of conservation is represented in this "dust to dust" cycle. Man has given various names to this concept. He has formulated laws of conservation of energy, of mass, of momentum, and of other physical phenomena. Matter is never wasted but just shows up in different form. Lost mechanical energy will show up in the form of heat, electricity or light. Matter lost in one form will show up in another form due to oxidation, decomposition or other chemical processes. All of these examples, related to the concept of conservation and the "dust to dust" idea, suggest the pattern of cycles known to man.

The four cycles which are referred to as life cycles are: the water cycle, the carbon cycle, the oxygen cycle, and the nitrogen cycle. Two of these are in evidence more in nature than in the Bible. They do, however, prove the existence of God's storehouse in the earth. These are the oxygen cycle which supplies the plant life, and the carbon cycle which provides fuel for man. The other two, the water cycle and the nitrogen cycle, can be referred to in Scripture:

For He maketh small drops of water; they pour down rain according to the vapor thereof,

which the clouds do drop and distil upon man abundantly.<sup>10</sup>

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<sup>10</sup>Job 36: 27-28.

Water vaporizes. It rises into the sky and falls again as rain. Some of it goes underground to be stored as such. Some of it goes to water holes, streams, rivers, and other sources of the important substance. It is again lifted to the sky. The cycle is continually in motion.

And he answering said unto him, Lord, let it alone this year also, till I shall dig about it, and dung it.<sup>11</sup>

This represents the nitrogen cycle which refers to the restoring of the valuable nitrogen to the soil, a practice observed today by the planting of cover crops during off seasons. Manure is still used by many since it restores to the earth many other important salts also.

This chapter has been a discussion of the ways God has provided for man. The approach was through the conservation of natural resources question, which is of the utmost importance today. In this chapter mention was made of the cycles God has used to provide for man. Proof of these cycles is found in the Bible as well as in nature. It is only fitting that the chapter on conservation end with a verse from the Bible, a promise:

And ye shall eat in plenty, and be satisfied, and praise the name of the Lord your God, that hath dealt wonderously with you: and my people shall never be ashamed.<sup>12</sup>

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<sup>11</sup>Luke 13: 8.

<sup>12</sup>Joel 2: 26.

## CHAPTER VII

### THE BIBLE AND THE PHYSICAL SCIENCES

Because of their very nature the physical sciences do not offer the controversy which arises in a discussion of biology. Because of scientific research and discovery of concepts and ideas which man can handle, the controversy has all but disappeared. However, there are many interesting subjects which are introduced through Scripture reading. For instance, the story of how the earth was formed is of universal interest even though only the Creator Himself knows the true way. The length of the day has been debated on occasion ever since the Lord created in six days and rested on the seventh. That the shape of the earth is spherical is a known fact, yet some minor controversy is presented to one who takes all Scripture literally. These questions and others will be discussed in this chapter.

The quote "in the beginning" taken from the first sentence of the Bible immediately reminds one of the manner by which the earth was formed. Anyone who believes in the Creation and God will agree that the manner is of no consequence. Man, being what he is, however, must hypothesize. A mystery which presents itself must be solved. Of the many theories concerning the formation of the universe,

and there have been many, two are considered to be more descriptive than others, the Nebular Theory of LaPlace and the Tidal Theory of Chamberlain.

The Nebular Theory states that the solar system originated as a hot, gaseous nebula which slowly contracted toward its center acquiring a rotary motion. The centrifugal force at its periphery exceeded the force of gravity, causing rings of nebulous matter to become detached. This matter gradually collected into spherical masses which, because of inherited motion, revolved around the parent nebula to form the planets. The original nebula condensed to form the sun.

The Tidal Theory is somewhat different. According to Chamberlain, the sun existed as an ordinary star, a hot and gaseous member of the Milky Way. A strange star of different velocity and direction approached the sun and was overtaken by it. A strong mutual attraction between the two stars raised huge tidal bulges on the surface of each in the direction of the other. That bulge on the sun in the direction of the other star was set in a revolving motion and eventually condensed into a large number of small bodies, the planets.

These two theories present logical suppositions as to how the universe and, consequently, the earth were formed. They both use the word "condensed", which is usually associated with any discussion of the three states of matter. It has also been hypothesized that the interior of the earth

is a solid mass of liquid matter, since the farther down one goes the higher the temperature. A gradual cooling of this gaseous substance would eventually leave the earth as it now is, a thin crust of the lighter solid elements beneath which will be found a layer of hot molten rock, and, finally, a center of molten metals which geologists believe to be nickel and iron. This huge mass of matter is held together by the force of gravity.

In the Book of Genesis<sup>1</sup> will be found a story of the earth's creation which will closely coincide with the three states of matter. "In the beginning God created...And the earth was without form, and void." The properties of gases which make them different from other matter are their ability to fill any containers and the freedom of the molecules due to their kinetic energy. The words "without form" and "void" found in Genesis 1:1 indicate that the earth was first a gaseous substance. A reference to condensation is found in verse 2: "...darkness upon the face of the deep..." The sun's rays were obliterated by the vapors caused by the condensation of the gaseous substances. In verses 9 and 10 the solid state appears: "...and let the dry land appear... and God called the dry land, Earth."

In both of the theories mentioned, LaPlace's and Chamberlain's, the particles of nebulous matter separated from the parent nebula. In verse 6, "...and let there be

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<sup>1</sup>Genesis 1: 1-10.



a firmament in the midst of the waters...divide the waters from the waters", the implication is that the planets were thus formed. Firmament means heavens. The heavens separate the planets, which were at that time still of vaporous matter.

All of this Creation, according to the Bible, took place during a six-day period. To some the day of Creation was the regular twenty-four hour day. This could be possible, since God can do anything. Other factors can be considered, though, that tend to contradict this belief. Actually time is measured by something that moves at a steady pace. Since the earth turns on its axis once every twenty-four hours, man has formulated the day as being the time that it takes for one rotation of the earth's axis.

There is another aspect to consider in trying to determine the length of the first days. The word "day" could have been a reference to the eras or gradual steps taken by God in forming the universe. According to the Geologic Time-table, Chapter III, geologists have found a relationship between the formation of the layers of the earth's crust and the times during which these layers appeared. Instead of days, these layers, representing eras, are in terms of millions of years.

These two portions of the Bible may well give one an idea of the length of God's day:

For a thousand years in thy sight are but as yesterday...<sup>2</sup>

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<sup>2</sup>Psalms 90: 4.

...one day is with the Lord as a thousand years, and a thousand years as one day.<sup>3</sup>

For centuries the earth has been considered a sphere. A sphere is supposed to have no corners, yet there are two Biblical references which are contradictory to this:

"...the ends of the earth"<sup>4</sup>, and "...four corners of the earth".<sup>5</sup> Since the Bible was written in a language to be understood by the people of its day, many such contradictions may be found. However, the Bible gives a true picture of the shape of the earth in this statement from Isaiah:

"...sitteth on the circle of the earth..."<sup>6</sup>

One of the properties of liquids is that of the action due to the surface tension. The surface tension causes the surface to become as small as possible. Rain-drops, bubbles and suspensions of oil in water are examples of this property. In Job there is a verse which explains this surface tension and accounts for the shape of the earth. "He stretcheth out the north pole over the empty place, and hangeth the earth upon nothing."<sup>7</sup> The word "nothing" indicates little, if any, resistance to the surface tension of the liquid formed from the cooling gases. A sphere, therefore, was formed.

In this chapter many of the laws of the universe have been related to various portions of Scripture. Just

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<sup>3</sup>II Peter 3: 8.

<sup>4</sup>Isaiah 45: 22.

<sup>5</sup>Revelation 7: 1.

<sup>6</sup>Isaiah 40: 22. <sup>7</sup>Job 26: 7.

as a definite pattern was followed in the creation of life so a definite pattern was followed in the creation of the universe. The evolutionary process which led to the creation of man has been the pattern followed by man's progress. An example of this is the modern automobile which is the final stage of progress from the simple wheel. In fact, all of man's accomplishments have resulted from a step by step approach. One seldom has immediate success. It took time for the earth to form. According to science this planet is now in its prime of life. It has been circling the sun for billions of years and has undergone six eras of development (see Table I, page 17). If the original pattern of the creation, six days, is followed, this globe has but one more to go. The Bible, not as a scientific textbook but as a book of inspiration, has thus far been factual. "The Heavens declare the glory of God, and the firmament sheweth His handywork."<sup>8</sup>

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<sup>8</sup>Psalm 19: 1.

## CHAPTER VIII

### SUMMARY

In this report many questions concerning the controversies found in the study of natural sciences and their relationship to the Bible have been discussed. The particular differences, however, were not as a result of the individual interpretations of the Word, but from that dogma set up by the higher eschelon of the Clergy. This was a condition which existed through many centuries and which included the Middle Ages. It was as though a bubble broke when finally, after the Reformation, man began to think and, in thinking, began to discover. With scientific discovery, the ancient philosophy of the Greeks and the Golden Age Theory began to lose force.

Beginning with Copernicus, many of the concepts of science began to change. With these changes a different form of person became prominent, the man whose faith in God had helped him to formulate hypotheses, set up experiments, observe, and theorize. This was the scientist who, through this faith, was able to overcome the barriers of dogma and bias to bring these new discoveries to the civilized world.

In the realm of the biological sciences there have been some truly controversial issues brought forth. The

theory of evolution was condemned because of misinterpretations by those who refused to grasp the advances of science. This theory is scientifically proved in this report both biologically and physically. The controversy in conservation arises from man's continual intemperance in dealing with that which has been given him by God: his body and his resources. The Bible and its reference to God's temple and God's storehouse answer many questions concerning conservation. The biological world, because of its nearness to man, by nature will cause him great concern from which arises controversy.

The physical sciences are somewhat less important, argument-wise, than life sciences. However, there have been many questions which have puzzled man. The ways and means by which the universe has been formed have been hypothesized many times and to this day are of interest to those who would study. An answer is found in the first chapter of the Bible. Other questions of importance to man, the length of the day, the shape of the earth, and God's cycles of Creation, have references in the Bible.

In short, the earth is God's handiwork. It contains all the necessities required of His children in order that they subsist. It was formed cyclically, every detail being placed at a certain time, every day bringing a different form. Upon earth life began to exist. With this existence came curiosity, with curiosity knowledge, and with knowledge, the revelation of God's work, nature, through God's word, the Bible.

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