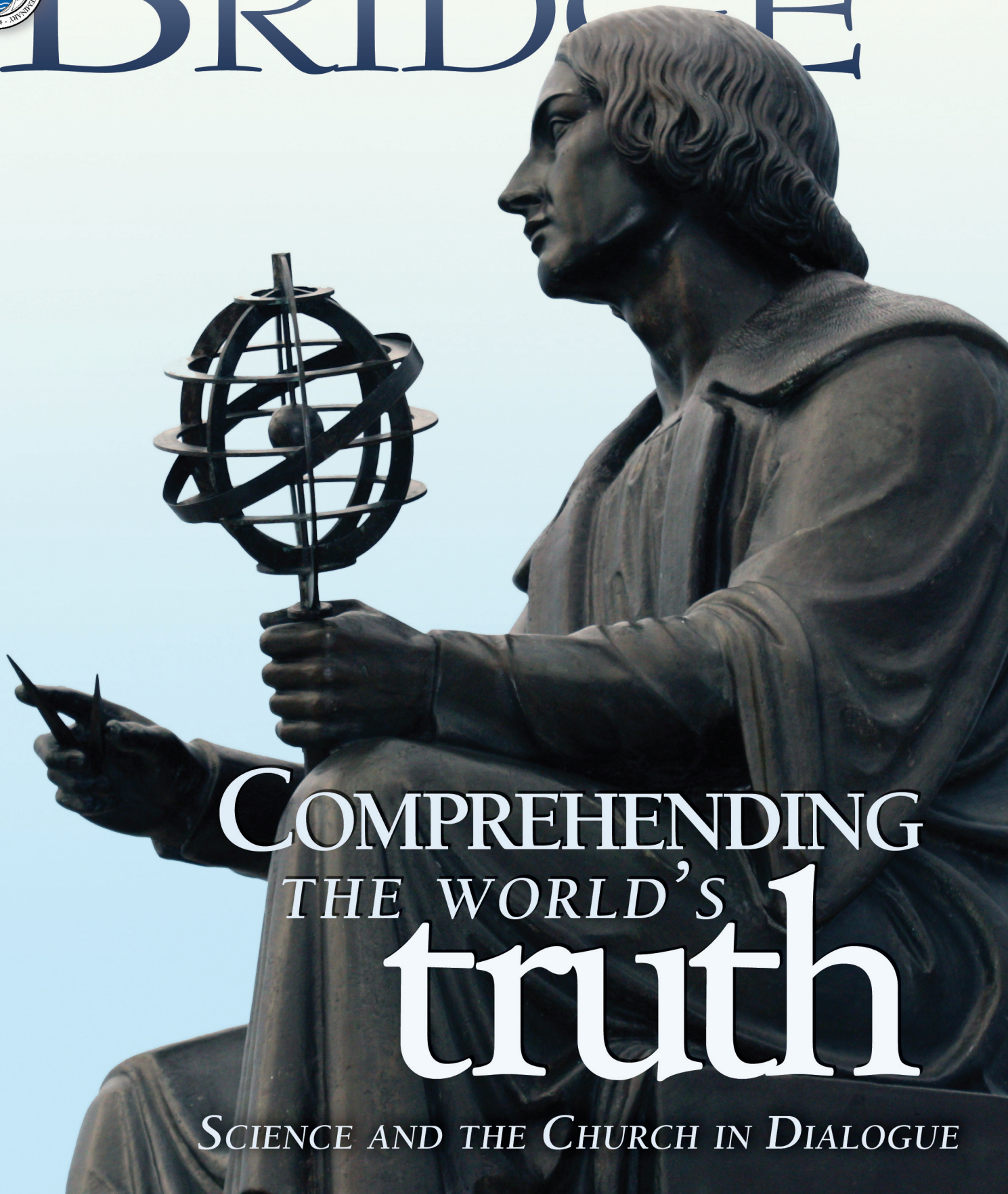




THE BRIDGE



COMPREHENDING THE WORLD'S truth

SCIENCE AND THE CHURCH IN *DIALOGUE*

A view from The Bridge

By Very Reverend Dennis Lyle

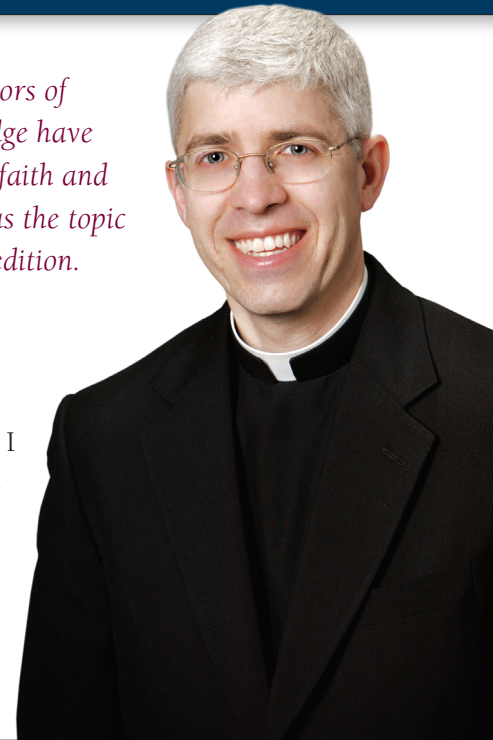
In the days before cable television, only the local PBS station offered programs that were informative, engaging and stimulating for the brain. If there was a program about dinosaurs, nature, astronomy or ancient cultures, I was probably watching it. Although I did not become a paleontologist, geologist, astronomer or archeologist, my fascination with these areas continues, albeit at the level of a novice. As I grew, I was surprised to learn that, unlike my own experience, many people find it difficult to reconcile science and faith. I have questioned how the determination by scientists that the universe has existed for 12 billion -15 billion years could shatter one's belief in creation. And I have wondered why some can be bothered by the possibility that the physical side of human beings developed from lower life forms through a process of evolution?

To the Catholic mind, wonder and curiosity about the universe in which we live are good. And our desire to understand and explain its workings in a systematic and scientific way is consistent with our faith. After all, it is this same sense of wonder and curiosity that leads us to ask questions about things we cannot observe. Questions about the purpose of life, and what happens after death, are part of the human desire to know the truth about the universe, ourselves and God. The Second Vatican Council (1962-1965) confirmed the harmony that should exist between faith and science, and acknowledged that scientific research, when properly carried out, “can never conflict with the faith, because the things of the world and the things of faith derive from the same God.” The Council also lamented the fact that certain attitudes have “misled many into opposing faith and science.” (*Gaudium et spes, The Church in the Modern World*, 36)

Our editors of *The Bridge* have selected faith and science as the topic for this edition. Not surprisingly, many of our seminarians have a scientific background. Many have studied biology, astronomy and chemical engineering. The transition from scientist to seminarian never meant abandoning everything they learned in their field of specialization. For many, it was their amazement at the complexity, order and interrelatedness of the universe that helped reinforce their interest in God and eventually brought them to the point of considering a vocation to the priesthood. These men are witnesses to the harmony between faith and science, and their knowledge of both fields may help bridge the gap between two disciplines that, unfortunately, have drifted apart.

The Church, as an expert in humanity, must also remind scientists that all science must respect the dignity of the human person and help contribute to the development of the whole person.

Our editors of The Bridge have selected faith and science as the topic for this edition.



Members of the seminary faculty also demonstrate that Catholicism is no opponent to the sciences. In this issue, Dr. Gerry Girdaukas explores how the human formation of seminarians benefits from the insights obtained through psychology. Father Ed Oakes tackles the general relationship between faith and science. Father John Kartje reflects on how lessons learned from his study of astrophysics contribute to his study of Scripture. And, as Father Pat Boyle explains, even the field of moral theology does not seek to limit the contribution of science, but desires that scientific research respect the dignity of the human person.

If there is one member of the faculty who personifies the fruitful relationship between faith and science, it is Father Charles Meyer. Although many of us believe Father Meyer is conducting radioactive research in his workshop, he assures us that he is simply tinkering with old televisions, radios and transistors. You can read more about Father Meyer in the interview with him by seminarian David Gross.

As Catholics, we must assure the men and women of our society that we encourage scientific research and respect its findings. If science is the most common language of today, we cannot be afraid to learn it. The Church, as an expert in humanity, must also remind scientists that all science must respect the dignity of the human person and help contribute to the development of the whole person. I hope this issue of *The Bridge* helps to bridge the gap between faith and science in our society.

– Father Dennis Lyle is rector/president of the University of St. Mary of the Lake / Mundelein Seminary.

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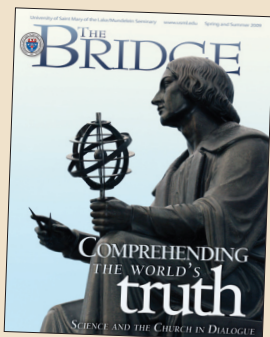
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ON THE COVER:
Statue of astronomer and Catholic cleric, Nicolas Copernicus, at the entry to the Adler Planetarium in Chicago.



Comprehending the World's Truth



COVER STORY

12 Science and the Church in Dialogue

– By Father Edward T. Oakes, S.J.

2 • A VIEW FROM THE BRIDGE

By the Very Reverend Dennis Lyle, rector/president of the University of St. Mary of the Lake/Mundelein Seminary

4 • MUNDELINES

6 • UPCOMING EVENTS

7 • ARCHDIOCESAN NEWS

A Light to Reveal You to the Nations

A Search of Astronomic Proportions

– By Dan Folwaczny

8 • FORMATION

The Science of Human Formation

A Psychological and Ecclesial Perspective

– By Gerry Girdaukas, Ph.D.

FIELD NOTES

10 An Evolving Discussion

The Vatican's Conference on

Theology and Evolution – By Andrew Liaugminas

10 Una Discusión que Evolucion

Una conferencia en el Vaticano sobre

la teología y la evolución – Por Andrew Liaugminas

11 Mission Work in Chile

Serving the People of God in Remote

South America – By Deacon Benjamin Arealos

11 Una Misión en Chile

Para servir a la Gente de Dios en Sur

América – Por Diacono Benjamin Arealos

FEATURE STORIES

16 Studying God's Revelation

Reflections of a Priest –

Astrophysicist – By Father John Kartje

18 Albert Cardinal Meyer

A Man Transformed by Loyalty

and Love – By Paul Hilliard, Ph.D.

20 Medical Ethics and Modern Technology – Ethics and Science

Working Together for Authentically Human

Medicine – By Father Patrick J. Boyle, S.J.

21 James and Sally Dowdle

Dear Friends of the Seminary

– By Mark Teresi

PROFILES

22 Father Charlie Meyer

Faith and Reason in Living Dialogue

– By David Gross

24 From Laboratory to Seminary

The Vocational Journeys of Steven

Borello and Matthew Bozovsky

– By Father Kevin Feeney

PHOTO ESSAY

26 Images of the Donor Pilgrimage to the Holy Land

– By Andrew Liaugminas

ALUMNI NEWS

28 Donor Pilgrimage to the Holy Land – A Journey of Faith to the

Land of the Bible – By Mark J. Teresi



ON CAMPUS

29 Reconstructing a Historic Landmark – Technology to the

Rescue of Classic Architecture

– By Stanley C. Rys, Jr.

– By Stanley C. Rys, Jr.

31 • FROM THE EDITORS

– By Jay Atherton and Andrew Liaugminas



Seminary Choirs Release First CD

Ms. Linda M. Cerabona, director of music for Mundelein Seminary/The Liturgical Institute, recently produced the university's first CD: *Cantate Domino* (Sing to the Lord). This 74-minute CD features more than 60 seminarian singers, faculty and instrumentalists who are members of Schola, Class Choir, Spanish Choir, Polish Schola, African Choir and Sunday Schola. The music is diverse in style, form and language and reflects the diversity and richness of our seminary and of our liturgical music.



The music was recorded live in the Main Chapel on November 1, 2008, for the Archdiocese of Chicago Diaconate

Ordination. A secondary recording session of musical selections for All Soul's Day, November 2, soon followed in the Auditorium. This CD captures the intensity, joyfulness and fervor of the call to priesthood represented by these men from 35 dioceses around the world. A special thank you to Mrs. Tina Lavezzorio for underwriting this project and to the Office of Institutional Advancement at Mundelein Seminary, for

sponsoring this premium gift.

New Student Journal Starting at Mundelein

Students of Mundelein Seminary, with the direction of the seminary's Academic Department, have launched a new academic journal: *Interconnections*. This bi-annual journal is a forum for Catholic seminarians from different seminaries to exchange insights on common areas of study in Catholic theology, and in other studies allied with priestly formation, such as philosophy, Church history and the relationship between Church and culture. The journal follows the peer-review process standard format in most academic journals and is reviewed by faculty before publication.

Interconnections is the first inter-seminary academic journal in recent years. It is published online and can be found through the Mundelein Seminary Web site, www.usml.edu.

Seminarians Attend Hispanic Ministry Conference

Father Alberto Rojas, director of Hispanic ministry, led a group of eight students to the National Conference for Seminarians in Hispanic Ministry. The conference took place in mid-October at Seminario Hispano de Santa Maria de Guadalupe in Mexico City.



The theme of the conference was "Visions: Today's Migrant Christ." One of the attendees, Jamie Mueller (Chicago) was able to participate in various sessions, which heightened his understanding of the importance of Hispanic Ministry in the United States, "The meetings brought into focus the need to minister to those who are most vulnerable and the importance that their faith makes on their journey."

In addition to the conference, the seminarians were able to visit the Shrine of Our Lady of Guadalupe at the Basilica. They met many pilgrims who had travelled great distances to honor Our Blessed Mother.

"Diversity in the Universal Church" Ministry Seminar

On December 4-5, 2008, Mundelein Seminary hosted its annual Ministry Seminar. The keynote speaker was Father Anthony Gittins, CSSp, member of the

Congratulations to our new Acolytes, Readers and Candidates!

On January 14, the Most Reverend Jerome ListECKI, Bishop of La Crosse, installed 40 theologians into the Ministry of Acolyte. With their institution into this ministry, the men will be able to serve at Mass and other services held at the seminary.

The Most Reverend Richard Pates, Bishop of Des Moines, instituted 25 theologians into the Ministry of Reader on February 11.

Our new lectors will now be proclaiming the Word of God at Mass. This coincides with the second-year men leaving for their Spring Quarter internships at parishes in their respective dioceses.

Finally, on April 1, the Most Reverend Martin Amos, Bishop of Davenport, admitted 28 third-year theologians into the body of candidates for the diaconate and priesthood. This is the last public step these men take before petitioning for holy orders.

The entire Seminary community congratulates these men!



Third-year men received as candidates for Orders.

Congregation of the Holy Spirit. Father Gittins has worked for many years among the homeless women in Chicago and has been a missionary in Sierra Leone in West Africa.

The theme for the seminar was "Living in a Diverse Seminary, Preparing to Serve a Diverse Church." The topic covered the tensions that similarities and differences among cultures create in the universal Church. The seminar also hosted a panel discussion on "St. Paul, Pastor in Situations of Cultural Diversity," hosted by Father Larry Hennessey and Father James McIlhone.

Mundelein Seminary Bowling Night

The lanes were sizzling for the annual Mundelein Seminary Bowling Night, sponsored by cam 2-Boulevard on December 5, 2008. It was an enjoyable way to start the winter quarter and much fun was had. The campus bookstore added to the fun and competition with its donation of books and apparel to be won by the high rollers.

The winning team, the "Lou-Sirs," had a team average of 136.5 and thus earned a pizza party with the rector. Team members were Lou Krupp, Dr. Denis McNamara, Greg Michaud, Connor Danstrom and Nick Wichert. Other winners included Francis Bitterman, with a 151.5 game average; James VanderLaan, with a top score of 174; and Father Kevin Feeny with a top faculty score of 145.

The Sounds of Christmas at Mundelein

The annual Christmas Concert took place on December 7, 2008, in the Chapel of the Immaculate Conception at Mundelein Seminary. More than 500 guests attended this joyous occasion of sacred music and popular Christmas carols.

Mr. Rich Daniels and the City Lights Orchestra of 45 musicians performed many crowd favorites. Members from the various seminary choirs also sang



selections and participated in the audience sing-a-long. In addition, the talents of Mr. Mark Teresi, vice-president for institutional advancement, were showcased in a few vocal solo selections. It was a wonderful way to prepare for the celebration of Christmas.

Mundelein Lakers Undefeated in Basketball Tournament

The Mundelein Lakers basketball team won the 9th annual Mundelein "Seminary Shootout," with an undefeated record among the nine teams that participated in the double-elimination event. The Lakers defeated St. Meinrad Seminary in the final game, 40-31.



The tournament, held on January 23-25, was sponsored by the Knights of Columbus. The purpose is to promote fraternity among future priests from the nine seminaries in the Midwest. We were happy to be able to welcome around 150 guests to our campus for this wonderful event. Congratulations to Lou Krupp of Grand Rapids for being named as the

Most Valuable Player. He showed not only his athletic prowess to the crowds, but also maintained camaraderie and good sportsmanship with his teammates and friendly rivals.

March for Life

The annual March for Life was held January 22, with 27 representatives from Mundelein Seminary attending. The event came on the heels of the presidential inauguration, so Washington D.C. was quite a bustling city for the entire week. The March for Life took on added importance this year, coinciding with the change of America's political administration. Speakers at all of the events of the March spoke of the importance and immediacy needed to press for a better understanding among our political representatives on the sanctity of life of the unborn.

Our participants attended a Pro-Life Vigil Mass at the National Shrine Basilica of the Immaculate Conception, which was



a standing room only event with more than 8,000 attendees. Mundelein participants also attended a Youth Rally at the Verizon Center for more than 30,000 teens and young adults, along with seminarians from across the country. Our seminarians came back energized, realizing the importance of the work to oppose abortion and uphold the Catholic teaching that life is sacred in all of its stages.

– Kevin McCray is a second year pre-theologian for the Archdiocese of Chicago.

UPCOMING EVENTS

Every year, the seminary engages the community in various education opportunities, liturgical celebrations and social justice programs. We invite you to keep these upcoming events in your prayers.

MAY AND JUNE:

PRIESTHOOD ORDINATION

Please pray for the graduates of the Class of 2009 as they are ordained priests of Jesus Christ.



SUMMER 2009:

IMMERSION EXPERIENCES

Many seminarians will be studying Spanish in Morelia, Mexico, or Polish in Krakow, Poland. Others will be in San Antonio, Texas, for a three-week cultural intensive program with the Mexican American Cultural College. Finally, some seminarians will be in Dallas, Texas, for the ecumenical Hispanic Summer Program.



SEPT 17:

18TH ANNUAL

GOLF OUTING

► The University of St. Mary of the Lake/Mundelein Seminary is proud to host the 18th Annual Golf Outing. The 2009 Golf Outing will honor Father John Canary, former rector of Mundelein Seminary and current vicar general of the Archdiocese of Chicago, for his dedicated service to the seminary, the Archdiocese, and the Church. The proceeds of this event will go toward funding the English as a Second Language (ESL) Program at Mundelein Seminary.

OCT 9-11:

EXPLORING

PRIESTHOOD WEEKEND

► Please pray for men discerning the call of God as they come together for the first of such weekends for the academic year. There will be opportunities to hear vocation talks, receive tours of campus and experience the life of a seminarian.

JULY 9:

ORDAINED ALUMNI

GOLF OUTING

Mundelein Seminary welcomes the ordained alumni back on campus for the annual Alumni Golf Outing. Please contact Mary Lou Diebold if you plan to attend.

AUG 24-29:

APPALACHIA AND

EL PASO MISSION TRIPS

Several third-year theologians will engage in mission work in the hills of Appalachia under the Christian Appalachian Project. Another group of third-year theologians will engage border-crossing issues at Annunciation House in El Paso. Both groups will live among the poor while they are ministering to their needs.

AUG 25 – SEPT 4:

ORIENTATION & RETREATS

Orientation begins for new students at the seminary on August 25. For returning students, fall retreats begin on August 30 and run through September 4.

SEPT 7:

FALL QUARTER BEGINS

Classes begin. In the evening, Father Lyle will deliver the fall quarter Rector's Address, followed by a social hosted by the Peer Ministers.

OCT 2-3:

FAMILY WEEKEND

Families of the seminarians are invited to attend Family Weekend festivities on campus. Highlights include a special Mass, a cookout and the legendary seminarian talent show.

OCT 31:

DIACONATE ORDINATION

Please pray for the men of the Archdiocese of Chicago, as well other dioceses, as they are ordained to the Order of the Diaconate on the Vigil of All Saints' Day.

– Matthew Dalrymple is a first-year pre-theologian for the Archdiocese of Atlanta, Georgia.

“For we have seen His star in the East
and have come to worship Him. (Mt. 2:2-3)”



A Light to Reveal You to the Nations

A Search of Astronomic Proportions

By Dan Folwaczny

Among the Gospels, only Matthew and Luke provide infancy narratives, and only Matthew details for us the curious story of the Magi. These wise men arrived in Jerusalem, began asking about a child, born king of the Jews, and describing how a “star” had guided their journey (Mt. 2:2). When they set out from Jerusalem, the star again led them “until it came and stopped over the place where the child was” (2:9). The Magi offered their gifts of gold, frankincense and myrrh, paid the child homage and returned to their own country “by another road” (2:12).

What sort of sign could these Magi have seen to start them on their journey? What kind of star could have behaved in the manner described in Matthew’s Gospel? Chicago’s own Adler Planetarium tries to answer these questions by combining biblical history and astronomy in its longest-running sky show, “Star of Wonder.” Astronomers retrace the motions of the stars and planets and recreate the night skies of a time over 2,000 years ago, and

But whether or not this “Star of Wonder” was an actual physical phenomenon, the attraction to the life of Jesus, begun over 2,000 years ago, remains.

Both of these depend on confirmation from a different set of men from the East: Chinese astronomers. They recorded a nova, or “new star,” in the constellation Capricorn that was visible for more than 70 days in the year 5 B.C. In contrast to their name, novae actually occur when a star dies, not when it is born. Yet, the event Matthew’s Gospel describes, however, cannot fit this category; a nova would appear to follow the progress of a normal star, and would not appear to stop.

“examine various theories about the celestial event that the Magi witnessed in the sky of their homeland that prompted them to travel to Bethlehem.”

Two now-discounted theories are that the “star” was actually a nova or a comet.



On the other hand, a comet, following its orbit around Earth, would have been capable of such motion over the course of the Magi’s journey. Calculations have placed Halley’s Comet – a famous and regular visitor to Earth’s skies – on the scene in the year 12 B.C. This date, however, is generally considered too early for the birth of Jesus, between 7-1 B.C. Neither is there any mention of a comet in that time frame by Chinese astronomers, nor by any other surviving astronomical records.

The most plausible theories deal with planetary conjunctions and their apparent astrological significance. In the year 7 B.C., there were three near-conjunctions of Jupiter and Saturn, followed in 6 B.C. by another close grouping of the planets. Jupiter was considered a symbol of royalty, while Saturn was the protector of Israel. The Magi may have taken this as a prediction of the birth of a Jewish king. The years 3 and 2 B.C. saw spectacular conjunctions of Jupiter and Venus near Regulus, the star of kings, in the constellation Leo, the lion of Judah. These events may also have been a catalyst for the journey of the Magi.

Still, what explains how the star stopped, as described by Matthew? It may be a curious, but well-known, behavior of planetary orbits. The difference between the orbital periods of Earth and Jupiter cause the royal planet to undergo apparent retrograde motion as the Earth passes it. Breaking from its usual track across the skies, Jupiter appears to come to a stop, and then slowly drift backwards for a period of time before continuing on.

To complete a physical and natural explanation for the phenomenon we read about in Matthew 2, we need more data from historical and biblical studies. In what year was Jesus born? In what year did King Herod die? The answers to these questions will help astronomers narrow their search. But whether or not this “Star of Wonder” was an actual physical phenomenon, the attraction to the life of Jesus, and the star that heralded it, remains.

– Dan Folwaczny is a first-year pre-theologian for the Archdiocese of Chicago.

The Science of Human Formation

A Psychological and Ecclesial Perspective

By Gerry Girdaukas, Ph.D.

In the early fall of 2008, in the first session of a series entitled ‘Human Formation,’ I drew two words on the chalkboard and asked the first-year theology students the Latin derivatives of these words. Luckily, we had a Latin scholar who was able to detail the root of the word human (*humus*, “ground” or “dirt”, if you will) and formation (*forma*, “shape”; in English, the verb “to shape”).

And so, we have the process of forming from the clay of the earth, men in touch with their origins, planted firmly on the good earth in order to reach higher, with love, energy and confidence to the Heavens, to better embrace their God and their community. The potter is more able to form those who know themselves, those who are aware of their own light and darkness in humility (also from the Latin root *humus*).

From these two words flowed the rest of the class. It also informs my counseling to seminarians. I teach both awareness and the beginnings of skills in the important areas of knowledge of the candidate’s life story, meditation, the ability to be intimate, and how to be emotionally and affectively self-aware. Intimacy, I shared with the class, according to a wise pastor of 40 years, was defined as “Into Me See”; the ability to be aware of self and to allow others into our life story, and to share their deeply personal and intimate story with us.

The documents of the Church, *Pastores Dabo Vobis*, *Deus Caritas Est*, the many dozens of lectures by John Paul II on the Theology of the Body, and the recent Congregation for Catholic Education Guidelines on Psychology promulgated by Benedict XVI, this theme – to know oneself, to be truly grounded – consistently echo this theme. As John Paul II stated (referenced in the recent Guidelines on Psychology):

“Humans, therefore, carry within themselves the seed of eternal life and the vocation to make transcendent values their own. They, however, remain internally vulnerable and dramatically exposed to the risk of failing in their own vocation. This is due to the resistance and difficulties which they encounter in their earthly existence.

These may be found on the conscious level, where moral responsibility is involved, or on the subconscious level (January 25, 1988, address to the Roman Rota AAS 80 (1988) 1181).” John Paul, it appears, was keenly aware of the role of the unconscious and growing self-awareness, whose integration he saw as central to our human ability to achieve intimacy with others, and with our God.

A brief vignette from the life story of our previous pope is perhaps in order here. According to an article published in *The Psychotherapy Networker*:

“In 1999, a few months after child psychiatrist Daniel Siegel’s book *The Developing Mind: Toward a Neurobiology of Interpersonal Experience* was published, Siegel received an e-mail purporting to be from a representative of Pope John Paul II, asking him to come to the Vatican to talk to the pope. Thinking the e-mail was a prank, Siegel ignored it – why would the pope invite an expert on the neurobiology of childhood attachment over to the Vatican to schmooze?

“As it turned out, the e-mail was legitimate. An official letter soon followed from the Pontifical Council for the Family, formally inviting Siegel to be the main speaker at a Vatican conference for Church leaders and Catholic social services providers and missionaries, to be followed by a private papal audience for Siegel and his family.”

As Siegel asserts, individuals who are truly free to be in intimate relationship with other human beings are developing self-awareness, paralleled by brain changes, on many levels. Intimacy is seen by many in the field of psychology and psychiatry today as a principal awareness of self (what are my strengths and weaknesses?), and awareness of others (how am I called to be of service to others rather than to use or be used by others, and to grow in loving communion with them?). Siegel emphasizes, as well, the awareness of and ability to describe my own life story (what is the meaning of my life’s journey and calling?) are central to integrating, healing, and energizing what is broken within us, as well as developing a vision of how this broken vessel can be made whole, again and again. As the article *Mindsight* summarizes:

“For many therapists, what Siegel has done is to show just how, from the moment we’re born, our most important relationships fire into being the neural circuits of the brain that allow us to understand and empathize with others and feel their feelings ... the matter of the brain – its lobes, modules, ... and fibers ... create the possibilities for the subjective life of the mind, heart, soul, and spirit that is the glory of our species.”

Subsequent gatherings, including other Catholic conferences, sought out Dr. Siegel’s insights into the human brain and relationships. The internationally acclaimed child and adolescent psychiatrist and author from UCLA joined David Fagerberg, Ph.D., a theology professor at the University of Notre Dame, to address the Catholic Medical Association Conference. Along with Francis Cardinal George of Chicago, among other bishops, they discussed “the latest research on the child’s brain development and the social environment needed to develop it ... (and) the impact of sexual



education on children's brains; and on the child and the working mother."

In my teaching at the seminary and in counseling seminarians over the last five years, what I have found most important, gleaned from the documents, is helping the candidates learn basic but essential skills: to listen to ourselves and others; to become increasingly aware of our life story; to be aware of our brokenness and that which heals; to be aware of what lies beneath the surface of our awareness. As the Networker summarizes Siegel's findings, "As much as we need the wordless love of our parents ... we need to acquire the ability ... to put our experience into words ... Anthropology shows us that every culture on earth tells stories. For the last 40,000 years, we ... have been trying to bring what's inside of us out – to make sense of what we see ..."

I encourage and guide candidates to journal their experiences on a regular basis, even if for only a few minutes a day. This form of self-awareness becomes a meditation in itself, as it invites an individual to ask, "In my life's journey to God, what is my current struggle? How may it be resolved?"

Conflict management techniques are an important part of this growing awareness. I encourage candidates to share in small groups the current struggles they may be having in family, with friendships and in their pastoral work. They learn ways to begin to be more welcoming to their "less desirable" emotions and to express them both directly and in a more accepting and loving way. Neurobiology is cited to explain how a calm brain thinks much more clearly than an angry brain (or, for the avoiders in the group, an anxious brain).

We all love a good story. One of the most powerful witnesses any human being will have is to share a story in therapy or with a friend, which speaks to this moment in his or her life. I will often exhort that good preaching is good story telling! I share stories of my own life, both to give example and model to students. As the Gospels show, good preaching is much of the time good listening, because it mirrors the story of the community whose journey, when we bond with it, truly becomes our own.

Mirroring, therefore, takes many forms. One of the most rewarding exercises I use is a 'mirroring' exercise where one student is listening to another with an unbiased ear, sharing a concern they have from any area of their life. To take in, to listen with the heart, as the Catholic Catechism repeatedly urges us to do in our prayer life and in our life's choices, is essential for true discernment.

Meditation and knowledge of my own life story, along with basic understanding of family systems and patterns of relationships that form as a result of these systems, are integral to true intimacy. Why? Because without it, we make the same old mistakes, again and again. As a side note, I also instruct the seminarians in class on how to meditate, and on the neurobiological consequences of meditation: self-calming, the lowering of stress as the result of

body/brain connections, including blood sugar changes, heart rate/pressure reduction and improved immune functioning.

Even a few minutes a day can change stress levels, as is supported by a substantial body of research (see Dan Siegel, *The Mindful Brain*; Robert Sapolsky, Stanford professor of neurobiology, *Why Zebras Don't Get Ulcers*). Benedict XVI reminds us in *Deus Caritas Est*, as well, of the importance of an intimate connection, not only with our fellow humans, but also with our God through prayer:

"A particularly striking interpretation of this vision is presented by Pope Gregory the Great in his Pastoral Rule. He tells us that the good pastor must be rooted in contemplation. Only in this way will he be able to take upon himself the needs of others and make them his own ... Saint Gregory speaks in this context of Saint Paul, who was borne aloft to the most exalted mysteries of God, and hence, having descended once more, he was able to become all things to all men (cf. 2 Cor 12:2-4; 1 Cor 9:22)."

An integration of sexuality as a focal point of intimacy is also called for, and discussed in class. The feedback I receive from the students often involves integrating their sexuality into their lives and into their chaste and celibate calling. Not only John Paul II in his *Theology of the Body*, but Benedict XVI also echoes the importance of this journey in *Deus Caritas Est*: "Love promises infinity, eternity – a reality far greater and totally other than our everyday existence. Yet we have also seen that the way to attain this goal is

not simply by submitting to instinct. Purification and growth in maturity are called for; and these also pass through the path of renunciation. Far from rejecting or 'poisoning' eros, they heal it and restore its true grandeur (5)."

He continues: "And we have also seen, synthetically, that biblical faith does not set up a parallel universe, or one opposed to that primordial human phenomenon which is love, but rather accepts the whole man ... 'God loves, and his love may certainly be called eros, yet it is also totally agape'" The prophets, particularly Hosea and Ezekiel, described God's passion for His people using boldly erotic images.

I usually ask for hand-written feedback from the candidates after class. Much of the feedback has been surprising in their willingness to engage in thinking about their own biases, brokenness and stories out of their families of origins. (Much of the work I do in counseling involves working through the wounds that come from predominantly loving families whose members hurt each other from their human frailties; this, in general, is met by enormous insight into current patterns in their lives and ministry.)

A seminary faculty member tells me that another Latin meaning for the word 'forma' is beauty. And a life that mirrors awareness of God's own hand in forming it is, indeed, a thing of beauty – and a story that continues to praise its Maker.

– Dr. Gerry Girdaukas is a counselor at Mundelein Seminary.

Faith and reason do not contradict.

(Pope John Paul II, *Fides et Ratio*)

La fe y la razón no se contradicen.

(S.S. Juan Pablo II, *Fides et Ratio*)

An Evolving Discussion

The Vatican's Conference on Theology and Evolution

By Andrew Liaugminas

After years of studying nature, Charles Darwin published *The Origin of Species* in 1859. The book had an immediate impact. While Darwin's book engendered many supporters across the world – some of whom even embraced his “theory of evolution” as a philosophy of life – others remained less than convinced, raising a host of scientific and philosophical critiques. A century and a half later, the debate over Darwin's thesis lives on.

In recognition of the 150th anniversary of “The Origin of Species,” the Vatican organized in early March a conference at the Pontifical Gregorian University in Rome on “Biological Evolution: Facts and Theories.” The conference, co-sponsored by the Pontifical Council for Culture and the University of Notre Dame, brought together some of the world's most recognized evolutionary scientists with renowned philosophers and theologians (including members of the Roman Curia) for a week-long discussion on evolution and Catholic belief.

Thanks to Mundelein Seminary's new Rev. John Canary Theological Education Grant, I was able to attend this conference and participate in the fascinating discussions that ensued. I would like to extend my deepest gratitude to the Seminary's Board of Advisors who made this grant, and my participation at the conference, a reality. Thank you again. Opportunities such as these, I believe, bear fruit for years to come.

– Andrew Liaugminas is a third-year theologian for the Archdiocese of Chicago.



Una Discusión que Evolucionara

Una conferencia en el Vaticano sobre la teología y la evolución

Por Andrew Liaugminas

Después de haber estudiado los procesos evolutivos de la naturaleza, en el año 1859 Charles Darwin publicó su teoría titulada *El Origen de las Especies*. Inmediatamente después de su publicación esta teoría atrajo muchos adeptos en todo el mundo, algunos de los cuales la adoptaron como una filosofía de la vida; sin embargo, muchos otros permanecieron escépticos originando numerosas críticas en el ámbito de las ciencias exactas y filosóficas. Después de más de un siglo y medio de la publicación de la teoría de Darwin, la discusión continúa.

Para celebrar el 150 aniversario de la publicación de la teoría del “Origen de las Especies” de Charles Darwin, el Vaticano, a través del Consejo Pontificio para la Cultura en conjunción con la Universidad de Notre Dame, organizó el pasado mes de marzo la conferencia titulada: “Evolución Biológica: los Hechos y las Teorías”, la cual tuvo lugar en la Pontificia Universidad Gregoriana de Roma. Esta conferencia reunió a los más renombrados investigadores científicos evolutivos, filósofos y teólogos incluyendo miembros de la Curia Romana, quienes discutieron sobre las teorías evolutivas en relación con la fe cristiana.

Gracias al “Rev. John Canary Theological Education Grant,” tuve la oportunidad de viajar a Roma para asistir a esta conferencia y participar en las discusiones que tuvieron lugar en ella, por lo que quiero expresar mi gratitud más profunda a la Junta de Consejeros del Seminario de Mundelein quienes crearon esta beca haciendo posible mi participación en esta conferencia. Nuevamente reitero mi agradecimiento ya que oportunidades como estas darán fruto por muchos años.

– Andrew Liaugminas es un seminarista de la Arquidiócesis de Chicago, actualmente cursando el tercer año de teología.

Mission Work in Chile

Serving the People of God in Remote South America

By Deacon Benjamín Arevalos

About 10 years ago, I started my formation for the Archdiocese of Chicago. After I graduated from St. Joseph's College Seminary, I decided to go to Chile for missionary work. I spent two years in Southern Chile studying and doing missionary work in some islands where a priest goes only once a year. It was a remarkable experience being with people who did not have running water, electricity or transportation. They were people of faith, hoping that one day a priest would come to them to celebrate the Holy Eucharist.

Since my return two years ago, I have prayed that, one day, I might go back to those islands. God listened to my prayer. Thanks to the Rev. John Canary Theological Education Grant, I was able to go back for two weeks on a mission trip as a deacon to the island of Chiloé, where I was before.

I went there over Thanksgiving Break 2008. The fund enabled me to bring along one of my brother deacons, Andrzej Nowicki. It was a blessing for both of us and an opportunity to give thanks to God for calling us to share the priesthood of His Son, Jesus Christ.

We spent two full weeks going house to house, praying with families and strengthening their faith. Also, we had the opportunity to work in a fish farm with people who do not have the opportunity to be part of any community of faith due to their work, or because they do not have anyone close to them. People welcomed us and were very open to hear the Good News. We became part of their activities; we worked, ate and prayed with them. In these communities the Gospel became alive, because people shared what they had, although living without a spiritual shepherd.

I am so grateful for all the people who made this experience possible. I will continue praying for these families that I visited during the mission and for the people that support these kinds of projects. I also will pray that one day I will be able to go back to these islands as a priest and share the blessings that I have received at Mundelein Seminary.

— Deacon Benjamin Arevalos is a fourth-year theologian for the Archdiocese of Chicago.

Una Misión en Chile

Sirviendo la Gente de Dios en Sur América

Por el Diacono Benjamín Arevalos

Después de haberme graduado del Seminario de San José en esta Arquidiócesis, decidí interrumpir mi formación sacerdotal para dedicar un tiempo a las misiones en Sudamérica. Pase dos años en el sur de Chile estudiando y misionando en lugares donde no hay sacerdotes. El compartir con personas que a pesar de su condición de pobreza extrema tienen un gran deseo y una gran esperanza de que la Eucaristía pueda ser celebrada en su comunidad, fue una experiencia que ha fortalecido sobremedida mi vocación.



Desde que regresé de Chile y me reintegré al programa de formación sacerdotal de la Arquidiócesis de Chicago, no he olvidado a las personas a las que serví por dos años en la isla de Chiloé, y a las que siempre deseé volver a visitar. Gracias al "Rev. John Canary Theological Education Grant", el diácono Andrzej Nowicki y yo tuvimos la oportunidad de visitar Chiloé y de compartir con su gente.

Visitamos los hogares de muchas familias, oramos y compartimos con ellas lo poco que tuvimos y pudimos ofrecer; ésta fue una experiencia de la que todos salimos fortalecidos, puesto que la gente nos recibió con mucho cariño y compartió con nosotros no sólo sus familias, sus hogares y su trabajo, sino sobre todo, su fe inquebrantable. En la convivencia con ellos pudimos experimentar cómo el Evangelio toma vida pues Chiloé es una comunidad donde la gente comparte lo que tiene en un ambiente de fe a pesar de que no tienen un sacerdote que los pastoree.

Estoy sumamente agradecido con las personas que hicieron posible esta experiencia. Continuaré orando por la gente de Chiloé y por las personas que apoyan este tipo de proyectos en Mundelein. Ojala Dios me conceda un día, ya ordenado sacerdote, volver a Chiloé para que pueda compartir y ofrecer con su gente, no sólo la Eucaristía sino todo lo bueno que he recibido del seminario de Mundelein.

— El Diacono Benjamín Arevalos es un seminarista de la Arquidiócesis de Chicago, actualmente cursando el cuarto año de teología.

“The most incomprehensible thing about the universe is that it is so comprehensible.” This often-quoted line comes from Albert Einstein and prompts this question: So just why is the cosmos so amenable to human understanding? Science itself after all cannot explain the universe’s intelligibility; for it must presuppose that same intelligibility to get started. So we have no choice but to look elsewhere, if we are ever going to understand why we can understand the universe. Science as a human activity is not self-explanatory. That is to say, the scientific method is based upon a certain understanding of the way that the universe operates.



COMPREHENDING THE WORLD'S truth

SCIENCE AND THE CHURCH IN DIALOGUE

By Father Edward T. Oakes, S.J.

Suspicion still lurks in the popular mind that the Church is hostile to science because of the Galileo affair. The problem was further exacerbated by the challenge thrown down by Charles Darwin's Theory of Evolution by natural selection, which required a radical revision of how the Church is to interpret the first three chapters of Genesis. Much about this story has been exaggerated by aggressive secularists to put the Church on the

defensive. But, try as hard as they want, their attempts to make the truths of revelation fundamentally incompatible with the results of science will never work. For one thing, the Church made her peace with Galileo's heliocentrism long ago; and Pope John Paul II wrote an important letter to the Pontifical Academy of Sciences in October 1996, serenely admitting that evolution can no longer be regarded as merely one hypothesis among

many others, since so many discoveries from the time of Darwin continue to confirm his theory.

Of course, it is one thing to concede that science and revelation are both grounded in a prior intelligibility of the universe, as that alone makes it possible both to do science and to believe in revelation, as the universe must be possibly intelligible if any knowledge is possible. But it is another

thing entirely to show how these two very different spheres of intelligibility do not contradict one another. No believer has ever claimed that science can prove the truth of revelation, else faith would be dispensable; although some theologians in the past have claimed that revelation contradicts the truths of science – and too bad for science. In the third century, the theologian Tertullian, and, in the 12th century, Siger of Brabant, came close to holding just such a view. In our day, fundamentalists of whatever stripe also insist on a conflict between the conclusions of science and the truths of revelation. But their view has been rejected by the vast majority of theologians, and by the Church's teaching office.

But once it is conceded that science can neither contradict nor verify revelation, the task still looms: How can science be shown not to contradict revelation? No one would dare to claim that evolution, for example, proves the Christian account of Original Sin. But how can evolutionary theory illuminate Christian doctrine, or at least be shown to be compatible with it? Similarly, no one would dream of claiming that the Big Bang theory – which holds that the universe began roughly 15 billion years ago as a single “primeval atom” infinitely small and infinitely dense – can serve to confirm the creation account of the first chapter of Genesis. But can it be shown to be compatible with revelation?

Pope Pius XII made a significant contribution to this knotty problem with his 1943 encyclical *Divino Afflante Spiritu*, when he taught that Genesis must be interpreted according to the worldview of the biblical authors. The most important passages for reconciling science and revelation are these:

35. What is the literal sense of a passage is not always as obvious in the speeches and writings of the ancient authors of the East, as it is in the works of our own time ... The interpreter must, as it were, go back wholly in spirit to those remote centuries of the East and with the aid of history, archaeology, ethnology, and other sciences, accurately determine what modes of writing, so to speak, the authors of that ancient period would be likely to use, and in fact did use.

36. For the ancient peoples of the East, in order to express their ideas, did not always employ those forms or kinds of speech which we use today; but rather those used by the men of their times and countries. What those exactly were the commentator cannot determine as it were in advance, but only after a careful examination of the ancient literature of the East.

These paragraphs treat of how the biblical authors should be interpreted according to what *they* intended to say. But there is a further problem: How can what they intended to say be fitted into what we now know of cosmology and biology?

In other words, biblical interpretation, especially of Genesis, is also affected by contemporary perspectives, as Pope John Paul II noted in a message to scientists and theologians in June, 1988:

If the cosmologies of the ancient Near Eastern world could be purified and assimilated into the first chapters of Genesis, might contemporary cosmology have something to offer to our reflection upon creation? Does an evolutionary perspective bring any light to bear upon theological anthropology, the meaning of the human person as the *imago Dei*, the problem of Christology – and even the development of doctrine itself? What, if any, are the eschatological implications of contemporary cosmology, especially in light of the vast future of our universe?

What one notices about both sets of papal statements is the serenity of these passages. Neither pope shows any sign of being threatened by science; indeed both welcome the deliverances of scientific research for what they can contribute to a renewed insight into revelation, something that at least Pope John Paul II anticipates will continue throughout the “vast future of our universe.”

Again, though, principles are one thing; showing *how* those principles are justified is another.

Let me first take up the issue of biology

before moving into cosmology. The claim that evolution is radically incompatible with Christian revelation rests on one basic assumption shared by all materialist advocates of evolutionary theory: that the emergence of man is a fluke, a chance outcome utterly undirected by any notion of providence, in either the biblical or philosophical sense. If *that* were the true conclusion to be drawn from evolution, then, of course, the loud advocates of atheism would be right.

Unfortunately for their thesis, this claim is not only false; it can be shown to be false, *and on grounds of evolutionary theory itself*. For one thing, if man were as much of a freak

outcome as some evolutionists believe, then, as Daniel Dennett (himself an atheist) dryly pointed out in his book *Darwin's Dangerous Idea*, the search for intelligent life on other planets



would be about as meaningful as the search for extraterrestrial kangaroos.

True, one can always retort that perhaps the search for intelligent life outside the solar system is vain. But there are other considerations that point to the virtual inevitability of intelligent life once single-celled organisms begin replicating and complexifying. For what the evolutionary record shows is *convergence*, meaning the independent evolution of certain traits in organisms across the evolutionary tree, such as the eye and the wing. In other words, although it can be shown that animals with a spine can all be traced back to the first emergence of vertebrae, the same cannot be said of the eye or the wing,

“While it would go too far to say that this Big Bang theory gives scientific confirmation to the Christian doctrine of a Creator God, it raised more uneasiness among atheist cosmologists than it did among believers, for obvious reasons.”

which evolved *independently* across phyla and genera. Just because a worm once developed a light-sensitive cell, that does not mean that all later eyes can be traced to that “accident.”

So why would eyes and wings develop so often? Obviously, because the presence of light and of a dense atmosphere continued to select for eyes and wings. In other words, the evolutionary pressure selecting for eyes and wings is simply too great to make their emergence a fluke. And the same can be said for intelligence, broadly defined. What is re-

quired in all evolutionary theory is the notion that variations must be, at least in the long term, environmentally beneficial.

And since organisms not only compete for scarce resources, but do so in competition with other predatory species, the species that serves as prey to the predator must develop strategies

to counteract the malign intent of the hunter, like the way the chameleon disguises itself from predators by blending into its environment. To counteract *that* strategy, the predator must then evolve a greater acuity to spot the subtle differences that indicate the presence of the edible chameleon. And with each new addition to the brain's capacity, a kind of “arms race” sets in, inevitably leading to ever greater intelligence.

In fact, the very emergence of intelligence, especially in man, is itself an indication of the intelligibility of the world that Einstein spoke of. This is because we can always learn something about the environment simply by looking at the organism. That is, once we see wings, we know that the earth's atmosphere must be such as to sustain flight; and once we see eyes evolved across so many branches of the evolutionary tree, we know of the ubiquity of light. Similarly, once the human brain evolves to recognize the truths of mathemat-



ics, we know that the environment selected for intelligibility, otherwise the emergence of human intelligence would not have been environmentally beneficial.

One can, of course, still maintain that human intelligence is unique in this regard, that it at least is a fluke. But rare is the philosopher who can maintain such a view consistently. For example, in one of his early books, *Untimely Meditations*, Friedrich Nietzsche spins a tale that goes like this:

In some remote corner of the universe, poured out and glittering in innumerable solar systems, there once was a planet orbiting a star on which clever animals invented *knowledge*. That was the highest and most mendacious minute of “world history” – yet only a minute. After nature had drawn a few breaths, the star grew cold, and the clever animals had to die. One might invent such a fable and still not have illustrated sufficiently how wretched, how shadowy and flighty, how aimless and arbitrary, the human intellect appears in nature. There have been eternities when it did not exist; and when it is done for again, nothing will have happened ... There is nothing in nature so despicable

or insignificant that it cannot immediately be blown up like a bag by a slight breath of this power of *knowledge*; and just as every porter or butler wants to have his own admirer, the proudest of all human beings – the philosopher – thinks that he sees the eyes of the universe telescopically focused from all sides on *his* actions and thoughts.

One must admire Nietzsche here for his honesty, so rare among self-styled atheists, for drawing out the full implications of what atheism really means. But more important for my purposes is that not even Nietzsche can sustain this vision. For if knowledge is as vain and paltry, as insignificant and pointless, as he paints it here (and it is, if atheism is true), then science itself loses its motivation, as Nietzsche himself came to see in one of his books from his middle period, *The Gay Science*. Here Nietzsche even flirts, however fleetingly, with Platonic idealism, recognizing as he does that science too is an (moral) activity that cannot account for its own moral purposes. If nature trumps knowledge at every turn, then science loses its point, and the essentially moral nature entailed in the search for truth is gone, along with the concept of



truth itself:

Thus the question “Why science?” leads back to the moral problem: *Why have morality at all* when life, nature, and history are “not moral”? No doubt, those who are truthful in that audacious and ultimate sense that is presupposed by the faith in science *thus affirm another world* than the world of life, nature, and history; and insofar as they affirm this “other world” – look, must they not by that same token negate its counterpart, this world, our world? – But you will have gathered what I am driving at, namely, that it is still a *metaphysical faith* upon which our faith in science rests – that even we seekers after knowledge today, we godless anti-metaphysicians, still take our fire, too, from the flame lit by a faith that is thousands of years old, that Christian faith which was also the faith of Plato, that God is the truth, that truth is divine. (Nietzsche’s emphases)

In other words, Nietzsche recognizes here how the sheer fact of intelligence, consciousness and, thus, *knowledge* will inevitably lead to a recognition – dim in the Platonists, explicit in biblical revelation – that truth is divine.

One does not have to read far in contemporary writers to find this same recognition. For example, the mordant French-Romanian aphorist E. M. Cioran puts it this way in his aptly titled book *The Trouble with Being Born*: “A *conscious* fruit fly would have to confront exactly the same difficulties, the same kind of insoluble problems, as man ... To defy heredity is to defy billions of years, to defy the first cell.” And the 20th century’s most famous philosopher, Ludwig Wittgenstein, also decries the refusal of so many scientists and philosophers to take their quest for knowledge to its completion, as in this remark from his book *Culture and Value*: “We keep forgetting to go right down to the foundations. We don’t put our question marks down *deep* enough ... What a Copernicus or a Darwin really achieved was not the discovery of a true theory but of a fertile new point of view ... A curious analogy could be based on the fact that even the hugest telescope has to have an eye-piece no larger than the human eye.”

Which brings my argument now to

cosmology. Cosmologists of an atheist or agnostic bent had long favored a steady-state model of the universe, one that has existed for all eternity (like Aristotle’s). But after the discovery by Edwin Hubble that the universe was expanding, and under the relentless arguments of a Belgian priest by the name of Georges Lemaître (1894-1966), physicists and astronomers eventually were forced to conclude that the universe began with what is now known as a “singularity” (what Lemaître called a “primeval atom”), from which all of the universe that we know today sprang. In other words, *everything* in the universe today came from that singular, infinitely dense point, including space and time.

While it would go too far to say that this Big Bang theory gives scientific confirmation to the Christian doctrine of a Creator God, it raised more uneasiness among atheist cosmologists than it did among believers, for obvious reasons. The medieval logicians were fond of an axiom: *posse sequitur esse*, which means: If something now exists, it was always possible for it to exist. Thus if we know for certain that something is impossible without further ado (square circles, for example), then we also know by that same logic that we shall never encounter an example of that impossibility in the actually existing world. Likewise, if something does now exist, then it was always possible for it to exist.

Under that rubric, we know that at the moment of the Big Bang, the emergence of the human species was possible, simply because it later happened. Now, with that logical principle in mind, we can go further because of a strange fact lurking behind the moment of the Big Bang: If the laws of physics had been even slightly different, then we would not be here. Furthermore, nothing in current physical theory requires that gravity, for example, have the specific *amount* of force that it does. True, gravity is inherently attractive as a force, but nothing in the theory dictates how strong that attractive force will be. We now know that if gravity had been slightly less forceful than it is, then the universe would have kept expanding before stars and galaxies could form; and if gravity had been even slightly stronger than now obtains in the universe we inhabit, then the universe would have

contracted back to a singularity before stars and galaxies could form – and we would not be here today to talk about it.

Of course, *we are* here, so we can “read back,” so to speak, from our existence to what must have been true at the moment of the Big Bang to enable us to be here. However, it is all too often that many individuals stop asking what this truth is. Scientists need, as Wittgenstein saw, to take their questions down deep enough. True, as the physicist John Barrow points out in his book *The World Within the World*, scientists often flinch from that depth, but that is their problem:

The tendency of fundamental physics to move towards questions traditionally of interest to philosophers and theologians has developed in parallel with an increased lack of interest amongst physicists in the philosophical questions raised by these developments. To most scientists [the phrase] “philosophical questions” has become a handy label to apply to any collection of vague or apparently unanswerable questions which only become worthy of serious consideration when they become scientific.

Maybe for good methodological reasons scientists feel they must renounce treatment of such questions in their professional work. If so, all that means is that the Church must speak up for them when they shy away from these more fundamental questions. As Vatican II explicitly affirms in the Pastoral Constitution on the Church in the Modern World, *Gaudium et Spes*:

Methodical research in all branches of knowledge, provided it is carried out in a truly scientific manner and does not overrule the moral law, can never conflict with the faith, for the things of this world and the things of faith derive from the same God. Indeed, the humble and persevering investigator of the secrets of nature is being led, however unawares, by the hand of God, who holds all things in existence and made them what they are. (§36).

– Father Edward T. Oakes, S.J. is an associate professor in the Department of Systematic Theology at Mundelein Seminary. He is widely published on topics of science and theology.



Studying God's Revelation

Reflections of a Priest – Astrophysicist

By Father John Kartje

“What has Athens to do with Jerusalem?” – asked the early Christian theologian Tertullian. In a similar vein, one might ask, “What has astrophysics to do with Sacred Scripture?”

As I write this reflection, I have within easy reach dictionaries for six languages, several of them long since “dead,” and texts that they help to elucidate. But within equally easy reach, I have a small pile of journal articles covering the latest astronomical research on topics near and dear to my heart (mainly, the problem of how galaxies formed in the early universe).

These two collections belong together because each – if studied with care and attention – reveals invaluable lessons on *how to think* about the other. While much ink has been spilled over the relationship between science and theology, there has been relatively little attention given to the intimate connections between their respective epistemologies (systems of knowledge). In this reflection, I hope to do just that.

For the last five years, I have enjoyed the great privilege of being able to study Sacred Scripture. Many years prior, I had the privilege of studying the physical sciences. The lessons I gleaned

from thinking about, and attempting to interpret, the physical universe continue to shape how I think about – and pray with – the inspired words of our tradition.

I would like to offer in this reflection three major lessons I carried over from my experience in astrophysics to my study of Scripture: (1) be precise; (2) let the text be the text on its own terms; and (3) dive fearlessly into the mystery.

Lesson 1: Be Precise

“One day, you’re walking in the African jungle and you see a spotted cat...” Such was the inauspicious beginning of my formal physics education. The instructor, an intense graduate student, began with the following riddle: “You’re walking in the jungle in Africa and you see a spotted cat. You note in your journal that you have seen a leopard. Two weeks later, you’re walking in the jungle and you see a spotted cat. What is it?” With naive confidence, we blurted out: “a leopard, of course.” After a dramatic pause, the instructor raised his arms and slammed his book down on the nearest desk with all the force his thin frame could muster. At the top of his lungs he yelled: “No! Now you’re in South America. It’s a jaguar!”

His point, which I have never forgotten, is that before you can even attempt to draw a conclusion, you must know your starting premises (what mathematics calls “initial conditions”). A spotted cat is only a leopard if you happen to be in Africa. Elsewhere, it could be something entirely different. In the realm of cosmology, the initial conditions of the universe – say, at the moment of the “Big Bang” – can mean the difference between the eventual coalescence of matter and energy into structures as complex as galaxies and planets, or the endless dissipation of matter into ever-thinner clouds of dust and gas.

You need to occasionally step away from the lab, telescope, or computer screen and just gaze into the mystery of what confronts you.

Scripture scholars must also pay meticulous attention to the “initial conditions” of their texts. Drawing conclusions from anachronous readings can be perilous. Biblical texts are notoriously difficult to date, and the possibility for dates of composition can often span centuries. Information such as orthography, syntax, spelling and vocabulary can provide helpful clues for dating a text, but precision is often lacking. Knowledge about the place of composition is often equally elusive. Was a text composed in northern Israel? In southern Israel? In Egypt? In Babylon? Often, one can only make an educated guess. Ignorance about authorship also can be a common occurrence.

The initial conditions of a text – when, where, and by whom it was produced – bear significant implications for its interpretation. For example, a given metaphor might take on an entirely different meaning depending on whether it was composed before or after the Babylonian Exile; by an Israelite living in the homeland, or



by a refugee living far off in the Diaspora; and so forth. For books that represent the likely compilation of texts spanning many eras and locations (such as the Book of Psalms), it would be a grave hermeneutical error to suppose the differing perspectives displayed by multiple texts only represent a variety of attitudes and social conditions within a single community.

The Italian physicist Enrico Fermi once claimed: “With only three data points on a graph, I could fit a curve in the shape of an elephant.” That is, if you only have a few pieces of information, you can justify almost any interpretation to explain the data (scientists call this a “poorly constrained” model). In biblical scholarship, just as in physics, one must be extremely cautious about drawing conclusions from small data sets. With “dead languages” such as Ancient Greek and Ancient Hebrew, we are frustrated by the fact that there are no contemporary communities using the language we can consult to understand obscure words or phrases. If you know a second language, imagine the difficulty of understanding that language’s idioms without a native guide. The biblical scholar is often confronted by a word or phrase that may occur at most once or twice in the entire Bible. In such cases, one can only make a best guess. There is nothing dishonest in such an attempt, but one must never forget that it is at best a guess. So, let us be precise in our guess, lest we mistake the leopard for the jaguar!

Lesson 2: Let the Text be the Text on its Own Terms

“What are the data not supposed to do?” Such was the question once posed at an international gathering of astronomers. The questioner himself blushed, quickly realizing the absurdity of his question. Nevertheless, it was an honest representation of the differences between observers and theorists in approaching the data. The *observer* reports what she finds to be the case, while the *theorist* anxiously listens to discern whether his theory is supported or refuted. Data that “don’t fit the plan” are often felt to be more of an annoyance than a helpful insight. To be sure, good scientists willingly surrender their egos to the truth, but the looming pain of doing so has not infrequently hindered the pace of scientific progress.

Nothing motivates a scientist more than the uncertainty that drives her to get up every morning and keep working at a problem.

The Scripture scholar, also, must learn to accept the text on its own terms. Of course, this is always, at best, an approximation, since no one can truly sit before a text with their mind a *tabula rasa* – a blank slate. Nevertheless, some approximations are closer than others, and rigorous practice yields fruitful results. In the 19th century, while German physicists were attempting to force strange data (eventually leading to the

discovery of quantum mechanics) into well-ordered classical theories, their contemporaries in Scripture scholarship were attempting to force complex biblical texts, such as the Pentateuch, into cleanly categorized subdivisions based on the writings of hypothetical authors. Julius Wellhausen’s “J, E, P, D theory” of Pentateuchal authorship – still studied by most seminary students and university undergraduates – has led scholars to dissect individual verses – in search of the redactions made by authors from various eras of biblical composition. When a word or phrase did not seem to quite fit the desired authorial scheme, they would solve the problem with another dissection.

The world of modern biblical studies owes a tremendous debt to the pioneering work of scholars such as Wellhausen, just as modern physics is indebted to the heroic efforts of earlier generations of scientists. But, over the years, as new theories come into vogue, and then are solidified into seemingly irrefutable fact, the need to resist asking about “what the data are not supposed to do” is a lesson too often neglected.

Lesson 3: Dive Fearlessly into the Mystery

“When I heard the learned astronomer...” So begins Walt Whitman’s famous poem telling the experience of a lecture attendee who, weary of listening to the facts and figures espoused by an erudite scientist, steps outside and looks up in quiet awe at the beauty of the night sky. Any scientist who is passionate about his research will tell you that in order to do good science, you need to occasionally step away from the lab, telescope or computer screen and just gaze into the mystery of what confronts you. The most confirmed atheist is not beyond captivation in this way. Nothing motivates a scientist more than the uncertainty that drives her to get up every morning and keep working at a problem. Mystery can engage us in the most wonderful way.

As I sit with a biblical text, the draw of mystery is no less powerful than when I contemplate the origins of how our universe took form. As a person of faith, I know that God’s infinite mystery lies behind both experiences. But the scientist in me will not permit the believer in me to refrain from poking and prodding. That, I believe, is the human being fully alive, in whom God glories.

Perhaps the perfect complement to Whitman’s poem is to be found in the ancient text that eventually ended up as the eighth entry in the Hebrew Psalter. If you are unfamiliar with Psalm 8, are you intrigued enough to seek it out on your own? If the answer is yes, then you understand what this essay is all about.

– Father John Kartje is a priest of the Archdiocese of Chicago, and a graduate of Mundelein Seminary. Before entering Mundelein, Father Kartje was an astrophysicist at the University of Chicago and published scholarly articles on the subject. He is currently pursuing an advanced degree in biblical studies at the Catholic University of America.

“The character of his leadership and his authority, both drawn from his personal, intellectual and spiritual life, left behind in Chicago a desire and model for all subsequent archbishops.”

Albert Cardinal Meyer

A Man Transformed by Loyalty and Love

**Interview with Father Steven Avella, Ph.D.
By Professor Paul Hilliard, Ph.D.**

On March 26-27, Father Steven Avella, Ph.D., professor of history at Marquette University and priest of the Archdiocese of Milwaukee, graced the seminary community with two lectures on Albert Cardinal Meyer in the Albert Cardinal Meyer Lecture Series. Father Avella is an expert on modern American Catholic history who began his career as a Church historian with a dissertation on Cardinal Meyer. Father Avella painted a picture of Cardinal Meyer rich in context and personality.

Those who attended the lecture were given deeper insight into the mind and faith of Cardinal Meyer as he developed from his earliest years into the “American Cardinal” at the Second Vatican Council. The attendees were treated to a further discussion of Cardinal Meyer by two Mundelein Seminary faculty respondents, Father Peter Damian

Akpunonu and Father Martin Zielinski. Father Akpunonu brought a keen insight into the interventions by Cardinal Meyer at Vatican II, while Father Zielinski placed Cardinal Meyer in the broader context of his American Episcopal peers. The lectures of Father Avella and the responses by Father Akpunonu and Father Zielinski will be available in a forthcoming edition of *Chicago Studies*.

It was the privilege of this writer to interview Father Avella. After a long and intellectually stimulating lecture series and panel discussion, Father Avella graciously accepted my request to answer a few more questions. The following article is based on our hour-long discussion.

Father Avella serendipitously was brought to the study of Cardinal Meyer by the request of his pastor at his first assignment at a parish in Kenosha, Wisconsin. As he began to study Cardinal Meyer, Avella realized the cardinal was a window to a “confident” era in American Church history, an era that spanned from the late 19th century to Vatican II. This was an era beginning to slip from living memory. Avella was intensely interested in this period: “I was impressed by the vitality and pervasiveness of Catholic life and culture and somewhat dismayed by the often disparaging and a-historical remarks made about that period of time – that it was dead and lifeless ... a time that needed to be recovered from as opposed to a time that needed to be understood and celebrated.” Cardinal Meyer became Avella’s starting point toward understanding this period, the fruits of which can be seen in his works, especially *This Confident Church: Catholic Leadership and Life in Chicago, 1940-1965* (Notre Dame, 1992).

Can you summarize your lectures for *The Bridge* readership?

“The point that I hope to bring home was that Cardinal Meyer’s transformation at Vatican II came as a result of the principles by which he had lived his whole life; his supposed discontinuity was really one more step in the continuity of his life... his unflinching obedience to the pope and his above average internalization of what the Holy Father said ... ‘*Sentire cum Ecclesia*’ [to think within the Church] was the term constantly on his lips, this very much expressed how he felt, how he approached his ministry, how he approached his whole life; it was the paramount objective of his life, the way that he felt he was serving God in the best way possible ... He had been a faithful student of and articulator of the mind

of the Church as expressed in the written words of the Holy Father – that was to continue – except a new Holy Father [John XXIII] came who urged him to move in another



Father Peter Damian Akpunonu



Father Steven Avella



Father Martin Zielinski



direction. I do not want to convey the impression that he was a mindless robot, just simply accepting without critical reflection ... his was a mind calibrated to obedience and he lived out that ... He did this [taking positions at Vatican II at variance to his previous education and background] because he believed it was what the Church demanded of him at that time ... He was a man who lived by simple, straightforward principles.”

When asked about where Cardinal Meyer got this intense loyalty to the Holy Father and all his writings, Father Avella pointed to a number of possibilities. The first was the culture in which he was raised, especially his tutelage under the School Sisters of Notre Dame. The Sisters were spiritual mothers to him, and he encountered and absorbed their obedience in action as a young boy. Avella also ascribed much to Meyer’s education in Rome: “I believe the experience of being in Rome accomplished the purpose for which it was undertaken, to breed in him a deep personal and professional loyalty to the Holy Fathers.” According to Avella, this Roman education was part of the greater project at that time to connect orthodox Roman Catholic identity with the popes.

According to Avella, Cardinal Meyer was somewhat prepared for the confrontation with Curial positions that he would eventually face at Vatican II. He experienced a number of frustrations that were the result of political infighting. Yet Cardinal Meyer lived, according to his close friends, with a straightforward and uncomplicated attitude; despite all his experience before and at the Council, he was upfront and open with his fellow bishops. He did not participate in the political power plays that occurred before 1962, although he had to deal with this reality at the Council. Avella thinks that the necessity of entering into these intricate negotiations weighed heavily on the archbishop.

How has working on a subject who is still within living memory affected your project?

“The downside is lack of perspective; they were great admirers of him, they were in awe of him. Of all the people I talked to there were only one or two who were critical of him. The upside of it was the consistency ... every one of these people vouched for the same sort of temperamental, intellectual and spiritual characteristics of this man, without being prompted ... Even those who knew him better all virtually said the same things about him and brought that human dimension to his life. There was bottled up inside him a very tender and sentimental man ... At Christmas he personally went shopping for specialized gifts for all his nieces and nephews... and presented those presents to them in person ... These personal insights were an upside, and for the most part historically reliable.”

Avella also pointed to Cardinal Meyer’s time as Archbishop of Chicago as a turning point in the cardinal’s “transformation.” According to Avella, it was Cardinal Meyer’s time in Chicago that exposed

him to internal Church politics, encouraged him to begin speaking with courage (especially against racism), and prompted him to seek an understanding of the intellectual world of the Church (especially from his old teacher at the “Biblicum,” Augustin Cardinal Bea). Cardinal Meyer had to be, at the same time, Archbishop of Chicago and an active participant in the preparation for, and execution of, the Second Vatican Council.

In light of all that the cardinal was able to achieve, what should we imitate from Cardinal Meyer’s life?

“Learn from your environment. I was quite impressed with what he did here in Chicago. I was quite impressed with the intellectual and spiritual distance he traveled to be a good archbishop of Chicago ... Just taking the time to take in Chicago as an urban tourist.”

Avella was also deeply impressed by Cardinal Meyer’s ability and willingness to learn about the new trends in Scriptural scholarship, to keep abreast of the current movements, rather than succumbing to the temptation to “believe that once they leave the seminary that really ends their formal education in ministry... living off the fumes of their seminary education.” The lesson Avella drew from the example of Cardinal Meyer and from the advice of Msgr. John Tracy Ellis was to “read as much as you pray, keep yourself intellectually alert and on top of your field as much as you spend time in personal and communal prayer, and Cardinal Meyer exemplified that.” (Father Avella promised that Father Zielinski, director of ongoing formation, did not bribe him to make that comment).

When speaking about the legacy of Cardinal Meyer, Avella emphasized that the character of his leadership and his authority, both drawn from his personal, intellectual and spiritual life, left behind in Chicago a desire and model for all subsequent archbishops.

Father Avella wished to emphasize the need for more scholarship on the Council itself, but particularly the American participation: “The Council did not just drop from heaven.” Much of the informal interactions during the Council, especially at the Villanova house, are worthy of in-depth explorations.

Those who attended Father Avella’s lectures were given a chance to discover a man worthy of esteem; a man who, through his faith, his intellect and his love (especially his deep love for the Church) was able to be a true shepherd to his flock, both in his diocese and in Rome. We hope our seminary community always will foster such apostolic virtues. Albert Cardinal Meyer remains with this community, in part, in our cemetery. As we pass the cemetery, let us remember and learn from his example, a life that Avella has made richly available. We are in debt to both Cardinal Meyer and Father Avella.

— Dr. Paul Hilliard is an assistant professor in the Department of Church History at the University of St. Mary of the Lake / Mundelein Seminary.

“Only by serving man’s integral well-being can medicine contribute to his progress and happiness and not become an instrument of manipulation and death.” (Pope John Paul II)

FEATURE ARTICLE

Ethics and Science Working Together for Authentically Human Medicine

By Father Patrick J. Boyle, S.J.

Ethics can generally be defined as moral principles that govern appropriate moral conduct. These principles can be applied to individual persons specifically, or more generally to the variety of areas that cover man’s life in society. We have moral principles that govern the way in which we conduct business (business ethics), those that guide how we understand and apply the law (legal ethics), and even a set of moral principles governing appropriate procedures and treatments within the realm of human medicine (medical ethics).

Over the years, there have been numerous advancements in the world of medicine, particularly in the field of biomedical technology. Much of this development has been positive and beneficial for improving the health and care of our bodies (i.e., blood transfusions, heart bypass surgery, organ transplantations, just to mention a few). On the other hand, not all of this development has proven as beneficial for the human person as a whole. In vitro fertilization, embryonic stem cell research and human cloning are procedures in biomedical technology that are detrimental to human health care because they compromise the dignity of the human person whose life is sacred and whose dignity must be respected in every aspect of human life.

In light of these issues, we must ask (and answer) these questions: How does one discern between medical treatments and procedures that are *true* medical advancements, and those that only *appear* to be? Are there moral limits beyond which scientists who work in the field of biomedical technology should not go, or do these scientists have unlimited freedom?

In 1978, Dr. Patrick Steptoe and Dr. Robert Edwards developed a medical technique for conceiving human life in a petri dish, and then implanting that embryo into the womb of a surrogate mother. Their first client, Lesley Brown, gave birth to Louise Joy Brown. Since then, many people have applauded the work of these doctors as a medical breakthrough and an example of biomedical technology at its very best. They say that it is the answer to human infertility, and that it allows those husbands and wives who otherwise would not be able to conceive to become the fathers and mothers they desire to be.

But what are the ethical implications of this medical procedure? Is conception in a petri dish and the subsequent transfer into the womb of a woman a morally *good* act? Is this the way God intends the conception of human beings to happen? Will this research *take over* the role of nature, as opposed to simply *assisting* nature?



What about the ethical consequences of separating conception from the conjugal love act, as happens in the artificial fertilization procedure? What about the potential abuses that could, and have, resulted? Most reasonable people will agree that the behavior of Nadya Suleman in giving birth to 14 children (eight at one time), all of whom were conceived as a result of an unnatural medical procedure, was unconscionable. This would never have occurred if medical scientists had acted within ethical norms and respected the true “order of nature.”

Medical ethics should not be viewed negatively, as intrusive and restrictive. Rather, it should be viewed *positively* as a process whereby accepted ethical norms are presented so as to assure the moral rightness of treatments and procedures being developed within the medical field. This is true not just in biomedical technology but in other areas of medicine as well. There are accepted moral norms that inform us when it is justified to stop life-saving medical treatment and to allow a person to die. Similarly, we have accepted moral norms on what kind of experimentation on human beings may be appropriate and when it might be appropriate.

The primary role of medical ethics is to complement the work of science and to familiarize the scientist with the norms and circumstances that keep one’s research morally legitimate. It sets up the parameters within which scientists must conduct their work in order to be considered worthy of their title. And it is a standard by which new treatments and procedures should be measured in order to determine their authenticity. Medical ethics should not be viewed as an adversary to medical technology, but as an advisor, counselor and educator.

— Father Patrick J. Boyle, S.J. is an associate professor in the Department of Christian Life at Mundelein Seminary. Among the courses he teaches are Moral Theology and Medical Ethics.

“The greatest of these is love. (1 Cor 13:13)”

MUNDELEIN PROFILE



By Mark Teresi

This issue of *The Bridge* highlights the story of two dear friends of Mundelein Seminary for many years, James C. (Jim) and Sally Dowdle.

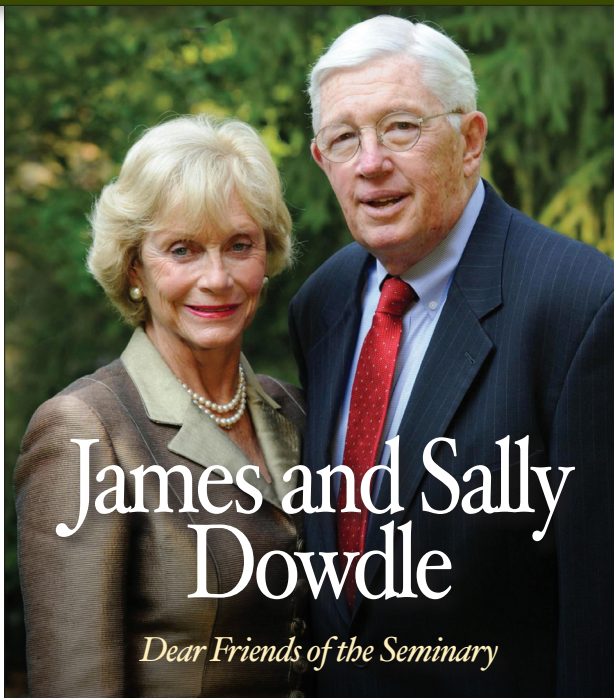
High school sweethearts who have been married for more than 50 years, this faithful couple has been dedicated to each other, their five children, 18 grandchildren and the Church for all these decades.

Jim, a retired executive vice president of the Tribune Company, was also chairman of Mundelein's Advisory Board for more than a decade. He oversaw the renovation of the Feehan Library and the construction of the McEssy Theological Resource Center during his tenure. He was instrumental in steering the new leasing contract for our golf course, while also being tremendously generous in supporting our annual Golf Outing Dinner and Evening of Tribute. He remains on the board and is the chairman of our new Marketing Committee.

Among his many awards, Mr. Dowdle was the recipient of the 2005 Francis Cardinal George *Christo Gloria* Award, honoring his leadership as a layman in furthering the mission of the Catholic Church throughout our city. On that occasion, Elizabeth Carey (Dowdle) Burke, the Dowdle's granddaughter, shared a beautiful poem she wrote about her grandfather: "Doods."

As we share excerpts from this poem with you, we thank Jim and Sally for their faithfulness to each other, as they to this day remain "high school sweethearts." The community at Mundelein Seminary extends our heartfelt thanks for their love and dedication to their family and the Church, faithfully living out the message of St. Paul: "There are three things that last, faith hope and love ... and the greatest of these is love."

— Mark Teresi is vice president of institutional advancement at Mundelein Seminary.



"Doods"

*"Doods" is the name I call this outstanding man by.
The hardships which he faced caused him to cry.
But through the tears one can see the heart of a knight.
This man's great smile can change wrong to right.
A boy from South Shore who worked hard his whole life,
Was rewarded by making his high school sweetheart, his wife.
Moves to Virginia, Oklahoma, and at last the North Shore,
Now retired he packs his bags for business no more.
Generous and kind this leader of men,
Who started in the Marines and on Michigan Avenue did end.
A golfer, philosopher and lover of sports,
In the business world, wrote many reports.
He spends his time at the Cathedral at Addison and Clark.
Win or lose the Cubs always have a place in his heart.
The summers are spent visiting Castle Pines and Bob O'Link,
Heaven forbid the rains come and his heart would sink.
Doods for Christmas, Thanksgiving, and Spring Breaks,
All the grandchildren and in-laws to Florida he takes.
Come sit by the pool and let's have a talk,
Or spend some time with me, on the beach we will walk.
Looking deep into his hazel and open eyes,
There is a wisdom and comfort which one can surmise.
I admire this man who's exceptional and smart
And I love him dearly with all of my heart!*

Used with permission by Elizabeth Carey (Dowdle) Burke
Presented to her grandfather for Christmas 2004

A Charitable Bequest May Be Your Answer So That Others May Serve

Designating a portion of your estate to the University of St. Mary of the Lake / Mundelein Seminary will enable you to make a substantial gift to honor the many fine priests who have served you and your parish throughout your life. By doing this, you will leave a measure of the blessings God has bestowed upon you in your lifetime so that "others may serve." This level of giving will ensure that, throughout this new century, seminarians will acquire the skills to meet the challenges of the priesthood so that they may enthusiastically serve future generations of the faithful.

► Gifts through wills are easy to arrange and may be changed at your direction.

When properly drafted by a qualified attorney, a will minimizes estate settlement costs and taxes, arranges for your property to be managed as you wish and provides for your friends, family, church and others you wish to remember.

► If you are interested in learning more about leaving a gift from your estate to Mundelein Seminary, please contact Mark J. Teresi at the University of St. Mary of the Lake / Mundelein Seminary Office of Institutional Advancement (847.970.4817) or mteresi@usml.edu.

► If you already have named the University of St. Mary of the Lake / Mundelein Seminary as a beneficiary of your estate, please let us know so that you can be appropriately thanked for this most generous commitment and become a member of our Legacy Society.

At Mundelein Seminary, when the topic of science comes up, thoughts inevitably turn to Father Charlie Meyer. He is the resident scientist among the faculty, and he readily shares his scientific outlook and knowledge with anyone who will listen. So when this issue of *The Bridge*, on religion and science was being put together, the editorial staff knew it could not be complete without a profile of Father Meyer. The problem was that few were qualified to write it.

Those who have had Father Charlie for class recall feeling completely lost as he talked on about wormholes, event horizons and the Doppler Effect. He looks at the class in disbelief when they fail to comprehend simple calculus or physics. Because of this, he can be intimidating to his students; his reputation can frighten those who have not had the opportunity to take one of his classes. I hope to put into words a suitable tribute to this man of God and man of science.

As you enter his office, one of the first things you notice are the hundreds, if not thousands, of VHS tapes lining the walls – recordings of old episodes of programs like *Nova*, as well as a variety of movies. He has several VCRs in his room recording new programs, numerous gadgets on hand at any given time and a workroom that he uses to tinker with various electronic devices. Normally, when you think of technology “geeks,” you envision someone in their teens or early 20s. But Father Charlie Meyer keeps up with all of the latest trends and gadgets at 88 years of age.

Father Meyer has had an interest in science and technology since he was young. He is intrigued by how things work. Growing up, Father Meyer had a small house,

His position that science and religion should not be at odds has been supported by the writings of both Pope John Paul II and Pope Benedict XVI.

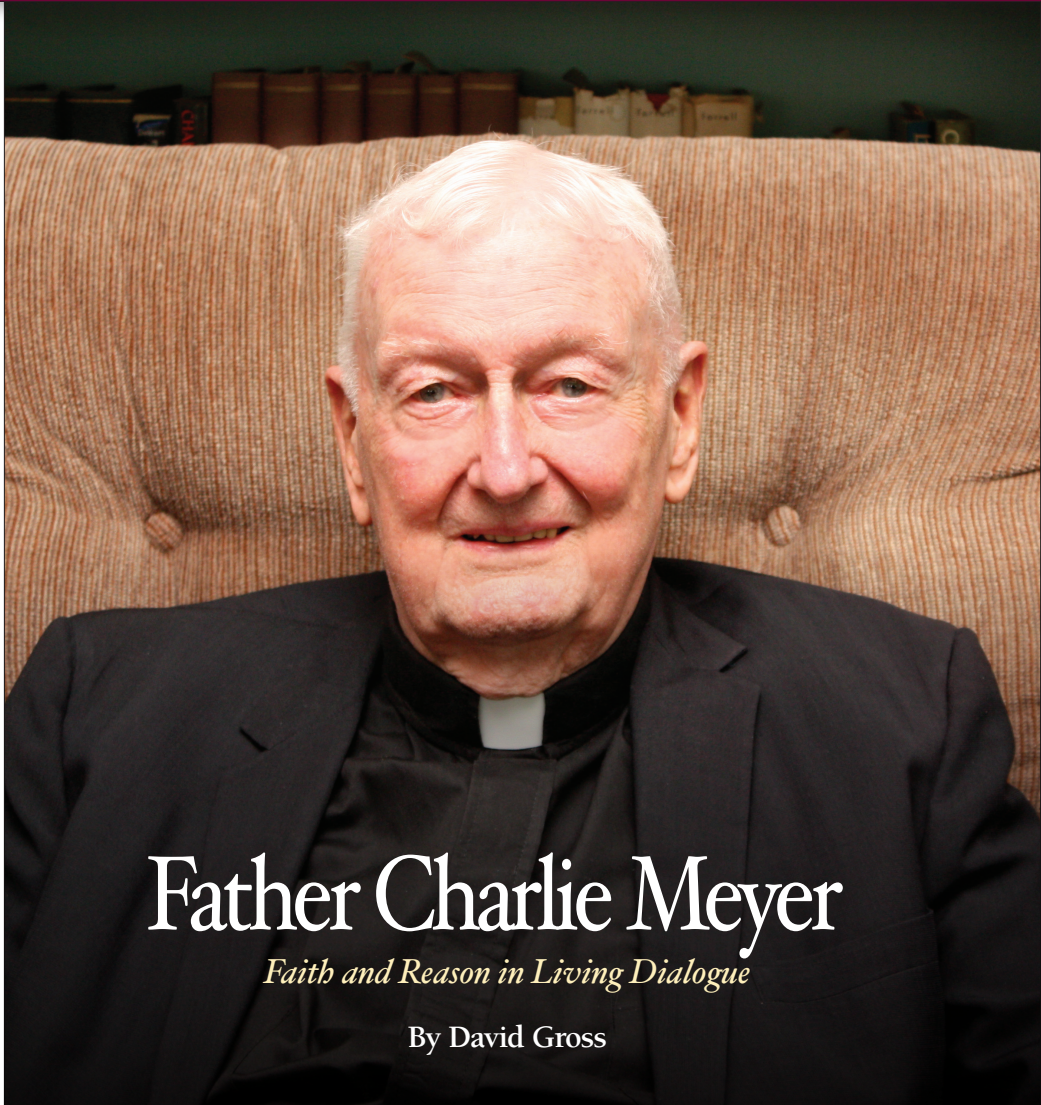
and in his back yard there was a crystal radio set. Around that radio, the neighborhood kids would gather with him to listen to baseball games. Then he saw an ad in a magazine for a triode tube, which he purchased to upgrade his radio set. This piqued

his interest in technology, leading him to wonder about the world he could not see, such as the electrons that fly through the tube in the radio. He pondered how this technology could eventually produce the sound he heard from the radio. And this, in turn, led him to read articles and books about the latest scientific inventions and trends.

His elementary school years provided

little or no formal training in science. It was not until his fourth year at Quigley Preparatory High School Seminary that he finally took a class in physics. By this time, however, he was well read on scientific topics. So, Father Harry Rynard, the Quigley physics teacher, asked him to make presentations to the class on different science topics.

Father Meyer began his studies at Mundelein in 1939, the year of Cardinal Mundelein's death. Like his prior schooling, Meyer's years of philosophy provided few formal science classes. During those days, few seminarians took an interest in science. He remembers that most of the other seminarians in the class treated science as a hoop to jump through on their way to the priesthood. For Father Charlie,



Father Charlie Meyer

Faith and Reason in Living Dialogue

By David Gross



however, science was a gateway to a clearer understanding of the world and his faith.

The attitude of his peers to science was soon about to change. The two atomic bombs dropped on the Japanese cities of Hiroshima and Nagasaki at the end of World War II seemed to turn everyone's interest to science. Few people had even heard about atomic energy in the 1940s, and fewer understood anything about it. This was especially true in the seminary because the students were not allowed to have much contact with the outside world. Yet, due to his personal research into the topic, Father Meyer already had a considerable knowledge of the subject and enough of a background in physics to be able to understand the reports about this new weapon. In fact, he was so well-informed on the subject that he gave a presentation to faculty and seminarians on the process of making atomic bombs – a presentation that drew great interest.

When I interviewed Father Meyer, he confided that, “even today, I think that Father Hennessey and others think I am building something in my workroom.” Luckily, I can put their minds at ease that this is most definitely not the case. The proof of this is the fact that Father Charlie is a self-proclaimed hypochondriac – he carries around a radiation dosimeter that measures his exposure to ionizing radiation over time. If he were building anything that involved radioactive material, he would be needlessly exposing himself to “harmful” levels of radiation – and he would not put himself in such a risky situation.

After Father Meyer was ordained in 1945, he earned his doctorate from the University of St. Mary of the Lake, and then continued with post-doctorate studies at the Gregorian University in Rome. He returned to Mundelein Seminary as a faculty member in 1949, and has been a fixture here ever since.

His interest in science has remained strong throughout his years as a teacher. His most recent book was *Religious Belief in a Scientific Age* (1983). Since then, he has contributed a number of articles to *Chicago*

Studies on the same theme. In them, he makes the case that the Catholic Church has adopted cultural language over time to explain the faith. When the language was philosophical, the Church used philosophy to talk about its beliefs. Since the primary language of the modern world is science, and science is emphasized so strongly in schools, Father Meyer argues, perhaps the Church should utilize science to help explain Christianity. He sees no inherent conflict between science and religion, and believes the compartmentalization that is taking place between the two is a harmful trend. His position that science and religion should not be at odds has been supported by the writings of both Pope John Paul II and Pope Benedict XVI.

To this day, Father Meyer does his best to keep up with current trends in scientific study and research. He subscribes to *Science News*, *Scientific American* and *Discover* magazines, and he reads a number of books dealing with current topics in science. Yet, the *relationship* between science and religion remains Father Meyer's primary interest. He is fascinated at finding ways where science and religion complement one another. When I asked him which modern scientist was his favorite, he answered that it is John Polkinghorne, an Anglican priest who is a physicist by trade, and one of the most prominent experts on the relationship between science and religion.

As a teacher, one of Father Meyer's primary concerns is passing on his knowledge to his students. I asked him what he hopes to convey to his students about science and its relationship to their future ministry. He replied that one of his primary concerns is that they give scientifically correct information in their preaching and not use examples based on out-of-date worldviews. His fear is that the people in the pews who are more knowledgeable about science may be dis-

suaed from the Christian message if they hear spurious facts preached from the pulpit.

When I asked him if there was anything about science that he considers harmful to the Faith, he reaffirmed that nothing about science in itself is contrary to the faith; but the popularity of today's atheist scientists, such as Richard Dawkins, can draw people away from the true faith, if those views are not challenged. When I asked Father Meyer if he has ever encountered any resistance or hostility toward

his work from fellow faculty members at Mundelein, he responded, “No, they just thought I was weird, that's all. I don't think they were opposed to it. They just said, ‘Oh, it's just crazy Charlie.’”

As more and more men like me, who have backgrounds in science, enter the seminary, perhaps science will continue to get the attention it deserves. I can attest to the fact that science and technology have played a significant part in my own pursuit of theology, and in my understanding of God. As Father Meyer says, today's society revolves around science and technology.

As we have witnessed over the last couple of years in the debate over stem-cell research and other life issues, the Church can and does engage society using its own language of science because the Church has been the leader in science throughout the ages. In order to continue doing this, the Church needs more men like Father Charlie Meyer. For seven decades he has taught, or been acquainted with, almost every priest currently serving in the Archdiocese of Chicago, as well as other dioceses around the country and the world. His interest in science may be prophetic; but, despite his eccentricities, he is anything but crazy.

– David Gross is a third-year seminarian for the Diocese of Grand Rapids, Michigan.

When the language was philosophical, the Church used philosophy to talk about its beliefs. Since the primary language of the modern world is science, and science is emphasized so strongly in schools, Father Meyer argues, perhaps the Church should utilize science to help explain Christianity.

From Laboratory to Seminary

The Vocational Journeys of Steven Borello and Matthew Bozovsky

By Father Kevin Feeney

For Steven Borello and Matthew Bozovsky, two seminarians at Mundelein Seminary, the answer to the question is clear: Science is not only a help to faith, it promises to be a help for them personally in their seminary formation and in their future ministry as priests.

At the age of five, **Matt Bozovsky**, now a first-year pre-theologian for the Archdiocese of Chicago, had his sights on receiving a Ph.D. and doing research in biology – goals he partially realized. He did receive bachelor’s and master’s degrees at Loyola University in Chicago, and was on his way to the doctorate when the call came to experiment with a call to the priesthood – lab’s labor lost, with apologies to Shakespeare. Not a complete loss, by any means, as we shall see.

Matt researched the genetic basis of *Down syndrome*, some forms of cancer, premature aging and muscular dystrophy. He collaborated with a dozen researchers and served as a supervisor, both for the lab and for senior graduate students. Matt found it to be a “great experience.” To be able to design, implement and wrap up his own projects was a deeply satisfying experience for him. Matt gave glimpses into the rigorous work, the wonderful possibilities and the considerable frustration

that scientific research affords its practitioners.

In time, Matt realized his passion was for learning and teaching. One of the courses he taught during his stint as a part-time professor was “Genetics and Evolution.” He was excited to talk about his students (non-science majors, all required to take a science course) grappling with the material, asking questions and making new discoveries.

He is convinced that his work in science led him to his faith. A Catholic in name but not in practice, he awakened to his faith about five years ago; discovering among other things, that there is no contradiction between faith and science. Furthermore, Matt stated, “Not all scientists are atheists. The former head of the Human Genome project is a faithful and outspoken Christian.” Matt saw how one could move from sensible data to wonder as, for example, he contemplated a cell under a microscope.

However, he cautioned, “People of faith must stay within the truth claims they can make. For example, they should stay away from statements such as ‘my faith proves there is no basis for the Theory of Evolution.’” Faith ventures into the “why” and “who” behind the “what” studied by science.

Matt found it providential that he attended Loyola University because he had the opportunity to minor in theology, taking a number of courses in philosophy as well. At first, he came to be “astonished” by Catholicism at an intellectual level; eventually he saw that the faith answered a deep longing of his heart, as well. He faced some opposition from his colleagues as he moved into the serious practice of his faith: “You cannot be an intellectual person and believe in God.” This attitude shocked Matt since he was convinced that it was science that brought him to the faith.

Gradually, it became clear to Matt that he was being called in a new direction in faith. With the help of the *Insearch* program – a discernment program sponsored by the Archdiocese of Chicago – and spiritual direction, he came to see the beauty of a vocation to the priesthood. His decision to enter the seminary marked a death to his previous goals. His adjustment to seminary life and study was, at first, difficult, but what sustained him was his relationship with God. He had come to know that he was loved by God and his happiness would be found in loving and serving God in return.

Matt is confident he will be able to speak knowledgeably to people’s questions and concerns about the relationship between faith and science. In fact, St. Clement Parish, his home parish, has asked him to give a series of talks on the subject from a Catholic perspective.

Now, when he is not hitting the books, etc., Matt serves as the head barista at Mundelein Seminary’s new coffee shop, where one can purchase a “Laudate Latte” (a praiseworthy concoction) among other coffee and tea creations. I do a random check to make sure he is not genetically altering the coffee in an effort to create human beans. My fears are probably groundless.

Faith ventures into the ‘why’ and ‘who’ behind the ‘what’ studied by science



No real disagreement can exist between the theologian and the scientist, provided each keeps within his own limits. (Pope Leo XIII)

MUNDELEIN PROFILE



Steven Borello, a second-year theologian for the Diocese of Joliet, received his training in chemistry and chemical engineering from the University of Illinois. His plan (before he became aware of God's plan for him) was to use his expertise in industry. He served as a research chemist, researching time-release drug delivery in manufacturing, and was a teacher's assistant.

His colleagues were variously impressed by his vocational choice. Steven received a number of reactions to his interest in the priesthood. One typical reaction was: "Why are you leaving? You are very good at what you do. You could be a good teacher. Priesthood seems to be a waste of your talent." Another typical response was: "Why do you need religion when you have science? It's just a matter of time and science will have all the answers." Those who were sympathetic to Steven's decision tended to respond with encouragement, acknowledging that he would be able to use his gift for teaching as a priest.

His work in chemistry, and in particular his study of DNA, opened for him the complexity, order and interrelatedness of created matter, causing him to wonder. He stated that "Study led me deeper into the realm of faith." Beauty and order were found under a microscope. Steven came to see that God is the underlying reality of all that is. The universe in all its dynamism is reasonable; God is its loving and intelligent source. Steven found himself venturing beyond the physical to the metaphysical; his observance of phenomenon led from the question "Why does this happen?" to "Why is this at all?" He came to see that just as scientific discovery is a process, so is faith a process of discovery. For Steven, the evidence led to God. What was more; he came to understand that the scientist cooperated in God's labors by taking the elements of creation, combining them, and placing the results at the service of humankind.

At about this time, Steven was trying explore the significance of the Mass. He began to re-awaken to the practice of the faith, a gradual re-awakening at first: attending Mass for a time, then for a time not attending, and so on. What he began to notice was that when he was faithful to attendance at Mass, he was happier, his relationships were better, his study and work were more productive, and he enjoyed life more. Steven decided to allow his training in chemistry to shape his movement deeper into the faith: "Be honest to all the information." He came to the conclusion that the above evidence was an indication that he needed to go to Mass regularly.

At the same time, he could honestly acknowledge that science has its limits and that one needed faith to deeply understand reality. He was being invited in to a larger mystery and, if he was to be honest, he would have to follow through on the investigation. He came to see science as a means to glorify God. At the same time, he could acknowledge the dangers of science when it was treated as an end in itself. Steven quoted C.S. Lewis in "The Abolition of Man": "Man has been mastered by the technology he has created."

Steven noted that in one area of controversy between science and faith – that of the Theory of Evolution – there is no necessary contra-



The universe in all its dynamism is reasonable; God is its loving and intelligent source

– the possibility of evolution – the possibility that humankind became ontologically different from the rest of creation, able, among other things, to engage in intelligent action, in art, in prayer, and able to contemplate the mystery of God, the Creator.

Steven is grateful for the knowledge, honesty and discipline he acquired during his training in chemistry. He is also grateful for the new tools he has been acquiring since entering seminary: philosophy and theology. He sees that through these new areas of study he has been developing a new language and a new way of thinking that prepares him for ministry. After having been trained in a way of seeing, thinking and speaking that depended on concrete evidence and clear answers; he has grown more comfortable with the exploration into mystery in which there are no concrete answers.

He sees this as preparing him to take people where they are in their faith journey and help guide them with the truth in Christ as taught by the Church. He has discovered that knowledge is to be placed at the service of charity.

At the writing of this article, Steven is well ensconced in a new "laboratory": his pastoral internship at Visitation Parish in Elmhurst, Ill. Learning and experimentation go on in this important part of his preparation for ministerial priesthood.

It can be said of Steven and Matt that their experience as research scientists and teachers places them in a good position for the future. Their study makes them credible apologists for the faith and worthy dialogue partners with others who seek to integrate science and faith. Building on their history and training, they will be able to help guide those who seek to discover and live the truth in Christ.

– Father Kevin Feeney is the dean of formation at the University of St. Mary of the Lake / Mundelein Seminary.

How good it is, how pleasant, when God's people dwell in unity! Like precious ointment on the head, running down upon the beard; upon the beard of Aaron, upon the collar of his robe. Like dew of Hermon coming down upon the mountains of Zion. There the Lord has lavished blessings, life for evermore! (Ps. 133)



Jenny Moreno and Deacon Victor Ruiz converse with Luis Valerio and Marco Reynoso.



The Spanish Choir performs for the benefactors.



David Gross with his parents, Robbie and Len.



Brian Kean and Monica Larson converse outside Church of Lazarus in Bethany.



Jeanne and Rudy Bruntyn enjoying their cultural immersion.

Donor Pilgrimage to the Holy Land

By Andrew Liaugminas

See the article on Page 28 to learn more about the Pilgrimage.

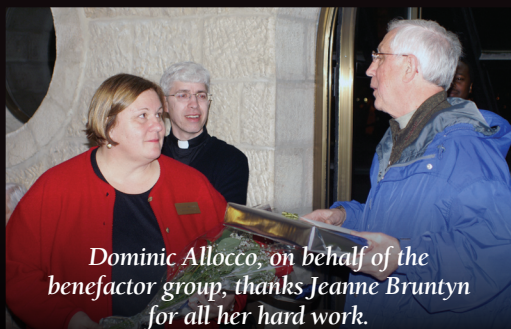


Ted Sokulski and Genevieve Siemianowski chat with Jason Stone.

PHOTO ESSAY



Karim Elias and Sami Grayeb of Shepherd Tours, with Fr. Dennis Lyle, Jeanne Brunty, and Mark Teresi of Mundelein Seminary.



Dominic Allocco, on behalf of the benefactor group, thanks Jeanne Brunty for all her hard work.



Edwin Rondan and David Hammond enjoy dinner with Ted and Arlene Sokulski.



Seminarians and benefactors join together in song at the Church of Lazarus in Bethany.



Jeanne displays the commemorative tile for the pilgrimage.



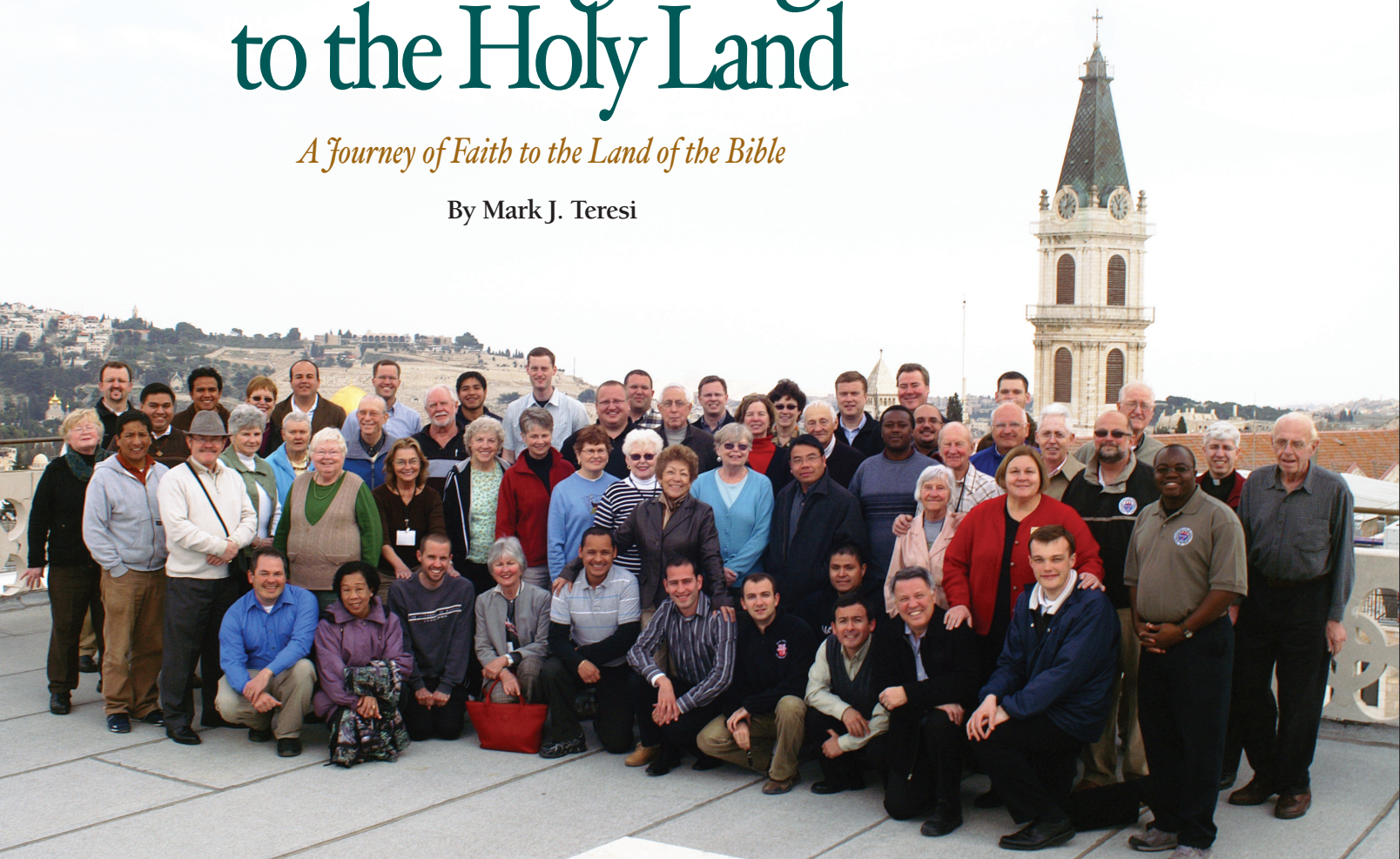
John Lindsey greets Mary Morrissey and Mary Ann Wujek.

I rejoiced with those who said to me, 'Let us go to the house of the Lord.' And now our feet are standing within your gates, O Jerusalem! (Ps. 122:1-2)

Donor Pilgrimage to the Holy Land

A Journey of Faith to the Land of the Bible

By Mark J. Teresi



Our rector, Father Dennis Lyle, led a Holy Land pilgrimage for 25 seminary donors during late January and early February.

These faithful pilgrims visited sites around the Sea of Galilee, Bethlehem and throughout Jerusalem, celebrating Mass at each site over their 12-day pilgrimage.

A highlight for the pilgrims was meeting the third-year seminarians who were on their Holy Land Pilgrimage quarter of study. Our donors were entertained with a special show that the third-year men planned and presented one evening. Seminarians and

pilgrims dined together the next night at a special dinner. They attended Mass together at the Church of Saint Lazarus in Bethany one day, and at the Church of the Holy Sepulchre the next, and walked and prayed on the Via Dolorosa (The Way of the Cross) together.

This was a powerful experience for all. A special thank you goes out to Jeanne Brunty, our dynamic on-site special coordinator of the pilgrimage. Jeanne has spent the last 10 years as seminary coordinator for the Holy

Land Pilgrimage Quarter. She finally was able to experience the trip she has planned for nearly 500 seminarians over the past decade!

After this journey, our pilgrims come home changed. Now when these faithful pilgrims hear the Gospel stories, they can return in their thoughts and prayers to the Holy Land where they walked together with the Lord!

Now when these faithful pilgrims hear the Gospel stories, they can return in their thoughts and prayers to the Holy Land where they walked together with the Lord!

— Mark J. Teresi is vice president of institutional advancement at Mundelein Seminary.

Reconstructing a Historic Landmark

Technology to the Rescue of Classic Architecture

By Stanley C. Rys, Jr.

Among the many interesting architectural elements on the Mundelein Seminary campus is the area east of the D.I.M.E. statue toward St. Mary's Lake. This area is known as the Mall/Belvedere. This impressive group of structures was built in the early 1920s and has fallen victim to budgeting shortages and the ravages of freeze/thaw deterioration. While some stop-gap maintenance and repair has been done over the years, this area reached the point of becoming a serious safety issue. This magnificent architectural statement began to cry out for help.

In January 2008, after considering several options, the Seminary Board of Advisers recommended the approval of a plan to repair and renovate the Mall to return this area to its past beauty. This plan was approved. Engineering and design started immediately. It was soon determined that, due to the quality of the original design and construction, most structural elements were sound, so complete demolition was not necessary.

Using original drawings, historic photographs and maintenance records, the design team produced a plan of repair and renovation that would use today's technology, construction methods and building materials to produce an end product that

would look like the original design, but with our improved drainage and waterproofing methods, the end product would last many years longer than the original.

Actual work started in June 2008. While the structural members – columns, beams, roofs and retaining walls – were in salvageable condition, walking surfaces, brick veneer walls, the viaduct arched surface and balustrade all needed to be removed and restored.

Severe water seepage into joints and surfaces as well as the corresponding cyclical freeze/thaw deterioration were the main reasons for the failure of the structures. Much of the design effort focused on waterproofing and drainage. Engineers today have a better understanding of these

issues, and have many more options at their disposal to protect structures from water-related failure.

The roof of the boathouse, the promenade, had a tile surface that failed quickly. It was covered by a rubber-like membrane that also failed. These surfaces were removed. New strategically placed drains were installed and the entire surface was covered by a waterproofing membrane. Colored concrete, stamped in a pattern to approximate the look of the original promenade tile, will be the final surface.

At the perimeter of the promenade, or the upper edge of the boathouse walls, are large pieces of limestone upon which the balustrade sets. This is called the "water table." Water migration into the joints



“Faith and reason do not contradict.”

(Pope John Paul II, *Fides et Ratio*)

ON CAMPUS

between these stones and behind the brick wall had caused the brick wall to bulge and the stone to shift. This caused instability of the balustrade; a dangerous condition. To correct this, the balustrade was removed, the stone repositioned and an improved flashing/waterproofing system was installed. The balustrade may now be safely restored to its original position.

The pier surface was originally crushed gravel. There was no drainage system, so eventually the surface deteriorated – severely sinking in some areas. The base structure was repaired, and drains and waterproofing were installed. A concrete topping will be the final surface.

The viaduct arch also had deteriorated. It was repaired using a sprayed-on application called “shotcrete.” The structure of the arch, however, was still stable, so it was decided to remove the deteriorated sections and construct a new arch just below the original. This required the use of numerous reinforcing bars and con-

crete forms made specifically for this job. As a result, the viaduct’s surface is a new smooth arch. Yet, the viaduct clearance height is now six inches lower.

The interior of the boat house includes a large overhead door opening to the lake and boat slip. It is a damp, dark place that fostered algae growth on the walls and corrosion of anything metallic. A fresh air circulation system was included to reduce the humidity levels that had caused the corrosion and algae growth. The door has been replaced; new windows similar in design to the original windows also have been installed. The walls and ceiling have been cleaned and repaired, the ceiling painted and lights have been installed. The interior of the boat house is now a more welcoming place.

The final issue the design team addressed was lighting. Originally there were almost 50 lights in this area. It was unanimously agreed that it was grossly over illuminated and in the interest of today’s

“green design efforts” light replacement has been limited to historical decorative fixtures.

Using the original drawings, light fixtures for the east wall of the boat house were fabricated and will be installed. In addition, at the end of the piers on top of the pavilions were two round globes, or beacons. These failed and were removed so long ago even Fr. Charles Meyer and Fr. Richard Wojcik (both of whom graduated in the 1940s) cannot recall seeing them operational. These lights will be restored. We also have introduced decorative “up lighting” at the base of the columns on the belvedere. This should result in an impressive view of the belvedere at night.

When this project is completed in August, the Mall/Belvedere will once again be an impressive Mundelein landmark.

– Stanley C. Rys, Jr. is vice-president for facilities at the University of St. Mary of the Lake / Mundelein Seminary.



FROM THE EDITORS



Left to Right: John Whitlock ('13), Deacon Ken Halbur ('09), Louis Krupp ('13), Gregory Wellnitz ('14), Daniel Oudenhoven ('12), Robert Letona ('09), Stephen Thompson ('10), Deacon Greg Michaud ('09), Marcel Portelli ('11), Deacon Alejandro Flores ('09), Kevin McCray ('13), Brendan Guilfoil ('12), Stephen Eickhoff ('10), Jay Atherton ('11), Shawn Gould ('10), Juan Teran-Sanchez ('11), Andrew Liaugminas ('10). Not pictured: Father Patrick O'Malley, Matthew Dalrymple ('14).

From the Editors' Desk

By Jay Atherton and Andrew Liaugminas

“When I think of science and theology,” recalls Andrew, “I think back to my freshman year at Archbishop Quigley Preparatory Seminary. We used to take biology every day, and when we reached our unit on botany in the spring, our teacher faced a quandary: Where in the heart of downtown Chicago can we find a variety of plant specimens to study in our lab? The next day he announced his solution: ‘Alright, we’re going to Mundelein.’ So, on our lab day, we loaded in the Quigley van and drove up to Mundelein to study plant biology on location. Years later, my schooling has brought me back to cam-

pus – but this time to study theology.”

Each of us has a unique perspective on integrating faith and reason, based on our backgrounds, interests and vocations. In this issue of *The Bridge*, we have shared with you a few of those perspectives. We have featured articles by theologians studying science, and have interviewed scientists studying theology. We also highlighted how, in our formation, the social sciences bring us insights into the “deeper understanding of man...in relation to a pastoral ministry which is as ‘incarnate’ as possible,” as Pope John Paul II called for in *Pastores Dabo Vobis* (#52). Each of these shows us a different perspective on how science and faith relate in our lives as Catholics fully engaging our faith and reason.

In reading this issue, some may wonder whether it is *new* for the Church to consider seriously the findings of science. It is, in fact, quite the opposite. Men of the Church have been responsible for some major scientific discoveries over the centuries. Among those were a Franciscan, Friar Roger Bacon, O.F.M. (1214-1294), who was the father of the scientific method; a Danish bishop, Blessed Nicholas Steno (1638-1686), who

was the father of geology; a Polish canon, Father Nicolaus Copernicus (1472-1543); who was the father of astronomy; an Augustinian priest, Father Gregor Mendel, O.S.A. (1822-1884), who was the father of genetics; and a Belgian prelate, Monsignor George Lemaître (1894-1966), who was the father of the Big Bang Theory – to name just a few of the eminent “fathers” of science.

In the laboratory work of these notable clerics, and the priestly ministry of those in our community who came from science backgrounds, we begin to catch a glimpse of what a synthesis between faith and reason can look like. They remind us how thinking critically about God’s creation can help us better understand its Creator. If theology is “faith seeking understanding,” as St. Anselm phrased it, then perhaps science and theology are not as irreconcilable as people sometimes assume. Perhaps it’s not so odd to have studied botany and theology on the same campus after all.

– Jay Atherton is a second-year theologian for the Diocese of Albany, N.Y. Andrew Liaugminas is a third-year theologian for the Archdiocese of Chicago.



THE BRIDGE

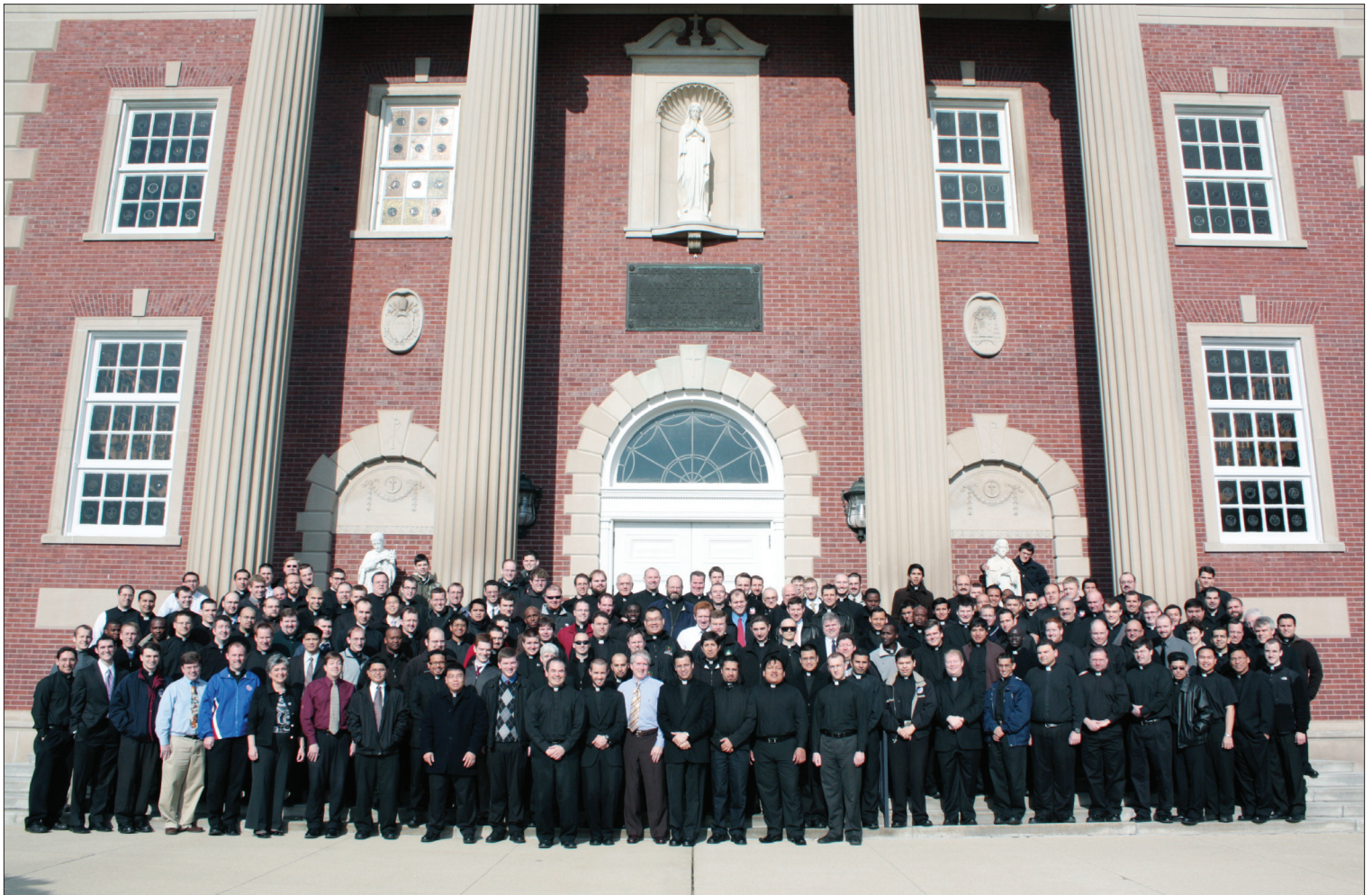
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