



PROGRAMMA

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The View from 318

December 15, 1977

Certain signs of the end of the Fall Semester are upon us once again. Seniors move inconsequently about with Pascal under their arms, meditating upon "custom" and "nature," trying to be honest men and women, if they cannot be Christians. Airline flights from South Bend after December 20th are packed more solidly than were the roads from Sodom and Gomorrah after the first fire fell. A high seriousness gives the tone to the first and last hours of bar-room conversations. Students somewhat nervously eye the bulletin board outside 318 O'Shaughnessy, in anticipation of the posting of the oral examination schedule. And the longing expressed in the Advent liturgies gives the promise of life to a silent world of snow and ice, a world in which all movement seems to be the result of Arab oil, hot coffee, or the instinctive urge to move South.

This has been a remarkable semester for the General Program of Liberal Studies. Enrollment in the Sophomore class at one point in the beginning of the semester was 52--probably an all-time high, and about 10% of the total Sophomore class in the College of Arts and Letters this year. Additional class sections were added to accommodate the influx, thanks to the availability of Jim Powell, Phil McKiernan, and Fred Crosson. Steve Rogers launched us into the deep of the semester with a moving "charge" to faculty and students in the first week of September. Ed Cronin has been on leave of absence (the Joyce Newsletter will never be the same once those articles are printed), and thus the departmental secretary has regained some measure of equanimity. Mike Crowe was awarded a National Science Foundation grant and will be on leave of absence during the spring semester, 1978. Katherine Tillman -- who prefers "Tillperson": plural, in Old High German - "Tillpeople" (but that sounds like a generic description of ward-heelers' relatives employed by the City of Chicago)--Katherine Tillman, I say, lectured on "The Liberal Arts Tradition" to a packed house of over 70 persons recently, receiving prolonged applause from an audience which included Dean Isabel Charles. In a day and age when visiting lecturers from Europe draw a total audience of 15 listeners after a "saturation" campaign of advertising, this is quite a remarkable testimony. It is doubly remarkable in that the temperature was a few degrees below zero (fahrenheit) that night, and snow had been falling for two days straight.

And on the third of December we had our first alumni great books seminar in Chicago.

It has long been our hope to be able to meet with the alumni of the General Program of Liberal Studies in a fashion which would resemble that in which we came to know each other at Notre Dame. That hope was realized in part on Saturday afternoon, December 3, as 21 General Program alumni, their spouses, friends, and three faculty members of the Program (Professors William Frerking, Walter Nicgorski, and myself) gathered around seminar tables in rooms on the 67th floor of the Sears Tower in Chicago to discuss C.S. Lewis' The Abolition of Man.

The view from the Metropolitan Club (67th floor) is slightly more spectacular than that from the third floor of O'Shaughnessy Hall. But the "inscape" which discussing a "great book" reveals is always more fascinating than the "outscape," and our two hours' discussion was remarkably well-focused. There were few glances out the window. A social hour after the seminar allowed us to meet old friends and make new ones. The universally expressed resolve was to repeat the Seminar in Chicago, with another work as focus, and to try Lewis' work with other alumni groups as circumstances permit.

It would be simply ungrateful to move on at this point without expressing our sincere thanks to Tom Wageman (GP, 1956), and Dick Clark (GP, 1956) for making the seminar possible by seeing to the arrangements in Chicago. Their generosity and helpfulness are most appreciated. All of us who participated are indebted to them for their concern and thoughtfulness.

We are indeed serious about repeating the Seminar elsewhere, and would welcome inquiries from alumni in other sections of the country who are interested in the prospect. We shall plan another Chicago Seminar, probably for April, 1978. All suggestions are welcome.

The view from the 67th floor of the Sears Tower is indeed more spectacular than the view from 318 O'Shaughnessy. The parallel rows of lights leading North, South, and West into an infinity of darkness have a patterned majesty about them which, with circled intersections and interruptions caused by the River, parks, and rail yards, compose an eternally immobile terrestrial galaxy, an earthly zodiac, and material for endless horoscopes. Yet, like Pascal, "the eternal silence of those infinite spaces terrifies me." The esprit de finesse rebels at this cold geometrical world of eternally silent deductions in stone and asphalt, finding its ratio or logos in money and power. It is good to have been there, but better to be back.

Christmas is, in a sense, a moveable feast. It comes later in our lives each year. As we each follow the spiral path of our years, this feast of light in darkness, of warmth in cold, of supernatural birth at the time of Nature's death, brings new levels of meaning to the otherwise planely circumscribed and circular routine of our existence. We put things down, as on paper, only to have them taken up again, as in hands such as yours, at a different level in the web of metaphor that

weaves our lives together, and apart, as the shuttle of time moves unceasingly through its prescribed and seasonal path.

May the graces of this most particular season be most generously bestowed on us all.

John Lyon
Chairman

PROGRAMMA (the Greek word meaning "public notice") is published toward the end of each academic semester by the General Program of Liberal Studies for its graduates.

Faculty Editor: Katherine Tillman

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WHERE IS EVERYBODY ANYHOW?

We are delighted with your response to Programma. Thank you for your many generous contributions which will help keep your Newsletter coming. In this section, we plan to let you know where your old friends are and what they are up to these days. Let us hear from more of you! Any messages to your classmates or teachers?

"Willis Nutting's thoughts on the Christian condition have all the beauty and the clarity and the kindness that formed the stuff of his daily life."

Paul Clemens, '57
Chairman, Department of History
Archmere Academy
Claymont, Delaware

"I have enjoyed the first two issues of Programma and hope it will be continued.... My best regards to everyone associated with the General Program."

William J. Lavelle, '62
Lawyer
Bethel Park, PA.

"Programma - absolutely an excellent idea. I'm afraid, like many of my classmates, that after graduation one all too easily leaves behind that which at one time was such an integral part of existence. Notre Dame and General Program seemed so far away with all the new challenges here on the 'outside world.' So Programma not only brought back to mind the people - but also re-awaked my dormant interest in all the things G.P. stands for."

Michael L. Metzger, '76
Law student, University of Detroit

"Doing the senior essay was the experience that, more than any other, headed me toward a career in scholarship."

Gerald T. Burns, '70
Graduate student,
New Haven, Conn.

"Eschew all conglomerations of flatulent garrulity, jejune babblements, & asinine affectation."

Thomas I. Black, '57 ('61)
Principal, Christ the King School
South Bend, Indiana

"Both times I've received Programma, I felt I was getting back in touch with an essential part of myself that had become more estranged than I would care to admit."

Michael Pownall, '71
Graduate student
Chicago, Illinois

"The articles in Programma were tremendous and Stephen Rogers' 'Excursus' was really titillating.... I read the entire 21 pages to my wife Melissa and she too thought it grand. Now that I have my M.A. in Journalism, perhaps Prof. Cronin will let me write something for a future Programma.... I hate to say this, but the University of Missouri is not even a shade of General Program. But, then, what is?"

Mike Sherrod '74
Promotion Director and P.R.
man for Odessa, Texas
dinner playhouse

"I have thoroughly enjoyed both issues of Programma."

Chuck Muckenhirn, '55
Commercial Photographer
Northfield, Illinois

"I look back on my senior essay once in a great while, always to be surprised at some of my now forgotten insights, glad to see some of the naiveté exhibited there as a sign of my growth since that time, and happy to find the source of some of my highly valued ways of looking at the world today."

"Last summer at the Nutting conference many former GPer had the opportunity to thank you personally for the aid you gave us at Notre Dame in developing our skills of knowing. As I remember, though, none of us thanked you for another of your gifts to us, one I am becoming increasingly aware of. You served as excellent models for those of us who will share your profession of teaching. The greatest shock I had in graduate school was in finding myself among instructors who neither cared about nor knew how to stimulate creative thinking in their students. They were often brilliant but not very wise men and women. Their thirst was not for knowledge but for the social approval of their professional peers via some senseless indicators of worth.

Because of your examples I have taught economics over the last four years in ways I could not have learned from my teachers of economics at Virginia. My students have indicated that they appreciate my/your/our approach very much. Some of your ways of knowing have been passed on to students in a field little touched on in GP. More than that, I valued your concern for me and my learning so much that I have tried to show the same for my students. What was commonplace for instructors in my GP days is considered unusual at U.Va."

Jim Bryan, '70
Part-time Instructor, graduate
student in Economics at Univ.
of Virginia,
Youth supervisor for adolescent
males, amateur metaphysician,
Charlottesville, Va.

"The sense of continuity that the General Program established during my undergraduate days is something that I still cherish, and it is important to keep that sense of community alive, even long after graduation."

Tom Musial, '61
Dean of the Faculty of Arts
St. Mary's University
Halifax, Nova Scotia

"I enjoyed Programma and look forward to receiving it in the future."

John P. Keegan, '61
Attorney
Newark, New Jersey

"Notre Dame has done quite a bit for me; this includes General Program Department, ROTC, fencing, and the people associated with those programs.... I have a debt to Notre Dame, as I do to the country - my main reason for being in the Navy.... At this point in time I have very little idea how I can repay N.D., but if I can help people in the N.D. spirit, then maybe I can somehow start repaying her."

Manny Joaquin, '77
United States Navy
Newport, R.I.

"I enjoy receiving Programma and hope it will be continued in the future."

Greg Tabaczynski, '75
Insurance Underwriter
Calumet City, Illinois

"The Willis Nutting article was beautiful."

Christopher C. Reitze III, '56
Claim Manager
Pittsburgh, PA

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We were happy to hear from the following people, who have written or dropped in.

Joseph E. Olson, '67
Associate Professor of Law
Hamline University
St. Paul, Minnesota

Sheila A. Murphy, '77
Law Student
University of Notre Dame

David Dreyer, '77
"recuperating"
Greenwood, Indiana

John Whelan, '65
Philosophy Teacher
Williamsport, Pa.

Robert E. Byrnes, '58
Airline Captain
Real Estate Developer
Boca Raton, Florida

Douglas A. Cox, '76
Second year law student
Indiana University
Bloomington, Indiana

Michael Daher, '68
Detroit, Michigan

Laurence J. Pino, '73
Orlando, Florida

Bill Hackman, '66
Attorney
Bloomington, Illinois

Philip B. McKiernan '74
Conference Coordinator
Center for Continuing Education
University of Notre Dame

John K. Walsh, '61
Associate Professor of
Spanish and Portuguese
Berkeley, CA

Anne (Dilenschnieder)
Holtsnider, '77
Management/Buyer Trainee
Overland, Mo.

William C. Holtsnider, '77
Textbook salesman
Overland, Mo.

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LOST G.P.'ers

Does anyone know the whereabouts of the following missing persons? We would be happy to know.

Joseph V. Arno, '62
James Brunst, '58
Katherine Burns, '73
Michael Fressola, '74
Peter J. Fugiel, '65
James Geagan, '69
Ernest Haberkern, '58
John Hamlon, '61
Roger McFadden, '67
Paul Higgins, '68

Patrick Moran, '62
Thomas B. Neuburger, '67
Joseph O'Donnell, '74
Kenneth B. Pierce, '65
Patrick E. Powers, '61
William J. Ryan, '67
James R. Shay, '64
William M. Sullivan, '56
William R. Sullivan, '65

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/This academic year, two of our colleagues, Professor Michael Crowe and Edward Cronin, are on leaves of absence. I have asked them each to write a piece for Programma telling us a little of what they are up to with their "free" time. Their articles follow.

-Editor/

Dear General Program Graduates:

Recently I was pleased to receive word that the National Science Foundation had approved funding for a proposal I had made to them which was to allow me to spend the spring semester of 1977-78 and two summers completing a book on which I have been working. Shortly thereafter, Professor Tillman as Editor of Programma requested me to write up some of my research for you. I was hesitant about doing this for as yet most of the conclusions I have reached are highly tentative. However I have decided to go ahead, putting my results in the form of an informal letter to you and stressing that this is more a progress report than a statement of final conclusions.

My research project may be of interest to you if you have ever had a concern about any of the following: the development of astronomy, religion-science interactions, the history of ideas, Star Wars, or close encounters of any kind, for my project is to write a history of ideas of extraterrestrial intelligent life (hereafter E.T.L.) from 1600 to 1916. In doing this, one of my goals is to work out the historical interrelationships between ideas of E.T.L. and developments in astronomy. Another goal is to determine how ideas of E.T.L. have interacted with religious and philosophical issues. I also hope to be able to say something about the proper methodology to be used in debates on this highly controversial question. The book as presently projected will be a scholarly treatise in the history of ideas tradition, using a historical and philosophical approach to shed whatever light these disciplines can give to the E.T.L. question. I am considering only serious and non-fictional writings and have no hopes of finding evidences of visitations to earth by extraterrestrials or of locating evidence that will directly provide an answer to the E.T.L. question. Upon learning this, an editor of a well known tabloid (which carries many U.F.O. articles) who had called me because he had heard of my grant, promptly lost interest. I hope your interests are more hardy.

My researches to date have led me to a number of tentative conclusions which I hope will be of interest to you. I have broken these down into four categories. In setting out these hypotheses or tentative conclusions, I have tried to supply enough evidence to give them a measure of plausibility while simultaneously avoiding excessive detail.

I. Conclusions of a General Nature

1. If we do make contact with another civilization, it will almost certainly take the form of radio contact, rather than direct contact.

Although much science fiction is based upon the idea that we shall be invaded (or possibly just visited) by beings from another civilization, the probabilities of this happening are far lower than the possibilities for establishing radio contact with another civilization, which is, however, not to say that the probabilities of the latter form of contact are high. There are three categories of locations from which extraterrestrials could in principle come: 1) the solar system; 2) elsewhere in our galaxy; 3) another galaxy.

Since it now seems almost certain that no intelligent beings exist elsewhere in the solar system, indeed that no life, even of the most primitive forms, exists on the two most favorable sites (Mars or our moon) in our solar system, we probably need not be concerned about visitations from other denizens of our solar system.

Consider, however, the possibility of visitation to earth from a planet (if such there be) orbiting another star (sun) in our galaxy. Take for example the possibility of a visitation from Alpha Centauri, the star nearest to us. Actually the possibilities of life on this particular star are exceptionally low because it is a triple star and it is agreed that the varying gravitational fields in the vicinity of multiple star systems make it very improbable that such systems could have planets capable of providing the stable environment necessary for life (about half of the stars are members of multiple systems). But assume nonetheless that Alpha Centaurians exist and that they wish to visit us. They are distant 4.3 light years from us. This means that were they to send a rocket ship to us at, say, 50,000 m.p.h., it would take the ship about fifty-seven centuries to reach us. Such calculations make astronomers extremely doubtful that we need fear invasion from another stellar system. Were it possible to develop rockets that would travel at speeds near that of light and which could somehow secure sufficient fuel for the journey, as well as overcome numerous other problems, it would not be impossible. But the probabilities are very low. And if the probabilities are low in this case, they are drastically lower for the possibility of visitors from another galaxy. Andromeda is one of the nearest galaxies at 2.2 million light years. A rocket leaving this galaxy today and coming to us at the velocity of light would reach us in 2.2 million years.

Thus it seems highly probably that, if we are to come into contact with another civilization, it will not take the form of a direct contact. It should be noted that the conclusion I suggested in this case is a very limited one and seems relatively uncontroversial. Even were one to argue that the possibility of a direct contact were substantial, it seems clear that the possibility of a radio contact is far higher for radio waves travel much faster and at less expense than rocket ships.

2. If we come into contact with another civilization, it will be a civilization far more intellectually sophisticated than our own.

The child who has just learned to talk invariably finds that everyone he or she talks with is more skillful verbally. Similarly we have had the capability for extraterrestrial communication (radio) for less than a century; consequently, the probability is high that any civilization with which we would make radio contact would have had it for longer and would be significantly more advanced technically than we are. Were a direct contact to be made, we can be sure that the visitors would be technologically superior for we are not as yet anywhere near the stage of having the technology necessary to make visitations except to the very nearest planets. In any case, the probabilities indicate that if a contact in any form is made in the next few centuries, we shall be the barbarians in the relationship.

- 3). Were we to establish a contact with another civilization, it would be the most important development in the history of (our) science and technology.

It would of course be immensely interesting and valuable to learn of the biology of another civilization, but something more significant is envisioned in this case. Given what was shown above (in I, 2.), it should be clear that any other civilization with which we might establish contact would have far more physical, mathematical and technological knowledge than we possess. Probably that knowledge would be systematized in very different ways and translation would surely be difficult, although they would be able to help us. Nevertheless we could in principle, once an adequate translation method had been devised, send them our most difficult scientific (excluding most biological) problems and expect them to send us the answers they had worked out.

It is interesting to speculate as to which of the main disciplines would be advanced by such a contact; electrical and nuclear engineers would certainly profit; architects and civil engineers would have less to gain. Sociologists, economists and artists might learn little, whereas philosophers, psychologists, and theologians would surely benefit. Historians would be given a whole new periodization, with the most important secular epoch beginning with our first contact. Of course, the effects of the contact would not be felt instantaneously, for it would take 4.3 years at the minimum for a problem sent by us just to reach the nearest star.

4. The question of the existence of extraterrestrial intellectual life is by no means dependent upon the actual existence of such life for significance.

Ideas and objects are of course very different entities, yet our ideas of objects may be almost as significant as the real properties of the objects. Moreover our ideas of objects may have great significance even if the objects themselves do not exist. Few atheists, for example, would deny, although they might lament, the immense influence of religion. Similarly mankind's ideas of ghosts, of Odysseus, of "celestial" influences", or of utopias may have major impact, even if the "objects" of the ideas do not or did not exist. This paradox applies as well to the idea of extraterrestrial intellectual life. Exobiology has accurately been described as a science seeking a subject matter! To take a concrete example of an influence of the E.I.L. idea, millions of dollars (and of rubles) have already been spent on the search for extraterrestrial life. Also Project Cyclops, a proposed radio search for other civilizations, will, if funded, cost this nation ten billion dollars or more. Millions of dollars have already been spent in this country for space probes and radio searches which have as one of their main goals the detection of E.I.L. In this sense the whole area has major policy implications about which taxpayers should have an interest. On a more abstract level, the ideas that men now, or earlier, have formed of other civilizations provide a sort of projective test of the psychology of mankind. Marjorie Hope Nicolson who published an important study of the hundred or more stories of voyages to the moon written before 1800 suggested that such stories are powerfully reflective of the ideas their authors had of life after death. Moreover various philosophies and religions are no doubt influenced in their overall structures by the

positions taken within them on the question of E.I.L.

II. Historical Conclusions

- 1). The idea of E.I.L. is not just a contemporary idea, but one with a long history which involves some of the most important authors in the intellectual history of this planet.

Twentieth century man often deludes himself, and deprives himself of the perspective provided by centuries of thought, by assuming that some of his concerns were only discovered during his lifetime. The problem of pollution is a good example of this; we too often fail to realize that, for example, the object of many of our debates about pollution, the motor car, was once hailed (and quite rightly) as a method for decreasing the pollution (in many forms) that plagued roadways in the nineteenth century.

Similarly, it is important to realize that the question of E.I.L. was considered in both occidental and oriental antiquity as well as in most periods of subsequent history. In my researches, I have for example found over a hundred books and over a thousand articles, all published before 1917, discussing this question. The list of the well known scientists, philosophers, and theologians who have written on this subject includes Aristototele, Lucretius, Cusarus, Bruno, Kepler, Fontenelle, Huygens, Newton, Pope, Derham, Kant, Lambert, both Herschels, Paine, Laplace, Chalmers, Shelley, Whewell, Powell, Brewster, Flammarion, Wallace, and Lowell. It should not be assumed that these authors were dabbling in science fiction in discussing this question; in fact, my own researches will leave works of science fiction out of consideration. In short, the question of E.I.L. is not a question discovered in the last few decades, but rather one of the perennial questions confronted in all periods of human thought.

- 2). Belief in E.I.L. has developed from being a component of one ancient philosophical system into being a conviction held by the majority of persons alive today.

General experience supports what more systematic opinion poles confirm: the majority of educated persons believe in the existence of E.I.L. The situation was substantially different in antiquity; then only a small portion of the educated populace accepted the doctrine put forth by Democritus, championed by Epicurus, and elaborated by Lucretius that other worlds exist. It is perhaps surprising that a belief in other worlds predates Copernicus, but such is the case as an examination of the ancient Epicurean philosophy clearly shows. Some thinkers (e.g. Cusanus) accepted this doctrine in the middle ages, but it was only in the eighteenth century that the majority of well informed thinkers came to accept this doctrine. From that time on, the balance of opinion has consistently been in favor of this doctrine. The causes of this change are difficult to specify; surely the acceptance of the Copernican system was an influential factor, but my researches to date indicate that other factors also played important roles.

Some of these factors were astronomical, others were metaphysical or religious. One of my central goals is to illuminate how this transformation occurred and thereby to shed light on the reasons which have led the contemporary world to its present positive convictions in this regard.

3). Belief in the existence of E.I.L. has had a significant impact on the development of astronomy.

The influence of ideas of E.I.L. on astronomy has taken many forms. Consider first of all the influence of this idea on the recruitment and support of astronomers. Probably the most important professorship of astronomy in the world, the Plumian professorship at Cambridge University, was founded by the clergyman Thomas Plume in 1704 after reading Christian Huygens' Cosmotheoros, one of the most widely read treatises on E.I.L. The Lowell Observatory in Arizona, which has since the 1890's been among the most important American observatories, was founded by Percival Lowell, primarily because of his interest in studying the "canals" of Mars. Moreover substantial evidence exists that William Herschel, the greatest astronomer since the seventeenth century, was drawn to astronomy and influenced in his thought in the subject by ideas of E.I.L.

Surely the most important development in astronomy since Copernicus was the emergence in the eighteenth century of sidereal astronomy - the astronomy of this and other galaxies, as opposed to that of the solar system. Three books, all written around 1750, are usually taken as the classic works which founded sidereal astronomy. These books were written by Thomas Wright, Immanuel Kant, and Johann Lambert. What is significant in this regard is that all three books are so filled with ideas of E.I.L. that they can justifiably be read either as treatises on E.I.L. or as foundational works for sidereal astronomy. William Herschel, the great late eighteenth century pioneer of sidereal astronomy was so convinced of E.I.L. that he developed a model of the sun (and thereby of the stars) that made them habitable bodies - and this model persisted for decades.

The impact of E.I.L. on solar system astronomy was also great. Much of what is known about the moon and about Mars is due to researches that were carried out not only because of an innate interest in these bodies, but also because the researches were hopeful of detecting signs of life. The influence of E.I.L. has of course not always been positive. For example, the excess of Lowell's Martian studies seem to have turned astronomers away from the study of the planets for a number of decades in this century.

III. Conclusions Concerning the Relations of Ideas of E.I.L. to Religion

1.) Belief in E.I.L. was generally viewed as inimical to theism before 1700, but supportive of it thereafter.

This historical generalization needs many qualifications. Generally, however, it seems true that, in so far as they thought about the question of a plurality of worlds, Christian theologians before 1700 were not favorably inclined toward it. Some exceptions exist, e.g. Cardinal Nicholas of Cusa in the fifteenth century. Moreover the famous Paris Condemnation of 1277 decreed that it was wrong to conclude that God could not create a plurality of worlds. A frequent misconception is that Giordano Bruno was burned at the stake because he advocated the existence of numerous worlds; this was in fact among the least of the reasons which influenced Rome in its judgment against Bruno who espoused many more obviously "heretical" doctrines. The hostility to this doctrine in the period before Copernicus arose in large part from its association with the materialist Epicurean philosophy. After

Copernicus, whose system was gradually seen to imply that the stars are suns, the doctrine was suspect for more direct reasons.

Sometime around 1700, theological opinion reversed itself to the point that William Whewell in an 1853 book could state that a disbelief in a plurality of worlds was by then viewed as being as dangerous to religion as the opposite view was considered two or three centuries earlier. Perhaps the most influential factor in this change was an increased emphasis on the omnipotence of God, on the belief that God could, and would, have acted wastefully if he had not bestowed life on the celestial objects discovered to be scattered in the immensity of space.

- 2). Whereas after 1700 it was generally believed that the doctrine of a plurality of worlds presented no problem for theism, tensions remained between this doctrine and a number of specifically Christian doctrines such as the Incarnation and Redemption.

Deism was a religious position that was especially characteristic of eighteenth century religious thought. Although a form of theism, it tended to reject those aspects of Christianity that centered on a personal God and on Christ as God Incarnate and Redeemer. At least one important scholar has suggested that the doctrine of a plurality of worlds was the major factor in leading many persons to Deism. If the case of Thomas Paine is examined, this surely seems a plausible claim. In his Age of Reason, Paine wrote that the results of the new astronomy made it certain that numerous other worlds exist, and that this entailed that "the person who is irreverently called the Son of God, and sometimes God himself, would have nothing else to do than travel from world to world, in an endless succession of death, with scarcely a momentary interval of life." And he added:

Though it is not a direct article of the Christian system that this world that we inhabit is the whole of the habitable creation, yet it is so worked up therewith from what is called the Mosaic account of the Creation, the story of Eve and the apple, and the counterpart of that story - the death of the son of God, that to believe otherwise, that is to believe that God created a plurality of worlds at least as numerous as what we call stars, renders the Christian system of faith at once little and ridiculous and scatters it in the mind like feathers in the air. The two beliefs cannot be held together in the same mind; and he who thinks that he believes in both has thought but little of either.

The poet Shelley in a note to his early poem, Queen Mab, expressed a similar view.

The plurality of worlds ... is a most awful subject of contemplation. He who rightly feels its mystery and grandeur is in no danger of seduction from the falsehoods of religious systems, or of deifying the principle of the universe. It is impossible to believe that the Spirit that prevades this infinite machine begat a son upon the body of a Jewish woman All that miserable tale of the Devil, and Eve, and a Intercessor, with the childish mummeries of the God of the Jews, is irreconcilable with the knowledge of the stars. The works of His fingers have borne witness against Him.

Of course, a host of authors from Thomas Chalmers to C.S. Lewis have attempted to resolve the tension between E.I.L. and such specifically Christian doctrines as the Incarnation and Redemption. A recent author has suggested, for example, that our planet is the Nazareth of the Universe. But no single solution to this problem seems to have won wide acceptance among theologians. Perhaps my historical researches will bring to light some earlier discussions of this question which will be of use in contemporary theological thought.

- 3). Belief in E.I.L. has had strong and possibly significant relationships with a number of particular religious positions.

My researches to date have uncovered for example repeated associations between the doctrine of the transmigration of souls and belief in E.I.L. One finds these doctrines simultaneously espoused in such different religious texts as those from the ancient East and nineteenth century France and England. Also the doctrine of E.I.L. seems to have a quite integral role in such religions as Mormonism and Swedenborgianism.

IV. Methodological Conclusions

- 1). The position adopted by a person on E.I.L. would seem to be determined by the state of science in his/her day; in fact, many non-scientific factors have powerfully influenced positions on the existence of E.I.L.

If the question of the existence of E.I.L. were purely a scientific (in particular, astronomical and biological) question, it should follow that authors with access to the same empirical information would have reached the same conclusions on this question. In fact, this has rarely been the case. For example, persons inclining toward a materialist metaphysics have generally been more disposed to answer this question positively than those of a more spiritualist view. Similarly, persons inclined toward an empiricist epistemology seem to have been more disposed to a positive answer than those who favored an idealist epistemology. Religious persons inclined to stress God's omnipotence seem to have been more likely to favor E.I.L. than those who viewed God in more personalist terms.

- 2). The hypothesis that E.I.L. exists must be viewed with caution for it has too much explanatory power.

Philosophers of science have become ever more aware that the richness of the explanatory power of an hypothesis is, despite our strong contrary intuitions, a poor criterion of the value of a theory. Some hypotheses simply explain too much. The doctrine of vitalism, now largely rejected, is an example of this. It is now considered poor biology to explain various biological events or patterns by means of the supposed existence in the biological system of a vital force producing those effects.

No contemporary philosopher has argued this methodological point more vigorously than Sir Karl Popper. For Popper, a theory may be viewed

as legitimately scientific only if it is falsifiable that is, if it makes some statements which might turn out not to be the case. If these statements in fact turn out to be untrue the theory is to be rejected. On these grounds, Popper would reject such ideas as that God created the world in 4004 B.C. with fossils embedded in the earth, not on the grounds that this view lacks explanatory power, but rather on the grounds that it is unfalsifiable since any given phenomenon (e.g. a vestigial organ, an overturned strata) could be explained by saying "That's how God created it." Another example is the belief in spontaneous generation of living forms. This doctrine will explain many events, e.g. the appearance of maggots on a decaying carcass or of organisms in wine, but, as Pasteur found, it was a view essentially impossible to refute, for advocates of spontaneous generation would always cite new cases different from the ones he had put to test.

A similar critique may be made of the E.I.L. hypothesis. This doctrine has exceptional explanatory power; it has been used to explain supposed changes on the surface of the moon (lunarians destroyed the features), the failure to discover the moons of Mars before 1877 (they are artificial satellites launched in the early 1870's), the explosion of a star (inhabitants set off a thermonuclear blast), or the planets move in a certain way (angels or intelligences control their path). Moreover the E.I.L. hypothesis seems "unfalsifiable" (there may be no life on the moon, but how about Mars? No life on Mars? Try Jupiter....). If this analysis is correct, then it seems necessary that the E.I.L. hypothesis be treated with caution and care, and used only when all other explanations have failed.

- 3). Hypotheses of the existence of E.I.L. which are based on analogical arguments must also be treated with great caution.

Relatively few philosophers of science have investigated the logic of analogical arguments, partly because the issues involved are so complex and criteria of acceptability very difficult to specify. C.S. Peirce however observed in the nineteenth century that any two objects have numerous factors in common. Analogical arguments generally take the form that since two entities are similar in respect to characteristics a,b,c,..., they are also similar in respect to some other characteristics x,y,z. But if, as Peirce suggested, we can supply similarities a,b,c,... with little difficulty, no matter what the two objects may be, then it seems problematic as to whether we may validly infer additional (and unobserved) similarities x,y,z.

Take as an example twin brothers. In this case innumerable similarities (a,b,c,...) can easily be supplied. But if x be "having the same brother" and y be "having been born before one's brother," we see that this argument collapses. Likewise we have witnessed in recent years the collapse of the empirically very rich analogical arguments that Mars must support a form of E.I.L. since it shares so many characteristics with the inhabited earth.

Thus arguments for E.I.L. of analogical form (and these have probably been the majority) must be treated with caution, unless trustworthy methods of judging the validity of analogical arguments become available.

- 4). Criteria for judging what constitutes responsible rhetoric for discussing the question of E.I.L. is badly needed and is only beginning to emerge.

Consider the following two statements:

- a) "Canals are visible on the planet Mars."
b) "I would not wish to state categorically that no large animals exist on Mars."

The first statement was in effect made repeatedly around 1900 by the famous American astronomer, Percival Lowell. The latter statement is typical of many of the statements made by Carl Sagan, a contemporary advocate of E.I.L. Are such statements rhetorically responsible?

Most astronomers have now concluded that Lowell's statements of this form were not responsible. The Italian astronomer Schiaparelli had stated that he observed "canali," meaning channels, on Mars. When Schiaparelli's writings were translated into English, his "canali" became canals. The important difference is that channels are not man-made features, whereas canals are. Leaving aside the question whether Schiaparelli was using responsible rhetoric by describing the lines he "saw" as channels, it seems to go far beyond responsible rhetoric to describe these lines as "canals." To cite a parallel instance from the political realm, it would be considered irresponsible for a politician to say that he has witnessed his opponent advocating measures espoused by Communists when in fact he has only seen his opponent proposing measures to help the poor.

Geologists involved in the space program generally have tended to be negative on the question of E.I.L. in our solar system. They have also tended to be very critical of Carl Sagan's repeated use of double negative statements on behalf of E.I.L. Some of them would, it seems, claim that such statements are about as responsible as the statement of a politician that he would not wish to state categorically that it would not be possible for him, if elected, to push through a fifty percent tax reduction.

Conclusion

The above material should give you some idea of the present state of my thought on this topic. The book that I am struggling with will be much more historical than the above materials may suggest. But these conclusions have in some ways been the highpoints or foci in the discussions of the E.I.L. question that I have had with General Program students in the two Essay Tutorials that I have done on this subject and I thought they might be of interest to you.

May I ask your assistance on one aspect of my project? I am interested in locating discussions of the E.I.L. question, even very brief ones, in the writings of any significant author from antiquity to the early twentieth century. And the E.I.L. idea does occur in numerous authors from Tolstoy to Thoreau in whom one would not expect to find it. Professor Bird, for one, has been very helpful in calling to my attention passages in books he has read where this idea is mentioned. May I ask you to do likewise?

Hoping that all of you are happy and healthy, I am,

Sincerely,
Michael J. Crowe

What I am Doing On My Sabbatical

First of all, I am learning to look at birds. Mrs. Cronin and I could not afford to join the Audubon Society, so instead we bought a birdfeeder, which we hang on one of the forks of our "tree" in the backyard. It really isn't a tree -- it is a former tree that years ago was cut down to a slab of a trunk. That slab has grown into a thick bush of several varieties. I know, because in mid-September, some of the leaves were classical autumn scarlet, some were bright gold, and some were just coming on green. The bush has almost grown back into a tree -- again of several varieties (mostly oak with a touch of poplar) and it is from this tree that I am learning to look at birds. The birds are there, I am sure, when I am working at Notre Dame, but only during a paid vacation ("sabbatical," in academic jargon) is one able to spend time looking at them. I like the sparrows best because they remind me of my South Side Chicago boyhood. On my South Side the sighting of a robin made one a naturalist and the immediate recipient of a Boy Scout Merit Badge for Exotic Spotting. I also like the sparrows best because they remind me of my Democratic Party -- numerous, noisy and dingy. Then there are big blue birds and big red birds flying around that, on a bit of sabbatical research, I identified as Blue Jays and Cardinals. Apart from the difference in color, there are other differences: I discovered that the male cardinals are gorgeous and the female cardinals drab. I was not surprised. I also discovered that the Blue Jays are flying thugs, for they land in the yard like dive-bombers and scatter all the other birds, even the precinct-captain sparrows (there are some larger sparrows Willis Nutting would be able to identify, but I call them aldermen). Back to the Blue Jays. The Cardinals, on the other hand (this is the way "studnets" organize a theme), are gentle aristocrats. Despite their flash of color, they glide in, stand about until all others are served, and then in lordly magnificence, partake of the free lunch. They even wait for the sparrows to finish counting the votes.

That is all I learned about the birds.

In a house as old as ours we have numerous professional visitors: carpenters, electricians, sewer uncloggers, furnace repair men, glaziers (these replace windows). We have so many professional visitors, also, because while my friends were learning to do something worthwhile (like carpentry, putting in light bulbs, unclogging sewers, repairing furnaces and replacing broken windows), I was learning the difference between the open and closed couplet and the influence of the Arthurian legend upon the later Romantic poets. I liked the Exterminator best. This young man is a clean-cut Protestant young man with an Evangelical College background, yet we got talking one day (he is not paid by the hour -- that is why plumbers are such great conversationalists) and he told me, with deep respect, of the Catholic missionaries who are so great a part of the history of St. Joe County. This young Exterminator should be a teacher to make up for some of the teachers who are exterminators.

I have also spent part of my sabbatical feeding the dogs next door. The arrangement reminds me somewhat of my wash-and-wear shirts: my wife washes them and I wear them. Anyway, our neighbors get the dogs and we feed them. So far, there has been a labrador, two Saint Bernard pups, two curb-stone setters (father and son), and most educational of all, a female Doberman pinscher. I take second place to no one in my love of dogs and my lack of fear of even the

largest and shaggiest ponies that bark. But I have always been afraid of Dobermans because they have been held up as models for those who train junkyard watch dogs. So when I first fed the Doberman, I feared for my fingers. But I soon learned that with food and love and kind words one can pet a Doberman the way Elizabeth Barret Browning petted her lap-dog.

What is a paid vacation without a trip? Ever since I roamed the prairies of the South Side, I have wanted to see Brown County, Indiana, in the Fall. So this year, my wife and I spent a week in Brown County. I had always associated Indiana with the steel mills of Gary and the West Side Democratic Club in South Bend. But Indiana has some real country beauty. I was impressed. We planned our vacation in Brown County, not so much to catch the beauty of autumn as to be vacationing when my colleagues were working, so we did not go during the "Fall break." Vacations are always enjoyed more if you know your friends back home have to work.

In case my dean and my department head read this, I had better tell you some other things. I was sitting around one day thinking great thoughts about Joyce, birds, exterminators and working colleagues when an idle thought flitted across my mind. Why, I thought, did Joyce title his first story in Dubliners, "The Sisters," when the story is obviously about a little boy? Well, one idle thought led to another and here I am hoping to keep this "idle thought" down to a 7- or 8000-word paper. The academic mind is as prone to giving away the subjects of "papers" as heads of state are to giving away atomic secrets, and since, at the age of sixty-one, I have just recently acquired an academic mind (I receive sabbaticals and read learned journals and write cement-mixer prose) I am perhaps more reticent than most of those who have been playing this sort of game longer than I. But, seriously, I do think I am on to something, for re-reading "The Sisters" led me to re-reading all of Dubliners and to seeing a unity among the first three stories ("The Sisters," "An Encounter," and "Araby") and the final story, "The Dead"). This connection has occasionally been casually suggested. In 7 to 8,000 words I intend to be more than casual. I know I am seeing things (and writing about them) never before noticed in Joycean criticism. This can be a good or a bad sign: good, in that like Columbus, Magellan, or Digger Phelps I am charting new courses; or bad, in the possibility that if no one ever thought these thoughts before they may not be worth thinking. At any rate, I am committed to the paper, I am almost finished with it, and by the time I must quit looking at birds and start again looking at students, the learned article will be on some editor's desk taking its chances with all the other learned articles. Thank God and Dr. Bird I have tenure. Most importantly, I have had fun writing the thing (my wife has experienced different emotions. How would you like an analysis of "The Dead" at the breakfast table (watching birds) and to be awakened in the middle of the night with an explanation of the symbolism in "Araby"?) -- I have had fun and I have learned a lot. To wit: that most Joycean critics are mad and will continue to be so until they start reading Joyce's text and get away from whatever text they are reading. That most Joycean critics could not get a B- from me for their prose styles. And that no Joycean critic would care at all about what mark I would give him/her (some of the worst offenders are the women, who learned to read but not consecutively). I also learned again for the millionth time (that is an allusion to A Portrait) that Joyce, with Cardinal Newman, is the best writer of English prose God ever gave this planet. I have long believed that every word, every letter even in Finnegans Wake is bursting with galaxies of meaning (some of my Wednesday night floating crap

games have proved this over whole and lengthy paragraphs). I have also long believed that if we had the genius of Joyce and the wisdom and patience of a theology department full of divinely inspired prophets we would discover perfection in every sentence Joyce ever wrote. He knew what he wanted to do, you know; he had all the equipment to do it, and he knew when he had done it -- and when he had not. And he was never satisfied when he had not. Reading, re-reading, re-re-reading just four stories, and thinking, sleeping, eating, talking and writing about them for almost six months has shown me beauties, and delights and human perfections in Joyce sentences I had never before realized. Let me share just one sentence with you, from the second paragraph of "Araby:" "Air, musty from having been long enclosed, hung in all the rooms..." How is that for making words do your bidding? You see, Joyce "Hung" the subject, "air," just as air hung in the rooms. Or read the pages in "Grace" when several Irish gentlemen con Mr. Kernan into going on a retreat. Mr. Kernan is suffering in bed from a recent drinking bout and his friends are drinking to his good health. Or after reading "A Painful Case" read very carefully the final three paragraphs of the story. Or read again and again the grandest prose ever written in the magnificent final paragraph of "The Dead." Do you see now, why I said I had "fun" working on this paper? And do you see, now, with this prose ringing in my ears, that only out of my deep sense of charity and compassion have I given you a B- for what you wrote (and why I would not dare to give myself a mark for my prose?).

But it may be that I had most fun writing. You remember that motto from James Branch Cabell, "The slow hard toil of getting all the lovely words just right"? Now I know what I've been telling you about all these years. As I said, I hope to end with a paper of about 8,000 words. I have thrown away easily ten times that many. By "easily" I mean easily that many words; I didn't throw them away easily. Some of the best prose ever written at Notre Dame has been put in the same place with some of the worst -- in the waste basket. I have thought, recently, that one who wishes to put out a well-written piece of work must be like the mother alligator: she must devour most of her beautiful offspring if some few are to survive. Else we would all be up to our elbows in alligators and bad prose.

Soon my sabbatical will be over. I shall miss watching birds and feeding dogs. I shall even miss the scholarly prose I have had to read. Above all, I shall miss the blessedly full leisure activity of wrestling with an idea for so long that, like fair opponents, you have come to respect each other. But I have missed the smell of chalk, and even the "damned papers," and even the Confessions. I know I have missed seeing "studnets" and colleagues every day because they also help keep one alive intellectually, but most of all because they are good friends. I know I won't be able to spend as much time next semester "writing" as I did last. But I hope I can, as the phrase goes, keep my hand in.

My wife will be glad to pack me off to school every day, and I shall be glad to be packed off. But part of my heart will be in my study where once, I remember, I created for three days and then tore it all up on the fourth. Both the creation and the destruction were great fun. For which I want to thank Dr. Lyon and Dean Charles, who helped make it all possible.

Edward J. Cronin

ANNOUNCEMENTS

Memorial Mass

Because I turned 61 last November, I have begun to think it fitting that we in the Church militant honor our colleagues and former students who have entered into the glories of the Church triumphant. So on Ascension Thursday, May 8, we of the General Program -- faculty and students -- will celebrate Mass in Lewis Hall at 5:15 p.m. Father David Burrell, C.S.C., General Program graduate, will say the Mass. In the true Catholic spirit of joy for those to whom happiness has come, we shall celebrate the Mass of the Ascension, and then we shall celebrate by earthly food and wine in earthly communion at some near-by restaurant. Will you let us know by April 1st if you will be able to join us so that we can make plans for the dinner? If you cannot be with us in the body, will you celebrate with us in the spirit by remembering in your Mass of the Ascension, our departed colleagues and students who are remembering us?

Edward J. Cronin

My Neighbor and Myself

On June 1, 2 and 3, 1978 a program, entitled "My Neighbor and Myself," will be held on the Notre Dame campus. With the General Program graduate in mind, this program will consist of a number of seminars held over the three days, each exploring the nature of our Christian obligation to our fellow human beings. These seminars will be an opportunity to discuss a general and serious topic. Drawing from the professional experiences of the participants, the program rests on the willingness of participants to share and learn from others.

The idea and planning of this program, the first of what is hoped will be many, comes from a group of GP graduates who want to share, once again, what they shared in the General Program. Growing from an interest and affection for Willis D. Nutting, the 1978 program centers around Dr. Nutting's last, and yet unpublished book from which the program takes its title and theme -- My Neighbor and Myself. The spirit of Willis Nutting animates the organizers to attempt to offer this opportunity to others -- especially fellow GP alumni.

Although the program planning is not complete, it is anticipated that dormitory housing will be available. Willis Nutting's book (in manuscript form) will be offered, and all should benefit from the experience. More information will be forthcoming but any questions can be directed to:

My Neighbor and Myself
Box W
Center for Continuing Education
Notre Dame, Indiana 46556

Current Great Books Seminar Reading
Lists, Published Here at your Request.

Sophomore Reading List

Seminar I

The Epic of Gilgamesh
Homer, The Odyssey
Plato, Apology
Plato, Crito
Aristophanes, Clouds
Herodotus, The Histories
Sophocles, Oedipus Rex
Aristotle, Poetics
Sophocles, Oedipus at Colonnus
Sophocles, Antigone
Plato, Republic
Epictetus, Enchiridion
Augustine, Confessions
Dante, The Inferno

Seminar II

Aquinas, Treatise on Law
Machiavelli, The Prince
Bacon, The New Organon
Descartes, Discourse on Method
Hobbes, Leviathan
Locke, Second Treatise on Government
Milton, Samson Agonistes
Hume, An Inquiry Concerning
Human Understanding
Tocqueville, Democracy in America
Newman, Idea of a University
Mill, On Liberty
Melville, Moby Dick

Junior Reading List

Seminar III

Homer, The Iliad
Confucius, The Analects
Mencius, Book I; Book II, Parts
A & B, #8, Book IV;
Book VI, Part A.
1st page of Part B.
Chuang Tzu, Basic Writings
Aeschylus, Agamemnon
Aeschylus, The Choephoroi and Eumenides
Bhagavad Gita
The Teachings of the Compassionate Buddha
Plato, Phaedo
Plato, Symposium
Lucretius, On the Nature of the Universe
Dante, Purgatorio
Burckhardt, The Civilization of the
Renaissance in Italy
Cellini, Autobiography
Erasmus, "The Praise of Folly"
Luther, Three Treatises

Seminar IV

Shakespeare, The Tempest
Descartes, Meditations
Hume, The Standard of Taste
Burke, Reflections on the Revolution
in France
Malthus, Essay on the Principle of
Population
Smith, The Wealth of Nations
Hegel, Reason in History
Tolstoy, War and Peace
Marx, Marx-Engels Reader
Arnold, Culture and Anarchy
Flaubert, Madame Bovary
Thoreau, Walden

Senior Reading List

Seminar V

Euripides, "Medea" and "Alcestis"
Thucydides, Peloponnesian Wars
Plato, Phaedrus
Vergil, The Aeneid
Augustine, The City of God
Thomas Aquinas, "On Happiness"
Dante, Paradiso
Chaucer, The Canterbury Tales
St. Bonaventure, The Mind's Road
to God
More, Utopia
Cervantes, Don Quixote
Pascal, Pensées

Seminar VI

Swift, Gulliver's Travels
Voltaire, Candide
Goethe, Faust
Kierkegaard, Philosophical
Fragments
Newman, An Essay on the
Development of
Christian Doctrine
Nietzsche, Beyond Good and Evil
Peirce, Philosophical Writings
Weber, Essays in Sociology
James, Psychology: The
Briefer Course
Jung, Memories, Dreams,
Reflections
Sartre, The Flies
Dostoyevsky, The Brothers
Karamazov

I would like my old friends and teachers to know where I am
and what I am doing these days.

Name _____

Class _____

Present Occupation _____

City _____

I would like to contribute the enclosed amount _____

to help with the publication of PROGRAMMA

Comments: _____
