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ABSTRACT

In 1988, 11 faculty members at Kalamazoo Valley Community College (KVCC), Michigan, taught a customized honors class at KVCC focussing on connections between disciplines. It soon became clear how little faculty members understood and appreciated their colleagues' fields and perspectives. Following the course, faculty participants concluded that the college needed a core course in general education that would provide all students with models and examples of the interconnectedness of knowledge and its cultural impact, and that would, in particular, show the relationships of the humanities to science and to technology. Faculty devised a 5-year plan, and a 2-year federal grant was obtained for promoting the humanities at KVCC from April 1991 through March 1993. In anticipation of the grant, a group of 20 faculty members organized a study group for the 1989-90 academic year. With grant funding, summer institutes were conducted, visiting scholars were enlisted, and a general education core course, "The Humanities, Science, and Technology: Making Connections," was developed. The course, examining how these three disciplines have related to each other from antiquity to the present, was designed to impress upon students the importance of making connections between the disciplines in the way they live, work, and relate. Included in the paper are descriptions of the four, week-long seminars held during each of the summer institutes for faculty (1991 and 1992); project activities at KVCC during the 1991-92 and 1992-93 academic years; and a copy of KVCC's Interim Performance Report to the funding agency for the first year of the project (1991-92). (PAA)

PARTNERSHIPS ACROSS THE DISCIPLINES: MAKING CONNECTIONS IN THE HUMANITIES, SCIENCE AND TECHNOLOGY

Presented by

Robert Badra and Helen Palleschi

As part of the

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Partnerships Across the Disciplines: Making Connections in the Humanities, Science and Technology

> What's beautiful in science is the same thing that's beautiful in Beethoven. There's a fog of events and suddenly you see a connection. It connects things that were always in you that were never put together before.
>
> -- Physicist Victor Weisskopf

A serious conversation is long overdue between the humanities and science, and between the humanities and technology.

We live in a world in which complex scientific and technical problems are inextricably entwined with social, ethical and aesthetic elements.

Vartan Gregorian, president of Brown University, once told journalist Bill Moyers that teaching has two fundamental challenges -- to provide a base of knowledge, and to provide connections between subjects and between disciplines.

Commented one "connection maker," Carroll W. Pursell Jr. of Case Western Reserve University: "Technology is a humanistic activity, a defining form of human behavior." He urged the teaching profession to reclaim technology for the humanities.

A new spirit of learning is needed, one in which the humanities and science, the humanities and technology, communicate each's understanding of the world knowledgeably with one another.

The need for this communication was driven home at Kalamazoo Valley Community College in 1988 when 11 members from a team of

humanities, science and technology faculty taught a customized class based on James Burke's classic PBS series, "Connections," to Honors College students. It soon became clear how little each understood and appreciated the others' fields and perspectives, and how this often led to fragmentation in the entire teaching enterprise. There was no dialogue to link relationships.

If the faculty found it difficult to make connections, how could the students be expected to do so?

The participating humanities, science and technology faculty were in agreement on one thing -- KVCC students needed patterns, models and examples of the interconnectedness of knowledge and its cultural impacts.

It became obvious that we needed a core course as a general-education requirement, that the James Burke version was not the model we needed, and -- even if we designed such a course -- was the faculty ready to teach it? We had to educate ourselves before we could offer the making of connections to the students.

Several attended an "Advancing the Humanities" conference in Washington in 1989 and began to formulate a five-year plan. The objective was to advance the humanities at KVCC by making connections with science and technology through faculty dialogue and through the creation of a core course as the vehicle for that kind of dialogue among students.

The concept passed muster with the National Endowment for the Humanities, which approved a two-year grant for nearly $180,000 to cover activities from April of 1991 through March 31, 1993.

In anticipation of that funding and the programs it would support, 20 faculty members (nine from the humanities, seven from technical areas, and four representing the sciences) organized a study group for the 1989-90 academic year.

In anticipation of the future NEH-supported seminars with visiting scholars, group members read and discussed Goethe's "Faust," "Disturbing the Universe" by Freeman Dyson, "The Two Cultures and a Second Look" by C. P. Snow, and Daniel Boorstin's "The Americans: The Democratic Experience."

In "Faust," the common human attribute of always striving was embodied in a medieval scientist whose longings were satisfied in a grand engineering project, causing him to lose simultaneously his wager and his soul, but ultimately to redeem himself. Dyson, a modern version of Faust, sought to redeem himself -- with readers serving as his contemporary judge, jury and God -- by claiming his lifelong fascination with arms was offset by its purpose, to oppose corrupt political systems. C. P. Snow showed the group the limitations of thinking compartmentally, that the Dysons needed to communicate with the Fausts of the world.

The potential for this connection-making in an idealistic society is possible in America. Boorstin's book provided an historical context to discuss thorny issues. The group stretched its intellectual muscles and found how vital is the exercise. Individuals may have read these books on their own and kept their connections to themselves. Together, they challenged each other to connect, to relate, to discover what we were all about.

As a group, the members began to see more clearly what they wanted to do for their students and with their students. The skeleton of a four-credit, general-education core course to help students make connections started to take shape.

At this point, the NEH assistance began to impact the five-year plan. The federal grant enabled KVCC to:

* Sustain and expand the scholarly dialogue by inviting recognized scholars and connection-makers to conduct seminars during two summer institutes and colloquia in the academic years following the institutes.

* Create and teach a general-education core course that will help KVCC students make the humanities connection with science and technology.

* Enlist the help of visiting scholars in applying their lessons and wisdom to the development of the core course.

* Re-invite two of the scholars to return during the semester when the core course is taught to observe, meet students and discuss progress with the faculty.

In its current form, the core course -- "The Humanities, Science, and Technology: Making Connections" -- examines how these three disciplines have related to each other from antiquity to present. It demonstrates how world views are shaped, how literature and the arts reflect world views and help shape them, and how world views, including social, cultural, ethical and aesthetic issues, are associated with the way the humanities, science and technology relate to each other.

Aristotle made connections. So did Dante, as did Francis Bacon and Thomas Merton. Each reflects changing world views.

Seeing this is an important part of the educational process. Seeing this makes it possible to grasp the importance of connection-making now, particularly in our cities where so much of our world view today is taking shape, where so many connections are being made or are not being made, all of which places a demand on our imaginations, our meanings and our values.

The core course was designed to lead students from a history of connection-making to the imperative to make connections now -- in our cities, in the way we live, work and relate. Its purpose is to help students better understand:

(1) The nature and significance of the humanities throughout history.

(2) The contemporary significance of the humanities in a world in which science and technology are all-pervasive.

(3) The complex interrelationship of the humanities, science and technology in history and in contemporary society, leading to world views, which in turn challenge values. This all stresses the importance of ethics.

(4) The importance of an ongoing dialogue, reflecting a closer relationship between the humanities, science and technology, in order to develop a world view that responds to the problems and potentials of contemporary society. Thus, the importance of making connections.

Immediately following this synopsis are two documents:

(1) The activities and events that generated NEH assistance.

(2) The latest "project performance report" submitted to the NEH.

CONTENT AND ACTIVITIES

First Year of the Grant

April 1, 1991 - March 31, 1992

Faculty Preparation for the First Summer Institute - April 1991

In preparation for the First Summer Institute and its four week-long seminars, the twenty participating faculty from the humanities, science, and technology will be given the books that will be useful to them for dialogue with each other and with our visiting scholars. In the spirit that inspired our first dialogues in the academic year 1989-90, in anticipation of a successful grant, we will also assign certain books and meet for discussion on four occasions in the academic year 1990-91. We will read and discuss Plato's Protagoras and Aristotle's Nicomachean Ethics. We will use Martha Nussbaum's book The Fragility of Goodness, as our commentary. Eugene Radtke (Resource Librarian and Classicist) will lead the discussion. We will read and discuss Bacon's The Advancement of Learning and his Essays, as well as Darwin's Origin of the Species. Kathryn Smith (Philosophy and Humanities) and Verne Mills (Biology) will lead the discussion. Also, we will read and discuss Merton's The Way of Chuang Tzu. Robert Badra (Philosophy and Humanities) will lead the discussion. Since our first seminar is scheduled in mid-May, our faculty will have several weeks, from April to mid-May, to acquaint themselves with the remaining reading material, and since the fourth seminar will take place in June, faculty may pace their reading accordingly in preparation for each scholar's visit.

First Summer Institute - May and June, 1991

Theme: Plato and Aristotle, Dante, Bacon and Darwin, Chuang Tzu and Merton: Connection Makers Throughout the Centuries

The summer institute will consist of four seminars, each of one week's duration. On Monday of each week the faculty participants will meet to discuss highlights of the books read in preparation for that week's scholar. The scholar will arrive Monday evening and will give Tuesday and Wednesday to lectures and discussion with the faculty. On Thursday the

faculty will discuss with the scholar appropriate applications of what has been learned to the methods and content of the proposed core course. The scholar is free to leave at the end of that day. On Friday, with the leadership of the project director, the participating faculty will meet to write a short paper of lessons learned, objectives clarified, content possibilities explored, all with the goal of enhancing the core course: **The Humanities, Science, and Technology: Making Connections.**

First Seminar Week

Theme: Plato and Aristotle: Connection Makers in Antiquity

Visiting Scholar: Martha C. Nussbaum, David Benedict Professor and Professor of Philosophy and Classics, Brown University; Author of The Fragility of Goodness, Luck and Ethics in Greek Tragedy and Philosophy

In this seminar we will examine the relationship between the humanities, science, and technology in antiquity. It is appropriate to begin with Plato and Aristotle. In many ways Plato was the first educator. He gave his students a demanding program of study that included literature, history, music, mathematics and geometry, and philosophy. They were to be educated, not trained---a sign of a connection maker. As a connection maker, Plato saw geometry as a symbol of his passion: universal truth. Aristotle held the first scientific world view. As a connection maker, Aristotle's passion for knowledge embraced biology, astronomy, ecology, health, emotions, poetry, politics and genes. Aristotle understood that life is "interdisciplinary." Physics, astronomy, meteorology; taxonomy, biology, forensic pathology, and animal psychology;human psychology, epistemology and logic, and esthetics; political science and ethics, even metaphysics; statecraft, drama, literature, and the art of living the good life: all of these contemporary points of human understanding owe a debt of gratitude to Aristotle the connection maker.

In preparation for Professor Nussbaum's visit we will read Plato's Protagoras. Professor Nussbaum will help us to see the ancient antithesis between tuche and techne (art and science) and thus to better appreciate the mythic stories of the saving power of techne, what we call the hope for human progress. We will also read Aristotle's Nicomachean Ethics. Professor Nussbaum will lead us to better grasp what Aristotle meant by the good life, and how fragile

it all is. We will use Professor Nussbaum's book The Fragility of Goodness as our commentary. On Monday of our first seminar week, we will review highlights of our readings for Professor Nussbaum. Eugene Radtke will lead the discussion.

Second Seminar Week

Theme: Dante: Medieval Connection Maker

Visiting Scholar: Tibor Wlassics, William R. Kenan Professor of Italian at the University of Virginia

In this seminar we will examine the relationship between the humanities, science, and technology in the Medieval Period. We will focus on the Florentine poet Dante, whose description of hell in the Inferno as the place where "nothing connects to nothing" underscores our own need to make connections. As Allen Mandelbaum states it, Dante is a drummer. We listen to his drum and he gently but persuasively leads us to ponder the divide between ourselves and the medieval, to see how much more intimate we are with the medieval than with antiquity. The connections are there. Connections that re-awaken the sense of fiction as truth. It's as though Dante knows that one world, the mystical world, is dying and another world, the scientific and technological world we know so well, is struggling to be born, and that the birthing will be long and hard. Knowingly or not, Dante acts as a bridge, a connector if you will, between the world he knew and the world we know. Dante is the summation of the Middle Ages on the brink of the Renaissance. His world view comes through on practically every aspect of Medieval life and stands as a counter-point to world views to come, including our own.

In preparation for Professor Wlassics' visit we will read selections from Dante's Inferno and his Paradiso. On Monday of our second seminar week, we will review highlights of our readings for Professor Wlassics. William Lay will lead the discussion. Professor Wlassics is internationally acclaimed for his work with Dante. We will trust him as he leads us through "a dark wood" through hell to the portals of paradise. Professor Wlassics will surely take us through the theological, psychological, and astronomical disquisitions of Dante without breaking us. We will come through "the wood" as Dante did, and be equally as relieved.

Third Seminar Week

Theme: Bacon and Darwin: Connection Makers, Renaissance & Modern

Visiting Scholar: James Christian, Professor of Philosophy, Rancho Santiago College, Santa Ana, California, author of the text used at our college, An Introduction to the Art of Wondering

In this seminar we will examine the relationship of the humanities, science, and technology from the Renaissance to modern times. We will first focus on the work of Francis Bacon, who represents the transition from a Dantean, mystical world view to a scientific world view. Bacon lived at a turning point in Western thought, and he knew it. Bacon embodied a new pride in the human intellect and its ability to know the world. He set out to abolish the closed knowledge systems of a stagnant tradition. He proposed "a total reconstruction of the sciences, arts and all human knowledge." To do this he would take all knowledge as his province. "The universe is not to be narrowed down to the limits of the Understanding, but the Understanding must be stretched and enlarged to take in the image of the Universe as it is discovered." This is the statement of a connection maker.

We will then focus on the work of Charles Darwin whom Professor Christian refers to as The Grandest Synthesis. As Loren Eiseley said of Darwin, "Such a synthesis represents the scientific mind at its highest point of achievement." But Darwin's gift was *seeing* the relationship of all things. It took an oceanic mind to see what he saw and connect what he connected. He saw that life on earth is a single story, and it is intelligible. Theology did not prevent him from seeing, though some theologians did not want to know what he saw. Thus did Darwin cross a bridge between science and religion, where previously there had been a wall. We are still dealing with Darwin's bridge in science and religion today.

In preparation for Professor Christian's visit, we will read from Bacon's The Advancement of Learning, in which he reclassifies the sciences, and his Essays in which Bacon's human side comes through, showing off his vast learning and his sense of humor. We will also read selections from Darwin's Origin of the Species. Professor Christian will give one day of his visit to Bacon and another to Darwin. Professor Christian will discuss with us the possibility of forming a coherent world view that harmonizes with our experiences and embraces social structures, value systems, codes of behavior, language, legends, hero stories, and myths. He

will relate the possibility of such a world view to the life and work of Francis Bacon and Charles Darwin. On Monday of the third seminar week, we will review our readings for Professor Christian. Kathryn Smith (Philosophy) will lead the discussion.

Fourth Seminar Week

Theme: Chuang Tzu and Thomas Merton: Connection Making East and West

Visiting Scholar: Mary Evelyn Tucker, Professor of Religion, Bucknell University, where she teaches courses in Chinese, Japanese and Indian Religions, and the author of Moral and Spiritual Cultivation in Japanese Neo-Confucianism: The Life and Thought of Kaibara Ekken (1630-1714)

We must not give the illusion that making connections is some special gift reserved to the West. In this seminar, we will lend some balance to the matter. Our medium will be Thomas Merton who embodied in himself a new stage of maturity in the ability to make connections. He began his career as a Christian monk in a Kentucky monastery and ended his life in the Orient making Buddhist connections even as he remained a Christian monk. Every world view we have studied thus far and every connection maker has had to deal with the religious dimension, the dimension of the spirit. Plato certainly felt the pull of the numen. Aristotle tried to bring that numen down to earth. Dante's conception of hell is a summary of medieval theology. By the time Bacon attended Trinity College in 1563, to study Aristotle meant to study theology as developed by Aristotelian deduction. This was probably why Bacon was tempted to throw out the rational baby with the theological bathwater. Thomas Merton represents a new spirit in dialogue and a new way of listening. In his book The Way of Chuang Tzu, Merton interprets a Chinese sage whose teachings struck a responsive chord in this Christian monk. In Merton's approach to Eastern thought he did not so much reach out for contact with other traditions, but rather went so deeply into his own that he could not help discovering the common roots. He made connections. As David Steindl-Rast said of Merton, he dug deeply into the ground on which he stood, and he came out in China. Perhaps we need a humanities respite with Chuang Tzu and Merton in the middle of the contemporary rush of science and technology.

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In preparation for Professor Tucker's visit, we will read Merton's The Way of Chuang Tzu. Chuang Tzu and Thomas Merton, East and West, meet on an inner journey, where the connections lead to growth, to deepening, to creative action, to love. The Chinese word for love is not only an emotional-moral term, it is also a cosmic force. Intimacy and compassion, found in the very structure of the physical universe and of the earth. Professor Tucker will discuss with us the links that join East and West as we make such inner connections: modern science and technology linked to human thought and affection, as well as to art, music, and dance, linked to The Creation of Haydn and the chanting of The Gyuto Monks: Tibetan Tantric Choir, linked to Walt Whitman's Leaves of Grass and The Way of Chuang Tzu. We will also read Professor Tucker's book, The Life and Thought of Kaibara Ekken. Professor Tucker will share with us the lessons of her book in which she discusses the 17th century Japanese scholar whose focus was on the "humanities" and "natural science" as ingredients of the cultivated individual. We will discuss Professor Tucker's book on Monday of our Fourth Seminar Week. Keith Kroll (English) and Harland Fish (Physics) will lead the discussion.

First Academic Year - September, 1991 through April, 1992

During the first academic year we will prepare for the scholars who will come to us during our second summer institute. To prepare for them there will be four opportunities for dialogue. Our participating faculty will read and discuss Bonfire of the Vanities by Tom Wolf, City: Rediscovering the Center by William Whyte and The City by Max Weber. Patricia Baker (English) and Martin Obed (Music and Humanities) will lead the discussion. Also, we will read and discuss Max Weber's The Protestant Ethic and the Spirit of Capitalism. Richard Konieczka (English and Humanities) and Theo Sypris (Economics and Political Science) will lead the discussion. We will read and discuss Reflections on Gender and Science by Evelyn Keller and Uneasy Careers by Abir-Am and Outram. Maryalice Reck (Secretarial Careers) and Helen Palleschi (Nursing) will lead the discussion. Finally, we will read and discuss Akenfield by Ronald Blythe. Gerald Helsley (Automotive Technology) and Verne Mills (Biology) will lead the discussion.

Also, during the first academic year, we will again invite one of our first institute scholars to return to meet with students and further discuss the design of the core course with our

participating faculty. During the Fall Semester of this academic year we will invite Mary Evelyn Tucker who will serve as an excellent resource person for the faculty at large. Professor Tucker will discuss with us her experiences as the student of the distinguished Fordham Professor, Thomas Berry, author of The Dream of the Earth. Thomas Berry is a connection maker who calls for the imaginative power, the intellectual insight, and the spiritual quality of the scientific vision. His blueprint for the American College is a challenging one, hotly debated in many academic circles. This will be an excellent mid-semester oasis for our faculty and an opportunity for many of our students to meet our scholar. In preparation for her visit, participating faculty will have the opportunity to read Thomas Berry's The Dream of the Earth. We will discuss Berry's book during Professor Tucker's return visit. Professor Tucker will lead the discussion.

During the Winter Semester of this academic year we will invite Thomas C. Wiegele, Director of the Center for Biopolitical Research and the Program for Biosocial Research, and Professor of Political Science at Northern Illinois University. Professor Wiegele is convinced of the need to respond to the human dimension in the sciences and technology, a task he is convinced must engage the humanities. Professor Wiegele too will be an excellent resource person for our faculty and an engaging visitor for our students. In preparation for his visit faculty will have the opportunity to read Biophilia by Edward Osborne Wilson. We will discuss Wilson's book during Professor Wiegele's visit. Wiegele will lead the discussion. Wilson writes that the perplexities of human behavior can be understood within the context of our biological history and its connection with the rest of the Earth's species. It is a book with both poetic and scientific appeal. Professor Wiegele will discuss the impact of biology on political science, how biotechnology will alter work done in many fields of science and technology, and how this will affect human values. The need for responding to the human dimension in the sciences and technology becomes imperative here, certainly a task involving the humanities.

We are convinced that classroom visits by our guest scholars during the academic year will serve as an excellent tool for gaining student interest in the upcoming core course: **The Humanities, Science, and Technology: Making Connections.**

Second Year of the Grant
April 1, 1992 - March 31, 1993

Faculty Preparation for the Second Summer Institute - April 1992

As noted above, faculty preparation for the second summer institute began during the previous academic year. Participating faculty met to read and discuss books pertinent to this institute. The weeks before the first seminar in mid-May will be an opportunity to review books already discussed and to read some of the books not yet discussed. Again, faculty may pace themselves as they prepare since the fourth seminar will be in mid-June.

Second Summer Institute - May and June, 1992
Theme: The City: Where Connections Are Made

Once again, the summer institute will consist of four seminars, each of one week's duration. Monday will be given to discussion based on the books read for that week's scholar, on Tuesday and Wednesday the visiting scholar will lecture and facilitate discussion, on Thursday the faculty will discuss with the scholar lessons applicable to the teaching of the core course, and on Friday the faculty will meet to write a summary paper of lessons learned, objectives clarified, and applications made for the teaching of the core course.

The theme of **The City** as the place where connections are made flows quite naturally from our time and place: Kalamazoo, Michigan in 1990. Kalamazoo Valley Community College is a large urban college despite its suburban setting in a large metropolitan area. The College is in the process of constructing a second campus in the center of the city that is an essential component in a large urban renewal project called Arcadia Commons.

With five institutions of higher learning, several museums, theater companies, a well received symphony orchestra, and many published authors, acclaimed artists and musicians, we can humbly refer to Kalamazoo as a place of culture where the humanities flourish. With a pharmaceutical company, clinical research at two large hospitals right on the cutting edge of the health sciences, science is practiced here at a high level of application. There is much scientific theory and practice in our academic institutions. With the pronounced presence of

the automobile industry, the paper, plastics and robotics industries and others, technology also flourishes here.

We also have our social and economic problems, our blighted neighborhoods, our drug-related tragedies. It is also a city that takes time for leisure and a city that takes pride in the education of its children. As any other city, Kalamazoo is nature, spirit, woman and man, society, architecture from houses to factories to cathedrals, and an infrastructure that keeps the city functioning, connecting its parts. A city is the most obvious place where the humanities, science, and technology meet, where connections can be made. As nowhere else, urban life is where human life finds or loses its meanings. For such reasons we have chosen our theme.

First Seminar Week

Theme: The City: The Spiritual Connection

Visiting Scholar: Harold Morowitz, Professor of Molecular Biophysics and Biochemistry at Fairfax University, Author of Cosmic Joy and Local Pain, Musings of a Mystic Scientist

By *spiritual* is meant not only the religious connection but the intellectual and aesthetic connection as well. Intellectual and religious life have their roots in the cities. Mention any of the great cities of the world and you conjure up great thinkers, great libraries, great universities, great religious leaders and movements. Yes, you also conjure up the rush, the pressure, the grime and dirt, the drugs and crime, the greed, the racial and class tension, the fragmentation, the alienation that seem inimical to the life of the spirit. Tom Wolfe spoke to these realities in Bonfire of the Vanities.

William Whyte, in his recent witty and hopeful book City: Rediscovering the Center, refers to the *people* in cities, their need and desire to be together, their nonchalant defiance of plans in the following of their humanly gregarious instincts, in their search for sunlight and beauty. all of this reminds one of the classic work of Max Weber, The City, in which he saw the city as a balanced, self-restoring system of institutions that has played a basic role in the development of Western civilization. In the last chapter of his book, Whyte asks of the city, "Will the center hold?" In speaking of the spiritual connection the center can mean many things, including the spiritual dimension. Will the center hold for the spiritual connection in

the city? In preparation for this institute our participating faculty will read and discuss the books by Wolfe, Whyte, and Weber.

In preparation for Professor Morowitz's visit, faculty will have already read and discussed Disturbing the Universe by Freeman Dyson. We will also read and discuss selections from The Logic of the Sciences and the Humanities by F.S.C. Northrop, Morowitz's teacher. We will also read Professor Morowitz's book, Cosmic Joy and Local Pain, Musings of a Mystic Scientist. We will discuss Northrop's book on Monday of the First Seminar Week. Harland Fish (Physics) and Darrell Davies (Biology) will lead the discussion. Professor Morowitz himself will take us through the lessons of his book during his stay with us. Inspired by the ideas of Benedict Spinoza, Gautauma Buddha, Henry Thoreau, and the philosophers of evolution, Professor Morowitz will guide us through what should be considered common knowledge about the earth, the skies, the oceans, and living organisms. As a connection maker, Professor Morowitz will underscore the interrelatedness of all things, at which point he will show us how he found the God of Spinoza in the tao of science. He will show us how the objective world of research might point to a design in a universe that seemed to have anticipated our arrival, but perhaps in a more surprising way than that to which we are accustomed. Since values and ethics will underscore this second half of our proposal, it will come as no surprise, considering the name of his book, that Professor Morowitz will conclude that ethics consists of good works to alleviate pain. How he arrives at this will be part of the pleasure of Professor Morowitz's lectures and will surely enlarge upon our sense of the word spirit.

Second Seminar Week

Theme: The City: The Work Connection

Visiting Scholar: Robert Sessions, Professor of Philosophy, Kirkwood Community College, Cedar Rapids, Iowa, Author of Working in America: A Humanities Reader to be published by Notre Dame Press in 1991

In the late 20th century, the word *work* signifies more than any other word the place where science and technology meet. Most of us cannot get to work without cars or a technological infrastructure to help us get there. For most of us, the computer hovers nearby

no matter where we work. The health sciences are pressing us to take better care of ourselves so that we may work better and longer. But where do the humanities fit in? As our visiting scholar will tell us, everywhere! Increasingly, we are less satisfied with work that leads only to a paycheck. Increasingly, there are other rewards expected.

Since most of our students work, they will identify here. Most, if not all, of our students are in college because they have some idea of the kind of work they would rather do someday. Work is a common factor in all our lives. But few of us have taken the time to wonder about it. First, to wonder about what our own experience teaches us, that work shapes every dimension of our lives, that work can either alienate or enhance us. Secondly, to look back, which few have the opportunity to do, and see what historic factors helped to shape the meaning of work. To see, for example, that creating an individualistic society does not necessarily produce healthy individuals.

Professor Sessions will help us explore what Locke and Hegel have to say about work, and particularly what Hegel really says about independence and community (self and others). Thirdly, Professor Sessions will lead us to imagine what work can mean, a sense of the future of work that seems to follow from the way workers today want to define work: as work that enhances their lives more than just materially, work that enhances themselves. Professor Sessions is convinced that our educational system is our model. For example, we are not threats to each other. We are colleagues.

For Professor Sessions we will read from Locke's The Second Treatise of Government-of the State of Nature and Hegel's The Phenomenology of Spirit. We will also read "Bartleby the Scrivener" by Herman Melville, a story that evokes profound uneasiness about work and about life and death, and Max Weber's classic, The Protestant Ethic and the Spirit of Capitalism, a book that still contributes greatly to debates on capitalism, economics, and the future of contemporary industrial culture. We will discuss Locke, Hegel and Melville on the Monday of the Second Seminar Week. Robert Badra (Philosophy and Humanities) will be our discussion leader. Our goal is to become sensitized to some crucial human dimensions of work if we are to study the past and imagine the future of work.

Third Seminar Week

Theme: The City: The Gender Connection

Visiting Scholars: Judith Zinsser of the United Nations International School in New York and Bonnie Anderson of Brooklyn College, City University of New York, co-authors of A History of Their Own: Women in Europe from Prehistory to the Present, Volumes I and II, Harper and Row, 1988

As our visiting scholars state it in the first volume of their work, in medieval society the townswomen may have lived well if their husbands were wealthy. Wealth also brought responsibility, mainly to their households, their families' lands, and sometimes their husbands' businesses. However, this consumed their time and energies. Women rarely acted for themselves, or on their own behalf. They accepted the role of willing helpmate that the male writers of medieval society popularized. This last is a telling sentence.

It is difficult to ignore the importance of how we view gender in our scientific and technological society. Nothing less than the meaning of lives is at stake here, a meaning historically given to women by men. We are not entirely out of the middle ages yet. But we have come far enough to say that going back would cost us dearly. It is true that women can feel free to act for themselves, or on their own behalf, today. But prices are being paid by both men and women. Thousands of therapists and support groups attest to this harsh reality. The question of what can be done about it is a humanities question. One feels a slight tinge of pain in reading the dedication in Uneasy Careers and Intimate Lives by Pnina G. Abir-Am and Dorinda Outram. It reads: Dedicated to our children, Estee and Ben. May you have an equal opportunity to pursue "easy careers" while finding happiness in your intimate lives. Unless an attempt is made by both men and women to anguish together over this difficult humanities question, city life with all of its scientific and technological innovations will become quite unbearable for ourselves and for our children.

For professors Zinsser and Anderson we will read Not in God's Image by Julia O'Faolain, a history of women in Europe from the Greeks to the 19th century. We will discuss O'Faolain's book on Monday of the Third Seminar Week. William Lay (English) will lead the discussion. We will also read Reflections on Gender and Science by Evelyn Fox Keller. In her book, filled with literary and philosophic references, Keller asks some hard questions: Why

are objectivity and reason characterized as male and subjectivity and feeling as female? How does this characterization affect the goals and methods of scientific inquiry? Is a gender-free science possible? We can carry this over and ask: Is a gender-free technology possible? Can urban life be gender-free? Including urban spiritual life and work life? These are humanities questions. Indeed, these are questions for connection makers: to see the connections and know what to do about them. At one time, the humanities were not gender-free, particularly as expressed in literature. The medieval world view supported this. Ours is a time of tension and of possibilities. Aeschylus in antiquity must have sensed such tensions when he wrote Orestia: Agamemnon, The Libation-Bearers and The Eumenides. We will also discuss Orestia on Monday of the Third Seminar Week. Kathyryn Smith (Philosophy and Humanities) will lead the discussion. The Orestia can be interpreted to represent the clash between matriarchal and patriarchal societies. We will read and reflect upon Aeschylus as we look upon ourselves. Finally, we will read Uneasy Careers and Intimate Lives, women in science from 1789-1979, by Pnina G. Abir-Am and Dorinda Outram. As "humanities" people, such reading can sensitize us toward a gender-free humanities and help bring us closer to gender-free cities in a gender-free society. Evelyn Keller's questions come home.

Fourth Seminar Week

Theme: The City: The Ethics Connection

Visiting Scholar: Robert E. McGinn, Professor of Industrial Engineering and Engineering Management, and of Values, Technology, Science, and Society at Stanford University, Author of Science, Technology, and Society: An Introduction to the Field forthcoming from Prentice-Hall in 1990

Robert McGinn is a connection maker: he is a mathematician who minored in engineering and physics, and whose doctoral degree in philosophy was conferred as "Ph.D. in Philosophy and Humanities" for fulfilling the doctoral requirements of the Department of Philosophy and those of the Graduate Department in Humanities, at Stanford, where he studied the Western tradition from classical antiquity to the 20th century.

Professor McGinn has coined a formula "Technology to the Max" practiced under the auspices of what is right as traditionally understood and exercised by increasing numbers of

people dilutes the quality of life. Professor McGinn is convinced that we have anachronistic concepts of right and that we must adapt a larger sense. Call it consciousness raising. He feels that we must resist compartmentalization of leisure, work, family, self-esteem, physical needs and the need to relate to each other. Obviously, a question of values arises. Professor McGinn is convinced that the humanities, science, and technology can help society clarify values for itself. He sees societies moving through three stages: (1) Traditional Static Society with a singular traditional culture; (2) Pluralist Modern Culture which he calls the Faustian stage, exhausting all possibilities, which may account for the growth of fundamentalism; (3) Discriminating Sentinel Culture where many points of view actually lead to a core of values. He asks, will such a culture arise in time? He feels that a return to stage (1) would be romantic and Hegelian. We must keep something from stage (1) and something from stage (2) to make stage (3) possible.

According to Stanford's Values, Technology, Science, and Society (VTSS) Program, it is no longer tolerable that education should concern itself with one or the other of C.P. Snow's two cultures. Having said this, we come full circle because for Professor McGinn we have already read and discussed Goethe's Faust and Snow's Two Cultures. It is as though we had anticipated McGinn from the start. We have also read and discussed Boorstin's The Americans: The Democratic Experience. We will also read and discuss Akenfield by Ronald Blythe, a look back at pre-industrial society in a truly haunting manner, as though the people of that English village were talking directly to us. Professor McGinn will not only give us his views as outlined above, he will also bring us a short course on aesthetics as related to science and technology as visualized in a slide presentation. On Monday of our Fourth Seminar Week we will review highlights of the materials we have already read and discussed in preparation for Professor McGinn. David Dobbs (Drafting) will lead the discussion.

Second Academic Year - September, 1992 through April 1993

During the Fall Semester of the academic year following our Second Summer Institute we will concentrate all our efforts into designing the core course: **The Humanities, Science, and Technology: Making Connections**. All faculty participants will help in the selection of

methods, content, and texts whether or not they will actually teach the course. We will meet at least every other week, on Friday afternoons, in a retreat context.

We will teach the new core course for the first time in the Winter/Spring Semester of the academic year 1992-93. Teachers of the course will be chosen by self-selection early in the previous semester. The course will be taught by a humanist, a scientist, and a technologist. During this time we will invite two of our summer institute scholars to return, visit our classes and act as resource people for the faculty teaching the course.

At the conclusion of the semester in which the new core course is offered, Betty Chang, Dean of General Studies, will formally recommend to the College Curriculum Committee that the new humanities course be incorporated into the general education requirements for the Associate of Applied Science (AAS) degree in 1993-1994, the final year of our five-year plan.

In addition to creating the core course, all participants in this project will transmit the study and learning of the past two years into the courses they teach. Evelyn Edson, Professor of History and National Endowment for the Humanities Project Director at Piedmont Virginia Community College, will visit our campus and serve as a consultant for designing the core course. In addition, all faculty participants will present to Dr. Edson their plans for infusing their learning into the courses they teach.

The college administration is committed to implementing the core course as a requirement for the Associate of Applied Science degree. The new core course will strengthen the interdisciplinary offerings in the Associate of Arts degree and the Associate of Science degree as well.

Kalamazoo Valley Community College

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Interim Performance Report
4-1-91 to 3-31-92
Kalamazoo Valley Community College
NEH Grant
The Humanities, Science and Technology: Making Connections
Robert Badra, Project Director

Having a sense that a poetic summary will accomplish the task at least as well if not better than an elaborate report, I would like to briefly compare what we had committed ourselves to do and what we have actually accomplished.

We had committed ourselves in our proposal to the NEH (1) to prepare ourselves for and to involve ourselves in a four week Summer Institute with the leadership of four distinguished visiting scholars; (2) to prepare for our Second Summer Institute with the reading and discussion of carefully chosen books under the leadership of several of our colleagues; (3) to invite two visiting scholars to come to us during the academic year, one from our First Institute and another who would be new to us. It was also anticipated that these last two visitors would drop in on some of our classes to meet students.

We accomplished our goals in all but three minor differences: (1) we had to replace one of our Institute scholars when Martha Nussbaum could not join us; (2) since none of our Institute scholars were free to return to us, we invited a new scholar from Bucknell University, John Grimm, husband of scholar Mary Evelyn Tucker, and since our second invited scholar had unfortunately died, we invited another scholar whom you know, John Seabrook, to take his place; (3) finally, it was not practical for our scholars coming to us during the academic year to visit classes. Since we met with our scholars on Fridays, none of our classes were in session. However, we did open each of their visits to a public lecture preceding their time with the participants in our project.

Apart from these minor differences, we see ourselves as accomplishing our goals with a great deal of pride and pizzazz. Our outcomes have not come and gone as so many experiences do, becoming settlers in our memories. Our outcomes are moving us on to solid goals which will help us and our students shape the future.

Goal Number One: We prepared ourselves for and involved ourselves in a four week Summer Institute. Although the 19 participants and the Project Director had met from time to time during the previous academic year to discuss several books together, the short amount of time preceding our First Institute precluded any formal time to discuss. However, we were given ample readings by our scholars previous to their visits and it can be said that our group of 20 responded heroically to the abundant material given to them and read well. We were truly prepared for our scholars.

(1) First Week of the Institute, May 20-24, 1991. Our first scholar was Wade Robison, Visiting Professor of Applied Ethics at Rochester Institute. With the help of selected readings from Descartes and Hume, as well as Sir Robert Boyle and Defoe, Wade engaged us in a dialogue that hooked us temporarily in Descarte's world, neither fully medieval nor yet scientific, and while our fingers clawed at the walls of a disappearing world, Wade gently led us into David Hume and a world of another kind. From this first week of our institute we have seen the importance of being self-reflective, the value of intellectual fermentation, and the great worth of the dialogue we have begun.

(2) Second Week of the Institute, May 27-31, 1991. Our second scholar was Tibor Wlassics, Dante scholar from the University of Virginia. We had all prepared ourselves by reading the Inferno plus a multitude of handouts Tibor had given us on the delicacies of the Inferno. Tibor really hit home on the sciences and technology in Dante. If any of us had felt that Dante belonged to the humanities alone, we soon saw differently. We are still pondering Tibor's inferences: Dante the Naturalist in Hell; Dante the Psychologist, the Infernal Shrink; Dante's Eyes, the Cameraman in Hell. None of us felt left out. Further, we were enthralled. By the end of the week, we had a better handle on good teaching, the value of storytelling, the role of ambiguity in any discipline and in life, and yes, we appreciated Dante. This week, our group jelled.

(3) Third Week of the Institute, June 3-7, 1991. Our third scholar was Mary Evelyn Tucker from Bucknell University. This was the week that we came to "possess" our materials, that is to say, they came to life for us. What is remarkable is that we came to possess the material Mary Evelyn brought to us, Confucian and other Asian texts, which we read aloud, sentence by sentence, until we came to see that such texts are truly accessible. We then discussed the life and contributions of the Japanese humanist and scientist Kaibara Ekken(1630-1714), whom we came to appreciate as a connection-maker in the Orient, in another century, in whom the humanities and the sciences worked together to understand the world. To paraphrase a colleague, our level of awareness concerning our own potential as connection-makers jumped exponentially from her thinking and our thinking on the Asian texts.

(4) Fourth Week of the Institute, June 10-14, 1991. Our fourth scholar was James Christian of Rancho Santiago College. He is the author of the philosophy text used in our Intro to Philosophy courses. After reading several chapters from his soon-to-be-published book on the great philosophers of history, which for us included Socrates, Marcus Aurelius, Epicurus, Bacon, Darwin, Bergson and Merton, no small task, we were challenged by James Christian to conduct a dialogue on each of these thinkers. We will never forget the 90 minute conversation we held forth on Socrates. At first, when we were asked if we would want Socrates to be our attorney or our friend, there was stunned silence. I thought, is he kidding? I, for one, will never forget the 90 minute conversation that followed. We had done our homework, and it showed. And so it

went for the rest of the week. What transpired was heady, probably rare, and certainly remarkable.

In summary, our First Summer Institute was a peak experience, a joyful experience, one that filled a gap.

Goal Number Two: There were three faculty lead discussions based on the books we were reading in anticipation of our Second Summer Institute. Each of our discussions generated an excellent dialogue, and demonstrated again and again the scholarship and knowledgeabilty of our colleagues.

On the 25th of October 1991, our colleagues Pat Baker, Martin Obed and John Holmes led us in a discussion of Tom Wolfe's Bonfire of the Vanities, William White's City: Rediscovering the Center, and Max Weber's The City.

On the 6th of December 1991, our colleagues Rich Konieczka and Theo Sypris led us in a discussion of Max Weber's The Protestant Ethic and the Spirit of Capitalism.

On the 31st of January 1992, our colleagues Helen Palleschi and Verne Mills led us in a discussion of Evelyn Keller's Reflections on Gender and Science and Abir-Am and Outram's Uneasy Careers.

Goal Number Three: Our visiting scholars for the academic year 1991-92 were John Grimm of Bucknell University and John Seabrook, editor of the Community College Humanities Review.

In the Fall Semester John Grimm came to us and truly inspired us with his knowledge of the American Indian experience and its wisdom. John is an expert in the field and by the end of his visit we had a good sense of the American Indian worldview. His public presentation consisted of a slide presentation with commentary on his experiences with the sun dance ritual as an initiated member of a tribe in the Northwest. His conversations with our participants helped us to grasp the place of the American Indian worldview in our contemporary ecological context.

Since each of our visiting scholars in our First Summer Institute left impressed with our own sense of scholarship, or at least they expressed that sense to us, telling us that they considered us to be scholarly, John Seabrook's visit in the Winter Semester was perfectly timed. In his public session, which I am pleased to tell you our President attended, John drove home his lesson that scholarship and the community college mission are not at odds. Privately, with our participants, we were challenged and encouraged to express our scholarship in the Community College Humanities Review. He left us with a heightened awareness of our potential.

Dissemination of Information: Finally, I am pleased to inform you that our commitment to disseminate information was met in several timely ways. (1) As mentor to three colleges in the Mid-west participating in the AACJC-NEH Advancing the Humanities initiative,

I was given the opportunity to spread the word of what we are doing in a manner that added several excellent links to the growing humanities network. (2) In the last edition of the AACJC newsletter I was pleased to have a story published describing the Advancing the Humanities initiative at our college with the help of our NEH grant. (3) I was a presentor at the National Conference of the Community College Humanities Association in San Francisco in November of 1991. (4) And though not directly related to our project, I am pleased that my review of the textbook by Robert Sessions and Jack Wortman, Working in America, appeared in the latest issue of the Community College Humanities Review. I mention this because we have been invited to submit an article to the Review concerning our NEH supported project.

We are proud of what we have accomplished in the first year of our NEH grant, and we trust that our accomplishments will soon give the NEH many reasons to be proud of us.

Sincerely,

Robert Badra
NEH Project Director
The Humanities, Science and Technology: Making Connections
Kalamazoo Valley Community College
Interim Report Submitted in June of 1992