Our logo, a modern rendering of the Seven Liberal Arts, visually connects contemporary studies in the Arts and Sciences to ancient and medieval conceptions of higher learning, which often divided the liberal arts into the trivium (grammar, rhetoric, and logic) and the quadrivium (arithmetic, geometry, harmonics or music, and astronomy or cosmology). In the medieval period, theorists also frequently envisioned Philosophy as an overarching area of study linking all knowledge branches. The theme of this year's COAS Research Conference, "The Shoulders of Giants," deliberately alludes to a series of successive historical statements that assert both the advancement of knowledge and its dependency on previous thinkers and their findings. "Bernard of Chartres used to say that we are like dwarfs sitting [standing] on the shoulders of giants, so that we can see more than they, and things at a greater distance."

John of Salisbury, *Metalogicon* (1159)

"If I have seen further, it is by standing on the shoulders of giants."

Isaac Newton, a letter to Robert Hooke (1676)

Welcome

November 1, 2007

Welcome to the Fourth Annual College of Arts and Sciences' Campus-Wide Research Conference. The various sessions showcase the quality, depth, and breadth of original theoretical and applied research being conducted by the talented faculty, students, and alumni from Indiana University Northwest's College of Arts and Sciences and our colleagues from other divisions, schools, and universities.

The importance of research as a way of informing one's teaching and the pride I take in the research of faculty at IU Northwest represent major reasons for founding the conference. The event is the outgrowth of a strong constellation of academically excellent programmatic offerings. It illustrates the relevance of intellectual pursuit in the arts, humanities, social and natural sciences, and interdisciplinary studies to our understanding of ourselves, our communities, our nation, and our world. We know you will be intellectually stimulated by the caliber and variety of presentations. This year the abstracts for every presentation were reviewed by the Arts and Sciences Research Conference Committee as well as faculty peers from Valparaiso University, Northwestern University and the University of Notre Dame.

Please join me in celebrating research, scholarship, and creativity at IU Northwest. We thank Chancellor Bruce Bergland and our Vice Chancellor for Academic Affairs, Kwesi Aggrey, for their support and sponsorship. We also owe a special thanks to the planners and the internal and external participants for their contributions to this event. Learn and enjoy!

Dorothy W. Ige - Dean
College of Arts and Sciences – IU Northwest

Thursday

November 15, 2007

2:00-2:30pm

Refreshments – LCC 105A,B

2:30-3:00pm

Opening Remarks - LCC 105 A,B

Bruce Bergland,
Chancellor, IU Northwest

Student Awards Presentation – LCC 105 A,B

Dorothy Ige,
Dean, College of Arts and Sciences, IU Northwest

3:00-4:15pm **Session A**

Signaling and Structures in Disease and Healing LCC 105C

Moderator: Michael LaPointe, Department of Biology, IU Northwest

The Effect of Obesity on Skeletal Muscle Fibers of the Ossabaw Pig Model
Brad Clark, Purdue University Calumet and IU School of Medicine, Northwest

Dopamine Agonist Mediated Signaling Changes in a Rat Model of Parkinson's Disease
Cicely Moreno, IU School of Medicine, Northwest

Plasma Membrane Calcium-ATPase Isoform 4 and Extracellular Calcium-Sensing Receptor in Corneal Epithelium Wound Healing
Daniel Grabarek, IU School of Medicine, Northwest-Department of Anatomy and Cell Biology

Experiencing the Experimental in Poetry LCC 105A/B

Moderator: Gianluca Di Muzio, Department of History and Philosophy, IU Northwest

Rereading Rebellion in George Herbert's "The Collar"
Douglas Swartz, Department of English, IU Northwest
The Experimental as a Way to the Individual: Charles Bernstein and Theodor Adorno on Poetry
William Allegrezza, Department of English, IU Northwest
From "Goddes pryvetee" to the "develes ers" – Experiencing the Body/Bawdy in Chaucer's Experimental Poetry
Robin Hass Birky, Department of English, IU Northwest

Political Theory in the 20th and 21st Centuries LCC 115

Moderator: Marie Eisenstein, School of Public & Environmental Affairs, IU Northwest

The Theory of Surrogate Democracy and the Case for Generational Legitimacy by Procedure
Christopher Mercado, SPEA, IU Northwest
Max Weber: A Short Introductory Biography
Jaclyn Hac, Department of Sociology and Anthropology, IU Northwest
Lying to Get America Out of Iraq
Timothy Carroll, SPEA, IU Northwest
21st Century Globalization: Corporate Strategies and Labor Responses
Ruth Needleman, Labor Studies Program, IU Northwest

4:15-4:30pm Break

4:30-5:45pm **Session B**

Protein Studies: Bacteria Recognition and Ion Exchange LCC 105C

Moderator: Kristin Huysken, Department of Geosciences, IU Northwest

Effect of high glucose concentrations on Na/H exchange isoform NHE-r expression
John Coryell, Nursing and Department of Biology, IU Northwest
Identification, cloning, expression, and amidase activity of zebrafish peptidoglycan recognition proteins
Dr. Xinna Li, IU School of Medicine, Northwest
Zebrafish Peptigoglycan Recognition proteins are essential for defense against bacterial infections
Rohini Chatterjee, IU School of Medicine Northwest

Teaching Anti-Imperialism: The U.S. War and Occupation of Iraq LCC 115

Moderator: Jack Bloom, Department of Sociology and Anthropology, IU Northwest

Panel

Faculty Presenter, Raoul Contreras, Department of Minority Studies, IU Northwest

Student Presenters: Nancy Escobedo, Mary Jenkins and Barbara Sullivan

History Between East and West LCC 105A/B

Moderator: Xiaoqing Diana Lin, Department of History and Philosophy, IU Northwest

Storming the Gates at the House of Confucius: Academic Pressure, Social Mobility and the Preservation of and Empire

Zachary Benjamin, Department of Communication, University of Illinois at Chicago

The Roman Revolution: Rethinking Modern Theories of Political Change

Jerry B. Pierce, Department of History and Philosophy, IU Northwest

Alexander Stamboliiski and Peasant Politics in Eastern Europe

Frederick B. Chary, Emeritus, Department of History and Philosophy, IU Northwest

"Everything that will impress Public Opinion": The Federalists' Campaign against the Massachusetts Constitutional Society during the mid 1790s

Christopher J. Young, Department of History and Philosophy, IU Northwest

5:45-6:00pm Break

6:00-7:30pm **Keynote Speaker LCC A,B**

Yellow-eyed penguins: A Chemist's view of Nature

William J. Cooper, University of California, Irvine, Professor, Department of Civil and Environmental Engineering, and Director, Urban Water Research Center, Nature Photographer.

Megadyptes antipodes

There are 17 species of penguins on Earth. The Yellow Eyed penguins are some of the rarest penguins in the world and live in the southern part of New Zealand and on some of the surrounding islands. It is estimated that the total population is around 4,000 individuals. They are the third largest penguin. They breed once a year with the adults sharing both in the incubation of the eggs and feeding the young. The birds fledge in

March, at which the adults molt. During molting the adults are confined to land and do not eat for 3 – 4 weeks, usually loosing 2 – 4 kilos in body weight.

It has been estimated that they expend the equivalent energy of running a marathon each day to get food for themselves and when the chicks are in the nest for them, as well. They live in loose colonies but nest beyond sight of another pair. The nest may be as far as one kilometer in land and in some cases to get to their nest they have to navigate up cliffs that are up to 100 meters high.

This talk will have video footage of the adults feeding 6-day old chicks and a power point presentation which will provide the back setting of the Otago Peninsula, south island New Zealand.

Following the Speaker's presentation, students will have an opportunity to talk with Dr. Cooper and other university faculty mentors during a student Mentoring Reception. A light hors d'oeuvre buffet will be presented.

Friday

November 16, 2007

8:30-9:00am Refreshments – LCC 105A,B

9:00-10:15am **Session C**

Life Around Lake Michigan: Water Level, Fungi and Invasive Plants LCC 105C

Moderator: K.Vinodgopal, Department of Chemistry, IU Northwest

Reconstructing lake-level history in Lake Michigan from the geologic record at Bailey's Harbor, Wisconsin
Erin P. Argyilan, Department of Geosciences, IU Northwest
Chemical Analysis of Native and Invasive Bittersweet Plants
Jennifer Susoreny-Velgos and Aditya Shah, Department of Chemistry, IU Northwest
Sweet deal messed up: Responses of ectomycorrhizal fungal communities to simulated nitrogen deposition in oak forests in northwest Indiana and Chicago
Peter Avis, Department of Biology, IU Northwest

Literature, Performance and the Feminine LCC 110

Moderator: Jerry B. Pierce, Department of History and Philosophy, IU Northwest

Composing Womanliness: Genevieve Stebbins' Delsartism and the Elocution Movement
Taylor S. Lake, Department of Communication, IU Northwest
The 2007 Theatre Northwest production of *Fashion*, by Anna Cora Mowatt
Julie Jackson and Bryan Conger, Department of Performing Arts, IU Northwest
Dissecting the "Gaudy Tulip" in Swift's *The Lady's Dressing Room*
Matt Miles, Department of English, IU South Bend
From Eugene O'Neill's *Desire Under the Elms* to Halldor Laxness' *Independent People*: A Trans-Atlantic Influence
Alan P. Barr, Department of English, IU Northwest

Philosophy and Ethics LCC 105A/B

Moderator: Christopher Young, Department of History and Philosophy, IU Northwest

Ethics and Politics: The Role of Norms in Stakeholder Theory
Anja Matwijkiw, Department of History and Philosophy, IU Northwest
Why Be Moral?
Bronik Matwijkiw, Department of Philosophy, Chicago State University, IL
The Problem of Divine Inefficiency
Gianluca Di Muzio, Department of History and Philosophy, IU Northwest
Philosophical Trends in Early Republican China: Hu Shi, Liand Shuming, and Feng Youlan
Xiaoqing Diana Lin, Department of History and Philosophy, IU Northwest

10:15-10:30am Break

10:30-11:45am **Session D**

Exploring Space and Light LCC 105C

Moderator: Julie Peller, Department of Chemistry, IU Northwest

A Mass Detector to be Used in the St. George Recoil Mass Separator
Gregory Warrell, Department of Physics and Astronomy, IU South Bend
Cosmological Tunneling
Noah Cooper, Department of Physics and Astronomy, IU South Bend
Emergent Spacetime in String Theory
Savan Kharel, Department of Physics and Astronomy, IU South Bend
Spectral Analysis of Molybdenum (II) Complexes
Waricha Watthanapha and Rodolfo Herrera, Department of Chemistry, IU Northwest

Social Science Potpourri LCC 110

Moderator: Raoul Contreras, Department of Minority Studies, IU Northwest

Historic Midtown, Gary, Indiana and Urban Revitalization: Prospects for Change
Earl R. Jones, Department of Minority Studies, IU Northwest
The Boomerang Generation: Intergenerational Co-Residence and Self-Identity
David Whitlock, Department of Sociology and Anthropology, IU Northwest
The Relationship between Substance Abuse and Domestic Violence in a Sample of Dual Problem Men
Mark D. Thomas, Division of Social Work, IU Northwest
EE-Learning: Blending Electronic and Experiential Learning
Judy Donovan, School of Education, IU Northwest

Creativity Across Literary Genres LCC A/B

Moderator: Anja Matwijkiw, Department of History and Philosophy, IU Northwest

Birth, Death and Rebirth in *Games to Keep the Dark Away* by Marcia Muller
Patricia P. Buckler, Department of English, IU Northwest
Creative Nonfiction: Chimamanda Ngozi Adichie and Narrative Nonfiction
Ada Uzoamaka Azodo, Department of Minority Studies, IU Northwest
The Dictons of *Galien le Restoré*: A New Look at Old Sayings
Nikki L. Kaltenbach, Department of Modern Languages, IU Northwest
Limberlost Dreams: An Indiana Children's Author Addresses Environmental Crisis
Anne Balay, Department of English, IU Northwest

11:45-12:15pm Lunch Break

Lunch will not be provided however, you may purchase your lunch at our on-campus eateries or at one of the area restaurants. The Redhawk Café is located in the Moraine Student Center and operated by Comfort Catering. Brown bag lunches are welcome!
Please bring your lunch back to LCC105AB as our Lunchtime Keynote will begin at 12:15pm

12:15-1:30pm Lunchtime Keynote LCC 105AB

Nature Through Ecological Eyes
Spencer Cortwright, Department of Biology, IU Northwest

Many people visit nature preserves, and each person's experience is unique. Psycho-social release, aesthetics, exercise, etc., are some of the motivations for visiting nature preserves. "Seeing" nature preserves through an ecologist's eyes adds another interesting and exciting perspective to those traversing nature preserves. This presentation displays

thematically arranged slides (e.g. drought effects on plants, animal coloration, etc.) taken in Midwestern nature preserves. The images display what a scientist sees in the preserve and emphasizes that there are plenty of interesting and insightful things to contemplate beyond a surface view of the preserve. These sorts of things are easy to see, and exposing them is intellectually stimulating. Moreover, identifying important ecological processes and rationalizing their causes is fun. Each individual can learn to find ways to reject early ideas as they revisit preserves year after year. In the end, visits to local nature preserves are magnified in terms of personal values.

1:30-1:45pm Break

1:45-3:00pm **Session E**

Science Poster Session LCC 105C

Loess distribution in the Northwestern Indiana-Eastern Illinois and its implications on the origin of the Fair Oaks Dune Field

Joe Butler and Zoran Kilibarda, Department of Geosciences, IU Northwest

Using Geographical Information Systems (GIS) as a tool for re-evaluating the Northern Illinois Earthquake of 1909

Josh Eyermann, Dept. of Geosciences, IU Northwest; Kris Huysken, Dept. of Geosciences, IU Northwest; Kaz Fujita, Department of Geological Sciences, Michigan State University

A Case of Extensive Hypertosis Frontalis Interna in an 87-year old Female Human Cadaver

Andrew D. Prather, Ernest F. Talarico, Keven Hardt, IU School of Medicine, Northwest

Alternative Splice Variants of Plasma Membrane Calcium-ATPases in Human Corneal Epithelium

Ernest F. Talarico, Brian G. Kennedy, Nancy J. Mangini, IU School of Medicine, Northwest

Symphonies, Computer Games and Visual Arts LCC A/B

Moderator:

Creative Genesis in Beethoven's 9th Symphony ("Ode to Joy")

Spencer A. Cortwright, Department of Biology, IU Northwest

Music Within Real-time Interactive Video Games

Braxton Boren, School of Music, Northwestern University

Thomas Bewick, Wood Engraving, and Its Effect on Victorian Illustration

George Bodmer, English Department, IU Northwest

Conference Abstracts

Abstracts appear in alphabetical order by first presenter's last name

Allegrezza, William Department of English, IU Northwest

The Experimental as a Way to the Individual: Charles Bernstein and Theodor Adorno on Poetry

Theordor Adorno is often quoted as saying "writing poetry after Auschwitz is barbaric," but he is less often discussed as a major thinker in lyric theory, in how to reclaim the lyric in the modern age. His ideas, however, have been extremely influential to poets, especially his ideas on how the lyric is the ideal medium for individuation in a society focused on the mass packaging of products, people, and language. In fact, his focus on the social/political nature of the lyric heavily influenced the L=A=N=G=U=A=G=E poets, a group of poets whose main theorist, Charles Bernstein, extends and adapts Adorno's theories for use in "experimental" poetry. In his poetic theory, Bernstein argues that the lyric is suited for the task of situating the individual in our consumer society, but he suggests that the lyric be stripped of the first person presence. In effect, he argues that we strip the lyric of what has traditionally been its main component in order to avoid writing a socially constructed individual instead of something uniquely individual. In his poetry, he uses poetic techniques to disrupt or distract readers, to pull us away from language he understands as socially pre-packaged. In this paper I discuss Bernstein's poetry and poetic theory as it relates to Adorno's ideas on the lyric.

Argyilan, Erin, Department of Geosciences, IU Northwest

Reconstructing lake-level history in Lake Michigan from the geologic record at Bailey's Harbor, Wisconsin

Approximately 25 beach ridges preserved in the Bailey's Harbor strandplain provide a geologic record of lake-level variability in the Lake Michigan basin during the past ~1200 years. Reconstruction of a reliable lake level-record requires the formulation of an accurate and precise strandplain chronology. Age control on coastal strandplains has principally relied on 14C dating of organics collected in swales between individual beach ridges. Recent work has shown that optically stimulated luminescence (OSL) dating of quartz separates collected directly from the foreshore facies of individual ridges can improve the accuracy of strandplain chronologies. This contribution compares strandplain chronologies and resultant age models for the Bailey's Harbor strandplain generated from both OSL and 14C dating methods. A record of lake-level fluctuation during the past ~1200 years is also developed for each dating approach. The upper Great Lakes assumed the modern hydrologic configuration within the past 2000-1200 years with the separation of Lake Superior from Lake Michigan-Huron. Consequently, the Bailey's Harbor strandplain contains a water level record that is critical for understanding the natural variability of this human-altered system and for effective water management planning in the 21st century.

Avis, Peter, Biology Department, IU Northwest

Sweet deals messed up: Responses of ectomycorrhizal fungal communities to simulated nitrogen deposition in oak forests in northwest Indiana and Chicago

Plant-fungal symbioses are key components of forest ecosystems but can be severely impacted by atmospheric pollution. As a result, forests in regions downwind of centers of agriculture and industry such as those in northwest Indiana offer ideal laboratories to study the effects of pollutants on these symbioses. My research is focused on the effects of real and simulated atmospheric nitrogen deposition on a special group of plant-fungal symbioses called ectomycorrhizas. I use long-term field experiments and molecular and morphological identification techniques to understand the impacts of nitrogen deposition over spatial and temporal scales. In this presentation, I will report the results of research conducted in a fertilization experiment conducted in oak forests at the Indiana Dunes National Lakeshore Park and in Chicago. These studies have systematically surveyed ectomycorrhizal fungal reproductive structures ("mushrooms") in nitrogen fertilized and control plots from 2003-2006, but did not detect any significant differences in either abundance or species richness of mushrooms in response to N. Belowground, I measured ectomycorrhizal fungi colonizing roots by morphological and molecular methods (terminal restriction length fragment length polymorphisms and sequencing). I detected significant differences between treatment and controls in species richness and composition at the scale of the treatment plots but not at the scale of the soil core or individual roots. Such responses indicate that "realistic" future increases of N deposition could impact ectomycorrhizal communities, especially at larger spatial scales. I will also elaborate on my future research and education projects that will use this same experiment.

Azodo, Ada Uzoamaka, Department of Minority Studies and Women's Studies Program

Creative Nonfiction: Chimamanda Ngozi Adichie and Fictional Nonfiction

The tendency of the creative writer to take liberties with her or his imagination, this habit of interpreting stories rather than merely staging them, raises the fundamental question of ethics for the writer, and for readers, libraries and publishers the way and manner to classify a work, as fiction or as nonfiction. What exactly is creative nonfiction, and how does it relate to narrative nonfiction on the one hand, and on the other with literary or advocacy journalism? This paper will argue that the form a writer employs in creative writing has a lot to do with the history of the moment, rather than an ambition to imitate preceding literary giants. In the end, this foray into Chimamanda Ngozi Adichie's writing style through the prism of her novels, short stories and interviews will help us to understand the evolution of her creativity in particular and that of creative artists' expressive forms in general.

Balay, Anne, Department of English, IU Northwest

Limberlost Dreams: An Indiana Children's Author Addresses Environmental Crisis

There was once a giant, untamed swamp in New Jersey. It survives only in the name of The Meadowlands, the stadium built where it once stood. There was once an even larger and wilder swamp in North Central Indiana. It was replaced by corn monoculture, but memorialized in the moment of its passing under the ironic name of the Limberlost Swamp. Nature writing and environmental movements have often been driven by such stories of loss, in which rhetorics of progress coexist with nostalgic, conservationist mentalities.

Gene Stratton-Porter is the mythmaker and environmentalist who made Indiana's swamp famous just at the moment of its demise. Ironically, her best-selling children's novel A Girl of the Limberlost fueled a tourist boom that contributed to the swamp's destruction. Through a study of this novel, Stratton-Porter's published photographs, and the cult of her celebrity, my research makes two claims. First, I claim that Stratton-Porter aims to "unsettle normative thinking about environmental status quos" (Bluell 24). Rather than fixing on a place or time and striving to preserve it, which is Sisyphean, she explores the causes and consequences of change. She aims to make us see, and make us think.

My second claim relates this environmentalist feature of Stratton-Porter's work to changing ideas of childhood, especially as they connect to nature. Like so much eco-discourse, the audience for her work is seen as childish. Here, think about how urban parkland, wilderness vacations, or environmental exhibits such as the globes currently at Chicago's Museum Campus direct their attention to idealistic youth. We go there if and when we're with kids. By focusing on Gene Stratton-Porter, I will examine the power of literature, especially regionalist nature writing for or about children, to challenge concepts of culture and change. Both nature and childhood are finite, and by linking these two discourses, texts like Stratton-Porter's inform how we view these endangered, and therefore precious commodities.

Barr, Alan P., English Department, IU Northwest

From Eugene O'Neill's *Desire Under the Elms* to Halldór Laxness's *Independent People*: A Trans-Atlantic Influence

In 1924, in his first major New England play, *Desire Under the Elms*, Eugene O'Neill--his country's preeminent playwright--presented a harsh portrait of a farming family. The dominant images and motifs are of stone, incessant work, incommunicativeness, the rejection of ease, strained family relations (including sexual), and loneliness. The play is a staple in the American repertoire.

After having visited the United States in 1929-30, Halldór Laxness, Iceland's most successful and best known writer, who later became, like O'Neill, a Nobel Laureate, returned to Iceland and wrote his masterpiece, *Independent People* (1934-5). Although there is no record of any meeting of the two artists (I have checked not only the criticism, but also corresponded with Laxness's biographer) and Laxness never mentions O'Neill, I argue that the parallels between the two works are far stronger than coincidental. Laxness seems to build on the notion of stoniness (shifting it from the rocky topography of New England to the volcanic landscape of Iceland) to extend O'Neill's vision of economic desolation, personal isolation, and the overall inescapably grinding experience

of daily life. Not just the prevalence of stones and hardness, but the family structures, individualistic pioneer-paranoia, suspect paternities, sexual misgivings, and even some of the names and expressions seems to migrate from O'Neil's play to Laxness's novel. This unlikely connection turns out to be probable and fruitful, as the novelist elaborates the dramatist's vision to accommodate his own.

Benjamin, Zachary M., Department of Communication, University of Illinois at Chicago
Thesis Advisor: Myron Cohen, Department of Anthropology, Columbia University, NY
Storming the Gates at the House of Confucius: Academic Pressure, Social Mobility, and the Preservation of an Empire

In 1905, by mandate of the Empress Dowager CiXi, arguably the final effective leader of China's Imperial era, the civil service examination system that had determined China's power brokers for over a millennium dissolved into history. Many reformers of the day hailed the shift as a harbinger of wholesale modernization within the Chinese systems of education and policy making, and indeed the weakening Qing Dynasty fell six years later. These reformers, many of whom studied in Japan and the West, considered the examinations to be a pillar of an obsolete system, and they likely remarked to each other that the transition to a western educational model occurred decades, if not centuries, later than should have been the natural course.

What many of these forward thinkers might not have foreseen was the extent to which the effects of the examination system would color the Chinese experience through the twentieth century to the present day. Additionally, they failed to realize how organized corruption beginning 200 years prior to the abolition of the system did not serve to weaken the examination practice, but instead prolonged its existence and solidified its influence on China's future.

This paper examines the events leading to this corruption's rise, the circumstances surrounding its implementation, and its lingering effects. These range from the brokering of villages' surrender to Japanese forces by elderly Imperial degree holders during World War II to the importance of the present-day Gaokao, or college entrance examination.

Bodmer, George, English Department, IU Northwest
Thomas Bewick, Wood Engraving, and Its Effect on Victorian Illustration

Although Thomas Bewick (1753-1828) spent almost all of his life in Newcastle upon Tyne instead of the artistic capital of London, his creativity and influence in the field of illustration were so strong that for most of Victorian publishing the technique that he refined, wood engraving, superseded other means of reproducing pictures. Unlike woodcuts in which a design is cut into a wood block with the grain, wood engraving uses steel tools to cut an image into the denser end grain of the wood, producing a printing block which is stronger, with sharper thinner lines, and capable of producing more impressions. Although artists such as Honoré Daumier (1808–1879) and later in the century Henri de Toulouse-Lautrec (1864–1901) in France were producing softer, more expressive and colorful pictures through the process of stone lithography, English artists

such as Arthur Hughes (1831-1915) and Sir John Tenniel (1820-1914) continued to follow Bewick's lead into the peak of black and white wood engraving in the 1860s. Darks and lights prevailed in their imagery, with windows, doors, and fireplaces providing light sources; this produced an "inside" claustrophobic effect. In a principle which continues to the present, the technological means of reproducing an image had a significant effect upon the nature of illustration and children's books in Victorian England, in what could be shown and what motifs dominated.

Boren, Braxton, School of Music, Northwestern University
Sponsor: Christopher Mercer, School of Music, Northwestern University
Music Within Real-time Interactive Video Games

Interactive, real-time video games have become ubiquitous within Western society over the past two decades. Their many similarities to an improvisational musical environment can be seen by equating repeated button combinations to melodic motives and specific button timing to rhythmic motives. With a grant from Northwestern University, I have spent the past three months conducting a combined academic and compositional research project to shed more light on this connection.

Using the software Max/MSP, I modified the human interface device object developed by Hans-Christoph Steiner et. al. and produced a patch which records all data from a USB video game controller with index and time values into a compact text file. Next, Dr. Mercer and I developed a system to play back this data, assigning each button to a distinct frequency value.

Next, I recorded controller data from ten volunteers with varying levels of experience with music performance and real-time video games as they played five matches of Mortal Kombat II for the Super Nintendo and Super Smash Brothers for the Nintendo 64 (each emulated on a computer using USB controllers). Analysis of the results suggests that among participants with large amounts of video game experience, extensive musical experience may denote a slight change in playing style without offering a decisive advantage or disadvantage. Among those unacquainted with video games, however, extensive musical experience may correspond to less predictable, more erratic motions and thus more risks, to the success or detriment of the player.

Buckler, Patricia P., Department of English, IU Northwest
Birth, Death, and Rebirth in Games to Keep the Dark Away by Marcia Muller

In her fourth Sharon McCone series novel, Marcia Muller takes her detective to a new level, transforming her tentative and limited character to one with increased independence and a broader territory for her investigations. My paper will analyze this process of change.

McCone is restless and discontented in this story, rebelling against the routine work she must do for the Legal Cooperative that employs her. She still has mixed feelings about shedding her old boyfriend, and she's anxious about finding a new apartment. She even

seriously questions her own career choice, wondering whether she is really fit to be a private investigator. Resolving these issues is painful for her, but it transforms her character. Muller's series is also altered by this novel, and her writing becomes more confident and her handling of McCone's character is much more nimble. The use of water as a means of birth and rebirth, both for McCone and the series, predominates. My analysis will focus on these water images and their significance in carrying the book's actions forward.

Butler, Joe and Kilibarda, Zoran, Department of Geosciences, IU Northwest

Loess distribution in Northwestern Indiana-Eastern Illinois and its implications on the origin of the Fair Oaks Dune Field

Loess is a wind blown dust that accumulates distally from its source -- outwash plains, river valleys, and sand dunes. The Fair Oaks Dunes (FOD) are simple and compound parabolic dunes, which indicate the last movement of sand by the westerly winds. The thickest loess deposits are in Benton County, IN, and Iroquois County, IL, which are located to the south-west of the FOD. We identified the loess by Corwin and Odell soil series which develop on 0.5-1 m thick loess. The loess is comprised predominantly of fine to very fine silt fractions (~60% of the total weight), and made of quartz (~80%), feldspars (~10%), carbonates (~6%), and accessory minerals (~4%). The similar composition of the loess and the FOD sand suggests their origin from the same source – a broad Kankakee outwash plain. The loess position to the south-west of the FOD most likely indicates at least two episodes of sediment transport by wind. The initial transport of sediment by wind occurred during the waning stages (~15 k.y.a.) of the Lake Michigan and Huron-Erie ice lobes, when strong north-easterly winds moved silt (dust) further downwind than sand. A subsequent reverse in wind direction affected the sand and reworked the FOD, but did not affect the loess. We hypothesize that in droughts or fires prairie grasses maintained roots that prevented severe erosion of loess. However, forests fires or strong storms could topple trees that would disturb the dune surfaces and promote erosion and wind transport of sand.

Cantrell, Wm. Dustin, Department of Sociology and Anthropology, IU Northwest and Pfeiffer, Elizabeth J., Anthropology Department, IUPUI

Collaborative Approaches to Adult Literacy: Cross-Cultural Learning

This paper outlines a collaborative effort to address illiteracy among young adults in Negril, Jamaica. In June of 2007 the authors went to Jamaica with the intention of finding community organizations that were working to make a difference in the lives of local Jamaicans. The idea was to partner with several of these organizations and develop the opportunity for American university students to volunteer with these groups as part of a three week, international, cultural immersion/service learning, field school. What developed was a close partnership with one particular grass-roots effort - the Theodora Project. Theodora focuses on building the literacy and basic math skills of young adults at risk of entering the tourist-based sex trade in Negril.

This paper will address the ongoing efforts between the Theodora project and the authors to develop a program that utilizes a cross-cultural experience to improve the options for Theodora students while changing the worldview of American university students.

Carroll, Timothy, SPEA, IU Northwest

Lying to Get America Out of Iraq

It is a common misconception that President Bush lied about Iraq possessing Weapons of Mass Destruction to justify sending troops into Iraq to depose Saddam Hussein. The International Atomic Energy Agency (IAEA) confirmed the weapons and weapons programs, as well as Iraq's efforts to block inspections and hide the truth. According to the Democratic Left, and the Media, Saddam Hussein apparently found religion between 1998 and 2003 and destroyed the weapons and weapons programs, and did not need to provide the evidence of doing so.

Since Saddam Hussein has been deposed, Iraq is vulnerable. It is true that whoever controls Iraq controls one of the largest oil reserves in the world. Neither Iran nor Syria has sufficient resources of their own. Middle Eastern stability is dependent upon this oil reserve. Yes, a great deal of this conflict is about oil, but not whether or not America is to control it. If that were what all this is about, The United States would have taken control of Iraq and Kuwait in 1991. It is imperative that Iraq has full control over its own oil reserves in order to sustain a stable economy.

It has been presumed that American military forces invaded Iraq in 2003 to find and destroy Iraq's stockpiles of Weapons of Mass Destruction. Prior to Saddam Hussein being deposed as the ruler of Iraq, he continued to tell the United Nations Weapons Inspectors, The United Nations, and The United States that he destroyed the weapons in question; yet, he continuously refused to provide the evidence, saying the world should take him at his word. The world needed to understand the truth; something Iraq refused to give the world and the world has yet to uncover, four years later.

Chary, Frederick B., Department of History and Philosophy, IU Northwest

Alexander Stamboliiski and Peasant politics in Eastern Europe

This presentation examines the attempt to form peasant political parties and governments in Eastern Europe in the early twentieth century. These movements were alternatives to socialist, communist, and liberal (bourgeois) politics in the region. The most of successful of these was the Bulgarian Agrarian Popular Union (BZNS) under the leadership of Alexander Stamboliiski, but there were a number of other important parties such as those in Romania and Poland which were able to come to power at one time or another. In the new states and democratic constitutions formed in the wake of the dismemberment of the Russian, Ottoman, Austrian-Hungarian, and German empires appeal to the peasants by politicians became an important factor.

The presentation focuses on Alexander Stamboliiski as a molder of the BZNS turning it into a political party rather than an economic union and his peasant ideology and his success in Bulgarian politics achieving power in 1918 and remaining until 1923 when he

was ousted and murdered in a coup d'etat. The paper examines the relationship of the Bulgarian party with others in the region and similarities and differences between them. It discusses the reasons for the failures of the parties and their aftermath after their peak in the 1920's.

Chatterjee, Rohini; Echtenkamp, Stephen F.; Li, Xinna; Wang, Shiyong; Dziarski, Roman; Gupta, Dipika, IU School of Medicine – Northwest
Sponsor: Dipika Gupta, IU School of Medicine-Northwest

Zebrafish Peptidoglycan Recognition proteins are essential for defense against bacterial infections

Peptidoglycan Recognition Proteins (PGRPs or PGLYRPs) are innate immunity molecules that are highly conserved though evolution and are present in both vertebrates and invertebrates. Innate immunity is the first line of defense against pathogens and the only mechanism of defense in invertebrates. In contrast, vertebrates have both innate and adaptive immunity. In this study, we determined the role of PGRPs in the defense response of zebrafish, an earlier vertebrate. Zebrafish have a family of PGRPs that are highly expressed in many tissues and in the eggs and developing embryos. We have cloned three zebrafish PGRP genes and using recombinant proteins we have demonstrated that zebrafish PGRPs are bactericidal, as they kill bacteria. These PGRPs are bactericidal against both Gram-positive and Gram-negative bacteria and require zinc for their activity. In order to determine the *in vivo* role of these proteins we injected morpholinos into zebrafish eggs and 24 hours later injected bacteria into the embryos. Morpholinos are oligonucleotides that bind specific mRNAs and inhibit translation. Zebrafish embryos injected with morpholinos that inhibit PGLYRP-5 expression had elevated levels of bacteria and higher mortality compared to the control group. These experiments demonstrate that PGLYRP-5 is required for defense against bacterial pathogens during the early stages of zebrafish embryonic development.

Clark, Brad, IU School of Medicine – Northwest
Sponsor: Tatiana Kostrominova, Medical Education, IU School of Medicine-Northwest

The Effect of Obesity on Skeletal Muscle Fibers of the Ossabaw Pig Model

The goal of my research project was to identify changes in the structure of skeletal muscles of the Ossabaw pig model. The pigs were fed three different diets: Control, High Fructose, and High Fat/High Fructose. The Control Diet included a balance of fiber, carbohydrates and proteins. The High Fructose Diet was rich in fructose while the High Fat/ High Fructose Diet had high content of both fat and fructose. Biceps femoris muscle samples of the Ossabaw pigs were obtained from the lab of Dr. Sturek-IUSM Indianapolis. Cross-sections of these samples were photographed under x100 magnification using microscope and digital camera. Muscle fibers were circled using a digital writing pad, and Image J software was used to measure the fiber cross-sectional areas. The preliminary results of this study obtained on three samples per group showed a significant decrease in the average fiber size and specifically in the size of Type 2B muscle fibers for the pigs on High Fat/ High Fructose Diet when compared with pigs on Control and High Fructose Diets. Type 2B fibers are large, glycolytic fibers, which are

responsible for the fast twitch muscle response, while Type 1 fibers are responsible for the slow twitch muscle response. There were no differences between muscle fibers of pigs on Control and High Fructose Diets. In the future I plan to use biceps femoris muscles from additional Ossabaw pigs to complete this study. I also plan to use soleus and plantaris muscles to check the validity of my findings for the other types of hind-limb muscles of Ossabaw pigs, fed different diets.

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Contreras, Raoul, Department of Minority Studies, IU Northwest; with Escobedo, Nancy; Jenkins, Mary and Sullivan, Barbara

Teaching Anti-Imperialism: C490, The U.S. War and Occupation Of Iraq

Teaching Anti-Imperialism: C490, The U.S. War and Occupation of Iraq" is a panel that summarizes how Professor Raoul Contreras has integrated his post-September 11th, 2001 academic research, teaching, and service activities into a spring semester class taught at Indiana University Northwest (IUN) in 2005-2007. Joining Contreras on the panel will be three students who have taken the class. The students will present summaries of papers documenting their learning experience in taking the class. The student panelists participated in the planning and organizing of public forums (spring semester editions of IUN Department of Minority Studies' *Lectures in Race & Ethnicity*) that took the teaching and research experience of "C490, The U.S. War and Occupation of Iraq" to the greater Northwest Indiana community (service activity). A focus of the student presentations is reflection upon how (if) the experience of the class motivated them to act on what they had learned about the U.S. war and occupation of Iraq. In the panel's main presentation Dr. Contreras summarizes how and why September 11th, 2001 directed his research activity in the direction of "Imperialism and Anti-Imperialism" and how one goes about teaching about it not only in the classroom but to the greater (community) public.

Cooper, Noah, Department of Physics and Astronomy, IU South Bend
Sponsor: Rolf Schimmrigk, Department of Physics and Astronomy, IU South Bend

Cosmological Tunneling

In order to accurately explain the universe around us, it was found that a modification to the standard hot big bang theory was required. This modification was realized in the early 1980s when the theory of cosmological inflation was established. If the early universe underwent a brief moment of exponential expansion, we could accurately produce cosmological models that lead to a universe like the one we observe. Recent experimental observations of the Cosmic Microwave Background Radiation have provided evidence for inflation, but our understanding of fundamental physics does not predict the effect. Even more recently, theoretical work has shown that one might use String Theory, which predicts extra spatial dimensions, to provide a natural mechanism for the inflation effect. In particular, one can consider the current state of the inflation mechanism. As a quantum mechanical system it is subject to the well understood phenomenon of quantum tunneling. It is possible to calculate the average lifetime of a given system, allowing constraints to be placed on theoretical models. In particular, we

will apply this technique to a type of String Theory to constrain the size of the extra dimensions.

Cortwright, Spencer A., Department of Biology, IU Northwest
Creative Genesis in Beethoven's 9th Symphony ("Ode to Joy")

Beethoven's Symphony no. 9 ("Choral" or "Ode to Joy") is one of the great artistic masterworks; performances still remain major events nearly 200 years after its premiere. Beethoven's inclusion of human voices in the musical genre known as the symphony is the greatest of his numerous innovations in this work. The ultimate success of this symphony rests in a convincing transition from a purely instrumental work in the first three movements to the fourth movement featuring human voices as the ultimate expression of the "Ode to Joy". If this transition were weak or ineffective, then Beethoven's overall achievements would have been compromised. This presentation examines the essential transition early in the fourth movement, focusing first on its well-known structure and goals, and then most importantly on the question of the creative genesis of this transition. After listening to key passages of the 9th, we will examine the first movement of Beethoven's 7th Symphony (written over 10 years earlier) as a possible germination source of ideas for his transition in the fourth movement of the 9th. Parallels between the two works will be noted; however, substantial innovations were added to the transition section of the 9th, thereby not diminishing a whit the immortal greatness of that work.

Coryell, John, Department of Biology, IU Northwest
Sponsor: Michael LaPointe, Department of Biology, IU Northwest
Effect of high glucose concentrations on Na/H exchange isoform NHE-4 expression

A family of membrane bound proteins, Na^+/H^+ exchangers (NHEs), extrude H^+ (acid) from the cell in exchange for sodium (Na^+). Different proteins, from different genes, make up this family. Each isoform has a distinct pattern of expression and function. Some isoforms regulate cell volume and cell pH, while others are involved in the reabsorption of sodium and bicarbonate and help maintain the acid/base status of the body. Several NHE isoforms are expressed in various kidney tubule segments. NHE-4 expression is limited to the medullary portion of the kidney. Little is known about its action and regulation. The kidney medulla is in a hypertonic environment that would cause most cells to shrink and die. We hypothesized that NHE-4 may regulate cell volume and protect these cells. Moreover glucose levels have been shown to affect the function of some NHE isoforms. IMCD3 cells, a cell line derived from the mouse kidney medulla, were exposed to hypertonic conditions by either high glucose or high sucrose levels, designed to increase the osmolarity by 10, 25, or 50%. Western blot analysis using antibody against NHE-4 revealed that a single protein band with a MW of about 95 kDa was isolated under all conditions. The finding that the MW was not shifted suggests that exposure to high glucose concentrations did not alter the glycosylation levels of the NHE-4 protein. Moreover, there were no discernable differences in NHE-4 protein expression under any of the experimental conditions compared to controls. We conclude

that NHE-4 protein levels are not regulated by glucose or increases in the osmolarity of the environment.

DiMuzio, Gianluca, Department of History and Philosophy, IU Northwest
The Problem of Divine Inefficiency

The purpose of this paper is to discuss a difficulty for theism. I call it 'the problem of divine inefficiency.' The difficulty arises from the inconsistency between the theistic assumption that God highly values human moral properties and the fact that such properties emerged very late in the history of the universe. I argue that the theistic view that God is rational requires that He should have facilitated the emergence of human moral properties shortly after the creation of the universe. Since this did not happen, theists face the challenge of explaining why God was inefficient in introducing human moral properties into the universe. The paper analyzes several possible theistic responses to the challenge and finds them all wanting.

Donovan, Judy, School of Education, IU Northwest
EE-Learning: Blending Electronic and Experiential Learning

Our society is becoming increasingly diverse, and it is vital we prepare teachers who understand the inequity in our schools and society, have examined their own beliefs in terms of diversity, and are willing to act as change agents in making our world a more just place for all people, beginning with their own classrooms.
A multicultural class is frequently a requirement in teacher education programs. Many teachers currently or will teach in classrooms that contain more student diversity from the ones they learned in as students, and need to understand how to promote respect for all cultures and beliefs in their classrooms.
This paper will examine a graduate course taught during the winter of 2007 to meet such a multicultural requirement. One of the primary components of the course was a requirement students perform volunteer work in a school setting as different from their own in terms of race and class as possible.
The course utilized experiential learning and an electronic, online format to break down barriers between theory and practice, and knowledge and experience. Students shared and reflected on experiences including a service learning requirement, coursework, life experience, and work settings, to create an integrated and powerful learning experience. Course outcomes show ee-Learning can be an effective pedagogy for classes with controversial, personal and sensitive content, such as one examining beliefs and inequities concerning race, class and gender.

Eyermann, Joshua, Department of Geosciences, IU Northwest; Huysken, Kristin, Department of Geosciences, IU Northwest; Fujita, Kaz, Department of Geological Sciences, Michigan State University
Using Geographical Information Systems (GIS) As A Tool For Re-evaluating The Northern Illinois Earthquake of 1909

Geographical Information Systems (GIS) is an effective tool for analyzing, interpreting, and displaying geographically referenced information (spatial data). This is because data are stored in layers, making it possible to easily manipulate and analyze large and complex data sets. In geological applications, GIS allow for multiple layers of geologic data such as bedrock geology, surficial geology, elevation, earthquake intensities, and other factors to be concurrently considered in a way that more traditional mapping techniques cannot. Here, GIS is used as a tool in the continued re-evaluation of the northern Illinois earthquake of 1909.

In 1909, the largest earthquake in northern Illinois history (mb ~5) was felt through a large portion of the mid-west. Estimates in previous studies have placed the epicenter near Chicago, the Wisconsin border, and south of Aurora. Contributing to the ambiguity are high intensities reported in Aurora, Bloomington, Illinois, and Platteville, Wisconsin. However, examination of newspapers from the days following the earthquake, indicate initial reports were exaggerated and damage was not as severe as first reported. The area over which the earthquake was felt is larger than previously reported. It includes large portions of Indiana, Illinois, Iowa, Michigan and Wisconsin and outlying regions as far as north as Wausau Wisconsin, Hannibal Missouri, and possibly Minnesota. The highest intensity (VII on the Modified Mercalli scale) is assigned to Morris, Illinois and reflects the higher intensities observed along river valleys, glacial moraines, lacustrine deposits and along the shores of Lake Michigan. The center of the "felt" area, however, seems to fall southwest of Aurora opening the possibility that this earthquake is located along the LaSalle anticline or the Sandwich fault zone.

Grabarek, Daniel G., IU School of Medicine-Northwest
Sponsor: Ernest F. Talarico, Jr., IU School of Medicine-Northwest

Plasma Membrane Calcium-ATPase Isoform 4 and Extracellular Calcium-Sensing Receptor in Corneal Epithelium Wound Healing

Plasma Membrane Calcium-ATPase Isoform 4 (PMCA4) plays a critical role in the regulation of intracellular calcium concentration, and is localized to the cell membranes of corneal epithelium (CE). Data suggests that PMCA4 changes its location during CE wound healing. The extracellular calcium-sensing receptor ($CaSR_O$) regulates extracellular calcium concentration and indirectly regulates E-cadherin interaction between epithelial cells that may play a role in CE wound healing. This investigation hopes to characterize the role of PMCA4 and $CaSR_O$ in CE wound healing.

CE specimens from surgical patients, cadaver donors, and animals were collected, and the distribution of PMCA4 and $CaSR_O$ in cryostat sections was determined by immunohistochemistry with specific antibodies and confocal microscopy. To determine the DNA sequence of $CaSR_O$, Reverse Transcriptase PCR using gene-specific primers was applied to total RNA extracted from CE samples. siRNA was used to knockdown PMCA4 expression in cultured CE, and the events that underlie CE wound healing observed.

The results show that $CaSR_O$ and PMCA4 are co-localized in all cell layers of CE. First-round PCR failed to detect product for the $CaSR_O$. The majority of CE cells in siRNA-transfected CE cultures were unable to adhere to substrate.

The results show that $CaSR_O$ and PMCA4 are co-localized in all cell layers except the basal layer of basal cells. Reduced PMCA4 expression may adversely affect CE wound healing. Further experiments are needed to determine sequence structure of $CaSR_O$ and to quantify the percent knockdown of PMCA4. These data may lead to clinical applications following corneal surgery.

Hac, Jaclyn D., Department of Sociology and Anthropology, IU Northwest
Sponsor: Stephanie Shanks-Meile, Department of Sociology and Anthropology, IU Northwest

Max Weber: A Short Introductory Biography

The lives that we lead are significantly shaped by numerous social, environmental, historical, and familial constraints that we are in contact with everyday. In particular, every individual's personality, life choices, and their subsequent life course are influenced by their past and surroundings. This includes ideas such as our family history, the people we know, where we grow up and live, what books we read, where we attend school, and so forth. This concept, by no means, is limited to anyone at anytime.
This paper examines the importance of the dominant factors that shaped Max Weber's life and scholarly ideas. The objective of this research was to understand what determinates influenced Max Weber's life and theoretical ideas to impact the field of sociology. Utilizing biographical and the theoretical writings of Weber, this research relied upon Karl Mannheim's sociology of knowledge perspective to link Weber's biography to his conceptual and theoretical development.
The infamous social theorist Maximilian Carl Emil Weber is examined in this paper as an influential product of his surroundings. Max Weber was shaped throughout his life by his ancestors, parental figures, and his personal history in childhood, adolescence, and adulthood. Weber lived a privileged existence in wealth and social position as a member of an affluent family and distinguished professor. As a result, his position in life would encourage his intellectual pursuits and mental downfall. Most importantly, his beliefs and ideas, which were formed throughout his lifetime, produced his thoughts on society and his methodology for the social sciences. It is important to understand what influenced him as a researcher to understand the concepts that derived from him.

Hass Birky, Robin R., English Department, IU Northwest

From "Goddes pryvetee" to the "develes ers"—Experiencing the Body/Bawdy in Chaucer's Experimental Poetry

Within Chaucer's initial apology for plain speaking in *The Canterbury Tales*, he suggests that, to avoid falsifying his matter, he must retell the stories told by individual pilgrims using their language, even if it means speaking "so rudeliche and large" (I.734), or ignorantly, crudely and freely, and he repeats this sentiment at the beginning of the "Miller's Tale" wherein he places the blame for choosing to hear/read the particular tales

on the audience member or reader. Thus, Chaucer makes crude speech indicative of truth, and the relationship among vulgar language, risqué body parts, scatological references, and earthy images constitute Chaucer's experiment with grotesque humor, one weapon used in the 'quitting' game of verbal one-upmanship that constitutes the fictive frame of his narrative and through which individuals weave their social (dis)order. At the same time, the grotesque becomes a hermeneutic used to question the manner in which the body relates to experiencing truth and negotiating that social order. Rather than a seemingly disconnected series of humorous graphic images associated with the functioning body, Chaucer creates a rhythmic narrative return to the body as a form of 'esement' throughout the text: following tales that seemingly convey traditional values, Chaucer refers to God's privates, Allison's ass, the Wife of Bath's "quente," the devil's anus, Thomas' fart, May's sexcapades in a tree, and the Pardoner's testicles. Experimenting with the images and sounds of the grotesque body, Chaucer tests the limits of language, the poetic, and storytelling as *fundament*al to our social order.

Jackson, Julie and Bryan Conger, Department of Performing Arts, IU Northwest
The 2007 Theatre Northwest production of *Fashion*, by Anna Cora Mowatt; Bryan Conger, director; Dr. Julie Jackson, dramaturge and costume designer

Anna Cora Mowatt was the first American women to achieve popular success as a professional playwright. In 1845 her five act comedy, Fashion; or Life in New York was the hit of Broadway. Mrs. Mowatt's well crafted play satirizes American pretensions and insecurities as it celebrates personal integrity and candor as true Yankee values. Although Fashion is often anthologized and acknowledged by theatre historians as the first distinctively American comedy of manners, it is seldom produced. In June 2007, Theatre Northwest staged this classic American comedy, directed by IU Northwest Theatre Major, Bryan Conger with Dr. Julie Jackson (Chair of Performing Arts) as dramaturge and costume designer. Mr. Conger and Dr. Jackson collaborated to create a two act adaptation of the script with period flavor and contemporary appeal. The production featured an original musical score and eleven period gowns built in the IU Northwest costume shop. Mr. Conger and Dr. Jackson will discuss the process of adaptation, the development of the production's theatrical conventions, and the trials and ultimate triumph of bringing Mrs. Mowatt's classic comedy to the Tamarack stage. The presentation will include a short video clip of the production.

Jones, Earl R., Department of Minority Studies, IU Northwest
Historic Midtown, Gary, Indiana and Urban Revitalization: Prospects for Change

This paper presents an examination of an initiative to bring about change in an urban community. Theories underlying the Historic Midtown Project and community development are presented. Attention is also focused on the importance and rationale for convening the national planning conference in Gary, what was sought; results of the conference and possible affects on life conditions in Gary are presented.

Kaltenbach, Nikki L., Department of Modern Languages, IU Northwest
The Dictons of Galien le Restoré : A New Look at Old Sayings

I have examined the use of proverbs in four different versions of the French epic Galien story from the fifteenth century to determine if proverbs (dictons) can be used to show similarities and differences of style among all versions or between two or more versions. The works I examined are: Le Galien de Cheltenham, a rhymed version assumed to be the oldest existing text of Galien; the Bibliothèque National 1470 Galien Restoré en prose; Vérard's printed Galien Rethoré from 1500; and the Galien Restoré sections of the Arsenal 3351 manuscript of La Geste de Garin de Monglane en prose.
The use of the proverbs is analyzed from the presence and the usage of identical or similar sayings in two or more works. On the whole, my analysis of the proverbs reinforced the prevailing assumptions on the relationship between BN1470 and Vérard, although Vérard is not merely a recopying and embellishment of BN1470. The Arsenal MS, generally considered to be based on Cheltenham or its close relative, still occupies that position, although I would suggest that more studies of those two manuscripts could produce new evidence that the author of the Arsenal MS based his work on Cheltenham, but might have also used more sources than just the Cheltenham model in writing his original text. Another possibility opened by this study is that the Arsenal MS has a vague tie to the BN1470 MS which has yet to be explored.

Kharel, Savan, Department of Physics and Astronomy, IU South Bend
Sponsor: Rolf Schimmrigk, Department of Physics and Astronomy, IU South Bend
Emergent Spacetime in String Theory

In order to obtain a consistent theory of quantum gravity, string theory requires that our universe have additional dimensions. The extra dimensions form a particular type of geometry called Calabi-Yau manifolds. A fundamental open question in string theory in over the past two decades is the problem of understanding the relation between physics on the worldsheet and the emergence of spacetime. Our strategy to address this important question is to use method from arithmetic geometry and number theory to establish a link between the geometry of spacetime and the structures that define the theory on the string worldsheet. The approach involves identifying modular forms (very symmetrical functions) that is constructed from the arithmetic analysis from the geometry with modular forms that arises from conformal field theory. The aim of this talk is to describe the first steps taken to generalize previous results, obtained over the last four years, concerning the modularity structure of a class of lower dimensional Calabi-Yau manifolds, to certain types of higher dimensional spaces. The particular classes of manifolds considered are motivated by the problem of generalizing geometric mirror symmetry to so-called rigid Calabi-Yau varieties, spaces that do not have complex deformations.

Lake, Taylor S., Department of Communication, IU Northwest
Composing Womanliness: Genevieve Stebbins' Delsartism and the Elocution Movement

A cultural analysis of the female body in women's performances offers valuable insights to performance studies. This essay looks at the late nineteenth-century elocutionist

Genevieve Stebbins. It argues that Stebbins' Delsartean teachings and performances were a site of contention and negotiation, within the elocution movement, over constructions of the performative female body and definitions of womanliness. The historical legacy of her work reveals the clearly gendered fault lines that demarcate late nineteenth century elocutionary practices' love/hate affair with the female body.

Li, Xinna; Wang, Shiyong; Qu, Jin; Dziarski, Roman; Gupta, Dipika, IU School of Medicine-Northwest
Sponsor: Dipika Gupta, IU School of Medicine-Northwest

Identification, cloning, expression, and amidase activity of zebrafish peptidoglycan recognition proteins

Innate immunity is an early defense mechanism against pathogens in both vertebrates and invertebrates. Peptidoglycan recognition proteins (PGLYRPs) belong to a novel family of innate immune molecules that recognize bacteria through the cell wall component, peptidoglycan. PGLYRPs are structurally conserved through evolution, however their functions in innate immunity are different in invertebrate and vertebrates. To gain insight into the evolution of the function of PGLYRPs in innate immunity, in this study, we first identified and cloned three zebrafish PGLYRPs, namely PGLYRP2, PGLYRP-5, and PGLYRP-6. Zebrafish PGLYRPs are expressed in several different tissues in adult fish and are also expressed in the developing eggs and embryos. This expression of PGLYRPs in a wide range of tissue suggests an important role for this family of proteins in defense of adult zebrafish against bacterial infections. We demonstrated that all three zebrafish PGRPs have amidase activity, which hydrolyzes the lactyl-amide bond between MurNAc and L-Ala in bacterial peptidoglycan. Zebrafish PGRPs are unique compared to human amidase (hPGLYRP-2) as they are also bactericidal and can kill a wide range of bacteria. Zebrafish, thus, serves as an important model for the evolutionary analysis of immune mechanisms and for the role of innate immunity in lower vertebrates.

Lin, Xiaoqing Diana, Department of History and Philosophy, IU Northwest

Philosophical Trends in Early Republican China: Hu Shi, Liang Shuming, and Feng Youlan

Early twentieth century China witnessed great intellectual tumults as scholars sought to transform the Chinese intellectual and cultural landscape through extensive borrowings of Western intellectual thought and practices, and a reinterpretation of Chinese tradition so it would fit in with the present reality and serve as guidance in one way or another. By the early 1920s, two distinct camps seemed to have formed: one represented by intellectual leaders such as Hu Shi and Ding Wenjiang, professors at Peking University, championing the transformation of Chinese culture through science, and another camp that championed the transformation of Chinese culture through an eclectic borrowing of Indian and Western philosophies that emphasized a more intuitive and/or metaphysical approach to learning, in their attempt to block a more mechanistic and materialistic explanation of the world by science. There was also a third camp, led by Feng Youlan, who tried to bridge Western metaphysics, neo-Confucian learning, and Western logic, as

a way to resolve the conflict between metaphysics and logic, in both Western and Chinese learning. This paper seeks to explore the scope of the debates from the different camps through examining a representative from each camp: Hu Shi, from the science camp, Liang Shuming, from the "Confucian" camp, and Feng Youlan, who tried to forge a third path. All three tried to create new universals in Chinese culture, transforming the latter so a viable connection could be made between Chinese and Western culture.

Matwijkiw, Anja, Department of History and Philosophy, IU Northwest
The Role of Norms in Stakeholder Theory

The Stakeholder-terminology is common and popular in our own modern era. Originally, it was developed for one particular area, namely business management, but now it has become a standardized way of determining the nature of normative relationships, that is, determining who owes who consideration and why. Furthermore, the theory that assumes that the deserving party qualifies as a Stakeholder can be divided into, respectively, a narrow and a wide version. Whereas the narrow version refers to ownership and investment of resources as the foundation for rights and duties, the wide version of the Stakeholder Theory makes a compromise. This is to say that it recognizes the link between the implied (narrow) interests in profit, efficiency and performance as valid criteria for inclusion in the Stakeholder community while, at the same time, introducing limits on the free pursuit of those same interests. By thus widening the notion of the Stakeholder, so-called at risk parties are perceived as right-holders on the basis of principles that derive directly from morality. Some of these coincide with modern human rights ethics, yet others with democracy.

One of the presenter's main objectives is to provide a comparative analysis of the narrow and the wide versions of the Stakeholder Theory while emphasizing the issue of their practical implications and applications. For the purpose of illustration, the United Nations serves as an example of the wide version of the Stakeholder Theory. Another main objective is to ask critical questions that challenge the Stakeholder Theory, wide as well as narrow.

Matwijkiw, Bronik, Department of Philosophy, Chicago State University
Why Be Moral?

In this paper, the presenter examines whether it is possible to argue rationally with an amoralist or, alternatively, an immoralist who has decided not to be part of our moral community. The issue in question is analyzed and discussed within the context of Alan Gewirth's theory whereby the necessary conditions for agency constitute the rational foundation for ethics. The presenter's claim is that amoralism --- together with Gewirth's theory --- can be traced back to Plato and Aristotle. Furthermore, Gewirth agrees that might is not right. He even expresses the hope that rational ethics can function as a defense against another Holocaust. Generally speaking, his optimism is so strong as to depict Reason as the way in which all evils, be they moral or social or political, can be overcome. However, if the amoralist can defend his/her position against what might be called Gewirth's logical "straitjacket," then Reason is not that powerful after all. For the

sake of argument, the presenter of this paper will assume the position of the amoralist. More precisely, the presenter criticizes Gewirth's transition from a so-called prudential "ought" to a moral "ought."

Mercado, Christopher D., SPEA, IU Northwest
Sponsor: Jean V. Poulard, SPEA, IU Northwest

The Theory of Surrogate Democracy and the Case for Generational Legitimacy by Procedure

Legitimacy, or the general approval by domestic citizens and foreign governments, is an integral part of a government's lifeline. Without legitimacy a government cannot last without severe repression or restriction of freedoms. As W. Phillips Shively theorizes, legitimacy can be earned by any government in any of four methods: (1) ethnic/religious attachment to the leader, (2) historical significance of the leader/regime, (3) habit, or (4) procedure. Legitimacy by procedure is explained as the acceptance of the populace of a proven governmental system to replace one currently standing. If democracy, a proven effective procedure, is forced upon a state, will the state eventually accept democracy as a legitimate form of government? To answer this question I will research a number of current democratic states on which democracy was forced. These include Germany, Japan, Panama and the Philippines. Generational legitimacy, by which a young government gains legitimacy by the acceptance of multiple generations of its citizens and not through immediate acceptance, will be introduced as a sub-method with an important impact in the gaining of legitimacy. Thus, I introduce my theory of surrogate democracy, which by definition implies that wherever democracy is forced upon a state, it will eventually take root after a number of generations have passed. My presentation, focusing on previous cases of surrogate democracy, will prove the necessity of U.S. action in Iraq to force the democratic procedure upon the Middle East in order to create a stable, independent democracy within a few generations.

Miles, Matt, English Department, IU South Bend
Sponsor: Dr. Lee Kahan, English Department, IU South Bend

Dissecting the "Gaudy Tulip" in Swift's *The Lady's Dressing Room*

One of the major components of commodity fetishism just before Jonathan Swift's time was an interest in tulip bulbs on the stock market. The flowers had become such a status symbol that a single bulb eventually sold for what amounted to an entire fortune for commodity traders. Trading eventually rose to such a frenzy that "Tulipomania" is known and studied today as one of history's most destructive market bubbles. This phenomenon would cause tulips to change in value drastically in both the market and in literary discourse. Just as the price of the tulip fluctuated wildly over a thirty year period of time, so did the value of the tulip as metaphor. By the Eighteenth Century it had become an image used to represent emptiness where it was once employed to describe royalty or divine beauty.

In "The Lady's Dressing Room" Swift uses the "Gaudy Tulip" as a metaphor that reflects this shift in meaning that occurred throughout the previous century. The poem is,

most strikingly, a representation of Swift's distaste with the vanity of women. He exposes the way that Celia went to great lengths in the dressing room to present an outward image that was not necessarily indicative of her true personae. A more thorough reading reveals a scathing reproach for the commodity frenzy that Swift sees as dangerous to the economic stability of Europe. In the context of history, the tulip can no longer be considered simply an object of external beauty that was produced in the dressing room from waste. What I would suggest, is that it can be understood as the uniting metaphor between the two main ideas in the poem. It is simultaneously an image to reflect the empty show of Celia's beauty, and an image to warn readers that this vanity was capable of driving an inflated commodity market to a destructive end.

Moreno, Cicely, IU School of Medicine-Northwest
Sponsor: Subbiah P. Sivam, IU School of Medicine-Northwest

Dopamine Agonist Mediated Signaling Changes in a Rat Model of Parkinson's Disease

Parkinson's disease (PD) is a neurological disorder characterized by tremor, rigidity, and akinesia because of the loss of the neurotransmitter dopamine in the nigrostriatal pathway. Dopamine mediates its effects principally through the D1 and D2 receptor subtypes. Dopamine agonists, such as L-DOPA, are the main drugs for the treatment of PD. The compensatory mechanism(s) involved in PD or agonist-induced beneficial/side-effects is poorly understood. We used a rat model of PD to examine dopamine-receptor induced alterations in extracellular signaling regulated kinase1/2 (ERK1/2) in the rat nigrostriatal pathway. The ERK1/2 signaling is involved in a variety of neuronal functions. For this study, we unilaterally destroyed rat dopamine neurons with the neurotoxin, 6-hydroxydopamine. We screened the rats for the extent of the lesion by the apomorphine-induced rotation test. Fully-lesioned rats were administered with the D1 agonist, SKF-38393 or L-DOPA and perfused 30 minutes later. The brains were removed, sectioned, and used for immunohistochemistry of tyrosine hydroxylase (TH, the rate limiting enzyme of dopamine synthesis), the neuropeptide substance P (SP, an indirect marker), and ERK1/2. We observed a severe decrease in TH, a modest decrease in SP, and a robust increase in phospho-ERK1/2 levels in the lesioned striatum as compared to the unlesioned side. Similar changes were observed within the substantia nigra. The results indicate that dopamine agonists increase phosphorylation of signaling proteins like ERK1/2 in the dopamine-depleted nigrostriatal pathway. This study is relevant to our further understanding of signaling mechanisms involved in the pathology and treatment of PD.

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21st Century Globalization: Corporate Strategies & Labor Responses

Globalization is nothing new. International trade and mass human migrations have accompanied every major change in the development and expansion of market economies.

Today efforts to integrate production across continents and to centralize control over human and natural resources have again led to mass migrations of people, this time from less developed to more developed countries, and to mass transfers of wealth, from nations to transnational corporations. This paper will identify the main characteristics of current economic and labor market changes, including capital flight and worker dislocation, privatization of public wealth and services, and the conversion of decent jobs into contingent low-paid employment.

The paper looks at three major transnational corporations—Arcelor Mittal, DHL and Wal-Mart, all present in NW Indiana—to examine what has happened to jobs and profits in steel manufacturing, transport services and retail.

I then examine labor's responses to corporate globalization, the downsizing of permanent workforces, the slashing of wages and benefits, and the heightened competition among workers. Both Arcelor-Mittal and DHL have strong unions in a few places and no unions in most others. I will look at what the Steelworkers Union (USW) and the Teamsters' Union are doing to network globally to leverage union power. Wal-Mart, in contrast, has been kept out of strongly unionized areas and remained non-union everywhere, except, ironically, China.

Restructuring of corporations historically provided the impetus for the restructuring of work and unions. This is still the case. Unions are racing to catch up with changes in corporate structure and production. Can unions in countries with vastly different cultures and degrees of poverty find common ground for challenging corporate power? How are they building bridges?

Pierce, Jerry B., Department of History and Philosophy, IU Northwest

The Roman Revolution: Rethinking Modern Theories of Political Change

Generally speaking, academic treatments of political and social revolutions have tended to focus almost entirely on the modern period. For example, one can find numerous discussions of the French, American, Russian, and the Mexican Revolutions, among many others. Indeed many historians and political scientists approach the topic of revolution as if it were an exclusively modern (and early modern) phenomenon. These theories and studies of revolution beg the question: Can the term "revolution" be applied to pre-modern political systems? This paper argues that, in fact, the final decades of the Roman Republic can be categorized as a revolution based on the criteria used to analyze these movements. These revolutionary ingredients include a multi-class alliance, drastic change in the governmental apparatus and the social structure and, in most cases, violence. In short, a new society is created out of the old. In the case of Rome, key developments that meet these criteria include radical changes to the army under generals such as Marius, Pompey and Julius Caesar, populist political movements and organized political violence (often supported by these same generals), Caesar's radical reforms regarding citizenship and Senate membership, Octavian/Augustus' inauguration of one-man rule under the Principate and his subsequent cultural program, and of course decades

of near-constant violence and upheaval. The Roman Empire, the political system that emerged from the ashes of the Roman Republic, was indeed the result of a revolution.

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A Case of Extensive Hyperostosis Frontalis Interna in an 87-year-old, Female Human Cadaver

Hyperostosis frontalis interna (HFI) is a condition that involves thickening of inner surface of the frontal bones with sparing of the midline. Little is known about this condition that affects >60% of post-menopausal women. We report unusual findings in the case of a woman with extensive HFI and a large hyperostotic nodule pressing on the precentral gyrus; separating it from the common form of HFI.

The calvaria and brain were removed, and images were taken. Specimens of bone were plastic embedded, and sections cut and stained using the Von Kossa Method. Medical records were reviewed, and additional history obtained through interviews with family members.
The calvaria showed extensive, bilateral thickening of the frontal bones with irregular topography. A large bony nodule was present on the left parietal bone with compression of the dura and several compressions of the left cerebral hemisphere. Microscopy showed that hyperostotic regions contained extensive remodeling of the compact, endocranial bone to a spongy phenotype. Quantitative analysis of bone sections revealed a lower proportion of lamellar bone (37.6-38.4%) than in the control (60.1%).

This is an extensive case of Type D HFI with both frontal and parietal involvement and compression of the cerebrum is present in areas of hyperostotic lesions. A larger proportion of spongy bone is present in regions of macroscopic hyperostosis. The patient did exhibit several symptoms that have been correlated to HFI in previous studies; we suggest that the HFI disease process was responsible for the manifestation of these symptoms in this patient.

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Sponsor: Julie Peller, Department of Chemistry, IU Northwest

Chemical Analyses of Native and Invasive Bittersweet Plants

Celastrus orbiculatus is the invasive species of Bittersweet plant that is disturbing the Indiana Dunes ecosystem. The overgrowth of the invasive species is displacing other vegetation in the area, including the native species of Bittersweet, *Celastrus scandens*. We are studying two species of the Bittersweet plant, *Celastrus scandens* and *Celastrus orbiculatus*, to determine if any chemical differences exist between the species that allow the invasive species to thrive. Samples of both species were collected from sun and shaded portions of the Indiana Dunes. Various solutions of hexane and acetone solvents were used to extract the components of the finely crushed leaves. The extracts were then analyzed using UV/Visible spectroscopy to determine absorption differences between the two species. These initial analyses of the two species showed differences in the

ultraviolet range of the spectrum, between 230 and 400 nm. To more specifically determine the differences, the techniques of column chromatography and High Performance Liquid Chromatography (HPLC) were used to separate the components of the leaf extracts. Compounds which showed absorptions at 247 and 292 nm were noted in the invasive species that were not present in the native species. Additionally, a compound which showed absorption at 275 nm was present in native species only. Future experiments are planned to identify the compounds that possibly allow the invasive plants to absorb light from a wider range of the spectrum.

Swartz, Douglas, Department of English, IU Northwest

Rereading Rebellion in George Herbert's "The Collar"

George Herbert's "The Collar," one of the most remarkable lyrics in his collection of devotional poetry, *The Temple,* published posthumously in 1633, begins with an announcement of an intention to make a dramatic departure, and ends with a return to form that, equally dramatically, puts a period to the speaker's violent outburst. According to a consensus reading of the poem, a reader is drawn into and caught up in the poem's spiritual rebellion, enticed by its arabesque of protest against deprivation, renunciation, and restraint in a stanzaless form of irregular line lengths, branching and exfoliating syntax, propulsive rhythms, and unpatterned rhymes; these same features of the poem, however, signal the speaker's misprision and prepare for the formal resolution and return to submission of the poem's final lines. The experience of the exhilarating promise of a life lived otherwise and elsewhere is countered by a disturbing recognition triggered by the poem's formal violations of decorum and order; the poem's recollection of a past rebellion both incites and contains rebellion. The poem could be said to be avant-garde *avant la lettre* as it brilliantly endeavors to put an advanced, "open" form in the service of the constraint of the energies and possibilities in generates. Rereading the poem in what one critic calls a "requisite reevaluation," the reader subordinates an initial responsiveness to the kinetic form and language to the static imperative of the poem's end. This paper reopens the question of the poem's experimental poetic means to its orthodox, "homiletic," ends.

Talarico, Jr. Ernest F.; Kennedy, Brian G.; Mangini, Nancy J., IU School of Medicine-Northwest

Alternative Splice Variants of Plasma Membrane Calcium-ATPases in Human Corneal Epithelium

Plasma Membrane Calcium-ATPases (PMCAs) play a critical role in the regulation of intracellular calcium concentration. Four genes encode PMCA proteins with splicing of mRNA at three locations (A, B and C) serving to increase diversity. Our previous work shows that all four PMCAs are expressed and have specific locations in human corneal epithelium (hCE). The present work examined which splice variants of PMCAs are expressed in hCE.

Total RNA was extracted from hCE five different cadaver donors (two females and three males, age range 55 to 76 years). Reverse Transcriptase-PCR was performed using PMCA isoform-specific primers, and cDNAs were sequenced.

Every donor expressed PMCA4 (4x at site A and 4b at site B/C). At splice sites B/C, every donor expressed PMCA1b and PMCA1kb. One donor expressed PMCA2a and a novel PMCA2 variant we termed 2(i). A single, different donor expressed PMCA3a. For all donors, PCR products were not detected at site A for PMCA1, PMCA2 and PMCA3.

This investigation shows that hCE expresses multiple splice variants of PMCAs and that PMCA isoform-specific profiles vary among individuals. It describes a novel PMCA2(i) splice variant and documents the expression in hCE of PMCA1kb previously only described in rat intestine. Finally, this study suggests that the molecular configuration of PMCA 1, 2 and 3 in the region of splice site A in hCE must be different than in other tissues. These data provide the basis for functional studies examining the role of PMCA proteins in corneal wound healing following surgery, injury or disease

Thomas, Mark D., Division of Social Work, IU Northwest

The Relationship between Substance Abuse and Domestic Violence in a Sample of Dual Problem Men

The relationship between substance abuse and domestic violence has been examined extensively in the literature. However, researchers have yet to explore this relationship in the context of a clinical sample of dual problem men (individuals who have a substance abuse problem and who perpetrate domestic violence against their female partners). To this end, a secondary data analysis was conducted in which the intake information of 133 dual problem men was examined. Each participant reported the severity of violence via the Conflict Tactics Scale 2 and the Psychological Maltreatment of Women Index during their intake interview. The severity of alcohol problems was reported via the CAGE, an alcohol screening instrument. The frequency and quantity of alcohol and other drug use were also used to assess the severity of substance abuse. Results of regression analysis showed that though substance abuse measures, as a group, were related to the level of psychological abuse, no relationship was found between measures of substance abuse severity and the level of physical violence. The following were included in the regression analysis as independent variables: a) CAGE scores; b) alcohol frequency; c) alcohol quantity; and d) other drug frequency. Of these variables, the quantity of alcohol use made the greatest contribution to the solution related to psychological abuse, though was only borderline significant. These results suggest that substance abuse and domestic violence share a weak relationship, even though both problems were present in each participant. Results will be discussed in the context of high rates of co-occurrence.

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Sponsor: Jerry D. Hinnefeld, Department of Physics and Astronomy, IU South Bend

A Mass Detector to be Used in the St. George Recoil Mass Separator

A recoil mass separator St. George is being built at the University of Notre Dame to better understand helium burning in stars by fusing alpha particles with ions that have atomic masses ranging from 12 to 40. Although the beam ions will be suppressed by a factor of 1012, a significant number of them will emerge from the RMS. As a result, a device capable of differentiating beam from product ions by mass is being built and tested at Indiana University South Bend.

The device has two parts: a transmission detector and a silicon detector, separated by 50 cm. The transmission detector consists of a thin foil, an electrostatic mirror, and a microchannel plate (MCP). The time of flight measurement of a particle is provided by the transmission detector and the silicon detector, while the energy is given by the silicon detector. The mass of a particle is found from its speed and energy.

The electrostatic mirror, along with its related circuitry, has been designed and built, while the other components of the device have been installed. A scattering chamber has been prepared for use in performing preliminary vacuum testing of the device. Also, a C++ program has been written to simulate the mass resolution given various attributes of the reaction in question, the RMS, and the device itself. Results of the simulation and initial timing tests will be presented.

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Sponsor: Alan F. Lindmark, Department of Chemistry, IU Northwest

Spectral Analysis of Molybdenum (II) Complexes

Molybdenum (II) complexes have properties that are unique among transition metals. They can form high coordination number (>6) organometallic compounds (metal-carbon bonds). In addition, these complexes are relatively air and water stable, and they have numerous electronic transitions in the Ultraviolet-Visible (UV-Vis) region.

The objective of the current research is to study the UV-Vis spectra of seven-coordinate Molybdenum (II) complexes, MoL7 2+ and MoL6X+, where: L = CNC(CH3)3 and X = Cl-, Br-, or I-. This is an area of interest since all three types of possible electronic transitions for metal complexes (metal → ligand, ligand → metal, and metal d → d transitions) occur in the UV-Vis region at the same time. Analyzing these transitions (intensity, solvent effects, and wavelengths) of high coordination number metal complexes will add to the understanding of orbital energies, bonding, and structure.

The absorption spectra of the Molybdenum (II) complexes were analyzed in acetonitrile and methanol solutions. Concentrations studied range from 10-3 to 10 -5 M. A variety of concentrations was needed since the extinctions coefficients can vary from 10-50 (d → d) up to approximately 50,000 (metal → ligand and/or ligand → metal) depending on the nature of the transition. Peak assignments were tentatively identified within the range of these transitions, which occurs between 200-450 nm.

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Sponsor: Michelle Stokely, Department of Sociology and Anthropology, IU Northwest
The Boomerang Generation: Intergenerational Coresidence and Self-Identity

Popular culture would have us believe that the twenty and thirty-somethings of today, like Peter Pan, just don't want to grow up. Is it true that millions of Americans are extending their adolescence into their early thirties by delaying marriage and careers and by choosing to remain in the homes of their parents free of the responsibilities of the adult world? If so, then why? What are the competing explanations for the phenomenon, and how do these explanations factor into the self-concepts of the so-called "adultolescents" themselves?

This paper will address the above questions by placing the phenomenon of intergenerational coresidence into its historical and structural context. It will further utilize a symbolic interactionist theoretical framework in analyzing the impact of popular media hype, societal myths, and intergenerational miscommunication on the self-identities of a somewhat stigmatized but apparently growing portion of the American population.

Both scholarly and popular media were examined in the research of this paper. In addition, original qualitative data was collected via face-to-face interviews with coresident adults in Northwest Indiana.

Young, Christopher J., Department of History and Philosophy, IU Northwest
"Everything that will impress Public Opinion": The Federalists' Campaign against the Massachusetts Constitutional Society during the mid 1790s

While there was a consensus soon after the first president of the United States was inaugurated in 1789, this cordial and agreeable political atmosphere was, within a few years, replaced by one that was polarized and partisan.

The period of George Washington's second term (1793-1797) quickly began to look like something different than his first. There were two-related reasons for this change in the tone and character of American politics. One, the execution of Louis XVI in January 1793 further radicalized the French Revolution. Since reaction to the news generally fell along party lines, partisanship within the United States sharpened consequently. The second reason was the rise of the controversial Democratic Societies. These pro-Republican and pro-French political clubs appeared throughout the United States.

My paper focuses on the Federalists in and around Boston and their response to the formation of a Democratic club in Boston called the Massachusetts Constitutional Society. The Federalists' reaction to the club(s) reveals a number of things about the period.

One, some Americans, namely the Federalists, considered the clubs to be extraconstitutional, and therefore of questionable legitimacy. Two, the clubs were considered a threat to the social and religious order of Massachusetts and to the political

legacy of the American Revolution. Three, the acknowledgment of the force of public opinion before, during, and after an election was something to contend with in post-revolutionary America. And finally, the Federalists—not the Democratic-Republicans—were at the vanguard of recognizing, mobilizing, and utilizing this force in American politics.

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