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From the Editors’ Desks

Dear Readers,

There should be in all beautiful things a tendency to set the senses and the intellect in harmony. The work of art brings the particular and the universal into fruitful interplay in a manner reflective of the structure of the human being, the ever curious rational animal somehow and somewhat impatiently suspended between heaven and earth. Coming to work in and appreciating art is, then, the labor of a lifetime, a facet of the task born in all of us of becoming human, of becoming what we are. The work presented here is the product of youth’s art; it contains much promise and much hope and, we think you will find, much of the springtime blush of beauty. We hope you will allow it to speak to you, knowing, of course, that it may ask you to change your life.

Yours in becoming,
The Editors

Luke Pecha

Elephant

*Ink scratch*, 2010
Michael Reardon

The Great Divide: Milton's Ontology and the Implications for Protestant Thought

Although *Paradise Lost* and the story of Creation both seem to focus on man's cyclical fall and redemption, they focus rather on God and His infinite glory, which is manifested in the human race. With this “theocentric” view in mind, Milton wishes ultimately to “assert Eternal Providence / And justify the ways of God to men” with his poem (1.25-6). That is, Milton believes that man must come to understand neither God, nor good, nor evil, but the proper relationship with Him; Adam and Eve violated this relationship not by rejecting godliness, but by attempting to embrace it. Although he may violate Christian orthodoxy, Milton seems to suggest that man was never originally meant to angle closer to union with God, but to remain in ontological parallel with Him to the end of time and even on the New Earth. In any case, Milton clearly believes that it was only after the Fall that Christ's sacrifice became necessary to bring man back into the new parallel: Christian faith, rather than philosophical wandering and futile attempts to overcome our epistemological finitude.

Proving Milton's definite though wary belief in ontological separation will require three examinations. Firstly we will discuss explicit evidence in *Paradise Lost* for an ontological divide between God and Adam, although the confusing and often ironic nature of the poem makes such evidence insufficient by itself. Therefore, we must secondly look at the ontological theories of Milton's *Christian Doctrine*, which unveil the sincere arguments for his theology and posit (contrary to many critics' claims) that an ontological divide is necessary. Lastly, we will examine the poem's representation of a Fall by sin from ontological parallel, and
the return to it through Christ's Death and Resurrection.

The study of Milton's ontology is not simply an interesting philosophical pursuit, but essential to understanding his Protestant conception of proper Christian life, and the vital role of faith within *Paradise Lost*. Milton's “ontological separation” between man and God is best viewed in terms of “degrees” or levels, by which man has finite being by God rather than infinite being in God. The traditional approach, shared by Catholics and orthodox Protestants of the period, held that while man does not become God's Being after salvation, he *does share fully in* His Life and Love. That is, in the Orthodox Christian understanding, man may live fully in God and may experience total Union, whereas in Milton’s understanding, man may only achieve a moral union, in which Creator and Created are linked by Love but not by experience. This eternal separation from God by varying degrees makes His “presence” a metaphor rather than a reality; thus to Milton the Catholic Sacraments are discredited, and God's only direct hand in the universe would have been, presumably, through the historical Christ.

Although Milton's theme of ontological separation is not always apparent in his poem, it must here be noted that, first of all, the reader is usually constrained to the limited or incorrect viewpoints of devils, men, and angels. Even Raphael, the messenger of God, makes the unauthorized claim that man might gradually move towards union with God: “[perhaps men] with Angels may participate / ...Your bodies may at last turn all to spirit / ... [and] here or in Heav'nly Paradises dwell” (5.494, 7, 501). Like Milton, Raphael is trying to justify God's ways to man, but Milton implies that Raphael fails, for the angel suggests the union which the Father and Son never discuss directly for the reader or narrator. And yet Raphael presents such a conversation between the Father and the Son, one which supplies the only apparent evidence for man's eventual “union” with God: the Father has said to the Son, by Raphael's account, men shall live “not here, till by degrees of [their] merit raised / ... Earth be changed to Heav'n, and Heav'n to Earth, / One Kingdom, Joy and *Union* without end” (7.157, 160-1, emphasis added). This statement contradicts Milton's Protestant notion of salvation by Christ's grace alone, a notion that is otherwise so apparent in the poem that the archangel's story must be questioned. If Raphael's unique account is indeed unsubstantiated or misleading, then it becomes possible that Milton believes in a necessary ontological separation from God, even after spiritual restoration by Christ.

Despite the great knowledge Raphael can offer Adam, angels and humans are infinitely inferior to God intellectually and ontologically: ac-
cording to Milton's *Christian Doctrine*, it is “impossible to comprehend accurately under any form of definition the 'divine nature’” (39). Even Raphael admits this central theme of Milton's epistemology: there are “things not reveal'd, which th' invisible King, / Only Om-niscient, hath suppress'd in Night, / To none communicable in Earth or Heaven” (7.122-4). Abdiel explains the ontological basis of this to Satan, in perhaps the most philosophically significant passage of the poem. Of course, Abdiel also lacks full knowledge of philosophy, but he reveals an immediate, graspable truth, saying that God made Lucifer “and form'd the Pow'rs of Heav'n / Such as he pleas'd, and *circumscribed thir being* / ... [all Spirits] by him created in their bright degrees” (5.824-5, 838, emphasis added). There exists a degree of ontological separation between God and any creature; this separation is necessary for something to be a finite “creation,” rather than the infinite “Creator.” In other words, although Raphael is correct that man will reach a spiritual or moral union with God, this union remains an ontologically separate parallel for all but Milton's “Son” who is made God and appropriately serves as the divine connection between the Father and man. Therefore, Raphael *in his own finite 'phenomenological experience'* indeed witnesses the Father tell the Son that Heav'n and Earth will join in “Joy” (7.161), but this is not the Divine Union by which man lives *in* God. Furthermore, the *direct claims* of the omniscient Father and Son are the only passages that, with any assurance, we can postulate to represent Milton's own conception of Divine Truth. These passages will later be shown to support the notion that man is both originally and ultimately meant for a relationship ontologically separate from Divine Infinitude, although the Fall and Redemption are temporal movements from and back towards God's Plan. While Milton does not explicitly state *within* the poem that a movement towards ontological Union is eternally impossible for mankind, such a belief appears to be presented by Father and Son, and is furthermore consistent with the poet's radical Protestant theology and underlying philosophical beliefs, which must now be examined.

By studying the background of Milton's poetical theodicy, the reader of the poem becomes able to see the ontological separation between man and God in *Paradise Lost* more directly from the position of the poet, rather than through uninformed and precarious interpretations of a complicated work that is often ironic and intentionally misleading. Thus at risk of being redundant, I must explain once again the complex structure of our thesis: there is explicit evidence of an ontological divide in *Paradise Lost*, evidence which has already been presented, but the
 ironic nature of the poem makes literary evidence insufficient without the additional examination of Milton's stated beliefs, found in his Christian Doctrine. The third and final component of the thesis will show that in the poem itself, the proven ontological divide is violated by Adam and Eve, and restored by Christ. It must therefore first be shown, despite the popular critical opinion otherwise, that ontological separation between Adam and God is indeed possible within Milton's voluntaristic theology, and secondly that such a separation is necessary within his theories of materialism and creatio ex deo.

Many critics posit that ontological separation in Paradise Lost is impossible from a theological point of view, as any “creation” inherently separate from God would seemingly be “evil” in the Augustinian sense of evil (Fallon 437-9). It was widely accepted during Milton's time that, as Augustine had noted, “evil is not substantial but volitional, a willful estrangement from the divine source of all being,” as worded by John Rumrich (“Milton's God and Chaos” 1036). In actuality, if the poet's philosophical assumptions are examined, one sees that there is no discrepancy between Milton's theory and this specific aspect of the Augustinian tradition. And therefore if Milton understood the ontological divide to be both existent and good, as his poem has already been shown to suggest indeed, then there is no logical contradiction in this aspect of Paradise Lost. Firstly then, note that God's Act of Creation, which involved an ontological separation between man and Himself, was in no way necessary for Milton: the author clearly supports voluntarism in his Christian Doctrine (49, 63-5), or the belief that God is free to create or not create however He so chooses. Milton explicitly describes voluntarism in Paradise Lost when the Father Himself states, “[my goodness] is free / To act or not, Necessity and Chance / Approach not mee” (7.171-3). Thus rejecting theological determinism, Milton seems to have backed himself into the same theodical corner as Catholics have: how could God freely will something apparently “evil,” or at least separate from Himself, when He was already perfect? I present the idea rejected by Stephen M. Fallon, that Milton's literary “God the Father” can create anything separate from Himself that He wishes, and that thing must be good tautologically speaking, for it was created by Infinite Goodness. Fallon argues that if God is truly free yet “goodness and power issued inevitably in creation ... then Milton contradicts himself” (437). Fallon forgets Milton's belief that God's “immutable internal necessity to do good ... can be consistent with absolute freedom of action” because of unrealized potentialities for good the human mind cannot understand.
(Christian Doctrine 159). While we cannot postulate why God would freely choose to ontologically separate mankind and the universe from Himself, all creation “is not to be looked upon as an evil or trivial thing, but as intrinsically good” (Christian Doctrine 23). Therefore, the apparent ontological separation between man and the Father in Paradise Lost is both possible and necessarily good within a voluntaristic theology, despite the denials of critics like Fallon.

Milton adheres to two other relevant philosophical theories, both of which support the further thesis that there will never be an ontological union between man and God. The poet presumably used these theories in writing Paradise Lost, for each philosophy can be found in the text and supports the concept of eternal ontological separation between Adam's descendants and the Father. Note that neither of these theories is considered confidently by Milton to be absolute truth, as he himself was constantly reshaping his views (Webber 520), and furthermore believed in limits to man's knowledge and the utmost necessity of faith. Nevertheless, understanding the poet's ontological theories will not only illuminate the historical period of theological searching and Reformation in which Milton actively participated, but support the thesis that in writing Paradise Lost, Milton intended an ontological separation between the first people and the Father.

First of all and most importantly, Milton is a mortal materialist rather than a dualist, as confirmed by Rumrich (“Uninventing Milton” 257) and William B. Hunter (360), meaning that the human soul and body fully constitute the same intrinsic essence. This premise leads to the conclusion that the literary Adam and Eve must cease to exist after death, rather than reach any ontological union with God. Furthermore, man's eventual resurrected existence is only a potentiality, a return-into-being that man cannot confidently expect or comprehend. To understand why this conclusion is reached, we must examine the implications of Milton's materialistic view. Mortal materialism holds that the soul dies with the body, and can be resurrected only with the body (Hunter 360). Therefore if the body must always exist in order for a person to have life, no human can become solely spiritual, live in Heaven, or reach the same ontological degree as angels, much less that of God. This heresy of extremist Protestants contrasts with Raphael's almost dualistic view that the spirit can enter Heaven: man's “bodies may at last turn all to spirit / ... [and] here or in Heav'n-ly Paradises dwell” (5.497, 501). This of course furthers the theory that the papist Raphael's account is ironic, for the angel clearly contra-
dicts the materialistic notions found in Milton's *Christian Doctrine* (222-4). Note, however, that dualism is *misrepresented* by Milton's Raphael as holding that the body turns to spirit; this line reveals what are apparently the poet's attempts to discredit Catholic theology, or at least dualism in general. More importantly, Milton's materialism *logically prohibits* any future ontological union with God, as materialistic death brings one from actuality into true non-existence, simple potentiality. *Paradise Lost* ultimately reflects Milton's subjective view of reality, and thus at its core must also reject the *humanly rational* possibility of ontological union between man and the Father, although Milton humbly claims epistemological finitude: “[for] Milton, truth was a goal to be worked toward rather than an accomplished set of beliefs” (“Uninventing Milton” 257).

The final relevant philosophy supported by Milton is the ontological aetiology of *creatio ex deo* or “creation out of God,” as opposed to *creatio ex nihilo*, or “creation out of nothing” (Rajan 38-9). The theory of *creatio ex deo* certainly brings man and Creator closer together than does the traditional view of *creatio ex nihilo*, in that man is a former “part” of God's being, and God likewise has *substance*, albeit a metaphorical one. Thus it would seem that in Milton's view, man and God have the same ontological potential and can easily be brought “back” into Divine Union. On the contrary, despite the almost consensual opinion of scholars such as Balachandra Rajan who attempt to glaze over the situation, it is an oversimplification to say that Milton believed in creation out of God's “substance” (Rajan 39-41). Instead, Milton states in his *Christian Doctrine* that “[God] must have one essence proper to himself, incomunicable in the highest degree, and *participated by no one*, that is, by no person besides” (221, emphasis added). Indeed, even the Son describes the Father as holding “inaccessible high strength, the seat / Of Deity supreme” (7.141-2). Clearly, God as Father is the fullness and source of being in *Paradise Lost*, but He is the only substantive persona who even converses with others in our *faulty human understanding*. Milton makes this clear in the poem when Raphael states, “[the Acts of God] to human ears / Cannot without process of speech be told, / So told as earthly notion can receive” (7.177-9, emphasis added). It is actually absurd that most scholars, in apparent attempts to transcend the obvious interpretation, claim that men or angels could experience any divine substance besides the Son, Who is the sole link between infinitude and finitude. Walter Clyde Curry agrees wholeheartedly, arguing that “Milton's [true] God
is above or beyond the category of relation (except perhaps in respect to his omnipresence), wrapped within himself ... No man has ever seen God” (26). In other words, the reader must never forget that the so-called “character” of “Father” in *Paradise Lost* is quite different from Milton's own conception of the Father, which in turn he would admit to be quite different from the *true* Heavenly Father, Whom Milton does not hope to understand. In conclusion then, although Milton believes creation comes from God's being rather than through God out of nothing, Milton's constant emphasis on man's free will and autonomy disallows a pantheistic interpretation of the poet, in which man would be a manifestation of God's ontological *substance*. Curry also argues against Milton holding a pantheistic view of God being in all things, and instead posits him to hold the unique view Curry creatively terms as “theopantic,” in which all things are temporally *within God* (Curry 20). Note, however, that although man does exist within God in a temporal and aetiological sense, he must also therefore exist *away from God* in an ontological sense; the only alternative is a pseudopantheism, which Milton may indeed have unconsciously accepted, but consistently rejects in his *Christian Doctrine* (Curry 19-20).

Having completed our examination of the ontological theories underlying the poem, we have seen strong evidence that Milton supports an infinite ontological separation between man and God. And yet the ongoing scholarly debate about Milton's theology verifies that the poet lacked outward clarity and even inward assurance about his beliefs, making it truly impossible to understand the ontology informing *Paradise Lost* with full certitude. Interestingly, Milton's uneasy theological footing combined with his confident leaps towards heresy are characteristic of seventeenth-century Europe, where a politically charged battle raged between an orthodox Protestantism and a complete rejection of Catholic thought. One may postulate that this very battle was being fought within Milton's own mind as well, but this is simply historical speculation.

In any case, we may now return to the poem, for it has become clear through examination of Milton's *Christian Doctrine* that the poet believes in a temporal, and as far as his reason can tell, *infinite* separation between man and God, an *ontological parallel*. This parallel translates from Milton's personal beliefs into *Paradise Lost*: original sin is presented in the poem as pushing man away from the parallel, and Christ's death as being a return to it by grace. The discussion of these ontological movements will comprise the third and final component of
the argument for an ontological separation between man and God in the poem. Therefore, it must now be shown that Adam and Eve's Fall consisted not only of a desire for Divine Omniscience, epistemological certitude, but the desire to become ontologically like God: while eating the fruit, Eve harbored “expectation high / of knowledge, nor was God-head from her thought” (9.789-90). Milton directly states Eve's motives of attaining godlike epistemological and ontological states, although it is unclear whether “God-head” refers to Divinity or angelicness. In either case, the Original Sin was an attempt to violate the ontological separation between the degrees of Creation established by God. Adam likewise has strong views about man's gradual upward climb, saying to Raphael, “Well hast thou taught the way that might direct [our knowledge] / ... In contemplation of created things / By steps we may ascend to God” (5.508, 511-2). Yet by eating of the tree, Adam also wishes to increase ontologically, not just epistemologically: he believes the serpent attained a “higher degree of Life / ... [We might attain] proportional ascent, which cannot be / But to be Gods or Angels Demigods” (9.934, 36-7). In other words, Adam does not wish in this instance to fill the vessel of his mind with knowledge, but to increase the size of the vessel. This desire to transform one's nature to Godhead is certainly presented in the poem as sinful.

Furthermore, any future movement towards Divine Union is impossible within the theology presented by Milton's Christian Doctrine. And yet while Milton's poem never expressly forbids Adam and Eve from moving towards ontological union eventually, it does present quite a different picture of holiness: obedience. Raphael describes to Adam the role the Father intended for Man in a way consistent with Protestant theology, which is uncharacteristic of the angel. It seems that, ultimately, Milton needs Raphael in his poem to correctly state man's original purpose: the Father wishes man to be “magnanimous, to correspond with Heav'n, / But grateful to acknowledge whence his good / Descends” (7.511-3, emphasis added). There is no mention of man becoming like God, but only a sort of covenantal correspondence in which God blesses man, and man is content “to adore / And worship God Supreme who made [man] chief / Of all his works” (7.514-6). Thus the prelapsarian ontological separation between man and the Father does not exist as a means to an end of Divine Union, but for its own sake, to return all glory to God.
Perhaps Milton allows his Raphael to postulate so much about man's original purpose because Milton himself is equally in the dark about this Earthly calling. The poet believes that just as we must not assume there will be an ontological Union, we must not assume to understand fully the nature of Adam and Eve's sin. Nevertheless, it is clear that by attempting to move upwards to Godhead, man actually “fell” from God, as measured by ontological “degree.” In other words, man's nature itself was lessened, although Christ would restore this nature by grace in His death, and bring man back into ontological (albeit concupiscent) parallel with God. The Father tells the Son that His Divine Plan is inevitable and was not interrupted by the Fall: “As my Eternal purpose hath decreed: / Man shall not quite be lost, but sav'd who will, / Yet not of will in him, but grace in me” (3.172-4). The Son responds by further discussing the powerlessness of man: “Atonement for himself or offering meet, / Indebted and undone, hath none to bring: / Behold mee then, mee for him, life for life” (3.234-6, my emphasis). Together, the Persons of God show that man has no Christ-like power to redeem his own ontological state, but only to decrease it by sin.

Just as Satan attempted the impossible feat of overthrowing God, man has failed to see the inescapability of his own finitude and continues to reject God's Laws throughout Salvation History. Yet despite human acts of evil, God's glory cannot be lessened but only furthered: “In Mercy and Justice both, / Through Heav'n and Earth, so shall my glory excel, / but Mercy first and last shall brightest shine” (3.132-4). Note that the brightness of God's Mercy does not diminish His Justice. Instead, Mercy through Christ brings man back into the ontological parallel that fulfills Justice, by actualizing the Divine Plan. Thus all evil allows for good (8.613-6), and as the narrator says, “all [Satan's] malice serv'd but to bring forth / Infinite goodness, grace and mercy shown / On Man by him seduc't” (1.217-9, emphasis added). It is absolutely essential to notice the absence of a comma after the word “grace”: to misunderstand these three lines is to pass fully over the central theological assumption of the poem. Infinite goodness, grace, and mercy are not shown onto man, but grace and mercy are syntactically presented as part of the Infinite Goodness that Satan could not lessen and man cannot attain without an ontological Union. Therefore, this goodness is essentially God's Purpose or Plan, which Milton does not presume to understand as a Union, but nevertheless asserts to be a fulfillment of God's Holy Will.

Milton clearly believes that Christ has brought man back into the ontological parallel with God that had been lost in his Fall, an attempt to
approach Godhead that removed mankind even further from Divinity. The poet shuns presumptions of an eventual Divine Union, and instead repeatedly suggests, through the Father, Son, and Michael, the Book of Revelation's New Heaven and Earth: “The World shall burn, and from her ashes spring / New Heav'n and Earth, wherein the just shall dwell / ... God shall be All in All” (3.334-5, 41). Therefore God becomes spiritually in all, but we are not ontologically in Him. It thus seems that little if any purpose remains for man, in a universe overshadowed by the Divine Plan. Michael wisely presents our solution in the closing lines, saying to add “deeds to thy knowledge answerable, add Faith, / ... [and gain] a paradise within thee, happier far” (12.582, 7). Thus Milton precedes Kierkegaard in advising man to have total faith rather than finite understanding, and to live an active life of virtue, if only for the sake of God's glory.

Works Cited


Works Consulted


Kayla Chauvin
An Examination of Facebook Addiction and Academic Concentration

This study examined the differences between sexes in measures of Facebook addiction as well as the relationship between Facebook addiction and academic concentration. The first two hypotheses were that males would report greater Facebook addiction and poorer academic concentration. T-tests found significant differences between male and female scores on both measurements, but did not support the hypotheses because they found greater female Facebook addiction and lower female academic concentration. The third hypothesis was that Facebook addiction would be a predictor of lower academic concentration, which was supported by the statistical findings of a regression, as higher scores of Facebook addiction predicted poorer academic concentration. These results seem to be both contradictory to findings of greater male Internet addiction and supportive of findings of the negative relationship between Internet use and academic concentration within the literature reviewed, suggesting various areas for future research.

Brianna Pajak
State of Grace
Pencil, 2012
Danny Fitzpatrick

The Fatted Ox

Not to will to be oneself--
Despair--but
grace entracts nature;
we wish to dance with the big man
on the half moon hewn mensa.

Mash, mash, mash the straw,
    Bellow the waste away!
Boil the blood and gut the maw,
    The ox is born today!

So full, so empty,
vessel blown abulge
    with pelicanic helium.
Transcruciated, transubstantial,
afloat on Marcan wisteria
    surging eternal

Champ, champ, champ the hay,
    Fill the mind with light!
Spill the red and scour the grey,
    And grant the mind its sight!

Popping smoke,
    the greasy glare,
the weight worn relics chipped,
gravity ravaged and ravishment graved.
Holy melancholy washed the stretched
    skin sheathed bones.

Stamp, smash, sear the blight,
    Enlight the ancient mind!
Break the brazen hell-bright night,
    And follow the thirsting hind!
Vallery Bergez

Acceleration vs. Revival: A Comparison of Marx and Pope Leo XIII

Man’s thirst to perfect his world is manifested in the consistency of historical revolutions. One man will propose a revolutionary concept, insisting that his fellow men adopt his belief in order to better society. After an entire millennia of the reign of Pope Gelasius’ principle of the separation of Church and state, Europe was thrust into nationalism with the beginning of the Protestant Reformation in 1517. The Church immediately lost power in response to new Christian sects, causing tension within and among nations, begging for some sort of a resolution. The establishment of the Peace of Augsburg of 1555 was a formal declaration of an ancien regime, advocating for the dissolution of Church power: “Whoever reigns, his religion.” The Peace of Augsburg symbolized the movement away from Pope Gelasius’ age-old idea of the separation of powers into a modernity of nationalism, or the ancien regime. As the Church lost her power, the ruler gained his; this began a first modernity.

The concept of nationalism spread across Europe. The emphasis on the power of the State caused some nations to rise unexpectedly. As other nations witnessed the success of absolute obedience to a ruler, a new revolution began to form. The proponent of this revolution was Immanuel Kant. Kant wrote one of the most influential essays in European politics in 1784, encouraging nations to take nationalism a few steps farther. In “What Is Enlightenment,” he argued for the advantage of the cosmopolitan super-state, a paragon of state sovereignty. The success of this super-state required that each ruler understands that his “lawgiving authority rests on his unification of the people’s collective will in his own” (Kant, Emmanuel. What Is Enlightenment?). The first attempt to embrace this model for society was in 1789 with the French Revolution. The French Revolution emphasized nationalism so that the nation became its own religion, forming a “cult of reason.” As revolution is contagious, all of Europe underwent political revolution in 1848, striving to form cosmopolitan super-states and initiating the second modernity.

As the State continued to gain power, Karl Marx, author of the Communist Manifesto, proposed a revolutionary idea which would accelerate the new modernity. Marx was an advocate of the cosmopolitan super-state, trusting in the benefit of majority rule, but claimed that the political
regimes at the time were not upholding genuine majority rule, “but a committee for managing the common affairs of the whole bourgeoisie” (Marx, 11). In fact, the genuine majority was being oppressed. Marx recognized that “[i]n early epochs of history, we find almost everywhere a complicated arrangement of society into various orders, a manifold gradation of rank” (Marx, 9). Marx believed, however, that while class systems were natural to society, the only solution to maintain a genuine utopia with majority rule called for a radical abolition of class systems. The proletariat class must rise above the higher bourgeoisie by re-claiming its authority as the majority. Marx wrote that the “proletarian movement is the self-conscious, independent movement of the immense majority, in the interest of the immense majority. The proletariat, the lowest stratum of our present society, cannot stir, cannot raise itself up, without the whole superincumbent strata of official society being sprung into the air” (Marx, 20). The bourgeoisie had become so powerful that it stripped the proletariat of all identity, mutilating that which the 1848 revolutions claimed to support. The bourgeoisie had “pitilessly torn asunder the motley feudal ties that bound man to his ‘natural superiors,’ and [had] left no other bond between man and man than naked self-interest, than callous ‘cash payment’ … It has resolved personal worth into exchange value” (Marx, 11). The worker held a new identity as a mere commodity, consequently losing every tie to national identity. A genuine utopia required that this post-revolutionary modernity of State sovereignty would have to be furthered; the State needed more power to work for the collective will. Thus Marx proposed Communism.

Communism first and foremost desired to dissolve class systems. In order to eliminate class antagonisms and genuinely pursue the rule of the collective will, private property need be abolished. This was communism’s primary aim (Marx, 23). Although critics declared that the abolition of private property was the “abolition of individuality and freedom”, Marx retorted that the bourgeoisie had already abolished individuality and freedom. Communism would resist this abolition and actually “deprive [the bourgeoisie] of the power to subjugate the labor of others by means of such appropriated” (Marx, 24, 25). If all property were collective, the rule of the collective will would naturally follow. Higher classes would lose their power to oppress the lower classes, and society would slowly start to stabilize as each class worked for the benefit of the whole society. Marx ended his manifesto with inspirational words meant to encourage the proletariat to act for their own self-interest: “Let the ruling classes tremble at a Communist revolution. The proletarians have nothing to lose but their chains. They have a world to win. Workingmen of all countries, unite!” (Marx, 44)
declared that there was hope yet for the proletariat class; the majority could still rule, it only needed communism as its catalyst.

Communism proposed a solution to a problem imbedded in the structure of society. In 1891, Pope Leo XIII addressed the errors of communistic thought with “Rerum Novarum,” an encyclical that ultimately provides a different solution. In contrast to Marx, Pope Leo XIII declared that the current political issues were not imbedded in the structure of society, but within man himself. The ever-increasing power of the State and suppression of Church power had wiped out all sense morality. Leo XIII made it clear that he agreed with Marx’s criticism of class system. He acknowledged that the working class was being oppressed and that a solution was, in fact, necessary: “In any case we clearly see, and on this there is general agreement, that some opportune remedy must be found quickly for the misery and wretchedness pressing so unjustly on the majority of the working class” (Leo XIII, Rerum Novarum, #3). However, he asserted that the foundation of communism’s solution was wrong; the issue was in man. Thus Leo XIII began the encyclical by examining the essence of man.

He first distinguished man from animals by the rationality of man. By the mere existence of this rationality, man has the right, accorded by natural law, “to possess things not merely for temporary and momentary use … but to have and to hold them in stable and permanent possession; he must have not only things that perish in the use, but those also which, though they have been reduced into use, continue for further use in after time” (Leo XIII, #6). This argument from the point of the use of things is rooted in Question 66 of Thomas Aquinas’ Summa Theologica, in which Thomas wrote that it is “natural for man to possess external things”. While some deem it unnatural because all things belong to God, Aquinas said that “man has a natural dominion over external things” in terms of use. This dominion was even granted by God at the onset of His creation of man(Aquinas, Summa Theologica, secunda secundae partis, 66.1, respondeo). In this way, man as a wage-earner naturally possesses external things through divine authority. So, on a basic level, communism is contradictory; it supposedly supports the rights of the working class by ending its oppression, but the very idea of collective property is contrary to the rights of the working class. Collective property “[strikes] at the interests of every wage-earner, since they would deprive him of the liberty of disposing of his wages, and thereby of all hope and possibility of increasing his resources and of bettering his condition in life” (Leo XIII, #5). Thus communism does not even genuinely hold the interest of the
proletariat. More importantly, though, Leo XIII declared that the abolition of private property is “manifestly against justice” (Leo XIII, #6).

Not only is it natural for man to possess private property, but it is also lawful because “human subsistence is derived either from labor on one’s own land, or from some toil, some calling, which is paid for either in the produce of the land itself, or in that which is exchanged for what the land brings forth” (Leo XIII, #9). Leo XIII argued that, as Aquinas stated in Question 66, man has “the power to procure and dispense” property in order to maintain the order of society (Aquinas secunda secundae partis, 66.2, respondeo). As Leo XIII believed that issues within man himself spawned the new modernity, he used his Thomistic argument on man’s essence to influence his evaluation of what society must be. He cleverly took these supposed rights of man and applied them to a revival of the oldest, smallest form of society: the family, which “has rights and duties peculiar to itself which are quite independent of the State” (Leo XIII, #12). Having previously argued that man has a natural right to do with his property as he please, Leo XIII asserted that the State has unjustly infringed upon the rights of the family, a society itself. He wrote of man’s “domestic obligation” to his children, saying that they “should be by him provided with all that is needful to enable them to keep themselves decently from want and misery amid the uncertainties of this mortal life” (Leo XIII, #13). If the State were to strip man of his right to possess private property and force property to be owned collectively, the worker would lose his determination to work for self-preservation. Eventually, “the sources of wealth themselves would run dry” because communism “only injures those whom it would seem meant to benefit, is directly contrary to the natural rights of mankind, and would introduce confusion and disorder into the commonweal” (Leo XIII, #15).

However, Leo XIII did not merely pinpoint the flaws of socialism, but proposed a new remedy that depended upon a change within man. The only way in which man could properly change would be through “the intervention of religion and of the Church” and “a return to Christian life and Christian institutions” (Leo XIII, #16, #27). He need to be reminded of the Christian values which had been swallowed by the State. If classes, especially the working class, were reminded of the Christian virtue of charity, the oppressive class antagonisms that Marx attacked in his manifesto would cease. This rested on the revival of the power of the Church, the ultimate advocate of charity. The increase in Church power implied a limitation, not an abolition of State power. The State “must not undertake more, nor proceed further, than is required for the remedy of the evil or the removal of mischief” (Leo XIII, #36). This is precisely the error of socialism, according
to Leo XIII. It is not a lack of State power or the existence of private property that leads to class oppression, but the mindset of the classes who forget that they must all work towards the perfection of society. Thus, if “Christian working men … will form associations, choose wise guides, and follow on the path which with so much advantage to themselves and the common weal was trodden before them,” social classes will stabilize and oppression will be eliminated (Leo XIII, #16).

Besides proposing a return to a principle held before the ancien régime, Leo XIII’s idea of the necessity of charity had been spoken of before as the crux of the nation. In Pierre Manent’s article on the definition of a nation, he claims that the Church itself is a society and that charity allows her to go “deeper than the city and farther than the empire. The mere notion of charity – the love of the neighbor for the love of God – opens up perspectives and possibilities that are enough to reorder the way we look at the human association” (Manent, Pierre, What is a Nation?). It is this same idea of charity that Leo XIII employed as the solution to the evils of the 19th century modernity. Man need only remember that despite unequal social conditions, charity begs him to use his external things “for the perfecting of his own nature, and, at the same time, that he may employ them, as the steward of God’s providence, for the benefit of others” (Leo XIII, #17, #22). While Marx called for societal revolution, Leo XIII called for a personal revolution within the hearts of men. Leo XIII encouraged all classes to work together for a broader social unity rather than the communistic idea of proletarian unity. He declared that “[e]veryone should put his hand to the work which falls to his share, and that at one and straightway, lest the evil which is already so great become through delay absolutely beyond remedy” (Leo XIII, #62). The remedy of current political issues depended upon the will of each man to change. This could only be done through the power of the Church which always had and always would encourage charity, ultimately encouraging man to bring himself closer to God.

Works Cited
Aquinas, Thomas. Summa Theologica. 1265. MS.
Leslie Sidwell

**Elastic and Inelastic Neutron Scattering on $^{23}$Na**

Elastic and inelastic neutron scattering cross sections on $^{23}$Na, useful in certain fission reactor applications, were measured using the neutron scattering and detection facilities at the University of Kentucky in June of 2012. A pulsed proton beam was accelerated using the 7-MV Van de Graaff accelerator, and neutrons were produced using the $^3$H(p,n)$^3$He source reaction, which occurred when the proton beam was incident on the $^3$H cell located at the end of the beam line. The neutrons produced in the $^3$H cell were scattered off a $^{23}$Na sample and detected by a C$_6$D$_6$ liquid scintillation detector using time-of-flight and pulse shape discrimination methods. Angular distributions of scattered neutrons, each consisting of approximately 10 different scattering angles, were measured for incident neutron energies of 3.20 and 3.40 MeV. These incident neutron energies were chosen because they are of interest for reactor applications and few previous measurements exist in this region. As the result of data analysis performed at the University of Dallas, the elastic and inelastic neutron scattering differential cross sections on $^{23}$Na were determined for the 3.20 and 3.40 MeV incident neutron energy measurements.

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Rain as an Image of the Holy Trinity in its Oneness and Distinction

The richness of faith in the Trinitarian God is a beautiful gift, but it can prove difficult to comprehend and even more difficult to explain to others. To assist in such explanation, it is sometimes useful to conjure an image that reflects the dogmas in a way the average person can easily understand. Christ Jesus Himself, in His earthly ministry, often appealed to His audience using parables, relatable stories which conveyed deeper moral or spiritual truths on the figurative level. Of all the dogmas of the faith, the Trinitarian dogmas are among the loftiest and thus most in need of the assistance of figurative imagery to encourage comprehension. In order to meditate on two particular dogmas, oneness of the Trinity and distinction of Persons within the Trinity, it is helpful to think of the image of the rainstorm. Within this image of rain, the three Persons of the Trinity are each represented distinctly, while at the same time remaining one common substance: water.

One looks up at the sky and sees dark clouds gathering, water vapor condensing. They signal what is to come: a shower of rain. The rain will seep into the soil and nourish the plants, make streams that animals can drink from, and bring about various other life-giving benefits to the ecosystem. Each of these three parts of the water cycle, clouds, raindrops, and surface-water, symbolizes one Person of the Holy Trinity: Father, Son, and Spirit, respectively. The first symbol to consider is the cloud, the source of the rain. In much the same way one might picture an old, bearded God the Father, the cloud hovers majestically in the heavens, looking down on the world below. The Father, as a distinctive Person of the Trinity, is characterized as the Source. He begets the Son, and the Spirit proceeds from both the Father and Son. Both the Son and the Spirit are passive in Their relationship with the Father, because the Father is the initiating Source.

Presently we will focus on the Father’s begetting of the Son. As a shower of raindrops cascade down from the overabundance of moisture that has collected within the cloud, so the Son may be thought of as begotten from the Father. These drops are not separate from the cloud, but are rather the very same essence. The small droplets of water vapor collected in the cloud condense to form these larger drops that become so heavy that they
must fall toward the earth. In the same manner, the Son is the very same essence as the Father. Father and Son are both equally Divine in the same way the cloud and the rain are both essentially H₂O, and are constituted equally of water though one is in a gaseous state and the other is in a liquid state. Neither one is subordinated to the other, neither one less constituted of Divine Essence than the other.

This image of a raindrop falling down from the cloud also reflects the Divine Commission, the Father sending His Son to the world. The Son, the raindrop sent by the cloud, enters into earthly material existence and meets the world in an intimate way, reconciling Heaven and Earth. Sometimes it happens that when one is driving down a road and sees falling rain in the distance many miles away, it is impossible for one to tell where the distinction is between the clouds, rain, and land. It is as if the rain is one continuous connection between earth and sky - one mass of gray brushstrokes streaking down from above. This reflects the reconciliation that the Son brings between the Heavens and the Earth, making it possible for fallen man to partake in the Divine life.

Even the best imagery is limited in its ability to communicate the realities of the Trinitarian Life. There are significant caveats that come with this particular image: The first is the fact that parts of a cloud must continually disappear and reform in order to keep the cloud up in the sky. This contradicts God’s Divine Being, as He is perfect constancy. The second caveat is that rain proceeds from a cloud in a chronological procession. There is a time before the rain falls when only the cloud exists. It would be incorrect to apply this temporal limit to the Trinity because it contradicts the dogma that the Son is eternally begotten of the Father. This means that the Son has existed as a distinct Person from all eternity, has always been begotten of the Father. For our purposes, then, a raincloud might better reflect the eternity of the Trinity if it is a cloud that is, always was, and always will be in a state of rain.

We now shift our focus to the Third distinct Person of the Trinity: the Holy Spirit. For the purpose of our image, the Holy Spirit is like the rainwater when it interacts with the earth. Raindrops turn into surface-water when they collect on material planes; soil, roads, lakes, etc. The water seeps into the soil, provides drinking water, brings about nourishment, encourages growth and new life. The Spirit is consubstantial with the Father and the Son, so it is appropriate that the surface water be made of the same substance as the clouds and raindrops, H₂O. Surface water can be said to “proceed” from the clouds and from the raindrops. The water vapor in the cloud gives way to the raindrops, which result in surface water. This re-
flects the Church dogma that the Spirit proceeds from the Father and the Son.

Granted, this part of the image in a way fails to convey the Spirit-Procession with complete accuracy. If we were to take the image too seriously, it would lead us to believe the Spirit comes mainly just from the Son, because the surface water only comes from the cloud very indirectly. Surface water comes from the raindrops in a much more evident way. It is difficult to convey with this water cycle image the subtle reality that the Spirit comes from the Father and the Son at once. Another weakness of the image is that it struggles to convey the coeternity of the Spirit with the other two Persons if one focuses on the temporal procession of each individual raindrop; from water vapor, to drop, to the moisture soaking in the soil. As it was suggested before, rain imagery best conveys the Dogma of coeternity if one imagines a perpetual rainstorm. One must imagine that the cloud is always begetting rain, and the rain is always seeping into the ground.

Even with weaknesses accounted for, this image characterizes the Holy Spirit in a highly fitting way, because it aligns with some of the appropriations assigned to the Spirit in Sacred Scripture. In 1 Corinthians 12, Paul writes that the Spirit is the giver of gifts. Elsewhere in Scripture, the Spirit is characterized as the sanctifier and vivifier. He descends upon the early Christians during Pentecost, intimately uniting Himself to each person, distributing gifts in His wake. In a similar way, water, as it hits the surfaces of the earth, intimately binds itself to its environment, descending upon the soil and nourishing plants, encouraging their growth, quenching thirst, cleansing what was filthy. Water has many good life-giving gifts to offer the earth, so the image does have the ability to convey the Spirit as “gift-giver” and “vivifying” agent as He is described in Scripture. But one must keep in mind that this is merely naming by appropriation. It is not the Spirit alone who gives gifts and creates and gives life: Everything that can be said of the Spirit in His Divinity can also be said of the Father and Son in Their Divinity. All three Persons are true nourishment. All are the givers of gifts.

This image of the rainstorm was crafted for the purpose of assisting our understanding of the Triune God- one Divine Essence in three distinct Persons- as described in Scripture and according to the outlines of Church dogma. As has been shown, the image is limited in its ability to communicate such dogma, but it may nevertheless prove helpful for one’s endeavor to grasp at the richness and depth that the Catholic Faith has to offer.
Kevin Simmons

Sacred Heart

To my Mother's daughter

'bout my heart wrapp'd a crown of thorns
and tighter still they now dig in.
Every labored word heav'ly born.
Love once spoke must stay deep within.

But deep within it will not stay
for holey now it drips in pain
sending to earth a darkened ray
as from your face falls precious rain.

'Tis whole no more but pierced instead,
fore'er to weep your beauty lost
and darker yet the days ahead.
Why does He demand such a cost?

I do not know and cannot say
when light'll come or what t'will show
but t'you my heart clings not in vain
for ne'er again to beat alone.
Poison Pill: Using a Blocked Mutant to Study Microtubule Dynamics

Microtubules are dynamic cytoskeletal polymers that have critical roles in intracellular organization and chromosome segregation. Microtubules display 'dynamic instability,' switching apparently randomly between phases of growing and shrinking. Despite years of study, the molecular details underlying catastrophe—the switch from growing to shrinking—remain largely unknown. One cause of this persistent lack of understanding is the inability to use site-directed αβ-tubulin as a way to modulate and understand dynamic instability. The Rice lab has developed an αβ-tubulin mutant which blocks at the growing microtubule end and will open up a field of observation inaccessible to wild-type tubulin concentration changes alone. By using DICT microscopy and flow chambers promoting microtubule growth, I observed that microtubules had shorter average lifetimes and unaffected growth velocities in the presence of blocked mutant compared to the wild-type controls. Through my experiments, we have identified a regime of microtubule dynamics that we could not access by simply changing the concentration of αβ-tubulin. Further investigation includes developing a computational model of this experiment.

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Beauty in the Ugly
Oil on Canvas, 2012
Grace Gallaher

“Wake”

Three days later, still no tears.
No prayers, no hymns reached her,
Only the imagined sound
Of a thirsty heart thumping
Against her sternum’s cruel spines —

Despite it all, flesh is weak.
Wading to the casket, drawn
By remains of holy vows;
Knuckles arching over casket’s
Edge — sick, majestic heron

Steps on the brink of a pond,
Looks down on its fragmented
Reflection.
Ann Marie Kaplan

Would you be my Friend?
Perceptions of those with Speech Impairments

This study sought to examine college student perceptions of people with speech impairments. A sample (N=56) was taken from a small liberal arts university to examine differences in the perceptions of people with speech impairments and without speech impairments. Two groups of students were given either a survey describing a person with a speech impairment (n=27) or one with no mention of a speech impairment (n=29). The survey asked questions about how willing would they be to hire, study, or be friends with this person. Three separate independent measure t-tests found that people are more willing to hire and study with a person with no speech impairment than a person with a speech impairment. The two groups did not differ in their willingness to be friends with the person. These results indicate that people are willing to be friends with those who are speech impaired, but suggest that they doubt their competency. Directions for future research are discussed.