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Photography above by Samantha Batterman, Amanda Saunders, and Natalie Lay.
WHY PUBLISH IN THE KABOD?

Brenda Ayres | Spring 2015

W hy would students want to publish in The Kabod or any other journal that is in Liberty’s Digital Commons? The answer is simple: to transition from being a student to a scholar. A student writes papers for a grade; a scholar produces publishable scholarship. A student earns a degree; a scholar is an active member of an academic community. Converting an “A” paper written in an Honors class into work that is to be read by fellow scholars because it contributes to an ongoing dialogue—this is the reason why an Honors student will want to publish in The Kabod.

Academe is a huge space. It exceeds a classroom, a major, and a university like Liberty. It exceeds all universities and colleges to include independent scholars and other people driven by intellectual curiosity and perspicacity. It exceeds the erudite in the United States to include an international range of thinkers. It exceeds the present to include the past and to project into the future. It is characterized by intellectual query and directed by a universal impetus to understand our world and to improve it.

Plato created the first academic space on the outskirts of Athens in an olive grove. He called it Akademia, an eponym from Plutarch’s hero Akadēmos. The legend is that King Theseus (the founder of Athens and the slayer of the Minotaur) was smitten by a 12-year old beauty called Helen and abducted her. Her twin brothers invaded Attica and threatened to annihilate Athens if the king did not relinquish their sister. Akadēmos came to the rescue by revealing where she was hidden.

Akadēmos had been a farmer—an unlikely hero—but supposedly he did a favor for the sun god, Apollo. As a reward, he was given the olive grove, but an even greater bounty was that as long as he was

photo by Samantha Batterman
in the grove, he enjoyed the freedom to say whatever he liked without retribution, even if he criticized the gods, even if he revealed secrets hidden by a king.

This grove of olive trees was called Eleonas then and was considered the sacred providence of Athena, the goddess of wisdom. It was in this grove that Akadēmos was buried. Then it became the site where Plato lectured, and he renamed it The Grove of Academe. Aristotle studied under Plato in this grove before he founded his own school, the Lyceum, which was located in another olive grove. These legends and etymological history delineate what is meant by “academe.”

Scholars have a passion for investigation. Academic journals publish their findings and questions. The American novelist Thomas Berger once said, “The art and science of asking questions is the source of all knowledge.” The underpinning for LU’s journal The Kabod is Proverbs 25:2, “It is the glory of God to conceal a matter; to search out a matter is the glory of kings.” Likewise, Greek mythology has given us Akadēmos, a man who was able to reveal what was hidden and thus offered knowledge that prevented a war. Scholars excavate what is not readily apparent, and do it with the hope that revelation will solve problems and enhance life. This is the primary purpose of academic scholarship: to improve the world. Being able to articulate theories, advance ideas, invent, create, and analyze in an environment like Akadēmos’ olive grove without fear of retribution is what makes academe a privileged and necessary space.

That freedom is just as important to Christian scholars as well. We Christians, moreover, have a responsibility to follow God’s guidance in the use of our knowledge. We can engage in debate and disagree with other scholars, but the wielding of knowledge should not produce a “philosophy and vain deceit, after the tradition of men, after the rudiments of the world, and not after Christ” (Col. 2:8). We must not exploit knowledge to cause conflict but instead allow it to comfort hearts and to knit people together in love (Col. 2:2). We know that all understanding comes from God, and it is in Him, in Christ, and in the Holy Spirit that “are hid all the treasures of wisdom and knowledge” (3). That is not to say that we shouldn’t read any book but the Bible, or indeed God’s treasures can be found everywhere because God is everywhere.
have considered academe as a place where wisdom is highly prized.

Elihu gave good advice in Job 34 that is well worth following as we Christians “hear” a cacophony of ideas proffered in scholarship: “Hear my words, you wise men,” Elihu beckons, “And listen to me, you who know. For the ear tests words as the palate tastes food. Let us choose for ourselves what is right; Let us know among ourselves what is good” (2-4). As we consume knowledge, we must use the palate of the Bible and the power of discernment through the Holy Spirit, in order to distinguish good from evil (Heb. 5:14). After we take in knowledge, synthesize it, and apply it, we are to look to Jesus to send us forth “as sheep in the midst of wolves,” so we should be “wise as serpents and innocent as doves” (Matt. 10:16). Charles Spurgeon gave us a wise directive: “Wisdom is the right use of knowledge. To know is not to be wise. Many men know a great deal, and are all the greater fools for it. There is no fool so great as a fool as a knowing fool. But to know how to use knowledge is to have wisdom.” This wisdom, this biblical worldview, is what makes Christian scholarship different from the scholarship in the world. We can find truth in secular scholarship, but our scholarship must be grounded in God’s truth and be promoted in God’s way with a kindness and gentleness not often found in the world but is desperately needed.

We can find truths in Greek mythology; however, our understanding of truth does not come from a belief in false gods but from a belief in the one true God. Still, the Hellenic symbolism of the olive grove as academe has many implications to the Christian. In Leviticus 24:2 God told Moses to “[c]ommand the sons of Israel that they bring to you clear oil from beaten olives for the light, to make a lamp burn continually.” A Christian scholar beats olives in order to get a purity that will cause the light of God’s truth to “burn continually”—not for a season, not for a fashion, fad, or trend but for eternity. Our intellectual offerings to God are a mixture held together with oil or the Holy Spirit (Lev. 2:5) In academic terms, we combine what has been published already on a subject, add our own ideas as inspired by the Holy Spirit, and hold them together with God’s truth. The scholarship that we produce is like olive oil used to anoint the sick and bring healing (Mark 6:13). We remember that when the world was perishing because of its own wickedness and God brought about a cleansing through a flood, new life was promised through the returning dove who held a “freshly plucked olive leaf” (Gen. 8:11), so Christian scholarship should bring light and hope into a dark and dying world. It is a hope based on the Lord where there is steadfast love and plentiful redemption (Ps. 130:7). Hope built on anything else is built on “sinking sand.”

“Ignorance” Shakespeare wrote, “is the curse of God; knowledge is the wing where with we fly to heaven.” Christian scholarship reveals the mysteries of God through the Holy Spirit. This does not mean that our papers are meant only for other Christians. In fact, God wants us to make available His knowledge to all people including intellectuals who are nonbelievers. So the papers that are published in The Kabod, while reflecting God’s truth, must present integrity, logic, language, and intellectual rigor that are expected of all academic journals, Christian or otherwise. We Christians can do this. After all, God is the creator of the intellect and He is the supreme scholar.

Once published in The Kabod, papers will be accessible to the entire world. Thus Liberty students will participate in the olive grove where scholars exchange ideas. Students gain and offer, in economic terms, “academic currency”: They practice in the making of investment, exchange, purchase, and expenditure of ideas. Dialectically, they offer a thesis.
and offer an antithesis. Still others synthesize from both and generate a new thesis, and thus ideas are shared, applied, and compounded. A student’s assignment, designed and constructed to enhance learning and demonstrate acquisition of knowledge, will not be restricted to only a class; it will be launched into a space where its author can network with those of similar interest. Readers may want to engage in discussion with the student author and use the work to further their own research.

Journal publications also boost the dossier. Potential employers may read the work and offer jobs, internships, graduate school, or other opportunities. And perhaps most importantly in terms of eternal coinage, through publication a Christian scholar is obeying the Lord’s command to “bring salvation to the ends of the earth” (Acts 13:47). If God has given you the gift of knowledge and excellent speech and faith as described in 2 Corinthians 8:7, then ask God to use your knowledge to reach others through Christian scholarship. Seek His hidden treasures, then He will guide you so that “wisdom will enter your heart and knowledge will be pleasant to your soul; discretion will guard you, understanding will watch over you” and you “discover the knowledge of God” (Prov. 2) that you can share with others that will give them life and God glory.
GUSTAVO GUTIERREZ: LIBERATION THEOLOGY & MARXISM

Cameron Swathwood | Spring 2015

Gustavo Gutiérrez, a Dominican priest originally from Peru, was the first to articulate the concepts of liberation theology, a controversial notion that swept across Latin America in the late twentieth century. Beginning in the 1960s, the impact of this ideology is still felt to this day, though greatly fleshed out and clarified. The radical reinterpretation of the Bible required to support liberation theology has made understanding it a crucial step in interpreting the tumultuous times we occupy, and the theology’s singular focus on good deeds and solidarity

Gustavo Gutiérrez primarily articulated his spin on theology through his seminal work, A Theology of Liberation, which was published in 1971 and translated into English two years later. Despite the radical ideas contained therein, Gutiérrez was hesitant when it came to fully articulating them and their logical conclusions. In his works, he prefers to spend a great deal of time discussing problems and then vaguely refer to a solution with broad, sweeping platitudes largely devoid of specifics. Further, Gutiérrez regularly seems to present ideas and retract them simultaneously. Richard Neuhaus notes,

There seem almost to be two Gutiérrezes. The one quotes Fanon and Che Guevara almost as Scripture, proclaiming we are on the edge of ‘revolutionary anthropophany’ in which

historically inexorable forces are creating “the new man in the new society”. . . . The second Gutiérrez comes out of the closet in the notes, carefully positioning his arguments in relation to the larger theological and political discourse both of the past and of the international community. He cautions the reader against understanding what he has just said as what he has just said.

Before embarking on an analysis of liberation
Theology, one must first examine how the founder himself defined this doctrine. In discussing the goal of his theology, Gutiérrez explained that:

[Liberation theology] is a theological reflection born of the experience of shared efforts to abolish the current unjust situation and to build a different society, freer and more human, . . . to give reason for our hope from within a commitment that seeks to become more radical, total, and efficacious. It is to reconsider the great themes of the Christian life within this radically changed perspective and with regard to the new questions posed by this commitment. This is the goal of the so-called theology of liberation.

Strains of Marxist thought are immediately apparent, most obviously in the notion that current society is the source of all ills, and can only be reformed by its abolition. After this, a utopian society will emerge, righting the wrongs wreaked by the previous incarnation, but apparently imparting none of its own. Gutiérrez seems to recognize that this will be the message many people receive, and makes an effort to avoid spiritualized Marxism as liberation theology’s main building block. Specifically, he writes, “My purpose is not to . . . fashion a theology from which political action is ‘deduced,’” and that

[i]t is not possible . . . to deduce from the gospel a single political course that all Christians must follow; as soon as we enter the political sphere, we are in the area of free choices in which factors of another order (social analysis; the concrete histories of nations) have a role to play. The faith does indeed set down certain ethical requirements . . . but the requirements do not entail a specific political program.

It is apparent that Gutiérrez is at least paying lip service to the notion that liberation theology does not recommend a specific course of political action to bring about its goals. Regardless, a particular trend toward Marxism is still prevalent throughout his writings, so much so that Dr. Edward Norman, Dean of Peterhouse at Cambridge, called Gutiérrez “the most distinguished of the Marxist theologians in South America.” Leftism seems to be central to the tenets of liberation theology, enough so that at times liberation theology appears to be more Marxism in spiritual clothing than anything else. The covering does not even need to be Christian; Gutiérrez discusses other religions’ liberation theologies on just as high a level as his own nominally Christian one.
The overriding theme in Gutiérrez’ conception of liberation theology is its anti-capitalist and pro-Marxist sentiments, demonstrated partly by his continuous usage of Marxist vocabulary. In his discussion of the poor, Gutiérrez constantly refers to the bourgeois, capitalists, and multinational corporations, and always in a negative tone. Additionally, he references greed as the driving force for the world’s economy, quotes Che Guevara, and discusses how the current economic system is “designed” to funnel all resources to the top, away from the oppressed masses beneath. Gutiérrez argues,

The underdevelopment of the poor countries, as an overall social fact, appears in its true light: as the historical by-product of the development of other countries. The dynamics of the capitalist economy lead to the establishment of a center and a periphery, simultaneously generating progress and growing wealth for the few and social imbalances, political tensions, and poverty for the many.

His philosophy offers supposed release from this system. While he remains vague on how relief will be accomplished and what the end result will be, he says,

The historical plan, the utopia of liberation as the creation of a new social consciousness and as a social appropriation not only of the means of production, but also of the political process, and, definitively, of freedom, is the proper arena for the cultural revolution. That is to say, it is the arena of the permanent creation of a new man in a different society characterized by solidarity.

This elucidates Gutiérrez’ Marxist influence. Dr. Ron Nash, the late philosophy professor at Reformed Theological Seminary in Orlando, summed up Gutiérrez’ liberation theology in this fashion:

The foundation of liberation theology is a set of three claims: (1) Christians ought to become politically active on behalf of people who are poor and oppressed; (2) The major cause of poverty, injustice, and oppression in the contemporary world is capitalism; [and] (3) Christians should attack capitalism and work to see it replaced by socialism. Although assorted liberation theologians may assert a great deal more than this, it seems fair to say that all liberation theologians agree with these three basic claims (emphasis added).

Nash goes on to further discuss and critique liberation theology, with the assistance of several other distinguished authors. His work in question, On Liberation Theology, is highly recommended for an in-depth examination of the nature of liberation theology and the problems associated with it.

Further evidence of Gutiérrez’ Marxist leanings can be seen in his references to the nature of history. His continued references to “the historical process of human liberation” showcase his extra-Biblical conception of history as continually marching on, bringing along irresistible positive change. This bears striking similarity to Marx’s Hegelian dialecticism in regard to history, resulting in delineated phases of time through which history inexorably passes. Moreover, Gutiérrez writes of history as if there were only two actors therein: those who oppress others and those who are oppressed. He refers to the latter as “absent from our history.” They are dominated and subjugated by the ruling classes, who exploit them for resources and source the “institutionalized violence” that oppresses the poor and weak. As noted before, Gutiérrez is vague on the exact nature of the liberation theologian’s response to these crises, but Miguel de la Torre later clarified:

The ultimate aim is to go beyond reform, for reform attempts to make sinful societal structures more bearable while maintaining capital in the
hands of the few. Liberationists envision a new creation free of injustices, where human dignity and the freedom to seek one’s own destiny reign supreme. Liberationists call for social revolution, a radical change of the structures that cause oppression, a move closer to Jesus’ explanation of why he came: to provide an abundant life.

Another interesting aspect of liberation theology is a distaste of absolutes, even religious ones. This can first be seen when Gutiérrez is discussing the concept of salvation. Maintaining his anti-Western attitude, he writes:

Normally, only contact with the channels of grace instituted by God can eliminate sin, the obstacle which stands in the way of reaching that life beyond. This approach is very understandable if we remember that the question of “the salvation of the pagans” was raised at the time of the discovery of people belonging to other religions and living in areas far from those where the Church had been traditionally rooted.

Gutiérrez’ discomfort with absolutes is evidenced by his apparent sarcasm (as seen via his use of quotation marks around words like “pagan”) towards the conception of non-Christians being considered unsaved and thus damned. Further elaborating on this idea, de la Torre writes the following while referencing Gutiérrez’ Theology of Liberation:

In the midst of trials and tribulations, Gutiérrez seeks a new way to do theology in order to make Christianity relevant and liberative at the underside of history. Theology ceases to be doctrinal truths created by the intelligentsia for the common people to believe; instead, it becomes a reflection of actions taken to end human suffering – a critical reflection based on praxis in light of God’s word, especially the exodus [sic] narrative and the incarnation of Christ.

As noted here, orthopraxy is valued far more than orthodoxy. Knowing and believing the “right” things seems relatively unimportant to Gutiérrez; what matters is that one does the right things for the right people. In this manner, liberation theology becomes heavily works based.

Following this examination of liberation theology, attention can now be turned to the convoluted and controversial tale of its origins. Liberation theology took shape at the Latin American Bishops Conference of 1968 in Medellín, Colombia. The term itself had emerged several years before, but the concept took flight from Medellín. Gutiérrez was there, working as a theological adviser, and authored several of the resulting publications and assisted on several more. A follow-up to this conference, intended to clarify the idea and officiate its spread to the wider church, was held in Puebla, Mexico in 1979.

At this point, the story becomes interesting, and those seeking further knowledge on the topic must turn to an equally interesting source: Lieutenant General Ion Mihai Pacepa. General Pacepa was a three-star general in the DIE, Romania’s intelligence service, from the 1950s to the late 1970s, and his career included six years as its director and personal advisor to unbalanced President Nicolae Ceaușescu. Due to Romania’s status as a member of the USSR, Pacepa’s DIE worked closely with the KGB, Russia’s own intelligence service. At this time, it was the practice of the KGB to use the intelligence services of their subordinate republics as contractors to increase their own reach. In 1978, disgusted with Ceaușescu and Communism, Pacepa brought his career to an abrupt end and defected to the United States, which earned him two death sentences and a $2 million bounty on his head from his former employer. With this, Pacepa became the highest-ranking defector the West ever received from the Soviet Bloc and began his work with the US intelligence.
community, rapidly becoming “an important and unique contribution to the United States,” according to the CIA. In 2013, Pacepa published Disinformation, a book dedicated to showcasing Soviet psychological warfare efforts focused on undermining the United States, weakening it from within, and persuading its citizens to buy into pro-Soviet falsehoods. Former CIA Director R. James Woolsey wrote the introduction for Disinformation, dubbing it a “remarkable book” and stating that it would “change the way you look at intelligence, foreign affairs, the press, and much else besides.”

General Pacepa pulls no punches in this book, stating that, “the Kremlin . . . invented liberation theology, a Marxist doctrine that turned many European and Latin American Catholics against the Vatican and the United States.” In Chapter 15 he elaborates. According to Pacepa, liberation theology originated from Soviet Premier Nikita Khrushchev’s passionate desire to be the Soviet dictator to export Communism to the Americas. Knowing the state of Latin America in the 1950s and ’60s (predominantly poor, uneducated, religious peasants), Khrushchev believed that a “judicious manipulation of religion,” in Pacepa’s words, would be sufficient to usher them into the Communist fold. Pacepa continues, referencing the very same 1968 conference discussed earlier in this paper:

In 1968, the KGB was able to maneuver a group of leftist South American bishops into holding a conference in Medellin, Colombia. At the KGB’s request, my DIE provided logistical assistance to the organizers. The official task of the conference was to help eliminate poverty in Latin America. Its undeclared goal was to legitimate a KGB-created religious movement dubbed “liberation theology,” the secret task of which was to incite Latin America’s poor to rebel against the ‘institutionalized violence of poverty’ generated by the United States.

The 1968 conference put its stamp of approval on liberation theology, and passed it on to the World Council of Churches (WCC) for further endorsement.

The WCC, headquartered in Geneva and representing the Russian Orthodox Church and other smaller denominations throughout more than 120 countries, had already come under the control of today’s Kremlin through the many Orthodox priests who are prominent in the WCC and are at the same time Russian intelligence agents . . . World Council of Churches general secretary, Eugene Carson Blake – a former president of the National Council of Churches in the United States – endorsed liberation theology and made it part of the WCC agenda.

Regrettably, due to the nature of intelligence work, very little Pacepa writes can be corroborated through third parties, for the simple fact that there are no third parties willing or able to speak to these issues. It is worth noting, however, that whenever Russia and other former Soviet Union countries open their archives to journalists, those who make allegations like Pacepa’s are rarely shown to be wrong. Regardless, if even some of what General Pacepa writes concerning the origins of liberation theology is true, a whole new element is introduced into the debate.

Given the fascinating backstory and remarkable makeup of liberation theology, it is no surprise that it contains a variety of implications for government, from its goal to how it should promote religious ideas to who should be in charge and how. Unfortunately, Gutiérrez rarely lends enough clarity to his writing to allow an exposition of these implications here. Ultimately, he appears more concerned with what religious individuals should do in response to the status quo. He stops just short of recommending violence, but clearly recommends a replacement of the current governmental system with something more just.

The primary strength is clearly the concern for orthopraxy. In the Holy Bible, James argues that “Faith
by itself, if it does not have works, is dead,” so there is clearly a prominent place for good deeds in the thinking Christian’s life. Orthodoxy on its own will produce little fruit that benefits others, and such fruits clearly must become an aspect of the Christian’s life. Gutiérrez recognizes this. Unfortunately, he does so to the complete detriment of orthodoxy. One receives the impression while reading Gutiérrez that he would be perfectly happy to put his stamp of approval on whoever endorses his idea of liberation, regardless of religious stripe. What the supposed believer believes is all but irrelevant in his worldview; all that matters is that one does the right thing. Finally, there is the crushing weakness of the overt reliance on Marxist ideals found throughout Gutiérrez’ writings. Contained here is the idea that the Christian’s sole responsibility is to participate in a poorly thought-out revolution with the grandiose goal of “liberating” the poor from oppression. This is supported by an extra-Biblical reinterpretation of the nature of Christ himself as a revolutionary.

At the 1979 Puebla conference in Mexico, Pope John Paul II had these strong words in response to this idea: “The conception of Christ as a political figure, a revolutionary, as the subversive of Nazareth, does not tally with the Church’s catechism.” As it turns out, Gutiérrez’ liberation theology as a whole does not mesh with either the Church’s catechism or the broader teachings of Scripture, and as such should be rejected.


AN OVERVIEW OF LEBER’S HEREDITARY OPTIC NEUROPATHY

Matthew R. Dalton | Spring 2015

Introduction

Albrecht von Graefe, a Prussian ophthalmologist, noted in 1858 that an adolescent male patient of his developed unusual acute central vision loss in both eyes over the course of several months [1]. Nearly fifteen years passed before another ophthalmologist by the name of Theodor Leber began to take serious note of this anomaly and characterized the disorder [2]. Leber noted that the condition strongly favored males and seemed to be heritable, indicating a genetic basis for the disease. Due to the work of Thomas Morgan several years earlier, Leber determined that the inheritance patterns of the disease must be due to a sex-linked recessive trait. Unfortunately the inheritance patterns were not as clear-cut as the experiments Morgan conducted because males peculiarly failed to pass the disease to their offspring. Nearly a hundred years later additional researchers realized that the disease followed the inheritance patterns of maternal cytosolic inheritance, not of genomic DNA [3]. This evidence strongly suggested that the disease takes root in an abnormality in the mitochondrial DNA (mtDNA). The disorder eventually became known as Leber’s hereditary optic neuropathy (LHON) and by 1988 the mtDNA-basis for the disease was elucidated. Currently there are no established therapies to treat LHON and much of the treatment is aimed at prolonging eyesight in those who have the disorder. However, there are a number of contemporary therapies that have been shown to improve patient eyesight [4]. As a result of its highly structured nature, seemingly insignificant adjustments to the mtDNA result in the molecular basis of LHON.

Molecular Basis of LHON

There are three primary mutations that result in the development of LHON. Surprisingly, each of these defects derives from a single nucleotide point mutation resulting in a dysfunctional protein subunit associated with complex I of the electron transport chain (ETC). The first mutation to be identified was found in the gene that codes for NADH dehydrogenase 4 (ND4), commonly known as ubiquinone. ND4 is an important and heavily conserved polypeptide subunit of NADH dehydrogenase that is responsible for the transfer of electrons between NADH to coenzyme Q in the inner membrane of the mitochondria [5]. As indicated previously, proper expression of the ND4 gene permits the successful flow of electrons down the ETC, ultimately providing the means by which adenosine triphosphate (ATP) synthesis may occur. A mutation in this gene will have a deleterious effect, inhibiting the efficiency of ATP formation. One such mutation involves a simple nucleotide exchange at position 11778 in the mitochondrial genome. For reasons not yet fully understood, a guanine (G) is substituted for an adenine (A), leading to a subtle, yet
potent change in the primary structure of the protein [6]. The particular mutation in ND4 mentioned above is responsible for nearly 70% of the reported cases of LHON [6].

Furthermore, the remaining cases largely stem from mutations in related polypeptide subunits of ubiquinone—ND1 and ND6, specifically. Like ND4, ND1 and ND6 are also involved in the successful transmission of electrons between the NADH and coenzyme Q. Thus, mutations in these subunits are also attributed to the LHON condition. As in the case of ND4, the mutation in ND1 is caused by a G to A substitution at position 3460 in the mitochondrial genome. A mutation in ND6, on the other hand, derives from the substitution of a thymine (T) for a cytosine (C) at point 14484 [6]. Together, these three mutations account for approximately 90-95% of all LHON cases. The remaining 5-10% are not fully understood, but are expected to also be associated with abnormalities in complex I of the ETC [7].

The ETC is a collection of enzymes responsible for the energy-yielding reactions of the cell. These enzymes provide a means by which electron transporters such as NADH and flavin adenine dinucleotide (FADH2) can donate their electrons to release their potential energy in a controlled stepwise process, making the harnessing of ATP possible. The association of the ETC with the inner mitochondrial membrane is vital for its energy-yielding function. Like chloroplasts, mitochondria are double membrane organelles. This provides mitochondria with the unique ability to differentially compartmentalize their membranes to allow for selective molecular transporting that ultimately produces an electrochemical gradient across the inner membrane. This gradient is necessary for the conversion of kinetic energy into potential energy in the form of ATP.

The electron transporters donate electrons to complex I, which passes them to coenzyme Q, a hydrophobic electron carrier that resides in the inner membrane space. Coenzyme Q then diffuses through the membrane until it reaches complex III. Electrons are transferred to complex III, which passes these electrons to cytochrome c, a peripheral protein that resides on the inner membrane space side of the membrane. Cytochrome c donates these electrons to complex IV that then passes them on to the terminal electron acceptor, oxygen, leading to the formation of metabolic water. Throughout this process each complex (with the exception of complex IV) effectively pumps hydrogen ions from inside of the mitochondrial matrix to the inner membrane space. Via diffusion down the concentration gradient, hydrogen ions pass through the final complex and back into the mitochondrial matrix. This complex is known as ATP synthase, whose function is often likened to that of a water mill. As hydrogen ions flow down the concentration gradient the ATP synthase spins, harnessing the kinetic energy and focusing it on the formation of ATP from adenosine diphosphate (ADP) and inorganic phosphate.

The ETC pathway is conserved and highly regulated in virtually all eukaryotic cells. The life of the cell and the organism itself is at risk if one of these enzymes develops a mutation. mentioned earlier, LHON is caused by a mutation in a single subunit belonging to one of the many enzymes described above (viz. complex I). Incredibly, a single nucleotide mismatch in one of the enzyme’s many subunits can result in LHON, which speaks to the importance of ensuring that this process is accurately regulated.

A reduction in the cell’s ability to produce ATP ultimately leads to cellular apoptosis. However, the question remains: why do these mutations manifest themselves phenotypically as an acute onset of blindness? The answer to this question has yet to be fully understood, but research suggests that LHON...
leads to a degeneration of retinal ganglion cells (RGC) and their associated axons. The RGCs reside within the innermost layer of the eye (5) and feed their axons to a centralized location at the back of the eye. The axons of all the RGCs compose the optic nerve (6), which relays visual information to the brain. The lobes highlighted above constitute the outermost layer of the brain: (1) cross section of the right frontal lobe, (2) parietal lobe, (3) occipital lobe, (4) cerebellum (temporal lobe not highlighted). Degradation of the optic nerve is responsible for a number of vision-related issues, including LHON. This degradation is typically associated with apoptosis of the RGCs, and in the case of LHON it is believed to result from a dysfunction of complex I in the ETC leading to an increase in free radicals.

![Fig. 1: Optic Nerve and the Retinal Ganglion Cells.](image)

LHON is characterized by a sudden decrease in visual activity, which is attributed to the degradation of retinal ganglion cells (RGC) and their associated axons. The RGCs reside within the innermost layer of the eye (5) and feed their axons to a centralized location at the back of the eye. The axons of all the RGCs compose the optic nerve (6), which relays visual information to the brain. The lobes highlighted above constitute the outermost layer of the brain: (1) cross section of the right frontal lobe, (2) parietal lobe, (3) occipital lobe, (4) cerebellum (temporal lobe not highlighted). Degradation of the optic nerve is responsible for a number of vision-related issues, including LHON. This degradation is typically associated with apoptosis of the RGCs, and in the case of LHON it is believed to result from a dysfunction of complex I in the ETC leading to an increase in free radicals.

These cells are remarkably active, requiring an incredible amount of ATP to function and survive in the extracellular environment [8]. Most cells throughout the body have less stringent ATP demands than that of RGCs, which is largely the reason these parts of the body remain unaffected by LHON despite having the same genetic makeup. Although research in this area has made a considerable number of advancements in recent years, a clear molecular pathway still remains to be identified.

One of the most interesting characteristics of LHON is its unique pattern of inheritance. When a fetus is formed, half of the genetic material is paternal while the other half is maternal, creating a diploid organism. Essentially all that is contributed paternally is the genomic information in the form of DNA. That said, virtually all of the cellular components of a fertilized egg are donated maternally from the mother’s ovum, including the mitochondria and its associated mitochondrial genome. Due to the molecular roots of LHON in the mtDNA, the disease is not associated with the genomic DNA to which, as stated previously, the male does contribute through the nuclear fusion of sperm and ovum. As a result affected males are not able to pass the disorder onto their children (Fig. 2).

This mode of inheritance baffled early LHON investigators, including Theodor Leber himself. Thomas Morgan unraveled the closest explanation for this pattern of inheritance in the early 1900s, shortly before Leber began to make his initial observations. In his lab at Columbia University, Morgan identified a pattern of recessive sex-linked inheritance in a number of fruit flies (Drosophila melanogaster) with peculiar mutations in eye color. Morgan effectively
discovered that the chromosomes responsible for male and female differentiation also carry other information, particularly for eye color in his model. This inheritance pattern predicted that if an affected mother carried the mutated gene on one or both of her X chromosomes, then her male offspring would have an increased risk for the condition over the female siblings. This idea fascinated Leber, and managed to explain many of his results. In the end Leber determined that this sex-linked inheritance pattern must be the way LHON is passed down from generation to generation. Researchers today realize that Leber’s conclusion was premature. His incorrect conclusion was largely due to the fact that the field of cellular biology was still in its infancy. Although Morgan’s mechanism of inheritance explained why males primarily inherited the disease, it failed to explain why these males were incapable of passing the condition to their progeny. Nearly 60 years would pass until the discovery of mtDNA. Researchers finally had sufficient evidence to theorize that the molecular basis of LHON resides in the mtDNA, not genomic DNA. Douglas C. Wallace discovered a point mutation in the ND4 polypeptide in 1988, almost 130 years after the first documented case of the disorder [5,6].

LHON may arise at any age, however the disorder usually affects young males during their second or third decade of life [7]. Interestingly, nearly 50% of males and approximately 90% of affected females never develop any signs of vision loss, indicating that the disease has a level of penetrance associated with the condition [9]. Despite this, affected individuals who are asymptomatic may still transmit the disorder to their offspring. Symptoms of LHON are characterized by an acute loss of central vision in one eye, followed by the other a few weeks to months later [7,9]. Typically, the disorder progresses to the point of severe optic atrophy and permanent impairment of visual activity, and in some cases, a total loss of central vision [7]. Affected individuals are born with no distinction between their unaffected peers. Once the onset of the disorder occurs the only distinguishing feature is their loss of visual activity, although some heart-related issues have been reported [7]. Apart from this, individuals remain phenotypically indistinguishable from their peers.

Prevention and Therapies
Because of the genetic basis of the disease there are no true preventative measures for LHON, although avoiding excessive alcohol consumption and smoking may prevent early onset of the disease [9]. Many of the therapies currently being developed focus on vision management and slowing the progression of the disorder. Several coping methods have been developed for those who suffer from LHON, focusing particularly on occupational rehabilitation. Occupational rehabilitation for LHON is similar to other forms of visual impairment and is thus made possible by the utilization of visual and auditory aids [9]. Technologically enhanced assisted living via personal computers and cellphones with text-to-speech capabilities and magnified font sizes is common for occupational rehabilitation. Currently, pharmaceutical interventions are being developed in which administration of particular drugs could prevent additional vision loss in the early stages of LHON [9]. For example, idebenone (previously marketed as Raxone), a synthetic analog of coenzyme Q10, has shown some clinical success in treating LHON in its early stages [9,10]. Patients have recorded an increase in visual activity shortly after treatment with idebenone [10]. Because of this success, authorization for idebenone was submitted to the European Medicines Agency (EMA) in January of 2013. Idebenone is believed to function by reducing the number of free radicals that form as a byproduct of LHON, thus reducing the number of cells that undergo apoptosis. How this works is not entirely understood. As a result of this and the fact that idebenone is effective only in those patients who are in the early stages of LHON, the EMA rejected this proposal for idebenone authorization [11]. Today researchers are working to increase treatment efficacy in the later stages of the disease in the hopes of reapplying for EMA authorization in the future. For individuals who think that they may be at risk for LHON, diagnosis of the disorder is primarily concerned with identifying one of three point mutations in the mtDNA via qualitative RT-PCR. Additional testing is also not uncommon [12].

In some studies, phosphorus magnetic resonance spectroscopy was used to distinguish the various mutations that result in LHON [9]. Interestingly this technique has also been successful in identifying asymptomatic carriers of the disorder. Despite having the same genetic defects, these individuals show no signs of the disease. Those who have been diagnosed with LHON may want to consider the possibility of speaking with a genetic counselor, particularly in the event of family planning. Gene therapy, the selective removal and/or addition of particular genes into specific loci, has also been explored as a potential treatment option for LHON. Due to the physical nature of the mtDNA, the method of gene therapy is expected to be significantly more effective than related methods on genomic DNA [12, 13]. Implications of this method as a treatment option for LHON seem promising, but require further investigations to assess safety and efficacy [9]. In asymptomatic carriers, LHON symptoms may be precipitated by nutritional deprivation, exposure to toxins, antiretroviral drugs, and even excessive stress. These environmental factors have been correlated in individuals who have early onset of the disease, however there is no consensus among experts as to the degree of their significance in accelerating the disease [9].

**Conclusion**

LHON is a heritable disorder characterized by an acute onset of vision loss that serves as a common model for mtDNA-associated disorders. Since its first documented observation in 1858, the molecular basis of LHON has been formulated and remodeled many times over, largely due to the gradual scientific revelations over the eras. The exact mutations responsible for approximately 90% of all LHON cases have been identified. However, an explanation of how the disease manifests itself in the degradation of the optic nerve remains theoretical at best. Despite this, researchers are exploring potential therapies for LHON that are proving to be quite promising. Contemporary treatments such as gene therapy may prove to be beneficial for disorders like LHON. With the combination of
occupational rehabilitation therapies as well as the potential for pharmaceutical drug intervention, LHON may soon be a manageable disease for many of those affected by it. The ultimate goal of treatment is targeted at the reversal of the disorder, leading to improved visual activity. Although it may seem like this goal is distant in the future, it may actually be closer than it appears.
References


THERMAL BURNS AND SMOKE INHALATION INJURIES

Anna Cox | Spring 2015

An 85-year old Caucasian female presented to the Emergency Department of St. Mary’s Hospital on April 19, 2015 after being rescued from a nursing home fire. The patient suffered both thermal burns and smoke inhalation injuries as a result of the fire, which occurred yesterday. The patient, who lived in the independent living portion of the nursing home, was independent and able to perform activities of daily living before this hospitalization due to severe thermal burns and smoke inhalation injuries. She had a history of pneumonia and bronchitis amongst other acute disorders, as well as the chronic comorbidities of type 2 diabetes mellitus (DM) with diabetic neuropathy, chronic obstructive pulmonary disease (COPD), and coronary artery disease (CAD). Despite these conditions and increased risk for poor lung function, this patient had been stable and compliant with her drug regimens prior to her most recent injuries. However, this patient had a 25 pack-year history of smoking and past alcohol abuse. At the time of her rescue, the patient was going into acute respiratory distress syndrome (ARDS) and had a notably decreased level of consciousness. This patient’s admitting diagnoses of thermal burns and smoke inhalation injuries will be discussed including their various etiologies, specific clinical manifestations, associated lab values to be monitored, and treatments focused specifically on nursing care.

A burn is defined as an injury to body tissue by way of chemicals, radiation, an electric current, or heat. Heat in excess is the most common cause as fires and boiling water bring most patients into the hospital for care. The extent of a burn depends on the temperature, duration of contact with the cause, and type of body tissue (Knighton, 2014). For example, a burn on the face has a higher chance of causing significant scarring and pain compared to the same vesicant burning the dorsal surface of the arm. In this case, it would be the type of body tissue that determined the extent of this burn as the face is more vascular and has more nerve endings compared to the dorsal surface of the arm. This patient’s burns were located mostly on her lower extremities and back as she was sleeping when the fire spread up the end of her bed. It was concluded that this patient was unable to notice the fire for at least an hour or two due to her decreased sensation to heat and pain as a result of diabetic neuropathy (Lazear, 2014).

Burns are also typified as being thermal, chemical, electrical, or related to the inhalation of smoke. The type is dependent on the primary cause. Thermal burns, such as this patient’s, involve things such as flames, scalding water, or contact with heat-producing agents like cosmetic appliances. Alkalis, acids, and organic compounds make up the common contributors to chemical burns. Electrical burns can cause patients to have life-threatening interior complications such
as dysrhythmias and damage to vessels or nerves. Since the damage from electrical burns is mostly internal, yet potentially lethal, electrical burns are characterized by what is called the iceberg effect. Similarly, the inhalation of smoke can cause injuries to a patient’s upper or lower airway in addition to causing metabolic asphyxiation, which is what most building fire survivors die from. Patients with smoke inhalation injuries need to be monitored for pulmonary edema and signs of acute respiratory distress syndrome (ARDS). A decrease in the level of consciousness and an altered mental status are early signs of hypoxia resulting from smoke inhalation injuries (Knighton, 2014). This patient was going into ARDS and had a decreased level of consciousness at the time of her rescue. As documented by the emergency personnel at the scene, the patient’s saturated oxygen level was 75% while her respiration rate was 9 breaths per minute (12-20 breaths per minute). Her low saturated oxygen level and respiration rate were at critical values that indicated oxygenation was inadequate and cardiac issues were quite likely to begin (Eisel, 2014).

Furthermore, this patient’s severe thermal burns also contributed to her current hospitalization.

Classifications of burns are decided upon by assessing each one’s severity, which is measured by their extent, location, depth, and associated risk factors specific to the patient (Knighton, 2014). As previously mentioned, this patient’s burns were considered severe. The extent of her burns, measured by a burn guide such as the Rule of Nines, was determined to be about 25%, which is counted as severe. The Rule of Nines divides the body into multiples of nine and the burned sections are added up to equal the total body surface area (TBSA) (Sommer et al., 2013). Burn classifications also include the specified degrees of superficial partial-thickness, deep partial-thickness, and full-thickness, or first, second, and third degree respectively (Knighton, 2014).

This patient’s burns were classified as deep partial-thickness and full-thickness due to their associated clinical manifestations. This patient’s burns were identified as severe since her TBSA was over 15%, level of consciousness decreased, and need for hydration significant.

Superficial partial-thickness burns, or first-degree burns, are ones that go through only the top layer of skin (Knighton, 2014). This top layer, called the epidermis, is avascular and provides a water-resistant protection for the body. The integumentary system is another name for skin, which is also considered an organ. Fed by blood cells in the dermis, the epidermis is composed of both a dead portion on the surface and the living portion that connects the surface to the dermis. The majority of epidermal cells are keratinocytes, which regenerate about once a month. In the regenerative process, these cells, which start off undifferentiated, keratinize and move to the skin’s surface to make up the stratum corneum (Dirksen, 2014b). This regenerative process occurs normally when skin is not damaged, but also occurs at the time of healing for superficial partial-thickness burns.

The clinical manifestations of a superficial partial-thickness burn include: pain, moderate to severe tenderness, redness, minimal edema, and blanching (Knighton, 2014). An example of a superficial partial-thickness burn is sunburn or minor scalding from hot water. This type of burn is less likely to scar since there is no blistering or eschar and typically heals within three to six days (Sommer et al., 2013). Also, the majority of patients with superficial partial-thickness burns do not require hospitalization because dehydration is not a concern and large-scale treatment options are unnecessary. Instead, treating superficial partial-thickness burns involves symptomatic care using cooling devices and topical analgesics. Care should be taken to avoid direct sun exposure as well as other agents that could lead to additional burning.
or burn-related complications (Knighton, 2014). This patient’s burns were not classified as superficial partial thickness because they surpassed the epidermis and delved deep into the dermal layer of her skin. Also, this patient required hospitalization due to her severe TBSA percentage and significant amount of deeper thermal burns along with smoke inhalation injuries.

Deep partial-thickness burns, or second-degree burns, have damage to the entire epidermis and on into the dermis. These burns are characterized by blisters, or blebs, hypersensitivity to touch or air, moderate to severe pain, moderate edema, blanching, and a mottled white, pink, or cherry-red appearance (Knighton, 2014). Scarring is likely to occur with these burns that heal from the outside in and the bottom up within 10 to 21 days. The key to promoting the healing of these burns is keeping them moist, or free from desiccation. However, skin grafting is a treatment possibility depending on the factors of healing involved for each patient (Sommer et al., 2013). For example, this patient is 85-years old with a substantial smoking history and documented past of skin cancer. Therefore, this patient’s chances of healing without a skin graft are less likely compared to a robust 20 year-old non-smoker who stays out of the sun during the hottest part of the day (Dirksen, 2014a). Older age alone is a major contributing factor to healing complications. Elderly adults’ skin becomes thinner, drier, and less resilient as they are more prone to dehydration and the aging effect takes its toll on body systems (Knighton, 2014).

Full-thickness burns or third-degree burns are the burns that cause the most damage as they go through the epidermis and dermis with an extension into the subcutaneous tissue. Since the subcutaneous tissue consists of vessels, fat, nerves, and components of the lymphatic system, nerve damage is a classic manifestation of this burn (Sommer et al., 2013). Decreased nerve endings contribute to the anesthetic quality of these burns, which can look waxy white, dark brown, or charred. These burns do not have blisters but have severe edema and dry or leathery eschar, which will need to be removed. Scarring is inevitable, and healing can take anywhere from a few weeks to several months, depending on the patient. Furthermore, these burns require skin grafts due to the impossibility of re-epithelialization (Knighton, 2014). This patient’s full-thickness burns appeared charred and had deep crater-like wounds filled with eschar. Due to diabetic neuropathy, this patient’s back had more nerve endings and sensitization to pain stimuli than her legs. However, the burns on her back caused her very little pain, as they were deep enough to destroy nerve endings throughout much of the subcutaneous tissue.

Management and nursing care of burns is divided into these phases: emergent, acute, and rehabilitative or resuscitative, wound healing, and restorative. During each stage, a specific aspect of burn care becomes the focus. The primary goal during the emergent, or resuscitative stage is to prevent hypovolemic shock and the formation of edema. This phase usually lasts up to 72 hours after the injury and ends when fluid mobilizes and diuresis begins. Hypovolemic shock is important to assess for and prevent as interstitial fluid increases and fluid shifts out of blood vessels into the extracellular space creating what is known as second- and third-spacing. Since fluid is moving out of the cells and vascular system, fluid replacement is a top priority. If the patient has TBSA greater than 15% and needs a large amount of fluid replacement, two largebore intravenous (IV) access points are required. Fluid replacement formulas should be recalculated every hour based on the patient’s urinary output. The type of fluid replacement used depends on the patient, but the Parkland (Baxter) formula is the most common. In patients with carbon monoxide poisoning or smoke inhalation injuries, such as this
patient had, 100% humidified oxygen should be given in order to sufficiently oxygenate the peripheral tissues and prevent cardiac complications (Knighton, 2014). This patient was given the humidified oxygen shortly after she was rescued from the fire and her saturated oxygen soon improved to 85% at the scene of the incident. Also, this patient was having oliguria since she was still within the emergent phase of burn management so her fluid replacement was adjusted accordingly.

A patient with hypovolemic shock will experience a drop in blood pressure and an increase in heart rate, as can be seen with this patient. Upon admission, this patient’s blood pressure was 95/40 mmHg while her heart rate was 114 bpm (Hypotension: <119 or <80 mmHg; Prehypertension: 120-139 or 80-89 mmHg; Stage I HTN: 140-159 or 90-99 mmHg; Heart Rate: 60-100 bpm; DiSabatino & Bucher, 2014). These vital signs were dangerous as this patient had insufficient peripheral tissue perfusion and a decreased cardiac output due to a high heart rate with depressed stroke volume. Signs and symptoms of thrombosis and hemolysis can appear in a patient’s lab values as a high hematocrit (HCT) and high potassium level. An increased HCT means that there is an increase in blood viscosity due to hemoglobin and other blood content, which leads to sludging of the blood. Sludging of the blood puts a patient at risk for complications associated with clots and poor circulation such as venous thromboembolism (VTE). Patients with burns on the extremities should be encouraged to keep their arms or legs extended and elevated on pillows in order to reduce edema and increase circulation. Furthermore, patients should perform range of motion exercises early on in their course of care as this reduces the risk of contractures and improves one’s prognosis (Knighton, 2014). This patient had her lower legs elevated on pillows and passive range of motion exercises were performed on her every few hours to improve circulation.

The increase in circulating potassium results from fluid high in electrolytes being pushed out of cells. This increase can create life-threatening cardiac issues as cells starve for potassium. Dysrhythmias are often a result of high potassium plasma levels and low potassium levels intracellularly. Abnormal lab values, such as the presence of myoglobin, are also associated with a higher risk for renal ischemia or acute tubular necrosis (ATN) as the kidneys have more blood products to filter and decreased water to help in this process. As diuresis begins at the end of this stage, a patient’s urine specific gravity will be low as fluid is released in large quantities (Knighton, 2014). This patient’s urine specific gravity was still within the normal range at a value of 1.015 since this patient was still in the acute phase during which fluid had not yet mobilized (Czarapata, 2014; 1.003-1.030).

Upon the initiation of diuresis, the stage of wound healing, or the acute stage, begins. This phase can last weeks to months as burned body tissue experiences the effects of the inflammatory process. During this time, it is important for nurses to monitor sodium as well as potassium intake and retention since these electrolytes are essential to the wound healing process and tend to fluctuate most with the movement of fluids. It is during this phase that superficial partial-thickness and deep partial-thickness burns begin the process of re-epithelialization, which appears pink to red and takes place from the inside out. It is at this point that the immune system response elevates in order to protect the body from infection and heal what is broken (Knighton, 2014). Soon this patient’s deep partial-thickness burns would be assessed for signs of reepithelialization starting around the third day after the burns and the escharotomy.

Various types of WBCs, or leukocytes, are designed to play particular roles in the immune response. For example, mononuclear phagocytes include monocytes, which are present specifically in the blood, and
macrophages, which are present throughout the body. These cells capture, process, and present antigens to lymphocytes, which initiates a humoral or cell-mediated immune response. B-cells are the lymphocytes that handle humoral responses as they mature into plasma cells and eventually turn into antibodies, or immunoglobulins. These immunoglobulins are specific as to what kind of responses they elicit and what kind of immunity they provide. Immunoglobulins also depend on particular cytokines, a type of chemical mediator, that are produced by helper T-cells (CD4), which primarily play a role in cell-mediated responses (Porth, 2009; Lewis, 2014a). However, in burn patients there is a decrease in immunoglobulins as well as bone marrow depression and impaired function of WBCs because of the damage to the body tissues. Therefore, the risk of infection is a lot higher for these patients (Knighton, 2014).

A typical immune response is manifested by a patient’s high white blood cell (WBC) count, or leukocytosis, which is the body’s effort to destroy an antigen or suspected pathogen. This elevation in immature WBCs, referred to as “a shift to the left,” is the cellular response of the inflammatory process initiated in the blood (Lewis, 2014b). In the vascular part of an inflammatory response, vessels first constrict and then dilate to flush out possibly harmful pathogens in the blood or send blood to the affected area for healing. This process of vasoconstriction and vasodilation causes the erythema, or redness, and edema, or swelling, that typically present with infection and inflammation (Calder et al., 2008; Lewis, 2014b). This patient had prominent erythema and edema particularly around her deep partial-thickness burns on the dorsal side of her lower extremities. Furthermore, this patient’s most recent WBC level was very high at 17 k/uL, which was a solid indication that the inflammatory process was in action (Pagana & Pagana, 2013; 5-10 k/uL).

Also during the acute phase of burn management, nurses should be sure not to cool the patient’s burn site longer than 10 minutes at a time and avoid immersing the affected area in an ice bath. While it is important to cool the site, ice can cause hypothermia and reduce blood supply to the wound that is needed for healing. In every phase of management for large area burns, but especially the emergent and acute, assessing the patient’s airway, breathing, and circulation is of upmost importance. Any difficulty regarding one of these components can be detrimental to the patient’s survival (Knighton, 2014). This patient did not require intubation or mechanical ventilation since the majority of her burns were on the lower extremities and back. However, the physician ordered an escharotomy for the patient in order to improve her circulation and prevent tissue loss in the lower extremities. Eschar, or the dead tissue build-up in a wound bed, needs to be removed because of the increased risk of infection that it brings within the burn site. Cleaning and debridement procedures help remove the necrotic tissue and allow for re-epithelialization. Once eschar is removed, fibroblasts are the cells that work to create collagen and heal the damaged tissue by forming a fibrous tissue known as a scar. This phase of healing is the granulation phase and is when the wound looks pink to red with signs of improvement in approximation (Knighton, 2014; Lewis, 2014b).

The rehabilitative stage of burn management, also referred to as the restorative phase, is when wounds heal and the patient begins engaging in his or her own care. At this point in the healing process, the patient is prepared for discharge to a rehabilitation facility or his or her own home. Often times, patients with very severe wounds require the assistance and care of another person who can help change the dressings and encourage them after such a life-altering event (Knighton, 2014; Lewis, 2014b). There are a variety of dressing choices including greasy gauze dressings, silver-impregnated dressings, and pressure dressings. Schedules for changing a dressing are made by the physician and need to take place in a room that is at least 85 degrees Fahrenheit in order to maintain the patient’s body temperature. Also during this stage of
management, the prevention of contractures and other complications become a major focus as the patient tries to strengthen the skin that has already grown. Patients should be aware that the new skin never completely regains the original color and that it takes about four to six weeks for the area to solidify as a scar. Additionally, an emphasis on nutrition is necessary during this phase of nursing care since the patient will need a suitable amount of calories and protein for the body to have energy to heal properly (Knighton, 2014). This patient had not yet reached the rehabilitative stage, but was tolerating dressing changes well with moderate pain at the deep partial-thickness burn sites. However, the patient reported a reduced appetite due to occasional nausea that accompanied the pain and general fatigue that she felt since being burned.

Mature healing of the burn site can be expected anywhere from six months to two years, depending on the patient’s comorbidities and other associated risk factors. Newly healed burn sites should be kept out of direct sunlight for up to a year due to their tendency to be hypersensitive or hyposensitive to temperature and damage (Knighton, 2014). This patient appeared confused and very concerned for what was to come during the rehabilitative stage of care for she did not want to be a burden on her family or staff at her nursing home. This patient’s burns will most likely take the latter end of the expected time frames for healing because of her old age and comorbidities such as type 2 DM, which complicates the healing process.

Complications and risks associated with burns are mostly dependent on the location of the burn as well as comorbidities, as previously mentioned. Compartment syndrome is what patients with burns on their extremities should be monitored for while patients with thoracic burns should be closely assessed for dyspnea or signs of respiratory distress. These complications arise as edema forms, circulation is altered, and breathing is complicated by the inability to adequately move the diaphragm for lung expansion. Besides type 2 DM, comorbidities that can lead to poor wound healing include chronic disease, such as this patient’s COPD and CAD, fractures or trauma, drug abuse, and malnutrition. In addition, some risks are heightened in burn patients such as the risk for paralytic ileus and infection. To assess for and prevent these impediments, nurses should regularly auscultate for bowel sounds, promote mobility as much as tolerated, and look to drug treatment as needed to prevent any kind of infectious agent that persists despite aseptic wound care (Knighton, 2014).

Drug treatment for burn patients ranges from oral or intravenous analgesics and sedatives for pain management to antibiotics for the prevention of widespread infection. The drugs selected for treatment are specific to each patient’s case and often combined with nonpharmacological interventions in order to promote comfort and healing (Knighton, 2014). This patient was prescribed intravenous morphine to manage the severe pain from her deep partial-thickness burns on the ventral side of her lower extremities. For breakthrough pain, this patient received oral oxycodone-acetaminophen (Percocet) as needed. In addition to analgesics, this patient was on oral penicillin to prevent any systemic infection that could complicate her healing since she had a higher risk for infection due to chronic comorbidities. This patient seemed to respond to dressing changes better when soft instrumental music was played in the background and appeared to have a better outlook on her situation when in the presence of family and friends.

In conclusion, burns are a result of various damaging causes with thermal sources being the most common. Burns are classified not only by their cause, but their severity that is measured by depth, location, and extent of damage. While superficial partial-thickness burns do not require hospitalization or severe treatment, deep partial-thickness burns and full-thickness burns demand more nurse-intensive care to promote optimal healing. Management of burns is divided into the emergent, acute, and rehabilitative stages, which each have different foci and goals. The inflammatory process is also part of the clinical course of a burn as the body’s immune system responds to the damage and attempts to heal. Nursing care should be provided to treat symptoms, pain, and prevent infection as burn patients have a higher risk for...
complications surrounding infection and a diminished quality of life. Nutrition, fluid replacement, and permanent skin coverage are also very essential for nurses to hone in on when caring for burn patients. Lastly, psychological guidance and support should be given to these patients as they often struggle with life-altering changes in body image and personal care as a result of their burns. Burn patients often become very vulnerable and need the dedicated support of a nurse who provides holistic care with a goal of restoring optimal function and appearance for the patient’s long-term wellbeing and healing.
References


The Crisis of Self-Understanding in Dostoevsky

Joshua Miller | Spring 2015

“Do you see him? Do you see the story? Do you see anything? It seems to me I am trying to tell you a dream – making a vain attempt, because no relation of a dream can convey the dream-sensation, that commingling of absurdity, surprise, and bewilderment in a tremor of struggling revolt, that notion of being captured by the incredible which is of the very essence of dreams…”

He was silent for a while.

“… No, it is impossible; it is impossible to convey the life-sensation of any given epoch of one’s existence – that which makes its truth, its meaning – its subtle and penetrating essence. It is impossible.

We live, as we dream – alone…..” (Conrad 64-5)

Marlow, the speaker in the passage above, seeks to convey an idea. He finds himself as incapable of communicating this idea as he is of communicating the concept and importance and essence of a dream. Yet where Marlow failed, Dostoevsky succeeded; the incapacity of the one highlights the accomplishment of the other. Throughout Crime and Punishment, Dostoevsky imparted the life-sensation of his central character, Raskolnikov, showing the desire of a human soul to know and understand itself. Marlow could not understand himself well enough to describe his own inner workings, and neither could Raskolnikov – but Dostoevsky could. In the words of his hero, which are the outpourings of his soul, one can see the conflict clearly while possible interpretations of those inner workings struggle for dominance. One can hear that conflict verbally expressed in jarring, radical flip-flops and strange little cruelties. The actions Raskolnikov commits show what is at stake: total inertia and a fall into villainy on the one hand, and free will turned toward God on the other. All of the ignoble insecurities and incongruous patterns weave together into a real person that trudges blindly off of the page and into readers’ minds as a confusing picture. Through the thoughts, words, and actions of Raskolnikov, Dostoevsky paints the story of each wretched and inexpressible soul.

The novel begins with the hero in a pensive mood, which prevails through the entire narrative. He quests to understand himself. Not every human being seeks this end; many go about their daily lives without wondering what they are and without concern for what they may become. He spends nearly every waking moment pondering the mysteries of his own mind and its capability for evil: “I want to attempt such a thing, and at the same time I’m afraid of such trifles!” he thought with a strange smile. ‘… Why on earth am I going now? Am I really capable of that?” (4). By the end of the novel, we find that he is, indeed, capable of that evil – and also of much good (537). In this way, Dostoevsky creates and
uses Raskolnikov as a lens to write about his own struggle with the questions of human nature, which began in him at an early age (Scanlan 9). Instead of envisioning a more traditional work about a murderer whose motive is clear and unquestionable, his idea regarding Raskolnikov’s motivation was “to identify it with the totality of his consciousness, and to have changed that conception to a more conventional one would have led to the withering of that fine insight; and what that insight comes to, in the last analysis, is that human consciousness is inexhaustible and incalculable” (Rahv 19). The direct results of this idea, which became reality in *Crime and Punishment*, are Raskolnikov’s own attempts at self-understanding. Rahv explains further: “Never quite certain as to what it was exactly that induced him to commit murder, he must continually spy on himself in a desperate effort to penetrate his own psychology and attain the self-knowledge he needs if he is to assume responsibility for his absurd and hideous act” (20). That self-knowledge is critical to the narrator in *Notes from Underground*; it is no less critical to Raskolnikov in *Crime and Punishment*. Its ultimate importance comes from the apparent alternative: disintegration into oblivion or meaninglessness. It is not merely a plot device:

It originates rather in Dostoevsky’s acute awareness (self-awareness at bottom) of the problematical nature of the modern personality and of its tortuous efforts to stem the disintegration threatening it. Thus Raskolnikov … is represented throughout under the aspect of modernity … [which is] understood as spiritual and mental self-division and self-contradiction. (Rahv 21)

This schism of the self, avoided at any cost, drives Raskolnikov to his murderous test.

Before he reaches that point, however, his words show the conflict within. One sees it in his interaction with the policeman and the drunk girl. Dostoevsky shows the snapping point when a soul changes its tune in one sharp discordant jump (49). Again, just after the dream of the beaten horse, he exclaims (regarding the act of murder), “I knew very well I could never endure it, so why have I been tormenting myself all this while?” (59) For a moment he is free: “‘Lord!’ he pleaded, ‘show me my way; I renounce this cursed … dream of mine!’” (60). But, wandering in a daze back to his apartment, he hears a conversation in the street which gives him a clear shot at committing his crime, and he is sent right back into his cursed dream. He is a romantic of sorts, ascribing enormous cosmic significance to the smallest and most coincidental of things. In this instant, he believes that fate has preordained him to do that which he had. momentarily renounced. And because of the complexities of the ideas struggling within him, he grows more certain of his own special nature. These and many other touches display the masterwork of Dostoevsky in creating an entire personality complete with history and conflict of the soul. Bakhtin, in his commentary on Dostoevsky’s poetics, writes:

The uniqueness of Dostoevsky lies not in the fact that he monologically proclaimed the value of personality (others had done that before him); it lies in the fact that he was able, in an objective and artistic way, to visualize and portray personality as another, as someone else’s personality, without making it lyrical or merging it with his own voice – and at the same time without reducing it to a materialized psychic reality. (12-3)

He contrasts this with Tolstoy’s style of characterization: “Even the hero’s final word is given in the shell of someone else’s (the author’s) word; the hero’s self-consciousness is only one aspect of his fixed image and is in fact predetermined by that image, even where thematically consciousness undergoes a crisis and the most radical inner revolution…” (56).
Ironically one of the ways that Dostoevsky achieved this display of another consciousness was by putting his characters through constant crisis. At no point until the end of the epilogue can Raskolnikov be said to have found peace within himself. There are times when the conflict has submerged into the background of a social interaction or a momentary feeling of success or resolution; but that conflict remains, setting him apart and generating a “dark sensation of tormenting, infinite solitude and estrangement” (103). That loneliness is characteristic of the soul in conflict over self-understanding. Gazing outward at the external faces of human beings who seem to be so sure of themselves, the self-reflective soul feels alone. In *Notes from Underground,* the narrator cries out: “But at the very outset how much agony I was forced to endure in that struggle! I didn’t believe the same could happen to others and so all my life I have kept it to myself, like a secret.” (7) Raskolnikov’s abandonment of his mother and sister presents the most poignant example of this sense of separation (*Crime* 312-14). His soul yearns for companionship, but he cannot find it in the arms of his closest friends and family members, and so he must leave them. “Whatever happens to me, whether I perish or not, I want to be alone” (313).

These words are accompanied by the action of walking away, literally and symbolically leaving behind those who love him most because they understand him least. Indeed, Raskolnikov’s actions show the struggle within him most clearly. Here, finally one finds the most common focus of literature: the actions of men. Novels rarely dwell at length on the motives and consciences and souls of the characters who act and do. In fact, Dostoevsky touched on this strange idea in *Notes from Underground*:

“I assure you, gentlemen, that to be excessively conscious is a disease, a real, fullblown disease. For the needs of everyday life ordinary human consciousness should be more than sufficient – that is, half or even a quarter less than the portion which falls to the lot of an educated man in our unhappy nineteenth century....” (6)

Later, the Underground Man expresses a distinct envy of those who do not struggle with self-understanding (9). He feels at once both far above his peers and far below them, condemning their blissful ignorance and coveting their mental wholeness. Unfortunately, the idea of simultaneous superiority and inferiority may even be impossible to communicate to anyone who does not face the internal chaos of Raskolnikov and the Underground Man. But understanding it is critical to grasping the full meaning of Raskolnikov’s journey through crisis and conflict to peace in his ultimate destination of Siberia. One of the effects of this crisis of self shows through in conscious inertia throughout the novels. Inertia is what carries him into murder (72-3). Inertia is what leads him to sleep so often and for so long at various points in the novel (28; 67-8; 86-9; 91; 117-18; etc.). Inertia grips him so strongly that he almost fails to confess his crime (530). In *Notes from Underground,* the Underground Man speaks of this inertia as coming

“directly from being too vividly aware of my own degradation, from the feeling of having gone too far; that it was foul but that it couldn’t be otherwise; that there’s no way out for you, that you’d never make yourself a different person; that even if there remained enough time and faith to change yourself into something different you most probably wouldn’t want to change yourself. And that even if you did want to, you’d end up by doing nothing because there might in fact be nothing to change yourself into. But finally, and most importantly, all this proceeds from the normal, fundamental laws of heightened consciousness and from the inertia which is the direct result of those
laws and therefore not only could you not change yourself, you’d simply do nothing at all.” (7-8)

Another effect of the crisis is insanity. Raskolnikov’s mental state varies wildly throughout the novel; at times his head is clear and he is certain of his way (60). At other times, he cannot hang on to any thought at all (86). Both of these things – inertia and insanity – stem from the conflict within. That battle, that disease, finds its roots in the questions of human nature, and free will is the only cure. At the urging of Sonya, he freely chooses to break his inertia and to reject insanity. Only the grace of God in his life could possibly have led him to this point, and indeed the pressing grace of God is solely responsible for keeping him on the right track when his inertia would have led him to flee. But in faith, he confesses his crime and begins to walk the long road to peace through exile in Siberia.

From thought to word to deed and from quest to conflict to murder story, Dostoevsky paints a vivid picture of a soul that chooses the road of faith toward redemption. In Heart of Darkness, Marlow faces a similar choice – but he chooses the easy road. He lies to comfort the wife of a dead man, telling her falsely that her husband’s last word was her name: “It seemed to me that the house would collapse before I could escape, that the heavens would fall upon my head. But nothing happened. The heavens do not fall for such a trifle” (124). And yet it is no trifle. It shows the inertia of a man’s soul – caught in a conflict to understand itself, giving up instead of pressing on. Dostoevsky’s final message in Crime and Punishment is the peace of the hard road.
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BROTHERLY LOVE IN TWELFTH NIGHT

Sara Heist | Spring 2015

William Shakespeare’s comedy Twelfth Night explores love in several of its forms. Hardin Craig confirms that Twelfth Night addresses “romantic and ideal love” (159). One form of ideal love in the play is the Elizabethan idea of amity, which entails “concepts of benevolence, gratitude … loving friendship, ethical union and relationships connected by the soul and by God” (Price and Finnerty 1). In the context of Twelfth Night, amity seems to be practically defined as a loving, sacrificial bond between two people. Amity appears by itself in the sea captain Antonio’s devotion to Sebastian. In Viola’s service to Orsino, amity is mixed with romance, another form of love. Antonio serves to illustrate a typical amicable relationship, while Viola shows how amity and romance blend may be seamlessly expressed in one character. The parallels and contrasts between the relationships of Antonio and Sebastian and Viola and Orsino are striking. Shakespeare uses the comparison of the motives, characteristics, expectations, and transience of the two characters’ amicable relationships to illustrate the nature of amity.

The motive for Antonio’s love is one of the more controversial topics of the play. The vast majority of critics, including Thad Jenkins Logan, infer certain homosexual overtones in Antonio’s devotion to Sebastian (233). Casey Charles, in his article “Gender Trouble in Twelfth Night,” goes so far as to call the play “one of the major textual sites for the discussion of homoerotic representation in Shakespeare” (121). Many commentators turn to this explanation for Antonio’s devotion to Sebastian because they cannot seem to think of any other possible motivation for his dedication. L.D. Salingar maintains that “[Antonio’s] love for Sebastian is irrational” (131). Thus, apparently, his love must be attributed to some subconscious urge. This viewpoint misinterprets the Elizabethan amity presented in the play. Either attributing Antonio’s love for Sebastian to homosexual desire or dismissing it as madness cheapens the quality of his love, making it nothing more than a product of base impulses. Rather, Antonio’s love and devotion flow from the generosity and good feeling that Price and Finnerty describe. Cynthia Lewis concurs with this interpretation, asserting that Antonio “embodies and acts out the play’s highest standard of Christian love” (187). The Bible bears out Lewis’ claim, for Christ says, “Greater love has no one than this, than to lay down one’s life for his friends” (NKJV, John 15.13). Antonio demonstrates just such a love by putting his life in jeopardy for Sebastian in the play. The love Christ describes is motivated not by impure desires, but rather by a pure, generous spirit. Antonio himself testifies to the purity of his motives. He describes his love in nonromantic terms, using words such as “sanctity” to refer to his love (Shakespeare 3.4.311). Antonio loves Sebastian out of his own generous nature. Lewis insists, “What distinguishes Antonio’s love for Sebastian is precisely that it is unearned” (190). Sebastian himself recognizes that he is indebted to Antonio: “I can no other answer make but thanks, /
And thanks, and ever thanks. Too oft good turns / Are shuffled off with such uncurrent pay” (Shakespeare 3.3.14–16). Shakespeare holds Antonio up as an ideal of amicable love because he has pure motives for loving Sebastian.

The characteristics of amity that Shakespeare illustrates in Antonio are less controversial than Antonio’s motivation. Antonio is generous, constant, and self-sacrificing in his love for Sebastian. Porter Williams, Jr., refers to Antonio as “the model of generous friendship” (42). The play bears out this claim. The captain’s generosity begins when he rescues Sebastian from drowning. After nursing the young man back to health, Antonio gives him “[his] love without retention or restraint” (Shakespeare 5.1.71). His generosity extends beyond emotion and time to his finances. When Sebastian arrives in Illyria, Antonio meets him and gives him money to buy souvenirs (3.3.41–9). Apparently, this is all the money the captain possesses, for when he is taken by the officers, he pleads with Viola for his purse (3.4.287). He is willing to give Sebastian every penny he has. Shakespeare, through Antonio, implies that ideal brotherly love is generous, holding back nothing good from the beloved. On top of generosity, Antonio adds constancy to his love. From the time he saved Sebastian from the ocean to the final scene at Olivia’s estate, he doggedly remains by Sebastian’s side. He tells Orsino that he has been with Sebastian “for three months before… / Both day and night did we keep company” (5.1.84, 86). Through every difficulty, Antonio has remained by Sebastian’s side. Not even the danger of Illyria could break his love. The final ingredient of Shakespeare’s ideal amity is self-sacrifice. Antonio is willing to sacrifice his life for Sebastian. He demonstrates this willingness on two occasions, the first of which is his coming to Illyria. When he meets Sebastian in that hostile country, he tells him, “My willing love, / The rather by these arguments of fear, / Set forth in your pursuit” (3.3.11–13). In other words, Antonio’s love for Sebastian overcame his fear for his life. Antonio further jeopardizes himself when he rescues Viola, whom he mistakes for Sebastian, from the duel with Sir Andrew. Lewis draws a parallel to substitutionary atonement in this scene, quoting Antonio’s impassioned declaration that “If this young gentleman / Have done offense, I take the fault on me” (Lewis 188; Shakespeare 3.261–2). As an example of amity, Antonio demonstrates in this scene that brotherly love ought to reflect Christ-like self-sacrifice. Shakespeare draws his ideals for brotherly love together in Antonio, presenting amity as generous, constant, and self-sacrificing.

The single shortcoming of Antonio’s love for Sebastian is his expectation of return on his love, because such a desire is incompatible with the complete selflessness of Christ-like amity. Jesus described the highest possible love as the giving of one’s life (John 15.13). That level of sacrifice leaves no room for any self-interest. Unfortunately, Antonio learns this truth by painful experience in Twelfth Night. After mistaking Viola for Sebastian and nobly offering to rescue her from the duel, Antonio is taken prisoner by Orsino’s men. This situation provides Shakespeare with the opportunity to reveal Antonio’s desire for reciprocating love from Sebastian. Because he has been generous with his time, love, and purse, Antonio expects Sebastian to be generous to him in return. But Viola does not have the purse that Antonio gave to Sebastian, and she certainly does not understand when he accuses her of ingratitude. He cries to Viola, “Thou hast, Sebastian, done good feature shame. / … None can be called deformed but the unkind” (Shakespeare 3.4.316, 318). Though Antonio loves Sebastian from pure motives, he still expects reciprocal devotion and loyalty for his love. When he is disappointed in his expectations, he exhibits “a strong sense of disillusioned friendship”
disappointing but realistic flaw in his amicable love.

Antonio’s unreasonable expectation for his amity sets him up for grave disappointment when he discovers that amity is not an indissoluble bond. Just as Viola disappoints Antonio by not returning his amity unreservedly, so also Sebastian does not fully reciprocate his love in the final scene. Although Antonio expects to be repaid with similar devotion, Sebastian marries Olivia instead, giving his love to her rather than Antonio. The playwright demonstrates through this event that Antonio cannot expect Sebastian to love him more than Olivia because ideal amity is neither exclusive nor binding. Shakespeare reminds his audience that the only “contract of eternal bond of love” is marriage, as the priest affirms (5.1.154). Antonio is an example of typical Elizabethan amity, which professed to be an “exclusive, intimate, affective bond of friendship” (Price and Finnerty 1). Through Antonio Shakespeare demonstrates that expecting exclusivity in an amicable relationship is unreasonable. Amity, while pure, admirable, and Christ-like, is not a binding contract like marriage. Antonio discovers this unfortunate reality as the play closes. Thus, through Antonio’s disappointment Shakespeare shows that even the most devoted amity may not last forever.

The other example of loyal amity in Twelfth Night is Viola. While Sebastian and Antonio are both male, Viola and Orsino’s amicable relationship is complicated by the fact that Viola is a woman in disguise. This difference is no accident. Lewis, who views amity as a Christ-like love, observes that Viola is proof that “Christian love can inform romantic love” (197). Obviously, then, Viola’s motivation for loyalty to Orsino is necessarily more complex than Antonio’s, being mixed with another kind of love. A portion of her loyalty and devotion flows from the romantic love she bears Orsino. Salingar refers to Viola’s wooing of Olivia as “love-service” to Orsino (118). Yet to attribute all of Viola’s loyal service to romantic love is unreasonable. Williams writes that Viola possesses a “free and generous nature” (39). Her amity is motivated by generosity, much like Antonio’s. Viola is loyal and devoted to the duke’s command despite her romantic love for him. As she contemplates wooing Olivia, she murmurs to herself, “Whoe’er I woo, myself would be his wife” (Shakespeare 1.4.44). She is going against what romantic love would dictate and acting according to amity as she woos Olivia. Orsino himself recognizes her devotion in the final scene of the play, telling her that it was “against the mettle of your sex, / So far beneath your soft and tender breeding” (5.1.312–3). Viola loves Orsino from pure motives, acting according to amity even when its obligations contradict those of romantic love.

The characteristics of Viola’s love parallel Antonio’s. Viola is generous, constant, and selfless in her amity. Upon entering the service of Orsino, she freely and wholeheartedly gives him her help, hearing his confidences and listening to him expound his love for Olivia (Shakespeare 1.4.11–2). While Antonio gives to Sebastian in financial, emotional, and temporal ways, Viola is emotionally generous toward her beloved. Interestingly, she, unlike Antonio, does not recognize her own generosity. When Olivia tries to pay her during her visit to her estate, Viola responds, “My master, not myself, lacks recompense” (1.5.237). She feels fulfilled in her generous service to the beloved. Lewis affirms the generosity of Viola’s devotion: “Her willingness to woo another woman for the man she loves also indicates her magnanimity” (194). Viola’s love is also constant. Like Antonio, Viola refuses to abandon the one she loves in any circumstance. Even when Orsino travels to Olivia’s estate to beg for Olivia’s hand in person, Viola is steadfastly by his side. Such a motion reinforces that she is acting according to
amity, not romance. If Viola acted according to the dictates of romantic love, she would be unwilling to assist Orsino in courting Olivia. Viola eloquently describes her constancy before Olivia: “[I go after] him I love / More than I love these eyes, more than my life, / More, by all mores, than e’er I shall love wife. / If I do feign, you witnesses above, / Punish my life for the tainting of my love!” (5.1.127–31). Viola herself recognizes that the love she bears Orsino would overcome the love she would bear to a spouse. Because Viola does love Orsino romantically, this statement cannot be understood as an assertion of the supremacy of amicable love over romantic love. It is rather a statement of the influence of amity on her romantic love. Amity has brought a constancy to love that is not usually present in “giddy and unfirm” romantic love (Shakespeare 2.4.4). Finally, Viola’s love for Orsino is selfless. She, like Antonio, is willing to sacrifice her life for her beloved. Indeed, Orsino threatens to take her life when he suspects that Olivia loves Viola instead of him. Believing he has been betrayed, Orsino declares, “I’ll sacrifice the lamb that I do love / To spite the raven’s heart within a dove” (5.1.122–3). The lamb is Viola, whom Orsino is prepared to sacrifice for her perceived faithlessness. Viola meekly responds, “And I most jocund, apt and willingly, / To do you rest a thousand deaths would die” (5.1.124–5). Viola demonstrates Christ-like self-sacrifice in her love for Orsino. Lewis points to the obviously sacrificial significance of the word lamb to emphasize Viola’s selflessness (196–7). Viola views her life as far less important than Orsino’s happiness. Salingar calls this scene Viola’s “culminating gesture of self-sacrifice” (131). If her death will do Orsino good, she is ready to lay down her life. This self-sacrifice conflicts with her romantic love because if she dies, she will never marry Orsino. Nevertheless, she is willing to die. Viola’s generosity, constancy, and selflessness merge together into an amity much like Antonio’s, except that it is intermingled with romantic love.

Unlike Antonio, Viola expects nothing in return for her love. While the captain expects Sebastian to love him in response to his devotion, Viola has no such expectation for Orsino. She is willing to give endlessly without any personal return on her love. In fact, the one thing she desires to realize through her faithful service is to win Olivia’s love for Orsino (Shakespeare 3.4.178). Viola’s goal in amity is the happiness of her beloved. This has already been somewhat explored in the selflessness of her devotion. If Orsino will be happy by marrying Olivia, Viola will act as his messenger. If Orsino will be happy in her death, Viola will lay her life down joyfully, even if she receives nothing in return.

Viola’s amicable relationship with Orsino changes at the end of the play, just as Sebastian and Antonio’s relationship also changes. When Orsino realizes that she is a woman and that Olivia has married Viola’s brother, he offers Viola his hand in marriage. Amity has acted as a precursor to romantic love, as Williams describes: “[It] is Viola’s love for Orsino that secretly teaches…Orsino the true meaning of love” (40). The love that instructs Orsino is amity, in all its generosity, constancy, and selflessness. The result of the instruction is his marriage to Viola. The amicable relationship between Viola and Orsino transforms into romance at the end of the play. Amity, while still present, becomes less dominant in the relationship. Lewis believes that Viola’s character “permits spiritual and romantic love to be linked” (197). The consummation of the amicable relationship between Viola and Orsino is the contracted bond of marriage. Amity is again shown to be dissoluble, not eternally binding. In Viola, Shakespeare reinforces that because amity is not a covenantal bond of love, it may be transient.

Through Twelfth Night Shakespeare demonstrates that amity alone, with its expectations of reciprocation, will lead to disillusionment, as Antonio unfortunately discovers. In Antonio, the playwright illustrates pure amity, with its sometimes unrealistic expectations of reciprocation. Viola completes the portrait as the embodiment of a medley of amicable and romantic love. While Shakespeare honors amity for its pure and admirable traits and recognizes that it has a place in human relationships, he also includes a
a reminder that amity is not a sacred covenant like marriage and cannot expect a similarly unwavering devotion from the beloved. The reader develops a clearer concept of amity through the exploration of the motives, characteristics, expectations, and transience of amicable relationships in *Twelfth Night*. 
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THE CONTROVERSY OF VACCINATIONS

Nicholas G. Aboreden | Spring 2015

Throughout history, societal advancements have always occurred despite great criticism from a group or even a majority of people who opposed the idea. When the Wright brothers invented flight, Galileo accurately described the solar system, and Columbus proved that the world was round, there were very strong oppositions that had to be overcome. Advancements in science and technology have often faced criticism and opposition. Today, a similar struggle presents itself as the anti-vaccination movement gains popularity and vigor. The ability to eradicate certain diseases has been developed, yet there are many individuals who completely oppose the use of vaccinations. It is not uncommon to hear of parents refusing to vaccinate their children out of fear that the vaccinations are unsafe, because of reasons listed below. However, the refusal to immunize children is becoming a serious issue in America and will lead to devastating health problems in our country.

Why do people fear immunizations? One of the primary fears that parents have is that immunizations may cause autism, a developmental disability that affects the way individuals interact with and process information. The link between Autism and vaccinations was established in 1998, when a study was published by a British medical doctor named Andrew Wakefield. In this study, 12 patients were vaccinated with the MMR vaccine (a very common immunization for children in the U.S.) and analyzed.

MRIs were taken on the children and signs of autism were found and linked to the vaccinations these children received. However, Wakefield later admitted that the data in his study was grossly distorted and as a result the entire study was retracted. Furthermore, Britain revoked Wakefield’s medical license, as his study was deliberately infused with fraud.

Legitimate studies have been conducted on vaccines and their possible links to autism, and those studies have shown that there is no reason to believe that vaccinations cause autism. For example, the Center for Disease Control (CDC) conducted a study in 2013 that analyzed the antigen number in vaccinated autistic patients, and in individuals who were vaccinated yet did not develop autism. The results showed that patients with and without autism received the same amount of antigens from the vaccinations. Therefore, the vaccine itself did nothing different in the bodies of the healthy patients compared to the bodies of the patients who developed autism. Thimerosal (a common vaccine ingredient) is said to be a causative of autism. However, 9 CDC-funded studies have been conducted on this mercury-based preservative and all studies have shown that there is no link between thimerosal and autism.

Another fear that many people have in regard to vaccinations is the harm that may come from heavy metals such as aluminum and mercury as well as other ingredients such as formaldehyde which are added to vaccinations. The concern is that these additives are
harmful, external compounds that are introduced in the body in toxic amounts. While these additives may sound frightening, and most people would be alarmed at the idea of mercury and formaldehyde entering their bodies, an analysis of the purposes of these additives and a consideration of their natural sources should put those fears to rest.

Aluminum is included in most vaccines in order to heighten the recipient’s immune response to the pathogen. Without this additive, larger amounts of the pathogen would be required to activate the human immune system leading to a larger possibility of the individual actually contracting the disease. Therefore, aluminum is incorporated into vaccines in order to make them significantly safer. In the first six months of life, infants will receive about 4.4 milligrams of aluminum through vaccines. However, breast-fed infants will receive about 7 milligrams of aluminum, and formula fed infants will receive 38 milligrams of aluminum through their diet during the same period. Adults consume about 10 milligrams of aluminum per day through their diet. Therefore, aluminum is not a foreign, unfamiliar compound to the body and should not cause much alarm in vaccines. Furthermore, the FDA has conducted multiple studies to learn more about how the body responds to different levels of aluminum, how aluminum is filtered in the kidneys, and what the baseline aluminum levels are at birth. Based on the results of such studies, safety precautions have been made by the FDA in order to introduce safe levels of aluminum in the body through vaccines.

Preservatives are used in vaccines in order to prevent the growth of harmful bacteria or fungi. The differences between vaccines with preservatives such as thimerosal and those without them are drastic. One tragic example of the failure of vaccines without preservatives is found in the immunization of 21 children in Australia. These children were immunized with a diphtheria vaccine that did not contain additives such as thimerosal. 12 of the 21 children died. Later study into this incident revealed that the deaths of the children were caused by bacterial growth in the contaminated vaccine. Had additives such as thimerosal been introduced into the bodies of the children along with the vaccine, this tragedy would have been avoided.

Formaldehyde is introduced into vaccines in order to inactivate the pathogen so that it does not cause disease in the recipient. For example, the poliovirus is treated with formaldehyde in order to create the polio vaccine (which contains inactive poliovirus). Formaldehyde has a long history of safe usage in vaccinations and has never been a target of criticism until recently. Since formaldehyde is found prevalently in the environment, humans have a biochemical mechanism in their bodies that breaks it down into harmless materials. Also, formaldehyde is a by-product of multiple biochemical pathways, and therefore, the body continuously processes both environmentally introduced and naturally produced formaldehyde. Formaldehyde in vaccines is processed the same way. Formaldehyde is not foreign to the human body as infants are born with 50-70 times more formaldehyde in their bodies than one dose of a vaccination. Therefore, formaldehyde in vaccines should not be a concern when considering the risks of vaccinations.

Even though the scientific evidence alone is enough to put to rest any fear of immunizations, one can also look to how vaccinations have impacted society as a whole to set aside further doubt of immunizations. Since the implementation of the first vaccination by Edward Jenner, the world has become a much safer place. As a direct result of vaccinations, disease case numbers have drastically decreased, and the eradication of certain diseases has been made possible.
In the twentieth century, polio was a dreaded childhood disease. 35,000 cases of this debilitating disease were recorded in the late 1940s and early 1950s. However, in 1955 the Salk polio vaccine was first introduced and in 1957, the case number dropped to 2,500. By 1965 only 61 cases were reported. A small spike in the case number occurred from 1980 to 1999 as 162 cases of polio were reported. This was a result of the implementation of a new, live vaccination. Additives such as formaldehyde were not introduced in this new version of the vaccine in order to inactivate the virus, which resulted in a spike in the cases reported in the U.S. This new vaccination was quickly revoked, and inactivated viruses with additives such as formaldehyde were again administered. Because of the polio vaccine, cases of this devastating disease are almost never seen anymore. Vaccinations have also almost completely eradicated measles and small pox, and are protecting people from very serious illnesses such as hepatitis and HPV. However, the growing anti-vaccination movement is causing serious health problems in our nation.

A lack of scientific knowledge and misinformed individuals are creating a movement that will be detrimental to our society. As more people are misinformed about vaccines, more cases of disease occur. Educating our communities on the health benefits of vaccinations and debunking the myths of immunization need to take place in order to insure that our communities remain healthy and safe.

*The New York Times* reported that in the first month of 2015, the United States has seen more measles cases than are usually seen in an entire year. In 2000 the measles was declared to be eradicated in the United States; however, currently we are experiencing an alarming rate of outbreaks. This can be directly linked to the decreasing vaccination rates in the U.S. Unfortunately, the anti-vaccination movement, even with its minimal scientific backing, has grown to a point where fewer and fewer individuals are vaccinating their children against serious diseases such as measles, and the effects are being seen.

Herd immunity is a term that health professionals use to describe the percentage of a population that is immunized for a disease. If the herd immunity is at a safe level, the entire population is safe based on the fact that there is very little of the disease being circulated in a population. However, once the percentage drops below the safe level, outbreaks of the disease begin to occur. The drop in herd immunity percentage can explain the measles outbreaks experienced in 2015.
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A Comparative Analysis on the Skill Acquisition of Music and Language

Music and language acquisition, although complex entities in and of themselves, settle their structural roots in a similar subterranean source. That is, they share some fundamental characteristics that can be comparatively drawn within a cognitivist framework. The most obvious, if not most important, quality that binds these pursuits together is their intrinsic social component. Proponents of socioculturalism go so far as to say that language learning is social learning (Ortega, 2013). Meanwhile, prominent musicologists often echo this frame of mind claiming music to be, “socially constructed, socially embedded,” and inextricably linked to human activity (Bowman, 1998, p. 304). Taken from this point of view, both music and language are ubiquitous, spanning various cultures and time periods. For instance, in several African countries the use of percussive instruments is a regular source of entertainment and interaction among its native tribes. Similarly in Southeast Asian countries, it is quite normal to find their people groups receiving social enjoyment from playing the sitar or tabla just as they would enjoy a conversation in their native tongue (Farrell, 1997). Both images described here conjure up a distinct yet similarly motivated snapshot of social activity. However, many—if not most—cultures derive more than just social pleasure from such activity. They derive identity. That is why countries have national anthems. That is why nations have their own pledges. The illustration of the African percussionist or the Indian sitarist may seem at the onset quite commonplace; however, after looking at its larger social ramifications, it goes to show just how influential music and language can be in the grand scheme of humanity.

Since society is so inherently conjoined to the effects both music and language can have on a cultural identity, it is particularly interesting to note both of their psychological underpinnings, which will serve the thrust of this comparative study. Many who are inclined to the artistic nature of language and music would say breaking either down into their respective developmental stages is dehumanizing or in the very least, disparaging. However, after observing these studies in their most elemental forms, there will hopefully arise a consensus that the implications made in this study are, in fact, quite valuable to the overall approach to music and language learning. In turn, the purpose of this analysis is not to depreciate the artistic worth that lies behind either area but rather to reinforce it. Within this psychological framework, skill acquisition theory will make its considerable contribution to the overall stance that this comparative study plans to convey. That being said, the following statement will serve as the primary rationale for this analysis: music and language acquisition undergo a series of developmental stages in which a foundational level of understanding is established through explicit rules and forms (i.e. symbols, notation) that later get assimilated into patterns based on regularity which finally get reconstructed into novel, elaborated
configurations (i.e. schemas) so as to be invoked for later use in newer, more complicated constructions.

In order to form an explicit rule-based system, language-learners and musicians must first learn the symbolic structures, which constitute the system. This elementary stage of information processing often seems tedious or even pointless for those who are more auditory inclined; however, it is critical that one establish an initial understanding of basic form so that more complex structures can be built up from these essential parts and form meaningful constructions in the mind (DeKeyser, 1998). Without this preliminary groundwork in place, it will be much more difficult to encode new information to memory—the ultimate goal to any type of acquisition. To begin, a quick look at how visual stimuli are perceived is in order.

When an image falls into one’s visual field, many interconnected processes at the cellular level are going on at rapid speed. It starts with light passing through layers of the eye—the lens, vitreous humor, and finally, the retina. The image, which falls on the retina, is both flipped upside down and backwards; and it takes multiple neural messages moving through the optic nerve and to the brain before it becomes the image one actually “sees” (Daw, 2012). Each one of these intricate stages goes on without purposely intention, which is what makes visual perception an “automatic” process (Towell & Hawkins, 1994). In other words, visual perception spends a relatively small amount of cognitive resources. Transferring the stimulus to memory, however, does take some conscious, cognitive effort.

It should be noted firsthand that perceived stimuli do not pass immediately from the sensory organ (i.e. visual stimuli via eyes, auditory stimuli via ears, etc.) to long-term memory in the brain. That is, of course, common knowledge; however, the insight into the number of “gates” information/stimuli must go through before reaching the long-term memory box is not so common. For instance, any type of sensory information must first go through sensory memory (Moghaddam & Araghi, 2013). That sounds fairly self-explanatory, however, it is much more complicated. Going back to the example of visual perception, once the stimulus has left its position on the visual field, the image can only hold in sensory memory for 50-70 milliseconds. Thus, in order for this picture to retain its meaningful impression in the mind for longer than a few milliseconds, it must move on into short-term memory, also called working memory (Daw, 2012).

Working memory, as the name suggests, works to access or retrieve past stimuli that has already passed through sensory memory. Novel L2 forms or musical notations each go through this phase if they are to eventually become encoded in long-term memory. Since sensory input can be lost to memory forever if it does not move on into the next stage (i.e. working memory), the next question one must answer is how that information is transferred. The answer is simply, attention. Attention is the decisive role-player when it comes to whether or not new information gets placed into working memory. Baars (1997, p. 60) even heightens the importance of attention calling it, “the sovereign remedy for learning anything, applicable to many very different kinds of information. It is the universal solvent of the mind”. It is implicitly noted in Baars’s statement that attention unlocks the doors to a plethora of possibilities in long-term memory because it is this stage—working memory—that the fundamental rubrics to any skill are laid down.

Now the crux of the issue reveals itself: attention requires a large sum of conscious, controlled effort; and for this reason, it is quite limited in its capacity (Skehan, 1998). This, in turn, is where the Limited Capacity Model for information processing derives itself. The model importantly recognizes the fact...
performance drawn from controlled processes (whether musical or linguistic) is more easily affected by “stressors” than performance that has been automated (Ortega, 2013). For this reason, the following processes in memory transference are crucial to enabling the efficient skill acquisition of music or a second language.

Once the visual stimulus—or whatever type of stimulus—has been attended to in working memory, a primary encoding of the new information takes place. This process is often referred to as the procedural stage because forms must be repeatedly rehearsed or practiced for them to stay in working memory. As these forms and rules become more regularly attended to, access to such is met with faster returns and fewer expenses on cognitive resources. This is due to the effects of “chunking.” Chunking is a colloquial expression adopted by linguists and musicologists alike (and all other cognitivists, for that matter) to explain the qualitative change that takes place in information as it begins its journey from working memory to long-term memory. This can be seen practically in the way musicians learn to sight-read or the way language learners acquire intake from L2 input.

For example, a novice sight-reader typically reads a new piece one note at a time. This method may work well for short, simple works, but it will only become increasingly ineffective for larger, much more complicated works. That is why musicians who want to become competent at sight-reading must learn to “chunk” or associate longer note segments. It should be noted, however, that musicians who want to do this must draw from previously stored information (Lehmann, Sloboda, & Woody, 2007). For instance, if a composition work transposes up to the next key in the fifth bar, a competent sight-reader would need to pull from implicit memory what notes now need to be made sharp or flat. If this does not happen implicitly, then chunking of the following measures will not occur, and the sight-reader will most likely need to pause in order to reassess what transition to make in order to play (or sing) the correct notes. This is similar to how an L2 learner processes input from an interlocutor (Anderson, 1985). When someone is still in his or her early stages of L2 development, they may only pick out one or two forms during L2 input. However, when someone has acquired a more extensive understanding of how the grammar system works in the L2 or what syntactic boundaries guide L2 expressions, then they are more capable of picking out novel L2 forms and reconstructing them into larger, more comprehensible parts (i.e. chunks).

This brings about another important notion about working memory. Unless there is already some source of explicit form stored in long-term memory, working memory cannot continue to encode and construct new mental representations. In other words, information in working memory can only be processed later for long-term memory so far as previously stored knowledge can shed light on these working forms. This is why having an initial explicit stage for acquiring new information is so crucial for future processing (DeKeyser, 1998). Another example of short-term memory at work during the procedural stage for musicians, in particular, is the development of aural skills. This can be most practically observed during a procedure musicians often call “playing by ear.” Ear playing, as the word suggests, occurs when a musician listens to a few bars of a piece (typically not heard before said session) and is then asked to repeat what he just heard. Musicians who have not had enough exposure to musical concepts like harmonic structure, rhythm sequences, or chord progressions, will most likely not be able to bind these sounds into manageable chunks in working memory, and as a result, have difficulty performing past a particular threshold of musical complexity (Lehmann et al., 2007).
Automatization, the final step in information processing, is the neurological mechanism by which new information can constantly flow. By means of this process, there is no limit to the amount of information the human brain can handle. Automaticity, as the name suggests, is an information change characterized by quicker access, relatively few to no strains on cognitive sources, and considerably lower error rates (Taie, 2014). An L2 learner is normally said to be “fluent” when they have reached this stage in the acquisition process. Musicians too are fluent or rather “proficient” when they have grasped enough musical knowledge to play a piece by ear, sight-read complex passages, or for some, compose. Each expert displays a sort of “technical finesse” that enables either skilled personnel to recall, produce, and create within their own respective art form. The key to achieving this stage is the construction of mental representations in long-term memory.

First, in order for these information chunks to get configured into larger schemas, they must be rehearsed multiple times in working memory. That way each time a form is accessed, its connection to meaning is subsequently strengthened (Ortega, 2013). This connection does not just happen psychologically. Electrochemical synapses in particular regions of the brain have been captured on brain-imaging software to be actively adjusting how their neurons fire across neural pathways so as to create a faster, more productive retrieval method for increasingly elaborated information structures (Anderson, 1985). Consequently, information becomes more grounded in long-term memory, and in turn, elaborated into unique constructions commonly called “mental maps.” Mental maps then derive from a hierarchical structure, and since both music and language are inherently structural, they both can be acquired under this mental map paradigm.

For instance, most languages have their own syntactic system wherein symbols come together to form words, words come together to form phrases, and phrases come together to form sentences. Although languages abound in how they establish rules like subject placement, noun-verb agreement, genitive case marker, and any other number of various grammatical issues, there is a certain predictability about language that makes acquiring it a simple task of accumulation. This by no means is to say that language is simple, but rather it is a system that is approachable by means of natural order and categorization. For example, an L1 English speaker trying to acquire Spanish typically encodes first the basic verb conjugation forms for past tense before conceptualizing the imperfect and preterite aspects of the past tense. This follows a natural order of learning, and it is for this reason that educators of Spanish recognize this sequence of learning, and in turn, do not expect students to grasp aspectual differences at the same time they learn their respective conjugations (Herschensohn & Young-Scholten, 2013). To become fully knowledgeable of the aspectual verb construct within Spanish will take further reconstruction of past L2 knowledge so that it can become conceptualized in the mind and form relevant new schemas.

Also with music, there is a redundancy intrinsically entwined to its structure that makes it deducible to regulation of form and pattern. Melodic sequences, for instance, follow similar tonal patterns that can often be predicted by any proficient instrumentalist. This predictability is what allows musicians to take a score and in real-time manipulate its parts so as to create a new interpretation that naturally flows from the notation of its original composition (Lehmann et al., 2007). The ability to improvise a musical work while recreating its significance in a fresh, novel way is a true sign of musical proficiency as well as a sense of highly elaborated musical maps in long-term memory.

Music and language are often said to be some of the most distinct wonders of the human intellect. Without denying the validity of that statement, it is also true to say that both areas can be subsequently broken down into smaller, more manageable parts. Although even the most basic constituent of either language or music is respectively
complex, it is to our advantage that the human mind can master the acquisition of both. Whether it be learning Swahili for the first time or studying six-eight time pieces, both can be approached by following the general tenets of Skill Acquisition Theory, the essential proposition of which claims that with enough controlled practice, anything can become implicit (i.e. automatic) (Ellis, 2005). Even the more rare case of a musical savant like Beethoven or J.S. Bach—although still profound in his own right—can be explained by a reasonable amount of skill acquisition (Ericsson, Krampe, & Tesch-Römer, 1993). That being said, this is a very short overview of the psychological processes, which underlie the skill acquisition of music and language. Both contain within their own respective constructs a great deal of structural complexity that linguists and musicologists alike still do not understand. However, the aim of this study was not to be comprehensive, but rather to be comparative of what common psychological stages underlie the development of either skill. Moreover, music and language are important to the human experience, and it is under this overarching framework that the comparisons made in this study work to synthesize a uniquely integrated approach.
References


For nearly 150 years the novel Little Women has stood tall on the bookshelves of many American households. What secret lies at the heart of this beautiful work that resonates with so many hearts? Why do so many people smile at Mr. March’s letters, tune their ears to Marmee’s wise counsel, and weep with the March family at the death of their beloved Beth? Something sets the March family apart, and yet that something also identifies this family with part of humanity. Undoubtedly, the March family’s beliefs are based on the Bible, and their words of counsel seek to follow its commands. Throughout the novel, we read time and again of their desire to follow the Lord’s instructions, and while they do not always call His name, they often quote His words. Surely, the Marches’ undying roots of trust in God and His Word cause this story to grow strong in the hearts of many readers today.

In the first chapter of the novel, the March women receive a letter from Mr. March, relating some of the details of his life in the army and sending them encouraging reminders of what he has taught them. At the end of the letter he asks Mrs. March to “remind [the girls] that while we wait we may all work, so that these hard days need not be wasted. I know . . . that they will be loving children to you, will do their duty faithfully . . . and conquer themselves so beautifully that when I come back to them I may be fonder and prouder than ever of my little women” (Alcott 17).

The principles he discusses here display many values of Christian families of the time, and they derive much of their basis from the Bible. In two of his epistles Paul clearly exhorts, “children, obey your parents” (English Standard Version, Eph. 6:1 and Col. 3:20) and Matthew commands us to “honor your father and mother” (Matt. 19:19). Therefore, Mr. March’s desire that the girls love their mother and fulfill their duties (to her and to others) relates closely to biblical commands...
for all believers. Additionally, his reminder for them all to work finds support in such passages as Proverbs 19:15 and 31:27, both of which praise and encourage hard work and diligence over idleness. Finally, his reference to conquering the self stems from the virtue of self-control, which is one of the fruits of the Spirit listed in Galatians 5:22-23. Clearly, Mr. March desires his girls to follow fundamental Christian principles, and his encouragement for his daughters undoubtedly derives its message from the pages of Scripture.

Just a few pages later, Marmee also counsels and encourages her girls with wisdom from the Bible. As they are eagerly preparing for their Christmas breakfast, Marmee tells them of a nearby lower-class mother with six children, all of whom suffer from hunger and cold. With true bravery and generosity, Marmee asks “My girls, will you give them your breakfast as a Christmas present?” (Alcott 21). With surprisingly little hesitation, the girls agree and they all trek over to their neighbors’ to provide genuine love and charity for them. As they walk back to their home at the end of it all, Meg exclaims “That’s loving our neighbor better than ourselves, and I like it” (Alcott 22). This event shows the level to which Mr. and Mrs. March have raised their girls in the teaching of the Word, for their actions clearly represent obedience to Christ’s command to, as Meg said, “love your neighbor as yourself” (Mark 12:31). Additionally, James exhorts believers to “visit orphans and widows in their affliction” (Jas. 1:27). In this section we observe the March women following the commands of Scripture, and bringing a written exhortation to life in a creative way. Before the novel progresses too far, Marmee again employs her biblical wisdom and counseling to bring peace between her girls. In an act of blind anger and revenge, Amy burns Jo’s treasured manuscript, and while Marmee understands Jo’s pain, she gently counsels her, “My dear, don’t let the sun go down upon your anger; forgive each other, help each other, and begin again tomorrow” (Alcott 72). This advice stems straight from Paul’s words to “be angry and do not sin; do not let the sun go down on your anger” (Eph. 4:26) and to “be kind to one another, tenderhearted, forgiving one another, as God in Christ forgave you” (Eph. 4:32). In Romans he writes, “if possible, so far as it depends on you, live peaceably with all” (Rom. 12:18). Undoubtedly, Marmee’s encouragement and counsel are rooted in the Word of God, and she beautifully passes on those words to her daughters.
As the story continues to follow the girls’ lives, we read about Meg spending a fortnight with the fashionable Annie Moffat and friends, under whose influence she succumbs to a number of worldly vanities and fancies. When she returns home, she expresses her genuine repentance, but also confesses that “it is nice to be praised and admired, and I can’t help saying I like it” (Alcott 90). To this Marmee replies, “That is perfectly natural, and quite harmless, if the liking does not become a passion and lead one to do foolish or unmaidenly things. Learn to know and value the praise which is worth having, and to excite the admiration of excellent people by being modest as well as pretty” (Alcott 90). Once again, Marmee shows a beautiful example of biblical wisdom in practice, echoing Paul’s words that “women should adorn themselves in respectable apparel, with modesty and self-control, not with braided hair and gold or pearls or costly attire, but with what is proper for women who profess godliness—with good works” (1 Tim. 2:9-10). Marmee desires her girls to focus on the inner beauty, not the outer, and this desire clearly finds its roots in Scripture, which states that “the Lord sees not as man sees: man looks on the outward appearance, but the Lord looks on the heart” (1 Sam. 16:7). Although she does not directly mention the Lord in this section, through her counsel Marmee teaches her daughters to seek praise based on their character and not their appearance, and this idea certainly comes from the Bible.

Near the end of the novel, the biblical beliefs of the March family come under severe testing when Beth eventually dies. However, their perspective on death, as told by the narrator, is laced with biblical truth. We read such phrases as “Father and Mother guided her tenderly through the Valley of the Shadow, and gave her up to God” and “those who loved [her] best smiled through their tears, and thanked God that Beth was well at last” (Alcott 363). In these pages we observe a family struggling to trust God’s sovereignty, but choosing to believe that His will is best. Although salvation is not mentioned, we hear language of eternal life in such statements as “with tears and prayers and tender hands, Mother and sisters made her ready for the long sleep that pain would never mar again” (Alcott 363). The Marches’ beliefs find support in such passages as Psalm 23 which claims that “even though I walk through the valley of the shadow of death, I will fear no evil, for you are with me; your rod and your staff, they comfort me . . . Surely goodness and mercy shall follow me all the days of my life, and I shall dwell in the house of the Lord forever” (Ps. 23:4, 6). Although salvation and redemption are not explicitly mentioned, we find clear reference to God and a genuine attempt to trust His will and His word through a severe trial. While we may not clearly deduce from this section whether the Marches are authentic believers, we can at least conclude that many of their stated beliefs about Beth’s death find support in the Bible.

Throughout the novel Little Women we repeatedly find themes and ideas that echo biblical statutes. Whether the Scriptural words come from Mr. March and Marmee or from the narrator as a reflection of the family’s beliefs, we clearly understand that the March family saturates themselves with biblical truth. In the time that Louisa May Alcott wrote, these ideas probably represented concepts prevalent in most households. However, when we read this book today, we realize that themes which once were commonplace have now been placed on the shelf of many lives. Yet somehow, this novel continues to survive on the list of classics taught in schools across the nation. Perhaps Marmee’s biblical counsel still rings true in many lives. Perhaps this novel resonates somehow in the hearts of its readers. Perhaps the March family’s Scriptural roots grow strong because “the grass withers, the flower fades, but the word of our God will stand forever” (Is. 40:8).