EXAMPLE

1



Abstract:

Despite worldwide headlines following the 1989 assassination of Ignacio Ellacuría and five other Jesuit priests at the Central American University in El Salvador, a full appreciation for Ellacuría's intellectual work is only beginning to emerge. In the past two years, major conferences on Ellacuría's thought have taken place in Europe and Central America, where his publications have been read widely. However, for the English-speaking scholar or student, access to Ellacuría's prodigious writings in theology, philosophy, politics, and education remains restricted to only a handful of pieces. In order to address this lacuna, Orbis Books—based on the success of my previous published work bringing the thought of Ignacio Ellacuría to non-Spanish speaking audiences—has contracted with me to assemble and translate fifteen of Ellacuría's most important essays, prefaced by my own chapter-length introduction to his life and thought, into a reader that can be used by researchers and teachers alike. The relief from teaching a Summer Faculty Research Grant affords would greatly facilitate this important yet time-intensive scholarship, and enable me to submit the complete manuscript to Orbis Books by September 2011.

At this stage of the project, 13 of the 15 essays are in a rough draft form of English. In addition, two lectures that I was asked to deliver in the past year have provided the research necessary for the introduction (see bibliography). While the Spring will allow for the completion of all preliminary translation and a draft of the introduction, a summer dedicated to the project full-time will allow for: the editing of the translated essays (for

consistency of nomenclature, etc.), revising of the introductory chapter, and final reviewing before sending the manuscript to Orbis.

Background:

This translation project represents a logical next step in my own research and an opportunity to promote the growing interest in Ellacuría's thought. My dissertation on Ignacio Ellacuría served as the basis for my first book, *Bearing the Weight of Salvation: The Soteriology of Ignacio Ellacuría*, which won Princeton Theological Seminary's Hispanic Theological Initiative Book Prize for 2010. In the course of completing that book, I noticed how little material there was in English for those interested in Ellacuría. My book represents only the second monograph on Ellacuría, in addition to a volume of collected essays by leading theologians reflecting on his legacy.

Because Ellacuría's prose is dense, complex, and filled with neologisms from his own philosophical vocabulary, its translation is difficult and infrequent. Currently there are only three sources for translated essays written by Ellacuría. The first, entitled *Freedom Made Flesh*, is a translation of Ellacuría's first book that was published in 1976 and represents only the earliest strata of his work. The second source is the collection, *Towards a Society that Serves Its People*, a volume that introduces the work of the other Salvadoran Jesuit martyrs in addition to Ellacuría. Because of that scope, *Towards a Society* only contains three essays written by Ellacuría. Finally, *Mysterium Liberationis*, the compendium on liberation theology edited by Jon Sobrino and Ellacuría himself, is the best available resource for Ellacuría's work in English. Yet, it contains only four essays, including one that already appeared in *Towards a Society*. When one considers that UCA Editores' recently

completed publication of Ellacuría's essays in Spanish contains eleven volumes (of about 500 pages each), one can see that only a tiny fraction of his work is available in English.

Contribution:

What makes an Ellacuría reader so important and timely is that, while he may have been killed twenty years ago, in many ways his thought is brand new. His unique philosophy, influenced by the great Spanish figure Xavier Zubiri, and his theology, forged in a third-world context of poverty and civil war, represent a distinctive voice in contemporary intellectual debates. For example, in theology, Ellacuría signifies an important alternative to the two dominant streams in Catholic debates of the past fifty years concerning salvation, grace, and nature: the progressive, transcendental Thomism of Karl Rahner, and the more conservative reaction of figures such as Hans Urs von Balthasar. In a recent review of my book, critic Daniel Bell highlights this unique perspective that Ignacio Ellacuría brings to the table. "What we have, then, in Ellacuría, is a liberationist ... but under the predominant influence of a "third term," if you will, neither de Lubac/Von Balthasar nor Rahner."

This 'third term' is the unique philosophy of historical reality that Elllacuría forges, a philosophy that has implications not only on theological and philosophical debates, but has application to a much wider set of disciplines. Recently, I attended a gathering of Ellacuría scholars hosted by the Jesuit School of Theology at Santa Clara University. Meant as an opportunity to assess the status of Ellacuría studies worldwide, it became clear that his distinctive thought categories were drawn upon to address themes as diverse as: fostering interreligious dialogue (particularly within the Abrahamic faiths of Christianity, Judaism, and Islam); dealing with the economic problems of globalization, including meeting the

challenge of environmental and ecological crises; reassessing U.S. foreign policy in Central America as the bridge between Vietnam and the Gulf wars; and furthering a vision for Jesuit education.

Clearly, Ignacio Ellacuría's many roles—university president, theologian, philosopher, public negotiator during the civil war, editor of the journal *Estudios*Centroamericanos and its socio-economic studies of El Salvador, and director of Jesuit formation—provides diverse points of contact for scholars from a wide variety of disciplines.

Conclusion:

The Ellacuría reader I am composing under contract with Orbis Books will serve as the definitive source for his thought in the English language and a gateway to explore one of the most dynamic philosophical and theological voices from Latin America. Anyone interested in reading Ellacuría, anyone interested in teaching a course on him, will be able to find all the material necessary in this book. My previous work on Ellacuría provides me the necessary familiarity with his conceptual framework to complete this translation, and with this project, positions me as a leading commentator on his thought in the U.S. It also significantly contributes to Fordham Theology's strategic goal to do theological work from a global perspective. In many ways, a reader on this seminal figure is long overdue. The award of a Summer Faculty Research Grant will allow for its completion and submission to the publisher by September 2011 and offer to the English-speaking world exposure to this remarkable figure.

EXAMPLE

2

Title: Phototoxicity of drugs and nanoparticles in the human eye

Abstract

If awarded, a Faculty Research Grant would enable me to capitalize on a peer-reviewed invitation to conduct research this summer in collaboration with my two post-doctoral fellows (Albert Wielgus, Ph.D. and Baozhong Zhao, Ph.D) at the National Institutes of Environmental Health Sciences (NIEHS), a North Carolina located unit of the National Institute of Health (NIH). Fordham's support is critical for five reasons:

- (i) I do not have laboratory space at Fordham, and this type of collaboration is essential if I
 am to access the multimillion dollar photophysical equipment and human ocular tissues
 my research requires;
- (ii) Due to the untimely death of the PI (Colin Chignell, July 2008) at the NIEHS' Photobiology laboratory, I have become the scientific head of this laboratory, requiring my presence as current titular PI for the successful completion of the projects that are the subject of this proposal;
- (iii) Due to Federal budget cuts, in 2010 the NIEHS will not be able to cover my costs of travel and stay at their facility as in past years, and I will also have to cover some of my cost of supplies;
- (iv) The NIEHS has, however, donated HPLC [High Pressure Liquid Chromatogram] equipment with fluorescence detectors (valued at \$20,000) to Fordham's Department of

Natural Sciences through my initiative, the cost for packing and shipping of which would also be covered under this grant;

(v) In addition to the two scholarly articles I intend to produce from this summer's research for submission [Toxicology and Applied Pharmacology, Photochemistry Phtobiology]the NIEHS also anticipates making external grants available in my area of "nanosafety" for 2011-12, for which my work at their facility this summer will place me in an advantageous position.

Background

Everyone over the age of 65 is susceptible to developing cataracts and macular degeneration. In the next 30 years over 24 % of the population of the United States will be over the age of 65 and are therefore at risk for these blinding disorders. Although sight may be restored by an operation to remove cataracts, there is currently no effective treatment for retinal or macular degeneration. My ongoing research is to identify environmental risk factors that lead to these age-related blinding diseases and examine ways to prevent such damage. In addition to environmental hazards, there are dyes, drugs, over the counter medications and nanoparticles that can dramatically enhance phototoxic reactions in the human eye leading to early development (i.e., at 40 years old) of cataracts and macular or retinal degeneration.

The NIEHS facility at which I have been conducting this research for the past 12 years is a multidisciplinary lab that allows me access to multimillion dollar laser and photochemical equipment. During the summer of 2008 and my Spring 2009 Faculty Fellowship I developed at NIEHS an *in vitro* system using human lens epithelial cells to define phototoxic properties of nanoparticles with potential to damage the human lens.

(Phototoxicity and cytotoxicity of fullerol in human lens epithelial cells. Roberts JE, Wielgus AR, Boyes WK, Andley U, Chignell CF. Toxicology and Applied Pharmacology 2008 Apr 1;228(1):49-58.

In previous years at NIEHS, I have proven that ocular exposure to UVA and UVB (lens) or Visible blue light (430 nm) (retina) alone or in the presence of drugs or herbs (St. John's Wort) increases the human risk for developing cataracts and retinal degeneration (Wielgus AR, Chignell CF, Miller DS, Van Houten B, Meyer J, Hu DN, Roberts JE. Phototoxicity in Human Retinal Epithelial Cells Promoted by Hypericin, a Component of St. John's Wort. Photochem Photobiol. (2007) 83(3):706-13)

Summer 2010 I will investigate how nanoparticles (fullerols), used for drug delivery to the eye, may cause very early retinal degeneration. I am also examining the potential for fluoroquinolone (i.e. cipro) antibiotics to cause early damage to the human lens. The final purpose of my research is to remove, modify or quench these toxic agents in order to prevent the formation of early or late onset cataracts and macular degeneration. These *in vitro* experiments are currently in progress and are expected to be completed by September 2010.

Contribution

Cataracts and age-related macular degeneration (AMD) are the most common causes of visual impairment in the elderly. Although there is a genetic component to these blinding disorders, clinical and epidemiology studies have confirmed that environmental hazards (sunlight, phototoxic drugs and herbal medications) are major risk factors in initiating cataracts and AMD. All of these environmental hazards induce the formation of free radicals and reactive oxygen species (ROS) in the eye. The aged eye has limited protection against

free radicals and ROS, thus environmental hazards can put older people at severe risk of serious ocular damage. I have modeled this synergistic effect between environmental hazards and age by studying the interaction of sunlight with endogenous photoactive substances (xanthurenic acid, lipofuscin, A2E) whose production increases dramatically with age.

I have previously defined the damage to human ocular tissues induced by the endogenous agents. I am now defining the ocular damage induced by exogenous agents using *in vitro* and photophysical techniques. The ultimate goal is to develop appropriate strategies to ameliorate or prevent age related, environmental, drug and nanoparticle induced cataracts and macular or retinal degeneration.

Specifically, before attempting to define the effect of photoprocesses on biological systems, it is essential to get precise information about wavelength, photochemical yields/reaction rates, and biological targets. Mechanisms may be further defined through examination of the effects on the target molecules in live cells. This knowledge will facilitate risk assessment in humans and promote development of more sensitive ways to measure and screen for damage in individuals and in populations. Furthermore, once the mechanisms of damage are known, phototoxic agents can be modified to inhibit detrimental processes or to improve the efficacy of beneficial reactions.

Consequently, my research involves a multidisciplinary approach:

1) in vitro:

i. Models for Cataract formation Human Lens Epithelial Cells:

An *in vitro* model system (using human lens epithelial cells from human eyes) has been set up to determine potential phototoxicity of fluoroquinolone antibiotics and demonstrate specific damage end points (oxidative DNA damage, lipid peroxidation, apoptosis/necrosis, membrane damage, mitochondrial damage).

ii. Models for Macular Degeneration Human Retinal Pigment Epithelial Cells:

An *in vitro* model system (using retinal pigment epithelial cells from human eyes) has been set up to determine the potential phototoxicity of nanoparticles used for drug delivery) and demonstrate specific damage end points (oxidative DNA damage, lipid peroxidation, apoptosis/necrosis, membrane damage, mitochondrial damage).

iii. Models for Prevention of Damage to Ocular Cells

The effect of non-toxic quenchers known to cross blood lenticular and retinal barrier in humans. (i.e. lutein, N-acetyl cysteine) will be studied for their potential to block photodamage end points from the above in vitro experiments. These quenchers of phototoxic damage have been shown to be available to the human eye with supplementation.

2) Chemical and Photophysical Techniques

Time resolved photophysical techniques will be used to define the precise free radicals and reactive oxygen species formed by fluoroquinolones and nanoparticles. This will define the mechanism of phototoxicity for each agent. Dynamic Light Scattering will also be used to further define the chemical and physical properties of nanoparticles.

Cost

As stipulated in the abstract at the outset of this proposal, the costs for which I am requesting funding are paramount to my being able to travel to, supply my effective use of, and retrieve from the NIEHS in North Carolina the laboratory equipment necessary to the proposed research, some of which will now reside in the Fordham's Department of Natural Sciences due to my long-term collaboration with this facility.

Conclusion

Cataracts and age-related macular degeneration (AMD) are the most common causes of visual impairment in the elderly. In the next 30 years over 24 % of the population of the United States will be over the age of 65 and are therefore at risk for these blinding disorders. As stated at the outset of this proposal, not only will a Fordham Faculty Research Grant prove pivotal in supporting my longstanding line of research during a critical juncture in its funding, bring needed resources to the University, and provide a platform for future external support, it will prevent interruption of work that is already proving integral to our fight to preserve the sight of millions of Americans.

