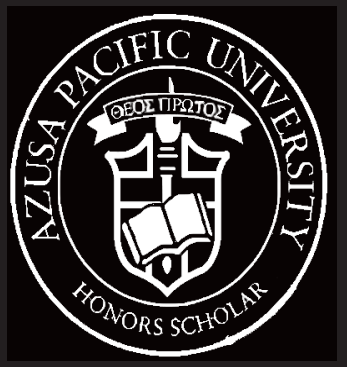

Gratia Eruditionis

Azusa Pacific University | Honors Program

Volume Five

Philosophy of Mathematics: The Beginnings of Mathematical Deduction by Induction	In Search of Unity: A Christian Interpretation of Plato's Cave Analogy	Scattering Speech: Divine Intervention and Linguistic Evolution
Christy Ailman	Drew Brown	Annika Mizel
Kate Chopin's Edna Pontellier: Living for Dreams, Dying for Reality	Perspectivism & Power: A Critique of the Philosophy of Friedrick Nietzsche	Patents, Politics, and Poverty: The Ethics of the Pharmaceutical Patent and its Effects on the Poor
Christina Ligh	Ysabel A. Johnston	Rachel Graham-Howard

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Acknowledgements

Development of the Gratis Eruditionis and the CDL paper competition for Honors Program students was inspired by Dr. Jennifer Walsh, Faculty Director of the Common Day of Learning from 2008-2012. We are indebted to her for bringing forth this creative idea, and in doing so sponsoring an opportunity for students to pursue a writing award, present their papers at CDL, and have the six most outstanding papers printed in a monograph.

It is also important to note that this project could not have been realized without the support of Dr. Vicky Bowden, Vice Provost for Undergraduate Programs and Director of the Honors Program, and Dr. Diane Guido, Vice Provost for Graduate Programs and Research. We are especially grateful to Rachel Hastings, Honors Program Coordinator, for oversight and leadership in all aspects of the paper submission process and to the Honors Program Student Workers, Camille Endacott and Haley Oram, for the production of the monograph.

Special thanks are owed to the faculty members who reviewed and selected student paper submissions. These include: Dr. Joseph Bentz, Department of English; Dr. Emily Griesinger, Department of English; Dr. Sarah Richart, Department of Biology and Chemistry; Dr. HeeKap Lee, Department of Teacher Education and Director of Common Day of Learning, Dr. Alan Oda, Department of Psychology; and Dr. Vicky Bowden, Director of the Honors Program.

We are grateful to the faculty who supported student submissions, and in doing show demonstrate their classes provide the enriched environment from which these scholarly papers were generated. These include: Dr. Sarah Adams, Department of English; Dr. Joseph Bentz, Department of English; Dr. Vicky Bowden, School of Nursing, Director of the Honors Program; Dr. Heather Clements, Department of Theology and Philosophy; Dr. John Hamilton, Department of Theater, Film, and Television; Dr. Patricia Hanes, School of Nursing; Dr. Stephen Lambert, Department of Psychology; Dr. Teri Merrick, Department of Theology and Philosophy; Dr. John Milhon, Department of Biology and Chemistry; Dr. Keith Reeves, Department of Biblical Studies; Dr. Kay Smith, Department of Biblical Studies; Dr. Katy Tangenberg, School of Behavioral and Applied Sciences; and Dr. David Williams, Department of Theology and Philosophy.

Foreword

This fifth volume of Gratia Eruditionis highlights the winners of Azusa Pacific University's annual Honors Paper Competition. This paper competition was inspired by former Common Day of Learning Director Dr. Jennifer Walsh. It was her idea to create this opportunity for Honors students to compete with one another and to share their scholarship during the Common Day of Learning and through the publication of this monograph. I am grateful to Dr. Walsh for her inspiration, leadership and commitment to encouraging young scholars in their academic endeavors.

This edition of the monograph contains six scholarly papers by Christy Ailman (Mathematics and Philosophy), Drew Brown (Theology), Rae Graham-Howard (Nursing), Ysabel Johnston (Philosophy), Christina Ligh (English), and Annika Mizel (English). These six undergraduate authors were chosen by a faculty review committee from a pool of excellent papers.

The Honors Program at APU is now in its twentieth year. The early years of the program were led by Dr. Carole Lambert. Under her guidance, the Honors Faculty Council was started and 20 students were admitted to participate in special courses designed to challenge students with a curriculum that provided greater depth, intensity, and intellectual rigor than standard university classes, as well as close student-faculty collaboration. Under the directorship of Dr. Mel Shoemaker (1995-2004) the program grew to admitting 40 students a year. Annual cultural events were added to the program and an emphasis on adding international studies (Oxford) as a key educational experience for the student was actualized. In 2004-2005, Dr. Mark Eaton served as Interim Director for the program. Since Fall 2005, I have had the privilege of serving as director of the Honors Program. It has been exciting to see the program grow, and as of Fall 2013, evolve into the APU Honors College. I am grateful for the support and administrative oversight of Dr. Diane Guido, Vice Provost for Graduate Programs and Research. Her wisdom, guidance and encouragement over the years has been invaluable in ensuring the growth of the program and implementing scholarly opportunities such as this paper competition and monograph.

I hope you enjoy these readings and join with me in applauding the remarkable scholarship at this institution.

Vicky R. Bowden DNSc, RN
Vice Provost for Undergraduate Programs
Director of the Honors Program
March 2013

Past Recipients

2009

Tamara Moellenberg, *Class of 2009*
English and Philosophy double major
Rushdie and the Real:
Migrancy and the Hyper-Real in The Satanic Verses

Tyler Stover, *Class of 2009*
Business Economics major
Incomes and Compensation in the American Labor Market

Luke Spink, *Class of 2009*
Business Economics major
Non-Profit or Non-Conscience:
The Tragic Divide of American Enterprise

2010

Holly Bream,*Class of 2010*
Biochemistry major
Deconstructing Humbert's Mind: Decentering Human "Consciousness" in Nabokov's Lolita

Robert Hake, *Class of 2010*
Psychology major
Happiness: Plato, Epictetus, and Psychotherapy

Jennifer Kemp, *Class of 2011*
English Literature major
A Modern Cinderella From the Brothers Grimm

2011

Kelsey Faul, *Class of 2012*
Biblical Studies major and English minor
Discourse Versus Consensus: Gender Relations in Biblical Texts

Marielle Kipps, *Class of 2012*
Christian Ministries major
Man Suspended: An Analysis of René Girard, Shakespeare's Hamlet, and Blasie Pascal

Andrew Soria, *Class of 2014*
English and Spanish double major and French minor
Holiness as Defined by Leviticus 11 Through 26

2012

Heather Murphy, *Class of 2012*
Studio Art Major and Global Studies Minor
From Sacred to Modern:
The Community Roles of Exiled Tibetan Artists

Margarita Ramirez, *Class of 2012*
Political Science major
If Men Were Angels:
Faith, Virtue, and Vice in the American Founding

Hannah Steer, *Class of 2014*
Business Accounting Major
Homer's Influence on Augustine: A New Look at the Return Home

Philosophy of Mathematics: The Beginning of Mathematical Deduction by Induction

Christy Ailman

Christy is a junior mathematics and philosophy major. As a Christian scholar in search for truth, her passion to seek an answer to this central question in the philosophy of mathematics is represented in this paper. She would like to thank the High Sierra program for cultivating the importance of wonder, community, and interdisciplinary conversation into her scholarship. She would especially like to thank Dr. David Williams for his encouragement and guidance throughout the past year in learning how she can best serve the Kingdom of God.

Abstract

In attempt to provide an answer to the question of origin of deductive proofs, I argue that Aristotle's philosophy of math is more accurate opposed to a Platonic philosophy of math, given the evidence of how mathematics began. Aristotle says that mathematical knowledge is a posteriori, known through induction; but once knowledge has become unqualified it can grow into deduction. Two pieces of recent scholarship on Greek mathematics propose new ways of thinking about how mathematics began in the Greek culture. Both claimed there was a close relationship between the culture and mathematicians; mathematics was understood through imaginative processes, experiencing the proofs in tangible ways, and establishing a consistent unified form of argumentation. These pieces of evidence provide the context in which Aristotle worked and their contributions lend support to the argument that mathematical premises as inductively available is a better way of understanding the origins of deductive practices, opposed to the Platonic tradition.

The origin of deductive proof is a central question in the philosophy of mathematics; this problem has been commonly answered in one of two ways. The first, taking a Platonic understanding of knowledge as a priori, says deductive premises arise from within the intellect thus in this way are self-evident. The opposing response claims knowledge is a posteriori as derived from Aristotelian thought, mathematical truths built up through an inductive process, using the senses to firmly establish premises that can be applied toward deductive reasoning. In this paper I will argue for the Aristotelian position, and consequently that it is possible for deductive proofs to have begun inductively as a posteriori knowledge and to have then developed into deductive reasoning. I will begin by explaining Aristotle's philosophy of mathematics. Of primary importance is he argues that mathematical objects exist, in a qualified sense, within the physical object. There is, however, a contemporary debate over the exact relation between the math object and the physical object, which I will also examine. I will look back to the Greeks who were the first to capitalize the deductive thought process in mathematics to see if deductive proofs actually developed through induction as Aristotle believed. The first piece of evidence I will present comes from contemporary scholarship on recently recovered texts of Archimedes showing the unique way in which diagrams and indirect proofs were used in his work; his proofs were focused on the images rather than the words. Next, I will utilize recent scholarship on the origins of deductive proofs that argues that their origins lie not in mathematics, but in Greek literary conventions. In conclusion, I will describe how these insights to Greek mathematics provide evidence for thinking that Aristotle's, rather than Plato's, overall approach to the philosophy of mathematics is the more accurate one.

Aristotle's basic epistemology provides a foundation for how math reasoning is a form of a posterior reasoning. He claims the forms are in the matter; in that, the logos of the cosmos is in nature rather than transcendent.[1] He says that our reason is limited, qualified, until we have investigated nature for its material and formal substance to then give unqualified knowledge.[2] The sensible world is intelligible because it contains the formal principles within it. Following his belief

[1]Logos, as I use it, means account or explanation for reality. Nature is intelligible beause it contains the logos within it.
This major Aristotelian concept is called hylomorphism: all objects are composed of both matter and form.
[2]Aristotle's Physics 190b11

that form is in object, he thinks mathematical objects are in a way in the objects themselves. For example, he might say that a round table contains within it circularity. Circle does not have its own completely independent being separate from all instances of circularity, as Plato would want to say. The form is found in the physical.

A significant difficulty in Aristotle's metaphysics is explaining the exact mode of the form's existence in the object. On one end of the spectrum, Lear proposes an interpretation of Aristotle saying that the table actually contains the mathematical circle in it. The form is a substantive part of the object and is found by abstracting the matter away to find the specific mathematical object. This method of abstracting toward specific characteristics of objects is often done by examining what the object is 'qua' its specific characteristic. For example, if we wanted to examine a golden triangle's triangle-ness, we would consider the golden triangle 'qua' triangle to find out more about what makes it so triangle-ly such as the sum of its interior angles is 180 degrees. In this, "mathematicians study the physical world but not as physical" because they study the mathematical objects "qua" abstract thought (Lear 247). The metaphysical location of Aristotle's mathematical objects according to Lear is actually in the physical, as substantive matter.

To properly understand a position opposing Lear's, it would be helpful to consider the distinction between potential and actual existence. As White explains it, "it is certainly not possible for them to exist separately. But since they could not exist in sensible either, it is clear they either do not exist at all or they exist in a certain manner…they do not exist unqualifiedly" (White 166). Mathematical objects always exist in the object, but specifically they exist in a qualified, potential sense. Due to certain math absurdities that arise from assuming that math objects have substantive physical existence, they must exist potentially.[3] Rather, they exist potentially so that if a division is made the point is still indefinitely divisible, thus refuting the problem of division. To exist actually means to bring out the object through identification and abstraction (Pettigrew 248). White defines abstraction as "a means of focusing one's attention, as it were, on those features by eliminating from consideration other figures not germane to one's present mathematical investigations" (White 176).

[3]For example, the problem of Division as described by White in "The Metaphysical Location of Aristotle's 'Mathematika'."

This interpretation of Aristotle's mathematical objects says they exist in a particular way: potentially and actually in the object as abstract, nonmaterial aspects (White 182).

In either case, the process of abstracting mathematical objects must be based upon inductive processes. The material substance must be investigated scientifically and critically considered until the form is found. The intellect begins with qualified understanding, very basic knowledge-for example, that a round table is circular. To gain unqualified knowledge, the table must be closely examined by taking measurements, sketching the basic shape, and such. After the material properties of the table have been abstracted away, and the roundness of the table has been considered, circularity can be identified to then distinguish properties of a geometrical circle. This unqualified knowledge was found through the process of investigating the physical objects to come to a greater understanding of the formal properties. Nothing is in the intellect that wasn't first in the senses; in that, knowledge such as this comes a posteriori. The inductive process hinges on the idea that the sensible world is intelligible and thus rationally ordered. By observing this order, one can discover patterns and principles. Once principles have been established, they can then be used to reveal necessary entailments and absurdities through the process of deduction. Aristotle describes this process of using deduction in his definition of syllogism, "certain things having been supposed, something different from those supposed results of necessity because of their being so…X results from Y and Z if it would be impossible for X to be false when Y and Z are true" (Smith 1.2).

Now that Aristotle's philosophy of math begins inductively because his epistemology is inductive and because one finds the math objects within the existence of physical, empirical objects. I will now demonstrate how the actual development of deduction in mathematics in the Greek culture proves to be compatible with Aristotle's claims. Historian of ancient Greek mathematics, Reviel Netz has made a recent discovery in early Greek mathematics, documented in his book The Archimedes Codex that describes how Archimedes' mathematics was a visual science. Netz uncovered some of Archimedes' proofs hidden behind layers of other writings in the Palimpsest document. Within these pages, the secret of how Archimedes did math was revealed. Netz explains how our mathematics is concentrated on the words in proofs, whereas Archimedes' proofs concentrated on the images (Netz 31). With that, he sees the importance of diagrams and indirect proofs in

mathematics as visual experiences of uncovering truths in the physical world (Netz 36).

In understanding Archimedes' mathematics, it is necessary to know what he was trying to do. The holy grail of Greek math was to find the area of a curved object. Archimedes succeeds in this, but through unconventional ways. The first way being through indirect proofs which are defined by an initial false assumption; it assumes the opposite of the truth (Netz 47).

> Archimedes starts out promising to make some incredible measurement, and you expect him to fudge it out somehow, to cut corners…And then he begins to surprise you. He accumulates results of no obvious relevance—some proportions between this and that line, some special constructions of no direct connection to the problem at hand. And then, about midway through the treatise, he lets you see how all the results build together (Netz 44).

In this, he is deceiving the reader by beginning with what they would not expect; but about midway he reveals his ways and ties it all back together. His answer to measuring curved objects follows this form of proof as it does not begin with known shapes. Rather, he invents his own curved objects and then finds unexpected ways to measure them. This method of indirect proof was a hallmark in Greek mathematics (Netz 47).

The second component of Archimedes mathematical process was the way he used diagrams. In deductive proofs today, diagrams are illustrative in attempts of making things easier to comprehend: they represent particulars (Netz 91). Diagrams for the Greeks, were general demonstrations "to provide us with the most basic information" in the proof while retaining veracity (94). Mistakes or false conclusions did not result because the same diagrams were used over and over again. Imagination is necessary to understanding the diagrams because they only suggest an object. Greek art shows the capability of drawing with precision, but mathematicians chose not to. Instead, they copied each other's diagrams as a means to represent "the broader, topological features of a geometrical object" (Netz 105). Like a green triangle is no different than a red triangle, a precise angle is no different than an estimated one. These Greek diagrams are better called schematic representations, where precision is not a factor (101).

These features of mathematics, diagrams as schematic representations and indirect proofs, were not unique to just Archimedes;

these are thought to have been prevalent practices among all of Greek mathematics. There were not many mathematicians at the time of Archimedes; around fifth century BC poetry was the dominant vocation so there were very few doing pure mathematics (Netz 39). Indirect proofs and diagrams demonstrate how Greek mathematics was an imaginative and visual process similar to the more popular vocation of poetry. The works of Archimedes are described as creative and playful; he was a poetic mathematician and consequently his entire science "was based on a sense of play and beauty, on hidden meanings" (Netz 55, 58). This shows how early forms of mathematical works were not done in a clear cut, deductive method; rather it appears to have been a visual process that required imaginative ways of finding the potential mathematical objects in nature. For example, diagrams as schematic representations necessitated a mathematician to look at figures in new, in depth ways to find what was not seen before. If the initial deductive premises were this closely related with visual and imaginative practices, how then did they develop into logically precise deductive proofs?

According to recent scholarship on the interplay of narrative and mathematics in *Circles Disturbed*, Apostolos Doxiadis writes on the origins of deductive thought in *A Streetcar Named Proof*. He says culture-specific factors played a crucial role in the development of mathematical deduction; there were many people in fifth and fourth century BC who "combined the skills of the craftsman and the thinker" (Doxiadis 328). In looking specifically at the Greek culture and what was unique to it to originate deductive proofs, he asserts that their frame of mind to provide logical evidence in the practice of forensic rhetoric along with the common literary structure of ring composition were the keys (325). He believes deduction was developed through a process rather than a sudden event. This process began with narrative, then rhetoric, and then finally came to mathematical proof. Greek narratives then will be the starting point to understand the development of deductive proofs.

Showing how deductive proofs developed as a result of a literary structure demonstrates that deductive thought originated through a process correlating with Aristotelian induction rather than an immediate Platonic intellectual intuition. Doxiadis argues that narrative was used in a particular way; its aim was good mimesis[4]. In order to

[4]Mimesis as I use it means a representation of reality, a copy, not reality. The Greeks sought to mimic reality in a believable way, to represent reality as even better that in was.

create a believable narrative about reality, the Greeks used the structure called ring composition. Ring Composition is a symmetrical alignment of phrases: A,B,A*. There are seven conventions of ring composition according to a modern anthropologist Mary Douglas as described in her book, "Thinking in Circles". These are not requirements, nor are they exact; but they are consistent guidelines to help find and support ring composition in narratives. The first convention is a prologue which lays out the dilemma, command, or doubt in anticipation of the pivot. Second, the narrative will split in that it will make a distinction between the prologue and the coming middle section. The third convention is alignment of parallel sections, reflecting a pattern across the central dividing line. Next, indicators are used to clearly mark the various sections either with key words, a switch in genre, or repeated lines. The fifth convention is called central loading, which refers to the dependence on or importance of the turning point. Next, a feature often used but not necessary is a ring contained within another ring. The seventh convention is closure at two levels: completing the response provoked in the prologue through repetition of the key words and completing the prologue thematically (Douglas 36-37). Overall, the attention is drawn to the place of transition from A to A*, this is the pivot, B, ring composition's structure draws all eyes to the center in which everything changes.

Homer's *Iliad,* a very widely known epic for the Greeks, shows great promise for Douglas' theory in that it meets all seven conventions. Douglas does not only find one, but two rings in this epic. The epic has a prologue, convention one, in the first book where the dilemma of how to give Achilles kleos is proposed to Zeus and the theme of rage is introduced. Convention seven is met in the final book with closure thematically, transforming rage into grace and showing Achilles' eternal kleos; and closure in repetition of the key phrases. Convention four, the indicating lines are seen when a new day is introduced; most often done in a form of personification of the "Red Dawn" (Fagles 563)[5]. Structural ad thematic parallels are made between the first and final books and the days surrounding the pivot point, thus meeting convention three. From the macro-ring it is also evident that the epic loads the center of the narrative with importance, convention five; in this it actually contains another ring, convention six. There is a change in pattern from the macro ring to the micro ring, an indication of a division in the narrative going from the prologue into the center, which

[5]23.129

aligns with the only convention yet to surface, convention two (Douglas 36–37).

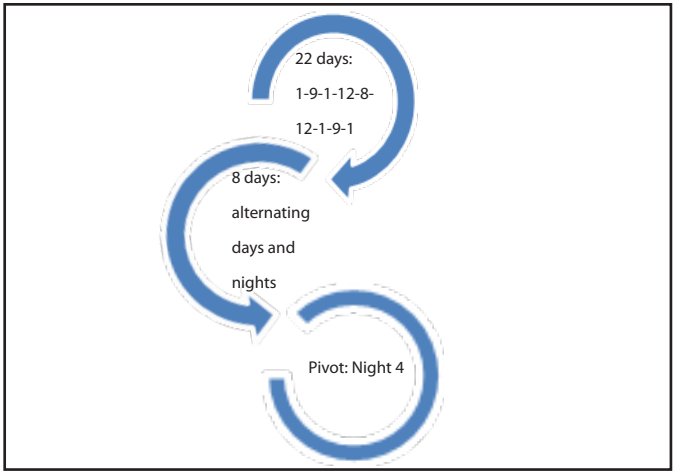

Fig. 1. This shows the two major rings in the *Iliad* with the pivotal fourth night and how they all fit together.

The use of ring composition in Homer's epic indicates it was a recognizable structure to the Greeks. As Douglas says, "[Rules] are not imposed from outside of the literary work. They are not there first. They emerge from the first completed works" (Douglas 17). It is not known if the Iliad was the first piece of Greek literature or not so either ring composition was already a common structure and Homer ascribed to, since it would be recognized; or he was the first to use it in literature and due to the epics widely held use, the structure emerged from it. Either way, this form must have at least been prevalent in thought because "one of the special literary merits of a ring is to anticipate its own form of closure from the beginning" (Douglas 17). Homer would not want to use a literary form if the audience was not going to recognize it, "the Iliad is intended to be heard or read as a whole, and delivered to an audience who are familiar with the story, or at least with the style" (Douglas 31). So this thought process of building parallels around a central turning point was at least recognizable due to previous literature or previous cognitive patterns. "They [the audience] will expect symmetry and balance, and they will judge how well the ending slots on to the start. To bring the preordained ending elegantly back to the beginning is not so easy as it may sound" (Douglas 17).

As described, this is a complex structure so it was not used lightly; it was a difficult task to create a narrative fitting to ring composition. Douglas explored the possible reasons for its use, the Iliad, being a lyrical poem, would have needed to have a structure designed to help the memory of those who relayed the poem. By using ring composition they would only have to know the storyline leading up to the turning point and then simply reverse or redirect all that came prior. "Learning by route is a characteristic of literate society" from the Greeks back to the Egyptians (Douglas 13).

Another explanation is merely that ring composition makes the poem clear and orderly, which would have appealed to the Greek mind. Especially since the Greek mind admired unity, harmony, and clarity, this structure might have appealed to them visually. Regardless of its logic, it was aesthetically pleasing. None of these explanations explain, however, why ring structure worked so well and continued on into written narrative. Douglas goes on to say, "the ring convention does something to fill the interpretative gap by virtue of its symmetry, its completeness, and its patterned cross-referencing" (Douglas 13-14). Arguably, it continued to be used because of its efficaciousness to create clarity and unity in communicating a narrative. The parallelism of the structure is designed in a way to frame the mindset of the reader. It gets rid of ambiguity by creating a formulated structure and process by which the reader can know what will happen after reaching the turning point. Ring structure creates an argument; it's clear structure persuades the reader.[6]

This third explanation for why ring composition was used fits with what Doxiadis has argued for. From narrative, rhetoric was developed using this same ring structure in attempts to make a strong, convincing argument. The first kind of rhetoric in the Greek culture was public-occasion rhetoric. This was used to praise or blame a person by appealing to general opinions or rules. These general rules were derived from the narrative use of analogies (or otherwise called parallels), where two things not thought to have been put together are considered analogous to stress a point.[7] The second type of rhetoric was oratory, which was used in politics or courts to convince a jury by probable cause. This was seen in the probable or necessary connections of narrative, specifically in ring composition where the prologue is

[6]Look to the diagram for a more detailed look at the ring composition in the *Iliad*.
[7]Douglas offers another proposal that it is a part of the human cognition. Ring structure could be a psychological understanding of how our minds work universally.

anticipating the pivotal action and reversal in the rest of the narrative. The third and most commonly use was forensic rhetoric. This was used for argumentation in any area with the pure intent of persuasion by proof. In this, Doxiadis believes logic began as "a method for comparing contesting narrative accounts of events" and as a result people became aware that it was not the one and only narrative but a narrative that was presented. This form of argumentation was very similar to the Greek narratives structure of ring composition (Douglas 295-303). "The aim of the orators importing poetic techniques into rhetoric could well have been originally aesthetic [but] those same techniques soon became the basis of the budding method of logical argumentation" (Doxiadis 301).

Following Doxiadis' train of thought, rhetoric then turned into mathematical proofs. It is argued that rhetoric provided the context and model for mathematical, deductive proofs (Doxiadis 302). The Greek mind had developed the need for purely logical proofs as a result of mimesis, the court system, and other cultural factors. As literacy and written documents increased, mathematical proofs became the written model of the verbal rhetoric: "let us think of [deductive proofs] not as 'abstract thinking' but as the symbolic representation of the action of proving something" (Doxiadis 331). A mathematical proof contains several parts: enunciation, setting out, specification, construction, proof, and conclusion. The prologue sets out the claim, the setting out specification and construction make these claims concrete, the proof makes the claims stronger with counter arguments, and then the conclusion repeats the claim in a general form. From this, it is seen how ring composition matches up very easily: both have prologues to lay out the dilemma, both have a crucial central pivotal section which answer the dilemma, and then conclusions to reiterate the claims in light of the new insight (Doxiadis 335).

In addition to the larger scale ring composition, deductive proofs also have rings at the smaller level. Doxiadis begins this exposition by arguing that "the basic syllogisms of logic that underlie so much of mathematical thinking…are in RC form" (345). Ring composition exists in three ways at this micro level: rule centered, binary X, and substitution RC form[8]. Rule centered rings begin with a concrete situation, a general rule is applied, and then the answer is the rule applied to the situation. An example is: "1. CA and CB are equal to AB. 2. But things equal to the same thing are also equal to one another

[8]Doxiadis specifies narrative from lyrical poetry and says that poetry was derived from narrative, but I have just combined the two for the sake of my argument.

3. Thus, CA is also equal to CB" (Doxiadis 349). The binary X form is also known as reduction ad absurdum. This essentially is an if-then statement, an extremely significant form of deductive proof. An example is: 1. If AC is equal to AB 2. …Angle ABC is equal to ACB. 3. Angle ABC is no equal to ACB. 4. Thus AC is not equal to AB" (Doxiadis 350). The final way ring composition exists in deductive proofs is in substitution rings. These rings are equivalent to what Aristotle calls syllogism. They contain a middle which unites two opposing statements. An example is: "1. A has property a. 2. All x's have property a have property b. 3. A has property b" (Doxiadis 356). As seen in these three types, ring composition exists in mathematical deductive proofs on the macro level and micro level. This gives an account for how deductive proofs began, not as a sudden explosion of new thought; but rather a process of fine graining the form of argumentation through ring composition (Doxiadis 347-356).

In summary, Netz provided an explanation for how deductive premises could have arisen inductively and Doxiadis provided an account for how deductive thought grew. In both of these views, the activity of the mathematician can be described as experiential; deduction was not a matter of coming upon a revelation, rather it was a process of interacting with the material and discovering what worked. Ring composition showed how the most convincing way to represent a narrative was through bringing the audience into the dilemma, presenting a solution, and seeing it worked out. The answer could not simply be laid out from the beginning; it is not as convincing that way. Rather it must be good mimesis, necessary connections leading one action into the other, drawing the audience into persuasion as Aristotle describes in *Poetics* (Janko 4.4). It is the experience of persuasion, just as indirect proofs did not simply give the answer from the start. It too drew the reader in with surprise or confusion to then later be enlightened[9]. Aristotle supports this idea as well saying, "Homer above all has taught the other poets to tell untruths in the right way, that is, by false inference" (Janko 5.3.2.2). Diagrams too are a matter of experience as they are only schematic representations. Netz states that mathematics is "some sensual packaging, in the sounds of language, and in the artifices of vision" (115). They did not use equations as we use today to make logic visible, rather they used diagrams as necessary components to their logical thought process (Doxiadis 88). The Greek mathematician draws a picture of a polygon, not the actual polygon.

[9]RC being ring composition

"Words are conceptual, but drawings are physical" and need to be taken, played with, and then conceptually understood rather than simply taken at face value (Doxiadis 100). In light of these descriptions of how math began as a process of experiences forming unity with creativity, I conclude that math began inductively.

Now having two foundational pieces of evidence from early Greek mathematics, the "Greek Miracle" I argue is actually closer to a process of induction rather than an explosion of deduction. Netz showed how the work of early mathematicians was focused on the images, the diagrams in proofs as schematic representations rather than precise illustrations. They also used the convention of indirect proof which began with a false assumption to surprise and redirect the reader. Inductive thought is evident in both of these as they use the senses to attain knowledge and the experience of getting it wrong before realizing the correct answer. Doxiadis then proposed the development of deduction to have arisen through a process of ring structure being adopted by various forms of communication. The process began with narrative, then refined its intent of persuasion in rhetoric, and further developed in persuading the more abstract ideas of mathematics. We now have two accounts of Greek math, one gives a basic understanding of mathematical truths as arriving from the senses; the other gives an explanation for how mathematical deduction arrived from a process beginning in narrative.

Furthermore, with the evidence gathered from Doxiadis and Netz, the development of Greek mathematics aligns with Aristotle's philosophy of mathematics. Doxiadis showed how deductive proofs were derived from rhetoric, and rhetoric from narrative. The common thread was the use of ring composition. Aristotle claimed deduction to have arisen as a result of induction first, and this shows that deduction was not self-evident but began from a gradual development. Ring composition showed a unified thought process at work within each of the disciplines, opposed to a creation of a brand way of thinking. Indirect proofs do a very similar thing as they bring the reader into a state of vertigo realizing that the initial assumption is wrong. It is about beginning in a state of assumption, as Aristotle would call qualified knowledge, to being abstracted away, experiencing a formal understanding, and then come back with a more thorough, unqualified understanding. Diagrams too, aside from being visual, are tools used to realize mathematical truths through the senses by actualizing them. They are left open for interpretation or alteration

to see new possibilities. As Aristotle would say, the potential is there within the diagrams, there are infinite potentials, but only do they become actualized when abstracted. Inductive mathematics for the Greeks meant mathematical truths were inherent in nature, the cosmos contained intelligible matter as Aristotle would say. The truth is just waiting to be pulled out and seen in the right way. Within the nature of Archimedes' diagrams and indirect proofs and the account of ring composition, Aristotle's philosophy of how mathematics began proves to be supported by this evidence.

In attempt to provide an answer to the question of origin and veracity of deductive proofs, I argued that Aristotle's philosophy of math was more accurate opposed to a Platonic philosophy of math, given the evidence of how mathematics developed. Aristotle says that mathematical knowledge is a posteriori, known through induction; but once knowledge has become unqualified it can begin deduction. Through Netz and Doxiadis, we have two pieces of evidence which reveal that math began gradually and inductively in the Greek culture. Both claimed there was a close relationship between the culture and the mathematics; many mathematicians were artists or craftsman as well. Netz described the way Greek math was done in diagrams and indirect proof which speaks to sensible nature of mathematics at that time, it was understood with imagination and experiencing the proof in a tangible way. The origin of deductive thought then was explored by Doxiadis who found a correlation between narrative and deductive proofs. He claims deductive reasoning was a result of using the common literary ring composition to make a clear, unified argument. Aristotle's claims are supported in the Greek mathematical assumption that intelligence could be found in nature and once principles were established, they could be argued in a persuasive manner of deduction. The arguments from Netz and Doxiadis do not establish a definitive interpretation of how Aristotle thought that mathematical objects could exist in a way that makes them inductively available. Their arguments do, however, establish that Aristotle's thinking dovetails nicely with Greek mathematical practice and literary conventions. The question of how mathematical truths might exist in the sensible world still remains, but Netz and Doxiadis help us to see the context in which Aristotle worked and their contributions lend support to my argument that mathematical premises as inductively available is a better way of understanding the origins of deductive practices.

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In Search of Unity: A Christian Interpretation of Plato's Cave Analogy

Drew Brown

As a theology major and recent participant of the High Sierra Semester, Drew Brown has enjoyed focused and rigorous academics thus far in his time at APU. Being in his sophomore year, this essay represents his passion and goals in pursuing a union between theology and philosophy and, ultimately, in gaining a deeper love and understanding of God through Christ. He is indebted to Dr. Heather Clements and Dr. David Williams for their scholarship and support throughout the process of writing this essay.

Abstract

In this essay, I will translate Plato's Cave Analogy to a Christian lifestyle through the medium of Paul's Letter to the Romans; a close reading of Romans yields deep insights into the human plight for union with God. Because of the fall, humans were chained in the bottom of a cave, seeing only imitations of the true reality waiting on the outside. With Christ, humans are now given the ability to pursue union with God once more, but their sin stands in the way. They are able to have a relationship with the eternal while living in the temporal; they are living a dualistic lifestyle. Finally, throughout this life, humankind is called to love the enemy as well as the brother. A deeper study of Plato's cave analogy as seen by Paul's Letter to the Romans yields a greater doctrinal and practical understanding of the life of the Christian.

Introduction

In this paper, I will give a Christian perspective to Plato's cave analogy by using Paul's Letter to the Romans. I will show that Romans closely correlates with the cave analogy and can be used as its Christian interpretation. I will compare and contrast the similarities and differences between the two perspectives and analyze what this means for the Christian. I will show the relationship between the flesh and the Spirit and the role that each play in the Christian life. I will do this by (1) analyzing Plato's conception of the relation between reason, desire, and the cave, (2) analyzing the relation of the Letter to the Romans with the cave analogy, and (3) by determining the significance of Paul's dualistic flesh/spirit paradox for ourrelationship with Christ. Finally, I will look at the implications this has for modern-day Christians. I will show that Romans calls a person to live in two distinct communities: humanity and the body of Christ. As a member of both communities, a person is also called to perform two distinct duties by loving humanity and supporting the Body of Christ.

Plato's Reason and Desire

In Plato's cave analogy, humankind is locked in the recesses of acave, looking at images upon a wall. Eventually, when a man is able to free himself of the chains and turn around, he is temporarily blinded by a truer light (i.e. a deeper understanding). As he progresses through the cave, he comes upon more obstacles that hinder his sight until he finally makes it out and faces the true reality. Outside of the cave, the sun is brighter than anything, and it takes a progression from only being able to see shadows, reflections, and then finally the sun itself.The entire process is about giving sight to the blind. Rather than knowledge of the world, traversing the cave brings an understanding of the world.

However, what prompted the captives to turn around in the first place? In Plato's assessment, it is desires aligned with reason. By reason, Plato means humankind's capability to analyze and understand the world around them. As a person's understanding grows, so does his or her ability to reason. However, humanity cannot merely reason their way out. It is impossible to reason a way out without ever loosening the chains. One must have the desire to move farther out of the cave, and, therefore, must have his or her desires aligned with reason. This

is the key distinction between knowledge and understanding. Humans can have knowledge of an object without actually pursuing it, but they cannot have understanding of an object without first desiring to understand it. According to Plato, humans are freed from their chains and capable of progressing only when their desire to get out of the cave is matched by their ability to reason.

This does not mean that every human is destined out of the cave in Plato's reading. With a greater understanding comes pain. With each obstacle that a human passes as he exits the cave, a more vibrant light blinds him. His reason is capable of getting him to the light but he is left with the choice whether to embrace it or to turn back to a dimmer setting where the world, albeit false, is understood. In short, humankind's capability to traverse the cave only extends as far as its desires do.

Later, directly after Plato finishes the cave analogy, he states to Glaucon that,

"…The power to learn is present in everyone's soul and that the instrument with which each learns is like an eye that cannot be turned around from darkness to light without turning the whole body. This instrument cannot be turned around from that which is coming into being without turning the whole soul until it is able to study that which is and the brightest thing that is, namely, the one we call the good" (518c).

A Christian would be ignorant to read this pericope and not pick up on its religious undertones. The Gospel writers were not ignorant towards this and included many allusions to the cave analogy within the scriptures (John 1, Philippians 2, Hebrews, etc.). Paul's Letter to the Romans, although not specifically intended for this purpose, presents a Christian perspective of Plato's cave analogy.

The Fall and the Result (Romans 1:18-3:18)

"Claiming to be wise, they became fools, and exchanged the glory of the immortal God for images resembling mortal man and birds and animals and creeping things."
-Romans 1:22-23

What brought humans originally into the cave? Why is he bound?

Paul answers this in the first three chapters by diagnosing our original sin. We thought that equality with God was accessible and paid the penalty for it. Because we thought we could hold some wisdom, God gave us "up to a debased mind to do what ought not to be done" (1:28). In short, we enslaved ourselves. When we tried to grasp the understanding of God, we traded it for an imitation, for shadows cast upon a wall. His creation was still all around, and it was pointing towards the Creator (1:20). However, humankind, with our debased mind, could not recognize God's handiwork and instead perverted it, doing "what ought not to be done" (1:28).

Through this section, Paul is inferring that we were once not a part of the cave. This is the first place in which Paul diverges from Plato. Christian orthodoxy states that at one time man was in perfect unity with God. We knew reality with eyes that could see clearly; in fact, we did not know anything other than this true reality. Once sin entered the world through Adam, we became enslaved to sin, unable to do anything but feed our flesh (5:12). We traded the truth of God for a lie, an imitation, thus sending ourselves into the dark recesses of the cave. At this point we must define what the cave symbolizes for Paul. Paul agrees with Plato that the cave represents earth. It is humanity's home. From the Christian perspective, however, the cave has a deeper meaning. The cave, in essence, is depravity and sin. It was the absence of Being for Plato or the absence of God for Paul. The farther into the cave one travels, the darker it becomes and unity with God is lost.

Therefore, because humans sinned and went to the bottom of the cave, they are living in complete darkness, unable to free themselves from their fleshly sin. "'Their (depraved man) feet are swift to shed blood; in their paths are ruin and misery, and the way of peace they have not known.' 'There is no fear of God before their eyes'" (3:15-18). Paul paints the picture that, unlike Plato's conception, humans are completely hopeless on their own. Where God's works may be recognizable through reason (1:20-12), humans still do not worship God. There is no way to turn around apart from God. Humankind has become dependent upon an external force to initially save them and free them of their chains. The law system of the Old Testament could not save humans because it only showed them their greater depravity. Paul says, "I was once alive apart from the law, but when the commandment came, sin came alive and I died. The very commandment that promised life proved to be death to me" (7:9-10). The law was not sinful in itself, but it illuminated man's sinfulness. It showed the necessity for a savior

from outside of the cave that could free them of the chains and bondage of the law.

Christ's Redemption (Romans 3:21-26, 4:1-5:21)

"For if while we were enemies we were reconciled to God by the death of his Son, much more, now that we are reconciled, shall we be saved by his life."
-Romans 5:10

Christ is the Savior that Plato was missing. Plato proclaimed desires in alignment with reason could turn a man around and lead him out of the cave, but that same man cannot know to undo his chains unless an outside agent did it for him. To even take off the chains is an act of reason that cannot be acquired without an outside source. Christ represents that outside source in Romans. Because nothing good can come from within the cave, the rescuer had to come from outside of the cave with full understanding. In the Christian context, this meant that the savior could not come from the world of sin, but he must enter it after being in perfect unity with the Father. Through Christ's Incarnation, the putting on of flesh and its limitations, he entered the cave. Through Christ's death and resurrection, he freed humankind from being bonded in chains.

However, just because Christ freed humankind from its chains, absolute freedom did not follow with necessity. The chains represented an impossibility to enter a relationship with God because we were bound to the sin we originally claimed; Christ removed the impossibility and opened the door for unity by freeing us of the chains that held us to our sin. He did not, however, carry humankind out of the cave. The light had entered the darkness and had prepared a way, but humans still had to take it, or believe in that way. This is how "the wages of sin is death, but the free gift of God is eternal life in Christ Jesus our Lord" (6:23). Here Paul aligns with Plato once again. Once Christ has initially freed us, it is up to us to traverse the cave; how far we get is a product of our desire to go further. In the next section I will describe the root of those desires and the presence of the Spirit.

Living a Dualistic Lifestyle (6:1-8:25)

"So then, I myself serve the law of God with my mind, but with my flesh I serve the law of sin."-Romans 7:25b

Paul makes it clear that when we are saved, when we turn and accept that Christ has freed us from our chains, we receive new sight. Rather than the imitations cast against the wall, we turn to see a blurry picture of the true reality. Our mind has been partly redeemed and the Spirit in us is in union with God. For the rest of our life on earth, in the cave, we are trying to attain this unity with God. We do this through traversing the cave in understanding. Plato considered the journey through the cave a journey in understanding the ultimate good, and I, as well as Aquinas before me and Paul before him, consider the ultimate good to be God. The essence to this entire process is the Spirit, a term used by Paul throughout Romans. This is not to be taken in the human sense of the word, used to signify high hopes or joyfulness. Paul means the Holy Spirit that is granted to us by God through our belief in his son, Jesus Christ. We have been justified by God though Christ and are led by the manifestation of the Spirit. The Spirit is with us in the cave, so that we "walk not according to the flesh but according to the Spirit" (8:4b). Paul makes it clear that the fruit we receive "leads to sanctification and its end, eternal life" (6:22b) rather then the fruit we were getting while living in the flesh, in sin, which can only lead to death (6:20-21).

Once I accepted the gift of grace and believed in Christ, I received the Holy Spirit and entered a dualistic lifestyle. My body and my spirit became two separate entities. Because Christ has come into my life, "although [my] body is dead because of sin, the Spirit is life because of righteousness" (8:10). I am therefore no longer trapped in my sin, unable to be freed, but freed by grace in the forgiveness of Christ. This means that I will continue to sin; that even though I have ultimate freedom from the flesh, I do not have temporal freedom. I am freed from my sin yet am captive to it at the same time (7:25). I am living in the cave in this life (the flesh), but part of me has a greater understanding of the true reality (the Spirit).

Before moving further, it is important to mention a significant distinction in Paul's Letter to the Romans. When Paul speaks on the depravity of the flesh, he is not inferring that all of the flesh is corrupt and irreparable. In fact, Paul believes that the flesh can be used to glorify God and is not destined to only serve sin. Paul writes that our bodies can either be used as tools for sin or may be used as instruments of God (6:12-14). We are implored to let our bodies become living sacrifices, "holy and acceptable to God" (12:1). In fact, it is interesting to note that Paul speaks about the body in 12:1 being put to use for God

before mentioning the use of the mind in 12:2. Clearly, the body can be used for good, but it is the flesh of sin that Paul condemns.

What are the ramifications of this view? Clearly, Plato would not agree with Paul's assessment of the dualistic lifestyle. He would argue that it is impossible for a man to have absolute knowledge yet live in a finite world. Humankindis either outside of the cave or within, but it cannot be both.To Plato, the dualism that existed to him was the realities of the absolute (the Forms) and the finite (the imitations). The Forms and the imitations concretely exist, but it is impossible for any man or woman to live in both at the same time. The idea that it is possible to know a bit of the absolute while living in the finite would be absurd according to Plato; however, the presence of a dualism would not.

Furthermore, Paul's conception of the cave makes sense for a Christian worldview. To Plato, reason was an innate quality in every human from the beginning. There was no need for an external savior when what saved humans was inside of them all along. However, for the Christian, the pre-redeemed but fallenhuman was living in complete sin. All that was in humans was depravity and the absence of the good. Therefore, it was necessary that the way out of the cave should come from outside of the cave, where sin did not exist. Christ had to come in and loosen our chains, leaving behind the Spirit with which to help us. The Spirit offered humankind an idea of the true reality, and took sin's place as our new master. Rather than a light ahead it gave us a light within. Granted, that light was dim, but it spurred our desire to traverse the cave in order to be united with the true reality we could faintly see.

Another way to look at this journey, and the Pauline conception of the cave is to think of it as a renewal of the mind. Whereas we started in complete darkness, with nothing but sin around us, we can traverse into a place of greater understanding. This is because Christ freed us and left us his Spirit. As the Spirit guides us closer to the mouth of the cave, our minds continually become more renewed to our pre-fall view of the world, and our understanding gains the element of light. The darkness that our minds once occupied becomes enlightened. The entire process is one of renewal in which we are coming back into our original state. We long to live a singular lifestyle once more. Unlike Plato, we see a blurry picture of what true reality is, and we long to be in unity with that reality, with Christ in us. However, in this life we will never experience a complete renewal of the mind, or pure enlightenment. Because we are living in a world in which Satan and evil abound, we

cannot rid ourselves of evil while we are in the flesh. The cave will always (in a temporal sense of the word) be a part of us. However, the mission is not futile. This simply means that we must traverse the cave in order to gain greater understanding of the good: the true reality of unity with God in Christ. We continue to progress because we long to have union and harmony in our souls.

Help within the Cave (Romans 12:1-15:7)

"The night is far gone; the day is at hand. So then let us cast off the works of darkness and put on the armor of light."
-Romans 13:12

Because we are living a dualistic lifestyle, we are also living in two distinct communities: humanity and the Body of Christ. We have citizenship in each and have a role to play for each one. As a part of humanity we are called to love everyone and minister especially to those who have not turned and believed in Christ. As a part of the Body of Christ we are called to support the weaker brother and learn from the stronger brother as we progress through the cave *together*.

Paul speaks to the first role in 12:9-13:14. He implores that we should "let love be genuine. Abhor what is evil; hold fast to what is good. Love one another with brotherly affection. Outdo one another in showing honor" (12:9-10). The way we live our life should directly impact those we interact with. However, not all will embrace us. Through Paul's orders to love our enemies, it should be inferred that we will have enemies. More often than not, these enemies will be those who have not turned and accepted Christ yet. They do not have any grasp of what the true reality looks like, thus they will not be able to see what we can see and know what we can know. They are living in sin and unable to attain anything higher. Therefore, we should expect persecution from them.

Plato agrees. He states that as a human gains in understanding and lets his eyes adjust to the new level of brightness that a truer reality holds, he will be unable for some time to see clearly in the depths of the cave should he return. His eyes, although more useful than before, will not be as useful in a more false reality. He asks, "Wouldn't it be said of him that he'd returned form his upward journey with his eyesight ruined and that it isn't worthwhile even to try to travel upward? And, as for anyone who tried to free them and lead them upward, if they

could somehow get their hands on him, wouldn't they kill him?" (517a). Persecution, according to both Plato and Paul, is a natural byproduct of a growing understanding.

The second role that we must perform is in 14:1-15:13. This pericope deals with a man's relationship with fellow believers. We are called to traverse the cave together. This means that the stronger human, the one with greater understanding and further out of the cave, has a role in helping his weaker brother grow in his faith. Since both men are striving for union with Christ in the Spirit, both are dependent upon each other to listen and obey the Spirit's guiding out of the cave. This is in stark contrast to Plato's reading of the cave analogy, in which it was very individualistic. Although he did talk about returning into the cave in order to "carry the torch" and help guide others out, he does not mention a communal striving for the end goal. Ultimately, we will be held accountable for our own personal faith and movement in the cave, but to support and be supported by a community is also necessary. Paul brings both together in 12:4-5: "For as in one body we have many members, and the members do not all have the same function, so we, though many, are one body in Christ, and individually members one of another." The Body of Christ is a functioning body, consisting of both the weaker brother and the stronger brother. It is impossible to grow very far in faith with a completely individualistic mindset. To have this mindset is to remain with a mind that is on the flesh and the fleshly desires. That is why Paul warns the brothers and sisters in the faith to support everyone around them. Not only are they serving their individual faith, they are also serving the communal faith within the Body of Christ. The two faiths are not separate entities, but they each play on one another. As a human serves the communal faith, his or her individual faith grows and vice versa. Therefore, as I said earlier, Christians are called to traverse the cave together. As a member of two separate and distinct communities, one fulfills his duty as a Christian by loving his enemies and supporting the Body of Christ.

Conclusion

A Christian perspective of Plato's cave analogy through the Letter to the Romans is essential for modern Christianity. It is important to realize how it illustrates the dualistic lifestyle. Being born of the flesh but born again of the Spirit, humankind will be in constant tension until he reaches eternity. A reading of the cave analogy through the

lens of the Letter to the Romans reveals a greater understanding of the dimensions of the spiritual life in the flesh. It illustrates the fall of humankind and God's redemption of him through his son, Jesus. With the indwelling of the Holy Spirit, humankind is now capable of traversing the cave and growing closer to unity with God and unity in mind both individually and communally. The ideas brought up from the Letter to the Romans within the cave analogy help further Christian thought and understanding.

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Scripture quotations are from *The Holy Bible*, English Standard Version (ESV). 2001. Crossway. Used by permission.

Patents, Politics, and Poverty: The Ethics of the Pharmaceutical Patent and its Effects on the Poor

Rachel Graham-Howard

Rachel is a senior Nursing major with interests in global public health, infectious disease, and social justice. Her interests are derived from the Biblical teachings concerning the care of the poor and convictions from a personal relationship with Jesus Christ. She would like to thank the faculty of Azusa Pacific University for encouraging her towards a life in which scholarship is intertwined with Christianity, and her family for encouraging her to never stop learning. In the words of Proverbs 3: 27, "Do not withhold good from those to whom it is due, when it is in your power to do it."

Abstract

The Ethics of the Pharmaceutical Patent and its Effects on the Poor It is a well- known reality that a major problem facing the world's poor is access to adequate medical care. But what is less well known is the direct effect that the pharmaceutical industry has on the pricing and availability of life-saving medications. This paper examines the history and current climate of pharmaceutical patenting and its impact on those living in poverty, including the areas of research and development, marketing, government and international trading policies, and research protocols in resource-poor settings. It then explores the ethical theories pertaining to the patent in order to show that it is ultimately unethical. It is then shown that health care workers have an ethical responsibility to respond to the patent and call for reforms in order to support policies in which the world's poor have access to vital medications.

The majority of the world's population lives in poverty, where they constantly battle an array of severe medical problems. What is somewhat unfathomable is the reality that the most serious and commonly occurring diseases of the poor are completely treatable, with medication readily available in wealthier countries. So the questions must be raised: how is it that in Africa, the continent most affected by HIV/AIDS, it is estimated that less than one percent of infected people has access to antiretroviral therapy (Koenig, Leandre, & Farmer, 2004)? How is it that according to Sterckx (2005), the United States spends more money on baldness research than on research of all tropical diseases combined? The complex interplay between free market principles and pharmaceutical patent laws has directly caused the conditions in which the world's poor do not have adequate access to health care. The systems of research and development and intellectual property rights have led to a world where 90% of the pharmaceuticals produced today are consumed by only 15% of the world's population (Lage, 2011). The following discussion will detail the history and current climate of pharmaceutical patenting and its impact on those living in poverty, in order to provide a contextual framework for ethical discussion. An exploration of the ethical theories concerned with the existence of a pharmaceutical patent, particularly utilitarianism, deontology, the philosophy of John Locke, and virtue ethics, will show that the predatory monopoly created by pharmaceutical patents is both unethical and morally unacceptable. Once this has been shown, it will be clear that health care workers have an ethical responsibility to respond and reform the current practices of the pharmaceutical industry, to advocate for the majority of the world's population who cannot currently afford health care.

The Pharmaceutical Patent: Definition and Consequences

When a company develops a new medication and pays for its research, development, and extensive clinical trials, that company has the right to a patent. Essentially, when this medication is released to the market, that company holds all rights to its manufacture, marketing, and sales profits. For a designated period of time, that company alone can manufacture and sell the drug, giving them a monopoly over the market and assuring that the company can set the price of the medication. In this way, the company is able to cover the costs of research and

development, and also make a substantial profit. Eventually, the patent expires, at which point other companies are able to start producing and marketing the drug at lower prices.

The underlying principle of patents is that the patent provides incentive for researchers to innovate and produce new drugs for the world's diseases. The thinking is that without the promise of a payoff, no company would be willing to make the initial financial investment in costly research. By providing an incentive for a company to do research and develop new drugs, treatments and cures for diseases will continue to be discovered. On the other hand, if there were no patent, the concern is that no research would be done because it is too expensive, and there would be no new cures and treatments.

On principle, the patent is a sound economic practice to assure that companies have a fiscal incentive to produce products that benefit humanity. One ethicist states that "the patent system [...] could be an almost perfect example of what fair social institutions should look like" (Sterckx, 2005, p. 82). Unfortunately, regardless of the altruistic origins of the pharmaceutical patent, the climate that it has actually produced is far from a fair social institution. The patent has had a negative effect in four major arenas: research, marketing, international trading regulations, and international treatment protocols.

Research

Because patents provide the opportunity for pharmaceutical companies to make a large but time limited profit, there is a financial push for these companies to constantly develop new drugs, and quickly. When the patent on one of the company's drugs is about to expire, it is in their best interest to assure that there is a new drug with a new patent to take its place. This has major consequences for the area of research, in that it has resulted in unethical research practices and encouraged companies to research only a very limited list of medical problems that have a guarantee of payoff.

It is well documented that when the pharmaceutical industry funds clinical research, the findings are overwhelmingly in favor of the industry's interests. An article published by the Journal of Law, Medicine, and Ethics states that "industry sponsorship seems to be associated with at least a 3-to-5 fold increase in the odds that the trial will come up with results [...] that favor the new product" (Wynia & Boren, 2009, p. 412). The end result of this research corruption is that health care workers are made to believe that new drugs are better

than old drugs, when in fact they may have the same effect and even have dangerous side effects which the public is unaware of because the data have been purposefully kept from the public eye. For example, the manufacturer of Paxil conducted five studies of the drug on children, and only published the one study that showed benefit, suppressing the studies that showed potential harms (Wynia & Boren, 2009).

Along with encouraging unethical research practices, the patent influences the type of research that takes priority. This is because pharmaceutical companies target the market that has the greatest ability to pay, which is overwhelmingly the first world. Sterckx (2005) states that in the year 2000, pharmaceutical companies were primarily studying four conditions: impotence, erectile dysfunction, obesity, and sleeping disorders. Lage (2011) states that "investment into research is directed mainly towards drugs for the central nervous system, metabolic, neoplastic, and cardiovascular diseases" (p. 18). In other words, most research is focused on psychiatric conditions, obesity, cancer, and heart disease, which coincidentally are all medical conditions of the first world. Several categories of diseases are glaringly absent from these lists of research emphases, such as infectious and tropical diseases, diseases related to exposure and malnutrition, and most especially troubling, the diseases caused by drug-resistant organisms.

Tuberculosis has been the plague of the poor for centuries. However, in recent decades, drug resistant forms of the bacteria have proliferated and become even more resistant to available treatment. The progression from multi-drug resistant tuberculosis (MDRTB), resistant to isoniazid and rifampin, to extensively drug resistant tuberculosis (XDRTB), resistant to the top five mainline TB treatments, paints a very bleak picture for the poor in their battle against infectious diseases, one in which there are fewer and fewer drugs to treat them. This phenomenon is not exclusive to tuberculosis; it is a reality with malaria and HIV as well (Hedt, Laufer, and Cohen, 2011). Without research dedicated to understanding the mechanisms through which organisms become drug resistant, the people most affected by infectious diseases will soon be faced with the reality that there is no treatment available.

The reality of pharmaceutical research as it stands today is the 10/90 gap- less than ten percent of the world's research funds are directed at the problems responsible for 90 percent of the global disease burden (Lage, 2011). This is because the pharmaceutical patent has created the incentive to produce drugs for a market that can pay the prices to result in massive profits. With the reality that the poor cannot

pay high prices for drugs, there is little benefit for pharmaceutical companies to develop the drugs that they need. This becomes even more true when a patent exists that promises lucrative rewards for providing medications to the first world.

Marketing

Contrary to the commonly held belief, the biggest expenditure of the pharmaceutical industry is not research, but marketing (Lage, 2011). Because the patent is time-limited, there is enormous pressure to sell the new drug to as many people as fast as possible. As many people, that is, who can pay.

In planning a marketing strategy, companies look at the economic tool known as the demand curve to determine how to price their product; there is always an optimal price at which the company will make the most profit off of the greatest number of people. Unfortunately, the demand curve in most developing countries is skewed by the vast economic distance between the wealthy and the poor. Essentially, the profit maximizing behavior of a monopolist in the case of a highly convex demand curve consists of setting prices that only the wealthiest can afford. Flynn, Hollis, and Palmedo (2009) explain it in this way: "The problem is that relatively rich people, though few, are able to pay so much more for their drugs that it is more profitable for a company to serve them only. The greater the inequality of the income or wealth distribution, the more severe the problem becomes" (p. 190). The resulting situation is that "product patents for drugs in developing countries will almost certainly lead to a price increase of 200-300%" (Sterckx, 2005, p. 89). In other words, in any country with a high discrepancy between the wealthy and the poor, the prices of medications are immensely inflated, severely limiting the access of the poor to necessary medicine. This holds true especially in first world countries such as the United States, where those living in poverty can rarely afford proper treatment due to price inflations that target a wealthier market.

Government and International Trading Policies

One key factor in understanding the pharmaceutical industry is to realize the extent of the monopoly: more than 45% of all pharmaceuticals are produced by only ten companies (Lage, 2011). This means that all of the profit garnered from the sale of pharmaceutical drugs is concentrated into a handful of very powerful companies.

Sterckx (2005) reports that "the pharmaceutical industry is eight times more profitable than the average of all industries represented on the Fortune 500 list" (p. 90). This wealthy industry has a two-fold influence on the government: it is a major employer of a large number of people, and it generates a massive amount of tax revenue (Bloche & Jungman, 2002). The amount of fiscal and political power possessed by pharmaceutical companies has led to policies that intentionally make medications unaffordable by protecting patents both domestically and internationally, affecting the poor in both areas.

Many countries exclude pharmaceutical products from patent protection. Sterckx (2005) explains that before the establishment of the World Trade Organization (WTO) in 1986, more than 50 countries did not allow drugs to be patented. However in 1994, the WTO mandated the Agreement on Trade Related aspects of Intellectual Property rights, or TRIPS agreement, that globalized the pharmaceutical patent. Essentially, this agreement forces governments to honor pharmaceutical patents in order to avoid violating intellectual property rights, meaning that these governments cannot independently produce and sell the company's drug. Thus the pharmaceutical companies maintain a global monopoly of the market by forcing countries to not produce cheaper versions of the drug. Though developing countries have the resources and knowledge to produce drugs that would be more affordable to the poor, they are kept from doing so by the threat of violating the TRIPS agreement, which would endanger their ability to participate in global trade (Lage, 2011).

In 2001, the WTO adopted the Doha Declaration, in which governments have the right to compulsory licensing. In basic terms, compulsory licensing allows the government to use patented information without the patent holder's consent in the interest of public health (Compulsory licensing of pharmaceuticals and TRIPS, 2012). There are conditions on the use of compulsory licensing. It can only be used "after due consultation, and with fair recompense to rights-holders" (Sterckx, 2005, p. 125). In other words, governments have the right to seize patented information and use it for the good of public health, but only after all other options have been considered and only if the government pays the patent owner a fee for the use of their information. At the outset, this seems like an excellent solution for countries where people cannot pay for expensive patented medications. However, the use of compulsory licensing has been highly controversial, with major pharmaceutical companies fighting for its

removal (Ashcroft 2005). Lage (2011) states the reality quite bluntly: "The brutal fact is that in many countries, interest in maintaining standing as a preferred trading partner [...] has thus far prevailed over commitment to access to medications" (p. 17). So although governments in developing countries have the right to produce medications that the poor could afford, their economic trading interests prevent them from doing so.

One might ask, what real danger does producing cheap medications pose for the affluent pharmaceutical industry? According to Flynn, Hollis, and Palmedo (2009), the drug companies know that having cheap, generic medications available for third-world countries would be unlikely to affect their profits. The concern is that low-priced versions of the drugs would be sold back to wealthier countries via the black market, driving down prices in the first world, or that the public would become aware of lower prices in developing countries and demand that patent protection be relaxed in the wealthier countries. These are valid concerns that pose a very real threat to the pharmaceutical industry, but it is a question of balance: is it acceptable to protect the profits of this industry at the expense of life-saving treatments for the majority of the world's people living in poverty? As Schrecker (2011) notes, "It is imperative to investigate and challenge the economic systems and political choices that condemn billions of people to short and unhealthy lives" (p. 204).

Treatment Protocols in Resource-Poor Settings

It has been shown that the pharmaceutical patent creates an environment where medications are researched and produced almost exclusively for the wealthy, and that this has created an industry with extreme wealth and power that has then dictated the prices of medications in poor countries by creating policies that protect patent rights worldwide. One of the most devastating consequences of this reality is that life-saving medications are priced so high that treating people is not cost effective in resource poor settings. This in turn has led to the widely-held belief that it is impractical to treat in poor settings, naming reasons as to why it is impractical that have nothing to do with drug prices. In fact, many of the justifications for not treating the poor involve subtly blaming the poor by claiming that they cannot maintain a rigid medication protocol.

Fortunately, the importance of HIV treatment in recent years has been recognized and has led to decreased ARV prices and increased

funding for their use in developing countries. However, the stigma against treating the poor still lingers. Ivers, Kendrick, and Doucette (2005) state that "specific concerns have been raised regarding the ability of Africans and other groups in the developing world to adhere to ART regimens" (p. 217). Despite this stigma and the constant battle to fund the treatment of the poor, it can be done. Paul Farmer and his colleagues at Zanmi Lasante in rural Haiti began using ARV's in the treatment of patients with HIV in 1998, with positive results. In 2004, with funding from the Global Fund, Zanmi Lasante initiated 1050 patients onto ART, and found that adherence was high and clinical outcomes were excellent, with all patients gaining weight and regaining functional capacity, and 86 percent had undetectable viral loads (Koenig, Leandre, & Farmer, 2004). This is just one example of how effective ART is in resource-poor settings. In a meta-analysis of the literature on ART in resource-poor settings, Ivers et. al. found that "ART treatment programs in resource-poor settings have efficacy rates similar to those reported for developing countries" (p. 217). In other words, people in resource-poor settings are as adherent to the treatment regimens as people in developed countries. Since these studies show that it is not the characteristics of the setting itself that make treatment ineffective, the clear conclusion is that the only reason why treating the poor is ineffective is because drugs are priced too high for them to be affordable to the people who need them the most. Acknowledging this leads full circle back to the pharmaceutical patent and how it assures that medications are priced in such a way that they are inaccessible to the poor.

The Patent: Ethical or Unethical?

With the understanding that the pharmaceutical patent has impacted research, marketing, politics, and international treatment protocols, it becomes necessary to examine the ethical frameworks that have been used to justify the existence of the patent, and to point out the flaws or gaps in ethical reasoning that have contributed to the current situation. This will be done through the ethical frameworks of deontology, utilitarianism, virtue ethics, and human rights.

Deontology

At first glance, deontology appears to support the pharmaceutical patent. Deontology states that the nature of the act determines its

rightfulness or wrongfulness, rather than its consequences (Burkhardt & Nathaniel, 2008). The nature of the patent as it was designed is to produce optimal good. According to defenders of the patent, it protects the property rights of the people who develop the medications while simultaneously creating the incentive to innovate, assuring that new medications and treatments will continue to be developed (Ashcroft, 2005). Taking this view at face-value without any consideration of the consequences, the patent is ethical under deontology. Additionally, deontology presents the idea that "an action done from duty has its moral worth based upon reverence for the law and doing one's duty" (Burkhardt & Nathaniel, 2008, p. 40). The pharmaceutical patent is inarguably defended by the law in the countries that produce most pharmaceutical products. In terms of duty, Ashcroft (2005) states that "corporations have no moral obligations, over and above their legal obligations, to anyone but their owners, the shareholders. Corporate staff and officers have a general common human duty to act decently, but beyond this there is no specific moral duty that lies on corporations" (p. 126-127). Though harsh, the duty of companies lies only in their duty to their shareholders.

Despite the elements of deontology that lend ethical support to the pharmaceutical patent, there are multiple, stronger elements that oppose it. Primary among these is the practical imperative, which demands the use of people only as ends and never as means. One of the main purposes of the patent is fiscal profit, allowing the company that produces the drug to charge people as much money as they can for their product for a set period of time. This manipulation of people in order to make a profit is a prime example of using people as a mean rather than an end, a direct violation of the practical imperative. Based on the practical imperative alone, the pharmaceutical patent is unethical. However, there are multiple other ways in which the patent violates deontology. For example, deontology states that it is morally wrong for one person to have domination over another (Burkhardt & Nathaniel, 2008). Interpreting "person" to also mean "groups of persons", The WTO's enforcement of the TRIPS agreement is the domination of a powerful organization over the governments and economies of smaller countries. The practical imperative also necessitates the protection of the dignity and autonomy of individuals. When the marketing strategies of a pharmaceutical company show that profit is a more important driving factor than human life, dignity is violated. When people are forced to live with diseases because they cannot

afford the medications that they need, their autonomy is crippled. The pharmaceutical patent, in both nature and action, violates the principles of deontology in such a way that it is ultimately deemed unethical within this framework.

Utilitarianism

The ethical defense of the pharmaceutical patent has often been based on utilitarianism. Utilitarianism, in direct contrast to deontology, evaluates an action as right or wrong based on consequences, outcomes, or end results, and not on the nature of the act or its good intentions (Burkhardt & Nathaniel, 2008). Essentially, utilitarianism is the theory that supports the greatest good for the greatest number of people. It is in defining the greatest good that the pharmaceutical patent is ethically justified. The perspective of the pharmaceutical industry is that "the general aggregate welfare [is] best promoted by encouraging innovation and protecting rights in such innovation" (Ashcroft, 2005, p. 124). There are two parts to the utilitarian defense of the patent: encouraging innovation and protecting rights. They argue that the patent is necessary to assure that there is an incentive to continue to do research and develop new medications and treatments which will benefit vast numbers of people. However, this defense is operating under an idealized view of the pharmaceutical research world. As it has been shown, the patent does not encourage the type of innovation that will benefit the greatest number of people; it encourages innovation to benefit the wealthiest of all people. The WHO Commission on Intellectual Property Rights, Innovation and Public Health in 2004 found that international protection of the pharmaceutical patent actually stifled the incentive for innovation in developing countries (Lage, 2011). Therefore, because the patent encourages development that does not benefit the majority of people, and actually detracts from well-being by concentrating research funds into a very small number of medical conditions, it cannot be seen as ethical under the framework of utilitarianism.

In terms of protecting the rights of the people developing the drugs, act-utilitarianism states that " there are times when the overall consequences will be better for everyone concerned if this guideline is not followed, even if the rights of some individuals are violated" (Burkhardt & Nathaniel, 2008, p. 36-37). In other words, act utilitarianism supports violating researchers' rights if it is to the benefit of a global majority, which the poor would most certainly constitute.

Within this framework, it would be ethical for governments to seize patented information for the benefit of a majority without consideration for the researcher's rights. However, the system of compulsory licensing which allows the seizing of patented information requires that the researchers be compensated by the government, making it both ethically sound and morally commendable within the scope of utilitarianism. Overall, in terms of the utilitarian framework of the greatest good for the greatest number of people, the pharmaceutical patent is unethical.

John Locke and the Natural Rights Argument

Another of the foundational ethics of patent justification comes from the philosophy of John Locke. John Locke professed that the right to property is a fundamental human right of all people. When a person puts his or her labor into something, it becomes theirs, and they have a right to possess it. It is with the understanding that a person has a right to his or her own property that the argument for a patent has been made. The idea of intellectual property rights is that a person has a right to his or her own ideas, and that they have a right to not have their ideas used and exploited by someone else. In the context of a pharmaceutical drug, the Natural Rights Argument states that the person who developed the drug has the right to not have others take the chemical formulation of the drug, manufacture it, and sell it, taking profit from the original developer. This ethical understanding introduces the highly charged terms of "stealing" and "piracy" into the discussion of the pharmaceutical patent, which lends support to the idea that the patent protects researchers from having their ideas carried off by thieving competitors. This perspective leads to the idea that the developer of a drug possesses the right to all of its profits in all markets, and is the framework out of which pharmaceutical companies argue for lengthening the time restrictions on a patent and strengthening international enforcement of intellectual property rights.

But this understanding of Locke's philosophy forgets the other tenants of his argument. Locke (1690) states that "no one ought to harm another in his life, health, liberty, or possessions" (p. 4). By Locke's philosophy, all people are equal, and no one person's rights are more important than another, and no right is more significant than another right (Locke, 1690). In other words, one person's right to health is equal to another person's right to property under John Locke. Therefore it is not correct to use John Locke as a justification of the pharmaceutical

patent, because the pharmaceutical patent infringes on people's rights to life and health, though it protects some people's right to property.

Virtue Ethics

Virtue ethics are primarily concerned with morality. Actions are deemed ethical or unethical based on their adherence to cardinal characteristics that define morality, or "what one should be" as opposed to "what one should do." The four defining characteristics of "what one should be" are the focal virtues: compassion, discernment, trustworthiness, and integrity. It has been argued that corporations are not people, and therefore should not be subject to the rules of morality, having no obligation to anyone but their stockholders (Hollingshead, 2010). However, when the actions of a handful of companies have been directly responsible for the withholding of lifesaving medical treatment from millions of people, one has to wonder about the wisdom of absolving corporations from moral responsibility.

With this in mind, the climate created by the patent can be judged on the virtues of compassion, discernment, trustworthiness, and integrity. To begin, compassion is "an attitude of active regard for another's welfare [...] and emotional response of deep sympathy and discomfort at the other person's suffering" (Burkhardt & Nathaniel, 2008, p. 44). The pharmaceutical patent creates an environment driven by the free market and the desire for a lucrative profit, not an environment conducive to deep sympathy and the regard for the welfare of the poor. Discernment is "sensitive insight involving acute judgment and understanding, and it results in decisive action" (Burkhardt & Nathaniel, 2008, p. 44). In a world where pharmaceutical companies practiced discernment, it would be recognized that it is in the best interests of humanity to make medications available to the poor, who constitute the majority of the human race. However, the pharmaceutical patent assures that the pharmaceutical industry is just like all other businesses, bent on maximizing profits, despite the fact that the lives of many people depend on the products of this industry. The industry lacks discernment because the only judgment and understanding of importance are based on financial goals. Finally, trustworthiness and integrity are the virtues that involve the belief "that another will act with the right motives" and that another will have "consistency of convictions, actions, and emotions" (Burkhardt & Nathaniel, 2008, p. 44-45). The effects of the patent on research and development show that the pharmaceutical industry is neither trustworthy nor possessing

integrity, committing research fraud and suppressing data in order to obtain the patent and the resulting profit. The patent creates an environment in which the only motives are financial, which is not trustworthy, and removes all conviction and emotion from the process, which robs the industry of integrity. On the grounds of virtue ethics, the patent violates each of the focal virtues, illustrating that though there are some ethical frameworks which can justify it, the underlying reality is that the pharmaceutical patent is not morally sound.

Responding to the Patent: the Role of Nurses

It has been shown that the pharmaceutical patent provides lucrative benefits to the pharmaceutical industry, resulting in research that is over-representative of the medical problems of the first world and under-representative of the problems of the poor. It has resulted in marketing strategies that intentionally price medications above what the poor can afford in developing countries. It has led to international trading policies that prevent countries from manufacturing affordable drugs for their citizens, and it has led to the incorrect notion that it is impractical to treat the poor living in resource-poor settings. Additionally, it has also been shown that the patent is unethical within the frameworks of deontology, utilitarianism, the philosophy of John Locke, and virtue ethics.

With this in mind, nurses have an ethical obligation to respond to the patent that the pharmaceutical industry does not. Nurses understand that all people have inherent worth and human dignity, regardless of socioeconomic status, gender, religion, or nationality. The ANA Code of Ethics states that "The nurse's primary commitment is to the recipient of nursing and health care services- the patient- whether the recipient is an individual, a family, a group, or a community" (Burkhardt & Nathaniel, 2008, p. 497). In the global community, a nurse's obligation is not to business but always to the patient. As such, nurses are obligated to keep the concerns of patients always at the forefront ahead of the concerns of the pharmaceutical industry. Advocacy is a primary role of the nurse, and nurses as a professional body should advocate for the poor and their right to affordable medications. Finally, nurses should be informed about the current status of the global pharmaceutical market in order to engage in educated discourse with other professionals in a way that advocates for patients in the developing world.

Conclusion

It has been said that with the advent of technology and the ability to rapidly communicate information and travel vast distances, the world is shrinking. It is undeniable that the doors between worlds are more open than ever; more trade and tourism are possible than ever before. Yet some doors still only open one way. Sex tourism into developing countries occurs uninhibited, and yet medications to treat sexually transmitted infections are widely unavailable in these places. Businesses of the first world send their industries to the developing world for cheaper manufacture and labor without trouble, and yet the laborers they employ cannot afford health care. In wealthy countries, tuberculosis cases have been drastically reduced to almost nothing due to effective treatment, yet in developing countries, tuberculosis is still the second-leading cause of death, with new and more aggressive strains of the bacteria emerging. The primary reason why the poor cannot afford health care in developing countries is because the pharmaceutical industry is protected by patents that keep drug prices above the price that the poor can pay. The patent has been shown to have negative consequences on research, marketing, international trading policies, and treatment protocols for resource-poor settings. It has been shown to be unethical within the frameworks of deontology, utilitarianism, the philosophy of John Locke, and virtue ethics. Finally, it has been shown that health care workers, particularly nurses, have an ethical obligation to oppose the power of the pharmaceutical patent and advocate for the rights of poor patients worldwide. If the pharmaceutical patent were to be abolished and replaced by a different system which did not encourage monopolies and high drug prices, perhaps the priorities of the pharmaceutical industry could be restored, and it could function as it ought to, seeking cures and treatments for the diseases that afflict humanity in order to better the quality of life for all people.

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Perspectivism & Power: A Critique of the Philosophy of Friedrick Nietzsche

Ysabel A. Johnston

Ysabel is a Junior Philosophy major and Mathematics minor. Her desire to relate philosophy to the Christian life in a meaningful way was the driving force of this paper and has influenced her academic career. She would like to thank the Philosophy department at Azusa Pacific University and the High Sierra program for the opportunities for scholarship and growth she has been provided through them. Special thanks to Dr. Teri Merrick and Dr. David Williams who challenged her to read Nietzsche.

Abstract

This session will compare Friedrick Nietzsche's perspective of Christian morality as life negating due to its denial of the human desire for power, to one that conceives of Christian morality as life-affirming. First, I will show how this comparison is encouraged by Nietzsche's own theory of perspectivism, which will be explored with respect to two differing interpretations. Secondly, in recognition of the fact that both interpretations see the benefit of offering new perspectives, and seeking one that is in some sense more valid, I will offer my perspective that blind endorsement of a competitive, violent will to power is unhealthy and life negating. Conversely, creative and loving expressions of power are necessary in Christian worship, as the powers themselves are viewed as gifts bestowed by God. My perspective will be shown to be more dynamic, having a more consistent, informed, and cognitively satisfying view of what leads to a fulfilling life.

Friedrich Nietzsche's On the Genealogy of Morality briefly but meaningfully sets the stage for perspectivism. Just as the objects of vision are confined by the location and viewpoint of the seer, Nietzsche contends that all knowledge is shaped by the knower's experiences and emotions. He rejects the modernist notion that objective, universal truths can be known, but nevertheless affirms the value of understanding differing perspectives. Given the understanding that Nietzsche claims we ought to pursue, either to satisfy relative cognitive interests or to further our journey toward an objective omniperspective, I will show that he has not adequately considered a Christian perspective that self-consciously affirms power as a life-giving force, proper to a God honoring life. I will first discuss two differing views on perspectivism, affirming that they overlap in the similar value they place on gathering and comprehending varied perspectives. Then, I will give a detailed account of Nietzsche's views of power, and of Judeo-Christian morality as unhealthy and life-negating. I will subsequently offer my own perspective of competitive, violent power as unhealthy and counter-productive to a life lived fully and well. Conversely, I will show how creative, non-competitive power is both healthy and is a necessary component of a worshipful life.

There is some healthy debate over how perspectivism should be interpreted and, furthermore, what type of perspectivist Nietzsche is. Much of the discussion surrounds the following passage found in treatise III, section 12 of On the Genealogy of Morality:

> There is only a perspectival seeing, only a perspectival 'knowing'; and the more affects we allow to speak about a matter, the more eyes, different eyes, we know how to bring to bear on one and the same matter, that much more complete will our 'concept' of this matter, our 'objectivity' be. But to eliminate the will altogether, to disconnect the affects one and all, supposing that we were capable of this: what? Would that not be to castrate the intellect? (1998, p.85)

This passage makes clear that there is no 'knowing' that is unshaped by or uninfluenced by one's own perspective. There are no beliefs held that are completely objective, free from the believer's own feeling, experience, and desire. It is also made clear that Nietzsche sees value in allowing and understanding more perspectives and varied perspectives. However, there is much contention concerning what this doctrine means

concerning the nature and existence of an objective reality.

Maudmarie Clark, a reputable Nietzschean scholar and author of Nietzsche on Truth and Philosophy outlines two important interpretations of this passage. First, Clark reads the passage as denying the existence of an objective truth, but not of a privileged perspective, or a perspective that is in some sense more valid than another. She writes, "we think of one perspective as superior to another if it gives the occupants of different perspectives more of what they want from a theory --- would better satisfy their standards of rational acceptability---than does the other perspective." (2000, p.141) The privileged perspective is judged by the shared beliefs and interests of those perceiving, not by any objective standard.

Clark also details Bernd Magnus's interpretation of Nietzsche. Magnus reads Nietzsche as espousing the impossibility of any one knower holding a "God's eye view", or an omniperspective that at once sees every perspective and understands every viewpoint. However, Magnus does not read Nietzsche as denying objective truth. The omniperspective seems to represent this truth; it exists, but cannot be possessed by a singular knower. "Magnus must suppose that Nietzsche himself equates truth with the way things are from all perspectives… [therefore] our views can only be partial or one-sided." (2000, p.146) Considering the passage above where Nietzsche insists that more perspectives help make a concept more complete, Magnus's interpretation seems most plausible.

The most significant point derived from an examination of perspectives on perspectivism is this: common to both these interpretations is the notion that gathering perspectives is a worthwhile venture, in order to compare and assess the satisfaction of cognitive interests or to grow closer to an objective truth. It is also generally agreed upon that perspectivism does not equate the validity of all perspectives; in fact, Nietzsche seems to consider his own perspective as privileged. Clark agrees that "we have no basis for denying that Nietzsche did regard his own perspective as superior to his competitors." (2000, p.142)

Due to these agreements and commonalities in interpretation of perspectivism, the espousing of a differing perspective from Nietzsche's is not only warranted but encouraged. I find that both Nietzsche and I have the cognitive interest of finding what is healthy, or what leads to a fulfilling life. According to Clark, this is enough to render a comparison of perspectives worthwhile. According to Magnus, giving my

perspective will bring us closer to grasping objective reality. Nietzsche agrees that one perspective can take precedence over another, either in the sense that it better satisfies those cognitive interests or that it is simply closer to the objective truth. I will argue that my perspective takes precedence over Nietzsche's because it more effectively finds what is life-affirming and healthy. I will do this by first detailing Nietzsche's perspective on Christian morality, then I will detail my own perspective, highlighting our points of agreement and disagreement. I will conclude that Nietzsche offers an incomplete portrait of power and its effectiveness in producing a fulfilling life, misunderstanding Christian views on power and self-deception as he does so.

Nietzsche very likely sees his Genealogy of Morality as offering another set of eyes, another perspective on the question of what is healthy and life-giving. The Stanford Encyclopedia of Philosophy describes him as "interested in the enhancement of individual and cultural health, and believed in life, creativity, power, and the realities of the world we live in, rather than those situated in a world beyond." He implies that the perspective already well represented is that of the Judeo-Christian tradition which focuses on the "world beyond", therefore he seeks to counter it with his own. He takes issue with two aspects of Christian morality. First, that it suppresses the natural will to power in an unhealthy, life-negating manner. Second, that it is self-deceiving in denying that the will to power is a motivator in so-called "good" actions.

Regarding the first aspect, Nietzsche conceives of human nature as fundamentally having a will to power. He describes this "essence of life" as "the essential pre-eminence of the spontaneous, attacking, infringing, reinterpreting, reordering, and formative forces." (1998, p.52) By his lights, power-will is essentially competitive; a "way to greater power and is always pushed through at the expense of numerous smaller powers." (1998, p.51) Nietzsche advocates and embraces this fundamental nature, claiming the exercise of it leads to a fulfilling life. He paints the power-embracing "knightly-aristocratic value judgments" in a favorable light, describing them as having "as their presupposition a powerful physicality, a blossoming, rich, even overflowing health, together with that which is required for its preservation: war, adventure, the hunt, dance, athletic contests, and in general everything which includes strong, free, cheerful-hearted activity." (1998, p.16)

Nietzsche shows how the concept of "good" originated from "noble" and "aristocratic", and how "bad" originated from "common", "vulgar",

or "base" through etymological evidence. He uses this to support his claim that the powerful initially defined "good" not as what is useful for mankind, but as what they are. By his lights, the powerful formed this definition out of truth and honesty, but the Judeo-Christian tradition morphed the distinction "good/bad" into "good/evil" out of feelings of resentment. Everyone has a "will to power", and the priests gained this power by using their words to redefine "good" into the original definition of "bad". Nietzsche justifies using etymological evidence because he asserts that "the origin of language itself [is] an expression of power on the part of those who rule." (1998, p.11)

Contrary to the noble, aristocratic morality is the slave morality of Christianity. He writes, "from the beginning there is something unhealthy in such priestly aristocracies and in the habits ruling there, ones turned away from action, partly brooding, partly emotionally explosive, habits that have as a consequence the intestinal disease and neurasthenia that almost unavoidable clings to the priests of all ages." (1998, p.15) The actions of the proponents of a Christian moral system, namely the priestly aristocracies, are considered to be infectious, causing disease. The priests spread the message that exercises of power are immoral and evil, changing the definitions of "good" and "bad" into "evil" and "good", respectively.

Not only do the priestly aristocracies promote a morality that condemns healthy, life-giving expressions of power, they are actually hypocrites in that they express power as they do so. They express power in that their resentment for the powerful, noble, and strong prompted them to redefine "good" into what they could operate with, a definition that holds humility, compassion, and weakness as the ideal. Nietzsche holds that "the priests are allegedly a group of weak people who shepherd even weaker people as a way to experience power for themselves." (Wicks, 2011, Section 4, para. 6) While they advocate powerlessness and deny their own will to power, they are actually the most power-hungry.

Here is my perspective and my critique: Nietzsche has a simplified view of power which doesn't fully recognize different manifestations of power. He sees the distinction between the power exerted by the master-morality and that of the slave-morality, namely that the former is life-affirming and the latter is life-negating. He bases these claims on the self-deception inherent in the slave-morality; the denial and devaluation of the desire to wield and express power. However, there are more distinctions he fails to recognize (or, if he does recognize

he fails to define) which create categories of healthy, life-giving expressions of power and unhealthy expressions of power.

First, I will illuminate the unhealthy, life-negating power. This power seeks to express itself in ways that oppress others and defines itself in terms of how effectively others are made weak. Violence that does not seek to protect is a form of this sort of power. Nietzsche describes the priestly aristocracy as using this power; "they did not first have to construct their happiness artificially by looking at their enemies, to talk themselves into it, to lie themselves into it (as all human beings of ressentiment tend to do)…" (1998, p.20) This type of power is unhealthy in that it defines itself in reference to an enemy. However, he only recognizes Christians who secretly seek to overpower those they assist, defining themselves as "good" in relation to those who they label "bad", as practitioners of this unhealthy power. However, unhealthy power is expressed in a myriad of ways, and is actually condemned by Christian teaching itself.

In Matthew 6:1, Jesus warns, "Beware of practicing your piety before others in order to be seen by them; for then you have no reward from your Father in heaven." Then in verse 3, "But when you give alms, do not let your left hand know what your right hand is doing, so that your alms may be done in secret." This practice safeguards against any ulterior motives behind hospitable acts, therefore the act is done out of compassion itself and not out of a need to define oneself in relation to another. Think of a woman who anonymously gives food to a struggling family. If she was subversively attempting to exert unhealthy power over them, she would have made every effort to make it known that she was the benefactor. She would have needed those around her to be fully aware of her power over the family in order to satisfy her desire to rank herself as more powerful than them. Those who express life-negating power define their power in relation to others, and therefore need to communicate their power to solidify this relation not only in their mind, but in the minds of others. However, the woman is not expressing an unhealthy power, she is expressing genuine compassion and care. Therefore, she feels no need to connect herself with the contribution because the knowledge that the family is fed is enough for her. Perhaps Nietzsche only observed Christians that made their acts of kindness known in order to gain a sense of power. This is likely, due to the inherent subtlety and secrecy of the acts done by those who truly give graciously and love unconditionally, not seeking anything in return.

Nietzsche may only recognize seemingly humble acts of those following a Christian moral system as life negating, however, by his definition all expressions of power that are competitive in nature are unhealthy. "Whereas all noble morality grows out of a triumphant yes-saying to oneself, from the outset slave morality says "no" to an "outside," to a "different," to a "not-self": and this "no" is its creative deed." (Nietzsche, 1998, p.19) The noble morality is characterized by a healthy power that affirms and defines itself without relation to another, while the counter is the slave morality that negates others, using others to define itself. The characterizing trait of unhealthy expressions of power is this need to use others to rank oneself. Therefore, any expression of power that is dominating, competitive, and violent is unhealthy due to the systems of ranking inherent in the action and in the mind of the one exerting power.

On the other hand, life-affirming, healthy power is characterized by expressions of ability, creativity and talent. There is no hidden desire to outdo another inherent in the action; it is a pure expression of self. This type of power is an essential part of Christian worship, as one cannot adequately venerate God without appreciating the talents and gifts He has bestowed upon humanity and upon the individual. Acts 6:8 describes Stephen, who was "full of grace and power, [and] did great wonders and signs among the people." In 1 Corinthians 2:4, Paul writes, "My speech and my proclamation were not with plausible words of wisdom, but with a demonstration of the Spirit and of power." Further, 1 Corinthians 4:20 states that this power is vital; "for the kingdom of God depends not on talk but on power." Addressing the church in Ephesus, Paul prays that "he may grant that you may be strengthened in your inner being with power through his Spirit" (Ephesians 3:16).

This healthy, life-giving power is a gift from God, and takes a variety of forms. Genuine selfless acts, expressed out of a true love and compassion for others and not out of competition is one such form. Musical or artistic ability, physical strength, intellectual fortitude, and beauty are all abilities or powers Nietzsche would consider noble and healthy to express. Christian tradition and Christian morality generally agrees insofar as the expressions glorify God, though there have undoubtedly been periods where these expressions were deemed immoral by some. Nietzsche is likely responding to that subdivision of Christianity that rejects expressions of power as healthy, and in doing so doesn't understand that Christian teaching and tradition itself endorses healthy power as a form of worship.

Perspectivism, first introduced in Friedrich Nietzsche's On the Genealogy of Morality, is a theory contending that all knowledge is shaped by the emotions and experiences of the knower. Though there are a myriad of differing views on how to interpret perspectivism, such as those described by Maudmarie Clark in Nietzsche on Truth and Philosophy, it is agreed that a conglomerate of perspectives is generally more valid than an individual perspective. Nietzsche and I have a similar interest in determining what is healthy, leading to a fulfilling life. He offers his perspective, and accordingly his view of Christianity as a life-negating slave morality is shaped by his experience of Christians and Christian tradition. He rightly affirms that self-deception and a defining of oneself by trying to out-do others is unhealthy. However, he doesn't see that this focus on others carries over to any competitive power that seeks to rank itself above others. Blind endorsement of the competitive, violent will to power can actually be unhealthy and life-negating. On the other hand, creative and loving expressions of power are necessary in Christian worship, as the powers themselves are viewed as gifts bestowed by God. In this sense, my perspective which distinguishes healthy and unhealthy power is more dynamic and has a more consistent, informed, and cognitively satisfying view of what leads to a fulfilling life.

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Kate Chopin's Edna Pontellier: Living for Dreams, Dying for Reality

Christina Ligh

Christina Ligh is a sophomore English major with a minor in Psychology. This paper exemplifies the same intersection of literature and human psychology that she hopes to find throughout her studies. She would like to thank Dr. Joseph Bentz for encouraging his students to write something new and for encouraging her in the drafting and submission process.

Abstract

After reading Kate Chopin's The Awakening, most critics and students conclude that Edna Pontellier's suicide at the end of the novel as a defiance of the masculine society that restricts her. However, Edna's main problem is not the society she lives in; it is her tendency to live in a world of impossible dreams. The awakening to selfhood that takes place on Grand Isle has the potential to make her a more complete, happy individual, but instead of finding a balance between assert-ing her individuality and maintaining her responsibilities as a mother and wife, Edna becomes enchanted with the idea of absolute freedom and loving Robert, her new romantic infatuation. When Edna finally awakens to the fact that she cannot love without incurring responsibilities, she despairs. Her romantic imagination is incapable of seeing any middle ground between complete independence and submission, so she kills herself in the ultimate tragic act.

Why would a perfectly sane person commit suicide? This question haunts readers of Kate Chopin's *The Awakening* when the protagonist, Edna Pontellier, walks into the sea and drowns herself. Most critics have interpreted her actions as defiance against the masculine society that restricts her, but I will argue otherwise. The main conflict in the story involves how Edna deals with reality and her impossible dreams. InThe Awakening,Edna awakens from her life as a high-society wife only to fall back asleep, caught in dreams about independence and romance. She flees from reality.When she is finally forced fully awake, she is so tormented by the loss of her dreams that she commits suicide.

Chopin's book is titled The Awakening, which seems to suggest an awakening from sleep. Throughout the book, Chopin refers to Edna's realization that she is an independent self and a woman with sexual desires as her awakening. Edna and most of the critics believe that this awa-kening is impeded by "the social restrictions (the lack of freedom) institutionally imposed on Edna" (Ramos 152). They argue that Edna's suicide is "her way of rejecting that society's notion of selfhood conceived as self-possession and all that implies" (Schweitzer 162). When Edna dis-covers that society will not allow her to be the free woman and lover of Robert that she desires to be, she kills herself. For some, this act is one of triumph—because you cannot control someone who is dead—while for others, it is a sign of defeat (Ramos 145). But it is neither, and the reason for the critics' misinterpretation of Edna's actions lies in their misinterpretation of the subject of the title: the main awakening in The Awakeningis not Edna's awakening to selfhood, but an awakening to the fact that she cannot have all that she dreams of. As Rosemary F. Franklin argues, "Edna sleeps and lives in a world of romantic fantasy far more than she seems to awaken to self or reality" (Franklin 510). Indeed, Edna has a habit of living in dreamland, and though she does awaken to selfhood, she is quick to fall back asleep into a new dream of being both entirely independent and Robert's lover.

Edna herself recognizes that she has a habit of falling into infatuations. The narrator describes the three men she was infatuated with before the start of the story. The first is a cavalry officer whom she "loves" as a young girl, when she is not old enough to fall in love. When she is older she becomes infatuated with a young man who is already engaged. Then as a young woman she becomes severely infatuated with a tragedian, whose picture she keeps in her bedroom (Chopin 547-548). The common thread through all of these infatuations is that they are focused on people Edna knew she could not have, and that fact is

part of the appeal. For example, with the tragedian, "the hopelessness of it colored it with the lofty tones of a great passion" (Chopin 548). The very hopelessness of the infatuation makes it more appealing.The second common thread is that each and every one of these infatuations "melted imperceptivity out of her existence" and "went the way of dreams" (Chopin 548).

Edna seems to have recognized this pattern, as well as the fact that her dreams are not rational, and she makes an effort to awaken herself to reality. To accomplish this, she marries Léonce Pontellier in the midst of her infatuation with the tragedian, because he is the antithesis of her infatuations. She thinks that "as the devoted wife of a man who worshipped her, she…would take her place with a certain dignity in the world of reality, closing the portals for-ever behind her upon the realm of romance and dreams" (Chopin 548). Edna believes that by marrying him she will force herself awake, and permanently awake. There is no risk of this relationship becoming an infatuation because no passion "or excessive and fictitious warmth colored her affection, thereby threatening its dissolution" (Chopin 548). However, this reality that Edna believes her marriage has forced upon her is not reality because Edna does not treat it as such. She assumes the role of a high-society wife, repressing all of her emotions and desires. She constructs a persona replete with reserve and submission, though this is far from who she really is. Perhaps if Edna had attempted to find a middle ground and balance independence with responsi-bilities she would never have had to feel repressed. But as we see from her past infatuations, Edna does not like balance; she lives for the thrill of extremes. As such, though she does not realize it, in her marriage with Léonce she is still dreaming. There must be another awakening.

This awakening, the one most critics have called the Awakening, takes place on Grand Isle. The candor of the Creole people awaken her from her reserve, and for the first time she speaks about herself truthfully to a friend, Adéle Ratignolle (Chopin 549). She spends time with Robert and feels drawn to him, and it is he that she credits for her awakening later on: the narrator states that it was his eyes"which had penetrated to the sleeping places of her soul and awa-kened them" (611). However, the culmination of Edna's awakening to self occurs when she learns how to swim. This scene is a metaphor for Edna's awakening to selfhood (Franklin 517). She is elated by her sense of power and "seemed to be reaching out for the unlimited in which to lose

herself" (Chopin 556), which is a foreshadowing of the way Edna tries to shake off all societal restrictions: she launches full-speed into the power she feels, recklessly. Then when she looks back at the people on the shore, "to her unaccustomed vision the stretch of water behind her assumed the aspect of a barrier which her unaided strength would never be able to overcome" (Chopin 556). Even now, Edna sees the expanse between herself and the rest of her society as too vast to cross, because she wants to be independent and they want her to be dependent. But notice that Chopin emphasizes that she only believes this because her vision is "unaccustomed"—as I will continue to assert, in reality, Edna could have both experienced the power of freedom and the society of her friends. Yet she feels she cannot go back—without help. Near the end, Edna is offered help from Dr. Mandelet, but she refuses it (622). Without this help, the barrier is too great for her to cross; she commits suicide. It is not a coincidence that Edna drowns herself in this same ocean where she experienced both the rush of freedom and the terror of drowning.

Like swimming deep into the ocean, after this experience, Edna throws herself full-speed into her quest for independence. That night, she feels for the first time the "throbbings of desire" (Chopin 558) for Robert. She refuses to obey her husband when he asks her to come inside (Chopin 558). These actions feel both entirely new and yet natural to her. But after this refusal, "Edna began to feel like one who awakens gradually out of a dream, a delicious, grotesque, im-possible dream, to feel again the realities pressing into her soul" (Chopin 559). Though a reader may skip over this passage and conclude that she is awakening from her life as a suppressed woman, the narrator clarifies that it is the "exuberance which had sustained and exalted her spirit" (Chopin 559) that leaves her. This exuberance for independence is the dream that she is awakening from, not into. Additionally, Edna acknowledges that while the dream of independence is delicious, it is also impossible and grotesque, exaggerated; it is like the infatuations of her youth. Directly following this, Chopin re-emphasizes that Edna's desire for independence is just a dream: she writes that Edna's literal dreams that night "eluded her, leaving only an impression upon her half-awakened senses of something unattainable" (559). Through this symbolism, Cho-pin is again foreshadowing that Edna is dreaming about something she cannot have.

Despite the fact that Edna seems to know intuitively that she cannot have her new dreams, she wastes no time in pursuing them. She starts

spending more time with Robert; the next day, she summons him for the first time and spends the day with him in Chêniére Caminada (Chopin 560-561). However, it is not until Robert leaves that she truly realizes this is another infatuation, like the ones she had for the tragedian and the cavalry officer (Chopin 569). But although she is aware that all the other infatuations faded away, she does not suspect that her infatuation with Robert should be curbed. She is like a child, thinking only of the present; "the past was nothing to her; offered no lesson which she was willing to heed. The future was a mystery which she never attempted to penetrate" (Chopin 570).The only thing important to her is her feelings in the here and now. Adéle also points out Edna's childish behavior near the end of the novel, telling her, "You seem to act without a certain amount of reflection which is necessary in this life" (609), but Edna pays her no mind. She does not think rationally about whether loving Robert would be what is best for her and her family. Instead, she seems to revel in the torture of her unattainable dream, thinking about how she has "been denied that which her impassioned, newly awakened being demanded" (Chopin 570).As usual, Edna chooses to dream because this seems more interesting to her.

Regardless of the fervor of Edna's emotions, Chopin makes it clear that this is an infatuation, referring to it as a sentiment she "entertained" (571). Perhaps the reason Edna pays no attention to the warning of the past is because she associates her infatuation with Robert "with the more serious awakening to selfhood" (Franklin 516).She thinks that loving Robert is an integral part of attaining the independence that she desires; the unattainable love represents her unattainable independence. Later, Edna declares that it is Robert who awakened her, and this is true. Her infatuation with him was the catalyst required for her to shake off her high-society wife dream. However, because Edna is a woman who lives for the drama of dreaming, she quickly turns this catalyst into a new dream, drifting away from reality as soon as she comes close to it.She turns Robert into a representation of her "awakening animus" (Franklin 515) which makes her"unable to know him as an individual" (515). Despite the potential repercussions of such an action, Edna believes that she has a right to these dreams because they "belonged to her and were her own" (Chopin 571), and if she has a right to the dream, does she not also have the right to make her dreams her reality?

Edna continues this process of recklessly asserting her dreams when she returns home to Esplanade Street. In the mansion, there is no avoiding her responsibilities as Léonce's wife, so she abandons

them in favor of her dream of complete independence. She does not receive guests, though it is one of the few things Léonce asks her to do, becauseshe "simply felt like going out, and I went out" (Chopin 574). The problem with Edna is that when she abandons the dream of being the ideal wife she launches immediately into the dream of a life beholden to no one. There is no sense of responsibility; she thinks she can be happy by doing whatever she wants. Once Edna realizes that she does not want to be the high-society housewife, she flees to the opposite extreme and refuses to consider any other options. As Ramos points out, Chopin offers us the example of Mademoiselle Reisz and Adéle Ratignolle to prove that it is possible to be an empo-wered woman while still maintaining responsibilities (148). Both women are respected and content with their lives. While it is true that Edna admires Reisz's independence but pities Adéle's "colorless existence" (Chopin 578), both women have independent thoughts and feelings.

Many have argued that Adéle represents the woman passively existing under the power of men, but this is not the case. Adéle is a mother and wife who society approves of, but she is not powerless. As Ramos states, Adele "seems both to know the limitations of her role and to embrace that role, nonetheless" (157). She "works the patriarchal system to her advantage" (Streater 408), manipulating men by pretending to be weak in order to get what she wants. For example, to get Robert alone to talk with him about Edna, she pretends to have a "cramp in her limbs and stiffness of the joints" (Chopin 549). Although few people—both male and female—would call this behavior admirable, it is Adéle's way of asserting her power. Furthermore, Streater argues that Chopin's passage about mother-women (540) is not mocking women like Adéle, but rather the impossible concept of the mother-woman (407). So when Edna categorizes Adéle as one of those mother-women, she is "ironically placing Adele behind the same role limitations Edna herself is attempting to escape" (Streater 406). By rejecting Adéle, Edna rejects the concept of asserting individuality within the social construct of family. She closes that door and con-cludes that she must either be beholden to no one or enslaved to her husband and children. But this dichotomy is simply irrational and a product of her romantic imagination.

After rejecting Adéle's way of life, Edna turns to Mademoiselle Reisz's. Reisz asserts her individuality outside of society. She is extremely quarrelsome; she likes very few people and very few people like her (Chopin 553-554). Yet, there is no one who can force Reisz to

do anything, and she is admired for her artistry with the piano. Because of this, Edna attempts to emulate Reisz's independence. But Edna idealizes Reisz's form of existence and turns it into a dream. She thinks she can be an artist easily, drawing when she feels the desire, dreaming about Robert, and shirking all responsibilities. Reisz herself points out Edna's "pretensions": to be an artist, one must "possess the courageous soul… the soul that dares and defies" (Chopin 584). If Edna wishes to live outside society, as Reisz does, she must be courageous; she cannot merely dream about blissful artistry and independence. But Edna "does not have the discipline to develop her talents as an artist or the equally demanding discipline to endure and accept the ostracism necessary to be individualistic" (Gray 65-66). Her wings are not strong enough to "soar above the level plain of tradition and prejudice" (Chopin 599) because she is not someone who can exist outside of society. But because Edna does not want to face this reality, she keeps dreaming that she can have absolute freedom and complete happiness.

In the midst of her dream of absolute freedom, Edna continues to indulge her dreams about Robert. Chopin continues to use the word "infatuation," and her descriptions of Edna's thoughts make the falsity of her emotions clear. Though Edna tries to forget him,

> the thought of him was like an obsession, ever pressing itself upon her. It was not that she dwelt upon details of their acquaintance, or recalled in any special or peculiar way his personality; it was his being, his existence, which dominated her thought, fading some-times as if it would melt into the mist of the forgotten, reviving again with an intensity which filled her with incomprehensible longing (Chopin 576).

This is the description of an infatuation, not a love based on reality. She is not in love with the individual Robert, but the idea of loving someone society has made unattainable. Because this idea is so enchanting, Edna spends her time dreaming about Robert and trying to find ways that she can further indulge herself. As Ramos argues, she "nurtures her infatuations, an easier, more tempting alternative to willfully maintaining her various social identities" (154). For Edna, the dreams are both easier and more interesting than real life and its responsibilities, so the world of dreams is the world she chooses to live in.

Ironically, Edna's dreams end up sucking the joy out of her life; everything pales besides them: "She felt no interest in anything about her. The street, the children, the fruit vender, the flowers growing there under her eyes, were all part and parcel of an alien world which had

suddenly become antagonistic" (Chopin 576). The real world is not as beautiful as her dream world, and it stands in the way of her dreams, so it becomes her enemy. As Ramos points out, we need people and society to construct our identities. So "Edna's search for such an unrestricted, unde-fined and, ultimately, impossible state—a freedom from identity—ironically deprives her life of meaning (and finally of life itself)" (Ramos 147). This attempt to free herself from identity also causes chaos exemplified through her mood swings. Some days she is filled with joy at the world around her, but other days she is depressed without knowing why, and is apathetic about life, which "appeared to her like a grotesque pandemonium and humanity like worms struggling blindly toward inevitable annihilation" (Chopin 580). Perhaps she feels the disparity between her dream and reality, which makes her feel hopeless. Because she is having trouble achieving her dreams, she develops a nihilistic sort of philosophy, concluding that reality is meaningless, only "pandemonium" ending in death. Unfortunately, she decides that if reality is not as exciting or enjoyable as her dreams, it must be meaningless. Such an attitude foreshadows her suicide.

However, there are times when Edna's attempt to free herself results in happiness, especially after her husband and children leave, and she is alone without having to fight anyone to be so. For a little while, her dream is fulfilled and "a radiant peace settled upon her…her time was completely her own to do with as she liked" (Chopin 590-591). But this peace does not last long, because a life without any "socially constructed identities…even if achievable, cannot be sustained" (Ramos 150). On the days when the weather is bad, Edna feels unhappy: "it seemed to her as if life were passing by, leaving its promise broken and unfulfilled" (Chopin 592). With her family gone, she has awakened a little more to reality, and realizes that she does not just want freedom; she also needs people. She cannot be happy living like Reisz, completely free but also alone, so she tries to fill this emptiness by spending time with Alcée Arobin, a charmer with a bad reputation. Arobin fits her ideal almost perfectly: he is handsome, easy to talk to, interesting, exciting, and bold. He appeals to her "awakening sensuousness" (Chopin 594) and pushes her further away from the responsibilities of reality. Arobin is with her almost every day, like Robert was, and their relationship becomes more and more intimate. Fueled by this move further into dreams, Edna also decides to completely divorce herself from her responsibilities to Léonce. She decides to move to the pigeon-house because "instinct had prompted her to put away her hus-band's bounty

in casting off her allegiance…she had resolved never again to belong to another than herself" (Chopin 597). However, this resolve creates problems Edna did not foresee, because the truth is, people cannot love without naturally incurring responsibilities to others. Few people can be happy belonging to no one.

Edna does not realize the emptiness in her dream of being beholden to no one until she kisses Arobin. She responds physically to the kiss, but realizes there is something lacking:

> She felt as if a mist had been lifted from her eyes, enabling her to look upon and comprehend the significance of life, that monster made up of beauty and brutality. …There was a dull pang of regret because it was not the kiss of love which had inflamed her, because it was not love which had held this cup of life to her lips. (Chopin 600)

Edna seems to have finally come to the conclusion that she needs love, not just freedom, to survive. In Arobin's kiss there is only desire. Edna can have a sexual relationship without responsi-bility, but she cannot have a loving relationship without responsibility. As a result, she concludes that life is both beautiful and brutal, because she is so close to that which she most desires—she has freedom and Arobin—but it is still not enough.Again, she is assuming that reality ought to reflect her dreams. Even in her moment of triumph, celebrating her birthday and moving into the pigeon house to be by herself, Edna "felt the old ennui overtaking her; the hopelessness which so often assailed her" (Chopin 604), and in this sense of emptiness "there came over her the acute longing which always summoned into her spiritual vision the presence of the beloved one, over-powering her at once with a sense of the unattainable" (Chopin 604). Edna may be very nearly free now, but she is still depressed, because such freedom is not always the best thing for human beings. She needs to belong to someone; she needs to love. She thinks that Robert will fill that need—he is the beloved one, after all—but this turns out to be another dream. However, there is another option that, if Edna had chosen it, could have allowed her both freedom and love. Though Edna believes this is impossible, she could have been both a mother and an individual. Chopin gives us a brief glimpse into this truth after Edna moves into the pigeon house: it is after she moves in and Chopin remarks that "[e]very step which she took toward relieving herself from obligations added to her strength and expansion as an individual" (608) that Edna voluntarily chooses to go visit her children, and cries with joy at seeing them (608). She spends a week

"giving them all of herself, and gathering and filling herself with their young existence" (Chopin 608). Edna's awakening to selfhood is not incompatible with motherhood; in fact, her expansion as an individual has increased her capacity to love them. But when Edna returns to the city, to her pigeon house, she forgets them and falls back asleep. She returns to the dream that it is Robert, and only Robert, who can give her love while still supporting her freedom.

We see the inadequacy of this dream when Robert actually returns. Initially, Edna does not know the reason why, and she notices that he is not acting the way she had imagined he would. He is polite, but reserved and distant (Chopin 611). Then he walks her home and "it seemed as if her dreams were coming true after all" (Chopin 612), but at her house, he still seems far away. She reflects that "someway he had seemed nearer to her off there in Mexico" (Chopin 615). This thought is typical of an infatuation—how could Robert possibly be the same man she imagined him to be? As Kearns points out, "Robert in the flesh… is hardly more satisfying an actuality than" the tragedian would have been (75).However, eventually Edna does kiss Robert, and finds out that he loves her and only left to keep from telling her so. Edna is glowing with happiness, but when he says he dreamed of her becoming his wife, she finds the idea astonishing. She tells him, "If he [Léonce] were to say, 'Here Robert, take her and be happy; she is yours,' I should laugh at you both" (Chopin 619). Just as Edna finds Robert's dreams laughable, Edna's dreams about Robert are only fiction. The man she wants to love freely wants her to be committed to him as his wife, and that is something Edna will not do. Instead, she prepares to leave him to go to Adéle. It is clear that while Edna is still clinging to her dream, she gets a sense of incoming reality and is trying to escape it. Franklin argues that she is "fearful of facing Robert's anxieties" (525) and wishes to "leap over the difficulties…and achieve immediate fulfillment" (525). She does not want to wake up—that is why she ignores his dream and leaves. But before she goes, she shares her ideal with him, where they love each other, are everything to each other, and "nothing else in the world is of any consequence" (Chopin 619). Yet she still thinks she can be-long to no one; Edna does not realize you cannot love without giving some of your freedom away.

However, Edna can no longer escape reality by running away. She has been called to Adéle because Adéle is giving birth. Edna is reminded of her own childbirthing experience, and it is not a pleasant memory: "With an inward agony, with a flaming, outspoken revolt against the

ways of Nature, she witnessed the scene of torture" (Chopin 621). Watching Adéle give birth reminds Edna of her children, children whom she feels a responsibility for. She knows she cannot run away with Robert without hurting her children, and so she feels trapped by them, and remembers her pregnancy with a sense of agony and fury. Edna struggles to explain to Doctor Mandelet how she feels: "I'm not going to be forced into doing things. …I want to be left alone. Nobody has any right—except children, perhaps—and even then, it seems to me—or it did seem…" (Chopin 621). Edna feels reality pressing in upon her, and she feels as if reality is violating her right to be left dreaming. Mandelet understands her fragmented wordsas well as Edna's problem: "The trouble is… that youth is given up to illusions. It seems to be a provision of Nature; a decoy to secure mothers for the race. And Nature takes no account of moral conse-quences, of arbitrary conditions which we create, and which we feel obliged to maintain at any cost" (Chopin 621). Mandelet, perhaps speaking for Chopin, sees that Edna is suffering from the dreams her responsibilities keep her from having. He acknowledges how unfair Nature can seem, but also how Edna feels compelled to live by an arbitrary condition she has created—the idea that she must either be imprisoned or completely free. Interestingly, Edna agrees with his asser-tion and remarks that "the years that are gone seem like a dream—if one might go on sleeping and dreaming—but to wake up and find—oh! perhaps it is better to wake up after all, even to suffer, rather than to remain a dupe to illusions all one's life" (Chopin 621). At this point, Edna awakens intellectually to the idea that romantic love is transient (Franklin 525) and to the fact that she has real responsibilities that she cannot shirksimply because she wants to be "free." She questions whether this realization of reality is really better than living in her illusions. When she goes home and finds Robert's note announcing his departure, her intellectual awakening reaches her heart and becomes an emotional awakening (Franklin 526). She lies awake all night, and the next day, she returns to Grand Isle to drown herself in the ocean.

Edna decides that she cannot endure reality because for the first time in her life she is no longer dreaming. She realizes that her dream of emotional fulfillment with Robert is fake: "There was no human being whom she wanted near her except Robert; and she even realized that the day would come when he, too, and the thought of him would melt out of her existence, leaving her alone" (Chopin 624). She awakens to the fact that her feelings for men like the tragedian, Robert, and Arobin, are only dreams, and will never make her feel whole. This awakening

fills her with despondency. She also awakens from the dream that she can be a free woman who belongs to no one, because, as Adéle asked her to, she thinks of the children: "The children ap-peared before her like antagonists who had overcome her; who had overpowered and sought to drag her into the soul's slavery for the rest of her days. But she knew a way to elude them" (Chopin 624). Yet tragically, Edna is still misinterpreting the world around her, and that is why she sees no way out except killing herself. Edna believes that her dreams comprise her identity; that is why she thinks abandoning them to take care of her children would be sacrificing her very self. She cannot even conceive of the idea of changing the way she lives to accommodate her awakening; such an idea is too frightening to consider (Franklin 526).Without these dreams to fix her desires on, "there was no one thing in the world that she desired" (Chopin 624). After building her whole life on dreams, she awakens to find that none of it is real, and the world has no more meaning for her. With no meaning in life and no way to make her dreams a reality or even go back to sleep, Edna sees no other solution but to kill herself.

It is easy to distance ourselves from Edna and write off her actions as being extreme and irrational. Though her actions are certainly extreme and irrational, it is also true that Chopin wanted us to sympathize with Edna. We know this because, at the very beginning of Edna's awa-kening, when she is contemplating her "position in the universe as a human being" (Chopin 544), the narrator comments "how few of us ever emerge from such beginning" (544). Franklin argues that in saying this, "the narrator establishes Edna's spiritual exploit as both universal and heroic" (517).But while Chopin does intend Edna's struggle to be universal, she does not present Edna as a hero. Rather, she wants us to understand that the struggle to find selfhood in the midst of society is a universal struggle. We all have difficulty bringing together the truth of who we are with the truth of who we want to be, although most of us do not drown ourselves when we find that we cannot achieve our dreams. It was not Chopin's intention to suggest that we drown ourselves if we feel trapped by society, nor was it her intention to show us that we ought to reside firmly in reality. On the contrary, it is a good thing to have dreams and try to make them realities. But as Ramos suggests, perhaps the solution is best described by Emerson, the author whose book Edna tries to read but never finishes: "We may climb into the thin and cold realm of pure geometry and lifeless science, or sink into that of sensation. Between these extremes is the equator of life, of

thought, of spirit, of poetry,–a narrow belt.…The mid-world is best." As Emerson says, in order to be sane, healthy people, we must live somewhere in between freedom and responsibilities, in between reality and dreams. It is a difficult medium to find, but perhaps if Edna had read more of Emerson she would have been able to understand that an awakening to reality need not be an awakening into despair.

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Scattering Speech: Divine Intervention and Linguistic Evolution

Annika Mizel

Annika Mizel is a Junior English major on the teaching track. She loved writing this paper and is thankful for the opportunity it provided to explore the intersection between language and faith, the spoken word and the Word of God. She would like to thank the English Department at Azusa Pacific University for the passion, expertise, and encouragement they consistently share. She is especially grateful to Dr. Sarah Adams for all of her feedback and support on this paper - and for continually pushing her students to give their best.

Abstract

We thrive because we speak. In many ways, however, we also speak because we thrive. Language is an indicator of human advancement – be it cognitive, biological, or social. Drawing from Darwinian theory, most linguists posit an evolutionary origin for language: speech evolved from the behaviors of our primal ancestors, developing and diverging to its current state through natural selection. Charting this trajectory will be a primary focus of the paper. After investigating these theories on the purpose, precursors, and progression of language, I will compare linguistic findings with the biblical account of language origin to determine points of convergence. In entering the dialogue with biblical and archeological experts about the historical reliability of Scripture, I will argue that the prospect of Divine intervention allows Christian scholars to embrace the biblical text literally – aligning with linguistic science where its theories are verifiable and filling in the holes where they are not.

Introduction

"Now the whole world had one language and a common speech. As men moved eastward they found a plain in Shinar and settled there. They said to one another, 'Come, let's make bricks and bake them thoroughly.' They used bricks instead of stone, and tar for mortar. Then they said, 'Come, let us build ourselves a city, with a tower that reaches to the heavens, so that we may make a name for ourselves and not be scattered over the face of the whole earth."

- Genesis 11:1-4, NIV

Monkeys don't build cities. While there is a plethora of evidence for ancient human civilizations, scientists and archaeologists have yet to uncover the ruins of a simian temple or a primate fortress. Only humans build cities, and the biblical account in Genesis 11 rightly links our ability to develop impressive civilizations with the cooperation that stems from communication. We thrive, culturally speaking, because we speak. Language fuels advancement. In many ways, however, language is also the product of human advancement – be it cognitive, biological, or social. Drawing from Darwinian theory, the majority of linguists posit an evolutionary origin of language: speech evolved from the behavioral capacities of our primal ancestors and, once alive, developed and diverged through natural selection. Determining the trajectory of that development will be a primary focus of this paper. After investigating theories on the purpose, precursors, and progression of language, I will compare linguistic findings with the biblical account of language origin to determine points of convergence. Finally, in entering the dialogue with biblical and archeological experts about the historical reliability of Scripture, I will argue that the prospect of Divine intervention allows Christian scholars to embrace the biblical text literally – aligning with linguistic science where its theories are verifiable and filling the holes where they are not.

The Uniqueness of Language

"It is no exaggeration to credit language for the very humanity that distinguishes us from the beasts from which we sprang," Robert Burling writes in the opening lines of The Talking Ape. "If we are even a tiny bit curious about our origins, we have to be curious about the origins of language" (1). Before diving into those origins, it may be wise to briefly review why language distinguishes human communication from that

of the animals. Animals, to be sure, possess traces of language. They show evidence of forming conceptual categories, and they communicate in ritualized ways (Hurford 489-90). Certain species learn and use conventionalized signals, and primate gestures and facial expressions resemble those of humans (Burling 62-63, 110). However, animal calls and gestures cannot match the syntactic complexity and semantic richness of human language (Dessalles 62). Animal communication is limited to a fixed number of messages; language is discrete, and its recombinable units convey new meaning every time (Burling 36, Hurford 96). With few exceptions, animal signals are incapable of displacement (Burling 36). Furthermore, animal communication is typically iconic, not symbolic: there is a direct correlation between the animal sign used and the entity signified, whereas language signs are arbitrary (Knight, Kennedy, Hurford 8). So, while animals possess a degree of linguistic competence and communicative skill, human language and the ability to speak are undoubtedly unique.

Partially due to this uniqueness, professional linguists have only recently entered the dialogue surrounding language origins. "The very complexity of human languages, especially their syntactic components, of which linguists above all (and one might even say only linguists) have been fully aware, is a severe obstacle to theorizing," James Hurford explains (220). This obstacle is so severe that some linguists, like Jean-Louis Dessalles, have rejected the notion that language developed from animal communication altogether, positing language as a distinctly human adaptation (63). Most scholars, however, remain advocates of Darwinism, all the while acknowledging the need for a special Darwinian explanation (Knight, Kennedy, Hurford 12).

The Purpose of Language

According to the principles of natural selection, language evolved gradually to fulfill a necessary function - with each intermediate stage contributing adaptive value (Noble 40). The exact nature of its necessary function, however, remains a mystery. Several linguists have noted the benefits of language to cognition, both in terms of representing complex systems and processing information (Knight, Kennedy, & Hurford 4). Many suggest language developed alongside the capacity for long-term memory and drawing inferences: the more an animal can remember and predict another's actions, the better it plans its own (Burling 22, Hurford 118). Communication itself holds definite

advantages for survival. Only a portion of the knowledge required for survival can be obtained by direct personal experience; the rest is passed along through conversation (Dessalles 64). Language ability also distinguishes the powerful and elite from the masses (Dessalles 63). Leaders are often powerful communicators, and leaders "manage, with considerable regularity, to father more than the average number of children and to raise a larger proportion of their children to maturity" (Burling 188). Sexual competition increases the likelihood for language to be passed down as a heritable trait, but it drastically diminishes the prospect of cooperation.

There seems to be general consensus that language belongs to humans' social intelligence, and that "speech evolved to enable thoughts to be shared" (Knight 25, Burling 184). If language is a two-way communication, the question becomes why someone with valuable insights would want to share their information with others (Noble 40). Bridging the gap between competition and collaboration requires a situation where communication benefits both parties involved: only then could language thrive (Noble 57). Such a situation must protect against "cheaters," who glean from conversations but fail to reciprocate with contributions of their own, while rewarding the contributors (Dessalles 65). Symmetrical communication is hard to come by. The closest linguists have come to replicating such conditions is coalition theory, where animals engage in "competition to cooperate" (Knight 21). In this theory, our ancestors formed groups that competed against other groups. "The power of a single individual is limited by comparison with what a sufficient number of allies can achieve," Dessalles explains (73). Individuals chose whether to join a particular group – and were awarded status within that group – by the information they shared and their overall linguistic competence (Dessalles 73). In this way, language gave solidarity and competitive advantages to a specific group, enabling cooperation and competition to combine. It is only then that linguistic functions of survival and communication collide.

Precursors to Language

Before language was even possible, however, certain mental faculties had to be in place. "We ought to regard speaking as only the final step in a long process of acquisition," Burling states - a process characterized by vast mental and social advancement (7). Before language could develop, humans must have been capable of producing

complex syntactical expressions – of learning and interpreting patterns, perhaps similar to those found in bird and whale songs, and of "processing linear input into hierarchical structure" (Hurford 1, 543). They also needed a faculty for understanding and employing symbols as well as for formulating pre-linguistic concepts, the internal mental representations of things yet to be expressed (Hurford 1 & 138, Bickerton 276). They needed brains capable of storing a vast vocabulary and minds willing to learn signifiers and infer meaning (Hurford 138, 493). Before language could develop, humans attained joint attention, the ability to focus and process with another person; chimpanzees "do not hold objects up for others to inspect" nor intentionally direct another's gaze, but the earliest humans must have done both (Burling 73-74). Finally, they must have been capable of learning. Language is acquired, in some degree, by exposure to speech. "It is this aspect, transmission across generations by learning," Michael Kennedy writes, "that has enabled language to evolve" (123).

Language acquisition typically transitions from comprehension to production (Hurford 153). Indeed, unless early humans lived in communities with others who could receive and interpret their messages, linguistic signs would be useless (Burling 20). Yet even after the mental faculties necessary for language were in place, humans still needed certain physical qualities before they could transition to articulation. Speech requires a certain level of vocal development and control, a development that continues to distinguish human linguistic ability from that of the primates (Burling 122). Whether or not human vocalization developed from animal calls is yet to be determined. Burling insists that there is no correlation: humans resemble primates in their emotional noises – in their sobs, screams, laughter, and sighs – but their linguistic capacity is far too advanced to "imagine a realistic sequence where natural selection converts call systems to language" (16). Others suggest that the differences between human and animal vocalizations are matters of degree rather than kind, noting that the removal of animal calls leaves "no alternative evolutionary source for modern spoken words" (Hurford 101, Knight 20, Pennock 126).

Linguistic Progression

Once these social and cognitive foundations were in place, linguists argue, humans were ready for language. While none can pinpoint the exact time or situation surrounding its birth, the majority agrees that

words proceeded syntax in evolutionary development. Drawing from children's linguistic development, many posit an initial proto-language that consisted of labeling a small number of preexisting concepts (Knight, Kennedy, Hurford 4). While verbal signs are often arbitrary, they did not necessarily start that way. Words may have begun in the same way animal signals did – by ritualizing and interpreting motivated signs. Just as snarls became associated with warnings, words became associated with particular messages related to their vocalization (Burling 21). Over time, as humans mastered the signs without necessarily knowing their origin, words became more arbitrary until "the motivation with which they began was undermined or lost" (Burling 120).

The reasons for placing words before syntax in the evolutionary timeline are logical. Language conveys meaning, and meaning is found in words (Burling 19). Grammar cannot exist until there are items to arrange (Hurford 100). Still, there may be practical reasons as well. Emphasizing the primacy of language eases the burden of explaining syntax. Without a doubt, syntax is one of the most difficult linguistic phenomena to explain through evolution. According to Bickerton, there are approximately five ways that syntax could have emerged: 1) through macromutation, 2) through the laws of form, 3) as a "spandrel," 4) through the gradual accumulation of rules, or 5) through exadaptation (266). Options two and three refer to structural or architectural properties found elsewhere in nature, but as of now there is no viable theory that translates them into linguistic terms (Bickerton 266). The first option, macromutation, is the supposition that syntax is too complicated to have evolved gradually and so must have arisen all at once. Noam Chomsky (and a younger Bickerton) favored this view, but it is no longer considered biologically credible (266). In the words of Burling, "To attribute language to a single mutation tells us no more than to attribute it to the act of a divine creator" (89-90). The fourth option, gradual accumulation, seems by far the most popular theory, mirroring the progression of children's language acquisition, resembling observable linguistic developments, and aligning with the tenants of natural selection (Kennedy 125, Pennock 131, Burling 150). The gradualist approach relies on sexual selection and a progressive improvement of language abilities to bring humans to a point where they became capable of syntax (Burling 158, 227). Bickerton rejects this theory altogether: "Natural selection (which all proponents of this approach accept) works on variation… But how could there be variation

in syntactic ability before there was any syntax?" (266). Furthermore, Bickerton claims, natural selection fails to identify a reasonable trigger (267). Exadaptation, the belief that language initially evolved for a purpose other than communication, is the only remaining option according to Bickerton's line of reasoning. "The question therefore becomes one of determining which if any among preexisting primate traits or capacities would have yielded the properties required by syntax" (Bickerton 267). He concludes his discussion by pointing to various aspects of social intelligence.

The Biblical Parallels

This point, the birth of language origin, is where the secular and biblical accounts collide. While they differ in some undisputable ways, there are also remarkable parallels. Like the majority of linguists, Scripture asserts that the Word came first – and by this Word, human experience was both captured and infused with meaning (John 1:1-4). The Word provided all the units that structural laws would order and continues to permeate every organizational system humans contrive: in Him we live and move and have our being (Acts 17:24-28). Just as Burling predicted, the first words spoken in human history were motivated signs. While their vocalized sounds may have been arbitrary, they were performative in nature - accomplishing the purpose of the Speaker in the real world (Genesis 1:2). They were also labels, naming preexisting concepts that already existed in His mind. By the time humans had mastered language, the words they used were more arbitrary: rather than shaping the world, they represented the world by assigning a signifier to a signified (Genesis 2:19-20a). Language seems to have a primarily communicative function, although it lacked competition and did not distinguish men from animals at this point in the biblical narrative (Genesis 2:24-3:1). However, as Dessalles predicted, perfect cooperation was quickly disrupted by manipulative speech when the serpent used language to twist words, deceive Eve, and so attempt to gain an upper hand (Genesis 3:1-7). From this point on, humans learned to be cautious in extending trust and to exercise discernment regarding what and when to share.

By the time Scripture reaches the account of Babel in Genesis 11:1-9, language is functioning in a coalition of sorts, uniting people in an endeavor to gain greater security for themselves (Genesis 11:4). In this way, it fosters both internal cooperation and external competition:

cooperation amongst group members and competition against any outsiders or generations to follow. While the Babel narrative attributes linguistic diversity to a single divine act – the creation of multiple linguistic systems instantaneously – it agrees with scholars in situating the onset of natural selection in a moment of drastic social change. Remove the potential for a cooperative community, and language disintegrates. Social environment is vital. Furthermore, Genesis reiterates the theory that cognition precedes production; unless words are mutually intelligible, their vocalization becomes useless.

Interestingly enough, the Babel account is where the biblical commentary on language origin ends. It does not describe the extent to which language differentiation continued or how languages continued to multiply on the earth. While it occasionally records divine interventions in the linguistic order - such as when Balaam's donkey verbally rebukes the prophet in Numbers 22, or when the apostles miraculously obtain the ability to speak other languages in Acts 2 - Scripture typically portrays language in its modern form. Since Genesis follows language differentiation with people group migration and isolation, it is likely language continued to evolve from its divine origin in much the same way linguists posit – through natural selection. In fact, there is little in the biblical account to contradict what linguists can readily observe: the differentiation of languages and dialects over time. Where Scripture differs from academia is on the points of its greatest speculation – the circumstances and mechanisms of the language debut.

A Question of Intention

Simply embracing the biblical account because evolutionary theory has holes, however, is insufficient. As Robert Pennock points out, this line of reasoning lets believers off the hook for scholarship and critical contemplation while simultaneously undermining their credibility in the academic community (158). Two steps, therefore, become necessary when considering the question of language origins from a biblical perspective. First, believers should examine the scientific evidence. Until they have studied language origins from a linguistic standpoint, they are ill equipped to understand the issues and offer insightful commentary. Second, believers must consider the biblical text itself. The question of original intent is vital. If the biblical accounts found in Genesis were meant to be read literally, than faith in the historical accuracy of Scripture is well placed. If not, however, insisting on

biblical historical accuracy is not simply illogical. It becomes an unnecessary detriment to Christians' testimony in the world.

The Biblical Text

There is general consensus among biblical scholars that Genesis 11:1-9, the Babel text, was compiled by the Yahwist author or the J Source (Von Rad 16-17). Many scholars believe this text was first written down in the tenth-century B.C. during the reigns of David and Solomon, a wealthy era when its genealogies were relevant and its sacred sites were still valued (Wenhem xlii-xliii). As Gordon Wenhem explains, the J Source likely drew upon older oral traditions so that "although J was regarded as a relatively late composition, nearly a thousand years after the events it describes, it was surprisingly reliable where it could be checked" (xliii). Scholars are still uncertain of the extent the Yahwist drew upon oral tradition when composing Genesis 11:1-9. "Some argue that the Yahwist inherited a single unified tradition, or at least one which had already been combined from multiple sources in the course of oral transmission," David Freedman explains. "Others contend that the Yahwist himself fused the various traditions" (561). Gerhard Von Rad suggests that he may not have drawn upon any tradition at all (23).

Whatever the case, the Babel account is typically classified as aetiological narrative – a story that explains facts surrounding tribal history, places, or practices (Von Rad 17). In the process, it communicates a message about God and humankind that reaches beyond historical fact. This transcendent message comes through in a variety of ways, both literary and thematic. For example, Wenhem points out a preponderance of wordplay in the original text: "The Hebrew words for 'make bricks,' 'for stone,' and 'build for ourselves' contain the consonants n, b, l, which spell 'mix up' (v 7) or 'Babel' (v 9) and evoke the word 'folly,' nebalah" (239). He also highlights the parallel between God confusing the languages at Babel and then redeeming them at Pentecost in Acts 2 (562). Even more impressive than these elements, however, is the way the Babel narrative sets up the Abrahamic covenant, launching what ultimately leads to the salvation of the world. "The fragmentation of humanity is a positive step forward," Russell Reno explains, "because the divine plan of redemption requires a particularized instrument, a nation rather than what contemporary pundits refer to as the 'global

community'" (134).

In constructing his explanation, many believe the Yahwist author drew inspiration from actual monuments built in Shinar (i.e. Babylon). "Babylon in ancient times, especially in the second millennium B.C., was the heart of the ancient world and its center of power, and the rays of its culture went out far into neighboring lands," Von Rad explains. "Thus even in Palestine there was legendary knowledge of its gigantic cultural achievements, especially of the mighty stepped towers in which the united civilized will of this strong nature had created an enduring monument" (150). These gigantic cultural achievements, mighty stepped towers, were ziggurats: large pyramids with stairs leading to temples or shrines at the top, symbolizing the power of cities and their gods (Stone 390). As the biblical text specifies, these towers were often made of mud and baked bricks, sometimes mortared with bitumen (Stone 390). Several scholars point to one particular Babylonian ziggurat – Entemenanki, "the temple of the foundation of heaven and earth" – as potential inspiration for the Yahwist's Tower of Babel (Freedman 561, Stone 391). If this is the case than the Tower of Babel narrative is not only aetiology but also a commentary on the arrogance and futility of Babylonian culture (Wenhem xlix). It satirizes Babylon's claims to be the center of civilization and its boasts of a temple tower that serves as gate of heaven (Wenhem xlix). The text combats the polytheism and human secularism of ancient Mesopotamia, presenting one God who is all-powerful, concerned with humans whose own pride and disobedience cause the chaotic disintegration in their lives (Wenhem liii).

The Potential for a Miracle

On the basis of these observations, the majority of scholars emphasize theological content over historical accuracy (Reno 20). When forced to take a stance, they caution against literalist interpretations grounded on "a particular theological construal of divine inspiration and the nature of biblical truth" rather than hard evidence (Freedman 562). Each of the facets discussed – the later date, oral tradition, aetiological genre, rhetorical techniques, thematic message, and archeology – discourage a literal reading of the text. They cast doubt on the reliability of an author whose only source is fragmentary oral tradition and ziggurats, who is writing hundreds of years after the events described. They undermine his historical

credibility in pointing out the wordplay and thematic unity: it does not seem realistic to suppose that real-world facts would line up so nicely. He must have taken artistic liberties with the text. If the discussion ended here, the logical move would be to embrace the biblical text metaphorically and accept linguists' evolutionary explanation of language. However, the discussion does not need to end here.

From a strictly human point of view, if the Yahwist author was indeed composing aetiology, narrative explanation for observable phenomenon, there is no reason to doubt that he did his best to record the truth. Many cultures possessed similar origin stories during his time – stories they must have attributed with some validity to record and pass down over generations – and so his explanation would not have seemed too unreasonable (Wenhem 236, Von Rad 17). Furthermore, using Genesis 11:1-9 directly before – indeed, to introduce - the Abrahamic account, a tradition accepted by the Jews as both theologically and historically accurate, would not make sense if the Yahwist author perceived a drastic shift in the truth value between these two narratives (Von Rad 24). In a believing community, however, scholars are not restricted to this strictly human point of view. What the foregoing conclusions about biblical historicism fail to acknowledge is the potential for Divine intervention. According to 2 Peter 1:20-21, the Yahwist author did not write Genesis 11:1-9 himself: "no prophecy of Scripture came about by the prophet's own interpretation" for "prophecy never had its origin in the will of man, but men spoke from God as they were carried along by the Holy Spirit" (NIV). Oral tradition and observable archeology may have corroborated the Yahwist's account, but they did not prompt it. Similarly, when viewed from faith in a highly invested God, thematic unity is not a reason to doubt biblical historicity but to praise the God who shapes history according to His plan (Ephesians 1:3-14). If God is capable of raising the dead and fulfilling prophecies hundreds of years after they were first predicted, He is able to work parallelism and symbolism into the very fabric of reality and to preserve the truth in traditions passed down orally.

He is also capable of creating language instantaneously and of endowing humanity with the capacity for vocabulary and syntax simultaneously.

Intellectual Responsibility

"It is easy to point out missing links in any scientific theory for science lays its commitments and its evidence on the table and identifies in every research report the gaps still to be filled," Pennock writes. "On the other hand, it is impossible to find holes in [creationism/ biblical literalism], for [it] makes no empirical contact with the world at all" (158). Christian linguists walk a fine line. On the one hand, they must be wary of dismissing the evidence prematurely in favor of literal biblical interpretation – for such a stance is not really science at all. Claiming Divine intervention fails to provide concrete data about how the world works and – as Burling points out – really tells linguists nothing at all (90). On the other hand, Christian linguists are distinguished from their peers by the conviction that God has and does intervene in human affairs – sometimes in drastic ways. The only problem is that miracles are not readily classifiable. It is hard to integrate them into a testable scientific theory, and arguments involving miracles do not hold any weight in the academic community. Perhaps that is why it is so hard to find academic sources supporting a literalist interpretation. Either there are no deep thinkers who believe in biblical historicity – or their works are not deemed credible for academic publication.

In terms of language origins, there is convincing evidence for the role of natural selection in shaping language, specifically in regards to language differentiation and development over time. However, evolutionary theories struggle to explain exactly how humans made the large cognitive and social leap from primal communication to the complexities of language. The biblical account answers this ultimate question while simultaneously allowing for the natural selection mechanisms linguists can readily observe. While there are compelling reasons that some doubt the historical accuracy of the biblical account, these factors do not necessarily undermine the Yahwist's intentions or rule out an intended literal interpretation. Considered from the potential of Divine intervention, it does not seem unreasonable to believe in the historical reliability of the biblical account. The factors that once seemed an obstacle to historicity actually become fuel to praise the Author of language and life itself who endowed humans with this remarkable capacity to speak. Monkeys don't build cities, after all.

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