Faithful Lives

Classical Education

Faithful Lives

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The mission of College of the Ozarks is to provide the advantages of a Christian education for youth of both sexes, especially those found worthy, but who are without sufficient means to procure such training.

Faithful Lives: Christian Reflections on the World is an annual journal produced by College of the Ozarks. The goal of the publication is to foster deep and substantive Christian thought in all areas of life by publishing articles that assume and explore the truthfulness of the Christian worldview perspective. Previous issues of the journal can be freely accessed on the College's website at: www.cofo.edu/Academics/Faithful-Lives.

Cover image
The Death of Socrates
Jacques Louis David
Oil on canvas
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1787
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Guest Editorial

Understanding the Times: The Current State of Affairs in Classical Christian Education

When David Noebel, founder of Summit Ministries, a worldview academy near Colorado Springs, decided to write a book comparing and contrasting six major worldviews (Christianity, Islam, Secular Humanism, Marxism, New Age, and Postmodernism), he chose to title his book, *Understanding the Times*. He borrowed the phrase from 1 Chronicles 12:32, where we are told something vital about the men of the tribe of Issachar: "Of Issachar, men who had understanding of the times, to know what Israel ought to do."

As a frequent speaker for classical Christian (CC) schools across the country who works diligently to understand the times in which we live, I believe that CC education is becoming increasingly necessary if we in America are to maintain our traditions and keep our democracy alive. CC schools train their students to be proactive rather than reactive,

to uncover the roots rather than be distracted by the leaves, to engage not just in thinking but in thinking about thinking. Compared to their peers, CC graduates are far better armored against ideological propaganda from the left and consumerist advertising from the right. While public grammar schools pat themselves on the back for teaching students to think for themselves, CC schools perform the more difficult, civilization-preserving task of teaching them to think rightly.

Here are four areas in which CC education has stood, and will continue to stand, against modernist and postmodernist assumptions that have undermined what should be the chief goal of education. That goal, as James Traub noted in his January 9, 2026, essay for the *Wall Street Journal,* "How 'Classical' Schools Teach Kids to Be Citizens,"[1] is to shape virtuous, morally self-regulating citizens.

FIRST, the combined force of modern and postmodern thought has eroded the centrality of the Great Books and of the Greco-Roman, Judeo-Christianity legacy that gave them birth. The evolutionary, utilitarian mindset of modernism tends to privilege the new over the old, the innovative over the time-tested, the progressive over the traditional. Why should students waste time reading out-of-date books written by authors who lacked a knowledge of modern science and who were mired in the prejudices and superstitions of the past? For that matter, why should they read any literature that deals with things that never happened rather than with facts?

Meanwhile, the leveling mindset of postmodernism refuses to privilege one book or author or genre over another. The very idea that there exists an aesthetic hierarchy, a canon of works by dead authors

[1] https://www.wsj.com/us-news/education/how-classical-schools-teach-kids-to-be-citizens-8f9d6f39?msockid=230f9b76b83e6ebd10c-788c5b9ed6f47

(mostly white and male to boot) that are superior and should be enshrined at the center of culture and education is anathema. No real standard exists, they claim, by which one can judge what books should be considered "great," no standard, that is, but raw political power.

In the face of this modern-postmodern onslaught, CC schools have remained tenaciously faithful to studying and wrestling with the Great Books: Homer, Virgil, Dante, and Milton; Aeschylus, Sophocles, Euripides, and Shakespeare; Plato, Aristotle, Cicero, and Aurelius; Herodotus, Thucydides, Livy, and Plutarch; Augustine, Aquinas, Luther, and Calvin; Descartes, Locke, Burke, and Tocqueville; Cervantes, Austen, Dickens, and Dostoevsky; and so forth. They proudly and unashamedly proclaim that the Great Books are not only objectively superior in form but that their content treats perennial themes that are universally relevant.

These are the books that established the dialogue out of which was born the Athenian democracy, the Roman empire, the medieval university, the Italian Renaissance, the parliamentary system of England, and the American republic. Only by entering this dialogue with a humble spirit and a critical mind can students understand what our Founding Fathers built, how it can be maintained, and why it is worth preserving.

SECOND, modernism's disdain and distrust of our classical, medieval, and even renaissance past have cut young people off from the root and wellspring of our culture. Postmodernism has extended that disdain and distrust to take in more recent ages: enlightenment, romanticism, Victorianism, and even, and especially, the prosperous post-WWII years of the 1950s.

When I attended middle and high school in the 1970s, the traditional teaching of history had already been replaced by something called social studies. Rather than teach us the major events that shaped the West and the great men whose choices and actions either

strengthened or weakened their nations, our teachers, trained by progressive educational institutions, taught us about the social, economic, and instinctual forces of which we were supposedly the products.

We learned a great deal about the customs of the native Americans and very little about the genius of the Founding Fathers, much about religious rituals and next to nothing about the history of the Church. We did, it is true, study some wonderful myths and folktales, but neither were taught in such a way as to open a window on the desires and longings of our ancestors.

How different the classes and the teachers one encounters at a CC school. History stands at the very center of the curriculum and is viewed through a narrative rather than a skeptical lens that breeds joy, wonder, and gratitude rather than smug cynicism and thankless condescension. If you want to talk with a group of people who really know and are excited about Leonidas and Scipio Africanus, Alexander the Great and Julius Caesar, Charlemagne and Richard the Lionhearted, Henry VIII and Elizabeth I, Louis XIV and Napoleon, Churchill and Patton, then your best bet is to talk to someone in their 70s or 80s or a teenager from a CC school.

CC students know and appreciate those who struggled and suffered and died that we might live in the kind of country that we do. They do not take for granted civilization, freedom, law, and democracy, for they know the cost that was paid to achieve them. They are grounded in a way that their peers in public schools and even in non-classical private schools are not. History is a river along which they flow, not passively and in ignorance, but actively and with knowledge.

THIRD, the zeitgeist which drives public (and much of private) education today privileges self-esteem over rigor, feeling good about one's decisions over thinking critically about them, telling one's own story over finding one's place in the story of one's family or community

or nation. Our postmodern moment resists fixed methods that rely on logic and reason to achieve an objectivity that transcends differences of race, class, or gender. It also resists attempts to identify and instruct students in a shared bank of names, dates, events, terms, and formulas that all educated people should know—what E. D. Hirsch has called "cultural literacy."

As pedagogical standards continue to erode, students are left profoundly deficient in reading, writing, and thinking skills,[2] trapped in a contemporary bubble with no historical perspective and little knowledge of the literary, philosophical, or theological thought that has shaped the West's ongoing experiment in representative democracy, legal and political equality, and free-market capitalism. The socially-debilitating, consensus-destroying, conversation-stopping agenda that has brought about this crisis has been boldly and decisively rejected by CC schools.

In defiance of the postmodern demonizing of cultural literacy, CC schools usher their students through a grammar phase where they are expected to memorize the names, dates, events, terms, and formulas that are foundational to the study of literature, history, philosophy, theology, art, music, math, and science. Grammar represents the first leg of the classical trivium (Latin for "three ways or paths") and is followed by logic (or dialectic) and rhetoric.

In the dialectic phase, students are taught to think logically and

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[2] See, for example, Iwunze Ugo and Eric Assan's June 2025 Fact Sheet for the Public Policy Institute of California titled "California's K-12 Test Scores." "Results from the 2024 Smarter Balanced assessments (SBAC)," the authors report, "show that nearly half (47%) of all students met or *exceeded* state standards in English Language Arts, while about a third (36%) did so in math." In other words, 53% did not meet state standards in English and 64% did *not* meet them in math (https://www.ppic.org/publication/californias-k-12-test-scores/).

rationally about all issues, past and present. They learn to identify and avoid logical fallacies and to build arguments that are both valid and true. While mastering the art of rational thought, they learn how each discipline takes slightly different approaches and employs slightly different methods to address and answer the questions raised by the discipline.

In the rhetoric phase, students are taught to construct and defend different worldviews. In an age when most young people look at their feet (or their phone) while speaking with you, successful graduates of the rhetoric phase look you in the eye and speak with confidence and respect. They know how to argue, but they also know how to compromise when that is what is called for. They are, in short, the kinds of citizens a democracy needs to survive and thrive.

FOURTH, modernism's secular attempt to separate the civic virtues needed to maintain freedom and democracy from all transcendent sources of authority has been accelerated and completed by postmodernism's attempt to detach society from natural and even biological laws. In place of the classical virtues of courage, self-control, wisdom, and justice, postmodernism offers students the fashionable values of diversity, equity, inclusion, environmentalism, and multiculturalism.

Though some of these values, when they are rightly understood in relationship to Judeo-Christian ethics and morality, have merit, they are negative rather than positive and tend to promote virtue signaling over true love and service. Rather than inspire godly transformation from within, they encourage smugness and condescension in students.

Not so at CC schools. Across the country, these schools have heralded a revival of the classical virtues, together with the Christian virtues of faith, hope, and love, and the traditional virtues of honesty, frugality, integrity, diligence, loyalty, hospitality, obedience, and gratitude. Though these schools teach rules of right behavior, their aim exceeds a mere

legalistic list of dos and don'ts. Their higher goal is to bring the minds, hearts, and souls of their students into alignment with reality—both what God has written in the cosmos and what he has engraved in our conscience.

Far from being old-fashioned and out-of-date, CC schools are needed now more than they have ever been. As our nation scrambles to revive the kinds of standards, role models, disciplines, and virtues needed to preserve our decaying democracy, CC schools hold out the answers, the methods, and the vision needed for social, educational, and spiritual renewal.

Louis Markos, Professor in English and Scholar in Residence at Houston Christian University, holds the Robert H. Ray Chair in Humanities; his 30 books include *Passing the Torch: An Apology for Classical Christian Education, The Myth Made Fact: Reading Greek and Roman Mythology through Christian Eyes, From Achilles to Christ: Why Christians Should Read the Pagan Classics, From Plato to Christ,* and *From Aristotle to Christ.*

Essays

An Invitation to the Art of Grammar

by Andrea Lipinski

> A Hare one day ridiculed the short feet and slow pace of the Tortoise, who replied, laughing: "Though you be swift as the wind, I will beat you in a race." The Hare, believing her assertion to be simply impossible, assented to the proposal; and they agreed that the Fox should choose the course and fix the goal. On the day appointed for the race the two started together. The Tortoise never for a moment stopped, but went on with a slow but steady pace straight to the end of the course. The Hare, lying down by the wayside, fell fast asleep. At last waking up and moving as fast as he could, he saw the Tortoise had reached the goal, and was comfortably dozing after her fatigue.[1]

How are education and this fable similar? The slow, consistent pace of the tortoise won her the race; imagine her to be head masters, teachers, parents, and students in a classical school running the course at a slow and steady pace to victory. They are confident in their own pace; they find the course challenging, yet engaging and achievable.

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[1] Abigail Prior and Katerina Hamilton, eds., Fables of Aesop: Essential Wisdom for Every Age (Concord, NC: CiRCE Press, 2023), 79.

Grammar (from the series, *The Liberal Arts*)
Gilles Rousselet (after Grégoire Huret)
Engraving
France
1633-35
(public domain)

Je donne aux bons espris la premiere teinture
Je polis le discours. & le rends plus corect.
Des langages diuers Jenseigne le secret.
Tant par doctes leçons, que par bonne lecture.

LA GRAMMAIRE

Je suis de tous les artz la baze & le degré.
Le perron du palais ou preside la gloire.
Lentrée du Parquet aux muses consacre:
& le portail doré, du temple de memoire.

Huret Inuentor Rousselet fecit de l'impression de Mariette Auec Priuilege

The confidence of the hare lost him the race; imagine him to be the teachers, students, and others involved in education who place their confidence in the path (i.e., the curriculum), in the speed, in the performance, or in the performer. Now imagine the observers' disbelief across the whole path caused them to miss the important thing. These observers can be all people contemplating education who are looking for what is best without having articulated the nature of a student, the purpose of education, or the appropriate course to run.

As leaders across the United States attend to the education of children, many people have set their gaze on a classical education, the enculturation of students to know and reproduce the good, the true, and the beautiful and in so doing to become wise and virtuous. Leaders are looking at the tortoise and her slow and steady pace as a counter to the often frantic pace in current, industrialized, impersonal education. The tortoise's educational path can be likened to teaching the seven liberating or liberal arts—the arts by which one perceives truth in the world and acts upon it. Mastering the liberal arts forms a free person who is able to listen, read, speak, and write as an individual and within a community for the good of all. Each of the seven arts—grammar, dialectic, rhetoric, arithmetic, geometry, astronomy, and harmony—is a way of making or doing.

The liberal art of grammar is the way of decoding or interpreting symbols. The word grammar comes from the Greek word *grammatikos*. *Grammatikos* means "pertaining to letters." According to W. Terrance Gordon's introduction to Marshall McLuhan's thesis on the trivium, "grammar is the art of interpreting not only literary texts but all phenomena . . . [and] entails a fully articulated science of exegesis, or interpretation."[2] To better grasp the study of letters, this essay will

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[2] Marshall McLuhan, *The Classical Trivium: The Place of Thomas Nashe in the Learning of His Time* (Corte Madera, CA: Gingko Press, 2006), xi.

explore four aspects, or facets, of the nature of grammar—formal, analogical, verbal, and anagogical. It will then turn to address the purpose of grammar and its role in Christian classical education. The article will conclude by exploring some of the challenges in teaching grammar and some possible approaches will be offered before closing with how the liberal art of grammar is distinct in a Christian vision of education.

First, a formal understanding of the art of grammar is the way of constructing harmonious thoughts through language. Letters are combined in words combined in sentences combined in paragraphs, attempting to bring harmony to thoughts and transmit them to a reader through a certain language form. Rules exist that govern the form. Engaging with the rules, the syntax, is necessary. When using the agreed upon rules and forms that shape our language, people love their neighbors by crafting a thought that is perceived. The art of grammar provides the agreement needed between subjects and verbs. The tense of each verb impacts the meaning and timing of the message. The placement of commas changes a sentence's very meaning. A common example of the need for commas is the clause, "let's eat Grandma" versus "let's eat, Grandma." In the first sentence without a comma, Grandma is the object that the subject is enacting upon. In the second sentence with a comma, Grandma is the object being addressed or spoken to. In the first sentence we will eat Grandma and in the second sentence we request Grandma to eat with us. Further, the hotly debated topic of the Oxford comma is palpable between some groups. What is it about a small bent squiggle placed in the lower right corner of a word, separating a group of words from another group of words, that can incite a heated conversation? That squiggle or symbol changes meaning. The form of our expressions impacts the interpretation. The art of grammar includes the form of expressions while also containing analogies to life.

An analogical understanding of the art of grammar has been seen as a way of understanding children's developmental growth. In 1947 Dorothy Sayers wrote a paper titled "The Lost Tools of Learning."[3] She was speaking on education at a summer course at Oxford. She stated that grammar means learning a language, particularly Latin, which we will explore in more detail with the verbal understanding. Additionally, she reviewed her own childhood and noticed similarities between child development and learning stages. She noticed that when she was young, she learned names eagerly, and that knowing by heart or memorization was a pleasure in these younger ages. This stage of child development has been likened to the need to learn the grammar or the names and facts surrounding any area of knowledge or "subject" as she called them. American educators adopted this analogical understanding of learning and the trivium in particular. Grammar has been likened to all of the beginning facts that one needs to learn in any domain of knowledge. This analogy has been extended to the naming of school segments. American private schools sometimes call the kindergarten to sixth grade classrooms a grammar school. Students ages five to eleven are sometimes called grammar students. While this understanding has been helpful, another one offers additional insight.

Calling five to eleven year olds "grammar students" is not wholly inaccurate. They do need to be focused first on learning the art of grammar in their studies. What is inaccurate is what and how the students are studying grammar. Teachers will sometimes focus on memorizing lists of conjugation endings, leaders' names, key events, geographical features, or grammar jingles. Memorizing these lists with songs can make retrieval in front of an audience applaudable

[3] Sayers, Dorothy L., "The Lost Tools of Learning," accessed November 10, 2025, https://gutenbergcanada.ca/ebooks/sayers-lost/sayers-lost-00-h.html.

and financially supportable. And yet, remembering them and putting them into practice in the form of making or doing grammar often breaks apart. Later, when we look to the propriety of grammar, I will offer how to treat this art appropriately. The liberal art of grammar is analogically similar to a time in children's learning, but it is not wholly representative of that time.

Marshall McLuhan, who studied communication across 2000 years of history within his doctoral thesis, wrote of the 1960s "… it can be shown that the general cultural confusion and merging of the past century or so has been favorable to the rebirth of *grammatica* in its ancient sense—. . . a sense more profound than current semantic studies provide."[4] The art of grammar offers the enculturation of the youth more than rules set to songs. He continued, "The pursuit of psychological order in the midst of a material and political chaos is of the essence of *grammatica*. Thus, modern symbolism in art and literature corresponds to ancient allegory."[5] McLuhan traced the progression of the trivium across time and observed that it was no longer aiding engagement with dialectics or philosophy. W. Terrance Gordon, the editor of McLuhan's *The Classical Trivium*, reflected that McLuhan called "for a program of education based on the ambitious and lofty ideal of reintegrating the classical trivium."[6] We are thankful for Sayers' essay that aids in the reinvigoration of the trivium, and we see the art of grammar is more than a stage in learning any subject. Grammar embodies form, extends analogically, and is perceived verbally.

A verbal understanding of the art of grammar is a way of interpreting

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4 McLuhan, *Classical Trivium*, xi.

5 McLuhan, *Classical Trivium,* xi.

6 McLuhan, *Classical Trivium,* xi.

words through language. Our thoughts are held within the names that carry their essence. These names carry meanings from one person to another. Often this idea of word is captured in the term *logos*. A logos is a word, name, or object that carries meaning.[7] Adam was given the task of naming every living creature. For Adam, "the whole of nature was a book which he could read with ease. He lost his ability to read this language of nature as a result of his fall."[8] Adam read nature and identified in each animal's name its logos, a way of expressing its meaning between people. Names are not random; names allow people to call back an idea, person, or thing loved. Each created thing reflects glory from its creator, and "[t]he business of art is, however, to recover the knowledge of that language which once man held by nature."[9]

Through the use of language people know the nature of things. Something's nature is also expressed as "what each thing is when fully developed"[10] according to Aristotle. A name provides a facet of that thing's glory; therefore, interpreting names has value.

Ancient education in the e*gkuklios paideia,* the circular formation or education path for forming the soul, relied initially on the art of grammar, studying "[e]tymology and semantics, the study of the figures of speech, of thought, and emotion, prosody, textual criticism, historical e*xplication de texte*, and practical criticism [which] were all brought into play in a word by word, line by line reading of the

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[7] Andrew Kern, *Unless the Lord Builds the House* (Concord, NC: CiRCE Press, 2024), 98.

[8] McLuhan, *Classical Trivium*, 16.

[9] McLuhan, *Classical Trivium*, 16.

[10] McLuhan, *Classical Trivium*, 35.

poets."[11] These practices were the way of making or doing the art of grammar as applied to poetry or literature. These practices made the general subjects that students read "acquired by the accident"[12] of the art of grammar. By practicing the art of grammar with words in literature, students learn various bodies of knowledge. Grammar was not a separate study in isolation from engaging content. Relying on grammar forms, considering an analogy, and beginning with interpreting words prepares a student to consider how the art of grammar leads to an interpretation of things.

Last, an anagogical understanding of the art of grammar is interpreting things through language. Each human being is a divine creation, created into a cosmos spoken into being by the Divine Being. Every natural thing humans gaze upon comes from God who wove into their existence their own essence. In learning the art of grammar, students are also practiced in leading their minds upward, the meaning of anagogical interpretation, toward the divine essence within things. The art of grammar certainly attends to words, and it attends to the whole, asking the question, "What does this reveal about heaven, eternity, or the ultimate union with God?" This thing is perceived and then grammar or language aids in the interpretation of its symbols. Through language people express the interpretation. These close interpretation methods were applied to literature and physics, to mythology and science.[13] Understanding the larger phenomenon is possible with grammar studies. In *De Doctrina Christiana*, St. Augustine "laid the foundation of medieval culture along grammar lines."[14]

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[11] McLuhan, *Classical Trivium,* 30.

[12] McLuhan, *Classical Trivium,* 31.

[13] McLuhan, *Classical Trivium,* 32.

[14] McLuhan, *Classical Trivium,* 32.

The art of grammar's nature can be contemplated in at least four areas: the form, an analogy, the interpretation of words, and the interpretation of phenomena. Toward what purpose does the art of grammar aim? The art of grammar is needed in classical education to discipline the mind toward harmony, to bring harmony to communication, and to prepare students for studying all of the other arts thereby knowing the world.

The art of grammar develops a sensitivity to language that impacts daily interactions and future paths. By internalizing the form and the symbols through interpretation, the mind is liberated from discordant or confusing thoughts. By attentively reading harmonious language, the student becomes sensitive to harmonizing his or her own mind. In its essence, the art of grammar is "[t]he pursuit of psychological order in the midst of a material and political chaos."[15] Students gain the ability to distinguish the meaning of signs.

Training in the art of grammar then enables its students "to handle words with precision and accuracy . . . to communicate them to others."[16] The art of grammar recognizes that the world is full of meaning and the space between the inner and outer world is mediated by harmonious language between people. Dialogue becomes possible by a shared expression through grammar. Grammar provides tools that reveal the formal agreement between one's thought, language, and reality. Finally, grammar prepares students for studying the other six arts and the four sciences. Once communication is harmonious, dialectic and rhetoric can be pursued which enables harmony within each community. Grammar is the foundation for all other studies in a classical education.

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[15] McLuhan, *Classical Trivium,* xi.

[16] Stratford Caldecott, *Beauty in the Word: Rethinking the Foundations of Education* (Tacoma, WA: Anglico Press, 2012), 57.

As classical education is increasingly available within the United States, challenges exist when teaching the art of grammar. Although teachers are rediscovering the liberal arts, teachers are teaching from a limited set of assumptions. Teachers teach from what they know; the mind of the teacher is the curriculum. As teaching positions in classical schools increase, the teachers need to teach grammar while still rediscovering it for themselves. There are not many living mentors whom teachers can imitate in this pursuit. Additionally, classical educators are only beginning to understand the world in a manner consistent with a Christian classical philosophy. As such, sometimes teachers can think too highly of themselves after learning a couple of lessons rather than having seen its glory. Without experiencing the glory of grammar, one cannot rightly value it. Teaching grammar as an analytical pursuit is harming students' love for what is good here. Lastly, the requirement placed on the teacher to assess all things both distracts from actual grammar and prevents from ascending to higher modes of perception through grammar.

These challenges are not insurmountable. Committed classical educators are pursuing learning for themselves. David Hicks in *Norms and Nobility* expressed "the great value of the [classical] curriculum . . . is that it sustains and nurtures teachers as practitioners of the art of learning while discouraging non-learners from entering the profession."[17] From this place, grammar needs to be taught humbly, realizing we are still learning, and dialectically, realizing that what the student perceives belongs to her and what the teacher states belongs to him. Teachers who are actively learning have daily experiences in remembering their humility. "Schools are places where students

[17] David Hicks, *Norms and Nobility: A Treatise of Education* (Lanham: University Press of America, 1999), viii.

learn because they are places where teachers learn,"[18] explains Hicks. Additionally, when studying grammar, realizing that grasping a grammatical concept is grasping a living idea, a logos, is needed. The Creator created using words; people are contemplating the creation with words. Each word has meaning and symbol. The dryness of the form is not what is being taught; the symbol behind the letters is being interpreted. Valuing grammar according to its true worth will come as teachers perceive it for themselves. As a result, meaning and the arts of interpretation need to be emphasized in learning grammar. As teachers become more acquainted with this art themselves, hopefully they will provide good types for their students to imitate and provide quick corrections without apologies to their students. Comprehensively, answering the challenges means redefining how we teach language.

To develop a sensitivity to language, students need to be guided, not forced. Students need to spend more time experiencing and encountering language before producing it. This principle holds for one's native tongue and for learning a foreign language such as Latin. Students need more encounters with the language entering their awareness prior to being prompted to express the language. For several years, students should experience the language according to four principles. Stephen Krashen's research in second language acquisition led to his identifying four elements of language acquisition: comprehensible, rich, compelling, and frequent.[19] First, the language the student is hearing needs to be understandable. English, Latin, or

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[18] Hicks, *Norms and Nobility,* viii.

[19] Stephen Krashen and Tracy D. Terrell, *The Natural Approach: Language Acquisition in the Classroom* (Europe: Prentice Hall, MacMillan, 1995); Stephen Krashen, "Part of '2020 Visions,'" accessed November 10, 2025, https://www.sdkrashen.com/content/articles/optimal_input_krashen_2020_.pdf

Greek stories with pictures or objects make the language understandable. Students have a way to imagine and grasp the meaning of the words based on the objects or drawings embodying the words. Second, the language needs to be interesting. The characters, objects, actions of this understandable language exposure also need to hold one's attention. Third, the language must include a rich vocabulary in which the vivid verbs bleed. The verbs are the water flowing downstream in the sentence. If the water is lifeless, the river is gone. The rich vocabulary of this language exposure can be vividly imagined in motion by the student. The bleeding verbs provide the imaginative motion. Last, the exposure to the understandable, interesting, and rich language needs to happen with some amount of frequency. The opening lines of Julia Abigail Fletcher Carney's poem "Little Things" captures what little and frequent exposure to language develop.

> "Little drops of water,
> Little grains of sand,
> Make the mighty ocean
> And the pleasant land."[20]

Building a student's sensitivity to language requires repeated little exposures to rich language experiences. Just as the beach is filled with many little grains of sand, so also the language sensitivity and skill of the student is filled with frequent repeated experiences.

A few practices can build this language sensitivity, particularly for Latin or Greek. Translation and written interpretation require knowing the abstract rules of the language. Rather than begin with the abstract, start with the experiential. Provide a guided experience with the language. Buck Holler, Director of Consulting at the CiRCE Institute,

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[20] Julia Abigail Fletcher Carney, "Little Things," accessed November 11, 2025, https://www.poetry.com/poem/164258/little-things.

has been studying languages for almost thirty years and he has been instructing students in Latin for over fifteen years. He currently leads a Latin apprenticeship for adults. In an interview, he shared four practices for young students or students new to a language.[21] He focuses on the students experiencing the language in context. This experience includes four elements: prayer, playing, listening, and reading. For five minutes, engage in recitation by reading it printed or from memory, such things as the Lord's Prayer, a psalm, a creed, or a portion of text. Do not engage the students in translating it; let it be what it is. Only grant five minutes a day to this practice. Next, engage in playing with the language for fifteen minutes. This play can be songs or games that are aiming to build the students' vocabulary. The teacher could ask, "quid est hoc?" A student could respond, "a book." "Bene," replies the teacher, "est book vel liber." Teachers could also ask, "quid est hodie?" A student might respond, "Tuesday." "Recte dicet," replies the teacher, "hodie est dies Martis." Whatever games or songs are chosen, the guiding principle is vocabulary building. During this time, do not expect students to speak in the new language; accept their answers in any language. The third language practice is to create a space for students to listen to the language. The stories listened to need to be extremely easy in the beginning and last for fifteen minutes. The CiRCE Press has begun printing Latin children's picture books that provide vibrant experiences, such as Renee King's *Ubi est Māter?*[22] and *Quis est Dāvus?*[23] The Legentibus app[24] provides an audio library spanning from beginner to intermediate to ancient texts. Legentibus

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[21] Buck Holler, "Four Practices to Teach Latin," interview by Andrea Lipinski, October 13, 2025.

[22] Renee King, *Ubi est Māter?,* (Kannapolis, NC: CiRCE Institute, 2025).

[23] Renee King, *Quis est Dāvus?,* (Kannapolis, NC: CiRCE Institute, 2025).

[24] https://legentibus.com/.

provides both audio as well as visual books. Teachers can choose to read to their class or to have the app do some of the reading. The variety is good. Last, students need to be reading in Latin for ten minutes a day. These last ten minutes immersed in the language need to be influenced by the student. Teachers can have a table or shelf filled with Latin readers that span the abilities of the students. The students are encouraged to choose a book to read for ten minutes. This choice is sometimes called FVR, free voluntary reading, or SSR, self-selected reading. With either name, the student has volitional choice for the first time in this language experience. Whether the student can read every word in the chosen book is not the goal; having students choose to engage with a book in a foreign language is the goal. Students will attend differently to the book because they choose it. All of these practices cultivate a sensitivity to language to prepare one to study the art of grammar, or the interpretation of texts and phenomena.

Three additional practices can engage students with language, particularly their native tongue. Narration, dictation, and copywork are practices that will increase a student's sensitivity to language. Narration can be practiced in at least two different manners. After reading, aloud or silently, a fitting amount of literature, ask your students to tell back as close to word for word what was read. After reading, students could alternately tell back in their own words as much as possible while using some of the author's words mixed with some of their own. Narration can be practiced orally or written. Engaging with literature through narration aids students' memory, attention, and imitation skills. Dictation is the practice of reading aloud a fitting passage to students and instructing them to write down word for word. The teacher can read and re-read the passage until each student is able to capture the whole passage. When engaging with students on punctuation, capitalization, or spelling, engaging orally is best. Keeping this practice oral allows the mind to remain engaged with trying to

solve the puzzle of writing the passage down as the author wrote it. The final language sensitivity practice, to redefine how we teach language, is copywork. Consistently engaging in copying passages of a fitting length with beautiful words will develop students' awareness and joy for language. Studying one's native language through narration, dictation, and copywork are appropriate ways to teach language once students know how to read and write.

Studying the art of grammar encompasses a distinctly Christian vision of education. The knowable cosmos is comprehended in, by, and through the Logos. Without the logos, people cannot access the world outside of their minds. The logos manifests itself in our minds and through the art of grammar we can think and verbalize it. God is more than creator; God is the Logos and the fountain from which all logoi flow. Cosmology, therefore, views reality analogically, looking upward for meaning. Reality is precious. This logos is in our minds and represented in our language which enables us to harmonize our inner thoughts, harmonize our conversations, and harmonize our decisions within the community. By approaching all of creation as reflecting the glory of God, people are better able to know, enjoy, and glorify the Creator. This understanding begins with the realization that words have meaning.

Gaining language sensitivity to prepare for verbal and anagogical interpretation is like the tortoise slowly running the race before her. This foundation for learning does not need to be hurried and keeps our students tethered to the God who ordered the cosmos by the logos, within grammar. Friedrich Nietzsche in *The Twilight of Idols* stated, "I fear we shall never be rid of God, so long as we still believe in grammar."[25] Yes, the art of grammar is the foundation of all the other liberal arts and where it is studied, God himself is studied.

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[25] Friedrich Nietzsche, *Reason in Philosophy,* section 5, page 22, accessed November 10, 2025, https://www.gutenberg.org/files/52263/52263-h/52263-h.htm?utm_source=chatgpt.com.

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The Art of Logic: Loving God and our Neighbor with Rightly Ordered Reasoning

by Carrie Smith Eben

My first encounter with the word "logic" was through C.S. Lewis's story, *The Lion, the Witch, and the Wardrobe* in 4th grade when the Pevensie children inquired about the strange stories of Narnia told by their youngest sister Lucy:

> Logic!" said the Professor half to himself. Why don't they teach logic at these schools? There are only three possibilities. Either your sister is telling lies, or she is mad, or she is telling the truth. You know she doesn't tell lies and it is obvious that she is not mad. For the moment then and unless any further evidence turns up, we must assume that she is telling the truth. [1]

Through context, I gathered that logic was some antiquated British subject taught back in the "old days" that helped students to solve problems. Studying logic in school was not something I ever anticipated encountering as part of my curriculum. According to Lewis's story, it had already begun falling out of favor among educators in the 1940s. However, I was intrigued by the Professor's ordered thinking. Little did I know that one day I would study logic with my own children at home and other students in the classroom and talk about its important place in the liberal arts (as part of the Trivium).

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[1] C. S. Lewis and Pauline Baynes, *The Lion, the Witch and the Wardrobe* (New York: Macmillan, 1978), 45.

Today, when I discuss classical education with the public, parents and educators are highly intrigued by the Trivium art: the Art of Logic (or Dialectic). They bring up a need in today's Christian circles for critical thinking, analysis, and well-reasoned argumentation for Christian worldview apologetics. All of these skills certainly fall under the Art of Logic, but they do not express its true beauty, especially in the classical Christian education tradition.

My husband often reminds me that I need to "seek first to understand, then to be understood" (quoting one of the habits of highly effective people according to Stephen R. Covey) when I am tempted to jump to conclusions by my own standard of rightness before seeking truth.[2] The purpose of logic first and foremost is about asking good questions to understand another's way of thinking, or argument. When we ask good questions, we humble ourselves to a position of inquiry rather than a position of sharing our own correct point-of-view. When we truly listen and appropriately inquire, we encourage a dialogue that engages another soul towards revealed truth instead of pushing our own agenda. Seeking first to understand a topic, an object in nature, a person, or a situation through inquiry and dialogue to reveal truth is the glory of the Art of Logic. In this way, we can humbly know and love God and neighbor better as we are commanded to do and is the proper posture to understand the Art of Logic.

Defining Logic

Logic is the Art of Arts which follows arguments, orders thinking, and asks questions

All Trivium arts engage language as the tool to better communicate

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[2] Stephen R. Covey, *The Seven Habits of Highly Effective People: Restoring the Character Ethic* (New York: Free Press, 2003), 237.

words and ideas within community. How is logic distinctive from both grammar and rhetoric? Trying to pinpoint the moment grammar ends and logic begins, or where logic ends and rhetoric begins, is foolish. Aristotle understood logic and rhetoric as a "rough continuum of arts."[3] There are no thick black lines around the study of logic that do not overlap both grammar and rhetoric.

The word logic is derived from the Greek word *logos,* which means "word, reason" and is incorporated into all the Trivium arts. Specifically, logic uses words to connect ideas and order thinking. It is considered the art that rules the other arts because it connects grammar arts—the arts of using language to create ideas and thought—to the art of rhetoric, which uses those ideas and thoughts to persuade by making proper sense of ideas through correct thinking. As Sister Miriam Joseph states in her 1937 book, *The Trivium: The Liberal Arts of Logic, Grammar, and Rhetoric*, "Logic and rhetoric are concerned with the discovery and communication of truth directly from the mind of the author to the mind of the listener or reader."[4] In the 12th century, John of Salisbury asserts in his work, *Metalogicon* that, "logic not only reigns over invention and judgment, but also is skilled in division, definition, and argumentation. In short, it produces a [master] craftsman."[5] Joseph agrees saying that "logic is the art of arts because it directs the very act of reason, which directs all other human acts

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[3] Terri Palmer, "The Dictates of Reason: Bacon, Ramus, and the Naturalization of Invention," *OSSA Conference Archive*, May 15, 1997, https://doi.org/https://scholar.uwindsor.ca/ossaarchive/OSSA2/papersandcommentaries/80.

[4] Miriam Joseph and Marguerite McGlinn, *The Trivium: The Liberal Arts of Logic, Grammar, and Rhetoric: Understanding the Nature and Function of Language* (Philadelphia: Paul Dry Books, 2002), 225.

[5] John McGarry and Daniel D. McGarry, *The Metalogicon of John of Salisbury: A Twelfth-Century Defense of the Verbal and Logical Arts of the Trivium* (Philadelphia, Pa: Paul Dry Books, 2009), 81.

to their proper end through the means it determines."[6] It is the art which follows questions and traces the thread of arguments through reasoned and ordered thinking.[7]

The purpose of logic is to find the nature of what is real and the truth of that reality. In essence, one must use the "operations of the intellect, . . . with rational cognition,"[8] without emotion to understand the attributes of a thing, but at the same time, logic is also important to poetry. Logic does not need rhetoric and poetry, but rhetoric and poetry need logic.[9] It is something unseen that happens within the mind first and is expressed through dialogue, rhetoric, and all other arts and sciences. Anything that is well-argued needs the help of logic, both deductive and inductive reasoning, to provide clear proof for a "thesis will require demonstration, proofs, that argue for the truth of the proposition."[10]

While grammar might have a "wider scope"[11] than logic, logic is necessary to integrate combinations of thoughts whereas grammar only deals with one at a time. We have to know about the nature of something well, its parts, so we can know how it acts as a whole and participates in the world around it.

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[6] Joseph and McGlinn, *The Trivium*, 10.

[7] Kevin Clark, Ravi Scott Jain, and Peter Kreeft, *The Liberal Arts Tradition: A Philosophy of Christian Classical Education* (Camp Hill, PA: Classical Academic Press, 2021), 58.

[8] Joseph and McGlinn, *The Trivium,* 45.

[9] Joseph and McGlinn, *The Trivium,* 45.

[10] Scott F. Crider, *The Office of Assertion: An Art of Rhetoric for the Academic Essay* (Wilmington: ISI Books, 2005), 19.

[11] Crider, *The Office of Assertion,* 19.

We often employ words like *propositions, syllogisms,* and *fallacies* when discussing logic, since these are means which help make sense of things in the larger world. *Propositions* are expressions that form *syllogisms* (a deduction of propositions that advance knowledge), but they also express *conjunctions* (the joining of two propositions), *oppositions* (contrary propositions), and *eduction* (information expressed differently but leading to no advance in knowledge). For example, a syllogism is the most widely known use of propositions:

A dog is a mammal
No reptile is a mammal
Therefore, a dog is not a reptile

In essence, a syllogism uses three propositions. The first two propositions in a syllogism are called premises. These lead to the third proposition, which is called the conclusion to show relationships using common terms. Notice that the word syllogism incorporates a form of the Latin *logos,* or "word, reason" with the prefix *syl* (derived from syn) which means "with" or "together. So, *syllogism* is the bringing together, or the reckoning of words for meaning and understanding. There must be three terms, and each must be used twice. The conclusion of the syllogism reveals "an advance in knowledge achieved by the conjunction of the premises."[12] In other words, the relationships of the terms reveal a new knowledge. A syllogism is not considered true or false, it is either valid or invalid. Premises must be true for a conclusion to be true. An invalid syllogism has a conclusion which does not follow from its premises. A syllogism (the form) can be valid even if the premises are not true. Syllogisms, attributed to Aristotle yet compiled and preserved by the Christian medievals, represent

[12] Joseph and McGlinn, *The Trivium,* 131.

the art of formal deductive reasoning,[13] and most classical schools teach this type of formal logic beginning in middle school.

Fallacies are another common form of "informal" logic taught in classical schools. Fallacies are invalid illogical reasoning disguised as valid reasoning. They cause errors in thinking. Since logic values right and clear thinking, the study of erroneous language and its subsequent erroneous thought patterns, helps students identify flawed language and ideas. Here are some common fallacies organized by similarity from *The Fallacy Detective* by Nathaniel and Hans Bluedorn, a middle school beginning logic book:[14]

1. Avoiding the Question:
   Red Herring: in traducing an irrelevant point into an argument

   Ad Hominem: attacking an opponent's character or motives for believing something instead of disproving his argument

   Tu Quoque (You Too): dismissing another person's viewpoint on an issue because the speaker is inconsistent in that very thing

2. Making Assumptions
   Equivocation: changing the meaning of a word in an argument

[13] Clark, Jain, and Kreeft, *The Liberal Arts Tradition,* 55.

[14] Nathaniel Bluedorn et al., *The Fallacy Detective: Thirty-Eight Lessons on How to Recognize Bad Reasoning* (Muscatine, IA: Christian Logic, 2009), 188-90.

Circular Reasoning: attempting to prove a conclusion by simply restating it.

Part-to-Whole/Whole-to-Part: asserting that what is true of part of something must also be true of the whole and vice versa.

3. Statistical Fallacies
   Generalization: generalizing about a class based upon a small or poor sample

   Post Hoc Ergo Propter Hoc: assuming that since A happened before B, A must have caused B.

4. Propaganda
   Appeal to Fear: moving us to fear the consequences of not doing what someone wants.

   Bandwagon: pressuring us to do something just because many other people like us are doing it.

   Tradition: encouraging us to believe something is true because it is associated with something old.

Both syllogisms and fallacies are just some examples which study language and its order to identify valid and invalid thinking patterns. However, the skill of logic, or right reasoning, is practiced in all areas of knowledge. We use it to make sense of the words (and other symbols such as numbers used in mathematics), their arrangements, and their arguments across all disciplines.

Logic is Communal

Although logic is a mental exercise performed within the mind, it

is complete when one mind engages with another mind through dialectic. True understanding comes from discussing ideas with other humans and reasoning together. In Plato's *The Republic*, Socrates says, "the eye of the soul, which is literally buried in an outlandish slough, is by her gentle aid lifted upwards; and she uses as handmaids and helpers in the work of conversion."[15] Through Plato's works, we have wonderful examples of dialogues between Socrates and a variety of interlocuters where Socrates humbly asks his fellows a series of questions to define certain ideas like justice, virtue, and piety for better understanding practicing several of the Common Topics of Invention (from the Canon of Rhetoric). Dialectic simply means a discussion between people for the purpose of intellectual investigation. In classical schools, we often call the middle school years, "School of Logic" or "School of Dialectic," interchangeably. This is not because logic or the dialectic process is only practiced in these years. On the contrary, logic and dialectic are practiced by everyone at every age. However, in her speech regarding education called *The Lost Tools of Learning,* Dorothy Sayers identifies students ages 10-14 as "dialect" or "logic" students as a descriptor for their development. Logic and Dialectic are not stages of development, but skills of thinking and learning, (which Sayers also states), but the communal nature of "dialectic" does seem to characterize such students as they become aware of their social surroundings and identify their relationships with each other more deeply.

The Scriptures even bids us, saying, "Come now, let us reason together, says the LORD: though your sins are like scarlet, they shall be as white as snow; though they are red like crimson, they shall become like

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[15] Plato, *The Republic*, ed. Mortimer J. Adler and Philip W. Goetz, trans. Benjamin Jowett and J. Harward, 2nd ed., vol. 6, Great Books of the Western World (Chicago, IL: Robert P. Gwinn; Encyclopædia Britannica, 1990), 397-98.

wool." Isaiah 1:18 is an invitation to communicate, reconcile, and be in relationship with God. When two minds reason together through discussion by the process of asking poignant questions, they bring together a harmony in thought and relationships rather than discord.

Logic Reasons with Harmonious Questions

God himself embodies the beauty of a well-crafted question. For example, the first question God asks of his creation is in the Garden of Eden in Genesis 3:9. Adam and Eve have just sinned, and he asks then, "Where are you?" God knew where Adam and Eve were physically. He is God. He knows. But he asks him this question so they can quickly assess and orient their souls in relationship to him. In Job, we also find God asking his servant another soul-searching question: Where were you?" (Job 38:4). He wants Job to reflect on his own position which humbly places him as the created being, not the Creator. Through this question, God allows harmony to enter Job's soul as he reconciles his posture and position before God, the Almighty Creator. In Jonah 4:4, God also asks his prophet another difficult question which again, humbles yet harmonizes his seething servant: "Have you any right to be angry?" This question required Jonah to think better of his own judgement and humbly reflect on God's mercy towards the Ninevah vulture and himself. Soul-orientating questions naturally place humans in a receptive posture (whether asked or asking).

In the New Testament, instead of entering heated debates with sinners or his enemies to win an argument or make a point, Christ Jesus, uses well-appointed questions to seek understanding—often the question is for the internal self-reflection and personal assessment of the person he is asking. Jesus asks his disciples in Mark 16:15, "Who do you say that I am?" This question, the question of all questions according to Christians, creates a discord within a human soul until they can harmoniously place Christ, the *Logos*, the Messiah, on the

throne of God as John finally does in Revelations 2. The Art of Dialectic helps people learn to ask good questions and follow them to their conclusion so there is harmony within our minds.

Logic Embodies the *Logos*, "Word Made Flesh"

For Christians, the study of logic should reveal the nature of Christ, the "Word made flesh" who "dwelt among us," as it says in John 1:14. Christ, the *Logos*, the Word, holds the keys to all knowledge for, "All things came into being through Him, and apart from Him nothing came into being that has come into being" (John 1:3). Christ, the *Logos*, the Word, spoke everything into being. He was there at the beginning. He ordered the days of creation as it says in Genesis by speaking into the darkness and separating the light from the dark, then separating the waters, and separating the land from water. After this, each unique piece of creation, light, dark, water in the atmospheres, water in the sea, dry land, was filled with things according to its purpose and to the delight of the Creator. Through the spoken Word, chaos became beautiful and ordered. Everything created paired with its purpose and kind, a natural taxonomy. Adam and Eve, made in the image of the Word, imitated their creator by speaking over creation, naming them and ordering them according to their own kind, "The man gave names to all the cattle, and to the birds of the sky, and every beast of the field" (Genesis 2:20). Only when both Adam and Eve wanted to use knowledge and understanding for something outside of their purpose did they sin. Knowledge and understanding were not sinful, but their unhealthy love for it was. John Milton, author of *Paradise Lost*, an epic poem about Adam and Eve's fall from grace, says in *Of Education* that,

> "The end then of learning is to repair the ruins of our first parents by regaining to know God aright, and out of that knowledge to love him, to imitate him, to be like

> him, as we may the nearest by possessing our souls of true virtue, which being united to the heavenly grace of faith makes up the highest perfection."[16]

In essence, the purpose of logic is to know Christ better to live better, so one can be "united to the heavenly grace of faith" which "makes up the highest perfection." The purpose of logic is to know Christ better, live better, so we can love and understand our neighbors better.

Logic and Classical Christian Education

Thomas Aquinas posed questions in his *Summa Theologica* about Christian theology and then answered them with distinctly arranged and thoughtful answers: "*Summa Theologica* of Saint Thomas Aquinas illustrates how division deepens insight and manifests comprehensive order."[17] Many classical Christian schools use a similar series of question-and-answer flows, that help learners orient themselves to the correct disposition of certain content and offers an example of good questions to imitate. This "catechism" begins when students are in lower school and first beginning to ask good questions.[18] However, classical Christian teachers often have students recite a catechesis for other areas of knowledge so that they can know the important types of questions to ask about given subjects. According to John of Salisbury, "For it (logic) provides a mastery of invention and judgement, as well as supplies ability to divide, define, and prove with conviction."[19] In this way and with dialogue, the skills of logic are mastered across the curriculum in all subjects. While often studied

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[16] John Milton's "Of Education," in *The Great Tradition: Classic Readings on What It Means to Be an Educated Human Being* (Washington, D.C: Regnery Gateway, 2023), 469.

[17] Joseph and McGlinn, *The Trivium,* 84.

[18] Clark, Jain, and Kreeft, *The Liberal Arts Tradition,* 58.

[19] McGarry and McGarry, *The Metalogicon of John of Salisbury,* 84.

formally as an isolated subject itself beginning in middle school, the art should quickly become woven into how students think about philosophy, theology, literature, the sciences, and mathematics.

Classical Christian schools purposefully teach the art of logic which have been long forgotten by progressive schools. Logic, part of the Trivium (along with Grammar and Rhetoric as mentioned) and the larger group of seven liberal arts which also include the Quadrivium (Arithmetic, Music, Geometry and Astronomy) was the curriculum of all schools until one hundred years ago when education became about utilitarian purpose and not for the purpose of freedom. In the classical school tradition, students are taught logic as "as a consequence of other studies, and these it subsequently organizes and vivifies, except so far as it may be deterred by the noxious impediments of inertia and ignorance."[20]

Current Challenges Facing Logic

There are many challenges that face the study of logic. Most progressive schools do not include it at all in their curriculum. It is relegated to law school where lawyers in training use it to excavate information during litigation. This is due to deductive reasoning becoming less popular during the scientific revolution (roughly 17th – 19th centuries) and a false understanding that all "universal assumptions . . . are either unproveable or tautological."[21] Inductive reasoning and gathering empirical knowledge with the senses replaced the study of formal logic. Instead of adhering to any universal given knowledge and asking questions which led to better understanding, the scientific

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[20] McGarry and McGarry, *The Metalogicon of John of Salisbury,* 101.

[21] Dorothy L. Sayers, *The Lost Tools of Learning and the Mind of the Maker* (Oxford: Oxford City Press, 2010), 13.

revolution focused on questioning long held truths about the nature of how things worked. Some of this proved important to advance knowledge, but it also led to questioning if there is any knowable truth at all other than what can be observed through the senses and repeated in an experiment. Sayers says, "Logic has been discredited, partly because we have come to suppose that we are conditioned almost entirely by the intuitive and the unconscious," and the belief that logic "is entirely based upon universal assumptions that are either unprovable or tautological."[22] She argues that these notions are untrue. Universal ideas can be still brought to the hypothetical (a hypothesis), and one must start somewhere to discover any kind of truth. It is not about "positive conclusion" but "prompt detection and exposure of invalid inference."[23]

In addition, progressive education prefers scientific knowledge over the study of informal or formal logic. Philosophical truths and ethics are perceived as not universal, and truth is proclaimed as variable and utilitarian to promote survival and social order through experience. John Dewey, father of modern progressive education asserts in his manifesto, *Democracy and Education (1916)*, "It is the very nature of life to strive to continue in being. Since this continuance can be secured only by constant renewals, life is a self-renewing process. What nutrition and reproduction are to physiological life, education is to social life."[24] In essence, like life, which is continuously renewing itself, education renews society and its understanding of

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[22] Sayers, *Lost Tools of Learning*, 13.

[23] Sayers, *Lost Tools of Learning*, 13.

[24] John Dewey, *Democracy and Education, Internet Archive, of Pennsylvania State University, Electronic Classics Series* (Hazelton, PA: Pennsylvania State University, 2001), https://archive.org/details/DemocracyAndEducation_201507/page/n1/mode/2up, 13.

normative knowledge. Instead of viewing education as developing skills (like the liberal arts) to uncover universal truths, Dewey views education as an ever-changing science to reinvent what is real. Of course, this modern understanding of relative truth is paired with the notion that empirical science is the only way to truth. This is the result of philosophy being separated from scientific study, a result of the scientific revolution. Before the Enlightenment, philosophy and science were studied together within the scope of all the liberal arts. Nature was studied within the normative understanding of reality. When philosophy and science fragmented, polarity occurred. Now it seems that the modern study of both lack respect for purpose or *telos* of nature, since the Enlightenment produced a "new technological order detached from any limitations or natural *telos*."[25] Even though classical Christian curriculum and pedagogy offer students a more balanced view of knowledge and truth, they compete with modern scientific expectations.

This is not the only challenge to classical Christian schools. Another challenge is that many teachers who teach logic never had logic in their own K-12 or college education. They were also raised in a culture of relativistic ethics and dogmatic empirical science. They often learn formal and informal logic as they teach it to students (as I did). This is noble and redeeming, but it is unsettling. Many teachers shy away from trying because they feel ill-equipped. Oftentimes, the study of logic in classical schools stays in its own silo instead of being integrated into all areas of knowledge. Logic should be integrated with other subjects. According to Sayers, logic is a skill to be practiced

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[25] Ravi Scott Jain, Robbie Andreasen, and Chris Hall, *A New Natural Philosophy: Recovering a Natural Science and Christian Pedagogy* (Camp Hill, PA: Classical Academic Press, 2021), 56.

in all content.[26] Classical Christian teachers must vigilantly become students again, not just of logic, but all the arts of the trivium, so they can integrate knowledge fluidly and provide students with questions that cause wonder.

Conclusion: Logic, Listening, and Love

Logic, especially in the classical Christian school, must be dedicated to a love of the truth. If not, it can be weaponized for false wisdom or sophistry. Quoting from 2 Timothy 3, Salisbury warns that "forever studying, but never acquiring knowledge" leads to "babbling utter nonsense."[27] He also asserts that though people have a "natural faculty of reason," which could be "keen," but will be "greatly handicapped in philosophical pursuits if he is without a rational system whereby he may accomplish his purpose."[28] In the same way, logic addresses the intellect and not the imagination and affections according to Joseph.[29] Logic does not make a person virtuous. Therefore, logic without love and virtue is much like a "clanging symbol" as Paul points out in 1 Corinthians 13. If its purpose is to word-lash an opponent into submission to win an argument (no matter how true it may be) then logic is used in vice.

As mentioned in the introduction, logic is a means to love God and neighbor better. It is a beautiful gift that only humans have—the ability to reason, question, and follow the arrangement of an argument. In Luke 10, when Jesus meets the lawyer who asks him, "what must I do to inherit eternal life," Jesus counters with another question toward

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26 Sayers, *The Lost Tools of Learning*, 11.

27 McGarry and McGarry, *The Metalogicon of John of Salisbury,* 89.

28 McGarry and McGarry, *The Metalogicon of John of Salisbury,* 82.

29 Joseph and McGlinn, *The Trivium,* 45.

the good and true, directing the lawyer to answer, "'Love the Lord your God with all your heart and with all your soul and with all your strength and with all your mind' and, 'Love your neighbor as yourself.'" However, according to the Scripture, the lawyer "wanted to justify himself" by asking the question, "Who is my neighbor?" At this point, logic did not serve the lawyer well. He did not want the truth. He wanted to be justified in his answer. Logic became a resounding gong without love for truth. Aware, Jesus graciously answers his question with a story about a Good Samaritan and after the story he asks him a final question to diffuse his self-righteousness, "Which of these three do you think was a neighbor to the man who fell into the hands of robbers?" With logic, storytelling, and lots of grace and patience, Jesus leads the lawyer to better questions so he could encounter true eternal life rather than the appearance of it. This is the true heart of logic: to know and love the *Logos*, Christ, more fully and our neighbors as ourselves. Only then can truth set people free.

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"O dear Rhetoric, where from; where to?" The Liberal and Practical Art of Rhetoric from Antiquity to Present

by Benjamin V. Beier

In one of the finest considerations of rhetoric that there is, Plato's Socrates begins by asking his friend, Phaedrus, whose name titles the dialogue: "My dear friend Phaedrus! Where is it you're going and where have you come from?"[1] Plato gives Socrates these lines not just to break in artfully like an epic poet in the middle of things and to send the interlocutors from a place inside the city to outside its walls under the plane tree, but also to set up the accounts of love and of rhetoric and of orality in the dialogue wherein we will find much movement: horses and charioteers flying in circuits, lovers and beloveds propelled and struck by eros and beauty, dialecticians inscribing truths conversationally (in a manner that is hard not to associate anachronistically with pairs of learners walking the shady groves of Plato's Academy in dialectical conversation), and rhetors leading audiences. The dialogue's first line introduces and anticipates these many instances of motion and each movement in the text casts an interpretive light on the others.

For Plato's Socrates (at least in the *Phaedrus*), rhetoric is the "art of leading the soul by means of words."[2] In this account, the rhetorician—attentive

[1] Plato, "Phaedrus" in *Lysis* • *Symposium* • *Phaedrus*, ed. and trans. Chris Emlyn-Jones and William Preddy, Loeb Classical Library 166 (Cambridge, MA: Harvard University Press, 2022), 321-531, esp. 344-45 (227a). The Greek (and my adaptation of this moment in this essay's title) is more terse.

[2] Plato, "Phaedrus," 462-63 (261a).

Polyhymnia (Rhetoric)
Fresco
Pompeii
Roman
1st Century AD
(public domain)

to the circumstances in which the suasion occurs—strives to lead an audience *from* ignorance and opinion *to* knowledge and/or good action by employing—in Aristotle's idiom—the most suitable, available means of persuasion.[3] This essay will take this account of rhetoric as a foundation and will adapt the emphasis on motion in the *Phaedrus* to frame its two sections: 1) *Rhetoric, Where From*? 2) *Rhetoric, Where To*? That is, this essay will begin with a synoptic account of the history of western rhetoric that attempts also to give a basic account of what rhetoric is. Then, in a second and final section, the essay will consider some of the challenges to and opportunities for teaching, learning, and practicing rhetoric going forward, especially in Christian educational institutions today.

Rhetoric, Where From? The History and Nature of the Art

Rhetoric is the liberal and practical art of persuasive communication, which for our present purposes can be especially considered with respect to verbal communication, spoken and written. It has a long history of practice both in public discourse and in the classroom, and a vast body of theoretical literature that has arisen from reflections upon such practice. At many moments throughout history, it has been an art that not only attends to persuasive communication, narrowly conceived, but to nearly all the humane letters of the curriculum because of rhetoric's focus on the beauty and power of words and because the rhetorician must be knowledgeable in nearly every subject.

While many people use the word "rhetoric" to denominate the lies or other verbal tricks of an ill-willed opponent (a phenomenon better called "sophistry"), rhetoric—properly understood—is ordered toward the true and good. It is a practice of persuasive speaking and writing

[3] For Aristotle's definition, see Aristotle, *On Rhetoric: A Theory of Civic Discourse,* trans. George A. Kennedy, 2nd ed. (New York: Oxford University Press: 2007), 37 (1355b).

from which educators have subsequently derived accounts of an art of speaking and/or writing well, and on which philosophical theorists have subsequently mused to give accounts of the nature and ethics of words, persuasion, and communication. While the practice of persuasive verbal communication and subsequent practical or theoretical reflection on it arose in many cultures, the tradition of rhetoric that is the basis for the present account and for most teaching and learning of rhetoric in the United States today began in ancient Greece. Moments of rhetoric are represented and reflected on in the Homeric poems; the ancient or "older" sophists and Isocrates rose to prominence by teaching either a counterfeit of rhetoric (sophists) or a version of it (Isocrates), and Isocrates—along with Demosthenes and others—would come to be numbered one of the ten Attic orators of excellent rhetorical praxis. Rhetoric textbooks were produced, and Plato and Aristotle reflected on rhetorical and sophistical practice and on the precepts of manuals to theorize their answers to the fundamental questions about rhetoric. Aristotle, as hinted at above, defines rhetoric as the power of discovering the available means of persuasion that are fitted to the particular case at hand.[4] While arguably neither Plato nor Aristotle is unfriendly to rhetoric, their critiques of the manipulative use of words can be narrated as part of one of the first skirmishes in the war between philosophers and orators, a 2,500-year conflict that has been employed as a way to organize the whole history of liberal education.[5] In this division, rhetoric—to the orators—is "not simply a discipline, not simply the culminating [or configuring] discipline, but the discipline that imbue[s] the whole system [of the *studia humanitatis*] … and [gives] it a life-shaping force."[6]

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4 Aristotle, *On Rhetoric,* 37 (1355b).

5 Bruce A. Kimball, *Orators & Philosophers: A History of the Idea of Liberal Education*, expanded ed. (New York: College Entrance Examination Board, 1995).

6 John O'Malley, S.J., "Foreword," in *Traditions of Eloquence: The Jesuits & Modern Rhetorical Studies,* ed. Cinthia Gannett and John C. Brereton (New York: Fordham University Press, 2016), ix-xiii, esp. ix, xi.

Notably, the three ways of teaching and learning rhetoric that George Kennedy has shown endure across the centuries and millennia are all present in these Greek beginnings.[7] Some teach or learn rhetoric primarily (if not exclusively) in a philosophic mode that seeks to understand rhetoric without necessarily attending to the improvement of a student's rhetorical ability. Alternatively, teachers and students may employ a technical or deductive mode that communicates precepts or general principles, often collected in a manual or textbook, that the students must then apply themselves in a particular rhetorical situation. Manuals of preceptual rhetoric eventually come to include treatments of some combination of many of the elements that we associate closely with rhetorical art like the canons of rhetoric (invention, arrangement, style, memory, delivery), rhetorical genres (judicial, epideictic, deliberative), appeals (logos, ethos pathos), rhetorical topics, stasis theory, organizational formulae, levels and virtues of style, the figures of speech, memory palaces, and gestures. Finally, one may teach or learn rhetoric chiefly in an inductive or emulative mode that emphasizes students doing exercises and imitating models. Such was the manner in which Isocrates taught rhetoric, and, albeit much later, such is the program implied in the various progymnasmata exercises of Aphthonius and the like. Admittedly, certain teachers and theorists of rhetoric cannot be easily placed within one of these three modes. The great Cicero, for instance, gives excellent speeches worthy of imitation, writes a deductive preceptual manual, and gives sapient theorizations about the nature, purpose, and ethics of rhetoric. Nevertheless, the division is helpful, and most teachers and theorists of rhetoric

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[7] George A. Kennedy, *Classical Rhetoric & Its Christian and Secular Tradition from Ancient to Modern Times*, 2nd ed. (Chapel Hill, NC: University of North Carolina Press, 1999) 13-15. The present account is deeply in debt to this work of Kennedy. On the history of rhetoric, see also the historical entries in *Encyclopedia of Rhetoric,* ed. Thomas O. Sloane (Oxford: Oxford University Press, 2001).

primarily instruct in one or these three modes, even if drawing upon more than one.

To mention Cicero or the progymnasmata is to leap ahead. The Hellenistic tradition of rhetorical practice and reflection continued to develop and did so especially through complicated but fruitful encounters between Hellenistic culture and Roman, Jewish, and Christian learning that find expression in the oratory and/or theory of figures like Cicero and Quintilian; Philo; and Paul of Tarsus, Origen, the Cappadocian Fathers, Chrysostom, Lactantius, and Augustine.[8] Additionally, as rhetoric is unyoked from the Greek, democratic context in which it had flowered, some forms of persuasion go dormant and some new rhetorical conventions arise, and emphasis is sometimes laid on different media, such as the epistle. Moreover, around the last century B.C. and in the first few centuries A.D., educators and theorists begin to enumerate lists of the liberal arts or of the disciplines found in the circle of studies (*enkuklios paideia*). Rhetoric is typically included in these inventories except when a theorist places rhetoric as a higher art rather than one of the propaedeutic liberal arts.[9]

By the time of the Middle Ages, the liberal arts had been codified to include only seven subjects, among which the *trivium* of grammar, logic, and rhetoric had been canonized as the three of seven that attended to words, each in a different respect. In the mnemonic verse that digests the accounts of the late antique and medieval encyclopedists: "Grammar speaks, Logic teaches truth, and Rhetoric

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[8] This list is selectively derived from Kennedy, *Classical Rhetoric & Its Christian and Secular Tradition*, 98-126, 137-82.

[9] Paul Abelson, *The Seven Liberal Arts: A Study in Medieval Culture*, Kessinger Legacy Reprints (New York: Teachers College Columbia University, 1906), 1-10, esp. 5.

gives color." Or, as Hugh of St. Victor defines the last in the series: "[R]hetoric is the discipline of persuading to every suitable thing."[10] Notably, rhetoric was theorized earlier than either of the other two verbal arts. And while the medieval ideal, suggested in the mnemonic verse, is that students first would study grammar to use words correctly, then logic to use them to articulate and discover the true, and finally rhetoric to communicate truths learned to audiences in a pleasing style, in fact, grammar and rhetoric were often taught prior to logic in the medieval period. Moreover, while there are often differences between ideals and historical practices, the seven liberal arts were clearly considered to be the propaedeutic ideal of the medieval curriculum. These seven arts would give students excellent facility with words and numbers, so that they might proceed to higher studies with a sufficient possession of the tools needed to think and argue.

This account of the liberal arts in the Middle Ages provides occasion for a brief digression. Thus far, the present essay has used terms like liberal education, liberal arts, and classical education without comment. Taking a cue from the medieval model of the liberal arts just put forth, the essay has already and will continue to use "liberal arts" to talk only about the seven arts of the trivium and quadrivium. That which I denominate "liberal education" includes these seven studies of words and number but also considers with the help of verbal and numerical tools: the natural world, human culture, and the divine. "Classical education," in spite of some precise and more constricted ways in which it was used in the 19th and early 20th century, will for our purposes

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[10] The translation of the verse is mine; for the Latin and an alternative rendering, see Jeffrey F. Huntsman, "Grammar," in *The Seven Liberal Arts in the Middle Ages,* ed. David L. Wagner, 1st Midland Book ed. (Bloomington, IN: Indiana University Press, 1986), 58-95, esp. 60. Hugh of St. Victor, *The Didascalicon of Hugh of Saint Victor: A Medieval Guide to the Arts,* trans. Jerome Taylor (New York: Columbia University Press, 1991), 82.

be—more or less—interchangeable with "liberal education" as both aim at wisdom and virtue for the students through a curriculum that is grounded in the seven liberal arts and ascends to higher studies while passing on a heritage and attending to artifacts that are *classicus*, of the highest order or rank. While such a canon of artifacts will necessarily be mostly from the past (including the antique or "classical" past), classical/liberal education is a dynamic tradition that is also able to assimilate new texts, subjects, and practices that further its ability to shape the student in wisdom and virtue today. While this essay uses "classical" and "liberal" interchangeably hereafter, there is one shade of difference between the two in much contemporary usage that merits mention and that may influence when I choose to use which word. Many people today use "classical" to talk primarily about K-12 liberal education and many use "liberal" to talk about collegiate or classical higher education.

To return to the rhetoric of medieval times, the medieval university clearly took the side of logic in the struggle between orators and philosophers—or rhetoricians and logicians,—but the Renaissance brought with it an aversion to the abstractions of logic, a love for the beauties of rhetorical and poetic language in the good letters of the *studia humanitatis*, and a zeal for involvement in civic affairs and royal courts wherein skill in rhetoric was a necessary attribute. As part of a larger Christian humanist project, educational reformers of the period, like Erasmus of Rotterdam, went back, *ad fontes*, to the sources, so that they might restore the diction and styles of ancient rhetoricians as well as recover the wisdom of those who had reflected in antiquity on rhetorical practice—whether in textbooks or more philosophically. Moreover, Erasmus (and many others) articulated programs for the reform of education in his own time that were rich in rhetoric, and he penned numerous pedagogical or educational rhetorical texts, some for use by students and others to form teachers of those students. In many ways, the rhetorical portion of Erasmus' project survived the Reformation, with rhetoric being prized cross-confessionally by figures

like Ignatius of Loyola and Philip Melancthon—each of whom not only benefited from their own rhetorical knowledge but also insisted on teaching rhetoric to the next generations. In those next generations, we find continued attention to rhetoric not only in the reading, speaking, and writing of Latin, but also in the emergence of vernacular rhetoric both in artful acts of persuasion in modern languages and in vernacular manuals of rhetoric. And the blending of Latin and the vernacular in rhetorical education or in practice brings about remarkable achievements. To add emphasis to the observation of one scholar: Shakespeare's corpus is "in a concrete way one of *the* achievements of . . . rhetoric."[11]

And while rhetorical practice and education in many ways continue well into modernity and into the new world as an important part of human life,[12] it is also the case that the attention to, interest in, and teaching of rhetoric slowly wane across the eras sometimes denominated as middle and late modernity. A great variety of causes can (and have) been given for this diminution; let me mention only four: First, the theories of Peter Ramus (1515-1572) inaugurate a contraction of rhetorical art, so that ultimately it comes to be considered by some a subject only concerned with style and delivery, with the superficial rather than with substance. Second, authoritative representatives of the new science, like Francis Bacon (1561-1626), insist on the use of a plain style and intimate (erroneously) that such a style is a-rhetorical. Third, the development of different political theories, arrangements, and media prevents rhetoric from being practiced as frequently or

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[11] The added emphasis in the quotation pushes the judgment beyond the meaning found in Kennedy, *Classical Rhetoric & Its Christian and Secular Tradition,* 249. On the post-Reformation unity of Europe found in rhetoric, see O'Malley, S.J., "Foreword," ix; and Christopher Dawson, *The Crisis of Western Education* (Washington, D.C.: Catholic University of America Press, 2010), 29-30.

[12] Consider, for instance, John Quincy Adams's lectures at Harvard on Quintilian and rhetoric.

fully in some places, and thus, it came to be valued less by some. Finally, the alterations in curricula and of institutional organization in higher education—such as the introduction of the collegiate elective systems in the United States and the genesis in the anglophone world of the discipline of English in the late 19th and early 20th centuries—removed requirements and opportunities for the study rhetoric.

Yet, after being thought dead or dormant in the mid- to late-19th century,[13] rhetoric has made a remarkable comeback in the renewal of classical and liberal education underway in the United States today. There are a great number of causes for this renaissance of rhetoric,[14] including the thought and reception of Dorothy Sayers's 1947 "The Lost Tools of Learning" lecture, the arguments of John Henry Newman for the liberal arts and a liberal education, and the academic and pedagogical writings of some 20th-century composition scholars. Antecedents like these have helped lead to rhetoric's present standing in classical and liberal education, so that today it is often found in curricula, has a number of sound and creative materials available for classroom use, has a large body of scholarly work dedicated to it, and has a number of teachers, actual and potential, who are trained in the art.

Rhetoric, Where To? The Future of Rhetoric

We have seen that rhetoric is the liberal art of verbal persuasive communication. While first called "liberal" because it was the free men, rather than the slaves and women, of antiquity who had the time and means to pursue this study, its liberal character has ultimately come

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[13] See Jane Sutton, "The Death of Rhetoric and its Rebirth in Philosophy," *Rhetorica: A Journal of the History of Rhetoric* 4, no. 3 (Summer 1986): 203-26, esp. 203-04.

[14] I am not the only one to speak of a "renaissance" of rhetoric. See, for example, Kennedy, *Classical Rhetoric & Its Christian and Secular Tradition*, 293.

to be appreciated for the manner in which it actualizes a distinctively human language potential that is a good prior to and regardless of its usefulness for every human being. Yet, rhetoric—as an art of language—is not only good but also tremendously useful to the learning of all subjects and to living life well in community, to using clear words and thinking clear thoughts, so that this art is both propaedeutic (preparatory for all study and for life) and a key part of the heritage that a liberal education passes on, with a bearing on all subjects and an ability to hold together and organize a curriculum of the good letters of grammar, poetry, drama, music, history, oratory, ethics, and the like.

Rhetoric has good standing in classical schools and collegiate institutions dedicated to providing a liberal education today. Yet, the present is not without its challenges and opportunities for the teaching, learning, and practicing of this perennial subject going forward. Like nearly every good, if mishandled, rhetoric will do great harm.[15] So, by way of conclusion, I want to address four dangers with correlative opportunities attendant on the teaching and learning of rhetoric today. While these dangers and opportunities are present in every classical and liberal education context, they take a particular form in Christian institutions of liberal learning—primary, secondary, and collegiate—environments that ought to be inspired and guided by, and sustained and imbued with the gospel of Jesus Christ, founded on a Christian anthropology, and animated by communion and community,[16] and where rhetoric can play an important part in the attempt to cultivate wisdom and encourage theological and moral virtues of all involved in the educational activity, especially students. Many connections between rhetorical dangers/opportunities and the Christian educational mission can be drawn. Those that I will

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[15] Aristotle, *On Rhetoric,* 36 (1355b).

[16] I have adapted Archbishop J. Michael Miller's marks of a Catholic school for all Christian schools and colleges. See his *The Holy See's Teaching on Catholic Schools* (Atlanta, GA: Solidarity Association, 2006).

make—some explicit and many implicit—are especially informed by the work and thought of the Society of Jesus—the Catholic order founded by the aforementioned Ignatius of Loyola and also known as the Jesuits—who have over 400 years of experience teaching rhetoric as part of a larger Christian educational mission and who helped to keep a unified attention on rhetoric in education across a divided Europe after the Reformation.[17]

Some chief dangers, each with correlative opportunities, are the despairing, Calliclean, Atticizing, and Tertullianic temptations;[18] let's examine each in turn. The contemporary circumstances of learning may tempt some teachers of rhetoric to despair. We are in an age in which students can and sometimes will use artificial intelligence, relying on words generated by machines and refusing to undertake the work necessary to gain rhetorical facility in spite of policies against AI-use on a syllabus or at an institution. Yet, in this situation, the tradition of rhetoric offers tried and true assignments—less subject to AI interference—that require students to respond orally and/or extemporaneously as means to gaining verbal facility.[19] Moreover, a teacher might despair at our culture's current inability to practice productive and cordial disagreement, to argue. Yet, training in rhetoric is a condition of possibility for

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[17] On the Jesuits and rhetoric generally, see *Traditions of Eloquence: The Jesuits & Modern Rhetorical Studies,* ed. Cinthia Gannett and John C. Brereton (New York: Fordham University Press, 2016). On the cross-confessional attention to rhetoric after the Reformation, again see O'Malley, S.J., "Foreword," ix; and Dawson, *The Crisis of Western Education,* 29-30.

[18] I frame most of the dangers-opportunities as binary pairs. It would also be fruitful to consider an opportunity as a middle way between extremes of deficiency and excess, but to do so can put less emphasis on a circumstantial danger that in some cases only tends toward deficiency or excess.

[19] For a related argument, see Jeffrey Bishop and Charles Freiberg, "From Essay to Disputation: The Liberal Arts in a Digital Age," *Church Life Journal*, https://churchlifejournal.nd.edu/articles/from-essay-to-disputation-the-liberal-arts-in-a-digital-age/, April 10, 2025.

a renewal of public discourse wherein participants must listen and respond to the evidences of others, with an understanding of how to craft an argument and a determination to avoid sophistry. Finally, an observer might despair that audiences' attention spans are so short at present that the rhetorician has a very limited number of means of persuasion available to her as she crafts an act of persuasion.[20] It may be so, yet training in rhetoric with the attention it gives to the situatedness of persuasion makes the most of this limitation; students trained in rhetoric can understand what means truly are available and will be sensitive to the differences between various media in which acts of persuasion are made. Each medium has distinct strengths and limitations, so that he who attends to a medium with care may discover untapped potentials and employ them for the good.

The second temptation is the Calliclean, the temptation—arguably articulated by Callicles in Plato's *Gorgias*—to use knowledge of rhetoric at best pragmatically for mere transactional gain or at worst sophistically to exercise power unjustly over and against others for one's own base pleasure and self-aggrandizement. In the same way that ancient Athenian youths on the make paid urbane teachers to learn well how to make the weaker case the stronger and to win at all costs, so too today's utilitarian students might miss the liberal quality of rhetoric, which actualizes a distinct facet of our nature, and may assimilate its techniques simply to rise through the ranks of a profession or to exercise verbal force sophistically against another.[21] Institutions can be tempted along the same lines to include rhetoric

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[20] Thanks to my colleague, Mr. Jon Balsbaugh, for his thoughtful (but not despairing!) articulation of this point. In what follows in the rest of the present paragraph, consider the way that rhetoric is able to find a "better course" of action, even when the "ideal" or "best" way is not available; O'Malley, S.J., "Foreword," x.

[21] Thanks to my colleague, Dr. Catherine Kuiper, for making this helpful connection between antiquity and today, and for her reflections on the relationship between rhetorical style and taste, that helped to shape my thinking and have led to a remark later in the essay.

in the curriculum primarily to create a cohort of powerful speakers that they might become political or religious operatives rather than wise and virtuous persons with verbal skills to stand for the good and to witness to the Christian faith while respecting the freedom of each audience member addressed in a given act of persuasion. Of course, anyone (student, teacher, or institution) who undertakes any study—and especially the study of a situated art like rhetoric—will have existential motivations, but we must bind our many intentions for rhetorical study to its liberal purpose, to the objective content of the art, and to a sound rhetorical ethics. Such a joining has the potential to purify bad intentions. In some ways the opportunity afforded to rhetorical study and practice when it resists the first two temptations, despairing and Calliclean, is that rhetoric is ordered toward the good of the student and training her to take care for the common good in a manner that "correlate[s] well with the gospel injunction to love one's neighbors and be of service to them," a connection that can be explicitly made within a Christian educational environment.[22]

A third temptation in the teaching and learning of rhetoric can be characterized as the temptation to Atticize. In antiquity, a debate arose about whether a wild, Asianic style might be permitted to rhetors or whether they ought instead to employ a staid, Atticist style. As rhetoric draws from a long tradition and rightly reveres great acts and texts of rhetorical practice and theory, it can unnecessarily become hyper-dogmatic and without life, insistent on the Attic, narrowly understood. There is the danger of slavishly trying to do rhetoric prescriptively just as it was done at a past moment rather than practicing the art while both grounded in the past and attentive to the present with "creativity and innovation."[23] Rhetorical

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[22] O'Malley, S.J., "Foreword," xii.

[23] See Stephen C. Colvin, "Atticist-Asianist Controversy," in *Encyclopedia of Rhetoric*, ed. Thomas O. Sloane (Oxford: Oxford University Press, 2001), 57-59, esp. 58. The Renaissance had a similar dispute over whether or not to follow the model of Cicero slavishly.

prescriptivism takes many forms. There are those who foolishly may be tempted to attend to Aristotelian rhetoric at the expense of the Platonic or Isocratic; or to study only Greek rhetoric at the expense of the Roman. There are those who insist that a classical and liberal education attend only to vernacular and translated texts, or exclusively to Latin rhetoric. As time and student ability allow, however, classical and liberal education should cultivate the rhetorical arts in many tongues. The heart language of students has excellent rhetorical artifacts, worthy of attention, and rhetorical study in one's native language is a sound way to prepare for the ubiquitous rhetorical acts of daily life. Foreign tongues, however, including the biblical languages, are also precious; therein, we find many of the finest things that have been said, spoken with beauty and power.[24] These too are worthy of rhetorical study and emulation. Moreover, we ought to encourage a beautiful, symphonic diversity among institutions of classical and liberal education. Christian liberal education institutions have different charisms and apostolates, different origins and circumstances, so that one school may especially excel in Latin or vernacular language arts while another gives particular attention to Greek rhetoric as befits some of the particularities of their respective communities, yet each one beautifully seeks to glorify God and help students pursue wisdom and virtue by focusing, in part, on the art of rhetoric.[25]

The "purist" Atticist temptation is at one extreme on a continuum, at the other end of which we find a related temptation to rhetorical revolution. This rebellion makes rhetoric so flexible as to mean whatever an individual or institution wants it to mean. While we can and sometimes

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[24] On the "precious[ness]" of biblical languages, see Jean-Louis Chrétien, *Under the Gaze of the Bible,* trans. John Marson Dunaway (New York: Fordham University Press, 2015), 3.

[25] On complementary diversity in Christian education, see Terence Sweeney, "Institutional Diversity and Identity in Catholic Education," *Church Life Journal*, https://churchlifejournal.nd.edu/articles/institutional-diversity-and-identity-in-catholic-education/, May 21, 2024.

should connect rhetoric to literature, theater, dance, aesthetics, art, architecture, hermeneutics, media, and more, we need to continue to treat rhetoric as a subject with content not as a mere metaphor or stage as it was often treated in the early days of the classical education renewal in the 20th-century United States.[26] And as it can be hard to find sufficient time for content, classical Christian educators should be wary of the temptation to teach rhetorical content only via rhetorical precepts (without philosophic and/or imitative rhetoric). This mode may be appealing because it can be done quickly and assessed easily, but it will not as fully actualize the rhetorical potential of the student and will lessen contemplative, creative, and fun aspects of the activity along the way. The absence of such aspects not only will limit student interest and engagement, but also will diminish the ability of rhetoric (assuming God's prior action) to help students "restore . . . the divine likeness" in themselves.[27]

Finally, there is the Tertullianic temptation. While Tertulian's own position toward Athens may be more complicated than his famous question—what does Athens have to do with Jerusalem?—suggests, some Christian institutions may be tempted to avoid the study of rhetoric all together, setting—as St. Paul appears to do—the "wisdom of words" aside for the sake of Christ (1 Cor 1:17).[28] Yet, without rehearsing it fully here, it

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[26] David Goodwin, "A Short History of Classical Christian Education's Recovery," in *The Liberal Arts Tradition: A Philosophy of Christian Classical Education,* Kevin Clark and Ravi Scott Jain, 3rd ed. (Camp Hill, PA: Classical Academic Press, 2021) ix-xiv, esp. ix.

[27] On "restoring the divine likeness" and education, see Hugh of St. Victor, *The Didascalicon,* 61. A number of thinkers have commented on the relation between the divine likeness in the human being and her capacity for contemplation, creative making, or fun.

[28] This biblical translation and all subsequent ones are from the *Authorized King James Version with Apocrypha,* Oxford World Classics (Oxford: Oxford University Press, 2008). For a treatment of this passage in particular and of St. Paul's view and practice of rhetoric in general, see Duane Litfin, *St. Paul's Theology of Proclamation: 1 Corinthians 1-4 and Greco-Roman rhetoric* (Cambridge: Cambridge University Press, 1994).

should be noted that there is a long and persuasive Christian tradition with a great diversity of voices (including Paul's) that speaks in favor of rhetoric as wisdom bearing, as an art of words from and for the Incarnate Word, as worthy of our reflection and practice.

Rhetoric can be a "creative driving force" in Christian anthropology and ethics.[29] When institutions allow rhetoric to strengthen students' ability to discover and choose the best option among the many possible available means of persuasion in a given situation, the student is also given anthropological insight. The rhetorical habit of mind can help students to grow in empathy with audiences and to understand the rational and emotion aspects of human nature and judgment. Also, this habit—in its ability to make sound, probable judgements—cultivates something akin to the cardinal virtue of prudence.[30] And while it seems clear that moral and theological virtues cannot be taught (only encouraged), in the context of a Christian institution of learning wherein there is care for the whole person of the student, this word-power can be yoked with moral virtue, as it has been since at least Quintilian, and to the more general study of good letters, which sharpen the mind in general and give students powerful exempla that instruct the head *and* stir the heart in moral matters in particular.[31]

To sharpen the mind or instruct the head is also to give intellectual virtues and knowledge. The habit of discovering which available means are best in a situation can also improve students' counter-factual thinking ability and can enlarge the scope of their imaginations. Rhetoric asks of students a prior possession of the rudiments of logic and grammar for

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[29] O'Malley, S.J., "Foreword," xiii, quotes Marc Fumaroli's remark that for the Jesuits rhetoric was "the creative driving force of their ethics, spirituality, exegesis, anthropology, and theology."

[30] O'Malley, S.J., "Foreword," xi.

[31] See Thomas More, "A Dialogue of Sir Thomas More, Knight," in *The Essential Works of Thomas More*, ed. Gerard B. Wegemer and Stephen W. Smith (New Haven: Yale University Press, 2020), 524-733, esp. 581.

rhetorical application and assists students in the development of a prose style that is beautiful, accessible, and uniquely suited to the strengths and tastes of the particular student. Moreover, rhetoric encourages and aids students in coming to know about many subject areas, and continued engagements with rhetoric—situated and flexible, but principled—offer students a model by which to integrate different kinds of knowledge and to hold together, for instance, the best insights of modernity and antiquity into a coherent whole.[32]

Rhetoric in a Christian educational context does even more than further students' intellectual and moral formation and understanding of the human person. Rhetoric can also advance (in human terms, assuming the primacy of grace) students' spiritual development, especially in the way that rhetoric relates to theology, exegesis, prayer, and preaching. For example, the exegete or theologian who can rhetorically discover and choose between available means of persuasion, who can attend to circumstances, and who has knowledge of rhetorical figures of speech is well equipped to see the importance of genre (a circumstance of sorts) for understanding a particular book of the Bible, well positioned to consider the practice of rabbinic hyperbole in 1st-century Palestine when seeking a sound interpretation of certain intense words of Jesus, or well prepared to weigh apparently-opposed interpretations of a moment in the gospels when Jesus may be employing the figure of speech, irony.[33]

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[32] Thanks to my colleague, Dr. Dwight Lindley, for his unpacking of the creative attention of Giambattista Vico, a teacher of rhetoric, to both nature *and* history, antiquity and modernity.

[33] For an instance of a rhetorically trained exegete, making a biblical interpretation with rhetorical tools as part of a larger (spiritual and theological) project, see Thomas More, "De Tristitia Christi," in *The Complete Works of Thomas More 14.1*, ed. and trans. Clarence H. Miller (New Haven, Yale University Press, 1976), 287-303. In the noted pages, More examines a potential use of irony by Jesus. Attention to history in biblical interpretation, of course, has become a whole method by which to read the scriptures, the historical critical method.

Likewise, the Christian seeking to grow in holiness, who possesses rhetorical habits of mind, has tools to help her pray, to discover meanings and mediate well on the polysemous and "quick" word of God (Heb. 4:12), so as to discern what those living meanings that meet the reader in a concrete moment ask of her, an audience to the divine Rhetorician, at the present "while it is called today" (Heb 3:13, cf. 2 Tim 3:16).[34] Also, this art of discernment, that rhetoric encourages, nurtures an attention to beauty in things as well as words, and can become part of a larger "spiritual receptivity" by which not only to find the Word among words (scriptural and otherwise), but also to discover the order and meaning—the divine Logos—in the cosmos, to "perceive God in all things."[35]

Furthermore, rhetoric is an asset to the evangelist and/or preacher. As St. Augustine (a one-time professor of rhetoric) sapiently teaches, the Christian rhetorician "must become a man of prayer before becoming a man of words."[36] Yet, provided that a Christian rhetorician is trying to walk the path of holiness prayerfully (albeit—of course—imperfectly), possesses a potent faculty of rhetoric, and has gained a general skill in discernment of things human and divine, he is prepared to witness through rhetorical speech and/or deed to audiences, to be a faithful

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[34] For a helpful account of this passage from the letter to the Hebrews to which I am indebted, see Chrétien, *Under the Gaze of the Bible,* 1-22. On the relation of rhetoric and "methodical prayer," see Marc Fumaroli, "The Fertility and the Shortcomings of Renaissance Rhetoric: The Jesuit Case," in *The Jesuits: Cultures, Sciences, and the Arts, 1540-1773,* ed. John W. O'Malley, S.J., Gauvin Alexander Bailey, Steven J. Harris, and T. Frank Kennedy, S.J. (Toronto: University of Toronto Press, 1999), 90-106, esp. 91-92, 95.

[35] Gerald Nelms, "Edward P. J. Corbett, the Revival of Classical Rhetoric, and the Jesuit Tradition," in *Traditions of Eloquence: The Jesuits & Modern Rhetorical Studies,* ed. Cinthia Gannett and John C. Brereton (New York: Fordham University Press, 2016), 200-17, esp. 208 (emphasis removed). My diction concerning the divine Logos draws on Brian Duignan, "logos," in *Encyclopedia Britannica,* https://www.britannica.com/topic/logos, September 30, 2024.

[36] Saint Augustine, *On Christian Teaching*, trans. R. P. H. Green (New York: Oxford University Press, 1999), 121 (IV.87).

"minister of the Word" in his unique calling, whether it be at the pulpit, in the breakroom, at home, or anywhere else.[37]

Every age and place has its temptations and opportunities; ours—including the despairing, Calliclean, Atticizing, and Tertullianic temptations—feel many. The tradition of rhetoric—the art of soul leading by means of words—has been present in and developed across many ages and places, and remains a key part of a classical and liberal education today. The days that are ours may be strange, yet they are ours. To those who are fortunate enough to receive a rhetorical education in a Christian institution today, let us—by God's grace and with a sense of mission—take our rhetorical powers forth mindful of the conclusion of the *Phaedrus* where Socrates offers a prayer and then appeals to his friend: "Let us begin."[38]

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[37] "From their earliest days the Jesuits defined themselves as 'ministers of the Word.'" O'Malley, S.J., "Foreword," xii.

[38] The loose translation is mine. Plato, "Phaedrus," 530-31 (279c).

Contemplating Unity(s): The Liberal Art of Arithmetic

by Phillip Johnson

Arithmetic Among the Liberal Arts

The term "arithmetic" today connotates the most elementary and mundane aspects of mathematics: addition, multiplication, and their inverse relations. Yet as late as the nineteenth century, these operations could have been referred to as "basic arithmetic" with the more generic term indicating the broader study of what is now called number theory. Indeed, the name derives from the Greek *arithmos*, which simply means "number". The distinction between knowing numbers for practical computation in contrast to the study of number theoretically was well known in antiquity. In *Republic*, Book VII addressing the education of the philosopher-kings, arithmetic comes first (*Rep*. 525a), although the mouthpiece of Socrates is clear to distinguish the mode of the soldier counting troops from the philosopher who lays hold onto the essence [of number], attaining a contemplation of the nature of number by pure thought *(noēsei)*. He continues by engaging with the unity of wholes and the indivisibility of unity. We have therefore three tiers in the study of arithmetic: the computation of physical objects, the contemplation of number and its nature, and the metaphysical question of unity. The broader passage affirms that education as proposed should lead the mind from physical objects to mathematical objects to the entities of classical metaphysics. Again, in the *Philebus* dialogue there is a division of at least two arithmetics between that of building and commerce on one hand and that of the philosopher on the other (*Phil*. 56e). Plato found arithmetic greatly beneficial to his philosophical project[1] and

[1] See Klein, *Greek Mathematical Thought and the Origin of Algebra* (Cambridge, MA: MIT Press, 1968), especially the section on the *arithmos editekos*.

promoted the study of mathematics among his students[2] as part of his philosophical curriculum.

Several of Plato's students played key roles in the development of arithmetic. Both Theaetetus, a frequent guest of the dialogues, and Eudoxus worked out a theory of proportion and commensurability, respectively. Their own texts were subsumed into Euclid's *Elements* which covers the topics in the order of magnitude-based ratio and proportion (Book V and applied to Book VI), the study of greatest common measure (or today, "factor") and least common multiple utilizing concepts of relatively prime (Book VII). A numerical theory of proportion is showcased in Book VIII with the famous examples that there is a single geometric mean between subsequent square numbers and two such means between subsequent cubic numbers. Book IX explores relationships between prime numbers and perfect numbers including a theorem regarding the infinity[3] of primes and the generation of perfect numbers from prime-based powers of two. Finally, the two aspects of proportion, magnitude and multitude, are brought together in Book X which proves that two lines are commensurable if they can stand in ratio as two [integer] numbers. Many more results follow in an exhaustive study of the types of commensurable and incommensurable lines. A handful of such results are used in Book XIII for establishing the specific irrationality of lines within a pentagon, namely those of what we call today the "golden ratio", and their manifestation of the icosahedron and dodecahedron at the end of the Elements. It is worth noting that as beautiful as their theorems

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2 Robin Waterfield, *Plato of Athens: A Life in Philosophy* (Oxford: Oxford University Press, 2023).

3 With the Greeks' attitudes towards infinity, Euclid did not frame the result as an infinite collection of primes. Instead, it is shown that given a collection of prime numbers one can always generate another prime number.

are on their own, they have continued to provide fertile ground in modern mathematics as Felix Klein wrote a text entirely devoted to the relations found in the icosahedron.[4]

From Euclid's time in the Hellenistic period, we jump some four centuries to the next major authors. Preeminent for mathematical contributions is Nicomachus of Gerasa. Little is known of his life aside from a birthplace (modern Jerash, Jordan) and an approximate date of 100 AD. His writings include the *Introduction to Arithmetic*, the *Theology of Arithmetic*, and a *Handbook of Music*. The first text became the standard text for the study of number in the quadrivium with Boethius' later Latin version mostly being a direct translation. The preamble to the *Introduction* includes Platonic appeals to contemplate the unchanging incorporeal realm. Drawing on the *Epinomis* dialogue, he casts the study of number as a bridge for the mind to ascent to higher things (Chap. 3). Nicomachus also gives a brief argument for the primacy of arithmetic in the quadrivium because it is the origin of the other three arts (Chap. 4). Rather than viewing these statements as trivial philosophical glosses to open the text, they should be considered as reflecting the essential role and purpose for the study of the quadrivium in general and the study of number in particular as understood by its progenitors. Once the chapters begin to treat mathematics proper, a series of theorems are given with supporting examples while lacking proof. The topics include unity and multiplicity, prime and composite, relatively prime and composite, odd and even, and perfect numbers. Many of the statements would be considered elementary by number theorists today, but they are historically foundational.[5] Next, Nicomachus explores ratio, proportion, and geometric

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[4] Felix Klein, *Lectures on the Ikosahedron and the Solution of Equations of the Fifth Degree* (London: Trübner & Co., 1888).

[5] For one example, Nicomachus' *Introduction* is our source for the Sieve of Eratosthenes.

progressions. A special ratio is that of the superparticular which takes the form (n+1):n. Its importance derives from being that of the form of a musical concord. The third major theme of the work is that of the figurate numbers: planar numbers such as the triangular, square, oblong, pentagonal, etc., and the solid numbers: pyramidal, cubic, prismatic, etc. The last topic is that of the various "means": arithmetic, geometric, harmonic, and other possibilities. The text ends with an exploration of the means found in the progression of 6, 8, 9, 12 – means which are found in the harmony of the world-soul of the *Timaeus*. Along the way, Nicomachus analogizes mathematical results with metaphysical and moral statements. For example, perfect numbers are both balanced in their factors and are rare – just as virtue is. Most numbers have factors which sum to either excess or deficiency of their value, just as vice is excess or deficiency in the golden mean theory of virtue.

These analogies to "higher things" are mostly passing references in the mathematical text. A more developed sense of higher number can be found in the *Theology of Arithmetic*, the study for which the former text was an introduction. We do not have Nicomachus' original text, which was lost sometime in the medieval period. But we can reconstruct its contents from various sources. The text of the *Thelogumena Arithmetica*e is a series of passages purportedly from Lamblichus (scholarship now regards this pseudonymously) and Anatolius of Laodicea. It explores the metaphysics and symbolic meaning of the first ten numbers, or the decad. For example, the monad stands for absolute unity, the encompassing limit which bestows wholeness; the dyad stands for otherness and variability; the triad stands for connection, having beginning, middle, and end. The tetrad stands for solidity, as four points are minimally required for the vertices of a solid geometric body; the pentad stands for justice, as it is the balance as the middle number of the decad. The decad itself stands for all things, having completed the base numbers (of the

decimal base system). There are many other analogies to the physical cosmos listed for each number, not a few of which are rather strained. As we have it, the text bears strong witness to the metaphysical end for which the study of arithmetic served. One might be tempted to ask, "where is the theology in the *Theology of Arithmetic*?" A response might be that the distinction between metaphysics and theology was blurred or lacking altogether for Plato, Aristotle, et al. Yet there are strong indications that Nicomachus' original text had references to the old gods that have been excised from the *Thelogumena Arithmetica*e. The first witness is that of Martianus Capella, who wrote a century or two after Nicomachus. His *Marriage of Philology and Mercury* begins the section on arithmetic with the themes from the *Theology of Arithmetic* before discoursing secondarily on the topics from the *Introduction to Arithmetic*. However, he also includes specific divinities of the pantheon for each number of the decad. The monad is Jove, as the originator of all things. The dyad is Juno, as the substrate which receives the form necessary for generation. The heptad (seven) is Minerva who is a virgin goddess just as the number seven is virginal, having no factors (prime) and not generating any other number via multiplication which remains within the decad. Martianus Capella was a Latin Platonist from North Africa, possibly in similar circles to Apuleius, whose aerial daemons were a source of criticism by Augustine. It might be argued that Martianus added these themes as later pagan philosophical theology developed. However, we have the witness of Photius, archbishop of Constantinople, to the fidelity of this idea with the study of arithmetic for the Platonists. Photius still had access to Nicomachus' original *Theology of Arithmetic* and recorded his review of the text in his *Bibliotheca*. There he bears witness to Nicomachus attributing the numbers of the decad to various divinities, an act which Photius, in pious Orthodox fashion, characterizes as "pagan drivel." So we have, therefore, clear indication that the study of arithmetic in the quadrivium explored topics of number theory as well as metaphysics and theology.

Two other major authors among the Platonists are worth brief mention. The first is Lamblichus, a Hellenized Syrian who lived between Nicomachus and Martianus Capella. He is known primarily for his promotion of ritual theurgy as a philosophical-theological practice. Less studied is his ten-part series on Pythagoreanism. The first three books are *The Pythagorean Life*, *Exhortation to Philosophy*, and *On the General Science of Mathematics*. All three speak to the importance of the study of mathematics for the philosophical ascent of the soul towards the divine. Certain sections address arithmetic which we must pass over here. The fourth book is a commentary, or editorial work, on Nicomachus' *Introduction* which has not yet been translated into English. The next three books are works on Physical Number, Ethical Number, and Theological Number, respectively. They survive in glosses[6] from Michael Psellus, an 11th-century Byzantine court intellectual. What we have available indicates a way to see number, at least by analogy, as speaking to all things. Such analogies also reinforce the concept that there are tiers of *arithmos* – higher numbers which are not of the type which we use to quantify and compute. The quantified numbers are rather manifestations of higher "numbers" which can properly be used for the discussion of higher things. The last three sections of Lamblichus' work are thought to touch on the other three topics of the quadrivium. The other major author is Proclus, one of the last great Platonists who lived in the 5th century and whose influence on western metaphysics has been great even if hidden at times. We must be content here to merely make mention that he speaks lucidly on arithmetic in his commentary on Euclid's *Elements* and his commentary on the *Timaeus*. Lastly, his *Elements of Theology* by which his influence is most strong in the tradition is

[6] These have been printed and translated in Dominic J. O'Meara, *Pythagoras Revived: Mathematics and Philosophy in Late Antiquity* (Oxford: Clarendon Press, 1989).

deeply impacted by the themes of unity, limit, and limitlessness, all of which are engaged with in the study of classical arithmetic.

In the Hellenic-speaking part of the Roman ("Byzantine") empire, Nicomachus' influence remained strong. The Christian John Philoponus (6th cent.) wrote a commentary on the *Introduction*. Michael Psellus, already mentioned, (11th cent.) wrote a quadrivium text with an arithmetic section largely drawing from Nicomachus. George Pachymeres (13th cent.) similarly wrote a quadrivium text for which Nicomachus' *Introduction* forms the basis of the arithmetic section. None of these three texts have been translated into English thus far. Notably, as all three are professed Christians (though of various degrees of orthodoxy[7]), none to my knowledge brought in the divinity-numbers of the *Theology of Arithmetic*. As we will also see in the Latin authors, the role of higher number was largely to be engaged within symbolical or analogical modes for most Christians in the reception history of arithmetic.

Among the Latins, Martianus Cappella, as mentioned above, was a transmitter of the ideas in classical arithmetic through his *Marriage*. His text found reception among Christians in the Carolingian court and at the school of Chartres. A more substantial work on arithmetic was Boethius' fall translation of Nicomachus' *Introduction* as *De Arithmetica*. This text, along with Boethius' text of music were two of the core texts for later students of the quadrivium in the early medieval period. Euclid and Ptolemy would not be fully translated until the 11th century. We also have Cassiodorus' *Institutes of Divine and Secular Learning* and Isidore's *Etymologies* which give brief summaries of arithmetic. For a full treatment, students would have resorted to Boethius. For aspects of symbolic number, Augustine's use of such in

[7] Philoponus, a miaphysite Copt, wrote a theological text which led to accusations of tritheism. Psellus was under scrutiny for his Platonism, possibly due to court intrigue, but was never condemned for heresy.

his *On Christian Teaching* would be influential. Bede is also a witness to the tradition, allegorizing the numbers used in the construction of the tabernacle and temple as seen in his texts on those topics. I would be remiss, also, to not mention Thierry of Chartres who wrote a theologizing commentary on Boethius' arithmetic. While a critical edition has recently been published[8] which also establishes Thierry's authorship, a translation from the Latin has not yet been made.

Somewhere in the medieval period, an ingenious game was developed by the name of Rithmomachia. Legendary accounts attribute it to Pythagoras, but contemporary scholarship points to a German monk by the name of Asilo living in the 11th century.[9] The pieces are marked with numbers. Opposing sides begin with either even or odd numbers (a balanced asymmetry to the game). The remaining numbers of the pieces are formed by squaring or taking superparticular or superpartient ratios – all concepts from Nicomachus' or Boethius' work. The pieces can capture the opponents by addition or multiplication and move in chess-like fashion. With the importance of the liberal arts to the medieval period, it has been argued that Rithmomachia was the most popular game in medieval Europe.[10] It was supplanted by chess only in the early modern period and continued to be played even after the study of the liberal arts declined

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[8] Irene Caiazzo, ed. *Thierry of Chartres: The Commentary on the De arithmetic of Boethius,* Studies and Texts 191 (Toronto: Pontifical Institute of Medieval Studies, 2015).

[9] Arno Borst, Das *mittelalterliche Zahlenkampfspiel*. Heidelberger Akademie der Wissenschaften. Philosophisch-Historische Klasse: Sitzungsberichte der Heidelberger Akademie der Wissenschaften, Philosophisch-Historische Klasse/ Supplemente, Band 5 (Winter, Heidelberg, 1986).

[10] See Anne E. Boyer, *The Philosopher's Game: Rithmomachia in Medieval and Renaissance Europe with an Edition of Ralph Lever and William Fulke, The Most Noble, Auncient, and Learned Playe (1563)* (Ann Arbor, MI: University of Michigan Press, 2001).

before itself fading into history. Its importance as a cultural artifact speaks to the predominance of the liberal arts, particularly ancient arithmetic, and the playfulness that the discipline could offer. As an anecdote, I have found that current students studying arithmetic find the game fitting and enjoyable.[11]

There were three main sources of decline of the study of arithmetic. Within the quadrivium, the later introduction of Euclid's *Elements* and Ptolemy's *Almagest* led to an emphasis on geometry and astronomy. In addition to the novelty of these works and their greater robustness, they also benefitted from increased emphasis in the Scholastic period on reason and the study of nature. The quadrivium as a whole also began to suffer a deemphasis with the introduction of larger portions of the Aristotelian corpus. Again, both textual novelty and differing emphasis played a role in this transition. Finally, curricular demands from mercantile-minded students led to focus on practical arithmetic, especially in the Italian universities which were funded by student tuition fees. This was all-the-while mathematical developments were taking place that led to decreased interest in studying ancient arithmetic.

We note in passing that while the Italian renaissance was bringing curriculum changes, the introduction of the full Platonic corpus also brought about an interest in the ancient mode of thinking about numbers. To cite one example, Marsilio Ficino (14th cent.) wrote a commentary solely on the "nuptial number" mentioned in Plato's *Republic*, meeting the mathematical demand of engaging with an otherwise enigmatic passage in Plato; as now oft repeated, the themes of Nicomachus can be found throughout the commentary. Around the same time, in Germany, Nicholas of Cusa was also writing a text

[11] To obtain a contemporary copy of the game, see agma.store/rithmomachia.

which, while not formally discussing arithmetic, maintained in the spirit of the theologizing arithmetic in an innovative and Christian fashion. In brief, the first book of *On Learned Ignorance* explores the absolute unity of God and the relation of this unity to infinity. He then says that we can think analogously between mathematics and theology. As a result, Cusa makes a series of explorations on mathematical infinity and the paradoxes that arise. He was an influence on Kepler, who boldly used mathematical infinity in his integration methods and who likewise had strong Pythagorean tendencies, albeit mostly focused on themes of harmony rather than arithmetic. The story of mathematical infinity and the history of its philosophical problems is one intertwined with the topic of arithmetic but is outside the scope of this essay.

Current State and Challenges

If the discourse on arithmetic has thus far been heavy on philosophy and reception history and light on mathematical theorems, that is partly by design. The mathematical content, by itself, can be elementary in places as prime numbers and ratios can be treated as middle school topics. Notwithstanding, the figurate numbers discussed by Nicomachus are part of a larger framework of higher-dimensional figurate numbers which are manifest in the arithmetical triangle of Pascal. There are quite a few mathematical relationships in this triangle which can give a slightly greater challenge if treated abstractly with double finite summation and combinatorics. Extending this topic of mathematics in like fashion is one immediate action item in exploring numbers. But the classical study of arithmetic, as with all the quadrivium, is not exclusively a study of mathematical relationships even if the bulk of course time will be spent there. The "higher" aim of the study of number was always kept in mind for those that established and formalized the quadrivium; without such aims, the study of classical arithmetic is less defensible indeed. However, the classical educator

should already have alignment on this point, and I take for granted that the remaining questions are 'what' and 'how' rather than 'why?'

One possibility is to promote the study of number theory and try to find connecting points to philosophy and theology. It should be noted that as recently as the 20th century, the debate between Cantor and Kronecker over cardinality was theological in nature. Kronecker's attack on infinite sets purportedly led to his quip that "God made the integers. Everything else is man." Cantor in turn, in arguing for a hierarchy of infinites argued that God himself was the ultimate infinity.[12] A study of number theory which stretches from Nicomachus to Cantor could speak broadly about number mathematically and symbolically.

One challenge is curricular constraints. It is typically expected that a high school mathematics sequence will contain geometry, a second course in algebra, precalculus, and a senior year elective. The number theory course could be a senior year elective but would have to compete with calculus or other practical mathematics. The argument for a classical study of number would require a bit of idealism but could be possible. It might be tempting to teach Nicomachus in the middle school grades when numbers are being explored; but again, without the philosophical backing this approach does not reach the ideal as middle school students are typically not ready to fully engage with abstract metaphysical topics. Higher education offers ample flexibility for such a course but also faces course competition unless the college has committed significant space to the quadrivium.

Algebra might also be argued as a substitute for arithmetic as it

[12] See Wolfgang Achtner, "Infinity as a Transformative Concept in Science and Theology," in *Infinity: New Research Frontiers,* ed. M. Heller and W. H. Woodin (Cambridge: Cambridge University Press, 2011).

provides an abstract formalism for numbers. There are a few issues with this proposal. Firstly, geometric algebra in its Cartesian form blurs the distinction between arithmetic and geometry. On the one hand, seeing the unity of all mathematics is aligned with the aspirations of the quadrivium. On the other hand, this unity is best seen after studying the disciplines in their proper domain. Every ancient author who commented on the quadrivium made a clear distinction between multitude and magnitude. This distinction was deeply related to the monad and dyad dynamic which was a key element in Plato's philosophy and would be lost without such explorations. While it may be noted that Euclid's *Elements* treat many problems which we would consider to be algebra in geometric fashion (see Books II, X, XIII), the distinction is upheld since all magnitudes that were not integers (what we today call the "real numbers") would be considered for the ancients as geometric rather than arithmetic in nature.[13] A second issue is that there has not yet, to my knowledge, been developed a philosophy of algebra that we could speak to in the classical manner. I speculate that the concept of algebraic transcendence can provide fertile soil for such explorations, but research is needed here.

Arithmetic in Christian Education

If such emphasis has been placed on the need for philosophical and theological explorations in the study of arithmetic and if such explorations were originally for a Platonic theology, what argument is there for a Christian study of arithmetic in this mode? Numerical divinities of the pantheon, monad-dyad emanations as proposed by the Gnostics, and esoteric approaches found in the modern period are all clearly out of bounds. Is the orthodox approach something

[13] For the ancients, not only is $\sqrt{2}$ not rational (notwithstanding Euclid's inclusion of "rational in square only") – it is not a number at all!

which must be contrived for the sake of recovery? The negative answer to this question is two-fold. Firstly, while Boethius had not written a corresponding theology of arithmetic, we have the symbolic use of number in Augustine, Cassiodorus, Isidore, and Bede especially with respect to scripture's use of number. To cite just one example, Augustine addresses the question of the perfect number in *City of God* (*De civ. Dei* XI.30-31). He first notes that six was proposed on account of its equal sum to its factors before also drawing attention to the Biblical account of the perfection of seven. Here we have both the arithmetical and the symbolic-theological in conversation with one another. This passage calls to mind other instances in which scripture makes the refrains of three, seven, twelve, and forty as links to various themes and events. The symbolic use of number in scripture is something that is accepted today (for it is scripture); but quietly, some may hold that it was "just how ancient peoples thought." Why can't it also be how we think? To further drive the point home to my students, I often begin arithmetic classes with scriptural passages regarding the establishment of the tabernacle. God told Moses to make the tabernacle with specific numerical lengths of cubits (there are many 5s, 10s, 20s, 50s, and 100s among several other numbers in the passages). If God Himself cared specifically about those numbers and they have some kind of meaning behind them, then we should also care about numbers and reflect on their meaning. By training the mind to see numbers symbolically as we use them and explore their relationships, we are also training ourselves to receive God's Word as his people originally did and to further see the signs and symbols in the created cosmos which we indwell.

The second topic which I wish to propose for a Christian study of this discipline is a proper approach to the theology of arithmetic. Ultimately, the study of numbers and their relations is a study of unity: that which makes an entity whole and complete and that which bestows an essential nature. The cascade of numbers originates from

the increased multiplicity that each subsequent number holds. Infinity is unbounded multiplicity. The understanding of such things matters in how we speak about God. Today, we stress God's infinity, yet the biblical focus is often on God's unity (Deut. 6:4). How did this transition occur? I have written on this story at greater length elsewhere with regards to calculus.[14] Here I briefly note that the realization of God's infinity traces to a) a growing understanding among philosophers and theologians that all things originate from the One and b) Trinitarian debates treating such topics as the eternal generation of the Son. I can vouch from my own brief teaching experience that the exploration of unity and infinity have been both beneficial and enjoyable for my students and topics worthy of a Christian education. With that last note, I end with an appeal to my colleagues in Christian academic circles to research such topics with the aim of classroom implementation. We have a truly great tradition to draw from and a tradition that continues to bear new fruit if we but labor in the fields for a little while.

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[14] See https://circeinstitute.org/blog/the-one-the-many-and-the-infinite-the-metaphysical-and-theological-background-to-modern-mathematics/

Geometry – Measuring the World

by Brad Doloff

Mention the word "geometry" to the average American adult and one will likely receive a response about how much they disliked the subject in high school. On rare occasions some might share how they were "never good at math," but did very well with geometry. Most, if not all, are thinking of the subject they were perhaps required to take when they were either a freshman or sophomore in high school and recalling simply what we would refer to as Euclidean geometry. In about the third century B.C., the Greek mathematician, Euclid, wrote a series of books called *The Elements* from which we get most of the ideas we call geometry today. However, geometry literally means "earth measure." Euclidian geometry is mostly 2-dimensional (although some 3-dimensional polyhedra are studied), but as we know, the earth is a sphere. Consequently, other geometries known as non-Euclidean geometries have also come to be studied. Each of these views of geometry, however, point beyond themselves to questions of transcendence and spiritual meaning. Unlike the broad expansive view of geometry as one of the seven liberal arts in the classical world, the modern reductionist view limits the understanding of geometry to an element of mere career preparation. The classical Christian education movement seeks to retrieve this older, richer view of the role of geometry in education. This article will explore the older vision of thinkers such as Pythagoras, Plato, and Kepler and consider how it might be applied to a modern geometry classroom in a classical Christian school.

The History of Geometry

In the classical sense, "geometry" did not refer simply to the concepts we now teach in the twenty-first century, but in order to understand

The School of Athens
(Detail of Euclid)
Raphael
Fresco
Rome, Italy
1509-11
(public domain)
Photo by Jean-Pol Grandmont

the origins of the word, we need to start earlier historically than even Euclid. We could look to the Egyptians and their mathematical ideas used to construct the great pyramids and other civilizational structures. However, for purposes of this essay, we will begin a bit later with Thales of Miletus (636-546 BC), a Greek philosopher considered to be one of the seven wise men of antiquity. Not only was Thales a philosopher, but a merchant by trade. Much like many educators today, he evidently had to have a "real job" in order to support his philosophy habit. As a merchant, he reportedly would use the concept of similar triangles to calculate the distance of his ship to port and while in Egypt on business, used shadows to calculate the height of the great pyramids just for fun![1]

In addition to applying geometry to business and travel, he is believed to be the first to apply logical proof to geometric concepts.[2] Thales is credited with making six geometric propositions:

I. Any circle is bisected by its diameter.

II. The two angles at the base of an isosceles triangle are equal.

III. The angles between two intersecting lines (vertical angles) are equal.

IV. If two triangles have two equal angles and an equal side, the triangles must be congruent to each other.

V. An angle inscribed in a semicircle is a right angle.

VI. The sides of similar triangles (same shape but different size) must be proportional.

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[1] James Nickel, *Mathematics: Is God Silent?* (Vallecito: Ross House Books, 2001), 20.

[2] David Smith, *A Source Book in Mathematics* (New York: Dover Publications, 1959), 1:68.

It is said that after making one of these discoveries he was so pleased that he chose to sacrifice an ox to celebrate, a practice we can all be thankful is no longer in fashion!

In spite of any credit Thales might receive for shaping the development of geometry, one of his students became much more well-known not only during his lifetime, but is perhaps one of the most famous mathematicians still today. Pythagoras (572-492 BC) observed that in an ever-changing world, certain mathematical patterns remained constant. He is most famous for recording and proving the theorem that still bears his name. You will likely recall the Pythagorean theorem, which states that in a right triangle, the square of the length of one leg (a side of the right angle) added to the square of the length of the other leg will equal the square of the length of the hypotenuse.

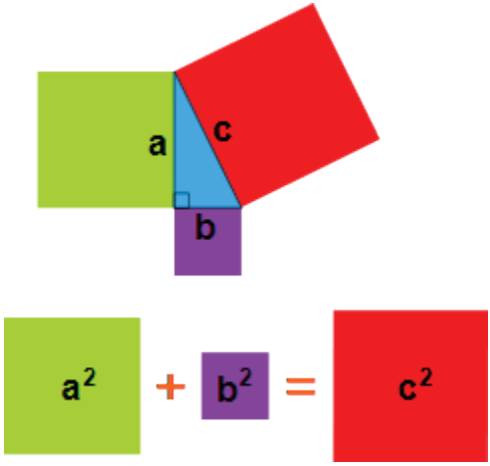

Image Credit: www.mathisfun.com

It is fascinating to note that in spite of discovering so many consistencies in creation, Pythagoras was not logically drawn to a conclusion that the consistency of the world around him must point to a "Planner

of patterns," or at least wonder if a comprehensible creation would point to a Creator. As another famous mathematician, Albert Einstein, would state millennia later, "The most incomprehensible thing about the universe is that it is comprehensible."[3] It seems obvious that design would imply a designer, but as Paul would write to the Romans:

> For what can be known about God is plain . . . , because God has shown it. . . . For his invisible attributes, namely, his eternal power and divine nature, have been clearly perceived, ever since the creation of the world, in the things that have been made. So they are without excuse. For although they knew God, they did not honor him as God or give thanks to him, but they became futile in their thinking, and their foolish hearts were darkened. Claiming to be wise, they became fools. . . . (Romans 1:19-22, ESV)

Sixty-five years after the death of Pythagoras, one of the most influential Greeks of all time was born. So influential were Plato's (427-347 BC) philosophical ideals, he is still arguably considered to be one of the foundational thinkers of classical and Western thought. Plato had such a high view of geometry for pointing to the underlying secrets of the universe that tradition alleges the entrance to his Academy had the following inscription above the door: *Let none ignorant of geometry enter*. Plato's understanding of geometry came closer to pointing to a divine creator. In *The Republic*, Plato remarks "geometry is the knowledge of the eternally existent . . . it would tend to draw the soul to truth and would be productive of a philosophical attitude of mind."[4] However, to

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[3] Albert Einstein, "Physics and Reality," *Daedalus* 132, no. 4 (2003): 24.

[4] Plato, *The Republic*, trans. Tom Griffith (Cambridge: Cambridge University Press, 2018), 527b.

Plato, the "eternally existent" was not the eternal God of the universe, but rather the "essence of each thing" discovered "through discourse and reason and apart from all perceptions of the sense."[5] According to Piers Bursill-Hall of Cambridge University:

> Plato argued that there were two kinds of reality , or two states of 'being', with (1) the world we live in, the physical, material, changing world constituting one kind or state or reality, and (2) a higher other kind of reality that was transcendental, non-material, changeless, perfect, and consisted only of ideal non-material Forms .... One of the ways Plato argued for the existence of this dual kind of reality was with the use of geometry: we all know that when we draw a triangle in the sand it isn't really a triangle because its edges are not really lines, the lines are not really straight and thin, and they certainly don't intersect at points. But the individual triangle we draw in the sand is taken to be representative – or a way of talking about, or thinking about – what triangles are really like.[6]

He realized that imperfect representations of perfect ideals draw our minds to transcendent realities. In other words, Plato understood that geometry points us to a higher reality, but did not conclude that a "higher reality" would imply a Creator.

Nevertheless, Plato did lay the groundwork for geometry's place among the seven liberal arts. In *The Republic* he envisions an education for future leaders and kings that would include the quadrivium of

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5 Plato, *The Republic*, 532a.

6 Piers Bursill-Hall, "Why do we study geometry? Answers through ages" (lecture, University of Cambridge, Cambridge, UK, May 1, 2002).

arithmetic, geometry, music, and astronomy. Plato sets forth a blueprint for developing virtue in humans, and in *The Timaeus*, he makes a specific case for how geometry, in particular, develops virtuous citizens.

> The motions akin to the divine part in us are the thoughts and revolutions of the universe; these, therefore, every man should follow and correcting those circuits in the head that were deranged at birth, by learning to know the harmonies and revolutions of the world, he should bring the intelligent part, according to its pristine nature, into the likeness of that which intelligence discerns, and thereby win the fulfilment of the best life set by the gods before mankind both for this present time and for the time to come.[7]

Plato essentially lays out that the study of these higher realities is necessary to bring our souls into a right order and that one could never be a great leader without mastering the concepts of geometry. The perfections of geometric ideals mirror the ideals of virtue.

Nearly half a century after Plato in Alexandria, Egypt, a man by the name of Euclid compiled the most comprehensive set of mathematical ideas ever assembled up to that time. Not a lot is known about Euclid, but it is believed that he trained under the students of Plato. *The Elements* go beyond what we traditionally call geometry to include the concepts of proportionality, number theory, and incommensurability.[8] Nevertheless, Euclid's *Elements* became so synonymous with geometry that over the

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[7] Plato, *The Timaeus*, 90d, quoted in Joan Kung, "How Learning Mathematics Helps Us Be Virtuous," *The Society for Ancient Greek Philosophy Newsletter* 325 (1985): 23.

[8] Dana Densmore and William H. Donahue, ed., *Euclid's Elements* (Santa Fe: Green Lion Press, 2013), ix.

course of history he became known as The Geometer. The Greeks believed Euclid's theorems to not only be "the essence of reality, but also eternal and unchangeable."[9] Clark and Jain state, "For millennia, the liberal art of geometry was Euclid's *Elements*, and this persisted until the end of the nineteenth century."[10] All of these thinkers saw geometry as pointing to greater questions of eternal significance.

Challenges for Christian Educators of Geometry

Sadly, due to the influence of John Dewey and other "educational innovators," in most public schools, geometry has been relegated to a mere subtopic of the "M" in STEM (Science, Technology, Engineering, and Math) training. Sidney Hook, one of Dewey's supporters proclaimed that Dewey's philosophy was diametrically opposed to "every doctrine which holds that man should tend to a supernatural end, in function of which he ought to organize his earthly life."[11] As a result, Clark and Jain contend, " It is for this reason that Christian education cannot simply imitate public education and append a Bible class . . . as it [public education] depends on the thought of Dewey, [and] is oriented from its inception against the Church, the liberal arts, the authority of Christ, and the reality of heaven."[12] Educators in the classical Christian movement must regain a higher view of geometry as not merely a topic of mathematics, but one that points us to the Author of "earth measure."

While most modern schools view geometry as part of the training

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[9] Nickel, *Mathematics*, 35.

[10] Kevin Clark and Ravi Scott Jain, *The Liberal Arts Tradition* (Camp Hill: Classical Academic Press, 2021), 75.

[11] Cited in Christopher Dawson, *The Crisis of Western Education* (Washington: Catholic University of America Press, 2010), 79-80.

[12] Clark and Jain, *The Liberal Arts Tradition*, 236.

necessary to prepare students for careers in STEM, classical Christian schools have the opportunity to teach geometry (and all mathematics) in such a way to "cultivate virtue in the mind and wisdom in the soul."[13] Christian educators cannot simply hand out a worksheet of Pythagorean theorem problems with a Bible verse tacked on at the end. We must develop our lesson plans from the bigger question of what these virtuous paths traveled for millennia teach us about the character and nature of God.

Consequently, the Christian educator must teach the art of geometry as a tool which guides us towards Christian virtue. While the art of grammar in language helps us to order our words to express the meaning of thought, so too, geometry becomes the grammar of virtue. The unchanging rule and order expressed in the theorems, definitions, and postulates of geometry give us words and symbols to express perfect transcendental ideas. The exercise of our minds in matters of geometry then in turn shapes our hearts, minds, and souls into a higher, perfect ideal of Christian virtue found ultimately in the person of Jesus Christ. "For the Creator," stated Kepler, "who is the very source of geometry and, as Plato wrote, 'practices eternal geometry,' does not stray from his own archetype. [T]he Creator [is] the source of all wisdom, the everlasting approver of order, the eternal and superexistent geyser of geometry."[14] Clark and Jain conclude, "Thus, Christian educational institutions must recover the goal of Christian virtue and resist the temptation to become merely vocational training grounds for those seeking effective careers in well-paid office jobs or cutting-edge technologies."[15]

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[13] Clark and Jain, *The Liberal Arts Tradition*, 98.

[14] Johannes Kepler, *Harmonies of the World*, trans. Charles Glenn Wallis (Global Grey, 2019), 16, https://mathship.com/900/Astronomy/kepler_harmonies-of-the-world.pdf.

[15] Clark and Jain, *The Liberal Arts Tradition*, 143.

Putting the Grammar of Geometry into Practice

How, then, do classical Christian educators specifically practice and teach the art of geometry so as to contribute to a distinctively Christian vision of education? G.K. Chesterton posited in his book *Orthodoxy* that Christianity has established a rule and order, the chief aim of which is "to allow good things to run wild."[16] Teaching geometry in a classical Christian school allows multiple opportunities to tease Chesterton's idea out for our students. Just as Plato argued there was a physical world and a higher, changeless, and perfect reality, geometry demonstrates the duality of the physical and spiritual. This duality is reflected in geometry as well or better than in any of the other six liberal arts. Consider the "ideal" of a point which is a specific location somewhere in the universe, but has no dimensions. Euclid conceptualized a point as "that which has no part." What we consider a line is a set of points that extends endlessly in two opposite directions. Again, Euclid described a line as "breadthless length."[17] If we attempt to put such concepts on paper, the mere act of marking a point that is visible (even one as small as the punctuation mark at the end of this sentence) gives it dimension or part. When beginning geometry, students attempt basic constructions like bisecting a line segment or angle, the mere width of the pencil lead causes enough of a difference between the ideal and the physical so as to miss the mark of a perfect division into two equal parts.

When students try their best to perform a geometric construction and fall short of the ideal, the geometry teacher has the perfect opportunity to discuss one of the words the Bible uses to describe sin. The Hebrew word *chata'* means to miss the intended goal, target,

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[16] G. K. Chesterton, *Orthodoxy* (Baton Rouge: Mud House Art and Literature, 2017), 131.

[17] Euclid, *Euclid's Elements*, 1.

or path.[18] *Chata*' is the word used in the context of Proverbs 8:35-36 which says, "For whoever finds me finds life and obtains favor from the Lord, but he who *fails* (*chata'*) to find me injures himself," (ESV, emphasis added). The students obviously tried but fell short of the ideal which allows us to emphasize Romans 3:23—God's ideal laws, just like the ideals of geometry, are laid out for us in His word. However, "all have sinned and fall short of the glory of God." This is just one of the many ways that the ideal concepts of geometry and our ability to comprehend them but our failure to accomplish them point us to the truths found in scripture.

A few years ago, after watching an online presentation by Josh Gibbs, I was compelled to develop a classroom catechism for geometry. (Gibbs has written a book on the idea entitled *Something They Will Not Forget*.) One of the values of developing a catechism for one's classical Christian classroom is that it forces us to wrestle with the question, "What do I really want my students to remember long after they have spent time in this class?" Writing the catechism (to which I have added a few things since the first year) caused me to think deeply about how geometry points us (no pun intended) to the truth of scripture, to God, and ultimately to the gospel of Jesus Christ. We begin to recite the catechism daily beginning on the first day of class and continuing through the final day. As educators, we want important truths to sink deeply into the hearts and minds of our students, even if they don't understand them at first. As we start with the basics of Euclidean geometry and reason logically until we build a system of understanding, so too the meanings of the catechized questions and responses begin to take shape in the inner beings of

[18] Mathew Mangum, "Sin Is Not an Archery Term That Means 'To Miss the Mark,'" Equip The Saints, accessed November 11, 2025, Sin Is Not an Archery Term That Means "To Miss the Mark" – Equip the Saints.

our students. The rest of this article is guided by those daily questions and how studying geometry in a classical Christian school contributes to a distinctively Christian worldview.

The first catechism question is simply:

Q1: Did man invent geometry?

The student response is:

A: "Ubi materia, ibi geometria" – "Where there is matter, there is geometry." Johannes Kepler, *De fundamentis Astrologiae Certioribus, Thesis XX*[19]

As Christian educators we want students to realize that ultimate truth is eternal, and it existed before mankind attempted to discover and make sense of it. Studying geometry merely allows us to make sense of truths that existed eternally in God and in the matter created by Him.

Q2: What is geometry?

A: Geometry literally means "earth measure." However, while we are learning to measure the earth, it is more important we learn to measure the world.

This question and response causes students to ponder not only the differences in words such as "earth," and "world," but leads them to understand what it means to carefully "measure" or consider the world around them. When we use the term "Earth," we are referring

[19] Johannes Kepler, *De Fundamentis Astrologiae Certioribus* (Prague: Schumannische Druckerei, 1602), thesis XX, De Fvndamentis Astrologiae certioribvs, nova dissertatiuncula ad Cosmotheoriam spectans cvm Prognosi physica anni ineuntis à nato Christo 1602, ad Philosophos scripta à M. Joanne Keplero : Kepler, Johannes : Free Download, Borrow, and Streaming : Internet Archive.

to the terrestrial ball on which we exist, but when scripture refers to the "world," it usually is contrasting secular living with a higher calling of following the teachings of Christ and all of scripture. Again, we see the platonic contrast of physical with ideal. The Law of scripture is a perfect ideal. It is unattainable, but the process of sanctification for the Christian is refining one into a more virtuous disciple.

Q3: How do we measure the world?

A: Scripture says we should "walk circumspectly, not as fools but as wise, redeeming the time, because the days are evil. Therefore do not be unwise, but understand what the will of the Lord *is*." (Ephesians 5:15-17, KJV)

Obviously, question three is a follow-up or clarifying question subsequent to question two. Using the King James translation is helpful here because we want students to think deeply about applying the concepts of geometry to life. The word "circumspectly" can lead to a discussion of the prefix "circum" and the root "spect." Our classically trained students should be able to access their training in Latin and apply it to both geometry and faithful living. The ideal of walking circumspectly gives students richer understanding of how Christians should view the world. The prefix "circum" meaning circle or round will be considered thoroughly when students learn to circumscribe a circle around a triangle, quadrilateral, or regular polygons. This word found in the King James version of Ephesians 5 also provides the opportunity for discussion of the Latin root "spect," meaning "to look," "to see," or "to watch." The physical exercise of circumscribing a polygon provides the opportunity to revisit the meaning of this scripture. We can emphasize that as Jesus' disciples, we don't merely react to our flesh as the world does, but rather we take a 360-degree look, considering the ideas of the world from every angle through the lens of scripture.

The fourth question of the geometry catechism emphasizes that truth, both found in the ideals of geometry and in scripture, existed eternally.

Q4: Why do we study geometry?

A: The chief aim of all the investigations of the external world should be to discover the rational order and harmony which has been imposed on it by God and which He has revealed to us in the language of mathematics." Johannes Kepler, *De fundamentis Astrologiae Certioribus, Thesis XX.*

Therefore, the Holy scriptures serve as our measuring device as we seek to walk circumspectly. As we investigate the world through the study of geometry using scripture as our universal "ruler," we begin to see that there is a design to the world and to our lives in general. Question four, then, draws students' attention to this design and our purpose is not to just have them memorize a bunch of facts and formulas they can temporarily regurgitate for the next test, but rather to think deeply about how the consistency of creation should draw our attention to the Creator. As one of the three transcendentals we frequently reference in classical Christian education, truth draws us to its source. Hence question five is:

Q5: What do we cover in geometry?

A: The goal of geometry is not to cover material, but to uncover truth. Because God did not create a chaotic universe, there are equations that explain everything from the design of a pinecone to the motion of the planets.

"For by Him all things were created, in heaven and on earth, visible and invisible, whether thrones or dominions or rulers or authorities—all things were created through Him and for Him. And He is before all things, and in Him all things hold together." (Colossians 1:16-17)

Johannes Kepler, referenced frequently throughout this article, serves as a guide to understanding how geometry, and all of creation for that

matter, reveal the truth of scripture and the gospel. In *Harmonices Mundi*, in which he lays out what we now call the laws of planetary motion, Kepler pens a prayer to the Creator, expressing that he has "made manifest the glory of Thy works, as much of its infinity as the narrows of my intellect could apprehend."[20] In his epilogue of that great work he was likely paraphrasing the above passage in Colossians stating, "and thou my soul, praise the Lord thy Creator, as long as I shall be: for out of Him and through Him and in Him are all things."[21]

As we point our students to the Creator and source of all wisdom, we also want them to understand there are some things that cannot be explained with human wisdom, but rather must be accepted by faith. Just like the human eye cannot detect the difference between an 89-degree angle and a right angle or discern between a one million-sided polygon and a circle, neither can we rightly measure our lives with a naturalistic view of the world.

Q6: Is seeing believing?

A: Don't trust your eyes and don't trust the weatherman! "For this light momentary affliction is preparing for us an eternal weight of glory beyond all comparison, as we look not to the things that are seen but to the things that are unseen. For the things that are seen are transient, but the things that are unseen are eternal." (2 Corinthians 4:17-18)

While the latter part of the leading sentence of the response is a humorous bit about the reliability of weather forecasters, the former part is a statement of the limits of human ability and reason to fully explain truth. Kepler and others understood that in order to understand the universe more clearly, we must begin with the assumption

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20 Kepler, *Harmonies of the World*, 108.

21 Kepler, *Harmonies of the World*, 116.

that concepts we cannot physically see are at work. The most obvious example is gravity, which is an unseen but nevertheless very real force acting upon anything that has mass. Furthermore, the ideals of geometry such as points, lines, and planes cannot be seen, but must be believed and applied to physical tasks such as architecture and engineering.

Geometry teachers in classical Christian schools have the unique opportunity to demonstrate how these concepts apply to our faith in God through Jesus Christ by the power of the Holy Spirit. Scripture, in Romans 1, explains what Plato saw dimly: shadows in a cave produced by the reality of an unseen world; A physical world that is simply an image of a higher perfect reality. "For His invisible attributes, namely, His eternal power and divine nature, have been clearly perceived, ever since the creation of the world, in the things that have been made."

Not only can geometry teachers guide students in understanding their own faith, but we can also use the idea of geometric proof in helping our young disciples learn to explain the gospel to someone who has no biblical background. One of the reasons young geometry students struggle with formal logical proof is they often find the theorem "obvious" because of the mathematical understanding they already possess. In building a logical proof, one must "unknow" some things. The geometer must begin with a basic premise upon which all parties can agree.

Just as axioms and postulates in geometry are accepted ideas on which all parties can agree without proof, Christians must often begin with a general idea about the world upon which everyone can agree, such as "the world is an imperfect place." Then like a geometric proof, one logically builds a concrete argument through definitions and other ideas which have already been proven. The Christian can clearly build a case for the gospel of Christ. Logic, found in geometry and applied to the gospel, is also demonstrated in the life of the Apostle Paul. Specifically in Athens, as described in Acts 17, Luke tells us Paul was reasoning in the

synagogue and then was invited to the Areopagus. There he reasoned with the "Athenians and foreigners residing there."

While no one can "reason" someone into the kingdom without the work of the Holy Spirit in revealing biblical truth, the believer can like John and Paul, demonstrate biblical truth so "that you may believe that Jesus is the Christ, the Son of God, and that by believing you may have life in his name." (John 20:31, ESV).

Conclusion

The art of geometry lends itself as well as any of the liberal arts to a distinctively Christian vision of education. Clark and Jain in their book *The Liberal Arts Tradition* speak to how the seven arts, integrated throughout a classical Christian school curriculum, "foregrounds the centrality of Christian formation .... Christian classical schools have often treated mathematics and natural science as awkward and unwanted appendages. The truth is that mathematics has been a key subject of the Western curriculum since the time of Plato. ... [F]aith and science are complementary and not exclusionary. It suggests that ... mathematics is relevant for human formation."[22]

The teacher of geometry has the unique opportunity to demonstrate how God did not create a chaotic universe, and His creation draws us to know him through His Son by the power of the Holy Spirit. Kepler posited that the teaching of the Gospel concerning Christ is "laid against" observations of the world and natural philosophies attempting to explain them.[23] He continued that he found it "superfluous to inquire into it too curiously or to forbid the senses or natural reasons to investigate that which the eye has not seen nor the ear heard and into which the

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22 Clark and Jain, *The Liberal Arts Tradition*, xxiv.

23 Kepler, *Harmonies of the World*, 111.

heart of man has not ascended; but we duly subordinate the created mind—of whatsoever excellence it may be—to its Creator."[24]

I find the final paragraph of the epilogue of Kepler's *Harmonices Mundi* to be a fitting conclusion.

> "Purposely I break off the dream and the very vast speculation, merely crying out with the royal Psalmist:
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> Great is our Lord and great His virtue and of His wisdom there is no number: praise Him, ye heavens, praise Him, ye sun, moon, and planets, use every sense for perceiving, every tongue for declaring your Creator. Praise Him, ye celestial harmonies, praise Him, ye judges of the harmonies uncovered . . . and thou my soul, praise the Lord thy Creator, as long as I shall be: for out of Him and through Him and in Him are all things, καὶ τὰ αἰσθητὰ καὶ τὰ νοερὰ [both the sensible and the intelligible]; for both whose whereof we are utterly ignorant and those which we know are the least part of them; because there is still more beyond. To Him be praise, honour, and glory, world without end. Amen.[25]

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[24] Kepler, *Harmonies of the World*, 113.

[25] Kepler, *Harmonies of the World*, 116.

On the Poetics and *Libertas* of Music in Classical Christian Education

by Preston L. Atwood

Intro

According to tradition, the Earl of Kinnoull, an eighteenth-century Scottish Lord, attended Handel's inaugural performance of his *Messiah*. After the concert, the Earl approached Handel and thanked him for the splendid entertainment which he had afforded the audience. Handel responded by saying, "My Lord, I didn't mean to entertain them, I meant to make them better men and women."[1] For millennia philosophers and educators have wrestled with the question of music's role in forming the habits, minds, and souls of students. Music was so central to the life and conversion of Augustine that he argued to know music is to know everything.[2] The ancients considered the art of music (*ars musica*) so integral to the humanizing ends of a liberal education, so vital in serving the Greek *polis* and religion, and so indispensable in creating the liturgy of the early Church that it constituted one of the several liberal arts. But what is "liberal" about music? To answer this question, this article will: 1) define the art of music and its role in a classical education rooted in the poetic tradition; 2) highlight the current challenges facing music education and how the classical community might address these challenges moving

[1] As cited in W. Barlay, *Educational Ideals in the Ancient World* (Grand Rapids: Baker Book House, 1959), 130.

[2] D. A. Aquila, "Music as a Liberal Art: The Poetry of the Universe," *Religions* 13 (2022): 792.

forward; and 3) speak to how music contributes to a distinctively Christian vision of education.

Music as a Liberal Art

Along with astronomy, geometry, and arithmetic, music is one of the four quadrivial arts. Throughout the medieval period and Renaissance, the liberal arts were the tools of learning needed to acquire knowledge leading unto wisdom and the flourishing of one's soul.[3] The liberal arts worked together to achieve the primary goal of education, which differed slightly from one period to another. For Plato and Aristotle, the role of *paideia* in elementary learning was to teach students how to love goodness and beauty yet hate evil and ugliness; how to rightly enjoy pleasure and discern what is excellent; and how to apply reason correctly and live lawfully in the *polis*.[4] For Augustine, liberal learning existed to provide "a well-ordered, step-wise path to knowledge of God's divinely ordained pattern in creation."[5] Such knowledge results in enjoying the True, Good, and Beautiful.[6] And for C. S. Lewis, the role of education was to develop well-formed youths who have eyes that truly see, ears that truly hear, and chests that truly feel. In his *Abolition of Man*, Lewis argues that the ability for youth to rightly judge things as they are in reality enables them to discern what is ill-made in the

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[3] K. Clark and R. S. Jain, *The Liberal Arts Tradition: A Philosophy of Christian Classical Education* (Camp Hill: Classical Academic Press, 2019), 289; and C. B. Nelson, "Music and the Liberal Arts," *Proceedings: The 87th Annual Meeting* 100 (2012): 1-10.

[4] W. Anderson, *Ethos and Education in Greek Music: The Evidence of Poetry and Philosophy* (Cambridge: Harvard University Press, 1966), 92, 100, 133-34; L. Stamou, "Plato and Aristotle on Music and Music Education: Lessons from Ancient Greece," *International Journal of Music Education* 39 (2002): 3-16.

[5] As cited in Aquila, "Music as a Liberal Art," 1.

[6] Aquila, "Music as a Liberal Art," 1.

works of man and nature; to praise that which is good and beautiful and draw it all in as nourishment for the soul; and thereby to mature into someone well-disposed to clear thinking and intellectual virtue.[7] While these slightly different teleological expressions of the liberal arts highlight varying aspects about what it means to be human, all emphasize that human flourishing is the result of gaining wisdom and feeling rightly about reality.

With these educational goals in mind, it becomes easier to understand how music serves as a vehicle to get there. The arts of the trivium, or the arts of memory and language, beginning with letters and ending with persuasive argument, enable children to think, interpret, imagine, and express themselves well, serving the ancient dictum, "Know thyself."[8] The arts of the quadrivium, or the arts of number, enable children to know their place in the universe, in space and time.[9] In essence, liberal learning *liberates* students' minds and souls to rightly know themselves, the external world of which they are a part, and their role as humans made in the image of God.

Viewing music numerically has influenced some to refer to it as the incarnation of arithmetic or number in sonic motion.[10] The kernel of this idea traces back to Pythagoras and his doctrine of the music of the heavenly spheres. Pythagoras discovered that if he plucked strings of various lengths connected to a piece of wood or metal and created different sounds or notes, then the spheres of the universe must

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7 C. S. Lewis, *Abolition of Man* (New York: HarperOne, 2009), 7-8.

8 See Aquila, "Music as a Liberal Art," 6; and P. Kalkavage, "Why Music Is an Essential Liberal Art." *American Educator* (Fall 2006). Available at https://www.aft.org/ae/fall2006/kalkavage.

9 Aquila, "Music as a Liberal Art," 6.

10 Aquila, "Music as a Liberal Art," 6.

be making music because they are varied in size yet are in constant orbital movement.[11] For centuries throughout the Middle Ages, music was studied as a "speculative science" (*musica speculativa*) because of the arithmetical relations of tones in melody and harmony, and number is basic to intervallic ratios and rhythm.[12] These relations were not mere theoretical exercises but explorations into the meaning of beauty itself, which has to be recognized before it can be admired.[13] Thinking of music as an expression of math rendered it natural for medieval educators and theorists to explore relations between music and astronomy as well as music and medicine. While music may be possible only because of math and its sonic expression, it is certainly much more than that.

In Classical Greece, Plato and Aristotle viewed music as central to a well-formed soul such that one's inner life would be well-disposed to the ultimate ends of a liberal education–the education of a free man in a democracy. The ideas of Pythagoras (as reported in secondary sources), Plato, and Aristotle reveal a common belief that "[rhythm] finds its way into the inward places of the soul."[14] None of the ancients take the time to explain this phenomenon or how it works. They were content with the mystery of it. It had something to do with their view of the soul's immortality, but they also based their conclusions on empirical observation and common sense. Clearly, music has the power to stir human emotions. For this reason, Josef

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[11] Kalkavage, "Why Music Is an Essential Liberal Art"; and Aquila, 8.

[12] Aquila, "Music as a Liberal Art," 5.

[13] For an elaboration of this idea, see Kalkavage, "Why Music Is an Essential Liberal Art"; and E. Rothstein's book length treatment in *Emblems of Mind: The Inner Life of Music and Mathematics* (New York: Times Books, 1995).

[14] Aquila, "Music as a Liberal Art," 5. See also Anderson, *Ethos and Education in Greek Music*, 179-80; and Kalkavage, "Why Music Is an Essential Liberal Art."

Pieper called music the "philosophizing of the soul," imparting grace to human souls through harmony and rhythm.[15] And while Plato remained generally skeptical of the role of music in leisure, Aristotle believed music was a valid intellectual pastime that could serve purposes of leisure, relaxation, and catharsis.[16]

Another reason music became a liberal art was because of the meaningful ways it served the city, country, and their respective religious practices. In Athens, for example, music was a chief way Greek citizens could contribute to the *polis* and the *leitourgia*.[17] In fact, Plato argued repeatedly that "chorus training constituted the highest and most painstaking education that the state could offer an ordinary citizen."[18] Music accompanied religious worship, drama productions, the recitation of poetry, and public festivals. Music also facilitated divine revelation. Music was so integral to the life of the city-state that in Plato's ideal state he argued that musicians must follow clear laws

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[15] Josef Pieper, *Only the Lover Sings* (San Francisco: Ignatius Press, 1990), 37-38.

[16] Aquila, "Music as a Liberal Art," 5.

[17] The English word "liturgy" comes from the Greek word *leitourgia* (λειτουργία), which combines two Greek words: *leitos* (meaning "of the people" or "public"); and *ergon* (meaning "work" or "service"). Together *leitos* and *ergon* mean "the work of the people." Originally, in ancient Greece *leitourgia* referred to a public service or duty that was designed by the city-state but financed and managed by a wealthy citizen, or what they called a "liturgist," for the benefit of the community. The assumption was that wealth is only possible through the city's delegation; therefore, wealthy citizens had to give back to the *polis*. This included responsibilities like financing the gymnasium, the *choregia*, and the choir members at the theatre as well as religious festivals, military needs, and more. Scholars estimate that Athens in the fourth century BC had about ninety-seven liturgies and liturgists. These liturgies occurred at select times on the Athenian liturgical calendar. Rome had a similar system of liturgy.

[18] Anderson, *Ethos and Education in Greek Music*, 66.

that authorize only musical modes and rhythms that evoke a certain *ethos* and emotion consistent with Greek moral virtues. He argued that a musical *paideia* had to include the formal study of music "of the finest kind, notably such as delights one who excels in nobility of character."[19] The alternative was political decay.

For Plato and Aristotle, music was a means to influence and shape a student's *ethos* through its ability to imitate or represent human emotions and character.[20] The habit of listening to and learning music that promotes virtue predisposes youth toward intellectual virtue later in life. While music can amuse children and temporarily please the senses, amusement or mere animal enjoyment was never the point of Greek *paideia*. Rather, Aristotle referred to music as "soul-craft" because he believed certain types of music truly rouse one to ethical behavior. And this had benefits for both oneself as the student and the state.

Moving forward to Augustine, the first Christian theologian to seriously wrestle with and write about music as a liberal art, one learns that music is not only one of several liberal arts; music is a bridge between the trivium and the quadrivium. Music is a link between "the world of time and space considered in number" and "inward experience"; a fusion of the rational and the irrational parts of humanity.[21] While it is rare to find other early Church expressions about music before the fifth century, the church fathers remained

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[19] Anderson, *Ethos and Education in Greek Music*, 88; E. A. Lippman, "The Sources and Development of the Ethical View of Music in Ancient Greece," *The Music Quarterly* 49 (1963): 188-209.

[20] Anderson, *Ethos and Education in Greek Music*, 88.

[21] Aquila, "Music as a Liberal Art," 8; and Kalkavage, "Why Music Is an Essential Liberal Art."

generally open to studying music in an academic fashion. With each passing century, patristic polemic against moralism and pagan musical practices heightened to a point of limiting music in the church to the elucidation of Scripture.[22] Thus, Augustine's openness to view music as a form of emotional expression, as a mode of rhetoric applicable to ecclesiastical life, was somewhat unique. However, the idea of music as related to the trivial arts was not. In fact, Quintilian included music in his twelve-volume course on rhetoric, "celebrating music's power to evoke the divine and its centrality to oratory."[23] Quintilian required his students to imitate the inflections of music, or to musicalize speech, "through tone and modulation."[24] This pairing of music as a form of rhetoric with music as an application of arithmetic is a powerful art that forms souls and educates minds.

Music as Poetic Education

In James Taylor's book, *Poetic Knowledge*, he refers to a pre-scientific, non-analytical form of knowledge called poetic knowledge. It involves learning through the cultivation of the senses, emotions, and imagination. By evaluating the works of Plato, Aristotle, Augustine, St. Benedict, Aquinas, Charlier, Maritain, and John Senior, Taylor argues that poetic knowledge has been a central component of classical learning for centuries. All of these philosophers, theologians, and educators acknowledged that a sensory-emotional experience of a reality that is beautiful, awful (= awe-full), spontaneous, and mysterious is a

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22 J. McKinnon, *Music in Early Christian Literature*, Cambridge Readings in the Literature of Music (New York: Cambridge University Press, 1987), 2-5.

23 Aquila, "Music as a Liberal Art," 6.

24 Aquila, "Music as a Liberal Art," 6.

legitimate form of knowledge, informing human wills and intellects.[25] Taylor is not necessarily referring to a knowledge of poetry; he is referring to a form of knowledge that occurs by sympathy, that is a "feeling with" something, a union with whatever is knowable. Poetic knowledge occurs when the senses and emotions come naturally together, where wonder and delight gradually lead a child's imagination and memory toward imitative acts.[26] The poetic experience and knowledge, he contends, is essentially a passive act, and listening is the gateway to the poetic mode.[27] Wonder occurs when teachers create the space for it–through gazing, listening, and reflecting on nature, music, and reading. A direct, sustained engagement with reality stands at the core of a poetic education that fosters admiration for the sublime and a curiosity for truth. This approach to learning stands in direct contrast with what Taylor calls the rationalistic "drill and kill" methods of the Cartesian scientific age, which treats knowledge as a problem to overcome, holds all experience in suspicion, and denies the harmony between body and soul.

When one considers the sensory-emotional, soul-stirring effects music has on listeners, it is no wonder that the classical tradition has always given music a place of prominence in the curriculum. Classical education has always been a poetic education. Specifically, the Greek poetic education for children–including songs, poetry, music, dance, and gymnastic–intended "to awaken and refine a *sympathetic* knowledge of the reality of the True, Good, and Beautiful, by placing the child *inside* the experience of those transcendentals as they are

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[25] J. Taylor, *Poetic Knowledge: The Recovery of Education* (Albany: State University of New York Press, 1998), see esp. chs. 2, 5, and 6.

[26] Taylor, *Poetic Knowledge*, 9.

[27] Taylor, *Poetic Knowledge*, 10.

contained in these arts and sensory experiences."[28] In other words, they attempted to root the child's education in his or her natural disposition to learn by imitation, maximizing pre-rational or non-discursive modes of knowledge. Children do not merely duplicate what they hear or see; they try to become the very thing they are imitating: the slithering snake; the ferocious T-rex; the Egyptian pharaoh; or the Greek athlete.[29] The first games and drawings of children are all imitations of things as they are, as they experience them in reality. This phenomenon partly explains the meaning of the Greek word *mousike* (μουσική), referring to the "art of the Muses." In the Greek mind, the nine Muses, the goddesses of inspiration, did not preside over music only but also poetry, dance, and other imitative arts. *Mousike* meant poetry, music, and dance, all at the same time. They rarely separated them.[30]

It is difficult for cultured, self-reflecting adults in the modern age to access this pre-rational mode of learning. Practically, "pre-rational" knowledge refers to how people feel and what they learn about reality when they experience a picturesque landscape, fall in love, or (for some) eat cheesecake. One could describe the process of eating cheesecake and say, "When you consume cheesecake, the taste receptors on your tongue, specifically the T1R2 + T1R3 receptors, detect the sucrose or glucose, initiating a signaling cascade and leading to the perception of sweetness and smoothness through tactile receptors in your mouth." Or, one could describe the experience of eating cheesecake as a descent into a world of creamy whispers and velvety textures, where the delicate dance of tang and sweet

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[28] Taylor, *Poetic Knowledge*, 15.

[29] Taylor, *Poetic Knowledge*, 15.

[30] Taylor, *Poetic Knowledge*, 142; L. Stamou, "Plato and Aristotle on Music and Music Education," 3-4.

unfolds upon the tongue, filling the body with delightful sensations. Whereas the former description is abstract and requires only detailed scientific knowledge of the digestive process, lab experiments, and a microscope, the latter simply describes an experience with cheesecake in all its fullness before analysis and critique. The wonder or enchantment people experience in these moments–before analyzing what they are seeing; before they become curious and ask lots of questions; before they question anything or doubt what they are experiencing–is what Taylor means by a pre-scientific, poetic engagement with reality. For this kind of engagement to happen, one needs a context of leisure, contemplation, and passivity. Taylor is not commending a sit-back-and-relax kind of passivity; he is talking about creating the space and time to cultivate a disposition, or a receptivity, to the truth, beauty, and goodness around the learner. The Greeks discovered that poetry, music, and dance powerfully facilitate this experience in students because they are themselves imitative arts–text, sound, cadence, movement, and rhythm working together to engage all human senses and stir their souls.[31]

When an education combines imitation and habituation, it makes virtue formation possible. This idea finds explanation in the Greek word *enthousiasmos* (ἐνθουσιασμός), which literally means "divine inspiration" or "possession by a god." Aristotle believed that music is important because it generates enthusiasm, and enthusiasm is an emotion of the ethical part of the immortal soul. In his view, which is very similar to Plato's, the fundamentals of music, rhythm, and melody imitate the virtues of just anger, gentleness, courage, and temperance.[32] For example, the Dorian mode or scale, with its minor 3rd and 7th, was thought to engender courage in the souls of military

[31] Taylor, *Poetic Knowledge*, 20.

[32] Taylor, *Poetic Knowledge,* 21.

men, much like the hymn The Son of God Goes Forth to War feels like a military battle song to modern Christians. Thus, when Aristotle refers to music as "soulcraft," he is referring to a poetic tuning of the soul through certain modes, melodies, harmonies, and rhythms that predisposes children toward moral virtue. He argues that the direct appeal to the sensory-emotional life of a human being makes delight possible, influencing individuals to desire to know anything at all. These sensory experiences are not wisdom in the traditional sense of the term; they do not explain the "why" of anything, but he considered them to be the most authoritative knowledge of particular things.[33]

As music played a major role in his conversion, Augustine was the first one to apply the Greco-Roman idea of *enthousiasmos* within the context of Christianity.[34] For Augustine, the end or *telos* of man is "to possess a vision of beauty and perfection above the object of the senses [e.g., a mountain, a painting, a concerto] that would lead us to the contemplation of God."[35] Augustine places a similar emphasis on the role of music to engage the mind, soul, and intelligence, believing that they all experience sensations in music and produce a kind of knowledge.[36] A well-crafted rhythm, for example, fosters an inherent love of order, which the soul needs to embrace reason and reject sensuality.[37] Or, the study of music as applied arithmetic develops an appreciation for numerical proportion in sound, allowing one to learn God's divine

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[33] Taylor, *Poetic Knowledge*, 22-23. See also Kalkavage, "Why Music Is an Essential Liberal Art."

[34] J. MacInnis, "Augustine's *De Musica* in the 21st Century Music Classroom," *Religions* (2015): 212.

[35] Taylor, *Poetic Knowledge*, 28.

[36] Taylor, *Poetic Knowledge*, 29.

[37] MacInnis, "Augustine's *De Musica* in the 21st Century Music Classroom," 214.

patterns and thereby live a well-ordered life.[38] Thus, Augustine agrees with Plato and Aristotle that all knowledge begins in the senses, but not all knowledge is poetic, or aesthetic, just because it begins with the senses. Rather, for something to be poetic, it must be enjoyed for its own sake.[39] Augustine would say that the goal of the Quadrivium, or the quantitative arts, is to train the soul to reach the incorporeal; to move beyond the responses of one's senses to perceive higher realities; and to transcend created things to the Creator.[40] This is, in effect, what happened to Augustine when he heard his mother's favorite hymn, Deus Creator Omnium. In his view, the song was so masterfully composed that "[his] soul easily move[d] from the beauty of the music, received by the senses, to contemplation of God's transcendent beauty."[41]

It is fair to suggest that Augustine's view of music and its role in learning became foundational for universities in the Middle Ages and Renaissance. For a thousand years his sixth book in his larger work, *De Musica*, essentially was the textbook of the medieval era along with Boethius's *Principles of Music*. Since scholastic guilds were under the rule of the Church during this time, music played a central role in both environments. Universities relied on music for celebrations of feast days of their patron saints, pageantries, and other ceremonies native to various nations.[42] The Church relied on its scholars to conduct choirs and

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38 B. Brennan, "Augustine's *De Musica*," *Vigiliae Christianae* 42 (1988): 270.

39 Taylor, *Poetic Knowledge*, 29.

40 MacInnis, "Augustine's *De Musica* in the 21st Century Music Classroom," 212.

41 MacInnis, "Augustine's *De Musica*," 215. See also Brennan, "Augustine's *De Musica*," 267-81.

42 N. C. Carpenter, "Music in the Medieval Universities," *Journal of Research in Music Education* 3 (1955): 136; and ibid., "The Study of Music at the University of Oxford in the Middle Ages," *Journal of Research in Music Education* 1 (1953): 11-20.

students to form the choirs while composing music to accompany its various rituals, resulting in liturgies.[43] Most of the major medieval universities, especially in Paris, taught music alongside math, astronomy, and medicine, while also practicing it as a living art and theorizing about the discipline, leading to the discovery and appreciation of polyphonic music. This is why many medieval mathematicians were also composers and adept musicians.[44]

Current Challenges and Classical Solutions

Several paradigm shifts need to occur in the minds of those running modern music programs if music is to fulfill both its liberal aims and poetic functions. The first is to conceive of music as a fully curricular, non-negotiable, culture-forming, soul-sanctifying art that effectively cultivates students' emotions and influences their wills to the glory of God. Commonly perceived as a specialty for the gifted and inspired, music is often ancillary to a liberal arts program rather than integral to it. In this light some have referred to music as "the Neglected Muse."[45] However, the classical tradition consistently asserts music's critical role in a child's *paideia*. Additionally, for Christians, Scripture assumes the inherent musical nature of humanity and commands that God's people make music to accompany several occasions, with corresponding emotions, not the least of which is the worship of God himself. Thus, making music, or *musicing*, a moral imperative.

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[43] With the rise of Christianity in Rome, the early Church Fathers borrowed some elements of Greco-Roman liturgy and paired it with many Jewish traditions and the practices of the earlier or primitive Church. The fusion resulted in a decidedly Christian liturgical calendar accompanied by various rituals to accompany the Church's worship of the resurrected Christ.

[44] Carpenter, "Music in the Medieval Universities," 137-43.

[45] See Kalkavage, "Why Music Is an Essential Liberal Art."

Moreover, teachers and students alike tend to think of music as a subject confined to the music classroom, rather than as a tool that can supplement learning across all disciplines and help students better understand the whole human project.[46] Since habit formation requires frequency, consistency, and predictability, and since the path to a well-ordered soul in later life is to learn and appreciate order and well-formedness as a child, schools should avoid compartmentalizing music to certain places and limited times of the day or week. Rather, music should set the tone and pace everywhere–in classrooms, hallways, lunchrooms, and school assemblies. A robust musical education could include beginning class by singing a Psalm, singing a prayer before lunch in the hallway or lunch room, bookending the day with singing, taking a leisurely break in the afternoon for prayer, singing, or a hymn sing, or playing beautiful background music during independent study times to create an atmosphere of sacred space for learning and contemplation. School leaders likely will need to explore various options that might work in their schools, remembering that frequency, consistency, and predictability are the *sine qua non* of habit formation.

Relatedly, many liberal arts programs that require music overemphasize its praxial side, stressing technique, skill, and performance,[47] leaving little to no space for the philosophical, theoretical, aesthetic, historical,

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[46] The phrase "whole human project" comes from Nelson in his address to the National Association of Schools of Music when he discusses the content of a liberal education in relation to music; see "Music and the Liberal Arts," 4-5.

[47] The praxial approach to music education was initially teased out by D. Elliott, *Music Matters: A New Philosophy of Music Education* (New York: Oxford University Press, 1995). More balanced proposals have since been offered (see J. V. Maiello, "A Praxial Approach to Musicology in the Secondary School Curriculum," *Musica Docta* 9 [2019]: 57-65).

cultural, and compositional disciplines.[48] Such an approach results in producing imbalanced human beings because it fails to answer fundamental questions like: Why make music? What makes music worth listening to?[49] Recent studies demonstrate that training in composition and improvisation results in increasing students' ability to scrutinize the history of music and master basic musical concepts.[50] Attendance at live performances in the classroom (as opposed to listening to live recordings) both increases interaction between performers, their pieces, and the students and provides a multi-sensory experience for all, thus mitigating passive or private attempts to appreciate music.[51] Current research also shows that the integration of medieval methods–through the making of monochords (or sonometers), the composition of

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[48] For more on this point, see C. Matthew Balensuela, "Music as a Liberal Art: The Continuing Relevance of Medieval Music Pedagogy in Teacher Education," *Musica Docta* 9 (2019): 1-8.

[49] As R. Cantrick notes, the learning of facts, skills in performance, and theoretical competence should not be confused with the ends of a musical education; the only proper end is the love of music "based on true discernment of its nature" ("Music: A Liberal Art and a Fine Art," *The Journal of General Education* 8 (1955): 189-94.

[50] See J. A. Grymes and J. Allemeier, "Making Students Make Music: Integrating Composition and Improvisation into the Early Music Classroom," *Journal of Music History Pedagogy* 4 (2014): 231-54; D. Seaton, "Teaching Music History: Principles, Problems, and Proposals," in *Vitalizing Music History Teaching*, ed. J. R. Briscoe, Monographs & Bibliographies in American Music 20 (Hillsdale, NY: Pendragon Press, 2010), 70-71; Kalkavage, "Why Music Is an Essential Liberal Art"; T. D. Watkins, "Some Thoughts about Teaching Music History: A Conversation with Douglass Seaton," *Journal of Music History Pedagogy* 4 (2014): 193-211; and T. D. Stimeling and M. Katz, "Songwriting as Musicological Inquiry: Examples from Popular Music Classroom," *Journal of Music History Pedagogy* 2 (2012): 133-52.

[51] A. Lalonde, "Student Performance in the Undergraduate Music History Sequence: Current Practices and Suggested Models," *Journal of Music History Pedagogy* 7 (2017): 81-93.

chant, organum, counterpoint, and hymns, and the study of physical manuscripts–enhances a praxial approach to musicianship because students gain an in-depth knowledge of the music-making process.[52] And, regarding why classical music is worth students' close attention, music philosopher Peter Kivy insightfully notes how certain music (e.g., Beethoven's Third Symphony) has a profound ritualistic impact on its listeners during concert performance. A concert is where performers, aesthetic musical works, and audience members co-celebrate together an experience that stirs the souls and minds of people beyond what words can convey. Kivy refers to this as "cultural cohesion." Therefore, for students to thoroughly appreciate music, they need to make music in an integrated fashion.[53]

Second, the medieval notion of music as the art of number renders music an observable phenomenon, one whereby students can objectively experience and evaluate its natural beauty.[54] *Contra* highly subjective views of music that stem from cultural consumerism, relativism, and privatization, the objective realities of truth, goodness, and beauty serve as guardrails for the artforms that schools should allow to transform

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[52] Balensuela, "Music as a Liberal Art," 4-8. See also C. Ruini, "Teaching Medieval Music Today: New Approaches to Paleography and Music History," *Musica Docta* 6 (2016): 69-76; K. Buehler-McWilliams and R. Murray, "The Monochord in the Medieval and Modern Classrooms," *Journal of Music History Pedagogy* 2 (2013): 51-172; J. Grymes and J. Allemeier, "Making Students Make Music," 231-54; D. Shadle, "Nothing Ordinary About It: The Mass Proper as Early Music Jigsaw Puzzle," *Journal of Music History Pedagogy* 1 (2012): 1-37; K. Burke, "Roleplaying Music History: Honing General Education Skills via 'Reacting to the Past'," *Journal of Music History Pedagogy* 1 (2014): 1-21; and Kalkavage, "Why Music Is an Essential Liberal Art."

[53] P. Kivy, "Music and the Liberal Education," *Journal of Aesthetic Educatio*n 25 (1991): 79-93. See also Cantrick, "Music: A Liberal Art and a Fine Art," 189-94.

[54] Kalkavage, "Why Music is an Essential Liberal Art."

students. The classical tradition has always submitted that humans are fundamentally shaped by their loves and desires, not just their thoughts and beliefs. Humans are worshipers first and then thinkers, as James Smith argues in his book, *You Are What You Love*.[55] Love is not merely an emotion; it's a disposition cultivated through repeated practices and experiences, much like learning a skill or developing a habit. Humanity's deepest affections and longings are powerful forces that ultimately shape actions, values, and worldviews. If classical Christian schools fail to shape students' loves and desires, then secular and cultural liturgies will stand in their place. Therefore, school leaders and teachers should regularly expose students to first-rate music (i.e., music that has stood the test of time) that cultivates good taste and judgment in what is beautiful.[56]

Third, schools that stress rational knowledge over poetic knowledge tend to shy away from music's mysterious nature and the movement and emotion that should accompany it. Classical Christian schools have the unique opportunity to create space for the mystery of music by allowing it to stir students' emotions. Recall that *mousike* in Greek *paideia* never meant sound, melody, and rhythm only; it also meant movement, dance, and poetry. If it is true that beautiful, sacred music taps into the harmonies of the universe, bringing heaven to earth, then one should expect students' souls and bodies to respond with emotion and movement. There is no escaping it. A lack of movement or emotion in assemblies, classrooms, and concerts might suggest that teachers are not modeling healthy emotional responses to music, students' loves

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[55] J. K. A. Smith, *You Are What You Love: The Spiritual Power of Habit* (Ada: Brazos Press, 2016).

[56] Cantrick, "Music: A Liberal Art and a Fine Art," 188; Stamou, "Plato and Aristotle on Music and Music Education," 11-12. MacInnis suggests that students read Augustine's *De musica* as a means of understanding why music during the Middle Ages was an all-encompassing discipline ("Augustine's *De Musica* in the 21st Century Music Classroom," 216-18).

and desires are already subservient to musical trends from culture and they are having a hard time connecting with what they are hearing and singing, or perhaps emotional responses are somehow inadvertently condemned at school. Whatever the case may be, a poetic, musical education is first sensory and emotional. Wonder is the natural result of experiencing a beautiful, inexplicable reality. Classical schools should take joy when they observe students' proper emotional responses to music.

Moreover, if the *telos* of a school is to teach students what to love, what to desire, and how to feel, then the school's teachers should model and inculcate habits that predispose students toward these goals. Historically, music was a primary means of habituating students toward these ends. The combination of melody, rhythm, and text cultivates students' affections and aids memory. Just like the Greeks used the Dorian mode to instill bravery and manliness in military men and the Phrygian mode to inspire tranquility, teachers should select music that fosters the right emotion for the occasion. There are times when students should feel joyful, but there are also times when they should feel sad. With music, teachers can bridge the gap between the reality of what is happening in the life of a school and how students should feel about it. School leaders can set the mood. And similar to how many church traditions follow a liturgical calendar, schools can choose music and prayers that are appropriate for the season (e.g., Advent; Christmas; Epiphany; Lent; and Easter).

Fourth, similar to how schools should choose music that is emotionally appropriate, classical Christian schools also need to choose music that is theologically appropriate, especially during corporate assemblies. The Greeks required students to recite and memorize epic poetry, particularly the works of Homer, because of their cultural significance, helping youth understand Greek culture and identity and gain an appreciation for their heritage and values. Poetry recitation was also a means of teaching lessons in heroism, honor, and morality. The Christian

equivalent to Homer is the Book of Psalms. The Book of Psalms is not only Hebrew poetry, it presents the full range of human emotion, memorializes God's acts in history among his people, and teaches the history of redemption. For these reasons, many of Jesus' prayers came straight from the Psalter. When students sing the Psalms, they bring harmony to their souls by uniting their bodies–their lungs, tongues, and lips–with their minds.[57] And when they do this together, as a school community, uniting around a common confession and a common "epic," experiencing the same emotions and spiritual influences, it helps them recognize that they are part of a world far bigger and a story far greater than themselves. Similarly, as P. Kalkavage remarks, students get to enjoy one of life's most humanizing pleasures when they

> "[cooperate] with others in the attempt to form a beautiful whole that is more than the sum of its parts. Students thus attain in sound the ideal of a perfected human community–a perfected friendship that preserves differences but renders them harmonious. To sing is to transcend the isolation and vagary of selfhood. Such transcendence is one of the greatest gifts of a genuine liberal education.[58]

A singing people is a united people because they sing to God with one voice. In a real way, singing together models and symbolizes the very Christological unity students sing about in many timeless hymns.[59]

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[57] S. Turley, *Echoes of Eternity: A Classical Guide to Music* (Camp Hill: Classical Academic Press, 2018), 109.

[58] Kalkavage, "Why Music Is an Essential Liberal Art."

[59] Kalkavage, "Why Music Is an Essential Liberal Art," 111-12. The Psalms have been set to music numerous times over the centuries. The Genevan Psalter, Scottish Psalter, 1912 Psalter, and Crown & Covenant Publications's 1973 and 2010 Psalters are all good choices. Many modern artists like Greg Wilbur and Shane Heilman's The Psalms Project continue to produce memorable, beautiful Psalm hymns.

Finally, if music is number in sonic motion or the incarnation of arithmetic, it ought to be taught that way, in some measure, in music, science, philosophy, math, and humanities classes. A broader awareness of how music integrates with other disciplines not only deepens students' musical literacy, it fosters a general appreciation for beauty as they poetically engage it in the patterns and structures all around them, and it helps them see the interconnection of varying disciplines.[60] For example, in math class teachers can relate fractions to musical time signatures; proportionality and ratios to tempos and beats; and mathematical sequences to patterns of notes in melodies and intervals. In physics class students can relate sound production and vibrations to musical tones and harmonics. In calculus class students can discuss the concept of infinity in relation to musical overtones and integer multiples.[61] And in humanities classes students can discuss and debate whether the cosmos is built on mathematical harmonies and how the concepts of unity and diversity relate to sacred number and its symbolism. Students can trace these ideas from Pythagoras and Plato down through the Middle Ages and discover how they influenced cathedral builders and the later artists of the Italian Renaissance.[62] This kind of musical integration results in greater enthusiasm during school assemblies because students are mindful of what and how they are singing. They take joy in singing in parts. They take risks in learning new songs and trying different vocal parts. They love experiencing the pulse of a well-crafted rhythm or the resonances of a captivating harmony. Their souls benefit from observing intricate numerical order in God's created world. Such an approach fundamentally teaches them that all

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60 E. Carter, "Music as a Liberal Art," *Modern Music* 22 (1944): 12-16.

61 See a discussion of this concept in Aquila, "Music as a Liberal Art," 7.

62 S. Caldecott, *Beauty for Truth's Sake: On the Re-Enchantment of Education* (Grand Rapids: Brazos Press, 2009), 53-55.

education is musical and poetic. Notably, this was the Benedictine way: "an ordered life, proportionate, harmonious, disciplined, and … joyful … praying regularly throughout the day" so that the monk's soul "could be tuned to the rhythm of the cosmos."[63]

A Christian Vision for Education

Classicists easily recall the myth in Plato's *Timaeus* about how the world sprang from the Demiurge's musical power just as easily as Christians remember how in *The Magician's Nephew* Aslan sings Narnia into existence from a dark void. Similarly, in Tolkien's *Silmarillion*, the Ainur sang a divine song orchestrated by Eru Ilúvatar that begot the world of Arda. The idea of creation by music, or embodied music, is far older than Plato, Tolkien, and Lewis.[64] A cursory glance at many Finnish, Egyptian, Aztec, and Australian myths reveals a global, primeval affirmation of music's cosmological, creative power. Such a universal realization of music's power serves as a testimony of God's natural revelation that music transforms worlds, creates identity, and establishes order. It is no surprise, then, that the Psalmist in Psalm 96 depicts music as having generative power. Music is what unifies all of God's people on earth, regardless of their differences. Music is what the nations use to proclaim to the entire world, "The LORD reigns" (Ps 96:10). Music is what the seas will roar, the fields will exult, and the trees of the forest will sing when the LORD returns to judge the earth (96:11-13). No one knows exactly what this event will look like, but it will be awesome in the truest meaning of the word. Therefore, a Christian musical *paideia* begins with the contention that music originates from God's creative, lifegiving power. He uses it to reveal himself (cf. The Book of Psalms), and he gifts the art to humanity as a means of glorifying and enjoying

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63 Caldecott, *Beauty for Truth's Sake*, 39.

64 Caldecott, *Beauty in the Word: Rethinking the Foundations of Education* (Tacoma: Angelico Press, 2012), 56-59.

him (Pss 98:4, 7; 150:6). Humans, then, are inherently music makers.[65] They are aesthetic beings. All humans have a "Muse Within," an innate intelligence to make and enjoy music.[66]

As both the liberal arts and the Gospel of Jesus Christ share a mutual commitment to liberality, they are consonant in their aims. However, their ultimate object differs in scope. Whereas the *telos* of a non-Christian classical education terminates with the individual, the *polis*, or vocational preparation, a distinctively classical *Christian* education finds its end in glorifying God.[67] Furthermore, since the Gospel of Jesus Christ proclaims that it is for freedom for which Christ has set his people free (Gal 5:1), ultimate spiritual freedom (from sin's slavery) is requisite for humanity to exercise the art of music in all its dimensions. Sin incapacitates human beings from properly loving themselves, others, and God (Gen 6:5; Jer 17:9; Rom 1:21-22; 1 Cor 2:14; Eph 4:17-19; Titus 1:5). Therefore, the ends of a classical education–the cultivation of tastes, loves, and desires, the formation of habits promoting human flourishing, the ability to "know thyself," and the capacity to make good and wise choices for oneself–result only in the production of virtuous pagans outside of possessing saving faith in Christ's lordship. Humans require a regenerated mind, heart, and soul to optimally experience *libertas*, and they need the Holy Spirit's power to restrain inclinations to wield music in self-seeking ways.

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[65] G. J. Yi, "The Value of Music in Liberal Arts Education and Integrating Musicing into a Music Appreciation Course," *International Journal of Christianity & Education* 0 (2021): 3-4.

[66] J.-R. Bjørkvold, *The Muse Within: Creativity and Communication, Song and Play from Childhood through Maturity*, trans. W. H. Halverson (New York: HarperCollins Publishers, 1992), xiii.

[67] For more on this point, see J. F. Drake's chapter, "The Danger of the Liberal Arts," in his *Recovering Music Education as a Christian Liberal Art* (Mountain Home, AR: Borderstone Press, LLC, 2010), 14-16, eBook.

Regrettably, the fear of idolatry or, more specifically, the fear of creating art with mixed motives has often rendered the modern Christian artist inept in his or own maximal potential to produce excellent art. As C. S. Kilby reminds Christians, art has relations with truth, goodness, and beauty, but it should never become a substitute for God. However, he adds that one should never separate aesthetics from the ethical imperative to create with excellence. Kilby argues, "Christianity holds all valuable things to be valuable toward an end simply because man himself is purposed and purposive, being created *imago Dei* with all the rights, privileges, and obligations appertaining." Secular liberal arts training posits music's end in nature, hedonistic pursuits, or subconscious desires, which amounts to making music for music's sake, but Christianity alone has the answer to the question, "What is a human being?" Christianity reveals that the culmination of all transcendentals is Christ, affording redeemed humanity the ability to wrestle with reality as it is, the capacity to find fundamental desires fulfilled, and the motivation to create not for self-centered reasons but for purposes rooted in drawing men closer to God's truth, goodness, and beauty.[68] Therefore, Christian music should reflect the transcendentals Christ infused in nature for revelatory purposes and our enjoyment. It should be excellent. It should answer the question of man's existence while pointing to the True, Good, and Beautiful. Human depravity is no excuse for the redeemed to remain lax in their creative efforts to glorify God through music.

Conclusion

With these foundations in place, it becomes clear how practicing music as a liberal art buttresses the vision for a distinctively Christian

[68] C. S. Kilby, *The Arts and the Christian Imagination: Essays on Art, Literature, and Aesthetics* (Brewster: Paraclete Press, 2016), 15-23.

education. Beginning with a clear *telos* rooted in knowing God and oneself, a Christian liberal arts education uses music to assist children with their poetic engagement with the world, thus cultivating the senses, informing instincts, and influencing the will. The poetic nature of music–with its orderliness, rhythm, melody, and harmony–facilitates habit formation and aesthetic learning, especially when paired with dance, physical movement, and poetry. This fact renders music a universal methodological tool to facilitate instruction in every subject and classroom. It also enlightens students about the unified nature of reality, helping them make connections across disciplines and view God's world as an integrated whole. Also, through consistent exposure to the timeless music of Western civilization, students develop taste and judgment for true, good, and beautiful things, enabling them to establish a proper hierarchy for their loves and desires (*ordo amoris*); to rightly enjoy pleasure; and to process emotions healthfully and feel correctly about reality. Students who are able to develop these aptitudes and dispositions early in life position themselves well later in their education and adult life to thrive in intellectual virtue (i.e., to think carefully, reason excellently, and live wisely). Thoughtful, wise, virtuous, and faithful human beings attempt to live lawfully and contribute to culture and civilization in transformative ways. And finally, the mystery of music nurtures the soul in indescribable ways, evoking the kind of wonder and awe suitable for contemplation, leisure, and the worship of God. *Cantate Domino*!

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Heavenly Order: Astronomy as a Liberal Art in Classical Education

by Gabriel J. Williams

Introduction

Within the Western tradition, the goal of education has never been merely the transmission of marketable skills; rather, it has been understood as a formative path for training the mind and shaping the soul. Education, in this view, is not utilitarian but teleological—ordered toward wisdom and virtue. For this reason, the seven liberal arts, divided into the trivium (grammar, logic, and rhetoric) and the quadrivium (arithmetic, geometry, music, and astronomy), have long played a central role in the formation of the human person. These disciplines were not simply core competencies; they were formative arts that shaped the intellect and ordered the soul. The liberal arts are the road to philosophy, for they discipline the faculties of reason and open the way to contemplation and wisdom.[1] The liberal arts,

[1] This is a paraphrase of a well -known quote from Hugh of St. Victor: "Among all the departments of knowledge the ancients assigned seven to be studied by beginners, because they found in them a higher value than in the others, so that whoever has thoroughly mastered them can afterwards master the rest rather by research and practice than by the teacher's oral instruction. They are, as it were, the best tools, the fittest entrance through which the way to philosophic truth is opened to our intellect. Hence the names trivium and quadrivium, because here the robust mind progresses as if upon roads or paths to the secrets of wisdom. It is for this reason that there were among the ancients, who followed this path, so many wise men. Our schoolmen [*scholastici*] are disinclined, or do not know while studying, how to adhere to the appropriate method, whence it is that there are many who labour earnestly [*studentes*], but few wise men" (*Didascalicum*, III, 3).

Urania
(detail from, *Muses*)
Josiah Wedgewood Company
Jasperware
England
18th Century
(public domain)

therefore, aim not at technical mastery or professional preparation, but at cultivating the whole person.

Within this framework, astronomy occupies a unique and irreplaceable role. As the final art of the quadrivium, astronomy draws upon the intellectual training developed in arithmetic, geometry, and music, and directs those insights outward toward the ordered motions of the heavens. It is not merely an optional discipline, but in the pre-modern world, it was the capstone of the mathematical arts, both dependent upon and completing them. It is also their crown, for it leads the student toward the ultimate end of mathematical study: the contemplation of cosmic order.

This pre-modern understanding of astronomy stands in sharp contrast to modern approaches. Today, astronomy is often treated either as a branch of physics—requiring advanced study in general relativity, electromagnetism, quantum mechanics, thermodynamics, and classical mechanics—or as a technical field focused on telescopes, instruments, and data collection. While both approaches may evoke curiosity, they largely abandon the formative and contemplative purposes that once defined the discipline. Classical education, by contrast, insists that true learning requires *leisure* in its highest sense: an openness to reality that invites wonder and contemplation. This posture was embodied in the ancient and medieval vision of astronomy. As a liberal art, astronomy trains the intellect to perceive order in creation while summoning the soul to humility, wonder, and praise before the Creator.

This essay argues that astronomy, properly understood as a liberal art, must be retrieved if Christian classical education is to be complete. Far from being an elective science or an elementary topic, astronomy disciplines the mind, fosters contemplation, and uniquely supports a Christian vision of education. It unites intellectual precision with moral formation, leading students from the sensible to the intelligible, from the ordered cosmos to its divine source. To recover astronomy as

the capstone of the quadrivium does not require rejecting modern science but restoring the formative and contemplative ends for which astronomy was once prized.

Astronomy in the Classical World

This contemplative vision of astronomy has deep roots in the classical world. For Plato, Augustine, and Boethius, astronomy was not a technical science but a philosophical and moral art. In Plato's *Republic*, astronomy is defined as the fourth subject within the quadrivium, intended to guide the soul toward the contemplation of eternal truths. Plato teaches that the visible stars and celestial bodies, though beautiful and orderly as "material decorations on a visible surface," are imperfect imitations of the true, intelligible motions of the heavens.[2] Whereas Plato presents a philosophical framework to understand astronomy, other writers presented an allegorical approach to the study of the heavens. Consider the following excerpt from Martianus Capella's *Marriage of Philology and Mercury*, who was a contemporary of Augustine:

> The upper spheres and the seven planetary spheres produced a symphony of the harmonious notes of each, a sweeter song than usually heard; indeed they had sensed the approach of the Muses, each of whom, after traversing the spheres, took her position where she recognized the pitch that was familiar to her. For Urania was attuned to the outermost sphere of the starry universe, which was swept along with a high pitch. Polymnia took over the sphere of Saturn; Euterpe controlled that of Jove; and Erato, that of Mars, which she entered; while Melpomene held the middle region,

[2] Plato, *The Republic*, trans. Tom Griffith (Cambridge: Cambridge University Press, 2018), 529c–d.

> where the sun enhanced the world with the light of flame. Terpsichore joined the golden Venus; Calliope embraced the Cyllenian's sphere; Clio set up as her lodging the innermost circle – that is, the moon's whose deep pitch reverberated with deeper tones.[3]

In this allegory, Capella employs music and harmony—the arts of number and proportion—as metaphors for the cosmic order. Each Muse corresponds to a planetary sphere, and their recognition of pitch signifies the integration of the mathematical arts into a unified vision of the cosmos. The motions of the planets are not arbitrary but harmonious, reflecting a divine order beyond mere appearances. Here, Astronomy is personified as a woman "decked with gems and decorously arrayed in every detail"—a figure of radiant beauty and wonder—yet also holding "a forked sextant" and "a book containing calculations of the orbits of the planets and their forward and retrograde motions." She is thus both contemplative and precise, uniting aesthetic reverence with rational order. However, for Capella, the chief goal in studying the heavens was to discern a cosmos governed by number, proportion, and purpose.

This allegorical vision complements Plato's philosophical framework, demonstrating the unity of mathematical harmony and spiritual ascent that would profoundly shape Christian thought. Many Christian thinkers critically appropriated the liberal arts as handmaids of theology, and in particular, St. Augustine emphasized the symbolic and formative dimensions of contemplating the heavens. In *Confessions* X, he recounts how meditation upon created things led him beyond their mutability toward the immutable God:

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[3] William H. Stahl, ed. and trans., *Martianus Capella and the Seven Liberal Arts*, vol. II: The Marriage of Philology and Mercury (Columbia University Press, 1992), 16.

> I asked the earth, and it answered me, 'I am not He'; and whatsoever are in it confessed the same. I asked the sea and the deeps, and the living creeping things, and they answered, 'We are not thy God, seek above us.' I asked the moving air; and the whole air with its inhabitants answered, 'Anaximenes was deceived, I am not God.' I asked the heavens, sun, moon, stars, 'Nor,' say they, 'are we the God whom thou seekest.' . . . I asked the whole frame of the world about my God, and it answered me, 'I am not He, but He made me.'[4]

In *De Genesi ad Litteram*, Augustine acknowledges that the visible heavens are legitimate objects of scientific inquiry,

> Usually, even a non-Christian knows something about the earth, the heavens, and the other elements of this world, about the motion and orbit of the stars and even their size and relative positions, about the predictable eclipses of the sun and moon, the cycles of the years and the seasons, about the kinds of animals, shrubs, stones, and so forth, and this knowledge he holds to as being certain from reason and experience.[5]

And yet he warns against confusing astronomy's empirical accuracy with the deeper theological meaning of creation – namely that God is the creator of the heavens and the earth. For Augustine, astronomy

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[4] Augustine, *The Confessions of Saint Augustine*, Book X, 6, trans. E. B. Pusey, Project Gutenberg, 1999, (https://www.gutenberg.org/files/3296/3296-h/3296-h.htm).

[5] Augustine, *The Literal Meaning of Genesis*, Book I, 19, trans. John Hammond Taylor, S.J. 2 vols. Ancient Christian Writers, vols. 41–42 (New York: Paulist Press, 1982).

– grounded in reason and observation – reveals the order of creation, while astrology's fatalistic claims corrupt this insight by denying divine providence and human freedom.[6] Thus, Augustine provides a theological re-orientation of Plato's philosophy, emphasizing that the created order points to the eternal Wisdom of the Creator who orders them.

Finally, in *The Consolation of Philosophy*, Boethius draws on the imagery of the heavens to place human suffering within a larger cosmic order, reminding the reader that Providence governs them all.

> If thou wouldst diligently behold with unsullied mind the laws of the God of thunder upon high, look to the highest point of heaven above. There, by a fair and equal compact, do the stars keep their ancient peace. The sun is hurried on by its whirl of fire, but impedes not the moon's cool orb. . . . Thus does the interchanging bond of love bring round their never failing courses; and strife is for ever an exile from the starry realms.[7]

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[6] While the ancients sometimes interpreted the stars as influencing human destiny in astrology, this essay considers astronomy as a contemplative and mathematical discipline aimed at revealing the cosmic order rather than predicting human fate. The classical Christian tradition, however, strongly rejected astrology. Augustine observes: "Those, however, who believe that the stars, apart from the will of God, determine what we do, what goods we have, or what evils we suffer, must be thrown out of court, not only by adherents of the true religion, but also by those who choose to worship gods of any sort, false gods though they be. … How is any room left for God to pass judgment on the deeds of men, if they are subject to astrological forces, and God is Lord both of stars and men?" *De Civitate Dei*, V, 1-8, translated by W.M. Green (London: Heinemann and Harvard University Press, 1963), 133-166.

[7] Boethius. *The Consolation of Philosophy*, Book IV, trans. Victor Watts, Christian Classics Ethereal Library, page 135 (https://www.ccel.org/ccel/boethius/ consolation.v.html.), accessed 2/1/2026.

Thus, the study of the heavens is designed to give an intellectual ascent from the temporal cycles observed in the heavens to the eternal Law that orders them. In addition, the study of this celestial order (grasped mathematically and contemplated philosophically) shapes the student since it reminds the soul of its place within God's governance. By beholding the harmony of the spheres, the student learns to trust the providential order that governs both life and the cosmos.

Thus, from Plato to Augustine to Boethius, astronomy disciplines the mind mathematically, situates the soul morally, and points beyond the visible heavens to transcendent truth. Within classical education, this study was never merely technical; it was formative—training the intellect to perceive order.

Astronomy in the Medieval World

Having inherited from Plato and Augustine the vision of astronomy as a true liberal art, the medieval world received and systematized this wisdom through the quadrivium—the four mathematical arts of arithmetic, geometry, music, and astronomy. In this synthesis, astronomy crowned the sequence as the comprehensive and contemplative discipline, uniting numerical, spatial, and harmonic order in the study of the heavens. The key architect of this transmission was Boethius, whose translations and treatises brought the Greek understanding of the mathematical arts into Latin scholarship. Alongside Martianus Capella, he provided the conceptual framework by which medieval educators—from Cassiodorus to Isidore of Seville—organized the curriculum.

The progression within the quadrivium was both logical and moral. Each art disciplined the intellect to perceive structure and harmony; together, they trained the soul to love order and to rise toward wisdom. Arithmetic taught the properties of number and quantity in itself—that is—number as an abstract and eternal reality. Thus,

arithmetic considers number as a universal principle underlying all other disciplines because creation itself bears numerical proportion and measure. In other words, man does not make numbers—rather they are discovered by reason. Hence, arithmetic trains the student to perceive proportion and harmony as a reflection of the eternal law which brings balance to the cosmos.

Whereas arithmetic treated pure numbers as discrete quantities, geometry treats numbers as continuous quantities. Geometry considers the properties and relations of magnitude and space and examined quantitative relationships extended into spatial forms such as points, lines, surfaces, and solids. Within the medieval world, geometry revealed the rational structure impressed by the Creator—not only involving the measuring of the earth and the heavens, but also considering the structure of the universe itself. Just as an architect uses geometric reasoning in his designs, the medieval man envisioned God as a divine geometer who ordered "all things according to measure and number and weight."[8] Thus, geometry extends arithmetic, and it trains the student to properly perceive the order of spatial creation. Thus, if the soul learns the beauty of proportion in number through arithmetic, geometry cultivates the soul to see the beauty of proportion within creation.

Music investigates how proportions (which are discovered and perceived through arithmetic and geometry) produce consonance and harmony. Although the modern student perceives music in terms of the audible sounds produced by instruments or the voice, music, as a mathematical art, can be depicted as the harmony of the cosmos in which celestial bodies move according to mathematical ratios. Thus, the student trained in music develops the ability to properly discern order and harmony.

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[8] Wisdom of Solomon 11:20.

Finally, astronomy crowned the sequence of the mathematical arts because it united arithmetic, geometry, and music in a sublime study of the cosmos itself. Each of the prior arts fostered a distinct mode of contemplation—numbers in itself (arithmetic), number in space (geometry), and number in time (music). However, astronomy contemplated number in motion, specifically as manifested in the ordered revolution of the heavens. For this reason, astronomy is the most complex mathematical art since it required mastery of the prior arts. Astronomy drew the principles of numerical proportion from arithmetic, which was used for measuring celestial cycles and harmonies. Astronomy borrowed the tools of spatial reasoning from geometry, which enabled astronomers to map celestial spheres, orbits, and numerous angular relationships. Finally, astronomy inherited the insight from music that number gives rise to harmony, leading to the view of astronomy as the "music of the spheres."[9] Just as musical harmony arises from numerical ratios, the motion of the heavenly bodies expresses perfect mathematical relationships—a framework which will motivate men such as Copernicus and Kepler in the early modern period. Thus, medieval educators viewed astronomy as the crown of the quadrivium because it gathered the intellectual virtues cultivated by the other arts into a vision of cosmic order.

However, the mathematical complexity of astronomy also leads

[9] The concept of the "music of the spheres" arises from the philosophical idea that mathematical relationships reveal harmonious qualities manifesting in numbers, spatial proportions, and sounds—all unified within a cosmic order of proportion. Pythagoras taught that the Sun, Moon, and planets each produce a distinct "tone" determined by their orbital motions, forming a celestial harmony inaudible to human ears. Building on this view, Plato described astronomy and music as kindred disciplines: astronomy perceives numerical harmony through the motions seen by the eyes, while music perceives it through the sounds heard by the ears—both requiring an understanding of mathematical proportion.

to the greatest intellectual and spiritual rewards. Medieval thinkers viewed astronomy as a mirror of divine wisdom for "the heavens declare the glory of God."[10] Hence, the study of celestial motions and celestial objects leads the student to discern the structure of divine providence. For figures like Boethius and Hugh of St. Victor, astronomy elevated the mind by directing attention towards the regularity of celestial spheres. This hierarchy in the quadrivium, codified by Boethius, Cassiodorus, and Isidore of Seville, presents astronomy as the contemplative summit of mathematical study. Astronomy invited the student to gaze beyond the mutable world of flux toward the eternal. It embodies true wisdom which sees "the invisible things of God through the things that are made."[11] Thus, the study of the heavens shapes the intellect and the soul, leading the learner from the sensible to the intelligible, from created harmony to divine providence.

This synthesis finds its most luminous expression in Dante's *Paradiso*. As the pilgrim ascends through the celestial spheres (which corresponds to a stage of spiritual perfection), astronomy provides the symbolic grammar for the pilgrim's journey. In the sphere of the Moon, Dante beholds souls who failed to keep their vows, learning that celestial motions mirrors divine order:

> . . . All things whate'er they be / Have order among themselves; and this is form / That makes the universe resemble God. / Here do the higher creatures see the footprints / Of the Eternal Power, which is the end Whereto is made the law already mentioned.[12]

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[10] Psalm 19:1

[11] Romans 1:20

[12] Dante Alighieri, *The Divine Comedy of Dante Alighieri*, trans. Henry Wadsworth Longfellow (Boston: Houghton, Mifflin and Company, 1867), *Paradiso* I. 103-111

In the sphere of the Sun, the poet encounters radiant theologians—Thomas Aquinas and Albert of Cologne—circling one another in harmonious praise. As Dante rises higher, the spheres grow more luminous, culminating in the heaven of the fixed stars, where he beholds the triumph of Christ and the Virgin. Ultimately, the heavens themselves dissolve as Dante is drawn into the *Empyrean*,[13] beholding "the Love that moves the sun and the other stars."[14] Thus, the analogy between the motions of the heavens (seen in astronomy) and the ascent of the soul is made complete.

These vivid descriptions reveal an enchanted and harmonious view of the heavens, and the mathematical beauty found in the heavens point beyond itself and invites contemplation and wonder for the student. Thus, to study the heavens rightly is to be schooled in wonder, humility, and praise before the Creator whose providence orders all things.

Transformation from the Medieval Period to the Early Modern Period

At the dawn of the early modern period, the medieval synthesis of astronomy within the quadrivium was both refined and subsequently transformed. Figures such as Copernicus, Kepler, Galileo, and Newton stand at the crossroads of two worlds. Formed by the classical curriculum, they inherited the vision of a rational, ordered cosmos reflecting divine wisdom and governed by mathematical harmony. Yet, in seeking to correct the deficiencies of the Ptolemaic geocentric

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[13] Within the Ptolemaic model of the cosmos, the Empyrean corresponds to the place of the highest heaven beyond the firmament, and this idea was appropriated by Dante to describe the dwelling place of God—the third heaven beyond the stars.

[14] Dante Alighieri, *The Divine Comedy of Dante Alighieri*, trans. Henry Wadsworth Longfellow (Boston: Houghton, Mifflin and Company, 1867), *Paradiso* XXXIII.145

model, they initiated a gradual shift from astronomy as a liberal art to a quantitative science rooted in mechanical laws.

Educated within the Renaissance revival of mathematics, Nicolaus Copernicus absorbed the ancient and medieval conviction that the cosmos embodied mathematical harmony. The Ptolemaic system he inherited—once elegant but now burdened with dozens of epicycles—no longer mirrored the simplicity expected of divine design. As explained by American philosophy of science E. A. Burtt, Copernicus' motive was to restore harmony through a new geometric model. If astronomy, as an extension of geometry, was inherently mathematical, then the choice of a central reference point was arbitrary.[15] Copernicus boldly placed the Sun at the center, applying the principle of relativity to astronomical order. He writes:

> Then in the middle of all stands the sun. For who, in our most beautiful temple, could set this light in another or better place, than that from which it can at one illuminate the whole? Not to speak of the fact that not unfittingly do some call it the light of the world. . . . And in fact does the Sun, seated on his royal throne, guide his family of planets as they circle round him.[16]

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[15] "Since astronomy can be treated as an extension of the mathematical art of geometry, this suggests that whatever is true of geometry must be necessarily and fully true of astronomy. . . . If astronomy is mathematics, it must partake of the relativity of mathematical values, the motions represented on our chart of the heaves must be purely relative, and it makes no difference as far as truth is concerned what point be taken as the point of reference for the whole spatial system. . . . Copernicus was the first astronomer to carry it [the principle of relativity] through in earnest, with full appreciations of its revolutionary implications." Edwin Arthur Burtt, *The Metaphysical Foundations of Modern Science* (London: Routledge & Kegan Paul, 1924), 46-47.

[16] Nicolaus Copernicus, *On the Revolutions*, trans. and comm. Edward Rosen, *Nicolaus Copernicus: Complete Works*, vol. 2 (Baltimore, MD: Johns Hopkins University Press, 1992), Book 1, Ch. 10.

The heliocentric model expressed theological and mathematical harmony. The Sun, as the source of light and life, symbolized divine majesty; the cosmos, reordered around it, reflected a more unified and elegant design. Though Copernicus displaced Earth from its privileged position, he preserved the medieval belief that the universe manifests divine reason through mathematical form.

As an accomplished geometer, Johannes Kepler advanced Copernicus' project. In addition to his mathematically precise approach to studying planetary motion, Kepler had deep theological reasons for favoring the Copernican system. In the *Mysterium Cosmographicum*, Kepler interprets the heliocentric cosmos theologically and reads the structure of the universe as a Trinitarian symbol.

> . . . The Sun in the center, which was the image of the Father, the Sphere of the Fixed Stars, or the Mosaic waters, at the circumference, which was the image of the Son, and the heavenly air which fills all parts, or the space and firmament, which was the image of the Spirit.[17]

Thus, Kepler's heliocentrism was not merely a correction to the Ptolemaic system; rather, Kepler saw his astronomical conclusions as an illuminating natural proof of divine order. In other words, Kepler's conviction that the mathematical structure of the cosmos reflects divine reason provided the motive to search for a comprehensive mathematical theory for planetary motion. His discovery of the three laws of planetary motion in *Harmonices Mundi* (1619) expressed this conviction: the heavens moved according to harmonious ratios, akin to musical intervals. Each planet "sang" its own melody, forming a cosmic

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[17] Johannes Kepler, *The Secret of the Universe: Mysterium Cosmographicum*, trans. A. M. Duncan, with intro. and comm. by E. J. Aiton and preface by I. Bernard Cohen, Janus Series 9 (New York: Abaris Books, 1981), 95.

symphony. Thus, Kepler maintained continuity with the classical and medieval conception of astronomy as the "music of the spheres."

Galileo Galilei shared with Kepler the belief that nature is intelligible because it is fundamentally mathematical. Galileo writes:

> Philosophy is written in that great book which ever lies before our eyes. . . . This book is written in the mathematical language, and the symbols are triangles, circles, and other geometrical figures, without whose help it is impossible to comprehend a single word of it; without which one wanders in vain through a dark labyrinth.[18]

Yet Galileo also pioneered a methodological revolution. Where the ancients and medievals often deduced celestial order from a priori mathematical harmony, Galileo combined intuition, mathematical demonstration, and experiment. He began with a simplified phenomenon, grasped its essential law intuitively, expressed it mathematically, and then tested it through controlled observation. His study of falling bodies and telescopic observations exemplified this union of mathematics and experiment. Furthermore, the full scope of Galileo's work indicated that his view of the cosmos differed subtly from Kepler's. Whereas Kepler interpreted the motion of the cosmos in terms of the music of the spheres, Galileo believed that nature acted through immutable laws, indifferent to aesthetic harmony. The shift from the "music of the sphere" to mechanism marked a decisive turn: the universe was now a machine governed by necessity. Yet Galileo still believed that because God authored this mathematical system, the certainty of science rested upon mathematics.

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[18] Galileo Galilei. *The Assayer* (1623), trans. Thomas Salusbury, 1661, 178, quoted in Edwin Arthur Burtt, *The Metaphysical Foundations of Modern Science*, 2003 ed., 75.

This mechanistic view reached its culmination in Isaac Newton. Educated in Euclidean geometry and harmonics, Newton united celestial and terrestrial phenomena under a single framework in his *Principia Mathematica* (1687). His three laws of motion and the law of universal gravitation revealed a cosmos governed by universal mathematical order. In particular, Newton's law of universal gravitation, expressed as a universal ratio, revealed a cosmos governed by measure, number, and weight, in continuity with the ancient and medieval consensus. Yet Newton's vision of the universe became de-personalized. As E. A. Burtt observed:

> The gloriously romantic universe of Dante and Milton that set no bounds to the imagination of man as it played over space and time, had now been swept away. Space was identified with the realm of geometry, time with the continuity of number. . . . The really important world outside was a world, hard, cold, colourless, silent, and dead; a world of quantity, a world of mathematically computable motions in mechanical regularity.[19]

Across these four figures, a profound continuity and discontinuity emerges. Copernicus, Kepler, Galileo, and Newton were heirs to the classical tradition—seeking harmony through arithmetic, geometry, and celestial music—but they translated this quest into new forms. For Copernicus and Kepler, astronomy still expressed theological symbolism and musical proportion. Galileo shifted emphasis toward empirical demonstration, while Newton synthesized these methods into a universal mechanical philosophy. By the close of the seventeenth century, astronomy had evolved from a liberal art into an exact mathematical science. The cosmos, once envisioned as a living

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[19] *The Metaphysical Foundations of Modern Science*, 238-239.

hierarchy of purpose and harmony, became a law-governed mechanism. Yet even this modern vision bore the imprint of its medieval ancestry: the conviction that creation is rational, orderly, and intelligible through mathematics.

Retrieving Astronomy as a Liberal Art Today

The triumph of modern astronomy brought extraordinary gains in precision, prediction, and practical utility, revolutionizing navigation, exploration, and the scientific worldview. Yet this progress came at a cost: the loss of wonder and integration within the framework of liberal education. For the ancients and medieval thinkers, astronomy crowned the quadrivium, lifting the soul toward contemplation of divine order. Modernity, by contrast, often severs knowledge from meaning. Where earlier ages discerned harmony and purpose in the heavens, many moderns perceive only silence and emptiness. The stars, once tutors in wonder, have become mere objects of analysis. This shift towards technical mastery without the contemplative ascent, against which Milton's Raphael warned Adam in *Paradise Lost*,[20] has reduced astronomy from a path of wisdom to a specialized science, accessible chiefly to experts and detached from the formation of the whole person.

This fragmentation extended throughout the quadrivium. Astronomy, once the culmination of arithmetic, geometry, and music, was separated from its sister arts and stripped of its integrative role. As these disciplines became isolated and evolved into their own professional subjects, the sense of intellectual progression—from number to harmony to cosmic order—was lost. Even today, in many modern classical academies, astronomy rarely appears as a distinct subject;

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[20] In John Milton, *Paradise Lost: A Poem in Twelve Books*, 2nd ed. (London: Printed by S. Simmons, 1674), Book VIII, the archangel Raphael cautions Adam not to become consumed by the technical disputes over celestial motions, but instead to fix his gaze on the higher purpose for which the heavens were made: to direct man's mind upward toward God.

where present, it is often confined to early surveys or scattered readings rather than studied as a capstone of the mathematical arts. This tends to produce two types of students: (1) non-specialists who are largely ignorant of astronomy and (2) well-trained specialists who are deprived of the unifying vision that once made the heavens a mirror of divine wisdom.

Yet this critique must be balanced. Modern astronomy achieved extraordinary insights: the telescope revealed new cosmic realms, Kepler's laws replaced Ptolemy's, and Newton's synthesis transformed natural philosophy. The issue is not these discoveries but the narrowing of astronomy's purpose. Reduced to data, it lost its formative role in cultivating wonder and contemplation. The task, then, is not to reject modern science but to restore astronomy's place as a liberal art—uniting precision with meaning and the study of creation with the contemplation of its Creator.

How can astronomy be retrieved as a liberal art in a way that honors its classical role and meets modern needs? Five strategies offer a path forward for classical Christian academies and schools.

1. Recover the context of the quadrivium in secondary education.

Astronomy should once again serve as the capstone of the quadrivium, completing the ascent from number in itself (arithmetic), to number in space (geometry), to number in time (music), and finally to number in motion (astronomy). Taught in this sequence, astronomy disciplines the mind to perceive cosmic order and prepares students for philosophy and theology. Without this integrated vision, the quadrivium fragments into disconnected subjects. As its unifying culmination, astronomy belongs near the end of the high school years in classical academies.

2. Emphasize the formative role of astronomy alongside data.

Teachers often assume astronomy requires astrophysics, advanced

math, or costly equipment, leading either to avoidance or overly technical lessons unsuited to liberal education. Students thus encounter astronomy only as a data-driven science. To recover its formative role, astronomy should first be taught as a liberal art—rooted in number, wonder, and order—and only later as a modern science. Classical educators must honor this sequence: the liberal art forms the soul; the scientific discipline later refines the mind with precision.

3. Integrate historical models as intellectual exercises.

Instead of moving directly to modern astrophysics, students should study the great historical models—Ptolemaic, Copernican, and Keplerian—each in its original context. Ptolemy's epicycles, Copernicus's heliocentrism, and Kepler's harmonics show how thinkers discerned order from appearances. Reconstructing these models cultivates mathematical reasoning, humility toward provisional conclusions, and an appreciation of scientific inquiry as both intellectual and spiritual. Classical educators can guide students through key works such as Ptolemy's *Almagest*, Bede's *The Reckoning of Time*, Copernicus' *On the Revolutions of the Heavenly Spheres*, Kepler's *Epitome of Copernican Astronomy*, Galileo's *Starry Messenger*, and Newton's *Principia*.[21]

4. Encourage direct observation of the heavens.

True education fosters wonder through direct experience before abstraction, and astronomy is no exception. Even without advanced instruments, students can observe the phases of the moon, track the Sun's seasonal positions, chart planetary motions, and note the rising of constellations. These exercises combine hands-on observation with

[21] One work that introduces these great texts to students is Kerry Kuehn, *A Student's Guide Through the Great Physics Texts: Volume I: The Heavens and the Earth, Undergraduate Lecture Notes in Physics* (New York: Springer, 2015).

mathematical reasoning, reviving the ancient practice of sky-watching. The night sky remains the most accessible and compelling classroom, and educators can also utilize planetariums, public observatories, and remote sites to enrich this experience.

5. Integrate modern astronomy within the Christian doctrine of creation.

The recovery of astronomy as a liberal art must be grounded in a distinctly Christian vision of creation. In classical Christian education, astronomy should transcend mere technical study, serving as a contemplative discipline that reveals the wisdom and order of God's handiwork. Scripture portrays the heavens as His revelation[22], and the regularity of the heavens proclaims His faithfulness.[23] As John Calvin observes, creation is a theater for God's glory where every element—from planetary courses to the constancy of stars—directs the mind to the Creator.[24] The cosmos is not a meaningless expanse but a rational, harmonious order reflecting the eternal Word (John 1:3). Studying the heavens is, therefore, reading a book authored by God, displaying His power and providence.

This vision must be actively cultivated. When approached solely as physical phenomena, astronomy loses its formative purpose, becoming a specialized science rather than a liberal art that nurtures the soul. A Christian recovery restores its true end: wonder at creation's beauty and order, leading to praise of the Creator. Classical educators can achieve this by integrating astronomy with biblical cosmology and natural theology, showing that mathematical precision and theological insight are complementary. In doing so, knowledge of the heavens

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22 See Psalm 19:1

23 See Psalm 104

24 John Calvin, *Institutes of the Christian Religion*, trans. Henry Beveridge (Grand Rapids: Eerdmans, 1979 reprint), I.5.

leads to a fuller appreciation of the wisdom of God in creation and providence.

Conclusion

Astronomy, properly understood, is the capstone of the quadrivium, uniting intellectual discipline with moral formation. It demands precision, mathematical reasoning, and attentiveness to order, while also directing the soul beyond itself. Studying the heavens is not merely mastering celestial mechanics, but engaging with beauty, proportion, and harmony—qualities that cultivate humility before what transcends human understanding. Even though today's models may yield to tomorrow's refinements, astronomy retains its enduring role as a liberal art. What endures is not specific cosmologies, but the lasting formation of the mind and soul. As a liberal art, astronomy trains both intellect and heart, fostering rigorous thought and reverence for the ordered splendor of creation.

Preserving astronomy in this way requires balancing ancient insight with modern knowledge. It must remain contemplative without superstition, formative without idle speculation, and always integrated into a Christian cosmology. As C.S. Lewis noted in *The Discarded Image*, medieval education offered students more than facts—it presented a universe ordered toward God. Our task is to recover that vision while embracing modern discovery. Astronomy's true contribution to classical Christian education lies not in cataloging planets or galaxies, but in guiding the learner toward truth, order, and worship. In contemplating the heavens, the Christian student learns to align both mind and heart with the Maker of the stars.

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Reviews and Resources

Reforming Classical Education: Towards A New Paradigm

Edited by Rhys Laverty & Mark Hamilton

Landrum, SC: The Davenant Press, 2022. 176 pages, $26.95, softcover.

Reviewed by Brad Pardue
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Reforming Classical Education: Toward a New Paradigm, edited by Rhys Laverty and Mark Hamilton, brings together a compelling set of essays originally presented at a conference with the theme "A Protestant Vision for Training in Wisdom" (*xi*). The volume aims not merely to explain and defend classical Christian education, but to examine its underlying assumptions, recover neglected dimensions, and articulate a distinctive vision of education grounded in the cultivation of wisdom. The essays collectively offer a serious, often provocative engagement with the history, philosophy, and practice of classical Christian education.

Bradford Littlejohn's introduction sets the tone for the entire work. Littlejohn argues that education at its heart concerns "equipping each new generation to name the world rightly" (*iv*). Because "[r]eality is ever so much greater and richer than our words for it," he writes, we need "many languages to name the world" (*vii*). He defines wisdom, an idea at the center of the volume, as "a humble yet confident attunement to the order of reality that gives both delight and competence" (*xi*). Littlejohn critiques what he regards as overly simplistic applications of Christian "worldview" to education. Too often, he asserts, worldview frameworks "map Word onto world" in ways that substitute for genuine engagement with "nature and history"

and become "weaponized against any insights that secular thought might dare to propose to the Church" (*xiv*). Littlejohn's challenge to replace a defensive worldview posture with a richer pursuit of wisdom sets up the volume's central argument: classical Christian education must resist reductionism and recover the full breadth of the liberal arts tradition.

Gene Edward Veith's opening chapter explores the Protestant Reformers' approach to classical education. While he observes that classical Christian schools and homeschools "are outperforming their secularist counterparts *academically*," he also cautions that "classical education is a rich, multifaceted tradition" shaped by different philosophical and theological emphases (1-2). Veith argues that some contemporary models have mistakenly taken "one element of the classical liberal arts" as the whole (5). He attributes this to the influence of Dorothy Sayers' essay "The Lost Tools of Leaning." Veith argues that grammar, logic, and rhetoric, the three elements of the trivium, are not developmental stages, but rather "discrete subjects and phases in the mastery of language" (5). He also takes issue with Sayers' characterization of the quadrivium, insisting that the quadrivium (arithmetic, geometry, music, astronomy) are not content areas but arts, and that "[f]orgetting that the liberal arts include mathematics . . . has distorted classical education and damaged its appeal" (5). For Veith, recovering the quadrivium is essential because mathematics, like language, is "an integrative discipline" that trains students to "recognize the reality of forms and patterns and order" (6).

Colin Redemer offers one of the volume's more provocative arguments, asserting that Christian educators should not be teaching Plato to children. Although many classical schools treat Plato as foundational, Redemer warns that Plato's educational vision assumes that "there are uneducable people in an ultimate sense" and that this fact "must be kept hidden from them" (28). For Plato, "mass education

cannot work because the undistracted love of learning is *rare*" (29). Redemer concedes the brilliance of Plato's thought and encourages educators to "engage Plato but not to baptize him" (33). But he argues that Plato's anthropology is irreconcilable with Christianity's affirmation that every person is created in the image of God and with the democratic values of American society (34). Let teachers read Plato, he writes, but "turn to other texts" when educating the young (35). Whether one agrees with Redemer's conclusion, the chapter serves as a healthy reminder not to sacralize the classical tradition.

Joshua Patch's essay examines the history and influence of the Great Books Movement. While the canon is often presented as timeless, Patch argues that it has "a definite history in American education" (44). He points out that twentieth-century figures like Mortimer Adler, Robert Maynard Hutchins, and Harold Bloom promoted the Great Books as a "fundamentally secular tool for confronting a secularized world," sometimes treating the canon itself as quasi-religious (47). Practically, Patch also warns against overwhelming younger students with extensive reading lists. Many students encounter difficult works before they are ready and leave with "a lasting distaste . . . rather than an appreciation of their beauty and importance" (54). He encourages classical educators to focus first on "training the skills of good reading," assigning "shorter and fewer readings" that are truly exemplary (55).

Picking up on a theme from Veith's earlier chapter, Gregory Wilbur and Nathan Johnson each provide rich treatments of the quadrivium, arguing persuasively that classical Christian educators must recover its theological, ethical, and cosmological dimensions. Wilbur writes that the quadrivium long served as a means for "understanding number, for growing in virtue, and for encountering the attributes of God in the created world" (59). Because God created an ordered world, the study of mathematics, which lies at the heart of the quadrivium, helps students better understand both creation and the Creator. Johnson

extends this argument by showing how the quadrivium historically served as a "foundation for theology, metaphysics, and ethics" (80). For the ancient Greeks, the mathematical arts revealed the ordered nature of the cosmos and helped students "put in right order our very souls" (88). Likewise, "[b]ecause of the link between cosmology and covenant, the Hebrew cosmology also shares features with Greek philosophy, for the covenant God is also the Creator God, and the wisdom that ordered creation is the same wisdom that leads the Hebrews in covenant faithfulness" (89). Johnson concludes that the quadrivium ultimately serves "those who wish to know God, love God, and imitate God by means of the things that he has made" (102). Together, these chapters are among the strongest contributions in the volume.

Michael Lynch's chapter offers a historical sketch of early modern education, noting its rigor, simplicity, and emphasis on spiritual and social maturity (116-18). However, his discussion of gender, highlighting and seeming to celebrate the male-oriented nature of early modern education, raises significant questions about patriarchy that the chapter does not fully address (118-20). Still, he wisely cautions that we should not attempt to "revive early modern education wholesale" without accounting for changes in our cultural and professional contexts (120).

Eli West's short chapter on Abraham Kuyper and J. Gresham Machen argues that these two key advocates of Christian education were principled pluralists who believed in "unity through diversity, not conformity," resisting the homogenizing impulses of secularized education (129-130). Finally, Brandon Spun concludes the volume with a rich account of "subalternation," the hierarchical ordering of sciences and disciplines, and the liberal arts as an analogical framework that helps students discern the unity of the created order (140, 153-54). Because the quadrivium is ordered to philosophy and philosophy to theology, Spun argues that the liberal arts aid us in discerning "the

character of divine government" so that we may "live well" (157, 165).

The essays in the volume are wide-ranging but complementary. One editorial issue that detracts from the book's overall cohesion is that the chapters vary dramatically in length. For example, Chapter 7 is only thirteen pages long, while Chapter 8 extends to thirty-one pages. This unevenness makes the book feel at times more like the conference proceedings that were its genesis than a carefully curated monograph. On the other hand, one of the volume's most helpful features is that each chapter ends with a concise bibliography of relevant sources. Taken together, these bibliographies reflect much of the best writing on classical Christian education from the last three decades and provide an invaluable resource for educators, administrators, and scholars.

Reforming Classical Education succeeds in reframing classical Christian education in ways that are intellectually serious, theologically grounded, and oriented toward wisdom. While readers may disagree with some of its arguments, the volume will provoke necessary reflection among classical Christian educators and points toward a more holistic, faithful, and intellectually vibrant model of Christian education.

Redeeming the Six Arts: A Christian Approach to Chinese Classical Education

by Brent Pinkall

Moscow, ID: Roman Roads Press, 2022. 372 pages, US $26.95, softcover.

Review by Emily Humphreys
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Redeeming the Six Arts: A Christian Approach to Chinese Classical Education recounts the history of Chinese education, and makes a case for using the rich heritage of Chinese education and tradition as a foundation for classical Christian education in modern China. Currently, there are many classical Christian schools in China, but they have been using the Western tradition as a foundation. Brent Pinkall, the author of *Redeeming the Six Arts,* has been involved in college education and classical Christian education in China for over 12 years, and he currently teaches at New Saint Andrews College. His wise and thoughtful insights are based on personal experience, the study and research of China's history, and reflections on the relationship between traditional Chinese education and today's classical Christian education movement. Pinkall argues that the Chinese Christians should honor their cultural ancestors and "fathers" because of the fifth commandment. He advocates for teaching the *Chinese* arts rather than the Western "liberal arts."

Pinkall begins the book recounting the history of education in China reaching back to 1600 B.C. In ancient China, education was built on what was widely known as "the six arts." The six arts are: rites, music, archery, charioteering, script, and calculation. A "canon" for Chinese

education began to emerge later during Confucius's times known as the *Five Classics*. These texts handed down the ancient tradition of the six arts. Pinkall informs us, "Scholars have summarized the content of the *Five Classics* as consisting of five categories of knowledge: poetry, politics, social science, history, and metaphysics" (26). Confucius felt that these were the "cornerstone of the curriculum" (27).

The first two arts, rites and music, teach students to bring order to outward behavior and inner stability. Rites, or *li,* are rules for proper behaviors and etiquette. These rules teach children how to live and how to relate to others around them while reflecting the natural order of the world. While rites are habit forming, music helps to order the inward being. Pinkall says that, according to the ancient Chinese, music is, " . . . primarily concerned with understanding and reflecting the created order through sound" (143). *Ren,* taught through rites and music, is the ancient Chinese term for virtue. Script and calculation help the student better understand the world around them. Script is the subject area that we would consider language arts—how to communicate. However, the literary arts did not play an important role until many years after the the six arts had developed. Calculation is similar to mathematics and natural philosophy. Pinkall says that calculation, " . . . enable(s) students to quantify and measure the natural world" (165). While rites and music teach love and script and calculation teach wisdom, archery and charioteering cultivate the body—instilling courage. Pinkall introduces these two arts by discussing the embodied nature of education, an idea also found in Western classical education. One's formation is mental, spiritual, and physical. Besides holistic ideas about education, Western classical educators might see other similarities between the six arts and our own ideas of education in the areas of teaching piety and the quadrivium arts—music, arithmetic, and geometry.

Apart from the six arts, philosophical ideas about education developed

throughout history with different teachers, especially Confucius. Confucius described himself as, "a transmitter of an older tradition," because he desired to pass on a love of learning to his students (15). Like classical teachers today, he advocated studying the wisdom of the past to find relevant application in the present by refining those ideas with current cultural experiences and ideas. He was one of the first to articulate the purpose and meaning of education (15). Pinkall summarizes Confucius's thoughts by saying that education is not instilling knowledge in a person but transforming them (17).

While Confucius adds philosophical ideas to the tradition, *Daoism* provided more spiritual and religious ideas. Confucius taught about and believed in the *Dao,* and he believed each individual should submit to and conform to the *Dao* for purpose and meaning. The *Dao* was defined as: "The creative Force or Principle underlying all reality and the ultimate Way or Truth toward which we all must strive" (123). The *Dao* could be compared to Aristotle's idea of the *telos*. Pinkall argues that for Christians, the *Dao* is more like Christ—the creator, sustainer, and end to which we strive.

Pinkall uses this connection of Christ and *Dao* to base his argument that classical education in China should be both Christian and Chinese. First, education should be Christian because Christ is the source and end of all things. He says we should pursue any subject to better know, enjoy, and glorify God (87). Pinkall believes that classical teachers can make a connection to ancient teachings of the *Dao* to introduce Christ to Chinese students. He argues that because all people are made in God's image, a trace of God can be found in all cultures. He shares this quote from Augustine, "Let every good and true Christian understand that wherever truth may be found, it belongs to his Master" (88). He gives the example of Paul using the altar to the "unknown god" in Acts 17. Paul taught the Athenians that the "unknown God" was truly Christ. Pinkall believes that there is

biblically aligned wisdom in Confucius's writings, and that because all wisdom is ultimately from the Lord, Chinese Christians should not reject all of Confucius's teachings.

Furthermore, Pinkall believes that Christians in China should use their own rich, written tradition as a foundation for their classical education. Classical education is not an education with a determined canon of texts, but it is an education that seeks wisdom and virtue from one's own cultural tradition (91). He argues that in doing this one is keeping the fifth commandment to honor thy father and mother. While Pinkall believes that the Bible, Church history, Christian theological writings, and classic Christian literary texts are important, he maintains that it is important that Chinese Christians pass down their own cultural traditions and retain their distinct ethnic identity. He believes that they can use the six arts and *The Five Classics* to do this, and he gives examples and ideas of how to use these. Pinkall reminds the reader that the multitude around the throne of God in Revelation will be a *diverse* multitude with distinct languages. Cultural differences delight God. Pinkall says, "Christ does not erase our cultural identities. He redeems them" (xxii). Pinkall encourages Chinese classical teachers to find the traces of truth, goodness, and beauty within the Chinese tradition and create a bridge to Christ just as the Church fathers did with ancient Western writers.

Pinkall makes a strong argument for Chinese Christians to base classical education on their own cultural traditions. He provides a thorough account of Chinese educational history which reveals the similarities between traditional Chinese education and Western classical education. Pinkall also uses a robust theological argument for classical education to be both Christian *and* Chinese. Therefore, I would recommend this book to anyone studying classical education in non-Western cultures as well as those interested in classical Christian education as a whole. By looking at classical education from

a cross-cultural perspective, one can benefit from Pinkall's insights and experience, which have implications for all educators. However, Pinkall's argument may not be as affective in cultures if there is not a written tradition from which to draw. One other warning—the historical section of the book is very lengthy. Readers may find it difficult to stay focused and to track all the different leaders and educational movements over almost 4,000 years. Overall, Pinkall does an excellent job showing educators how to build God's kingdom throughout the earth while sharing wisdom from the past—wherever it is found.

Unless the Lord Builds the House: Shared Foundations for Christian Education

by Andrew Kern

Kannapolis: CiRCE Institute, 2024. xxi + 118 pp., US $20.99, softcover.

Review by Andrew Pyatt
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We moderns have a problem. For all of our technological and scientific victories, the world we inhabit is a fundamentally disenchanted one. Whereas in a previous age, men and women could look out at the cosmos and intuitively see meaning, magic, and mystery, we moderns see only impersonal, lifeless matter: empty "stuff." This bleak worldview has, predictably, produced a crisis of meaning. With no reference to the transcendent, to a God who instills creaturely life with purpose and dignity, how can humans coherently describe life as meaningful?

Andrew Kern wisely points out that our contemporary crisis of meaning is rooted in a deeper problem: a crisis of glory. Unless we possess imaginations capable of perceiving the glory of God inherent in the created world, a sense of meaning will always elude us. To put it simply, glory reveals meaning. "Glory alone," writes Kern, "leads to reason that guides, repentance that heals, and instruction that blesses" (xx). In *Unless the Lord Builds the House: Shared Foundations for Christian Education*, Kern helps his readers recover this lost sense of glory by telling a different, better story: "the one great archetypal story, the old, old story that has continued brand new for thousands of years" (xxi). The founder and president of the CiRCE Institute, Andrew Kern is one of the foremost writers and thinkers in the classical Christian education movement. This book, however, is not

a mere treatise on education and pedagogy. What Kern has written is nothing short of a theology of revelation: An account of how the Triune God reveals himself in and to the world. In Kern's account, the central, all-informing motif to which he repeatedly returns is the temple: "The temple and its pattern are the interpretive key to God, the world, and mankind" (9).

In chapter 1, Kern introduces the basic, archetypal pattern of the temple: (1) the holy of holies, (2) the holy place, (3) the courtyard, and (4) the camp. This four-fold pattern, he argues, can mysteriously be seen in every created thing. Kern realizes that this is a bold claim, so for the next section of the book (Chapters 2-6), he elaborates on his argument and shows how each phase of the temple pattern mysteriously corresponds with a phase in the process of learning and teaching. Beginning with the holy of holies, Kern humbly observes that – imbedded within every created thing – is a terrifying and incomprehensible mystery: glory. The human intellect simply cannot grasp this glory, and the recognition of this inability is the beginning of wisdom. Kern elaborates on this recognition of ignorance, "As the fear of God (who is wisdom itself) is the beginning of wisdom, so the fear of the object we are engaging is the beginning of the wisdom contained within that object" (31).

Through contemplation of the holy of holies, we learn that all of creation is shrouded in incomprehensible mystery, but in the holy place, the radiance of a thing's glory comes to meet us and awaken wonder. "The holy place," writes Kern, "is where we fall in love. If the glory never shines, we can never respond to it. But when it does, we do – if we have eyes to see it" (38). Although each created thing is ultimately incomprehensible, creation also shines forth its glory and partially reveals itself to our senses. By responding with humility and love, the human mind can partially receive the object of its study and reorient its thinking around its new discovery. This reorientation

brings Kern to the next phase of the temple pattern: the courtyard. If the holy place is where we fall in love, the courtyard is where we repent: "In the Holy Place we encounter the glory and it beckons to us. In the courtyard, we admit it is valuable, but we are out of sync with it. We are facing away, and we need to turn around" (53). The courtyard, argues Kern, is the beginning of the domain of reason. Having encountered the glory of an object in the holy of holies, the human mind rationally reflects on and accommodates itself to that same object in the courtyard. Finally, once the human mind rationally accommodates itself to the glory of what it has perceived, it proceeds to the final step of the temple pattern: the camp. In the camp, the human mind continues to rationally reflect on the object of its study by cautiously breaking the object down into its most basic elements or parts. Kern stresses that this task of categorization is only possible when the incomprehensibility and glory of the object is remembered: "Because the parts are easier to see than the glory, which is often veiled, we will often be tempted to teach the elements of a thing first. This is an error because what makes the elements worth knowing is the less visible and therefore, less obvious purpose and glory" (65).

Kern's thrilling discussion of the temple pattern crescendos as he turns his gaze from the earthly temple to its archetype: Christ, in whom all things hold together. Why does all of reality reflect the temple pattern? Because, according to Kern, the temple pattern is the pattern wielded by Christ as he creates and sustains all things. The final portion of Kern's book (Chapters 7-9) explores the temple pattern's relationship to Christ. Like the glory of the Lord in the holy place, Jesus emerges from the heavenly holy of holies to reveal himself to humanity; he is the *Uncreated Logos*. In grace and power, the Uncreated Logos has given life to a world that beautifully reflects him, a world filled with what Kern calls *Created Logoi*. As creatures made in the image of God, humans possess the unique responsibility to faithfully mimic the creativity of the Logos. By beholding the

glory of the Uncreated Logos, humans are empowered to properly interpret the things created by the Logos and, finally, to create and produce what Kern calls *Mimetic Logoi*. The supreme task of Christian education, argues Kern, is the "cultivation in the student of his God-given faculty to wisely create mimetic logoi" (103). Kern's discussion of *Christ as Logos* in these chapters is the final goal of his whole book, and by itself, this discussion is worth the price of the book and more.

Andrew Kern has written a delightful and mesmerizing book. The reader approaches these pages expecting a straightforward account of Christian pedagogical practices and is instead met with a theological rhapsody, a joyful account of how every square-inch of the cosmos sings forth the glory of its Creator. Kern is by no means a straightforward, linear thinker. His writing is interspersed with poetry, story, and humor. Those approaching this book in hopes of simple data and instruction will be surprised and perhaps disappointed. However, those who hunger for wonder and glory, those who want new eyes to see the world as infused with God's presence, will be delighted by this book. While I would likely not assign this text to my high schoolers, I would heartily recommend that classical Christian schools use *Unless the Lord Builds the House* in their faculty development meetings. Kern's stirring descriptions of a meaningful cosmos charged with the glory of God are sure to invigorate the minds and encourage the hearts of Christian educators in any discipline.

Disability and Classical Education: Student Formation in Keeping with Our Common Humanity.

By Amy Gilbert Richards

Camp Hill, PA: ClassicalU Books, 2024. 121 pages. $19.95, softcover.

Review by Sara Osborne
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In response to the increasing need to address disability in classical learning communities, philosophy professor Amy Gilbert Richards offers *Disability and Classical Education: Student Formation in Keeping with Our Common Humanity*. Richards's subtitle reveals the foundation for her assertions: an adequate anthropology is necessary to guide any effort at a formative, humanizing (classical) education. Her argument for beginning with philosophy and proceeding towards pedagogy reflects the belief that "classical education begins from the premise that questions of *being* rather than questions of *doing* are central to the *telos*, the goal, of education" (xv). Following this framework, Richards divides her discussion into three parts: Part 1 seeks to reframe conceptions and perceptions of disability; Part 2 addresses the relationship between *telos* and attention, and Part 3 offers a vision of classroom and school culture in response to the previous sections, what Richards terms the "doxological classroom."

Part 1 (Chapters 1 and 2) of *Disability and Classical Education* surveys two prevailing modes of characterizing disability—the medical model and the social model—and traces the implications of both. The medical model's emphasis on disability as a problem (within the individual) to

be fixed and the social model's focus on changing societal hierarchies and points of access through activism both provide an inadequate view of disability. In contrast to these predominate characterizations, Richards identifies disability as a "strange vocation":

People with disabilities may have a genuine call to live a kind of life that often will stand out from the mode of being of many in their communities. But through responding to this call, they become a blessing rather than a burden to these communities. In seeing this, we open the possibility that the *way* in which some people fulfill their *telos*—the specific shape of their individual vocation—may seem strange, but that this very strangeness is a *gift* to be offered and received rather than a problem to be solved. (30)

Richards borrows the term "strange vocation" from St. Augustine, who addressed this same mystery of God's purpose in disability and difference within community hundreds of years prior. She points out, "Rather than being afraid of people whose disabilities and learning differences stand as a challenge to our ideal of unencumbered striving, Augustine suggests we see them as a call to expand our vision . . ." (31). And that is what Richards aims to help her readers do in the remaining pages of Part 1, by recasting our views of weakness and suffering, freedom and community. The vista created by this discussion sets the stage for Part 2 of Richards's text: "The Classical Difference: Telic Attention and the End of Education."

In Part 2 (Chapters 3 and 4) of *Disability and Classical Education*, Richards builds from the foundational understanding of disability as a "strange vocation" by articulating the connection between an adequate view of humanity and the end goal of education. Richards writes that "this reoriented understanding of disability connects . . . to our entire conception of what it is to be a person—to our anthropology. And our anthropology connects to our understanding of the nature

and purpose of education" (41). Richards's premise that "our attention shapes our action" informs the direction of Chapter 3 as she outlines the distinction between an industrial education (with instrumental attention) and a classical one (with telic attention). Richards points out the key problem with an industrial education: "its practices of instrumental attention necessarily proceed from a reductive anthropology that operates in a horizon closed to the eternal" (45). Such a perspective inhibits the exploration of transcendent truth, beauty, and goodness as well as the human dignity that results from a right *telos* of humanity. Within such a system we find a "focus on doing rather than being . . . an anthropology of *accomplishment* rather than and anthropology of *relationship*" (45).

Richards is quick to note that the siren song of instrumental attention is strong in our modern culture: "As classical educators, we are swimming upstream in a culture largely defined by industrial education and its anthropology of accomplishment" (47). Yet, she believes this challenge—while difficult—must be overcome, and the key for doing this lies in training our attention, in practicing a different way of seeing. Such a project requires the exercise of imagination, the enabling of *love*, and the experience of *wonder* (48-50). Richards argues that this kind of attention—*telic attention*—"leads us directly to the heart of classical education. For, rather than defining human beings primarily as producers in search of economic success and comfort, as we found in the industrial model of education, classical education begins with an understanding of the whole human person and approaches all courses of study through this lens" (51). In Chapter 4, Richards elaborates on how attending to students in classical learning communities through such a lens offers transformative effects not only for those who the world often fails to see this way (students with disabilities and learning differences), but for *all* students: "It is an environment shaped by telic attention, rather than by attention to the attainment of a particular level of functioning at a particular time, that will prove

most conducive to any form of learning" (59).

In Part 3 (Chapters 5 and 6), Richards introduces the "doxological classroom" as the environment which results when the *telos* of both education and human persons is rightly in view. Such an environment promotes gratitude for the gift of the *other*. In keeping with the pattern of exploring models already infiltrating our pedagogy and practice, Richards discusses the "inclusive classroom" (Chapter 5) and systems of documentation (Chapter 6), identifying the implicit assumptions found in each model and their relationship to the doxological classroom. Helpfully, Richards identifies some practices which an adequate anthropology will require educators to avoid, and some which can be borrowed or amended. Often—and unsurprisingly—this distinction is determined by the overarching goal of the practice. Richards analyzes systems of documentation as an example: "When setting up systems of support for students with disabilities and learning differences, our orienting question should be: does this system serve the person, or does it establish a dynamic where persons are required to serve the system for its own sake?" She is quick to remind her readers: "practices of documentation are not anti-classical!" However, such a system *might be*. It is for parents and teachers to do the hard work of examination. Asking honest questions helps parents and teachers determine how documentation can be used in light of an adequate anthropology.

Disability and Clasical Education ends with a call for teachers to embrace their own "strange vocation," not entirely dissimilar to that of the student with a disability or significant learning difference. In some respects, this is the message of the entire book: resist simple categorizations and embrace the mystery of being human; allow eternal truths to enliven our particularities; and be mindful of cultural influences and assumptions infiltrating our teaching and learning. From this posture, and with the courage to ask honest questions, classical

learning environments can become places of welcome and catalysts for praise—for *all* students.

Richards's greatest strength in *Disability and Classical Education* is the clear, logical structure which underlies her argument. Beginning with an exploration of what we have explicitly or implicitly borrowed from prevailing models of disability enables parents and teachers to examine their own assumptions and practices which demand reevaluation in light of a different anthropological lens. However, Richards is also careful to note that not *every* modern practice must be shunned in light of this adequate anthropology. She helps her readers "plunder the Egyptians" in terms of not being afraid to borrow—and even redeem—practices that are helpful for welcoming students with disabilities and learning differences into classical communities. Many such practices are highlighted through anecdotes and vignettes which aid those who may not have personal experience with disability in a classical learning environment.

As is often the case, however, Richards's greatest strength—a clear, logical (philosophical) argument—may also prove to be a challenge for some readers. Philosophical analysis will always alienate some, particularly those who are not yet master teachers able to confidently draw their own creative practices from a sound philosophical foundation. While Richards does aim to help her readers develop pedagogical tools and strategies from considering overarching questions, the reader may feel overwhelmed by the task. Perhaps in addition to the "quick exercise" sections, Richards could offer some practical takeaways at the close of each chapter's content. Her occasional mention of a few classical learning communities engaging in particular practices is immensely helpful; more of this would equip less experienced parents and teachers.

Finally, the author's defense of a philosophical—rather than a

theological—starting point is compelling in light of the diverse denominational affiliations of classical schools and homeschools. This choice highlights the common ground of lived human experience and allows each reader to carry that truth forward in traversing his or her own particular path. However, I would argue that a theological anthropology offers something a philosophical one cannot; in addition to dignity, diversity, and complexity, a theological vision of what it means to be human offers us the perfect image of man, Jesus Christ. A distinctly trinitarian theology offers a new way of seeing personhood and community, emphasizing the interconnected relationships of our classrooms, churches, and homes. While philosophy provides a helpful entry for exploring human experience, a robustly theological anthropology augments—and sometimes corrects—philosophical assumptions. For Christians, theology offers a captivating picture of incarnation and love, fueling the work of embodied Christian charity. Ultimately, there is no greater welcome than that of Christ Jesus: "Come to me all who are weary and burdened, and I will give you rest." (Matthew 11:28) Learning from the Incarnate Word offers parents and teachers the best strategy for "student formation in keeping with our common humanity."

The Good Teacher: Ten Foundational Principles for Teaching That Transforms

by Christopher Perrin and Carrie Eben

Camp Hill, PA: Classical Academic Press, 2024. 288 pp., US $24.95, softcover.

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Christopher Perrin and Carrie Eben, authors of *The Good Teacher*, are leading voices in the renewal of classical Christian education. Christopher Perrin is the CEO of Classical Academic Press, a school founder, and author of numerous works on classical Christian education. Carrie Eben, a veteran educator and scholar-practitioner, has spent decades forming students and teachers and shaping classrooms that embody the lofty ideals of classical Christian education. Both authors are wise, humble, and deeply committed to the art of teaching well. They are, in short, the kind of people teachers should aspire to become, and the kind of people teachers want to shape their students into.

Fittingly, their book is not just about pedagogy, as the title might imply. Instead, it is about teaching, friendship, and community. *The Good Teacher* contains ten chapters on key principles of classical teaching and one more on conversation and friendship. That final chapter is not an appendix or epilogue, but a call to undertake this endeavor in the context of community.

The Good Teacher sets out to show what classical Christian education looks like when practiced by real teachers with real students.

For Perrin and Eben, education is not just a curriculum full of great books or rigorous courses. It is, instead, an endeavor to form whole persons - mind, heart, and soul - so that students "will live for the glory of God, flourishing as human beings and loving both God and neighbor" (1). This formation doesn't just happen suddenly, and students do not become wise and virtuous overnight. The teacher must become the kind of person that the students can emulate and this book summarizes the best ways that a person like that is shaped and cultivated

The book describes, unpacks, and applies ten principles that together describe a pedagogy consistent with a Christian anthropology. Each chapter combines theology, philosophy, and practical wisdom. The examples from classrooms across grade levels show that these principles are both ancient and accessible, representing pedagogy that is very doable for the teacher seeking to become a master of their craft. The classroom described in this book looks nothing like the modern progressive school, but instead like a fellowship of learners.

The Good Teacher is a timely and wise companion to another key book in the classical renewal, *The Liberal Arts Tradition* by Ravi Jain and Kevin Clark. If the *Liberal Arts Tradition* explained what classical education is, this book shows us how it's done. It's both philosophical and practical, making it a gift to teachers everywhere. If you are a classical Christian educator, you should have already read this book and begun discussing it with your colleagues. If you are not a classical Christian educator, you should read this book and evaluate your own pedagogical approach through the lens described. If the goal of education is the cultivation of wisdom and virtue, then this book implores that everything that happens in a classroom must be in service of that teleology.

One of the book's strengths is that it's written for both new and

seasoned teachers. Instead of offering 'trendy' techniques, it provides time tested principles about teaching that have endured for centuries. These were best practices before best practices were a thing. This is not another professional development book with bullet points and acronyms. Instead, it's a well of wisdom drawn from the best teachers who ever lived. The authors write with warmth and clarity, encouraging teachers to see their work as part of a much larger story of human formation.

For example, the authors remind us that teaching is not primarily about managing behavior or maximizing engagement, but about forming souls through attention, memory, imitation, and contemplation. Truth is real and knowable and we must have ways of uncovering it. These techniques aren't meant to make students feel a certain way; they are meant to help them *become* a certain kind of person. If classical Christian education is a "communal search for truth" (249) then this is a terrific map.

The book's practical applications also make it an ideal resource for schoolwide professional development. Read in community, it becomes a mirror and an arrow. The questions at the end of each chapter invite honest reflection rather than mere compliance. I can easily imagine faculty reading this together, testing one principle at a time, and sharing how it changes their classrooms.

"Reading is a great and mysterious gift. Each of us knows the value of a good book placed in our hands at the right time" (216). *The Good Teacher* is that kind of book and arrives at a moment when classical Christian education is growing at an unprecedented rate and moving beyond curricular recovery to questions of pedagogy and formation. New schools are rapidly opening throughout the United States and beyond. Resources like *The Good Teacher* will be key to their success.

If asked which five books every new teacher at a classical Christian

school should read, my list would be: *The Abolition of Man*, *Desiring the Kingdom*, *Norms and Nobility*, *The Liberal Arts Tradition*, and *The Good Teacher.* While the first four establish the need for classical Christian education, *The Good Teacher*'s classroom is where ideals become habits and students become wise and virtuous.

Even teachers outside of the classical school movement will find wisdom here. Good teaching is, after all, good teaching. These principles describe not only the habits of excellent educators but also the habits of good human beings. As I finished the book, I found myself thinking that these practices don't just shape students; they also shape the teachers who adopt them. If we want our students to become a certain kind of person, we must become a certain kind of teacher. This is the main idea of the book and something we can all aspire to. Perrin and Eben remind us that the good teacher is not just one who teaches well, but one who lives well through their teaching.

Faithful Lives: Christian Reflections on the World is an annual journal produced by College of the Ozarks. The goal of the publication is to foster deep and substantive Christian thought in all areas of life by publishing articles that assume and explore the truthfulness of the Christian worldview perspective. Frequently composed of writing produced by the fine faculty and administration of the College, past issues have also included essays by thoughtful scholars and researchers outside the college community, such as: John Lennox, Steven Garber, Amy Black, Louis Markos, Sedrick Huckaby, and others. Previous issues of the journal can be freely accessed on the College's website at: www.cofo.edu/Academics/Faithful-lives.

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