

©`7. Conclusion: A Philosophy for Interdisciplinary Studies

"'History,' Stephen said, 'is a nightmare from which I am trying to awake.'"
James Joyce

"An historian should yield himself to his subject, become immersed in the place and period of his choice, standing apart from it now and then for a fresh view."
Samuel Eliot Morison

The fate of our times is characterized by rationalization and intellectualization and, above all, by the 'disenchantment of the world.' Precisely the ultimate and most sublime values have retreated from public life either into the transcendental realm of mystic life or into the brotherliness of direct and personal human relations. Max Weber

Critics of higher education are concerned about a loss of core values on campuses across America. They argue that universities and colleges have become too commercialized, departmentalized, secularized, specialized, and professionalized, and have experienced a decline in the humanities, once at the center of learning. In our Preface we noted many cases of concern. The former president of Harvard, Derek Bok says that commercialization has a strong hold on higher education; Jennifer Washburn, a Fellow at the New America Foundation, says that secret contracts made with private industry are undermining the public trust; at Notre Dame George Marsden points to the vanishing influence of religion in the intellectual life of America's preeminent colleges and universities. There are many critics with different concerns, but our question here is: How might university officials answer them?ⁱ

There is no single answer but the stories in this book provide suggestions for new directions. The stories at Alpha Omega University, National University, Temple University, Black Hills College, and Aristotle

University illustrate how top administrators of real-life institutions could seek solutions. Presidents and deans in these narratives seek to change the system in the midst of fierce resistance. These stories tell of power struggles among deans; competition between departments; cruel stereotypes among faculties, anger, fear, and jealousy among professors. And yet, in the face of all the confrontations and blockages, the stories still inform us about ways in which faculties succeed in solving problems.ⁱⁱ

In these stories top administrators build systems of communication between faculties, usually kept separate and distinct from one another, and dissimilar subjects, such as physics and poetry, chemistry and choreography, natural history and human history. They construct connections between contrary schools, such as law, religion, and education. They establish different systems of dialogue on campus as a way to answer the loss of core values, the absence of a mission, and the need for vision among faculties.ⁱⁱⁱ

Many educators recognize the problems and have called for university-wide studies. James Duderstadt, president of the University of Michigan, writes about the need to examine “a broad array of transformation areas that go far beyond simply restructuring finances in order to respond to a future of change. The transformation process must encompass every aspect of our institutions,” such as

- * the mission of the university
- * financial restructuring
- * organization and governance
- * general characteristics of the university
- * intellectual transformation
- * relations with external constituencies
- * cultural change

He says that the most important objective in this transformation is not so much to achieve a specific set of goals, but to “build the capacity, the

energy, the excitement, and the commitment to move toward bold visions of the university's future. The real aims include removing the constraints that prevent the institution from responding to the needs of a rapidly changing society, removing unnecessary processes and administrative structures, questioning existing premises and arrangements, and ... emboldening the members of the university community to view institutional transformation as a great adventure.”^{iv}

Our stories suggest that presidents can give faculties the opportunity to conduct a university-wide study. In order to do this, they would set up a dialogue between faculties in departments, who usually remain well removed from each other. Faculties could then look at the mission, purpose and “general character” of their university. The stories illustrate how faculties can examine the nature of knowledge and purpose of higher learning. They show how presidents can build bridges between *isolated departments* as a way to restore core values and solve problems.

Each university has its own problems, but the question that arises for me, as no doubt it will for others, is whether faculties in a university could advance that university-wide study suggested by James Duderstadt. Could a study of the mission, financial structure, organizational governance, external relations, etc., really happen, with faculty involved?

My initial answer is “No!” “No,” because faculties are too specialized. They do not think about the purpose and mission of a university. They would not be able to recognize the forest from their own specific tree. Too specialized, too focused on their own research, committed to teaching students and busily writing books, getting research grants, advancing their careers, professors are not prepared to make a “university-wide study” about

something as nebulous as the loss of core values. They would not be conscious of the *isms* that characterize the university today.

But then comes back an affirmative, “Yes!” And given the right conditions, “Yes” is stronger for me than “No.”, My answer is affirmative because I think that efforts along these lines could begin with university accreditors, imaginative academic presidents, vice presidents, deans, and faculty leaders.

Accreditors could start a university-wide study because they have the power to do so. They are the source for advancing college and university-wide evaluations, which institutions undergo every ten years. During the accrediting process, outside faculty visit a campus carrying with them “study guides.” The institution has an opportunity to make a self-examination that assures outsiders of the high quality of education they are offering.

Accreditors say that a “self-study” includes a “comprehensive analysis of a university’s major characteristics and operations,” including its strategic intent, its core competencies, its priorities, and future plans. A steering committee is created with subcommittees and representatives from other campus and community constituencies that help assess a university's fitness according to detailed criteria for evaluation.^v

I think that experimental studies between remote departments and schools would be helpful in preparing for that broad-scale study. A thoughtful president, an imaginative dean, and a department chair who has a view toward the future, or strong leaders in a faculty senate: any of these could start dialogues that prepare for a university-wide study.

The ruling themes and *isms* that shape this epoch cannot be seen easily in the midst of daily routines, but a few educators could launch discussions that open them for review. For example, arguing with the spirit

of our stories, some professors would probably say today that the department of biology has “nothing to do with theology or religion.” But a few could point to the battle over the Creation Story in the courts and ask: are there no gods or deep beliefs in the sciences, such as there are in religion? Some professors would probably say that the field of chemistry has “nothing to do” with music, but then others might ask: Could the isolation of chemistry from music be due to the *zeitgeist*, and the academic climate of this period? For some professors, the department of political science would have “nothing to do” with the English department,” but then some might argue contrarily: Does political science have no rhetoric? Is it devoid of irony, simile, satire, comedy and tragedy?

Below, we set up a study guide for finding a discourse between disciplines isolated from one another. It is one way to think about restoring core values, preparatory for advancing James Duderstadt’s proposal for a university-wide study.

A Guide for Interdisciplinary Studies

Before we look at the principles guiding the study of different schools and disciplines, let’s review our stories. The stories are important because they illustrate what can happen in trying to solve today’s problems in higher learning.^{vi}

At Alpha Omega State University, President Neumann is concerned about isolationism, i.e. the segregation and remoteness of departments from one another. She starts campus conferences on holocausts and calamities, as she wants to draw faculty attention to the precariousness of the human condition today. She asks faculty members to search for themes on “the subject of history,” hoping to work toward a review of the core curriculum.

She presumes a latent “wholeness” behind her mission. She would like professors to come closer to a joint purpose about their work together.

At Temple University, Dean Li is provocative. She is concerned about departmentalism and focuses on the link between the “disconnected departments” of natural history and human history. She knows there is a continuous history here and advances a theory of evolution that pushes professors toward a different kind of thinking. She asks: How can faculties at opposite ends of the campus explain the continuity between such unlike histories, natural and human? How can atoms evolve from minerals into bacteria, into fish and animals next, and then into humans? She wants faculties in science, the humanities, and religion to engage in dialogue. Could they find a common language to explain this long history? ^{vii}

At Black Hills College, President Red Cloud and R.J. Gandhi, the Director of Development, work on commercialism and capitalism. They use the financial crisis at their college to motivate a search for solutions. They want to solve their financial problem while sustaining the college’s core values. R.J. turns an adversarial relationship between “town and gown” into a dynamic for civic development. Through interdisciplinary studies, he helps to create a local commonwealth where faculty, students, and citizens work together profitably. The sacred values of their small college inform them of how to restructure the local economy into a civil market. In the process, they make a lot of money.

At National University, Dean Ulysses Mendez urges faculty members to study the effects of imperialism and nationalism on small nations. He focuses his attention on inter-school studies in law, business and education. He helps deans think jointly about globalization. These National U. deans then introduce new programs and courses that will bring back a sense of core

values and humanity for their separated faculties. Mendez is fired, but the president and faculty carry on his work.

At Aristotle University, President Aristophanes starts a program for intellectuals to debate postmodern thought. Members of the Literary Club say: “There is no connection between language and reality.” Since they believe that the sciences are the ruling theme of their university, theirs is a debate about scientism and intellectualism, and also, philosophically for them, about realism and idealism. With good humor, the president brings scientists and artists together to talk about the nature of things. (Is he joking? No one is certain.) He promotes experiments that challenge campus “thoughtery.” The story ends with the campus clubhouse being set afire by a disaffected clerk and burning to the ground. The campus faces a financial loss, and idealists face reality. The result appears to be a failure, but a lot of new ideas are entertained on campus as a result. The study of metaphors in both the sciences and the humanities at Aristotle University will go forward.

The legendary frame given to each these stories suggests that behind the changing intellectual foundation of the academy is an emotional structure. The hate, jealousy, fear, affections, and personal resistance to change are universal, beyond time in many respects. The feelings of the characters are real but also timeless. These stories suggest that the academy is not founded on the cultivation of the intellect and mind alone.

Now what sort of guidelines could we propose for interdisciplinary studies that might lead toward a wider university vision? What premises might guide inter-school and interdisciplinary studies? Below are a few of them.

1. An Interdisciplinary Study is a Dialogue among Equals.

Times are changing. The resignation of President Larry Summers at

Harvard University surprised the public, but it is an example of how differences are beginning to occur among faculties and their administrations. The Harvard campus faced issues about core values in ways suggestive of what could happen in other universities. The issues are around a university “mission”.^{viii}

What is a university mission?

Faculties could answer that question with statements like “transmitting knowledge,” and “creating an articulate citizenry”; but that is not enough. These general purposes are important, but a fresh statement should develop from a faculty assessment of academic programs and the core curriculum. A mission outlines where an institution could – and should -- be headed. A sense of that mission grows through studies that move across departments and distinct disciplines.^{ix}

Interdisciplinary studies are a dialogue among equals, a social conversation around ideas. This notion of “equals” is an ideal that is important to keep in mind even though it does not match reality in the hierarchy of an administration. The purpose is to work collegially for the good of the university.^x

2. Interdisciplinary studies carry a latent sense of wholeness.

The leading characters in our narratives assume that there is a “latent wholeness” in the quest for knowledge. The idea of “wholeness” should grow as faculty members realize that the subjects in different departments are related to one another. Presidents and professors in these stories think about ways their subjects are linked across their campuses.

At Aristotle University a choreographer and a biochemist study the movement of bees. Some faculty members think the idea of such a study is a farce, but it ends in an effort to discover metaphors on which academic

disciplines are founded. This is new for faculty. Professors launch a discussion about the nature of dance and also of music in nature. Aristotle faculty thought these studies odd, but today such leaps between different departments are starting to happen.

At Wesleyan University, the dance and science departments are at opposite ends of the campus; but a visiting choreographer, Liz Lerman, also a MacArthur fellow, brought the two fields together. Her dancers were reading the latest genetics and bioethics titles, and “tiptoed” into biology laboratories to ask scientists what they wanted the public to know about their work. They took what the biologists told them about the movement of molecules inside of cells and translated it into dance for the stage. Lerman wrote in the program, “We used movement to form a language, making a direct translation of what we were hearing and reading.”^{xi}

Faculties in our stories work across “divisions of knowledge” to find allied features. President Neumann wonders whether the culture of her institution had developed into secularism. President Red Cloud wonders whether the search for money to keep his college solvent could shift into commercialism. Dean Li wonders whether the theme of “objectivity” could develop into objectivism. They are saying in effect that if one theme becomes excessive, it affects the learning process for students. Study leaders critique each theme and pose solutions.

Today all universities face the problem of deciding what is sacred, i.e. most important, essential, fundamental, vital, and life serving. At Alpha Omega U., President Neumann approaches the question by starting a faculty search on the subject of history. She listens carefully to what members of different departments regard as their most critical subject from their

standpoint. She will keep the conversation going, and below, we will learn more about the meaning of her search for the subject of history.

At Black Hills College, President Red Cloud feels the value of what is sacred in his tribal tradition, but his search is not doctrinaire. Red Cloud develops a personal bond with R.J. Gandhi, who was born a Hindu, and they share their religious beliefs with one another. Working together, these two “Indians” – one from the West and the other from the East – build a synergy between their traditions. Their exchanges lead them to think soulfully and in depth about corporate marketing, to work on a civil alternative to fund raising, and in the process, to find a deeper sense of what is sacred in the life of their college.

At National University, Ulysses Mendez is furious at the destruction of what is sacred to him: a sense of humanity in the work done on campus. He crosses the boundaries between schools to find an answer. He talks about the need to develop some “humanity” (i.e., civility) in global markets. He wants to reduce the likelihood of war by the establishment of world law. He failed in his career on the National U. campus, but his work will continue through the efforts of his colleagues.

And so interdisciplinary studies can move according to faculty ideals. There need be no single, precise procedure. It is always an exploratory project, judged by its capacity to advance learning among professionals. Interdisciplinary studies are *a method for faculty to learn* about the mission and larger purposes of their institution.

Professors do not need to agree on this premise of “a latent wholeness” to do the job. But it is a premise that runs through these stories, and I believe it is plausible in general terms. Dr. Li would say, “You cannot

have Yin without Yang, or ‘a part’ without ‘a whole,’ even if that whole is hidden somewhere or not obvious.”

University presidents and deans could well start the process of studies between distant disciplines, as preparatory to a university-wide study. In broad strokes, the process of change could follow this outline: With administrative support, the deans initiate an interdepartmental study and watch its progress. They then initiate inter-school studies with administrative support and observe the results. Then they talk with their accreditation association and advance a university-wide self-study.

If the deans – or the president or faculty members -- were to start thinking about *all* the problems on their campus, they would never move. Interdisciplinary conversations do not begin with a diagnosis of all campus problems; rather there is need for some motive and consensus.

Accreditors can testify to “difficulties” when faculties are asked to look at their overall mission and core purposes. Professors do not need to debate diametric principles to commence an interdisciplinary study. Courtesy and respect should be high priorities in an exploratory venture. At the same time, from a philosophical perspective, the faculty in each of our stories worked on diametric principles. The stories reveal how a “subject” can run across the entire academy: “Physics is isolated from poetry,” may be an assumption; but then, “let’s think further about this matter.”

3. The differences between great principles are not solved at an abstract level, but settled rather by compromise through interdisciplinary studies.

The tensions between great antinomies (polarities) -- such as Sacred and Secular, Unity and Plurality, Finite and Infinite, Being and Becoming, Individual and Community, Subject and Object -- cannot be eliminated at their abstract level. High principles defined at the level of philosophy are

“non-historical,” so to speak. At what we might call their majestic level, they remain in perpetuity. But the same concepts are nonetheless expressed, hashed over, and settled at a lower level of convention. These terms are part of everyday conversation.

The ideas of *individual* and *community*, or of *being* and *becoming*, or *subject* and *object*, all lower case, must be resolved with their opposites day-by-day. This is an important point because we are not talking about the relationship between Subject and Object in a philosophical sense when we use them in daily conversation. To avoid confusion, let me clarify this matter.

Great ideas are perennial and carry special meanings to philosophers, and as such, they cannot be synthesized. But when the same concepts are discussed in conventional conversations (not capitalized), the differences between them must be settled or adjustments made to accommodate differing viewpoints. Each *individual* person, for example, must find some adjustment or resolution around differences within a particular *community*. Professors in a self-study are *individuals* --each one is very different from the others--but they must find a way to work as a *community* of scholars.^{xii}

The same can be said for the concept *Sacred* as a philosophical principle; it cannot be resolved with the Secular. The Dutch theologian C. A. van Peursen asserts that secularization is the deliverance of people from what they think is sacred, from religion and from metaphysical control over our reason and language. It is a “loosing of the world” from religious understandings of itself, the dispelling of all closed worldviews, and the breaking of supernatural myths. The philosopher Mircea Eliade, on the other hand, argues that a sense of the sacred has always existed in history as “the

revelation of the real." It is an encounter, he says, that saves us by giving meaning to our existence.^{xiii}

These differences in great philosophical principles (Finite and Infinite is another linked pair) are ever present. Irresolvable though they may be in their abstract form, everyone must deal with the same concepts in mundane life and universities must deal with them in concrete ways. This is so important to understand that we will return to our stories of what happened when the characters grappled with diametrically opposed concepts.

At Aristotle University, the clubhouse was a "sacred place" for literary theorists to discuss philosophical principles. Yet, while they critiqued ideas held as sacred by others, they failed to recognize the sanctity with which they regarded their own clubhouse. And they held the principle of Reason as sacred, even with its inherent contradictions, such as those between language and reality.

President Aristophanes brought scientists and artists together to explore new ways to think about language and reality; he wanted to create a new vision of what reality may be. He suggested that "the metaphor" is the key. It explains how the mind works no less than how the physical world works. It is an idea that also explains reality. He heads straight into the camp of the prime enemy – the government and the National Science Foundation -- to solicit financial help. He wants to fund a study into the nature of things that would link the arts, humanities, and science with federal money, a bold move indeed. The story ends with the loss of the Clubhouse, but everyone is directed along a new track of thinking about reality. The study stops a *School of Thoughtery*, as Strepsiades has come to call it, and faculty can now work more effectively on becoming a 21st Century University.

Dean Li at Temple College has a vision. She would work on the tension between philosophical polarities (opposing principles) in the arts and the sciences. She thinks that certain principles could become overemphasized. The principle of objectivity might degenerate into *objectivism* (an ideology) and cause a decline in core values in the humanities and the arts. So Dr. Li starts a conversation on the “culture divide.” She argues that faculty members in the humanities should enter into dialogue with their colleagues in the sciences. She does not want to err by going too far in the other direction, that is, in trying to correct the balance. Rather she wants to avoid subjectivism and emotionalism, potential excesses of the arts and humanities. She asks her faculty to bring both reason and passion into a higher, wiser form.

To restate this philosophy of interdisciplinary studies: the universal binaries such as “Subject vs. Object” or “Unity vs. Plurality” are guides for assessing “balance” in an academic culture. Philosophical polarities-- Dr. Li would call them “complementary opposites”-- remain important to keep in mind in the formation of interdisciplinary studies.

How?

In an academic culture, the concepts of “subjective” and “objective” play off one another, while their differences balance one another. In the abstract, they cannot be synthesized, and so tension remains between them. The problem arises when faculties want to avoid one part of a pair, or try to elevate one side over the other. The differences operate reciprocally, as the meanings at lower conceptual levels develop into higher forms. Put another way, in the history of language, commonplace words have evolved into higher principles that govern academic discourse.

Let me illustrate this point on language with a brief history of “subject,” the key word guiding the study at Alpha Omega. This word is important to President Neumann in her search to determine what is sacred in her secular setting. She is aware of a century-long process of secularization that might lead to secularism on her campus.^{xiv}

The Subject of History

Etymologically, the word “subject” began with mundane meanings, and then evolved as a philosophical principle, a majestic idea. Professors at Alpha Omega are not aware of the implications of their study on “the subject of history,” but the Oxford Dictionary suggests how this word has developed over time to a point where it now is weighted with philosophical density. Our brief review here will tell us where Alpha Omega studies may lead in the 21st Century.

The earliest recorded use of the term “subject” was in 1315 as an adjective, when it meant “bound to a superior by some obligation.” In 1340 the word was used as a noun to mean a person under the dominion of a Monarch, as in “a subject of King Henry.” In 1374, Chaucer used the word in the sense of “subject matter,” a topic about which different things could be said. By 1380, it was used to refer to a “substance” to which attributes were given. At this point, the word was generalized from “subject as a *substance*” to “subject as an *obligation*” and then to “being subject” to any kind of property.

In 1551, “subject” was again used in reference to something to which properties could be attributed. In 1603, Shakespeare employed the word in this sense, as something having an independent existence with properties inhering in it. By 1638 it assumed a grammatical meaning, as in a “subject” opposed to the “predicate”: the subject became the “source” of the action of

a verb. Here we see the word transforming from a *passive carrier* of attributes and obligations to an *active role as originator* of action. What happened next in its linguistic evolution will explain a great deal about the Alpha Omega story.

To philosopher René Descartes writing in 1638, the Latin word *subjectum* referred to a fully conscious, thinking “subject,” as in an individual mind or ego. The subject is where all ideas are found, and to which all thinking should be attributed, i.e. a thinking agent.^{xv} But for Immanuel Kant in the latter part of the 18th century, “subject” was amended to mean an “egoless agent of change,” a moral source for action. Then, the philosopher G.W.F. Hegel broadened the concept of “subject” beyond anything it had ever meant previously. Hegel’s “subject” was not restricted to an individual person or Kant’s moral action; rather it represented a “self-conscious, self-governing social actor,” which is both corporate and individual. For Hegel, it may refer to states, families and individuals, assuming that they are free agents. Hegel conceived the subject of philosophy to be “reality as a whole.”

So now we can see more clearly the significance of this program at Alpha Omega. Hegel viewed the subject as the “total developmental process of everything.” Viewed in this augmented sense, Alpha Omega has a long way to go in its study, with no end in sight, but faculties of various departments stand to learn a lot, by comparing their *subject matters* in an academic quest for development.^{xvi}

Many philosophers consider Hegel’s work to be “pure idealism.” Marx thought so and substituted a philosophy of materialism. An historic “culture war” had begun.

President Neumann is also something of an idealist, we might say, and she will move into challenging territory when she invites the science faculties into her study program. Science faculties are rooted in a material world, “real things,” which are not as clearly in view on her roadmap. When she brings scientists into her inquiry, they will change the direction of Alpha’s inquiry into the “subject of history,” and a lot of learning will take place along the way.^{xvii}

The potential danger for all the characters in our narratives is in creating excess. “Excess” means thinking immoderately on one side of a polarity. Such thinking can lead to “idealism,” say, or conversely to “realism,” to “materialism” or conversely to “spiritualism.” At Aristotle University, too much *thoughtery* ends with a Clubhouse fire. At Temple University, investigating spiritualism, Dr. Li risks big trouble. Could these administrators move past the excesses that seem poised to appear on their respective campuses? The result of their study could become a reactive pendulum swing in the other direction, i.e. toward the opposite perspective or belief.

In our first chapter, on university history, we saw the excess emphasis on religion and in particular Christian beliefs that dominated the medieval university. There was no sense of objectivity or distance from those beliefs, as we know today. The effort to incorporate science into late medieval academies was a battle precisely because science was challenging those religious beliefs. A secular movement was vital to challenge religiosity and sectarianism but universities need to be watchful of the opposing side: secularism.

The advance of science and objectivity should not lead to *scientism* and *secularism*. This is another excess, the myth of a life devoid of religion

or anything subjective and spiritual. In the type of study-guide we are proposing, an academy would not indulge in opposite excesses. It would search for the truths in all the philosophical antinomies.^{xviii}

President Neumann shocks her faculty with her question, “What is the subject of history?” Words like “subject” have special meaning in philosophy but they also have meaning in campus life. The word “subject” can refer to a discipline. From one perspective, its “subject matter” appears to be an oxymoron. President Aristophanes of Aristotle University might say humorously that a “subject” cannot exist without “matter” or, wittily, “mattering.” Today, the word *subject* is associated with the mind -- ideas, concepts, ideals, ego, and spirit, individual and collective -- but the *mind* is in tension with *matter*, which for the majority of people in the West represents a real physical world.

“Matter” is presumed to be the physical world *outside*, known through human sensation. The word “matter” once stood almost exclusively for the physical world, but it became a metaphor for a field of thought, something that “matters” so to speak.^{xix}

So this study-guide principle tells us what lies ahead with these binary principles. President Neumann’s “abstract” and “idealistic” work at Alpha Omega must become a “material” taking into account of commerce and the sciences. And President Neumann herself, who looks like a saint, must come to terms with her physical body, linked with her illness. She must bring the school of medicine into her subject of history, not just the humanities and social sciences.^{xx}

Our premise about the differences between abstract (Capitalized) polarities on the one hand and the necessity of resolving these differences in

a concrete way (uncapitalized) leads to our fourth premise that protects the integrity of each department's "subject."

4. *The subject in each department has its own claims to truth.*

Each university department has special truth-claims. The claim by political scientists at Alpha Omega was that "power" is the subject of history. Then, sociologists claim that "sociality" is the true subject. More and more departmental claims are forthcoming as President Neumann's study proceeds. She made it clear that this cross-disciplinary study will not deny the truth in any of them, nor will it require any changes in the way professors teach inside their fields. All departments should follow their own paths; she will not interfere with their autonomy.

President Neumann wants each department to express its claims openly, so that professors can realize the complexity of their academic culture. An interdisciplinary study trains faculties to look at the core work of the university. Faculties, Neumann believes, should think about the purpose of their institution; she expects her faculty to generate insight into the question.

So what could faculties learn in state universities like Alpha Omega? The answer is "a thousand things"; there are so many that we cannot imagine them all, but let's consider what could happen.

The presidents of state universities are structured with a bias to excesses such as *secularism* and *statism*. Are these *isms* ruling themes in America's public universities? Does being "secular" isolate students from religious studies? Could something sacred be hidden in a secular institution? Let's ponder what that might be.

A state university receives government and corporate income with strings attached. It owes its "donor" something. A terrorist attack, or a

prolonged war, will bring these hidden obligations to the surface. At war, for example, the state becomes a most sacred domain, a political entity that expects supreme loyalty and obedience. In wartime, a state university owes allegiance to the institution that supports it. In WWII and after, during the 1940s and 1950s, the American government demanded loyalty oaths from teachers and professors. Some refused to take the oaths and were fired.

In 1949 early in the Cold War, the Board of Regents of the University of California imposed a requirement that all employees sign an oath affirming loyalty to the state constitution, and a denial of membership or belief in organizations advocating overthrow of the government. Some faculty members, students, and other employees resisted signing the oath because it violated principles of academic freedom and tenure. Then during the summer of 1950, thirty-one "non-signer" professors -- including internationally distinguished scholars not charged with any professional unfitness or personal disloyalty, were dismissed.

So the terms secular and sacred are not just benign philosophical terms, nor just perennial principles in philosophy, but vital terms relevant for everyday life on campus. Faculties in public schools and universities could well ask themselves: *How is something sacred hidden in our secular institution?*

Today people do not sacrifice their lives for the Presbyterian or the Catholic Church, but there is something consecrated about the idea of the nation for most people. Citizens will sacrifice their lives to preserve the tradition represented in their country and its flag. This sense of patriotism is powerful, so much so that Dean Mendez says that state universities are locked into a civil religion. Mendez claims that the nation is held sacred, implying that this is true for every country whether it be the United States,

Guatemala, Russia, or China. It is in this area where every effort must be exercised to prevent nationalism from devolving into sectarianism and doctrinarism. The McCarthy Hearings in the 1950s demonstrated how nationalism could ruin professional careers.^{xxi}

But can what is sacred and holy in religious traditions be taught in state universities? Given the law in the federal constitution separating church and state, would state universities be allowed to teach what is “holy”? Since Alpha Omega State will face this question in the future, let’s imagine for a moment what should be considered in attempting to answer this question.^{xxii}

First, the presidents of state colleges and universities should know that the question of legality depends partly on emphasis. A court would say that *a study of doctrinal claims* is different from a program of “indoctrination.” Studies *about* religious beliefs, for example, are legal. Deeper truths in religious traditions can be examined and researched without breaking the law. Indeed, religious scholars in liberal universities and the best schools of theology today do not demand agreements from students (normally) on church beliefs or compliance with specific doctrines.

Second, state universities can make the mistake of teaching its own “secular doctrines.” We reported in the Introduction how Noah Porter, a candidate for the Yale presidency argued against an “undue emphasis” placed on secular and scientific doctrines in the academy. His question was not whether the university should teach theology, but what kind of theology it might teach -- “theology according to Comte and Spencer, or according to Bacon and Christ, theology according to Moses and Paul, or according to Buckle and Draper.” Some intellectuals reject orthodox religious doctrines, and then teach doctrines of their own. Could atheism and agnosticism be doctrines? How do secular truths differ from religious truths?^{xxiii}

If these questions were raised in cross-departmental studies or a self-study program, what might happen? This study-guideline proposes that all truth claims (e.g. religious and scientific) should be open and capable of critique. At Temple University, we saw how students debated the religious views of Norman Brown and secular views of Herbert Marcuse. They had opposing positions, one in favor of “other-worldliness” and the other of humanism. Faculties live with polarities: *sacred* vs. *secular* and *real* vs. *ideal*, which we said is universal and perennial. But a problem arises when one side of such contraries is treated as the ultimate truth. “Excessive” means one side of a polarity or antinomy is held up by its adherents as *the one and only* truth; or, one side is touted as absolute and superior to all other principal (master) themes at the core of the culture.

Again, how do interdisciplinary programs examine such excesses?

The leaders in our stories retain truth-claims on *both* sides of these polarities. They “suspend them” so to speak for observation, and move on. President Neumann and Dean Mendez, for example, respect their nations but know how to avoid the excesses of nationalism. They hold in high regard citizens of any nationality. Nationalism becomes absolute in a university only when one nation-state is held to be supreme and its ultimate values stand above all others. These university leaders honor their respective countries but not to the point of holding them above criticism. They would question excesses that develop in the name of a civil religion.

This is a key question today. What is a civil religion?

Sociologist Robert Bellah defined “civil religion” as “a spiritual vision of public life,” popularizing the concept in the late 1960s. Scholars debated whether it was a good idea or not. For the term’s advocates, a “civil religion” signals something positive because it binds people together; it is important,

they say, for a nation to persevere and develop its values. For critics, it was a bad idea because it easily becomes the tool of politicians who energize patriotism to excess. This patriotic excess can manifest not only in government organizations but also in any state university, whether a nation is Christian, Jewish, Muslim, or Hindu, or some combination of these.^{xxiv}

President Neumann has the problem of nationalism on her mind when she asks: “What happened in Nazi Germany?” She might penetrate further into the discussion by asking today: “If oaths are demanded of professors at our state university, what should we do? Do oaths of allegiance impact on our academic integrity?”^{xxv}

President Neumann goes further. She also wants to know whether her institution has lost a broader sense of the sacred: “Is this university is just a place for faculty to make an income; just a place for specialized research?” She asks, critically, “Do we teach students at Alpha Omega how to live? Is there not something vital about learning itself? Is there something blessed in teaching?”

So the idea of “what is sacred” in a university transcends the notion of national allegiance or creedal religion. There are many private agreements that become sacred that need to be studied. Among lawyers, private talks with clients are held as sacred; physicians and priests deem confidential discussions with patients and parishioners sacred. Among friends, one’s personal “trust” is sacred. What is “sacred” invokes a commitment that should be examined in law schools, medical schools and business management. This is an interdisciplinary question in which theologians, social scientists, and philosophers have a role to play.

Universities should study religions because of their power to produce war and peace. They need to teach great subjects-- such as Islam,

Buddhism, Hinduism, Judaism, and Christianity-- as participant observers. All these religions carry universal principles that help balance against the techniques of specialization.^{xxvi}

In sum, the university cannot remove itself entirely from “what is sacred.” Indeed, good-humored administrators know how departments become “sacred territories.” Department chairs battle for money and power and each discipline becomes “hallowed ground.” Professors in departments have identities just as do parishioners in a church, and citizens in a nation. All identities surface defensively when fields are critiqued in academe.

5. Each university has an academic culture.

Each university has an intellectual culture with subcultures. Most liberal arts campuses have a core curriculum that reveals that culture, its main themes and lines of thought. At Aristotle University, literary theorists thought that Reason was the main theme, the highest principle. But Reason was not the ruling principle at Black Hills and other colleges. Academic cultures differ in this respect.

Socrates is closer to Reason than is Red Cloud. Red Cloud is closer to Nature. He does not know the formal principles of logic as a source of wisdom but he does know the wisdom of nature and its truth. He knows the feeling of Thunder and Laughter better than the principles of analysis and deduction. Nature is the expression of a Great Spirit that is not explained by deductive thought. Socrates thinks the qualities of Reason are a virtue; Red Cloud thinks the qualities of Nature are a virtue to be honored. And both are great teachers.

Nature signals a divine order for Red Cloud, and for his former student and protégé R.J. Their interdisciplinary study is grounded in nature

and religious beliefs about a higher power that carries them beyond the life of science and commerce; indeed, beyond specific religious traditions.

Let's put this point another way. At Aristotle University, students are not taught to identify with Nature. Rather, they learn to stand apart from Nature, to analyze and classify its attributes. Black Hills students are taught science, which gives them this sense of objectivity, but they are also brought intimately into the natural realm where thunder and laughter are like "things in themselves." The students of both universities each have their science courses, but there is a different core theme and ambiance on campus.

Read further into these stories. At Temple University, Dr. Li proposes that the things of Nature, what Kant would call "things in themselves" are inside the body. They are there couched in a higher form. The atoms and molecules are in body cells but the cells are a higher part of this evolution. She breaks all the rules in moving across different departments. All of Nature's elements – particles, atoms, and molecules – are "inside us" she says. After the Big Bang these elements evolved from one condition to another; they are now a key resident in the human body and the brain and the background for our consciousness. Then she asks: How could a history of Humanity (consciousness) develop from a history of Nature?

Dr. Li would say that the molecule is formed from atomic elements and then evolves independently of those elements while remaining dependent or based on them. The cell likewise is formed from molecular elements and then evolves independently of them, while remaining interdependent with them. Human consciousness in its course of evolution develops from the cellular structure of the brain while also remaining dependent on it as a neurological base. New stages of "order" in evolution then preserve past elements while successive stages become autonomous in

their own right and sphere of influence. The last stage of *consciousness* is autonomous in its own right while linked with all previous stages. It should be in a very important position to understand what happened in the past.

Dr. Li and her colleagues at Temple University will work on that interdisciplinary study. They will look for a vocabulary to help explain the continuity between natural and human history. They will find that concepts that explain natural history – *interaction, interdependence, autonomy, self-regulation, synthesis*, etc. – also explain accounts of human history. The humanities and the sciences are not totally isolated subjects by virtue of this common commodity of terms. These stories suggest further that *disciplines in the university* have evolved not just autonomously, but also as interdependent in their subject matters. The task of higher learning in the 21st Century is to explore those links.

Dr. Li is concerned about the future. She worries that the physical sciences -- which include subjects such as biogenetics and nanotechnology -- will effect changes in the human body and planet Earth. Not all changes, she thinks, will be guided with wisdom. Changes will involve everything from replacing human body parts to acting on gene cells that shape the glands and body features of future generations. This calls for *university monitoring* of subjects like nanotechnology. It will link with government policies on the environment and climate.

Critics are saying that the university will become *the major corporation* of the 21st century. This is because it the source of knowledge taken to the global marketplace and spread around the world. A “corporate university” will shape the future of humanity. For Dr. Li, it follows that all other fields in the university – music, the arts, and social sciences -- should be included in core studies. Faculty must learn how to think holistically. The

university will be “shaping” knowledge for business for a long time. This invokes a new style of thought.

Fields of Knowledge as Symbolic Orders

Dr. Li has a good reason to lecture her class about how anthropoids became human by creating *symbols*. Students are learning a new set of symbolic orders on campus. A symbol, she says, is one thing that represents another by association or resemblance. A million years ago, some human-like creatures created a word-sound, such as “tree,” to represent an actual tree standing before them. This word-sound developed from a sign, at first a gesture, and became a *symbol*, a sound that acquires *meaning* in the mind. The most advanced anthropoids began to transcend from the use of sign language to the use of symbols in human language. Eventually, new symbols developed as nouns, verbs, and adjectives with the combination evolving into sophisticated languages. Sociologists and anthropologists call that type of communication, “symbolic interaction.”^{xxvii}

This process of learning by symbolic interaction in the earliest humans is evinced today at different levels in families, schools, and universities. Dr. Li explains that it takes a child much time to learn how to generalize from visible things to names that have meaning inside the mind. A specific tree or table is a stimulus for a parent to name it for a child and in time the specific object becomes for the child an interior image. Children then talk to parents and teachers by symbolic interaction and compare the details of one tree with another. In this extrapolation, they soon acquire a core image of all trees, a generalized concept. This is how early people created language and how children learn, but also how students continue learning in higher education.^{xxviii}

Biologists classify trees as “birches” and “oaks,” and develop even higher classifications -- taxonomic groupings -- with greater specificity and elaboration. Similarly, every other field has its own language and outlook. In each discipline, students are taught special terms to describe the relevant subject. And all these communications are in the category of symbolic thought, so that students learn about the nature of trees from many perspectives: from poetry and philosophy to physics.

A student in biology must learn thousands of new words, like *adventitious roots* and *anemophily*. Faculty members in each professional department develop a latent metaphysics -- an image of nature, being, and existence. Professionals work with empirical symbols (“operational concepts”), middle level symbols of abstraction (e.g. “ideal types”); and higher symbols, called “principles” (e.g. “gravity” or “competition”), that become part of their description of an objective world, the nature of things. Academic terms – such as *bacteriophage* in biology, *alpha particle* in physics, *mores* in sociology, etc. -- become an abstract language to explain the world as objective phenomena. Every university discipline uses a language of countless words with technical meanings, and in every instance, this produces a unique outlook on the world.^{xxix}

For this reason, “objectivity” is a basic theme in the university’s order of themes. As research (denotative) symbols build in number and increasing conceptualization, they pass into theories having very complex meanings. Each discipline has its rules for *interpreting*, *describing*, *conceptualizing*, *analyzing*, and *explaining* what begins as simple interpretations of phenomena that require symbolic interaction.^{xxx}

All disciplines in the university are symbolic orders rooted in the interplay of subjectivity and objectivity with an accent on the latter.

President Aristophanes suggests humorously that these fields are born through metaphors; Dr. Li argues that they began as interpretations of data based on vibrations, a tiny portion of the vibratory fields of the universe.^{xxxii}

These musings are heretical because her faculties assume that their disciplines are “objective” without considering the opposition. Some of her professors believe that their work represents the truth about universe, but Dr. Li says that every discipline is interdependent with others and she is looking for a new framework to explain her case. The field of physics *is* linked with poetry through devices like the metaphor; physics *is* linked with psychology and theories of perception since, as mental images, atoms are not the same as what is really “out there.”

When we look at a tree, scientists know that light enters the eye, which triggers reactions in the retina, producing electro-chemical impulses that travel along fibers to the brain. The brain then creates its own pictures of what is outside. We are not actually experiencing the tree itself, only the mind’s image of it. Every color, sound, and sensation is a form appearing in the mind, as an in-forming consciousness. Things are out there, but all “things” are created through interpretive minds.^{xxxiii}

So a program in self-studies looks at what our minds are doing, recognizing the interdependence of symbolic orders. Physics is linked with political science as it moves into government and shapes policy. It is linked with philosophy because it develops a mythic character in schools, newspapers and television. The university administrators in these stories want to create dialogues among faculties. They hope to build a new outlook for students in the 21st century.^{xxxiiii}

The heroes in these stories do not aim for a new metaphysics. They would say that there is already a metaphysic couched in the academic culture and they want to dialogue about it.

What could this mean?

Physical science can be seen as grounded in a theory of causality (*cause and effect*) but it lacks a theory of purpose or *telos* (*ends and means*, i.e. a directionality in nature.) It has a *theory of gravitation* and a *theory of natural selection*, but not a *theory of public policy* or a *theory of life*. It has a *theory of systems* but not a *theory of ethics*. It has a theory of quantity but not a theory of quality; it has methods for measuring *quantities* but not everything can be measured. It teaches students how to *manipulate and control* variables, but it does not teach *human empathy and compassion*. Hence, science is not sufficient to educate the whole human being. By itself, too readily, it could fall into the hands of dictators and authoritarian governments.^{xxxiv}

The protagonists in these narratives are not asking their faculties to develop “extremes” of idealism or realism, transcendentalism or reductionism. These *isms* have their place but in our study-guideline they should not be ruling themes. The *isms* would not define the subject of university-wide studies, not for a scholarly community.

In a study program, faculties start with departmental differences “as given” and acceptable. At the same time, leaders of a study program would ask professors to think about “suspending differences” for the moment. They need to suspend their understanding of what they deem to be reality, for example, whether it is ultimately *personal* or *impersonal*, and look at the meaning of each side. Study leaders might say, “Suspending opposites is

something geniuses do.” But Presidents Neumann and Li would say: why not learn how they do it? And teach students how to be geniuses.

6. Antinomies are Differences that Seek Resolution.

We noted in the Introduction that Clark Kerr, Chancellor at the University of California claimed, “The University has no center.” The *university*, he asserts, has become a *multiversity* and should now be characterized by *diversity*. He jested that faculty have become individual entrepreneurs joined by a common grievance over parking. Other top leaders have observed a similar trend: Robert Hutchins, former president of the University of Chicago, asserted in good humor that the university has become a series of separate schools and departments held together by a central heating system.^{xxxv}

But Kerr’s teasing about how a “multiversity” has replaced the “university” is not the end of the story. The differences between each side of a great antinomy like Unity vs. Diversity must be resolved every day. University administrators are forced to judge *the whole university and its core values* whenever they sign a contract. When they decide whether or not to build a chemical laboratory paid for by a big firm, the whole and the part must be integrated in that moment. The multiversity must become imaged as a university with all its core values.

The terms of the antinomies are not capitalized, not treated in their universal, philosophical character, when they are part of everyday decisions. So presidents and faculties must create *unity in diversity* everyday. This push to find the connection is true for all great antinomies.

We said that the tension between great antinomies, such as *subject vs. object*, *secular vs. sacred*, *unity vs. plurality*, *linear vs. cyclical*, *finitude vs. infinitude*, and *reason vs. spirit* is not resolvable in the abstract, but each

must be resolved in concrete situation day-by-day: even as they are in opposition at a theoretical level (upper case) they require resolution at a practical level (lower case). Notice the complementary nature of these antinomies along with their seeming contradiction. Philosophers say the *subject* seeks to be known in the *object*, the *ideal* in the *real*. Sociologists say the *individual* seeks to be known in the *community*; theologians that the *spirit* wants to be known in the *body*. The *Divine* wants to be known in the *mundane*, and so on. Could this “push” for resolution be the subject of history? How?

Each college and university finds its own way to answer this question. The Massachusetts Institute of Technology (MIT) broke precedent some years ago and started a School of Humanities, Arts, and Social Sciences. The School now has a fine faculty, excellent students, and great researchers. But MIT was not built to advance the arts and the humanities. The trustees established this new School on campus to develop a greater number of options for students. I think that by doing this, the institution is on its way toward greater balance and readiness for interdepartmental dialogue but to my knowledge, MIT administrators have not considered the kind of studies we have illustrated in these stories. They could benefit from more studies on how the arts and humanities are linked with engineering and the physical sciences – as did the faculties at Aristotle and Temple Universities.

I think research universities like MIT will be impelled over time to recognize the “latent wholeness” in their work. At Aristotle U., poetry could be studied with physics, and choreography with chemistry; someday in this century that may happen at MIT. Research Universities will push to solve the paradoxes in their paradigms.

A *paradox* is a puzzle composed of contradictions without solution. We proposed that great contradictions must be solved in particular contexts; the juxtaposition of majestic “opposites” creates a dynamic that looks for answers at lower levels of application and meaning. Dr. Li argues the Yin Yang question: how are the two sides of a binary (antinomy) complementary? How can one side be discovered in its opposite? Her more specific question is about how natural history is found in human history. She thinks the explanation begins by looking at concepts used by all disciplines such as *synthesis*, *interaction*, and *self-regulation*. Temple U. may need to create subjects that cross disciplines.^{xxxvi}

At some point MIT professors may ask the question of how passion is created in thought; how feeling is found in reason; and how life is born in death.

In the last century, universities created new departments through neighboring disciplines, but our protagonists are talking about crossing between distant departments: music and mathematics, choreography and chemistry, theology and theater, physics and poetry.

Is this going too far?

Dr. Li would say that the development of human beings from apes did not occur overnight. It took a long time to walk upright, build symbols from animal signs; slow steps of abstraction, a million years or so, maybe. Subjects in the university, too, keep evolving. Disciplines change within themselves, as a university culture works through opposing sides of great antinomies toward resolutions. To see how change might happen for higher learning in this century, let’s look at what happened in the last century. New subjects in the university lie directly ahead.

The Creation of New Orders of Thought

New orders of thought and research should be created in universities of the 21st century. Julie Klein, Professor of Humanities at Wayne State University, says that changes in university disciplines happen by a process of differentiation and integration. Existing disciplines split into subdivisions that become new disciplines in their own right. Specialization fosters interactions among faculties as they approach each other's borders. In the forensic disciplines, such as forensic anthropology and biochemistry, she reports, faculties interacted in such fields as immunology, endocrinology, bacteriology, pharmacology, and physiology.

Such interactions during the last century resulted in the newly combined fields of social psychology, biochemistry, biophysics, physical chemistry, materials science, environmental engineering, geochemistry, psycholinguistics, sociolinguistics, psychohistory, psychological economics, political economy, political sociology, geopolitics, psychiatric sociology, sociobiology, ethnomusicology, economic anthropology, cultural anthropology, systems engineering, and more. There is no single pattern that can explain these interdisciplinary interactions; the changes are due to many different spatial, temporal, demographic, and epistemological variables.

In the early part of the last century, physics was based on a foundation of quantum and atomic theory. By the 1960s, the field of physics had become a federation of sub-disciplines, incorporating areas such as nuclear physics and solid-state physics, which had more in common with chemistry and engineering than with traditional physics. By 1972 the Physics Survey Committee of the National Research Council concluded that there was no definable boundary between physics and other scientific disciplines.

Biophysics became an interface based on the combination of skills from both parent disciplines.^{xxxvii}

A big divide between the physical sciences and the humanities was already evident in the early 19th century, but by the end of the century universities were creating new departments in anthropology, political science and economics, psychology and sociology. These departments had to find their legitimacy as subjects. They did so by creating methodologies modeled from established disciplines. The social disciplines borrowed from the empirical traditions of physical science and the imaginative tradition of the humanities. They needed substantive concepts, new techniques and methods of research. The arrival of these social disciplines demanded much creative thinking. The founders had to marry subjectivity with objectivity.^{xxxviii}

The story of the struggle this entailed need not be repeated here, except to note the significance it adumbrates for future changes in higher learning. Intellectual historians know how changes took place among thinkers like Carl Menger in economics, seeking to create a methodology (*Methodenstreit*); they know the paralleled effort of sociologists like Max Weber to introduce *Verstehen* (subjective understanding) into scientific research.

The great antinomies (Subject/Object) are intertwined. There is always tension in grand principles, which would push toward resolution. There is always subjectivity in physical science and objectivity in the humanities. The development of knowledge in the last century, according to Klein, is described in the vocabulary of organic properties: *link, symmetry, convergence, conjuncture, interaction, interface, differentiation and integration*.

Dr. Li is looking toward more differentiation and convergence in the departments of natural and human history. Natural history has been a descriptive science but it seeks equally to become an empirical and laboratory science. As scientists, naturalists work toward the objective (empirical) aspects of nature even as they also develop subjectivity. Let's look at how they do this.

Henry Thoreau (1817-1862) was a naturalist who in his own time classified organic life, but he also thought about it subjectively. He would name fauna and meditate on them at the same time. He said: "Nature will bear the closest inspection. She invites us to lay our eye level with her smallest leaf, and take an insect view of its plain." And "I frequently tramped eight or ten miles through the deepest snow to keep an appointment with a beech-tree, or a yellow birch, or an old acquaintance among the pines." He said that Nature taught him how to live: "When it is time to die, let us not discover that we never lived...How vain it is to sit down to write when you have not stood up to live." He thought like a poet: "The bluebird carries the sky on his back." And he concluded: "There is more to the universe than meets the eye."^{xxxix}

Natural scientists are developing technologies like biomimetics, biognosis, and bionics. The power of "sensing" in organic matter and among animals occurs at the molecular level.^{xl}

But a research university that seeks experts in natural technology would not hire Henry David Thoreau. Neither would he be hired at the California Institute of Technology, home of NASA's Jet Propulsion Laboratory; nor at Aristotle University, where faculties name themselves after ancient Greeks. He might be hired, however, at Black Hills College where faculties name themselves after elements of Nature.^{xli}

Universities and colleges differ in their cultures. This is why faculties should study core ideas in the ways that anthropologists study foreign lands to decipher the interplaying themes, including economic interests and governing rules. Some institutions could hire outside observers to help them avoid blind spots, to see what faculties cannot observe themselves from within their university.

In sum, the task of faculty in a wide-scale studies program is not to eliminate the tension in great antinomies but to look at how singular themes might characterize their culture. Antinomies run across the academic culture, as we will see in the next premise.

7. Antinomies Cut Across Departments and Schools

The scientist C. P. Snow, in a striking 1956 article for the *New Statesman*, stirred academic leaders into thinking about where the university was heading. The direction as he saw it was toward conflict between the culture of science and the culture of the literary/artistic world. He did not even acknowledge the emergence of the social sciences at that time because he did not regard them as important, or perhaps, legitimate. But the attempt to bridge between the differences in these distinct cultures is told in the stories of Temple and Aristotle Universities.^{xlii}

Dr. Li says that physicists see *reality* as outside the mind, while artists see *reality* as inside the mind and body. But scientists and artists are working simultaneously inside-and-outside all the time, even though there is a privileging of one or the other in their thinking. So Dr. Li introduces the word *space* to start them thinking about how the differences may be examined together. *Space* is a metaphor that encourages thought across this great divide.^{xliii}

Why would she want to do this?

The philosopher Immanuel Kant thought that Space and Time were categories existing in the mind alone; understood by intuition, not by science and “sense experience.” His idea still persists for some. But most philosophers called him an idealist and for good reason, because he could not imagine how “socialization” could create space-time ideas. With the advent of social science, we now know that the meaning of Space and Time is not just derived from the mind, isolated from sensible experience. The concept of Space develops by people talking to one another and so is created by symbolic interaction. We noted how children begin by identifying physical phenomena and generalizing them into words as symbols. People came to generalize the meaning of physical space around them, and then to generalize abstract Space. A child learns slowly to “abstract an idea” of time and space and then, as an adult, to learn the greater complexities through fields such as mathematics and philosophy.^{xliv}

In Dr. Li’s opinion, consciousness is linked with the brain, but through symbolic interaction it surpasses brain activity. Through the emergence of self-consciousness, the mind partly transcends the brain, as in the great symbols of mathematics and philosophy. This “surpassing” happens similar in principle to the way the molecule surpassed and transcended the atom while keeping atoms within its field of operation. Symbolic thought is linked to the brain but symbolic consciousness is relatively separate and autonomous. Dr. Li believes human consciousness works at a higher vibratory level than do brain vibrations. Sensations of pleasure and pain may be measured inside the brain, but ideas such as Space, Time, Justice and Beauty have meanings that are not measurable. Dr. Li might ask a neurologist, “Can you measure ‘justice’ or ‘wisdom’ inside the brain? This is why she is working with the electromagnetic field. She is

talking about symbolic differences in orders of thought encountered in the university.^{xlv}

If faculties work with meanings that are not all reducible to brain activity and science cannot quantify everything, it is easy to understand why scientists and religionists debate over evolution. Dr. Li would say that this debate is about this inner- outer antinomy as it strives toward resolutions. She is on a frontier, but not alone. Other scholars are there with her.

The Esalen Center for Theory and Research held its annual Evolutionary Theory conference for the fifth time in 2003 to examine the connection among three empirical groups: 1) the physical sciences, 2) the biological sciences, and 3) the noetic sciences, i.e. those based on inner space they call "interior states of consciousness." Drawing on the work of physicist Lee Smolin, they looked at galaxy formation in terms of homeostatic self-regulation. They talked about chemical systems in the body that generate spontaneously without instructions from the genes. The laws of physics, they say, cannot account for the novelty and creativity in all of biological life. The universe shows the capacity to move purposively into self-organizing wholes at different levels of organization.^{xlvi}

This debate between religion and science will take new directions in the 21st century. It will involve working on antinomies such as "continuity and discontinuity" in different ways than heretofore. Charles Darwin claimed *continuity* in the development from apes to humans and won his argument among scientists, but not among Biblical creationists. In the old way, evolutionary biologists have had to verify the links between species (continuity), but now they are debating with biblical enthusiasts on symbolic principles. The great antinomy of "Continuity vs. Discontinuity" is not

resolvable abstractly but pushes toward concrete resolutions. Now the fight will continue in the university.

University theologians agree with Darwin about the continuity between apes and humans but complain that biologists fail to see the "specious symbolism" in their work. Max Stackhouse, a distinguished theologian at Princeton University, argues that creationists are right on certain counts. Apart from the errors in "fundamentalist views" on the origins of creation, and "their anxious and constrictive militancy," the creationists do have valid points. Intellectual integrity is threatened by scientific presuppositions about reality. Stackhouse says that, without justification, science assumes that:

(1) The universe is a pure accident; (2) Life is a chance pattern governed by a logic, if any, of mutations generated by material causes alone; (3) Humanity has no "quality of dignity" other than that of beasts, except possibly a somewhat larger brain; (4) Natural processes of change are disconnected from any divine purposes or principle; and (5) Religious belief is an outmoded, mythological approach to knowledge of the world, an approach now displaced by science.^{xlvi}

President Neumann and Dr. Li would agree with Professor Stackhouse. A dialogue is needed and a new vocabulary should be created to treat the problem. The university has concepts in common that could form a basis for dialogue.^{xlvi}

In Box 1 below are examples of concepts that appear to be in contradiction. We call them "antinomies" but others may call them "polarities" or "binaries" – Dr. Li would call them "complementary opposites"— broad-sweeping categories that push for resolution in the university.

We have listed them randomly. Those group categories labeled below, such as philosophy and science, do not contain them formally. The labels are

there simply to help the eye distinguish each from a long list. As categories, they are also where some of them frequently reside. This list is not meant to be exhaustive and cannot be classified, but it is an illustration of how antinomies in the university bridge traditional departments. They are interdisciplinary.

Box 1 Antinomies in Academe (Examples)^{xlix}

<u>Philosophy</u>	<u>Science</u>
Being vs. Becoming	Unity vs. Plurality
Order vs. Change	Structure vs. Chaos
Spirit vs. Reason	Feeling vs. Thought
Subject vs. Object	Mind vs. Matter
Real vs. Ideal	Same vs. Different
Whole vs. Part	Destroy vs. Create
**	
<u>Religion</u>	
Sacred vs. Secular	Seek vs. Find
Transcendent vs. Imminent	Mortal vs. Immortal
Eternal vs. Temporal	Inner vs. Outer
Human vs. Divine	Heaven vs. Hell
Life vs. Death	Holy vs. Unholy
Everything vs. Nothing	Moral vs. Immoral
Right vs. Wrong	Good vs. Evil
Virtue vs. Vice	Faith vs. Fact
Search vs. Discover	Interior vs. Exterior
**	
<u>History</u>	
Particular vs. Universal	Unique vs. General
Progression vs. Regression	Cyclical vs. Linear
Continuity vs. Discontinuity	Present vs. Past
**	
<u>Political Science</u>	
Freedom vs. Justice	Hierarchy vs. Equality
Liberty vs. Slavery	Guilt vs. Innocence
Fact vs. Value	True vs. False
**	
Law	Business and Economics

Public vs. Private	Conceal vs. Reveal
Justice vs. Freedom	Self-Interest vs. Common Interest
Civil vs. Uncivil	Productive vs. unproductive
Cooperation vs. Competition	Macro vs. Micro systems
**	
Architecture	Psychology
Visible vs. Invisible	Nature vs. Nurture
Foreground vs. Background	Self vs. Other
Simplicity vs. Complexity	Strong vs. Weak
**	
The Arts (<i>Music, Painting, Sculpture, Poetry, Dance, and Theater</i>)	
Appreciation vs. Judgment	Inhibit vs. Release
Comedy vs. Tragedy	Light vs. Shade
Harmony vs. Discord	Spirit vs. Nature
Purity vs. Impurity	Empty vs. Full
Spontaneity vs. Design	Crying vs. Rage
Impulse vs. Idea	Conscious vs. Unconscious
Form vs. Content	Center vs. Peripheral
**	
Literature	Sociology
Control vs. Surrender	Community vs. Individual
Reason vs. Emotions	Consensus vs. Conflict
Logic vs. Intuition	Participation vs. Observation

The president of Aristotle University refers to the Greek philosopher Heraclitus of Ephesus (ca. 540-480 BCE), who thought in terms of antinomies around the time of Buddha in India and Lao-tsu in China. Heraclitus claims that opposites are both contradictory and interdependent. He says that *conflict* is inseparable from *harmony*; *surfeit* and *hunger* are mutually dependent; and goes on to list many other coexisting differences like *good* and *bad*, *life* and *death*, *waking* and *sleeping*, *youth* and *age*. Everything exists in opposites, he avers, and each partakes of the other.

Reality arises out of the strife and the alternation between opposites and their higher resolutions. He sees a hidden unity in them.

These contraries, we said, have their specific references in everyday (empirical) life as well as their higher symbolic meanings. Aristotle worked at both the empirical and the metaphysical levels and knew, sensibly, that an oak tree does not exist inside an evergreen tree. These trees are material reality, not symbolic. The literary theorists at Aristotle University are faced with that difference when their Clubhouse is reduced to an ash heap but our symbolic antinomies (or binaries, polarities) in Box 1 are different. They operate throughout the culture of an academy, part of the language and frame of reference for each department.¹

Take the antinomy “Surrender vs. Control.” Political scientists who study war talk about a concrete decision to surrender made by the Japanese government after the Hiroshima-Nagasaki bombings. Novelists investigate this same antinomy in a story about a husband and wife fighting in a divorce court in which one spouse finally surrenders. Management professors in a business school talk about it when corporate stocks are purchased and CEOs decide whether to give up in face of a takeover bid. Theologians talk about surrendering to God in prayer and giving up their own control. Natural historians talk about this polarity as it applies to predators and prey in the jungle.

There is in each case a concrete meaning in these words that refers to specific cases, but university faculty also discuss the higher meaning in these terms when they compare cases. Political scientists compare the Japanese type of surrender at the end of World War II with what happened in other great wars in history and think about its meaning conceptually. An analysis of that specific Japanese decision to surrender is different from the general

nature of surrendering. The terms of an antinomy can be concrete (empirical) or abstract (conceptual); that is, they can work at different levels of symbolic thought. When the terms of an antinomy become conceptual at a higher level of thought, they develop a dialectical character. The opposing terms begin to manifest their mutual involvement. The basis for interdisciplinary discourse begins when the terms become more generalized with that sense of interdependency.

We can continue down the list. “Productive vs. unproductive” seems to belong to the category of business and economics. The productivity of a particular corporation can be measured in terms of the “output per unit of input” and studied for the activity of a worker, a machine, or an entire national economy. But the antinomy also operates with this meaning in other disciplines. The meaning of a concept like productivity applies to the disciplines of physiologists who study sleep disorders, sociologists who examine leisure time, and biologists who wonder why sea gulls stand for hours on a rock and look out at the sea. The higher concept brings faculty into a mutual dialogue on the nature of things.

An antinomy like “Empty vs. Full” can simply describe the feeling in one’s stomach. A stomach feels empty when there is a need to eat something; conversely, it feels full after finishing a big dinner. But terms of this antinomy might of course also describe the temporary condition of a flask in a chemistry lab. At a higher conceptual level, these same terms change. They could constitute a paradox for someone considering an artist’s abstract painting of an empty/full flask. Or Buddhists, who ponder the meaning of internal and external states of being, may discuss them. Its higher meaning in cross-disciplinary dialogue brings new thought.^{li}

The academic culture is “crammed” with antinomies where they are cross-departmental, thread-like oppositions. The study of links between distant disciplines would generate a new climate of thought for the 21st century.

The cultural anthropologist Clifford Geertz has written about “thick description” in the analyses of cultures. His thesis is that every cultural analysis is “intrinsically incomplete.”^{lii} Geertz has described specific cultures, like Bali and Indonesia, and even his work on these cultures has been difficult because it cannot be done with “completeness.” He cannot assume that it is finished. Each descriptive word or phrase-- such as unity and plurality -- remains in tension. So a university study should not be done with the expectation of completing a description of a problem or attaining a final resolution. The entire culture cannot be described definitively because something always remains indefinite and inconclusive.

Then why conduct an interdisciplinary study that has no finality, no full definition or conclusion?

An interdisciplinary study is a way faculties gain insight into that larger body of work and purpose of a university. It broadens the mind, increases imagination and prepares professors to make institutional changes needed for the common good. It prepares faculties to meet not only the needs of their nation and respond to demands of industries and government but also to better understand their own subject matter. In an interdisciplinary study, the *ends* are in the *means*. The study is an end in itself.

Plato argues that people in a dialogue should cultivate virtues such as prudence, courage, temperance, and justice. He wanted people to think about Being and the Good, but he also believed that discourse should develop

character. Along with a dialogue should come “greatness of soul.” The notion of interdisciplinary studies has that purpose.^{liii}

In our stories, we saw how difficult that can be, but faculties also began to link ideas and produce new programs, create new fields of research, as they inched their way toward becoming a community of scholars. In sum, the antinomies in Box 1 are guidelines for interdisciplinary studies.

The American university is composed of isolated fields that are in conflict and paradoxically merging. They contend with one another sometimes for power on campus or more professors for their department. Critics speak of the Humanities vs. the Professions; others speak of how departments such as chemistry and biology compete, or sociology and economics compete for faculty. David Damrosch in the field of literature speaks of the problem:

Academic work is institutionally arranged in a patterned isolation of disciplines, and then of specialized fields within disciplines. This patterning is not something inherent in the material; it stems from decisions made a century ago when the American university assumed its modern form.^{liv}

20th Century trends -- departmentalism, objectivism, scientism, secularism, capitalism, careerism, and professionalism – can adversely affect student learning. The protagonists in our stories -- Neumann, Red Cloud, R.J., Ulysses, Jonah, and Li – are addressing these trends. They would agree with Plato that great learning takes place through dialogue.

8. Learning takes place through dialogue.

Plato's *Dialogues* are not just about ideas. They are also about emotions. They do not just concern “true vs. false doctrines” or grand principles like Justice. Socrates meets people personally in the marketplace, and the characters confront one another face-to-face, hoping to reconcile

conflicting feelings and beliefs. The dialogue goes back and forth between intensely opposing views until, by considerable effort, those involved can realize a higher good.^{lv}

In Plato's work, Socrates claims to know nothing; he just asks questions. Hence, anyone can join the discussion without being afraid of not knowing the answer; however, they will all inevitably be challenged at some point. Our stories are like Plato's dialogues in that faculties and students are challenged with contrary assertions, with "oppositions." At Aristotle U., we saw how students challenged teachers and took off with their own ideas.

So an interdisciplinary study bears some resemblance to Plato's dialogues. Participants may begin with an assertion that may be followed immediately by a contrary assertion. There can be repeated contrary views before any movement is made toward a resolution.

A bird needs the resistance of air against its wings in order to fly; an eagle needs a great wind to soar. The experience of opposition along the way is the basis for learning. In 1779, Abigail Adams put this point to her son who was about to embark for France with his father. She wanted him to know the importance of this experience despite all its difficulties.

There are times when genius would wish to live. It is not in the still calm of life, or the repose of a pacific station, that great characters are formed. The habits of a vigorous mind are formed in contending with difficulties. Great necessities call out great virtues. When a mind is raised, and animated by scenes that engage the heart, then those qualities which would otherwise lay dormant, wake into life and form the character of the hero and the statesman.^{lvi}

President Neumann, Dean Mendez, President Red Cloud, Director R.J. and Dr. Li are working against a lot of resistance. Ulysses Mendez faces every kind of opposition, symbolized by a big ocean, god-like department chairs and trustees, and when he returns home, his old friends spit on him.

Antinomies like Change vs. Order represent the nature of things at a high level. They represent the stress of difference that goes with building a new university.^{lvii}

The antinomies are based on *feelings* as well as ideas and mental constructs. Socrates faced personal opposition in the market and went to his death defending his ideas. His death, in turn, guaranteed a long life for his work on justice, freedom, dignity and truth. Indeed, the ideas of President Jonah, as he spoke about the nature of things, became larger than life after his death.

9. An Interdisciplinary dialogue is about the nature of things.

At the end of his life, listening to a Beethoven sonata, President Jonah hears a “conversation” between a piano and a violin, a dialogue, as it were, between the “voices” of inanimate things. But are inanimate things engaged in a social conversation? Well, yes, in the sense that inanimate things are interdependent, interacting and responding to each other through us. Particles interact, as do atoms and cells. Everything interacts, from amoebas to humans. We said that human consciousness, as symbolic activity evolved - with sounds becoming words, words becoming sentences, and sentences conversations. But can the piano and the violin be having a conversation, or is this just Jonah’s imagination?^{lviii}

Consider what is happening. First, Beethoven had to hear the sound inwardly from a world that scientists describe as “natural,” inanimate at its roots. (The brain is composed of cells based on molecules and atoms.) He had to feel music come to him from somewhere. But Dr. Li would say that he was listening through his brain to a vibratory universe that goes beyond what is physical, i.e. measurable. Second, Jonah developed his consciousness through symbolic interaction to the point where he could hear

the beauty and power of this music. (A Neanderthal would be incapable of hearing and feeling the music's exquisiteness and strength.) So the exchange between a violin and a piano that is created by Beethoven is based on the higher symbolic life, that is, of advanced civilization. People are working as co-creators of a music hidden in the natural universe but also in the symbolic reservoir of what begins as non-measurable sounds and words.

How could this be?

Social scientists say there is a constant social interaction between what is conscious and unconscious. Psychiatrists study the interaction of human consciousness with body organs like the stomach and the liver. Yogis study it as practicing experts of this body-mind relationship; test results on Yogis have shown their capacity to maintain more-than-natural control over body temperature, blood flow, brain waves and heartbeat.^{lix}

Scientists (geneticists and nanotechnologists) interact (instrumentally) with atomic and cellular structures. How will this interaction between organic and inorganic life continue to evolve? University faculties need to anticipate future trends and think about these things.

At the time that Beethoven was writing his sonata and translating his feeling into music, Hegel was writing and translating his ideas into philosophy. They were at work in totally different fields of knowledge, but the music scholar Maynard Solomon proposes that Beethoven's physical music is a mirror of Hegel's logic. He describes it as a dialogue with a "forward progression." Beethoven was expressing a passion with progressive chords while Hegel was expressing progressive ideas.

Solomon asks whether Beethoven's work is the passionate expression of Hegel's ideas. The sonata form is constructed with contrasting keys, harmonic oppositions, and progressions. It builds dialectically and

transcendentally, which means that “one thing becomes more than itself” under the force of opposition. He says that Beethoven’s “recapitulation” (the reproduction and summarizing of key musical themes) in a sonata is a formative resolution that never existed before in the history of music.^{lx}

The philosopher Theodore Adorno grappled with a similar question: How are nature and society mediated through music and aesthetic forms? Adorno asserts that, like society, music has its own “truth,” full of structure and change, permanence and progression. Schubert's music offers, as Adorno puts it, the “repeatable truth of a landscape” while expressing the “progressive process of a teleological history.” The landscape is so powerful in its structure that people learn something new by sensing it over and over again. In Beethoven’s *Eroica*, Adorno hears what human nature is about: death, destruction, creation, aggression, “terrors,” and deep passion. Could this music be an expression of Hegel’s *aufheben*?^{lxi}

Dr. Li says that academics – isolated in separate departments -- cannot interpret the universe adequately when independent from others. Are President Aristophanes and Dr. Li on the same track? Could music represent aspects of Nature inside the brain with its added intuitive powers of a higher consciousness? Is music evolving in the manner of Nature: preserving, transforming, synthesizing, and transcending?^{lxii}

10. Ideas are linked to a Material Context.

Jennifer Washburn, a fellow at the New America Foundation, studied how capital is shaping and also corrupting colleges and universities. She cites how degree programs in classic fields of study -- German, French, and humanities departments – are eliminated; they are not profitable. Pharmaceutical companies farm out research to medical schools, and then prevent the release of any findings that will not promote their products.

College teams in this capitalist context take “undemanding courses” taught by cooperating professors. Schools market themselves with Madison Avenue slogans, and lure students with luxury recreation centers. Washburn describes how business practices are changing campuses and how university presidents believe that the humanities are “less needed.” Fewer and fewer students are choosing to study history, art, language, philosophy, and literature. They want a professional career and practical credentials, i.e., to graduate with degrees in law, medicine, architecture, business or computer science. The stories in this book are about how to change that trend.^{lxiii}

Black Hills College is losing students and money. It cannot compete in a market of out-sized universities, whether private or state run. Large universities are killing this small college. But at Black Hills, leaders such as President Red Cloud and R.J. Gandhi say that the capitalist market will not be allowed to shape their institution. They claim that ideas can be more powerful than the material context in which they are embedded, as some scholars say. The market seems to be more potent than their ideas, but this story points in a different direction and has a different outcome. R.J. merges conflicting ideas so that they will work together: He devises a plan to make the *private* market operate for the *common* good, organizes a confederation with power to match the competition of big research universities; and he shows how to make *cooperation* become real in a *competitive* market.

Colleges and universities across America are nonprofit corporations with public-service goals but, in competition with one another, they become *profit-driven*.^{lxiv} In the Black Hills story, Red Cloud and R.J. organize a civil market, not a capitalist market. A civil market, R.J. says, makes money for everybody.

R.J. talks to the mayor of the bankrupt town of Deadtree about “community corporations.” This type of corporation will develop the town’s economy for everyone, he argues, not just for the rich. Local citizens will rent the use of their common land to global companies. They will advertise their tax advantages and thereby lower labor costs in the globalizing market. This process will ensure that local people will not be exploited because the citizens will write contracts with appropriate standards for safety, health, and just wages inside this world competition. The workplace will thereby protect employees and secure a safe environment for the whole community.

And so the joint actions of town-and-gown have a transforming effect on the market and are not simply controlled by it. They bring money into local coffers and enliven the arts and the humanities. Student interns are brought into the community to teach people about theater and literature. The new environment improves the quality of learning as students became engaged. Ideals are made real in a material world locally.

Today universities are in a position unique in history. They are capturing a “market position,” replacing the old manufacturing companies as dominant actors in capitalist society. In cities throughout the heart of the United States -- such as Baltimore, Bethlehem, and Akron -- old-line manufacturers are downsizing, diversifying, and even leaving local universities as the dominant employers. Higher education is seen as the key to helping manufacturing-based cities catch up and compete in the global economy. James J. Duderstadt, president emeritus of the University of Michigan at Ann Arbor and a member of the federal Commission on the Future of Higher Education, says that while these places were formerly the economic engines of the 20th century, now they're becoming economic backwaters." Others like Duderstadt argue that the knowledge infrastructure

provided by higher-education institutions may be the solution to economic development.^{lxv}

Hence, college leaders are seeking partnerships with civic and business leaders to harness the strengths of universities, but Red Cloud and R.J. would argue that they are perpetuating capitalism. They are not inventing an enterprise system that would make it civil, that is, accountable to the community. Joel Seligman, who became president of the University of Rochester, has been asked to use his institution as “an economic-development engine.” His job is to help develop business in the Rochester community, but his methods for doing so are not compatible with R.J.’s. Unlike R.J.’s task, Seligman’s is not for social development based on the principle of mutual accountability.^{lxvi}

R.J. Gandhi and Robert Ulysses Mendez fight against old-style capitalism. They challenge faculty to think about a new economic order. They argue that any administration that colludes too closely with a capitalist market could destroy the soul of higher learning. Higher learning should not be shaped simply by competition and profit.^{lxvii}

The tension between ideal and real is alive in the life of universities today. Universities began to see the tension between its ideals and its market shares in the 1980s when they insisted that the companies in which they invest money divest from South Africa and Apartheid. That social consciousness remains alive. The University of California became the latest among universities that have agreed to divest their holdings in companies that do business with the government of Sudan. The university's Board of Regents voted unanimously to divest and protest the Sudanese government's participation in ethnic-based atrocities in the Darfur region of the country.^{lxviii}

Now how does all this have to do with Box 1? The antinomies listed there -- body/mind, matter/spirit, etc. -- are not actual bodies and matter themselves. The idea of an apple is different from the apple itself. The apple is in the mind, “noetic” by its description. But it is equally known by being felt, seen, and tasted. Capitalist markets are different from the ideas that explain them. They have actual capital, flowing, dividing, uniting, alienating, destroying, and creating reality. R.J. claims that this material reality should not dominate the work of his college.

The same claim to non-dominance is made in other stories in this book. At Temple University, we learn that the path toward resolution for each side of a polarity is by moving through its symbolic opposite. Dr. Li does not think that isolating the mind from matter in separate departments (e.g. philosophy vs. physics) works well in her setting. She sees mind and matter to be linked by the concept of vibrations. In the discussion she fosters, physicists say that everything exists on a vibratory level, that the whole world is composed of vibrations measurable by physical instruments, such as x-rays and microscopes. Non-material mind, on the other hand, is not seeable or touchable. It can be inferred in the way that astronomers define dark matter, but not directly measured.

Dr. Li is thinking of the problem posed by physicist Werner Heisenberg: that one cannot assign with full precision, values for the position and momentum of a single elementary particle at the same time.^{lxix} She does not fully understand this finding because quantum mechanics is too technical for her, but the idea does lead her to think imaginatively about this historic leap from “matter” into “consciousness.” Mind and matter, she theorizes, should have different frequencies and amplitudes. She figures that, in logical terms, consciousness could have its own level of vibrations.

What could this idea mean in today's disciplines? It could mean focusing on new instruments to measure those higher vibrations of consciousness, but it could also mean for Dr. Li that her depression is simply located in her brain. That means it could be located in her physical brain or in her consciousness, or somewhere in between both, but there is no duality in this theory. The dualism is created by thinking about such things in isolated terms and separated university departments.

Brain researchers might well say that her depression is due to malfunctioning neurotransmitters. Special chemicals within the brain help transfer messages through neurons and control specialized activities in the body. Everyone has somewhere between 10-100 billion neurons in their brain, so whatever people are in the process of doing -- reacting to others in conversations, feeling emotions, or thinking hard -- neurons are transmitting electrical impulses from one cell to another. These electrical impulses travel across the neurons at an incredible speed, less than 1/5,000 of a second.

Psychologists, on the other hand, could say that her depression is in her mind or consciousness, traceable to childhood experiences from her early life in a dysfunctional family, say, and rooted in forgotten moments of trauma. In this case, the depression is not seen as being caused by malfunctioning neurotransmitters, and they would suggest treatment by counseling, cognitive therapy, re-socialization, and meditation, rather than by anti-depressant drugs, magnetic therapy, or electroshock.^{lxx}

In Dr. Li's theory, consciousness is both autonomous and linked; it acts interdependently with the brain, and so research on different vibratory systems should be on her agenda. The faculty will be preoccupied with vibrations, a frontier in body-mind relations.

According to physicists, the laws of conventional physics do not apply to the quantum world. In the quantum world, one event can occur between two places at the same time without a causal relation. How can there be no intervening cause at quantum levels?

An investigation of the question will be on Temple's agenda as physicists there study "non-locality," which is about how two actions can occur without an intervening cause. This phenomenon suggests to Dr. Li that clairvoyance may be connected with quantum science. Dr. Li's clairvoyant friends move between localities distant from one another faster than the speed of light. The common concept uniting these isolated phenomena (mind/matter) is *vibrations*. The extreme views clash only when they move into excess, which is called *materialism vs. spiritualism*.^{lxxi}

We now ask whether scientists are participant observers in this material context. How could the data outside the mind be intertwined with it and human consciousness?^{lxxii}

11. *Everyone is a participant observer.*

In this guideline we propose that all faculty members are *participant observers* standing in the tension of opposites. As *participants* they are personally involved in their subject, but they are simultaneously *observers* looking at things impersonally as objects. They carry the two opposing sides in all campus work, looking at "data" both objectively and subjectively at the same time.

The term "participant observation" was introduced in social science as a method of inquiry for fieldworkers, but it applies in principle to the experience of all faculties and students. All professors are working inside their subject and outside it at the same time. Students learn by identifying with a subject but also by their separation from it. This is the tension that

seeks resolution. This fact fits with our list of antinomies in Box 1: one side of an antinomy may be emphasized but it seeks resolution with its opposite.

At Black Hills College, Red Cloud drew R.J. right into the turmoil of town-gown politics, as Krishna had drawn Arjuna into battle. R.J., in turn, brought Black Hills students into the fray; faculty members emphasized local fieldwork for students and, back in the classroom, their observation of the events they had experienced. Students were emotionally involved with local citizens but then distanced themselves from the scene. Students reflected upon their experiences in an effort to find the right meaning and balance for them. Fieldwork at Black Hills was an inquiry into the mutual relationship between being a participant and an observer.^{lxxiii}

Black Hills students had to resolve the tensions between *distance and intimacy, personal and impersonal*. R.J. believed that working through these differences should help students understand their mutuality.

Mutuality: Subject/Object, Personal/ Impersonal, Conscious/Unconscious

One side of an antinomy could become a ruling theme in the university. How could this happen?

Objectivity is writ large in the university and subjectivity is frowned upon. Indeed, not only does “subjectivity” play a secondary role to objectivity there; it even has a pejorative sound. But because antinomies express mutuality, we know that each one is vital to learning; each one is implied in the other.

Psychiatrist Albert Rothenberg found that scientists become *subjectively* and *personally* involved with an object of their research that they deemed to be *objective* and *impersonal*. Equally, he found that the mind of a scientist works *unconsciously* on a problem, not just *consciously*, that their discoveries are made from conscious and unconscious activity

simultaneously. In 1865, for example, F.A. Kekule “intuited” the shape of the ring-like benzene molecule through a dream of the archetypal figure of the *ouroboros*, a snake biting its tail. (The figure of the *ouroboros* was an important one for the ancient Greeks and for the Swiss psychiatrist Carl Jung.) It was his unconscious, a dream that brought him to the solution. His unconscious and conscious minds were mutually involved, complementing one another.

Rothenberg gives many other examples to illustrate his point. Samuel Morse could not figure out how to produce a telegraphic signal strong enough to be received coast to coast until one day he saw tied horses being exchanged at a relay station, and by intuition and analogy made a connection between relay stations for horses and strong telegraph signals. This telegraphic relay station gave the traveling signal periodic boosts of power. Nicola Tesla connected the setting sun with the creation of the AC motor: the motor's magnetic field would rotate inside the motor just as the earth rotates around the sun.

The story is the same for other geniuses. Rothenberg’s study of this mutuality and complementary nature of working through the conscious and unconscious minds includes figures like Einstein, Mozart, Edison, Pasteur, Joseph Conrad and Picasso.^{lxxiv}

Rothenberg is not alone. Physicists are on a parallel track: John Wheeler, a professor emeritus at Princeton University, speaks about mutuality and our principle of participant observation. The most profound lesson of quantum mechanics, he says, is that physical phenomena are defined by the questions we ask of them. Nature is social. “This is in some sense a participatory universe.” The basis of reality may not be the quantum, which despite its elusiveness is still a physical phenomenon, but the answer

to a yes-or-no question, he says, is the fundamental currency of all communications.^{lxxv}

Other physicists think along these lines. David Bohm holds that geniuses tolerate the ambivalence of opposites, i.e. the uncertainty of two incompatible things that are actually related in some mysterious way. Niels Bohr, in turn, held that if students can sustain opposites together in their minds, the suspension and tension would allow a different intelligence to work, move their minds to a higher level of understanding and result in fresh interpretations. Bohr did this in physics. He saw light as a *particle* and simultaneously as a *wave*; this led to his conception of complementarity.^{lxxvi}

At Temple University, Dr. Li works with her principle of complementarity called Yin/Yang. This ancient notion illustrates how all things stand in the tension of opposites and carry a mutual relation. In Box 1, we have listed many of these oppositions that are both contradictory and complementary. The opposite positions are mutually linked in unseen ways.

We have suggested that there is more to the mutuality of a single antinomy as one pair is linked with others. Rothenberg's studies demonstrate how people are simultaneously both *conscious* and *unconscious*, *participating* and *observing*, and that such interpretations are *subjective* and *objective* at the same time.

Faculties in isolated departments do not think in these terms, for the most part, even as they work in symbolic interaction on the larger campus. Now, is the quest for knowledge simply a search based on binaries?

12. *The quest for knowledge moves beyond the binary.*

Some scientists are beginning to see how important the subject of consciousness is in science. Francis Crick, a Nobel Prize winner for the discovery of DNA's structure, helped to turn consciousness into a subject.

Willis Harman, who taught engineering systems at Stanford University, argues that today *consciousness* is seen as more integral to scientific findings than ever before. Finally, the Society for Neuroscience now encourages scientists to work with philosophers in examining consciousness as a subject.^{lxxvii} Dr. Li says that evolution preserves past forms while transcending them, changing into new forms. Human consciousness is part of a continuing process of evolution as it works at higher levels past its own building blocks of molecules and cells. Material evolution is in constant transformation and transcendence, and one of its directions has been this higher level of consciousness.

Thoreau said that there is much more to the universe than meets the eye, and we realize today how true that is, as the standard outlook in physics has changed dramatically in the last century. Physicists once assumed that space is “infinitely divisible,” operating with continuous spaces in an objective universe. But David Bohm began to notice problems in this objective outlook and said that scientists now face such binaries in their work as *continuity/discontinuity*, *determinacy /indeterminacy*, and *particle/wave*. In the past, physicists were not accustomed to work with symbolic constructs like antinomies, but now they are.^{lxxviii}

These binaries in the field of physics are like those in other university departments. The concept of continuity/discontinuity in biology is on a par with that of *freedom/order* in political science, *human/divine* in religious studies, and *life/death* in poetry.

The story of Temple University ended with students debating whether it is possible to go beyond death. Students learned about the Sufi poet Mowlana JalaludDin Rumi who moved within-and-through all differences

and had, as he says, “thrown off the robe of my body.” He knew the world beyond opposition.

Students asked, “What does this mean?”

Dr. Li did not know what it meant. But she did not reject the mystic’s claim. Rumi is one of the great spiritual masters and poetical geniuses of humankind and the founder of the Mawlawi Sufi order, a leading mystical group of Islam. Mystics like Rumi and founders of great religions like the Buddha and Jesus should be part of a university inquiry. Interdisciplinary studies should include ideas like *transformation* and *transcendence*, along with *extinction*, *regression*, and *destruction*.

Rumi speaks poetically about antinomies that have vitality at higher levels of consciousness. Antinomies become "simultaneous" in his consciousness. In the 13th century, long before biologists ever conceived of evolution, he sang its entire story.

I died from the mineral kingdom and became a plant;
 I died from the vegetable kingdom and became an animal;
 I died from the animal kingdom and became a human being.
 Next time I will die to human nature and lift up my head among the angels.
 Once again I will leave angelic nature and become that which you cannot imagine. So why should I be afraid of dying?^{lxxix}

How could Rumi -- during medieval times -- know about these stages of evolution? Biologists did not know them until the middle of the 19th century. His poetry belongs in the study of science, religion, and literature. He ranks with geniuses like Shakespeare who are known for their “disciplined intuition.”

The Medieval scholar mystic Meister Eckhart (1260-c. 1329) developed that discipline along with other extraordinary intelligences. He was a philosopher, poet and a heretic who was condemned to silence by the

government. Many of today's Christians, Hindus and Buddhists endorse his work, and psychologists like Carl Jung and Erich Fromm have said they learned from him. Eckhart wrote that the task of the university is to accept the idea of a higher consciousness.^{lxxx}

The stories in this book suggest ways in which interdisciplinary studies could develop a different mode of teaching. In this case, is there a tiger in the iron cage of reason?^{lxxxi}

13. There is no comprehensive cure for all the problems in academe.

Great principles in philosophy-- such as Subject and Object, Order and Freedom-- cannot be synthesized. There is no way to eliminate the *isms* that develop from the excesses of one side or another (e.g. objectivism or subjectivism), but there is a way for professors to engage in remedial work on the problems of accentuation. It means building bridges across distant subjects and balancing the power of great principles.

Put another way, the full integration of big polarities in the culture of academe is impossible, but presidents can investigate where exaggerations in direction might be occurring in their enterprise, in the way that ship captains test where they are going on an open sea: checking the winds, the stars, compassing their course. Today, university presidents, who are loaded with fund raising demands, need faculties to help them with their compassing and to correct their course.

Presidents should encourage *regular studies of academic organization*, looking at ruling themes, encouraging *subject-matter explorations* between schools. Professors should be commissioned to conduct an *ongoing process* of academic self-studies, to make *regular corrections* in the accentuations or exaggerations of academic thought. Faculties are in a position to conduct cross-school dialogues and do remedial

work. When faculties cut across disciplines in serious dialogue, the nature of the academy changes. It puts faculty back in charge of thinking about their mission. It could put them into an advisory role to the president.

Presidents need counsel from faculties, as well as from trustees and donors. These studies bring faculty back into a more knowledgeable (and effective) position to advise presidents on academic policies. The faculty counsel is for the advancement and wellbeing of the university; it does not give that faculty the license to run the university. Self-studies can bring representative faculty into an advisory position and add a broad intelligence to administrative decisions. The faculty advisement then keeps in mind the structure of the university because it impacts on students in the classroom.

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14. The structure of the university shapes the learning experience of students.

The social structure of the university impacts on its academic culture, the nature of knowledge and the learning capabilities of students. The question --“What is the nature of knowledge?”-- has been posed since ancient times, but today some fields offer a special vantage point for self-studies. Philosophers and sociologists, for example, study this subject of knowledge. They investigate the interconnections between categories of thought and their source in the structure of society.

The sociology of knowledge as a field began in the 19th century with Karl Marx, Emile Durkheim, and Max Weber and is alive today. Marx argued that historical conditions and *economic realities* determine the structure of knowledge. Durkheim argued that intellectual categories *order student perception and experience* (space, time, causality, direction), which derive from the social structure; the field of education is part of that

structure. Max Weber argued that there was an inescapable process of rationalization in modern society that leads to a *disenchantmentwiththe world* and to new forms of human bondage.^{lxxxiii}

Faculty researchers who examine the connections between categories in departments removed from one another (as in fields of natural-and-human history, literature-and-political science) become part of this *university assessment* called for by critics. It is not a just a president or dean's assessment; rather, it is a joint administration-faculty assessment in the spirit of renewal.^{lxxxiv}

A “professorship” is a high calling. I believe it is not based on expertise in specialties alone. The university should help train experts in specialized fields to think with wisdom about the larger purpose of the university of which they are a part. In this sense I propose the following guideline for presidents:

The dean of each school should engage in dialogue on a regular basis with other deans about the core values of academic life.

At least one professor in each department should be trained to think about the purpose, mission, and larger purposes of the university.

Conclusion

These stories are part-fact and part-fiction, told symbolically to illustrate how institutions solve problems in the tension of opposites. People today work with contrary principles that have existed since ancient times. These principles can be seen in the cultures of whole epochs, no less than in their myths of civilization.^{lxxxv}

The late economist E. F. Schumacher said that all pairs of opposites “put tension into the world.” The point is to be aware of this fact. This tension, he claims, “sharpens human sensitivity and increases self-awareness.” He asserts that no real understanding is possible without an

awareness of those opposites that “permeate everything people do.” He argues further that if students do not become aware of how both sides can work toward more resolutions, we will all be in serious trouble. “Justice could become a denial of mercy, and mercy could become a denial of justice.”^{lxxxvi}

In sum, the university needs to be aware of the polar tensions and *isms* toward which it may tend-- departmentalism, objectivism, rationalism, secularism, sectarianism, intellectualism, careerism, localism, nationalism, and commercialism.

Is the president of Alpha Omega right when she sees *departmentalism* as a problem in her academy? Can the problem be corrected through interdisciplinary studies like the one she initiated? Is President Red Cloud of Black Hills right about the destructive impact of market competition for small colleges? Does national and world commerce take place without civility and virtue? Is Dean Mendez right about the dangers of nationalism? Do we need to study world law in the context of the struggle for power among nations and in the face of the new technologies, like weapons of mass destruction? Do we need a permanent system of regional world courts and a multilateral peace force? Is the president of Aristotle University right about the deceptions of idealism? Does the structure of the university with its isolated specialties and professions generate it? Is the dean at Temple right about the hazards of objectivism? Do campuses need to start a discussion on the relation between physics and human consciousness?^{lxxxvii}

If students are to be ushered into specialized modes of thought, and faculties are to continue working in the same patterns of research and teaching without a larger, more encompassing, vision, the future is -- to say the least -- perilous. With so many dangers already confronting the

university and its great possibilities, we need a series of studies on its structure and on its traditional paradigms with a focus on how students can be prepared for the future.

The critics have placed everyone -- accrediting institutions, presidents, chancellors, educators, deans, and faculty leaders -- on notice. They have spoken. Institutions of higher learning should address the tensions in this age. Presidents and faculties need to think together: “Who are we as a scholarly community?” Could these institutions invent a new order of studies for the 21st century? Time will tell.^{lxxxviii}

ⁱ “... on American campuses.” Research universities are designed to advance science, technology, and the professions. Figures from the National Center for Education Statistics show that at Stanford University, employees who are not teachers make up 71 percent of the total payroll, as do 73 percent at Columbia University and 83 percent at Harvard University. The research engines of some universities require constant infusions of cash to sustain their personnel and overhead costs. Many staff does research but they are also counselors, fund-raisers, groundskeepers, lawyers, security personnel, admissions officers, or coaches. Integrated Postsecondary Education Data System, Statistical Results for Fall 2003. See Andrew Hacker, “The Truth About the Colleges,” New York Review of Books, Volume 52, Number 17, November 3, 2005. Hacker describes the university’s “research empire” by noting how medical schools work. These institutions are called colleges for training physicians, and most are quite small. Johns Hopkins Medical School has only 482 students, less than the freshman class of Williams College.

ⁱⁱ The trends of the 20th century toward departmentalizing, specializing, and professionalizing have been good for institutions but cannot stand alone this ruling them of diversity and pluralizing. They forget that there is a singular mission and core values in higher learning. It is notable that faculties in the last century were linking *neighboring departments* like chemistry and biology (biochemistry) physics and chemistry (physical chemistry), sociology and psychology (social psychology) and other mixes like industrial psychology, criminology, social-economics, and even special schools around international affairs and

environmental studies. But the stories in this book point to something more challenging ahead.

ⁱⁱⁱ ...a larger vision.” How do these actions produce a larger vision? If professors dialogue on the subjects of poetry and physics, students get a different picture on *the nature of knowledge*. Faculties see metaphors in the development of different fields. And if they dialogue on the continuity between natural and human history, students get a new look at the universe as a subject. They see key concepts common in these fields that provide a basis for interpreting nature. These concepts held in common between isolated fields produce interdepartmental studies and do not destroy the progress made through specialization.

^{iv} “a great adventure.” Duderstadt outlines steps in the “transformation process” as “Commitment from the top,” “Seeking Community Involvement,” etc. He points to specific themes of transformation, such as moving from “teaching to learning organizations,” “passive students to active learners,” “faculty-centered to learner-centered,” “classroom learning to learning communities,” student or alumnus to life-long member of a learning community,” etc. James J. Duderstadt, *A University for the 21st Century* (Ann Arbor: University of Michigan Press, 2000), pp. 271-274.

^v ...criteria for evaluation. In accreditation cases for self-study, the administration often decides on procedures and faculty representation. It considers the study’s purpose and prepares a guide for self-examination but the stories in this book suggest a variety of possibilities for studies at any level of administration at any time.

^{vi} ...in higher learning.” Most of the ideas and events in these stories were put into practice and experienced in my own work. The story of Black Hills College, for example, has a real basis at Illinois College where I worked. This small college revived itself in the competitive context of business and big universities. I was director of a community development program at Illinois College that carried out many of the events that I tell about at Black Hills. The faculty and I worked on solutions to excessive market competition; students went out into the surrounding towns and worked with citizens to solve local problems. I wrote a book about how this was done. (See my *Communities in Action*.) At Boston College, I talked with the Dean of the School of Management and the Associate Dean about organizing a joint-degree program (Ph.D. in Sociology and MBA at the School). We moved past “language differences” and the program developed with the aid of colleagues working in different schools that had competing belief

systems. We held joint conferences on topics that would never have come up without that inter-school program, based on the idea of “development.” We talked about “transfer pricing,” “community development corporations,” “social (ethical) investment,” social accounting, corporate social responsibility (before it became popular) and much more. We brought in expert speakers from Europe to talk about a social economy; we made videos and branched out with our own professors speaking at other schools like the Harvard Business School and Bentley College.

^{vii} ...long history. The story of Temple University was generated in my mind after I had discussions with Ernst Mayr, Stephen Jay Gould, and Richard Lewontin at Harvard University. Ernst Mayr was the Alexander Agassiz Professor of Zoology and led Harvard's Museum of Comparative Zoology from 1961 to 1970. Stephen Jay Gould, was a paleontologist whose groundbreaking work on evolutionary theory spoke to thousands of readers. Richard Lewontin was Alexander Agassiz Research Professor of Zoology and research professor of biology, and taught a course on evolution with Gould in which both raised interdisciplinary questions to students.

Here is what happened. Professor Lewontin and I formulated a proposal for an interdisciplinary study of evolution and sent it to the National Science Foundation (NSF). It was rejected. The failure of the NSF to see the wide implications of our proposal stimulated the basis for this story. Professor Lewontin thought that the rejection of our joint proposal might have had ideological reasons but nobody knows because the judges were anonymous.

^{viii} “... university “mission.” The type of study proposed here is not about who governs a university. It is about “patterns of academic development.” Who governs?” is a matter for the board of trustees. Many faculty members at Harvard wanted more openness on how money is spent; some wanted the governing board, the Corporation, to be more transparent, and some wanted more say in making decisions, such as choosing deans and deciding what will be taught. The president of Harvard had been choosing deans with limited input from faculty. Many professors wanted a university-wide faculty senate giving professors more voice in administrative decisions. Maria Sacchetti and Kathleen Burge, “At Harvard, faculty push for openness,” *The Boston Globe*, February 23, 2005, p.1.

^{ix} “... distant disciplines.” A sense of mission can develop in different ways among faculties. For example, it could begin by a chosen group of faculty asked to read the history of their institution. This offers them an opportunity to think about original purposes. A faculty committee could review the university’s history to determine whether what might have

changed over the years. The “mission” has its roots in the great myths of history. In ancient myths, the mission of “people on earth” was to accumulate experience and increase the inventory of the “whole of creation” within them. The mission was to “accumulate the experience of humankind” and add “to the inventory of the whole of creation.” This mission is seen in Egypt, where the Goddess SESHET was in charge of Time and Space in the quest for knowledge; the Egyptians developed a field called “sacred geometry” as they built their pyramids. In the Hebrew tradition of the Kabbalah, SHEKHINAH represented the Tree of Life that sprang out of the earth. In these ancient and esoteric traditions, there was the Akashic Record, which represented the collective memory of the past. It was a Library in the Sky, so to speak, which all people could have access to. All actions of people on earth are imprinted on that Record.

^x “... for good of the university.” Dialogue is not the same as “dialectic.” Plato saw the dialectic as pure thinking that went beyond any particular situation. He describes how Socrates starts with people's opinions, but at some point in his dialogues, the characters begin working with “forms,” which are theoretical principles leading to the highest Good. For Plato the dialectic is the art of *logos*, which Heraclitus sees to be nature's overall rational structure.

A “dialogue among equals” is an *ideal* because in reality a college president has the power of oversight and the trustees have final authority. Also, in reality there are stronger and weaker departments; there are as well charismatic professors, each of whom has special influence. Faculties in the classics, for example, except in rare instances, do not have the power of science faculties. But the few professors who dare to engage in this study should think as partners, as equals.

^{xi} ...and reading. Sara Lipka, “The Arts & Academe” *The Chronicle of Higher Education*, February 24, 2006. The faculty saw how stage directions from a scientist could turn a dancer into a molecule. The scientist's directions helped the grace of the dancer's movements tell the story of the physical movements inside a cell. Liz Lerman called it “nonfiction dancing,” a blend of information and feeling. Ms. Lerman's latest piece, “Ferocious Beauty: Genome,” focuses on the complexities and implications of genetic research. The Liz Lerman Dance Exchange held the premiere of its new work at Wesleyan University, where the modern-dance company has been collaborating with professors. Her work combines dance with video, mainly of interviews with scientists, which the company has recorded at Wesleyan, Stanford University, and the University of Illinois at Urbana-Champaign,

among other institutions. Throughout a work, still images and animations — a vibrating molecule, for example — are projected onto a 20-by-30-foot screen, or onto the dancers' bodies.

^{xii} “. . .of scholars.” For some postmodernists, strong beliefs among faculty are called “sacred.” The sacred is composed of that set of core beliefs in a university. The core curriculum, for example, holds fundamental premises of teaching in a university. Jean-François Lyotard, The Postmodern Condition (Minneapolis: University of Minnesota Press, 1984). Christopher Norris, Derrida (Cambridge: Harvard University Press, 1987). This “core” is complex. For example, G.W.F. Hegel argued that *some unity always exists to create the conditions for difference*. People must use the same words to understand one another and the unity found in those “ordinary words” exemplifies a certain unity.. In this Hegelian logic, universities always determine how a core or “unity” is created whether they like it or not.

^{xiii} “. . . meaning to our existence.” A strong religious outlook by itself can get connected with totalitarian governments. David Cave argues that it was Mircea Eliade's interest in spiritual values that led him to endorse the Romanian Nazi Party. See the review of David Cave, Mircea Eliade's Vision for a New Humanism (N.Y. Oxford University Press) by Adriane Berger, in Society, July/August, 1993, p. 84-87.

^{xiv} “. . .on her campus.” The President of Alpha Omega would be aware of history in the Catholic tradition. She would know that the Jesuit anthropologist Teilhard de Chardin (1881-1955) taught that humanity is evolving into another form, and that “all that arises; converges.” Humanity, he said, is converging toward an Omega point, at which collective consciousness will find a new unity. According to Teilhard, Christ is the force behind a collective “Christ consciousness” of humankind. Teilhard taught that the world itself was being transubstantiated into Christ. He saw all energy to be of a “psychic nature” but divided in to two distinct components: a tangential energy, which brings together all the elements of the world in an ever-increasing complexities, and a radical energy which draws it in the direction of a state even more complex and more directed towards the future. The Alpha is the starting point of evolution with infinite multiplicity, but the process does not proceed by chance alone; it has a direction, a goal, an axis of development that passes through the amphibians, reptiles, mammals, the primates and leads straight to humankind. We can see the axis in the gradual, increasing complexity of the nervous system, especially of the brain. We can follow the axis of evolution as it crosses various thresholds, leading from lithosphere to the biosphere (the vitalization

of matter); and from the biosphere to the *noosphere*, as Teilhard put it, the thinking layer which now covers the world. The Omega Point is the terminus towards which evolution is advancing. Evolution follows many lines but there is a peak at which they must converge. Christ is the Omega Point, and in his perspective, the cosmic events, affecting the whole universe.

Teilhard's term *noogenesis* means the growth or development of consciousness, that is, the coming into being of the *noosphere*. *Noosphere* is the stage of evolutionary development characterized by the emergence and development of consciousness. Teilhard de Chardin, *The Phenomenon of Man* (1959), (Harper Perennial [1959] 1976); *The Divine Milieu* (Harper Perennial 2001); *Human Energy* (Harcourt Brace Jovanovich, 1969); *Activation of Energy* (Harvest/HBJ 2002), essays written 1939–55.

^{xv} "...a thinking agent." The "subject" for Descartes starts with the "ego." It is the knower (individual) as the only certain thing in the world, the only place for Descartes that has certainty. Martin Heidegger rejected Descartes' theory based on the separation between subject and object because he claimed that knowing has the "phenomenal character of a Being," which "is in and towards the world." Knowing is grounded beforehand in Being. Martin Heidegger, *Basic Problems of Phenomenology*, Translation and Introduction by Albert Hofstadter (Bloomington: Indiana University Press, 1982.) So what could have led Heidegger to support Nazism? One answer: Heidegger's emphasis on the ideal, the Mind, led him to lose any sense of social and political reality. He did not realize the need for a differentiation of institutions and civil orders in a nation. He did not see the needed separation of religion, education, and other orders and with it, the real danger of collusion. With no outside critical review of government policies, a nation in crisis can move quickly into totalitarianism.

^{xvi} "... quest for development." I have drawn information on the etymology the "subject" from the *Oxford English Dictionary* and Robert K Barnhart, *The Barnhart Dictionary of Etymology: The Origins of American English Words* (NY: HarperResource, 1988), p.771 Also see the *Encyclopedia of Marxism*; www.marxists.org/glossary/terms/s/u.htm

^{xvii} We will follow the Alpha Omega story as it unfolds in the appendices.

^{xviii} "... philosophical antinomies." Friedrich Nietzsche said that splitting the subject and object was the end of philosophy and, for him, it was the suicide of truth and reason. The end of philosophy is not the Absolute Spirit, as Hegel thought, but people who philosophize about it. Philosophy has become a fiction; the frames of reference in philosophy have lost credibility. The principle of Reason in philosophy, once considered powerful enough to

become the sole basis for structuring human society has become a babble of multiple voices. Read Friedrich Nietzsche's text of The Birth of Tragedy on the Internet - www.mala.bc.ca/~johnstoi/Nietzsche/tragedy_all.htm. Nietzsche sees truth driven by the desire to terminate itself. For more see Jürgen Braungardt, "Reason and the Subject of Philosophy," www.braungardt.com/Essays/Reason.htm. Nietzsche saw philosophy as a personal confession, but other philosophers see it as a discipline of rigorous thought, a discourse distinguished from literature and narrative.

^{xix} "...so to speak." This phrase "subject-matter" is oxymoronic in every university. President Aristophanes might be compelled (for fun) to study how commerce (materialism) has entered into university's subjects (matter). But seriously, an idealistic withdrawal of corporate funding for a new ventures on campus could cause problems. A university cannot exist where only ideas are supreme. If a university such as Aristotle U. were to degenerate into a *School of Thoughtery*, it would soon face (material) reality.

^{xx} "... the humanities and social sciences." The philosopher's problem -- Idealism vs. Materialism -- is central to the Hegel-Marx debate. Karl Marx said "materialism" was central to his work; the universal for him was "humanity." He said that some humanity must be created in a material world and the "self" must be found as "universal," realized only as it develops through a global economy. Dr. Li, in turn, would like to link the ideal and the real at Temple. She is working on a new vocabulary for the humanities and the sciences and says that interdisciplinary studies should be created between the inner (subjective) and outer (material) worlds. The subject is evolving through the physical universe, i.e. the body and the earth; hence, the individual self (ego) must become writ large in the "we-ness" of humanity through the planet that has fire at its core. Dean Mendez, in his turn, emphasizes a social perspective; the "I" becomes the outcome of a relationship with other people.

^{xxi} "... ruin professional careers." McCarthyism took place during a period of intense suspicion in the United States primarily from 1950 to 1954, when the U.S. government was fighting American Communist Party subversion. People from all walks of life became the subject of aggressive "witch-hunts," often based on inconclusive or questionable evidence. It grew out of the Second Red Scare that began in the late 1940s and is named after the U.S. Senator Joseph McCarthy, a Republican of Wisconsin.

^{xxii} "... answer this question." Can a state university bring back a sense of the sacred that critics claim was lost as a result of secularization? Included in this question are state universities – such as Arizona State and the University

of Massachusetts -- where issues over religion have arisen. In the College of Liberal Arts and Science at Arizona State University, the Department of Religious Studies investigates religious ideas, values and practices. It does so from “a core perspective in the Humanities that engages the social and behavioral sciences and other disciplines at ASU.” It is from this interdisciplinary approach that students study religion through “interdependent frames: traditions, regional contexts and themes.” ASU is thus able to main its secular tradition without asserting any principle of Divinity.

The University of Massachusetts, on the other hand, has a “Study of Religion Program” that offers a set of courses on “the religious dimension of human experience.” In this humanist context, “unofficial” religious activities have been active. Members of a Christian group that emphasizes fundamentalist teachings of the Bible have “harassed” students, at least in the eyes of the court. A group associated with the International Churches of Christ has had charges of harassment and manipulation brought against it since it was founded in 1979. It has been banned from more than 30 colleges, including Harvard, Boston University, and Smith College. In these court cases, administrators said club members were going door to door in the dorms, accosting people in dining halls, refusing to accept no for an answer, denigrating other religious faiths, putting so much pressure on students' time that they suffered academically. Karen D. Brown, “Christian group's tactics spur probe at University of Massachusetts,” The Boston Globe, April 4, 1999.

^{xxiii} “. . . religious truths.” Jean Baudrillard claims that students and the public at large are misled by popular imagery. In Simulacra and Simulation, he argues that a “postmodern” culture is a world of signs that have made a fundamental break from “reality.” Baudrillard's concept of simulation is “the creation of the real” through “mythological” models, which have no connection with what is real. (His ideas are similar to Herbert Marcuse's notion of one-dimensionality discussed at Temple U.) The mass media offer specious images he says; everything is a simulation, which Baudrillard calls the *simulacrum*. Jean Baudrillard, “The Consumer Society: Myths and Structures,” (London & Thousand Oaks, CA: Sage, 1998). Theologians and scholars in religious studies critique idols and false imagery, sometimes in a way similar to secularists. In Hebrew scholarship, the first idols were golden statues, but today's Jewish scholars critique as idols idyllic beliefs that fool the mind and heart. Hindu scholars write that the beliefs in everyday life (“Maya”) are pure illusion. According to Hinduism, the everyday world we know is not real, because it is impermanent and ever changing. We live in a

world of ignorance and falsehood or untruth, called *Asat*, in contrast to *Sat* or the world of Truth that exists beyond it, where neither the mind nor any of the senses can ever reach, even remotely. There are a lot of similarities between religious scholars' views of false images and secularists' views about simulacra. Could Jean Baudrillard's simulcrum bear a resemblance to "maya" in Hinduism? Jean Baudrillard, The Mirror of Production (St. Louis, Telos Press, 1975); For a Critique of the Political Economy of the Sign (St. Louis: Telos Press, 1981). Deconstructionist Jacques Derrida asserts that every "synthesis" leaves a "trace" of something. Any act of "integration" is imperfect. There is no final synthesis. The "trace" that is left may not be "seen" but it is there. Religious scholars, in turn, argue that people should face their illusions about finality and by faith transcend them. They call for passing through the simulacrum to a "higher place."

Postmodernists who claim "there is no absolute," and that there are no fixed essences are asserting the opposite of what these religious scholars would contend: any assertion of the total negation of a universal truth is itself an absolute. Critics of postmodernism like Denzin say:

The postmodern is everywhere and nowhere. It has no zero point, no fixed essence. It contains all the traces of everything that has come before. Its dominating logic is that of a hybrid, never pure, always compromising, not 'either-or,' but 'both-and'. The postmodern impulse is playful and paradoxical. It mocks and absorbs historical forms, always having it both ways, always modern and postmodern, nothing escapes its attention.

Norman K. Denzin, Images of Postmodern Society [London: Sage, 1991], p.151.) In the playfulness and mockery of postmodernist writings, the sacred is present by its absence as the "unpresentable."

^{xxiv} “. . . combination of these.” Robert N. Bellah, “Civil Religion in America,” Dædalus, Journal of the American Academy of Arts and Sciences, from the issue entitled, "Religion in America," Winter 1967, Vol. 96, No. 1, pp. 1-21. Bellah coined the concept "civil religion" but the general idea is traceable to theologian Richard Niebuhr and could be said to have other sources that include Ernst Troeltsch, Max Weber, and Jean-Jacques Rousseau in The Social Contract. But there are differences. Rousseau saw civil religion as a group of religious beliefs he believed to be universal, and which he thought governments had a right to uphold and maintain: belief in a deity, belief in an afterlife in which virtue is rewarded and vice punished; and belief in religious tolerance.

^{xxv} “. . . on our integrity.” What could be important questions for public schools and state universities? Here are a few: To what extent does a public

school require allegiance to its nation? What are the purposes and mission of a state university? Does a liberal education have its own purpose – apart from the purpose of an affiliate state? In what ways can state schools and public schools be independent of their funding source?

^{xxvi} ...techniques of specialization. This is not just America's problem. Institutions of higher learning in all countries should not support the excesses, like sectarianism, patriotism, and nationalism; rather, they should study these excesses as movements around the world. And instead of just researching deadly technologies for the defense of their nation, they should conduct research on a new system of world governance. They should not teach simply about how to enter global markets without teaching about civil markets and international law. They should not assume that nature and the universe is based on a material foundation alone; rather, they should respect the spiritual wisdom that comes from ages of religious thought. They should not ground the academic culture in intellectualism and objectivism or they will lose their sense of the sacred in humankind.

^{xxvii} "... communication, 'symbolic interaction.'" Others have written along these lines of symbolic interaction. Ernst Cassirer in his Essay on Man says that the earliest human beings discovered a new method of adapting themselves to their environment. Humans created symbolic systems between "the receptor system and the effector system." This is different from sign systems among animal species. Symbolic systems evolved into different language systems around the world and we are now adding department terminologies that are special symbolic systems developed in isolated and esoteric forms.

^{xxviii} "... in higher education." The theory of symbolic interaction emerged from the analysis of George Herbert Mead. Herbert Blumer (1900-1987) took Mead's ideas and developed them into a more systematic approach in sociology. Blumer coined the phrase "symbolic interactionism" in 1937, keeping this sociological outlook alive through the early 1950s at the University of Chicago, and then in California where he was a professor at the University of California at Berkeley. Blumer proposed an interpretive model for sociology that "inserts a middle term into the stimulus response couplet so that it becomes stimulus-interpretation-response." He made three assumptions: 1. Humans act towards things on the basis of meanings that people have for those things. 2. Meaning is created through interaction between people. 3. Meanings are modified through an interpretive process. Other sociologists -- such as Howard Becker, Irving Goffman, and Norman Denzin – also worked along these lines. But they did not broaden the

concept of symbols to include the larger world of discourse in the university. Economists would not consider the fact that their conceptual framework is based on symbolic interaction.

^{xxix} “. . . outlook on the world.” In physics, abstract symbols are concepts, such as *alpha particle* -- which refers to a form of radioactivity consisting of helium nuclei -- and *alpha decay* -- which refers to the radioactive decay of a nucleus by way of the emission of an alpha particle. Theories are built from such concepts, as disciplines evolve in different symbolic orders of thought. The social sciences do the same. In sociology, taxonomies of social control include the term *mores*, which is compared with *fads*, *fashions*, *folkways*, *conventions*, *customs*, etc., as different standards for behavior; these concepts lead to theories about how people in society control themselves.

^{xxx} “. . . that require symbolic interaction.” We noted that sociologists developed the notion of “symbolic interaction” to describe interpersonal relations in which meaning arises in face-to-face interaction, but in these guidelines we broaden this notion of communication to include the action of organizations, such as clubs, churches, councils, chemists and choreographers. Groups communicate with other groups in terms that are independent of their individual members. They share meanings and behave in ways that are not just based on the actions of their members. All symbols are collective representations.

Let’s put this in another way. Among animals there is an immediate inward answer to an outward stimulus, but in humans the answer is usually delayed by a symbol. A process of thought as a rule interrupts a human instinctual response. In other words, a theory of “symbolic interaction” focused on the interpersonal aspects of social life, rather than on the objective, macro-structural aspects of systems. Blumer argued that humans must adjust their behavior to the actions of other actors because they must interpret symbols and symbolic systems. People develop the ability to imaginatively rehearse alternative lines of action before they act. People think about and react to their own actions and even to themselves as symbolic objects. So, in this outlook, the theorist could see humans as creative participants who construct their social world, not as just passive, conforming objects of socialization. From this outlook, society consists of patterned interactions among individuals and organizations that act symbolically independent of members.

In sum, symbolic interactions in the past had taken attention away from the objectively observed collective norms and values and toward the continually readjusting interpersonal processes, but we are linking symbolic communications with the collective consciousness of human groups as well as individuals. *All terminologies and languages are based on a collective*

consciousness that has subjective groundings. For some readings in the old field of symbolic interaction see Herbert Blumer, Symbolic Interactionism: Perspective and Method. Englewood Cliffs, NJ: Prentice-Hall, 1969. Harold Garfinkel, Studies in Ethnomethodology. Englewood Cliffs, NJ: Prentice-Hall, 1967.

^{xxxi} “. . . fields of the universe.” Our eyes respond to a narrow portion of the electromagnetic spectrum. Dr. Li would speak of the limitations of our eyes that stem from the structure of the eye itself. We cannot see things that are smaller than about 1/300 of an inch (in scale) because the receptor cells (rods and cones), though densely packed, are still a certain distance apart. An object must reflect enough light to trigger enough receptor cells to make sense to the brain. A receptor cell can only fire at a certain rate. So, our eyes cannot keep up with fast-moving objects, as they appear blurred, if we see them at all. These limitations and gaps in our vision in time and space means that our brains must “fill in” the gaps, smoothing out the pictures that we see.

^{xxxii} “. . . interpretive minds.” Atoms are often pictured as round balls but this image is not accurate. For more on this point see Ervin Laszlo, Stanislav Grof, Peter Russell, The Consciousness Revolution (Elf Rock, 2003)

^{xxxiii} “. . . in the 21st century.” Universities built more research space on their campuses in 2002 and 2003 than at any time since 1988. The share of all academic jobs held by scientists on tenure track has declined. Jeffrey Brainard, “Academic-Research Space Expands While Science-Education Needs Deepen, Reports Say,” *The Chronicle of Higher Education*, February 24, 2006.

^{xxxiv} “. . . authoritarian governments.” From this perspective, humans act toward people and things according to the meanings that they offer. Symbolic interaction theory has held *meaning* as a principle for understanding anything, the central aspect of human behavior, but we hold this to be only one perspective. We are not proposing *meaning* as the key feature of a university dialogue. We do not see idealism – implied in this symbolic perspective when writ-large – to be the metaphysic of university studies. Language simply gives humans a way to understand one another. A symbol may go beyond “meaning” and still affect people. The story of Aristotle University should convince the reader that we are not talking about idealism and language as the source of all knowledge. Thought is a certain kind of mindedness that invokes different points of view. Humans live mainly in a symbolic world of meanings. Symbols arise in social interaction and are shared in groups from families to nations. Also see Bruce Kuklick,

"Myth and Symbol in American Studies," American Quarterly 24 (1972): 435-450. This article critiques the myth and symbol school for its alleged "philosophical idealism," "elitism," and lack of sociological grounding. Dr. Li is proposing that this notion of "symbolic interaction" is the process by which all behaviors (natural and human) are interpreted. Symbolic interaction requires human consciousness, which lies at the root of all disciplines in the university.

^{xxxv} ". . . central heating system." Clark Kerr, former Chancellor of the University of California, was the first to describe the university as a *multiversity*, contending that specialization and the increasing number of separate schools and centers had become so complex that there was no longer any "center." Clark Kerr, The Uses of the University (Cambridge: Harvard University Press, 1963). Robert Hutchins, The Learning Society (N.Y.: Praeger, 1968.)

^{xxxvi} ". . . that cross disciplines." The vocabulary for university dialogue is emerging through publications in the sciences. The biologist James Lovelock speaks of the evolution of organisms and their material environment proceeding as "a tight-coupled process from which self-regulation of the environment appears as an emergent phenomenon." James Lovelock, *Gaia: A New Look at Life on Earth* (Oxford: Oxford University Press, 2000). See the monograph by G. Nicolis and Ilya Prigogine, *Self-Organization in Nonequilibrium Systems : From Dissipative Structures to Order through Fluctuations* (N.Y. John Wiley & Sons, 1977). This monograph stresses a universal (i.e. generalizable) quality for concepts and the mechanisms underlying self-organization.

^{xxxvii} ". . . both parent disciplines." Julie Thompson Klein, Interdisciplinarity: History, Theory, and Practice (Detroit, Wayne State University Press, 1990) p. 45

^{xxxviii} ". . . subjectivity with objectivity." See Yichi Shonoya, The German Historical School (London: Routledge, 2001); Max Weber, Economy and Society, Two volume set, (University of California Press, 1978).

^{xxxix} ". . . meets the eye." For more see: Charles R. Anderson, Thoreau's Vision: The Major Essays. (Englewood Cliffs, NJ: Prentice-Hall, 1973); Stanley Cavell, The Senses of Walden (San Francisco: North Point Press, 1981); Michael Sperber, Henry David Thoreau: Cycles and Psyche. (Higganum, CT: Higganum Hill, 2004).

^{xl} ". . . molecular level." "Sensitivity is much higher - in the campaniform sensillum of insects, for instance, nanometer displacements can be

registered,” say A. Beukers and E. Hinte in “Lightness; the inevitable renaissance of minimum energy structures” (Rotterdam: 010 Publishers, 2005). The authors describe enigmatically (for me) how “sensillum is integrated into the fibrous composite material which makes the exoskeleton of the insect in such a way that it can transmit displacements to the sensor cell, without compromising the mechanical continuity of the exoskeleton. This gives a model for strain sensors which could be built into a composite skin such as is used in fighter aircraft to form the basis of a health monitoring system or form part of a smart control and feedback system.”

^{xli} “. . . elements of Nature.” This is not to say that great scientists like Einstein, Heisenberg, Bohm, and Born do not think across disciplines. For one story on how this happens, see Nancy Thorndike Greenspan, The End Of The Certain World: The Life And Science Of Max Born (NY: Basic Books, 2005).

^{xlii} “. . . and Aristotle Universities.” Snow used the phrase “two cultures” in 1956 in The New Statesman. The article provided the basis for his 1959 Rede Lecture at Cambridge University, “The Two Cultures and the Scientific Revolution.” This is reissued as C.P. Snow, The Two Cultures (Cambridge University Press, 1993).

^{xliii} “. . . this great divide.” Dr. Li’s view is that “inner space” is intractably linked to and evolving with “outer space.” Inner space is composed of ideas, emotions, personal experiences, and human memory but science says that “outer space” carries none of this. She wants to work on the relationship between Inner/Outer space differences; she thinks that the idea of “space” existing on both sides of this polarity will build a common vocabulary for those conducting the study of natural-human history that she is proposing. The philosopher Martin Heidegger defined the concept of space as “sheer externality,” as things “outside-of-one-another” in a multiplicity of points. See Martin Heidegger, Being and Time, J. Macquarrie and E. Robinson, trans., (N.Y.: Harper and Row, 1962) p. 481. For a discussion of the physics in this double vision, see Itzhak Bentov, Stalking the Wild Pendulum (N.Y.: Dutton Paperbacks, 1976).

^{xliv} “. . . mathematics and philosophy.” Jean Piaget demonstrated how concepts of space and time arise with a child’s sense of “object permanence and causality,” as he put it. He revealed how such concepts are built up slowly in the mind; the abstract concept of space comes from generalizing the observations of many particular spaces outside the mind. Piaget suggested that the universal concepts of Space and Time do not warrant the conclusion that they come from the mind alone, that is, without social

interaction and experience. Jean Piaget, Language and Thought of the Child, (NY: Harcourt, 1926). Matthew Kanjirathinkal, A Sociological Critique of Theories of Cognitive Development: The Limitations of Piaget and Kohlberg. (Lewiston, NY: Mellen P, 1990). This conclusion of course does not mean that some structure in the brain itself has no influence on space-time consciousness. And it does not mean that Plato was entirely wrong either -- in the sense that he believed great ideas are hidden and will become revealed through experience. But Piaget argued that human beings are not born with categories of thought alone independent of experience; people construct categories through socialization and generalization. The social construction involves sensory-motor activity.

^{xlv} “. . . encountered in the university.” According to physicists, the universe is a system of vibrations, but each university department views “things” in their own symbolic way. “Vibrations” is a visual image for scientists who measure things including the brain and neuron activity. For the brain physiologist, the brain is composed of cells with the neuron as a primary unit. All sensations, movements, thoughts, memories, and feelings are seen as the result of signals passing through neurons. Each cell body may be analyzed at lower levels (i.e. those of molecules and atoms), but the cell itself is autonomous. The physiologist looks at the interaction of the brain’s own elements. It contains a nucleus, where most of the molecules that the neuron needs to survive are manufactured. Dendrites extend out from the cell body like the branches of a tree and receive messages from other nerve cells. Signals then pass from the dendrites operating at their own level through the cell body and may travel down an axon to another neuron, a muscle cell, or cells in some other organ. And atoms operate differently and autonomously at their own level.

^{xlvi} “. . . levels of organization.” These comments are drawn from a conference summary written by Frank Poletti. Jay Olgivy and David Deamer held the conference from October 5–10 in 2003 and co-facilitated at Eselan, Big Sur, California.

^{xlvii} “. . . displaced by science.” See Max Stackhouse, Public Theology and Political Economy (Grand Rapids, MI : Eerdmans and Commission on Stewardship, National Council of Churches, 1987), p. 15ff

^{xlviii} “. . . basis for dialogue.” See Thomas Bender, Carle E. Schorske (Eds. *American Academic Culture in Transformation* (Princeton University Press, 1998). This book describes how academic cultures have changed in their social and political contexts. The debate will continue in the 21st century as these opposing principles (subject/object, continuity/discontinuity) carry across the outlooks of science, religion, and the humanities. The paradox of

continuity vs. discontinuity is, in fact, in the problem of knowledge itself and has become very evident in literary theory among deconstructionists, who emphasize how discontinuity (requiring difference) is in the nature of things. Derrida holds that people experience "discontinuity" all the time, that they are never "fully present" to themselves except through a process of deferral and delay; that the written word itself is only a discontinuity, a holdup, and can never be fixed in its meaning. Deconstructionists say that our present experience can never be fully captured because language does not allow this to occur. There is a break, a pause, between every word and newness in every context. Thus, experience can only be given as "indirect representations," partial expressions of the truth. Richard Macksey, *The Structuralist Controversy* (Baltimore, MD: Johns Hopkins University Press, 1972).

^{xlix} “. . . Examples.” This diagram of polarities in Box 1 should not be “totalized” as a metaphysic. Rather, it is a teaching tool, an outlook, a strategy for thought about the complex culture of universities. It is not a philosophy of reality; it is a method for breaking out of the limiting cage of reason alone. It should push college presidents to think about what critics are saying. Is there a loss of core values? Is there truly a decline in the humanities, arts, and religious studies? Is there a problem with the master theme of departmentalization, or, with commercialization? Are there excesses in professionalism, scientism, and secularism?

^l “. . . to an ash heap.” The ashes have their own reality to our eyes. Heraclitus says that by the principle of Reason, “Eyes and ears are bad witnesses for men having rude souls.” Frank MacGill and Ian P. McGreal (eds), “Fragments, Heraclitus,” in Masterpieces of World Philosophy (New York: Harper & Row, 1961).

^{li} “. . . dialogue brings new thought.” An academic self-study will illustrate how antinomies work in the academy. The notion of Plurality is in tension with Unity; Difference is in tension with Sameness; Personal with Impersonal. These master principles cannot be resolved but faculty members must resolve them everyday. *Personal differences* among faculty in a self-study program cannot escalate into deadly conflict between members or nothing will be accomplished. Obviously some *social unity* must be found to move ahead in a study; professors must rise above differences. They must be creative in the middle of conflicts and resolve the same/difference problem at the level of their own work. The success of a self-study program for Dr. Li will depend upon finding some consensus (*unity*) among (particular)

individuals for her to go anywhere. To get the ball rolling, professors should acknowledge their *individuality* in the academic *community*. Dr. Li argues that each side of a “seeming antinomy” is found in-and-through its opposing side. An *abstraction* is created in-and-through the *particular*; and a particular is understood through its abstraction i.e. a general category. The *individual* is created in the life of a *community*, and vice versa. And so it goes with other polarities.

Science works with abstractions that are grounded in sense (empirical) experience. Scientific taxonomies like the Linnaean system of classification in biology start with a set of individual organisms, which scientists compare in their attempt to discover common (abstract) properties. The process is repeated to produce a *class*, and then at a higher level an *order*, and a whole set of forms, such as *genus* and *species*. In this hierarchy, each higher concept does not become foreign to a particular sensuous reality, even as it becomes further removed from it by abstraction. Science is a process of unifying multiplicity within a rationality that explains physicality.

^{lii} “. . . is ‘intrinsically incomplete.’” Indeed, Geertz says that the deeper a description goes, the less complete it seems. Committing to “cultural analysis,” this “interpretive approach” to anthropology, is to commit oneself to contestable assertions. Interpretive anthropology is a science whose progress is marked less by perfection and consensus than by a refinement of ideas and debate. “What gets better is the precision with which we vex each other,” he says in frustration. Geertz’s critics want more precision. Clifford Geertz, “Description: Toward an Interpretive Theory of Culture,” The Interpretation of Culture, (NY: Basic Books, 1973), p. 29. Geertz did his initial fieldwork in the 1950s in Indonesia and in Morocco in the 1960s. He argued that people live through the symbolic culture that they inherit. He dismissed the notion that material forces represented by politics, economics, and the law could explain all culture. Rather than focus on the material world in the effort to understand how it works, he would emphasize the non-material culture through literary forms of interpretation. But to reiterate, in this guideline, we place the material and the non-material world in tension, both as vital avenues for interpretive inquiry. The only mystery here lies in this fact: the seeming non-material world of symbols has a long-range advantage in being the ground through which the material world is understood. And yet, Dr. Li would argue that the world we call matter is simply a different level of vibrations than that of the mind.

^{liii} “. . . has that purpose.” The dialogue is not a just a “bickering” over ideas, but for Platonists a process of personal and moral purification. Participants should adopt an attitude of openness, a willingness to let the best argument

prevail, even if the conclusion were to damage one's own interests. Plato wanted the dialogue to lead people toward their humanity, detaching them from selfish interests. And a most important feature in the dialogue is the equal status of all those involved.

^{liv} “. . . its modern form.” David Damrosch, We Scholars: Changing the Culture of the University (Cambridge: Harvard University Press, 1995), p.6.

^{lv} “. . . a higher good.” The point is that everyone in a real dialogue becomes emotionally immersed in the scene. People take sides as assertions are advanced with serious intent. So the dialogues are self-educational because the talk offers insight for each person involved to solve the problem. This conversation may not reach a perfect conclusion because it joins “ends with means.” The dialogue is about how to think and feel in the process, thus, an example of the very thing that it seeks to teach – how best to acquire knowledge. Hans-Georg Gadamer. Dialogue and Dialectic. Eight Hermeneutical Studies on Plato. Trans. P. Christopher Smith. New Haven and London: Yale University Press, 1980; Blackburn, Simon, 1996.

^{lvi} “. . . hero and the statesman.” David McCullough, John Adams, (N.Y.: Simon & Schuster, 2001) p. 226.

^{lvii} “. . . building a university.” This opposition is built into the structure of language and culture. Faculties at Alpha Omega argue about the opposition of the subjective and the objective in history. History is not only a record of objective empirical events, but also a story of subjective experiences. It is not only a story based on linearity and chronology but also of regressions and cycles. History is filled with passions that become masked or hidden within the writing of a text. Dr. Li at Temple U. argues, shockingly, that human history must be linked with physical history to really understand what is going on. Students should inquire about how to link human consciousness with the history of matter, energy, and cellular formation.

^{lviii} “. . . just Jonah's imagination.” This is important in a Music Department. Dr. Li would say that the natural and human universes operate at different levels of vibration, and thus there would be conversation. Reason and emotions are a complementarity. Emotions enable reason to develop, says Megan Boler, who trained in philosophy. Boler describes the exclusion of emotion from philosophy and science and argues for the principle of mutuality. Megan Boler, Feeling Power: Emotions and Education (N.Y: Routledge, 1999.)

^{lix} “. . . brain waves and heartbeat.” Elmer Green, Ph. D. and Alyce Green, M.D. of the Menninger Foundation report research ("Beyond Biofeedback,"

E. & A. Green, Knoll Publishing, Web page content Copyright, 2005, ZentrumPublishing) in which they had Swami Rama hooked up to their machines and observed how he displayed control over temperature, blood flow, brain waves and heartbeat. The techniques based on Hatha and Radja Yoga have demonstrated the ability to stop the heartbeat for a considerable time.

^{lx} “. . . the history of music.” Christopher Ballantine, "Beethoven, Hegel and Marx." Music Review, Vol. 33, 1972. Philosopher G.W.F. Hegel and Ludwig Beethoven were born on the same day.

^{lxi} “. . . Hegel’s *aufheben*?” There is no English equivalent for the German word *aufheben*. In German it means "to pick up", "to raise", "to keep", "to preserve" but also "to end", "to abolish" and "to annul." So the question for philosophers is why Hegel used this word with multiple meanings to describe history. Does he mean that a higher form of thought supersedes a lower form while simultaneously "preserving" it? At Temple University, Dr. Li asks that question about evolution: What happens in the evolution from particles to atoms and molecules, cells and organisms to human consciousness? Atoms are preserved, she says, like a *permanent landscape inside molecules*. Molecules are preserved in cells while, at the same time, each level (atoms to molecules to cells) becomes separate from the other. Natural history in this sense has a dialectical quality, like Beethoven’s music. See the development of the sonata as a special feature of the Eroica Symphony: Maynard Solomon, *Beethoven*, (New York: Schirmer, 1998, Second Revised Edition.) In this same sense of dialectical “levels,” Dr. Li suggests that consciousness exists at a level beyond the brain while being inextricably linked with it. There is no empirical ground for her assertion. G.W.F. Hegel emphasized the interior processes of development of Mind (*Geist*, a word that also has multiple meanings), without knowing the science of exterior (material) evolution. He lived and wrote before Darwin’s conclusion about evolution. He could not have thought about how physical evolution might link with the mind through the sociality of atoms and molecules.

^{lxii} “. . . synthesizing, and transcending?” Joseph Chilton Pearce, The Biology of Transcendence (Rochester, Vermont: Park Street Press, 2002). The department of history at Alpha Omega teaches a chronological history in the secular tradition. Secular historians may teach social history or intellectual history but not, to my knowledge, a *history of emotions* or *history of the human spirit*. Students may be asked to research the moods of Napoleon Bonaparte and the passions of Dwight Eisenhower, but historians seldom ask students to *feel the emotions and rhythms* present in France or

the United States in those times. That teaching belongs in other departments. Max Paddison, Adorno's Aesthetics of Music (Cambridge: Cambridge University Press, 1997). Rose Rosengard Subotnik, Developing Variations: Style and Ideology in Western Music (Minneapolis: University of Minnesota Press, 1991).

^{lxiii} “. . . change that trend.” For these current trends, see Jennifer Washburn's, The Corporate Corruption of American Higher Education (Cambridge: Harvard University Press, 2005).

^{lxiv} “. . . become profit-driven.” The critics we mentioned in the Preface and Introduction document their argument about profit-driven, and sometimes commercially driven universities, but each institution must look for itself. The Association of University Technology Managers (officials from universities, hospitals, and companies among its members) conducted a survey and found that 164 institutions of higher learning filed more applications for U.S. patents than ever before, and they executed more deals for licenses and options on licenses -- 4,087 -- than in any previous year. The colleges and universities were very active in developing a “pipeline for new income-producing deals.” The number of “invention disclosures” -- findings with the potential for patenting and commercialization -- topped 15,000. Institutions spent a record amount in legal fees to obtain and defend their patents, and to develop their deals. Legal costs for the respondents exceeded \$189 million. In 2004, the total of reimbursed legal costs was nearly \$80 million. The licensing-revenue total in 2004, \$1.034 billion, was the second highest ever reported. The highest was \$1.076 billion in the 2000 fiscal year. Goldie Blumenstyk, “Universities Collect Near-Record Revenues From Commercial Activity in 2004, Study Finds,” The Chronicle of Higher Education, November 18, 2005.

^{lxv} “. . .the solution to economic development.” The University of Rochester now spins off about three companies a year, but the effect of these start-ups on the local economy is dwarfed by the university itself. It employs 17,200 people, up from 11,950 a decade ago, has a total payroll of \$1.15-billion, and attracts \$288.5-million annually in state and federal research dollars. Last year the university spent \$172.4-million on locally purchased equipment and hired 2,966 Rochester-area residents to fill positions as registered nurses, research technicians, and faculty members. “The university has recently been a superstar of economic growth,” says Patricia K. Malgieri, Rochester's deputy mayor. See Karin Fischer, “The University As Economic Savior: As higher education replaces industry in some cities, colleges face both support and unrealistic expectations,” The Chronicle of Higher Education, July 14, 2006.

lxvi “...mutual accountability.” Big universities are becoming engines of local economic development across the United States. In the Great Lakes states, the Big Ten universities hope to counteract the financial frailty of the Big Three automakers. In Philadelphia, 80 colleges have teamed up with businesses in the city to try to stem its brain drain of young college graduates. The University of Akron has used its expertise in polymer chemistry and engineering to nurture and build connections between local entrepreneurs. In Boston, Mayor Thomas M. Menino named a higher-education liaison to encourage collaboration between the city and its colleges for local development. A summit last December on higher education's role in economic development, sponsored by Pennsylvania State University, attracted more than 500 people. Ibid.

lxvii ...and profit.” The University of Phoenix became the nation’s largest private university by delivering high profits to investors and a low-overhead, education for midcareer workers aiming for college degrees but it shows signs of a decline in standards. Its reputation is waning because, as prominent educators say, the relentless pressure for higher profits has eroded academic quality. Sam Dillon, “Troubles Grow for a University Built on Profits,” The New York Times, February 11, 2007, Education Section.

lxviii “. . . region of the country.” Jason Miller, a graduate student at the University of California at San Francisco and co-chairman of a university committee that recommended the divestment said, "This is the first time that a genocide has been declared as it's ongoing, which gives institutions the impetus to act." The plan requires managers of the university's endowment and pension to divest all shares of the nine public companies, which include two Chinese oil companies, within 18 months. Before the divestment plan can go into effect, the California Legislature must pass, and the governor approve, legislation that would protect regents and the university from claims arising over the discontinued investments. In addition to the divestment, the university will send "letters of concern" to four other companies the regents believe can be persuaded to sever ties with the Sudanese government. Paul Fain, “U. of California Votes to Divest From Companies With Ties to Sudanese Government,” The Chronicle of Higher Education, March 17, 2006.

lxix “. . . at the same time.” In 1927 Heisenberg said that the more precisely the position of a particle is determined, the less precisely the momentum is

known in this instant, and vice versa. J. von Neumann, *Mathematical Foundations of Quantum Mechanics* (Princeton University Press, 1955).

^{lxx} “. . . therapy or electroshock.” Neurotransmitters are molecules that communicate messages from a transmitting nerve cell to a receiving nerve cell. Some brain researchers describe the action in the metaphor of baseball. The pitcher is the transmitting nerve cell, the catcher is the receiving nerve cell, and the baseball is the neurotransmitter molecule. When the ball is thrown and caught, a little message is transmitted. The catcher's mitt is called a "receptor." After the catcher has caught the ball, it is thrown back to the pitcher so it can be thrown again. Heavy metals can clog a receptor and cause fatigue and depression.

^{lxxi} “. . . *materialism vs. spiritualism.*” The concept of materialism in philosophy holds that the only thing that can be determined to really exist is matter. It is often opposed to idealism. It is also identified often with the “natural” and opposed diametrically to the “supernatural.” The scientific paradigm that is explained by a material (physical) universe is separated from the mind as a reality. But for Dr. Li, this sharp difference could be shattered by the phenomenon of “nonlocality” and her explanation by vibratory levels. The scientist’s assumption that an immutable objective reality is "out there" in space and time, absolutely independent of the observer and what happens inside human consciousness, is nonsense.

John S. Bell formulated the theorem on “nonlocality.” He held that general relativity and quantum theory demonstrate that causality is not correct at the level of individual events. See John Bell, *Nature*, 248, March 22, 1974. Others have measured the simultaneous arrival of two photons at spatially separated detectors. John F. Clauser and Abner Shimony, "Bell's Theorem: Experimental Tests and Implications," *Reports on Progress in Physics*, 41, 1978.

^{lxxii} “. . . human consciousness.” Physicists are beginning to see this false dichotomy. The Nobel Prize physicist Eugene Wigner of Princeton has written that *consciousness* is at the root of the quantum problem. E. Wigner, *Symmetries and Reflections*. Indiana University, 1967, and Cambridge, Mass.: M.I.T. Press paperback edition, 1970.

^{lxxiii} “. . . participant and observer.” University courses are often based on “reading textbooks.” Courses in the social sciences can be textbook based alone or they can emphasize fieldwork. In this case they accent the participatory side of this polarity called *participant observation*. R.J. asked: How could Black Hills’ students learn by helping to build a community with a self-directing theater and live drama? Students in this case were learning

by personal involvement and then learning again by distancing themselves from the experience in class. In this way students were getting closer to their subject (citizens and their problems) and at the same time by their classes they were avoiding being trapped in local prejudices and beliefs. Students were teaching theater to citizens and working as interns in a public school, not just reading textbooks about the subject.

^{lxxiv} “. . . Joseph Conrad and Picasso.” Albert Rothenberg, The Emerging Goddess: The Creative Process In Art, Science And Other Fields (University of Chicago Press, 1979).

^{lxxv} “. . . of all communications.” John Archibald Wheeler, Geons, Black Holes, and Quantum Foam: A Life in Physics (W.W. Norton, 2000).

^{lxxvi} “. . . conception of complementarity.” Keith Simonton develops a theory of scientific genius. He points to the utility of permitting ideas to randomly combine with each other and the utility of selecting from the many the few to retain. Geniuses combine and recombine ideas, images, and thoughts in their conscious and subconscious. Keith Simonton, *Scientific Genius: A Psychology of Science* (Cambridge University Press, 1988).

^{lxxvii} “. . . consciousness as a subject.” Consciousness had been the subject of psychology but it is now developing as a subject within physics and neurology. August Comte writing in the 1830s was mindful of how university disciplines would evolve through one another. He saw an “intellectual evolution” inside societal evolution. He characterized intellectual evolution as the way people come to see the increasing complexity of a phenomenon. He argued that each new intellectual discipline describes more complex phenomena; and each new discipline is interdependent with those disciplines less complex that are founded on some earlier thought. Arranging the sciences according to that interdependent relation, he found a sequential development of Mathematics, Astronomy, Physics, Chemistry, Biology, and then finally in his mind, Sociology. Apart from problems with the excessive simplicity of Comte’s interpretation, it is true that such disciplines evolved as universities and societies evolved. When science became separated from religion (notably with Isaac Newton) it evolved its complexity. Professions like medicine and law evolved as society became more complex and specialized. Auguste Comte, “General View of Positivism” in A General View of Positivism, translated by J. H. Bridges, Robert Speller and Sons, 1957. [Originally published 1830-42].

^{lxxviii} “. . . but now they are.” Bohm views “the universe” in different regions of space/time. In his view “Each part grows in the context of the whole, so

that it does not exist independently, nor can it be said that it merely 'interacts' with others, without itself being essentially affected in this relationship." Bohm argues that we can no longer speak of rigid bodies with absolutely definable boundaries but rather as "locally intense concentrations of an overall field," which "merge into the totality without ever establishing themselves as completely independent units." Human consciousness is implicated in an "undivided wholeness." David Bohm, Wholeness and the Implicate Order (London: Routledge & Kegan Paul, 1980) p.173. Bohm argues that microphysics signifies *discontinuity* but formal theory in macrophysics contrives to preserve *continuity*. This binary problem (continuity/discontinuity) that we noted in biology and religion is expressed again in physics. Bohm says that according to the organic model in biology, the *part is in the whole*, but he finds that *the whole is in the part* as well. Bohm refers to holographic perspectives (the whole in the part) and implies that reality in this sense goes beyond opposites. *ibid.* p. 125. This "wholeness" is implied by the "indivisibility of motion" at the quantum level where an electron can go from one state to another without passing through any states in between. It is indicated by the "nonlocal connectedness" of quantum elements in which pairs of electrons, which are initially associated, then separate by a vast space-time interval, and nevertheless behave as if still linked in an immediate and intimate way. For Bohm, this means finding a new way to order our thinking about the universe. Bohm's concept of a "holomovement" is beyond the notion of order and disorder and "inaccessible" to any empirical form of knowing. Bohm is asserting that the holomovement cannot even be conceptualized. Some poets have talked about indirect knowing that is not conceptualized. For more discussion, see Steven Rosen, Science, Paradox, and the Moebius Principle: The Evolution of a "Transcultural" Approach to Wholeness, (N.Y.: New York State University Press, 1994), p. 214 ff.

^{lxxix} ". . . afraid of dying." See: Coleman Barks, (trans.) Rumi: We Are Three, 1987 (Order from Coleman Barks, Athens, Georgia, tel. 404-543-2148); A.J. Arberry, Mystical Poems of Rumi, trans. (Chicago: University of Chicago Press, 1968). I find different English interpretations of Rumi's Arabic words, but they all indicate that he saw this natural evolution. He apparently conceived the external world as if it was part of his interior world. Here is another translation.

I died from minerality and became vegetable;
 And from vegetativeness I died and became animal.
 I died from animality and became man.
 Then why fear disappearance through death?

Next time I shall die
 Bringing forth wings and feathers like angels;
 After that, soaring higher than angels -
 What you cannot imagine,
 I shall be that.

See online, Poems by Rumi <http://www.rumi.org.uk/poems.html>

Rumi warns against trying to move too quickly into a higher consciousness; try to move swiftly and you miss it.

^{lxxx} “. . . higher consciousness.” Eckhart said the sacred path was familiar -- “beautiful and pleasant and joyful and familiar,” not obscure. For more, see the theologian Mathew Fox, Meditations with Meister Eckhart, (Santa Fe, New Mexico: Bear & Co. 1983), p. 3. Fox describes Eckhart's path as fourfold: 1. Via positiva. 2. Via negativa. 3. Via creativa. 4. Via tranformativa.

^{lxxxii} “. . . cage of reason.” At Temple University students are taught about how a tension exists between what is *impersonal* and what is *personal*. They ponder how *reason*, in the best sense, combines with *feeling*. Dr. Li asks: should students be taught that there is nothing but an impersonal universe out there? Is there nothing in this physical universe that is linked to what is personal or spiritual? At Black Hills College, we saw how in the Gita Krishna says: “The universe is ruled by *infinite tenderness*.” R.J. thinks that voices like Krishna’s should be heard equally with other voices on campus. Students need to wonder how a universe could be “tough” and “tender” at the same time. See William James, Pragmatism. (Cambridge, MA: Harvard University Press, 1979.) [Originally published in 1907].

^{lxxxii} Thorstein Veblen, would like the practice of faculty participation. He saw the trustees as having too much influence. He was concerned that business and the market had taken over higher learning in America. Veblen’s book was published in 1904 and known as one of the most reflective studies ever made of the university in America, still relevant today. Thorstein Veblen, The Higher Learning in America (NJ: Transaction publishers, 1992). Faculties tend to be in a defensive position, like unions. Professors ask for better salaries or more time off from teaching to do research. Faculty senates do not conduct studies of academic life or normally critique the academic organization of their institution. Faculties usually have no sense of any mission that we suggest is evolving in the light of global changes. Executives in accrediting institutions should think about encouraging presidents to advance faculty participation at deeper levels; Professors

should think *regularly* and *holistically* about what they do as a scholarly body.

My work on business corporations (e.g. *A Future for the American Economy*, *A Civil Economy* and *A Civil Republic*, argues for the gradual decentralization of authority at high administrative levels -- and simultaneously the increase in skills, responsibility, knowledge ability, and self-management at lower levels of a command system. This is the key to organizational development in the corporate university. Faculty should be accountable for what is happening in their own university.

^{lxxxiii} “...forms of bondage.” Max Scheler first used the term *Wissenssoziologie* (sociology of knowledge) in the early 1920s and provided a first systematic introduction. Scheler extended the Marxist notion of substructure by identifying different ‘real factors’ (*Realfaktoren*) which condition thought in different historical periods and in various social and cultural systems in specific ways. We noted earlier in this chapter that the constitutional “separation of church and state” is one of the reasons that religions like Islam, Judaism, and Christianity cannot be studied in public schools. This political structure, created in the 1700s bears significantly on a student’s learning experience. As we indicated earlier, we are not talking about evangelistic teaching but rather teaching about the subjects themselves, as a real and influential part of society.

^{lxxxiv} Again, will this work? We know that such studies will fail and fall short of their goal in some respects. Our stories remind us of how we are preconditioned for failure. But failures in these cases also led to more insight into the social structure of the university. Departmentalization has brought us a long way from thinking of the university as based on the humanities.

^{lxxxv} “. . . in the myths of civilization.” President Neumann thinks her study should lead toward new ideas for Alpha’s core curriculum. Dean Mendez is hoping to advance inter-school studies on world law because he sees a calamity around the corner. Dr. Li wants a “geography of the interior” to be part of her journey along with a “geography of the exterior;” she is working on an interdisciplinary vocabulary that allows professors to look at their subjects together on great ideas, *being, becoming, synthesis, change, transcendence, transformation, integration, differentiation, individuality, and community*. Dr. Li argues that certain words, like “transcend” or

“being,” are not part of the vocabulary of scientists. The concepts are implied in much of scientific thinking and findings. Such terms could apply across departments if specific definitions were made for that purpose. Take the word “transformation.” The *transformation of particles* into atoms is different from the *transformation of atoms* into molecules, which is different from the *transformation of molecules into cells*. Each stage of evolution creates a more complex (autonomous) self-directing order of being. And such self-directing orders of being are part of the human body.

Different perspectives are being developed around words used in common among disciplines. Take the word “cooperation.” John Stewart, a member of the Evolution of Complexity and Cognition Research Group of the Free University of Brussels, thinks that some forms of *cooperation* extend between human organisms over some 12 million metres, the scale of the planet – and over some 380 million metres when there are moon landings. John Stewart’s Evolution’s Arrow is on the Amazon. Com.web page so that the whole text can be read without charge. Stewart argues that *cooperation* explains both biological and human evolution. Human groups began cooperatively on a small scale as families; families teamed up to form bands, which teamed up to form tribes, which teamed up to form the agricultural communities, which teamed up to form cities, and so on. But most significant, he sees this process going back to three thousand million years ago when “cooperation” extended between molecular processes over some millionth of a meter, the scale of early cells. The question is whether this is a “projection” of the mind on to the physical plane.

^{lxxxvi} “. . .denial of justice.” Schumacher focuses on the concepts of *freedom* and *order*, *growth* and *decay* in his work. He says that societies need *stability* and *change*, *tradition* and *innovation*, *public interest* and *private interest*, *planning* and *laissez-faire policies*, *order* and *freedom*, *growth* and *decay*. Everywhere society's health depends on the study of mutually opposed activities or aims. The adoption of a final solution means a kind of death sentence for man's humanity and spells either cruelty or dissolution, generally both. E.F. Schumacher, A Guide for the Perplexed. (New York, Harper and Row, 1978), p. 127.

^{lxxxvii} “. . . human consciousness.” President Neumann, Dean Mendez, and Dr. Li see a calamity ahead and want faculties to be aware of it. They want professors to understand how science could mix calamitously with terrorism and bring about the end of history. Dr. Li wants to link science, technology, medicine, architecture, and neurology along with poetry, art, and the humanities. Dr. Li would ask: “Is a calamity necessary?” She would ask age-

old religious questions, “Do we have to go through the Slough of Despond to get to the Celestial City?” John Bunyan, The Pilgrim's Progress, Edited by George W. Latham. Chicago: Scott, Foresman and Company, 1906.

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^{lxxxviii} “. . . Time will tell.” The stories at Alpha Omega, Black Hills, National, Aristotle and Temple will continue on my webpage as the years go by. We shall ask: How would a professor speak poetically about the nature of atoms? Could a chemist picture the clash of atoms like the clash of civilizations? Could an astrophysicist view “the production of stars” like “the production of symphonies.” Will faculties look with a fresh eye at their core curriculum? Will a neurologist, a physicist, and a psychologist ask whether the forces of repulsion and attraction in the stars are like forces in the molecular structure of the brain? Will a nanotechnologist ask whether the actions of atoms have anything to do with neurological behavior? Do the concepts of “repulsion,” “attraction,” “synthesis” and “self-organization” – have any basis for interdisciplinary dialogue? Will a chemistry professor ask: How could *self-regulation* -- a term that occurs so often among disciplines -- be compared? Will a teacher of literature argue, “Are scientists anthropomorphic when they use our humanist terms to describe how the physical universe works? How primitive! How naïve!” In the next series of stories, Dr. Li could meet up with President Neumann and compare notes on what they are doing. Anything might happen. The stories will continue online at <http://www2.bc.edu/~bruyn>.