Developing an Entomological Theology

Honors Thesis 2007

Joanna Armstrong

April 13, 2007
As a faith-seeking nature-lover and aspiring entomologist, I am continually trying to see the glory of God in every aspect of the world around me, especially insects. To me, the beauty of creation is enough to bring to mind our Almighty Creator and not only bring Him to mind, but to give me an inside peak into the mind of the Creator. In this paper, I will attempt to provide the theological basis for an entomological theology. In order to provide this basis, I will begin with a brief examination of the common theological paradigms with respect to nature. Next, I will address the question of knowledge of God through nature. St. Thomas Aquinas and a general philosophy of knowing will be discussed in addressing this question. Thirdly, I will examine how God has been seen in nature and the dangers which must be addressed: first providing cautions of deism, pantheism, reductionism, and complete autonomy of nature, second examining nature from various points of view, and third looking at theological insights of nature as a whole. Next, I will examine the reflection of God in the created order according to the teachings of St. Francis of Assisi and both miraculous and ordinary events through which creatures have helped to teach certain virtues. Lastly, I will examine how these ideas can be developed in the entomological world. I will draw on metaphors and examples of the teachings of God as found in insects in light of the development of natural theology and the entire created order. The main task of this paper is to prove that an entomological theology is valid and will allow us to more clearly see the Truth of the Creator.

Common views of natural theology

Looking to theologian C.S. Lewis, who is known for his use of fiction and imagination to bring forth theological truths, he states that, “the books or the music in which we thought the beauty was located will betray us if we trust to them; it was not in
them, it only came through them, and what came through them was longing”¹. He points
out an important aspect of the material world, its ability to point above itself and through
itself. The beauty of the natural world, or of the music and books talked of by Lewis are
merely a reflection of real beauty. If a book has the ability, through its author, to reflect
beauty, and through this convey some aspect of the Truth, then it is only logical that the
book of life, through its Author, also points beyond itself towards the Truth. It is by
examining the natural world, the pages of this celestial book, that knowledge of the
unknown is made present to us. Lewis refers to a longing which led him to seek deeper
knowledge, this longing is evoked by contact with creation as well. The longing which
Lewis refers to is a connection within each created object to its creator and the longing of
those who look upon great creations to meet and know the creator. Just as the avid reader
would like to meet his or her favorite author, so too every person should long to meet
their maker, the creator of all living things.

As this idea of finding God in the natural world and in created reality, it is
important to realize that the language spoken must be a mix of theological language and
more scientific terms. Today, nature is spoken of using scientific terms and therefore, in
developing this natural theology, the theologian “must take up the task of speaking about
faith issues in terms of the concrete world of ordinary and scientific experience in a given
cultural situation”.² Therefore in order to develop a theology which will fill the longing
spoken of by Lewis, it is important that the language of the scientific community is
spoken. By using the language spurred by the ever-growing expanse of empirical
knowledge, the truth that nature holds can be seen, not only from the theological mindset,
but also from a more secular or scientific mindset.
The truth found hidden in nature is sought by both the theologian and the scientist. For whether an individual is a scientist or a theologian, an artist or a historian, all humans are seeking to find some truth, and if they seek properly will not be closed to the ideas of the other disciplines since real truths should be welcomed and embraced by all. Each of these disciplines is developed with a particular way of seeing the world and its secrets, but the importance of being able to see the world from multiple points of view is beyond measure. Here, I seek to discover from a theological perspective, what there is to learn from those aspects of life generally left to the realm of the scientist.

The Validity of Natural Theology

The first question I would like to address is a basic question of natural theology: Can God be known through His creation? I would like to argue on the side of St. Thomas Aquinas and Alister McGrath who both came to the conclusion that, “the natural order has been created as both analogue and anagoge- that is, with a capacity to represent the Godhead, and lead the human mind upwards through the dynamic symbols of the natural world to their fons et origo in God.” The ability of nature to point heavenward and even represent God in its symbolic nature is a bold claim.

St. Thomas Aquinas dealt with four main philosophical objections to this notion in his philosophical argument for the validity of natural theology. These include: (1)”What is above all things [God], is not in all things [nature].” (2) What is in something, is contained by it.” (3) Since God is the most powerful efficient cause, He does not need to be in all things because He can reach all things. (4) “God is not in Devils”. The opposing argument is based upon a limited view of God, which Aquinas proceeds to correct in his rebuttal to these claims.
Aquinas sets forth that “a thing is whatever it acts. But God acts in all things according to the saying of Isaiah: ‘You have worked in us all our works, O Lord.’” Ann Clifford offers a similar argument as she states, “All things exist because they have been created by the triune God and are sustained by God’s creative and redemptive energy. Each creature manifests something of this mystery and all of creation exalts in its holy splendor”. Both of these ideas draw on simple human reasoning. A person who bikes may be termed a biker or an individual who swims would be termed a swimmer, therefore, any creature that exists must be in the act of existing and therefore could be termed an “exister” or in existence. The only power of existence is God and therefore through His very nature, He is in every creature that exists. Just as a biker can only be such by his participation in the act of biking, all those that actively participate in existing, also have within themselves Him who is Existence Itself.

In response to the necessity of an object to be contained by that which it is within, as water is contained by the glass it is in, St. Francis directs his attention to the sun. It is true that “just as the sun causes light in the air as long as the air stays illuminated”, so also God stays in the created as long as they exist. This simple example shows that air must not contain the light on order for it to be filled with light and light found within the air. Another, more personal example is that of the body and the spirit. For St. Aquinas, “spiritual beings contain the things in which they are present, as, for example, the soul contains the body [and yet is still in the body]. … God, too, is in all things as the being that contains them.”

The objection that God is not found in devils, seems to be an intriguing insight, but St. Thomas Aquinas reminds us that God is not the founder of the actions of devils,
just as God is not the founder of human sins, but humans made in His image and likeness engage in actions contrary to the love of God. Aquinas states this more eloquently as he says, “there are in devils both their nature, which is from God, and the deformity of wrongdoing, which is not from Him”. Therefore devils, although created by God, have, by their own choosing and deformity, become evil beings bent towards the action of sin.

To sum up the ideas of Aquinas and his rebuttals to the four objections above, I looked to the late Pope John Paul II. He reminds us of the omnipotence of God which allows Him to be omnipresent. “Through this creative power (omnipotence) God is in the creature and the creature is in Him”. This simple statement is similar to the argument involving the light of the sun in the air while the air is also in the light which was made by Aquinas. Therefore, as stated above, God is in His creation just as His creation only exists in Him.

This well-known and age-old proof for God’s existence and presence in His creation is an important concept, which forms the groundwork upon which any theological ideas drawn from nature must rise. Having laid the theological foundation upon which all natural theology can be built, the first step must be to examine the possible ways in which one might find or know God through His creation. In order to understand this, we must also understand how it is that the knowing process works.

According to most philosophers the art of knowing begins with self-awareness, leads into awareness of the other, and ends with a use of reasoning capacity to understand and make sense of observations found. Langdon Gilkey believes that once “we know ourselves as intelligent inquirers [then we must] become subjects in a community of subjects” in order to truly know these other subjects. For an individual can more fully
know if he or she becomes immersed with that which is to be known. For the scientist, this may bring to mind great researchers such as Jane Goodall or Diane Fossey who learned by engaging themselves in the primate world, and for the theologian it is obvious that the one who does not strive to be one with God will know less about Him than the one who tries to remain distant.

How can one engage himself in the natural world while at the same time immersing himself in the heart of God? Perhaps the idea of immersing oneself in nature as a scientist and at the same time as a theologian may seem absurd. In order to understand this idea, let us look at the method by which a culture and a language are learned. For, by immersing oneself in a new culture, a more true understanding can be found and this understanding is aided by learning the dialect. If nature is viewed as another culture, whose dialect was developed by God, then the amalgamation of immersion as scientist and immersion as theologian is permitted. “The works of God are but a kind of voice or language of God to instruct intelligent beings in things pertaining to Himself”.12 Once this immersion process has begun and the language of God, spoken by the natural world begins to be deciphered, knowledge and wisdom can be abstracted from nature as if it were a classic novel. The pages of a novel are sifted through a fine sieve to determine the ideas embedded within it by the author, so too must the natural world be sifted, looking at the facts and then deciphering the meaning behind them. St. Augustine actually says that the world, nature, is a “first Bible”13; and Evagarius of Pontus, one of the early desert fathers, also sees this analogy as he claims, “my book is the nature of creatures; and this book is always in front of me when I want to read the words of God”.14
Using nature as a book to “read the words of God”\textsuperscript{15} is primarily about finding some purpose in the order of nature or discovering the virtues and lessons implanted in the natural world that reflect the Almighty Creator. The notion that nature holds within itself these insights into the creator has been upheld by theologians and saints, men dedicated wholly and entirely to God, but in order to determine if this concept is merely a result of a theological world-view, it is important to address the idea that these insights are contingent upon faith.

**Cautions for natural theology**

The search for objective truths is continually impeded by the subjective nature of human observations. When any human observation in made, there is only a certain degree of objective knowledge which can be obtained due to the paradigms which are continually present in any observation which is made. When theological knowledge and revelation is concerned, it is even more important to be aware of human fallibility. If God has His hand in the work being done, the question still remains as His message is proclaimed by imperfect beings.

Concerns arise not only from the weakness of man but a combination of his imperfections and his world-view. This combination led Alister McGrath to state that “nature is itself an outcome of a world-view”\textsuperscript{16}, and others would say that to see, “traces of God [in nature] is an act of faith”\textsuperscript{17}. St. Maximus the Confessor would agree as he states:

\begin{quote}
The perceptible world in its entirety is secretly fathomable by the amalgamated by means of the spiritual realities. The former is embodied in the latter through the realities; the latter in the former through the symbols. The operation of the two is one.\textsuperscript{18}
\end{quote}

According to this saint, the only way for the spiritual world to be known through the physical world is for the individual to be in contact with the spiritual world first. For it is
only through an openness to the spiritual that the physical can be related to it. These arguments relate to a natural religiosity found within man. Man, by his very nature, is a spiritual being, while at the same time being a member of the physical world. Therefore, it is because man is first spiritual through his nature that his reason, in unity with his spirit is able to see the traces of the divine in the physical world.

The question being addressed is similar to the argument of St. Thomas Aquinas and St. Augustine when addressing the love of God. Aquinas argued that one must first know God in order to love Him, but Augustine argued that one must love God in order to have any chance at knowing Him. Then, let us look at the other side of the argument: Since God’s divinity can be reflected in everything which He created, even those who do not know Him will be able to see His reflection in the created world. Looking to the great Augustine/Aquinas debate, one might conclude that loving God and knowing Him are so intertwined that one does not precede the other or that even if one were to precede the other, this does not negate the necessity to both love and know God. It is true that “many persons look at nature or at humans and do not find there traces of the divine. In neither case, therefore, is this an issue of proof, an uncontestable argument that the characteristics of power, life, order, and redemptive unity in nature and of intellect, will, freedom, and love in human beings are in fact mirrors of God”.

Even if some individuals fail to see the connection, it does not negate the fact that there is an infusion of God in nature. With this in mind though, it must be possible for the one who negates this connection to have access to it and be able to discover it with the correct tools.

Before examining these findings, it is important to be aware of any dangers to this method of learning about God. If this method is introduced without the proper cautions,
it may be misunderstood and thereby become the basis for heresy. There are three main ways in which God can be viewed through nature: deism, pantheism, and theism. These three interpretations of the interrelation of God and nature must be explored for their validity along with other dangerous interpretations. I will examine a tendency towards viewing nature as completely autonomous, then explore the dangers embedded in the scientific mindset.

Deism is the idea that although God created the world, it was a once and done act. This mode of thought teaches that God is no longer actively involved in nature and it is left to itself under the guidelines of those laws which were set forth in the very beginning. If natural theology is left to the deist than there is a danger that the any knowledge of God found in the natural order must be found in the original order of the world and any changes that have occurred, since God is viewed as a “non-interventionist God”.

Pantheism follows the opposite extreme and insists that God is nature. It “denies that there is any distinction between God and the universe. Nothing exists …except God.”(Joyce 3) This idea focuses on a false notion that God and nature are synonymous therefore the creator of the created is the created itself. This logic is faulty as it assumes that a created object can exist before itself in order to create itself, which is impossible. This notion may also be examined in light of St. Thomas Aquinas’ first cause proof, where there must have been a first cause which is outside that which is being caused, therefore creation cannot be both that which is caused as well as that which causes itself.

The third way of examining nature theologically is the most logical, theism. This interpretation holds that “God is, and must be, ever present to every created thing,
Armstrong 11

sustaining it in existence and conferring upon it whatever activity it possesses: that “in Him we live and move and are”.” 22 This explanation addresses nature as it is experienced and “makes coherent sense of the width and the depth of our experience as no other interpretation does”. 23 This, therefore, will be the method used in this investigation. If natural theology is to be truly valid, it must view the natural world as it is, accepting both its dynamic nature as well as its division from God while still filled by and existing in God.

Natural theology also must be careful to avoid autonomy. The concern is worded perfectly by Thomas F. Torrance as he comments on a fellow theologian’s view of natural theology:

> What Barth objects to in traditional natural theology is not any invalidity in its argumentation, not even its rational structure, as such, but its independent character- i.e., the autonomous rational structure that natural theology develops on the ground of ‘nature alone,’ in abstraction from the active self-disclosure of the living and Triune God. 24

This concern is primarily a fear of seeing God in nature alone and failing to see that this connection is the result of human knowing, which is a gift from God and therefore always oriented from and to God. Therefore, the clarification that that natural theology is only one way in which God can be known and is not to be seen as a method of fully knowing God. The method itself is also a product of God since the reasoning ability enabling this insight is from God. Therefore, the knowledge of God found through natural reason in this natural theology must be checked by revelation. Human reason, when used properly, can lead a person to God, but can be improperly used and therefore these theological insights must be viewed in the light of revelation.

There are also dangers involved with the realm of the physical sciences. These dangers are more of misunderstanding than anything embedded within the natural and
physical sciences for if truth is the goal for both the theologian and the scientist, no disjunction can be present. Let us look, then, why conflict seems indispensable for these two disciplines to exist in their proper forms. One of the more common misconceptions is that religion holds all truths and therefore any scientific discovery or evidence which may indicate otherwise or even seem to contradict these truths must be wrong. Another misconception states that science and religion simply exist in different realms of truth therefore a mix or harmonizing of the two is impossible. Generally, a scientist is perceived as a “neutral, uninvolved observer [whereas the theologian is] unavoidable enmeshed in the problems of involvement, commitment, and subjectivity”. This conflict of the neutral and objective versus the opinionated and subjective would support yet another misconception of science holding all the truths while religion is a mere discipline of “personal involvement and commitment of the believer to the object of faith” where no absolute truths can be found but only strong opinions which have brainwashed believers.

Truth must be examined as an objective reality in addressing these misconceptions for if it were subjective, then it would be an opinion, not the truth. Likewise, anything, even if divinely inspired, if left to a fallible human can be seen improperly so it may be the case that the truths found in religion are purified by scientific discovery just as discoveries in science could be backed by religious revelations. There cannot exist two separate and completely autonomous areas of truth if it is universally objective therefore if science and theology both seek truth, they will be forced to intertwine at some point. Although the neutrality and subjectivity relative to the two disciplines will be discussed in more depth in another section of this paper, it is important
to note that the key difference between the disciplines is that science deals only with the material world and those things which can be empirically studied, whereas theology deals specifically with the subjects unable to be quantized.

The material and empirical focus of science led to the mechanization of the natural world after Newton’s discoveries which led to further separation between these two disciplines. Mechanization was the notion of the world as machine, therefore it is similar to the deistic mindset since if there was a god who created this world, he no longer was needed, just as a clock could be made and once it is made, the clockmaker no longer needs to be present for this item to function properly. Newton’s discovery of the physical laws which governed the natural world seemed to explain quite beautifully how a higher power may have created everything and then left it to its own devices. God was reduced to a watchmaker and the earth was a watch, a very complicated watch, but a mere machine whose rules and laws just needed to be discovered.

Samuel Clark would like to say that this mechanization of nature is a “notion of materialism and fate”\(^\text{27}\), and Carolyn Merchant argues that “mechanism rendered nature effectively dead; inert and manipulable from without”.\(^\text{28}\) These two theologians point out that if this idea were true and were to be accepted, this would indicate that there is no meaning in life and that life itself has no real choice involved with it, for if we are merely preprogrammed from the beginning of time, then no truly free choices could be made and hence the fate of every creature would be decided without any known input from the creature. Nature would be “dead” because it would not longer participate in its own actions, for every action would be a programmed event, with robots performing the set task. This mechanization of nature cannot be true and valid, for this would not explain
any irregular behaviors or mistakes. If every event was preplanned than there would be no mistakes and behaviors would be regulated and planned as well. According to Aquinas’ line of reasoning, mechanization would insist that the existence of creatures would be separated from Existence Himself which is impossible.

Newton’s discoveries also led individuals towards an objectification of the natural world. The scientific method was used as a way in which the world could be separated into pieces and each segment could be looked at as mere matter. Langdon Gilkey blames the method of science for this objectification and reductionism, claiming that science deliberately skips a crucial step in the art of knowing. By objectifying the object to be known, it becomes so far removed from the knower that it cannot be identified with enough to be fully known. Gilkey claims that objectification is a “deliberate abstraction from all ‘self-knowing’ of the subject doing the inquiry”.29 As the scientific method necessitates quantification and homogenization of its subjects, there is a certain sense in which these subjects are separated from both the knower and its proper caste in the environment.

It is easy to see here how this reductionism and objectification can occur. The subjects of study are so intensely examined and their separation from the whole so great, that they become everything that needs to be known. This fails to see that there is more to the natural world than the matter which can be empirically examined. As Jacques Maritain comments:

The mathematical knowledge of nature, for Descartes, is not what it is in reality, a certain interpretation of phenomena…which does not answer questions bearing on the first principles of things. This knowledge is, for him, the revelation of the very essence of things. These are analyzed exhaustively by geometric extension and local movement. The whole of physics, that is, the whole of the philosophy of nature, is nothing but geometry.
Thus Cartesian evidence goes straight to mechanism. It mechanizes nature; it does violence to it; it annihilates everything which causes things to symbolize with the spirit, to partake of the genius of the Creator, to speak to us. The universe becomes dumb.  

While these rifts seem to grow wider, it is important to realize that theology and science have the ability to work hand-in-hand. Science used to be produced from inside the monasteries as even the discovery of genes came from the garden of a monk. As has been stressed previously in this paper, but is worth repeating, these two disciplines are seeking the same goal: truth. One sees the goal as “Truth” and the other “truth”, but surely the two must be connected, if not the same.

Since today seems to be an age of a scientific worldview, it is important that theology be able to speak the language of the people, just as before one had to learn the language of God in nature, so too theologians must learn the language of science in theology. Theologians must be understand and speak to the scientific paradigms without itself falling into the same worldview.

On the other hand, theology possesses a certain knowledge which can aid the researcher in properly seeing his subjects for “only this ‘vertical’ knowledge [revelation from God] can clarify the scientific quest and limit and guide its technical power”. Knowing that the two disciplines must remain separated and yet rely on each other, at least in some small fraction, “we will not expect science to prove faith-claims, nor will we expect theology to prove the claims of science”. The integration of the two disciplines falls in the realm of philosophy as an appeal to human reason which must be present in both disciplines. Philosophy is used by St. Thomas Aquinas for the initial reasoning put forth in this paper for the validity of a natural theology. Through the two very different approaches a two-way light is shed on the shared subject matter so that both disciplines may, in the end, develop a fuller understanding of that which is studied.
With the congruity of these two disciplines in mind, it is important then to examine what fruits can be brought forth through human reason. This inter-connected knowledge was seen very clearly by John Polkinghorne as he argued:

"One of the most significant achievements of modern science has been its demonstration of the ordering of the world. It has disclosed an intelligible and delicately balanced structure, which raises questions which transcend the scientific, and provoke an intellectual restlessness which can only be satisfied through an adequate explanation." \(^{33}\)

This "adequate explanation" is found in philosophy. Even though the ordered nature of the world and the extent of that order was shown to man through scientific discovery, man was then left to reason as the need to explain this intelligibility arose. This explanation, although primarily pointing towards the theological, is found through the medium of human reason. It is true that "*Homo faber* (Man the Maker) [will] suffocate himself and suffocate the world if he is not in the first place *Homo celebrans* (Man the Worshipper)" \(^{34}\), but man the worshipper must also allow himself to follow human reason.

Once again turning to seek the truth, one must put himself in a frame of mind in which nature and all that study it are in harmony with one another. The scientist can discover how each part of nature functions and what role organisms play in the ecological world. Theology seeks to discover why these roles are placed into creation and what can be learned from the natural order set forth by God. In general, man is called to look to nature and marvel at its beauty and its complexity asking both the how and the why of the physical world in which they exist, so that he might more fully understand his place in the natural world. So, the question remains as to how fully God can be known in the natural world, and does the point-of-view of the knower impede truth, or merely allow different angles to be examined.
Henceforth, we will try to determine the validity of God in nature and begin to examine the ways in which He can be seen as well as the different approaches to seeing His revelations in the natural order. I have broken the possible viewpoints into three main categories: the believer, the non-believer, and the scientist. Using this separation, two opposing views as well as one which may be perceived as the objective or ‘neutral’ view, are able to be examined. For if two opposing views can be brought into harmony with one another and a third more ‘neutral’ view can also join this thought, then clearly it is one worth exploring.

First, the ‘neutral’ road will be walked, the road of scientist. As a scientist, God is found in the revelation of the unknown. Everyday, new discoveries lead to questions which are unable to be answered through data gathered by the five senses. These questions are a result of the sciences as they uncover new puzzles. Although a scientist is called to be objective, there is also a certain faith involved in the act of doing research. A scientist is called upon to trust and have faith in his instruments, this faith can then be extended to his observations of nature, which opens him up to “an ‘extra-scientific’ mode of knowing, yet one necessary and essential for science”. ³⁵ The scientist can find God in nature through his observations which beg the question, “Why?” even as the scientist merely asks the question of how or what.

The atheistic viewpoint must be examined as this will determine if nature is able to reveal anything of God to those who are actively seeking to not see. St. Augustine addresses this directly as he argued that there is “a natural progression from an admiration of the beautiful things of the world to the worship of the one who created these things, and whose beauty was reflected in them”. ³⁶ Can the beauty of nature be
seen by an atheist, then? I would argue yes, even those who do not understand the meaning behind a famous painting or even the meaning in a book, are still capable of looking at the art and seeing it as beautiful or reading the book and commenting that it was well-written. Therefore, the ignorance of the atheist does not blind him to the beauty and the order of creation.

In the case of the atheist, it may also be necessary to look at the part which God plays in allowing them to see what they have not. St. Evagarius of Pontus believed that for those “who are far from God, God has made it possible for them to come near to the knowledge of Him and His love for them through the medium of His creatures.”

This indicates that not only would the atheist be able to see the beauty of God in His creation, but rather come to know God and His love through an exposure to the evident realities of the natural world.

As a believer, the ways through which God can be seen in the natural world have an even greater breadth of variety. A question first arises of the importance of this knowledge, for even if God is in all creatures, He must be more intensely found within those who desire Him, man. Therefore it may not be proper to look outside of the realm which provides the best insight into God. This idea arises from St. Thomas Aquinas who states, “a known object exists in a knowing subject, and a desired object exists in the one who desires.”

Therefore, God can be found in those who know Him and even more so in those who desire Him. The natural world can be said to be related to Him, but merely in the ways He has infused into them for they do not have the reasoning capacity to know Him themselves. The question of desire of a creature for God is a much more difficult
question to answer for the desires associated with creatures are generally those of instinct. It might be said that the desire for God is instinctual for these creatures, and this idea would be supported by St. Francis of Assisi since he preached that God is not only desirable, but loveable to every creature.  

Other believers may conclude, as was seen above, that nature should be viewed as another Bible, to be searched for any deep theological truths hidden within its construct. From this idea, is the most common and seemingly underlying view of how to find God in the natural world and to pursue any type of natural theology: the notion that visible goods can lead to an understanding of the invisible. “We are authorized by Scripture to seek partial disclosure of the glory of God through the works of God in creation. God is rendered in and through the creation.”40 Any craft reflects some part of the craftsman; therefore creation too can reflect its Craftsman, a Divine Creator. The authorization of this method can also be found in the Incarnation itself, for God transcended the material world and became intelligible through the visible, thereby showing humanity that He could open our spiritual eyes by opening our physical ones.

Again there comes a caution with this method to ensure that these hidden realities are seen in the right context. It is important to remember that these truths are not Truth itself, but merely a reflection of it. Therefore, the revelations given to man through nature must be evaluated with respect to revelation. Nature is able to shed light on God through its connection to the Creator, but is not God Himself. Therefore, in order to rightly view these hidden realities, it is continually keep in mind the duality that nature is an avenue through which God can make Himself known.

**Relations of God in Creation**
One of the key aspects of natural theology is the realization of the importance of interdependence as shown through ecological studies. There is a realization that autonomy will not lead to survival. The study of ecology seeks to understand organisms in the context of their environment and shows how integrated the lives of the differing species truly are. From a biblical standpoint, this bond is first seen when Adam is asked to name the animals, for giving a name to an object takes away part of its otherness and there is an investment made by Adam in each creature he names. We do not give names to objects that are to remain completely segregated from us, but rather to those things that are closest to us such as our children and our pets. Anne Clifford notes that the sad reality is that we, as humans, often “ignore our interrelation, interconnection, and interdependence with all forms of life and with the earth itself at our own and their peril [because] nonhuman nature is far more than an external environment for human activity.” Therefore, to ignore this interdependence is to perceive nature as something completely separated from man whereas the truth is that man lives and thrives only by his integration with nature.

This insight shows that, as the proper workings of an ecological system necessitate balance and interdependence, so too the proper working of humans in relation to God requires interdependence. We must rely on God and turn from the desire for autonomy. When we accept this unity with the natural world and with our Father in Heaven, all creatures will be enabled to praise God through the acts of human praise, for if we are united to them, then we can also act on behalf of them.

This interdependent is a part of the natural order which must be examined further as this overarching aspect of nature points towards a greater good and makes present the
Divine presence in His created. Just as the order and movement of a dance expresses a part of the composer, the expression of the divine can be found within the artwork of the created world and its movement. Emil Brunner expresses the necessity of seeing this divine expression:

God has given to that which has been created- to all that has been created- a certain definite order which, because it has been created by Him, is the expression of His will. The way in which a creature has been made is an expression of the divine will.44

The connection of order and divine will is easily interpreted from the Genesis creation poem as God pulls the natural world out of the existing chaos. Interpreting Genesis thusly will open the individual to the possibility of an order which must be credited to God, and, by extension, insinuate that when this order is followed there will be a certain harmony between the natural and the divine. As creatures made in the image and likeness of God, humans have a special calling not only to follow the divine order, but to create this divine order so as to express the divine will in the free will choices which govern our decisions.

This trace of the divine, if truly present, must reflect not only a higher power and His goodness and will, but also, for the Christian, must reflect the Trinity. This notion will be explored further but it is important to note the Trinitarian reality of the process of natural theology. “The purpose of the universe is revealed by the Logos, and it is the Spirit, the life-giving breath, who is causing each thing and the universe as a whole to tend in the direction of that purpose.”45

The infusion of nature with Trinitarian truths also implies that there is a certain sacramental aspect to nature, since these objects can be used as outward signs of Christ’s grace. In the rule of St. Benedict, this is made evident as it states that, “Material things are sacramenta, symbols that reveal the goodness and beauty of the Creator.”46 If material itself can reveal this beauty, how much more can the interdependent complexity
of natural systems as well as in the elegant complexity of individual creatures reveal the essence of the Creator. Through the goodness and the beauty of creation, God’s essence is revealed, but there is also an aspect of the Christian world-view which reaches beyond surface beauty to find the peace and beauty in sacrifice and selfless love.

Earlier in this paper, we examined the importance of the science of ecology in understanding how each creature only survives as a properly placed piece of the puzzle. Therefore, in respecting creatures, it is very important to respect them for their place in the created order, as this order has been set forth by God and therefore by respecting this unity in nature, one is also respecting God. This is, in a sense, also placing humanity into that created order, and some argue establish that order and created that harmony, humans are required to “show the kind of loving care for all creation revealed to us in the scriptures.”

Christ Himself taught man how to respect and love nature through His parables. He taught “with a countryman’s knowledge of the land.” Christ showed that God’s grace was like growing wheat and the birds of the air and lilies of the field gave reason for total abandonment of material securities. Just as Jesus is the Good Shepherd and God the Father is a compassionate vineyard worker, so too we are called to “admire nature and respect it; to use it well and enjoy it without spoiling or harming it; to be inspired by it and to love it.” These images and analogies speak to a human encounter with God, but can also “reveal that the fundamental relation between humanity and nature is one of caring for creation.”

Although this concept is one which no person may dispute, the way in which it is brought to fruition is debatable. St. Francis asked that each animal was taken care of by leaving extra wine and sweets out for the bees in the winter or
spreading wheat and grain on the road during the Nativity for the birds and cattle. This holy man even went so far as to ask that, in the cutting of trees for firewood, a tree would be left in such a state that it would be able to grow back.

St. Francis would deem this action necessary as it was an act of “love for Christ, Who willed to accomplish our salvation on the wood of the cross.” He was able to take the beauty of God in nature and see how it pertained to each creature individually. One of his most famous writings on the right order of the natural world can be found in a canticle of praise:

Most high, all-powerful, good Lord,  
Yours are the praises, the glory, and the honor, and all blessing,  
To You along, Most high, do they belong,  
And no human is worthy to mention your name.  
Praised be You, my Lord, with all Your creatures,  
Especially Sir Brother Sun,  
Who is the day and through whom You give us light.  
And he is beautiful and radiant with great splendor;  
And bears a likeness of You, Most High One.  
Praised be to You, my Lord, through Sister Mon and the stars,  
In heaven You formed them clear and precious and beautiful.  
Praised be to You, my Lord, through Brother Wind,  
And through the air, cloudy and serene, and every kind of weather,  
Through whom You give sustenance to Your creatures.  
Praised be to You, my Lord, through Sister Water,  
Who is very useful and humble and precious and chaste.  
Praised be You, my Lord, through Brother Fire,  
Through whom You light the night,  
And he is beautiful and playful and robust and strong.  
Praised be You, my Lord, through our Sister Mother Earth,  
Who sustains and governs us,  
And who produces various fruit with colored flowers and herbs.

This canticle indicates that, although it may be true that humans are called to praise God as we look at His creation, each creature is also called to praise Him. Examining the construct of the canticle will show that it is not the reader of the canticle who is doing the praising but rather that part of nature. These symbols of the Creator, in the very essence of living in their proper order, are able to praise God through beauty, sustenance, strength, and other qualities which beget nature itself. It once again points to the
goodness which is found in the simple quality of fulfilling one’s purpose, and for creatures, this is the natural order which they must follow.

This realization of the natural order as a connection to the Creator, is a vital part of natural theology, especially in the filial way of St. Francis. This brotherly love, which he shared with not only his fellow man, but with all of creation, emanated forth from his actions rooting itself in the knowledge that every creature comes from the same source, “he knew they had the same origin as himself.”

St. Francis also held the belief that since these creatures were from the same source and therefore held within them some of the mysteries of the Creator, he would not only be able to learn from them about some of the mysteries of life, but more importantly about the proper way to live life. For if these creatures were living in accordance with the will of God, then it would only follow that actions allowing them to succeed must be in accordance with the proper way to live life.

Throughout his life, St. Francis was able to see virtues and vices portrayed by the animal kingdom. St. Francis interacted with the animals in such a way it was often the case that these animals would act in extraordinary ways, participating even more fully in the call to praise God. These miraculous encounters with animals help to illustrate the ability of these creatures to more fully participate in praising and worshipping God.

Through the act of living in accordance with the Divine plan many creatures were able to show some virtues and the importance of these virtues. When St. Francis was in a cave retreating into solitude for some period of time, there was falcon which found him and “attached itself to him in a great bond of friendship.” This falcon helped St.
Francis to see the importance of obedience and the beauty of friendship and loyalty. This little falcon faithfully pronounced its song at the hour for prayer when St. Francis was sleeping, but in times of illness, would remain silent and not wake him so as to allow the proper sleep to come to his weary body. This simple act gave a glimpse of true loyalty and friendship as the falcon would not only call out in the middle of the night so that St. Francis was able to arise each night for prayer. Obedience is both seen in the acts of St. Francis as he arose to the sound of the falcon who was replacing the normal monastery bell, but also in the nights during which this little falcon did not cry out, for this act was out of obedience to God the Father in order to care for His servant Francis.

In another illustration of loyalty, there was a pheasant who showed this virtue. It was given as a gift to St. Francis and, after praising it and teaching it about God, he tried to release it into the wild. Three times the pheasant was returned to the wilderness, each time a bit farther in, and each time, the pheasant returned to St. Francis. The pheasant was then permitted to stay and became a prayerful friend of St. Francis even accompanying him into the chapel. When the brothers’ physician heard of this pheasant, he offered to take it home with him and care for it. The pheasant was so loyal to St. Francis that it refused to eat until it was returned to St. Francis’ presence. This commitment to St. Francis helps to illustrate the intense commitment necessary for humans to have towards God.

Most abundantly seen is the grace of praise through creatures to God, their Creator. One example of this grace is the story of the Portiuncula cicada. This little insect was found one day on a tree near the Portiuncula, St. Francis would call to it, “My sister cicada, come to me. … sing my sister cicada, and praise your Creator with joyful
song.' Obeying without delay, it began to sing and it did not cease to sing until the man of God…commanded it to go back to its usual haunt.”62 This is just one of the many creatures he spoke to during his life, encouraging them to praise God through their songs and their actions. There were still other stories of sheep who would actively participate in the community prayer, bleating before the altar of Mary, Mother of the Lamb63 or act as servants of prayer waking those who were in danger of sleeping through Mass and then would remaining silent in the church.64

Although animals have been recorded as instruments of God, performing miraculous deeds, it is important to see that these creatures can provide theological insights through their normal actions. By examining the biblical context of the praise which nature can give its Creator and then looking at a few analogies and examples of this divine infusion, we will see that even in the normal activities of nature, God can reveal Himself and teach us how to live.

In the Bible, an evident demand for nature to praise God can be found in one of the canticles of the book of Daniel. Praising God is demanded of the entire natural world as each creature is called forth to praise and bless the Lord!

Bless the Lord, all you works of the Lord.  
Praise and exalt Him above all forever…  
You heavens, bless the Lord,  
All you waters above the heavens, bless the Lord,  
…  
Every shower and dew…winds…fire and heat…night and day, bless the Lord,  
…  
Let the earth bless the Lord,  
Praise and exalt Him above all forever.  
…  
Everything growing from the earth…all water creatures…birds of the air…beasts…sons of men, bless the Lord.65
This canticle demands that creation praise God in all of its actions. It is in complete conjunction with the way in which St. Francis spoke and taught as he would encourage all animals to praise God and would preach to them about this important task they had.

One Franciscan story, teaching the evils of greed involved a few birds which were living outside of the monastery. It happened that one of them was continually pushing the others away and hogging all the food for himself. Instead of seeing this as survival of the fittest and cheering this bird along, St. Francis said, “See what the greedy one is doing. Even though he is full and satisfied, he envies his hungry brothers. He will come to a bad end yet.” This greedy little bird was then “punished” when it drank too much and drowned in the water bowl. St. Francis used this bird as his example to show how greed will certainly ruin a person and end in punishment.

Humility is also a virtue which was very easily seen by St. Francis in creation. One of his favorite animals was the lodola capella, the hooded lark. He said of this little bird, “‘Sister lark has a hood like a Religious and is a humble bird, for she walks contentedly along the road to find grain, and even if she finds it among the rubbish, she pecks it out and eats it.’” These birds even seemed to understand the mystery of St. Francis’ love for them as a mixture of mourning and rejoicing was heard in their song as they proclaimed St. Francis’ death. These simple birds, through both ordinary and extraordinary actions revealed parts of humility and love.

St. Francis was a believer, able to use his paradigm and his love of God to see the beauty of God in creation. These insights are powerful, but they also seem to ask the question touched upon above, are these virtues and reflections found within these creatures or is it the believer who places these ideas upon nature. It may be easy to see
beauty in a peacock, simplicity in sheep, praise in the song of a bird, or faithfulness in a pet of any kind, but do these examples prove that all creatures and all actions in the natural order reflect something of the creator, or even reflect some virtue which can be learned from them?

**Entomological Theology**

In order to answer this question, we will look specifically at those creatures which many people have difficulty appreciating either due to their pesky nature, their startling movement, or their seemingly disgusting appearance. The creatures to whom I refer are one of the most numerous animal classes on our planet, but also some of the most misunderstood. The creatures are insects. Making up much of the earth’s total biomass, insects account for at least 72% of the earth’s diversity, and, in Pennsylvania, an average of 11 million insects are found per acre. These incredible numbers show the importance of these seemingly insignificant creatures. God created a great number of them, therefore it is important to note that these creatures also have some aspect of the divinity embossed within them. Insects, therefore, are important creatures to examine in the realm of natural theology.

To test whether this abundance of creatures is a luciferian infestation or a marching of saints, we need to examine the insect from the specific to the general and, conversely, from the general to the specific. If in that examination, we can make the case that we see a revelation of the nature of God, then we can infer that their success on the macro level is also a revelation of God’s plan. As Jesus stated when challenged by the Pharisees who thought his exorcistic power was the work of Satan, Jesus profoundly reminded them that a house divided against itself can not stand. Thus, if we are to see God’s revelation in our
study, it is hard to imagine that the devil would have deigned to allow for such an outcome in his own work. To examine from the specific, the study will look at the common physiological attributes of insects and individual classes of insects. To examine the general, insects socialization in context with the ecological systems in which they are a key interdependent element will be studied.

We will begin with the specific through the physiology of the insect. These small creatures are comprised of 3 body segments. In this, there is already a Trinitarian possibility. The St. Patrick teaching using the clover was solely to demonstrate the mystery of three persons in one God, and we easily see that in the insect with its three parts in one creature. But, we can delve even further into the mystery and see a deeper analogy in insects since the three segments have unique, but complimentary roles. The head contains the brain and most of the sensory glands; the thorax contains all six legs and any wings; and the abdomen contains most of the digestive glands. The Trinitarian analogy is easily found. The head is clearly analogous to God the Father as He is the one who sorts through the information and is in charge. The thorax is a clear metaphor for the Son who comes down and touches the Earth, just as the legs are touching the ground. Similarly, as the Son ascended into Heaven and leads us to Heaven so too the thorax contains the wings which beautifully depict this reality. The abdomen is akin to the Holy Spirit as it is the body segment where most of the digestion occurs, although it begins in the head and thorax just as the Holy Spirit is the person sent to aid humans in understanding the message of God first brought by God the Father and furthered by God the Son. The message can only be digested fully with the aid of God the Holy Spirit. This analogy cannot fully explain the great mystery of the Trinity but is one way in which
A physiological process vital to all insects is metamorphosis. During metamorphosis, insects pass through a very vulnerable stage; in incomplete metamorphosis it is the time after molting (a shedding of the hard exoskeleton when the body becomes too large to fit inside) and for complete metamorphosis, it is directly after pupation (like the emergence of a butterfly from its pupa). These two stages are crucial for insects as they must pass through them in order to grow into adulthood. As humans, we can follow this example of vulnerability, realizing that it is only through shedding our protective barriers and breaking our paradigms that we will be formed, through our vulnerability, into spiritual adults. Metamorphosis also can be a metaphor for forgiveness and rebirth, just as Jesus went into the tomb for three days and rose in such a glorified state that even His disciples had trouble recognizing Him, so too does the insect emerge from complete metamorphosis looking changed and renewed (take, for example a butterfly emerging from the looks of a caterpillar). When we are forgiven, we are called to reflect on the renewal of our souls from the grub-like state of a caterpillar, to the free-flying butterfly.

St. Teresa of Avila recognizes this metaphor and explores it in accord with a small silkworm. With her simple knowledge of the process that a silkworm goes through from a microscopic “seed” to a small white butterfly, she guides her reader through the spiritual steps which accompany this natural process. First, she notes that it is the warmth of the Holy Spirit which calls the “seed [to] start to live” just as humans are first touched by God and called into His service. As the silkworm grows, it eats constantly, St. Teresa sees that, in the same way, a person can grow “through the
remedies left by [God] to His Church, by going to confession, reading good books, and hearing sermons.” The spinning of a cocoon can be likened to the surrounding of one’s self with the armor of Christ and the need to hide ourselves within the life of Christ. Once fully inside of Christ and one with Him, the prayerful person can die to self and become dead to the world so that the “fat and ugly” silkworm might die and a little white butterfly can come out as a soul in complete union with God.  

Many people are familiar with the social insects such as ants, termites, bees, and wasps. These insects provide insight into communal living. Honeybees are one of the most interesting examples. All worker honeybees are non-reproductive females. Each bee’s task is to either find pollen, make honey, or care for the larva, and all are called to protect the queen. The infertility of the worker bees is a reminder that we cannot be fully fertile until we are united wholly with God, but just as the workers are still able to produce honey if all members of the hive productively engage in their respective jobs, so too can we can still produce good fruits like honey if we labor in accord with God’s plan.

Using the entire hive as an analogy for the faith, still more can be learned from these creatures. Seeing the queen bee as analogous to God and humans as analogous to the worker bees, we are called to sacrifice for and protect our faith, even if it cost us our lives. Since one of the primary tasks is to protect the queen, and the best defense a honeybee has is her stinger, she will use this when the hive is in danger, but the sting of a honeybee will ultimately kill it. So, in the process of protecting she will offer herself as victim for the hive (faith) and the life of the queen (glory of God). Ants and termites also follow this same obedience and total self-gift for their colony and especially their queen, therefore humans are asked to give themselves totally for the glory of God and obey His
commands. The social insects might be said to be some of the most successful as they make up at least 20% of the earth’s total biomass.

Other important insects include beetles. There are over 300,000 known species of beetles. The sheer number of beetle species seems to indicate that they must be important, or at least successful. Therefore it might be thought that God has an important message to send in through these creatures as well. Beetles come in a wide variety of sizes, colors, and shapes, but the one feature which identifies them as a beetle is their wing structure. They have two sets of wings: a harder outer set termed, “elytra” and a set underneath which is much softer. The elytra can help us see the shield we must have up against sin and evil. At the same time though, we are not called to harden our hearts. The beetles’ second pair of wings, and the ones which allow it to fly, are soft and flexible. The only way for us to spiritually fly is by allowing our love to take over and become the source of power for our actions.

In addition to these examples, it is easy to point out other examples such as the ladybug who protects the garden and is named after the Virgin Mary, moths continually seeking the light even as they come out during the darkness, lightning bugs shining forth through this same darkness with some inner light, and even aphids reflect goodness as they care for and protect their young, employing other insects such as ants for additional protection. The more I learn about each species of insect, the more evident this entomological theology appears to me. Each insect has, hidden in its nature, some aspect of the divine, I believe it is merely a matter of learned enough for God’s revelation to be made present to us.

If it is true that the actions of insects, when in accordance with the will of God,
allow them to be fruitful and successful, then every action which is successful should be able to be viewed and interpreted in a theological manner. But some actions seem to be in complete contradiction with the nature of God. How does one justify mosquitoes or ticks? How can we justify gnats and flies? How are we to understand God in grass-eating grubs or sap-sucking insects? The endeavor to see God in these actions seems to result in only more questions and the realization that not all actions found in nature are directly related to the divine.

One common activity surfaces, also seeming to contradict the ways of God, when more intense research is done. This is the activity of cannibalism. Cannibalism is a common ecological interaction in the animal kingdom and introduces predation within a single species.\textsuperscript{73} This common interaction is brother against brother and sister against sister in the most profound sense, eating one another! How then can a good and loving God be reflected in such an action and what is there in this action which can teach us the proper way of living?

This summer, I was challenged to answer this question as I researched the cannibalistic interactions of dragonfly larvae. I learned that size structured cannibalism has commonly been observed in the wild for a variety of taxa, including octopus, bats, toads, fish, monitor lizards, red-backed salamanders and several stream salamanders, crocodiles, spiders, crustaceans, birds (crows, barred owls), mammals, and a vast number of insects, such as dragonflies, diving beetles, back swimmers, water striders, flour beetles, caddisflies and many more.\textsuperscript{74} This common activity seemed to provide an example that could disprove the theory that natural activities which led to the success of a species, as cannibalism had, must be a reflection of God in some manner.
The question puzzled me and three possible conclusions laid before me. The first was that my theory, on which this paper is established, was incorrect. The second was that I was blind to the message and did not have enough faith to see what was being revealed. The third explanation seemed to be that my faith and my notion of who God is was actually blinding me from seeing truly and allowing what was present to be revealed.

A fellow researcher, with whom I often debated theological topics, was instrumental in finding the conclusion I have come to. He was agnostic and seeking to find the philosophical truth in each of our discussions. When this idea of revelation in nature was brought to his attention, he seemed interested, but wondered how much of this revelation was actually revealed and how much was forced onto the creature. I was following the thoughts of Clement of Alexandria that “We may gain some inkling of what God is if we attempt by means of every sensation to reach the reality of each creature, not giving up until we are alive to what transcends it”\(^75\), but is it correct to seek so fervently this transcendence, or is this merely forced interpretation of how the natural order was related to its Creator. Did St. Francis merely see God in creatures because he already knew God and therefore was able to relate the action found in nature to God? Were the “revelations” I saw through insects actually revelations? It may be that God is present in His creatures, but can this be taken too far in making this order a way in which God’s nature can be revealed?

With these questions in mind and this seeming disjunction between the activity of these dragonfly larva and the mind of God, I was in the position of a believer who was unable to force my knowledge of God into the actions of the dragonfly larva to justify them and seemingly make them into some sort of revelation about His nature.
Setting these misgivings aside, we will explore the method of seeking to examine the natural world from a more general lens, ecology. This study again focuses on the interdependence of nature. According to Gilkey, “natural process forms a unity (so [he] believe[s]) under the infinite God.”

This unity is important in realizing how God is present in these creatures. Ecology focuses on the inter-relation of predator and prey and the effects of these relationships on the health of the ecosystem. The need for one organism to provide food for another. But this is not an isolated event. This sacrifice of the prey for the predator enables this prey to, in a sense, live on through its predator. In the course of events, the predator will eventually also return to the earth to become the food for its prey. This reveals a continual give and take which creates the delicate balance of a healthy environment.

Examining once more the entomological aspects of this field, it is important to realize that the great abundance of these small creatures and their significant contribution to the earth’s total biomass makes their significance ever greater. They provide food and fertilizer, digest decaying plants and animal waste, they are generally the lowest animals on the food chain, but this in no way makes them less important. Taken theologically, it is in the small and humble that God shows Himself most fully. Therefore, it is not a matter of how large or how small an organism is, but rather “the Word is found in every creature, however small.”

Insects, when looked at ecologically, can show the truth of St. Francis de Sales’ teachings that it is through performing the ordinary tasks with a union of our will to God’s will that holiness is achieved. As insects perform the ordinary tasks of digesting rotting material, they are in union with the will of God since they are performing the tasks given to them. By performing this task, they enable a healthy
ecosystem, for without their assistance, the build-up of waste would prevent forest
growth. Humans are often called to seemingly menial tasks, but if they unite their will
with the will of God, then this task can lead to their holiness, just as the insects will lead
to the cleanliness and success of the forest.

Seeking to answer the question of implanting meaning into nature by means of
mere human knowledge, the reality of cannibalism must be addressed. The agnostic
friend I spoke of earlier suggested that the reason why I was unable to be enlightened by
this action was my own misunderstanding of God. Perhaps I was not attempting to listen
to God or I was putting too much effort into my attempt to find the transcendent nature of
these creatures. But it was from the mouth of this young man that finally the answer
arose, it was not in the action of cannibalism that God must be sought, but in the reasons
behind cannibalism. This action enabled energy to be conserved by a species and if other
food sources were scarce, they would still be able to survive, never fully going extinct
because there would always be a predator and prey of the same species present. This
amazing interaction and a sort of self-giving love seems to be present even in the level of
nature. The smaller dragonfly larvae were, in a sense, performing an act of self-giving
which is reflective of the self-giving nature of God. It also gave of itself in place of the
other pond species which results in a more diverse and ecologically stable system. The
balance and the beauty of this interaction and how it enabled the pond community to exist
was where God was found! It was not in the action of cannibalism, but rather the
ecological importance of a community dynamic that, when following the laws set down
by God, was able to sustain a more diverse community structure. By eating itself, as well
as other organisms in the pond community, the dragonfly participated in evening out the
populations of the various species in the pond and even participated in an act of self-giving love.

By finding this answer from the words of a man who did not believe, it is made known that the essence of God is in these creatures which He has created. For if God was not present within the Creatures themselves, then theological insights from a non-believer would be impossible. It is a mixture of man’s natural religiosity and the natural religiosity of nature which enabled my friend to find some theological interpretation of cannibalistic behavior. It was only through examining the species and its actions as well as the ecological importance of these actions in relation to a healthy environment that the full extent of their meaning could be deciphered. By looking at the insect world, and the entire natural order, from both the specific and the general point of view, a well-rounded theology can be found.

Having examined both the philosophical and theological basis for natural theology, I have found that, in spite of the heretical dangers which must be avoided, natural theology is a rich discipline through which a person can both find God and learn about Him. This discipline has provided insights into necessary virtues as well as bringing to light the necessity of interdependence and interconnectedness. This foundational theology can be taken even deeper if extended to the entomological world as these creatures comprise an amazingly large percentage of the living world. By forcing a person to examine the seemingly hideous tasks found in nature, theological insights can be driven deeper and true revelation can be found.
Notes


5. Aquinas, 73.


7. Aquinas, 74.

8. Aquinas, 74.


17. Gilkey, 175.


19. Gilkey, 175.


22. Joyce, 3.

23. Gilkey, 176.


29. Gilkey, 180.


32. Hayes, 16.


34. Clément, 220.

35. Gilkey, 176.


38. Aquinas, 75.


40. McGrath, Scientific Theology, 193.

41. Clifford, 25.

42. Clifford, 21.


44. McGrath, Scientific Theology, 228.

45. Clément, 214.

46. Irwin, 127.

47. Clifford, 41.


49. Mk 4.26-29 New American Bible

50. Mt 6.25-33 NAB

51. Jn 10 NAB

52. Jn 15.1-8 NAB


54. Renewing the Earth, 230

56. Sherley-Price, 1257.


58. Armstrong, 113.


63. Bonaventure, 693.

64. Bonaventure, 694.

65. Dan. 3.57-80 NAB.


67. Sherley-Price, 1252.


71. St. Teresa, 342.

72. St. Teresa, 343.


75. Clément, 223.

76. Gilkey, 165.

77. Clément, 218.
Bibliography


