



A Celebration of Student Achievement

April 30, 1998

Wellesley College

Conference Proceedings



The Ruhlman Conference

It gives us great pleasure to welcome you to the 1998 Ruhlman Conference. Made possible by the Barbara Peterson Ruhlman Fund for Interdisciplinary Study, the Ruhlman Conference was established to foster collaboration among students and faculty across the disciplines and to enhance the intellectual life of Wellesley College. This event provides an opportunity for students, faculty, staff, friends, family and alumnae to come together in celebration of student achievement.

The Conference celebrates intellectual life by sponsoring a communal, public event where students have the opportunity to present their work to an unusually wide audience. By providing an opportunity for public presentation of what is often a private, isolated activity, the conference demonstrates that academic inquiry is part of an ongoing conversation within a community of scholars.

Attentive to the diversity of student interest and accomplishment, the Ruhlman Conference includes a variety of formats for the presentation of student work: papers, panels, posters, exhibitions, musical and theatrical performances, and readings of original work. Representing the work of roughly 250 Wellesley students, the 1998 Conference is organized around seven major themes: Gender and Sexuality; Acquiring the Self; Science and Technology; Social Institutions and Social Processes; Adaptations, Translations, and Transplantations; Conflict and Contested Terrain; and Creative and Performing Arts.

We encourage you to experience the diversity and richness of student achievement at the Conference and wish to express our thanks and congratulations to all students participating in this special event.

Thematic Overview

Gender and Sexuality

Writing Women, Identity, and Culture (paper session)	9:30	Jewett 372
Our Bodies, Our Choices (panel)	9:30	Jewett 450
Women We Love (paper session)	11:00	Jewett 372
Sexuality through the Ages (paper session)	11:00	Collins Cinema
Never Done: Issues of Women's Work (exhibition and paper session)	1:30	Jewett 450
Women and Their Bodies (poster session)	1:30	Jewett Front Lobby
Film Selves: Gender, Sexuality, and Ethnicity (paper session)	3:00	Pendleton East 206
Gendered Representations (paper session)	4:30	Pendleton East 105

Acquiring the Self

The College Experience (paper session)	9:30	Davis Museum
Growing Up: Studies of Youth and Childhood (paper session)	11:00	Jewett 450
Becoming a Writer (panel)	11:00	Davis Museum
Memory I (poster session)	1:30	Jewett Front Lobby
Identity and Social Awareness (readings)	1:30	Founders 120
Memory II (paper session)	3:00	Jewett 372
Self Exploration: Four Creative Journeys (readings and film)	3:00	Pendleton West 105
Personality (paper, computer presentation, and exhibition)	4:30	Founders 120

Science and Technology

Fun and Games: Computers as Problem-Solving Tools (computer demonstrations)	9:30	Founders 120
Wellesley's Natural Environment	9:30	Pendleton West 105
Lakes, Soil, and the Things That Live There (poster session)	11:00	Jewett Sculpture Court
Surfing the Web (computer demonstrations)	1:30	Library Lecture Room
Rockets, Rocks, and Bones (poster session)	1:30	Jewett Front Lobby
The Art and Science of Multimedia (computer demonstrations)	3:00	Founders 120
Better Living through Physics (posters, film, and discussion)	3:00	Pendleton East 112
Contemplating the Mystery (paper session)	4:30	Jewett 372
Molecules and How They Function (poster session)	4:30	Jewett Front Lobby

Social Institutions and Social Processes

Social Groups and Parental Interaction (poster session)	9:30	Jewett Front Lobby
Spiritual Histories (papers and slide presentation)	9:30	Collins Cinema
Religion and Transcendent Experience (paper session)	11:00	Pendleton West 105

The Village Market in the Global Economy (exhibition)	11:00	Jewett Student Gallery
Time and Social Experience (panel)	11:00	Davis Museum
Politics and the Law (paper session)	1:30	Knapp PC Classroom
Issues in National Development (paper session)	1:30	Pendleton West 105
Competition and Protectionism (paper session)	3:00	Library Lecture Room
Race and Class in Urban America (paper session)	3:00	Davis Museum
Case Studies in Political Economy (panel)	4:30	Library Lecture Room
Ethnicity in America (panel)	4:30	Collins Cinema

Adaptations, Translations, and Transplantations

High/Low Culture (paper session)	9:30	Pendleton East 105
Thinking about the Literary (paper session)	11:00	Library Lecture Room
Crossing Genres (paper session)	1:30	Collins Cinema
Issues in Translation I (poster session)	1:30	Jewett Front Lobby
Issues in Translation II (panel)	3:00	Jewett 450
The Photographic Imagination (exhibition)	3:00	Jewett Student Gallery
Adaptations and Translations in Literature (readings and commentary)	3:00	Collins Cinema
Lessons from the Past (performance)	4:30	Davis Museum
Artistic Inspiration (exhibition)	4:30	Jewett Student Gallery
Life, Death, and the Divine (panel)	4:30	Jewett 450

Conflict and Contested Terrain

Art and Resistance (panel)	9:30	Davis Museum
Education and Human Rights (performance and film)	9:30	Jewett Auditorium
War, Resistance, and After (paper session)	11:00	Pendleton East 105
The Divided Self (performance)	11:00	Jewett Auditorium
Border Tensions and Intergroup Conflict (paper session)	1:30	Pendleton East 105
Contrasting Images (exhibition)	1:30	Jewett Student Gallery
The Middle East, Islam, and the West (paper session)	3:00	Pendleton East 105
Making and Breaking: War and Its Effects (paper session)	3:00	Pendleton West Salon
Human Rights in Comparative Perspective (panel)	4:30	Davis Museum

Creative and Performing Arts

Art and Multimedia (exhibition)	11:00	Founders 120
Three Fictions: Excerpts from Creative Theses (readings)	1:30	Davis Museum
A Theatrical Retrospective (performance)	3:00	Davis Museum
Artistic Legacies (performance)	3:00	Jewett Auditorium
Wellesley in Concert: A Presentation of Student Work (performance)	4:30	Jewett Auditorium

Conference Schedule

8:30 – 9:30 Continental Breakfast

Served opposite Jewett Auditorium

9:30 – 10:40

Gender and Sexuality

Writing Women, Identity, and Culture (paper session) *Jewett 372*

Elizabeth Graettinger, "Literature of Reclamation: Toni Morrison's *Song of Solomon* and *Beloved*"

Margaret Hathaway, "An Author Divided: The Tension between Chaos and Order in the 'Irish Novels' of Maria Edgeworth"

Cynthia Liu, "Self-Government and Conflicting Feminism in Mrs. Humphry Ward's *Marcella*"

Chloe Wigston Smith, "The Place for Independence: Women in the City in Elizabeth Gaskell's Fiction"

Nicole Flynn, Presiding

Our Bodies, Our Choices (panel) *Jewett 450*

Tracy Prout, Moriah Campbell-Holt, Caroline Richards, Mindy (Alisa) Keene and Leslie Golden, "A Comprehensive Guide to Unintended Pregnancy: Choosing the Option That Is Right for You"

Acquiring the Self

The College Experience (paper session) *Davis Museum*

Jessica Shlasko, "Perception and Practice in the Classroom Participation Patterns of Davis Scholars and Traditionally Aged Students"

Joanna Arch, "Conceptions of Knowledge and Approaches to Learning among Students Majoring in Three Academic Disciplines"

Shannon M. Palaia, "Individual Differences among Activity Choice: An Examination of Extracurricular Activity Participation and the Big Five"

Cinnamon Stetler and Stefanie Wolf, "Quality of Relationships and Women's Health: A Survey of Wellesley College Students"

Helena Winston, Presiding

Science and Technology

Fun and Games: Computers as Problem-Solving Tools

(computer demonstrations) *Founders 120*

Kathleen K. Ong, "Outside In: An Edutainment CD-ROM of the Sphere Eversion Method"

Elise Matefy, "The Investigator: Wall Street Made Easy"

Lorraine Hanley and Lori Stampley, "Computer Assisted Language Learning: A Survey of the Field"

Maya Kumar, Presiding

Wellesley's Natural Environment (panel) *Pendleton West 105*

Cara Attanucci, Julia Barnard, Erica Larschan, Laura Shawhughes, Amy Troy, and Qian Zhou,
"Leaf Senescence in the Sugar Maple"

Social Institutions and Social Processes**Social Groups and Parental Interaction (poster session)** *Jewett Front Lobby*

Julie Johanson, "Head Start: An In-Depth Examination"

Ana de los Santos, "African Art Education: Bridging Cultures, Bridging Institutions"

Nikki Schall, "Mother-Child Relationship in Infancy and Children's Response to Maternal Distress at 22 Months"

Jenni Nute and Jocelyn Wong, "Parental Involvement and Its Relationships to Optimism and Academic Motivation"

Jakobina Arch, "Maintenance of Social Groups in a Matriarchal, Nonterritorial Species: The Killer Whale"

Alison Goldberg and Sarah DeLong, "Negotiating through the Classroom: Influence of Preferred Playmates and Preferred Activities on Activity Selection of Preschoolers"

Spiritual Histories (papers and slide presentation) *Collins Cinema*

Ellen Hoobler, "A Brief Discussion of Precolombian Art"

Katherine Bourne, "Russian Orthodoxy of the 19th and Early 20th Centuries: Freedom or Subjugation?"

Diba Daneshrad, "Sephardic Synagogues of Spain"

Bianca Camac, Presiding

Adaptations, Translations, and Transplantations**High/Low Culture (paper session)** *Pendleton East 105*

Hannah Shay, "'A Dangerous Rome': Bringing *Julius Caesar* to a Modern Audience"

Pippa Zainoeddin, "Blue Man Group"

Elizabeth King and Jennifer Miller, "They Said, 'Uh huh huh': A Conservative Analysis of Beavis and Butthead"

Jade Hoai, "Images of Lesbian Film Noir"

Frances Ramberg, Presiding

Conflict and Contested Terrain**Art and Resistance (panel)** *Davis Museum*

Rachel Lerner, for Tau Zeta Epsilon, "The Sacred and the Profane: Picasso and *Guernica*"

Education and Human Rights (performance and film) *Jewett Auditorium*

Jacquelyn Jackinsky Horrell, "Seeking Shelter"

Micah Frazier, "Activism within the Queer Youth Population"

10:40 – 11:00 Break

Continental breakfast available in Jewett (opposite the Auditorium)

11:00 – 12:10

Gender and Sexuality

Women We Love (paper session) Jewett 372

Becky Soderman, "Antecedents and Identity: Melissa Etheridge's Self-Definition with Respect to Past Rock 'n' Roll Artists"

Catherine Malone and Rachel Li, "There Must Be Something in the Water: Students of Neighboring Towns Stricken with Peggy Fever"

Elizabeth Holzer and Robin Olinsky, "Thelma and Louise: The Criminalization of the American Woman"

Zoe Kwock, Presiding

Sexuality through the Ages (paper session) Collins Cinema

Brenda Rogowski, "Wings of Inspiration: Nietzsche's Influence on Morality and Creativity in Mikhail Kuzmin's *Wings*"

Jessica Snyder, "Lustful Concupiscence: A Study of Sex and Marriage as Portrayed in the Irish Penitentials"

Tasha Otenti, "The Role of Sexual Imagery in Catullan Invective"

R.C.E. Tatem, "Representations of Hermaphroditos in Hellenistic and Roman Art"

Alisha Carlile, Presiding

Acquiring the Self

Growing Up: Studies of Youth and Childhood (paper session) Jewett 450

Meredith Gunlicks, "The Role of Friendship in Preschoolers' Collaborations During Problem-Solving and Creativity Tasks"

Kimberly Davidson, "Can Modeling Encourage Student Learning without Decreasing Intrinsic Motivation?"

Carolyn Osterwalder, "The Effects of Listening to Music on the Creativity of College Women and Preschool Children"

Jeanne Lukacek, "Children of Disabled Parents: How Disability Affects Growing Up"

Jocelyn Benson, Presiding

Becoming a Writer (panel) Davis Museum

Sonal Khullar, Rachel Findley, and Kerry Cooke, "Finding a Voice While Writing across the Disciplines"

Science and Technology

Lakes, Soil, and the Things That Live There

(exhibition and poster session) Jewett Sculpture Court

Myrna Joseph, "Our Commons"

Ting Bao, "The Mechanism of Cyanophycin Formation in the Cyanobacterium *Anabaena* sp. Strain PCC 7120"

Hannah Walsh and Stephanie Pierce, "Urban Light Pollution Alters the Diel Vertical Migration of Freshwater Zooplankton in a Suburban Lake"

Sophie Parker, "The Effects of Wastewater Irrigation on the Quality of the Oak Forest Soil Organic Horizon as Determined by pH and Cation Exchange Capacity"

Keren Lisa Witkin, "Differential Protein Expression Induced by Heat Shock in the Cyanobacterium *Synechocystis* sp. Strain PCC 6308"

Kyung Hee Yi, "The Effects of Growth Medium, Breaking Buffers, and Low Temperature Storage on the Exopolyphosphatase Activity of *Synechocystis* sp. Strain PCC 6308"

Krystal Hernandez, Jennie Seeg and Tanyka Wilson, "Effects of Inhibition of Protein Synthesis on Polyphosphate Synthesis in the Cyanobacterium *Synechocystis* sp. Strain PCC 6803"

K. Nicole Clouse, "Analysis of a *gfp-fliN* Gene Fusion and Its Incorporation into the Flagellar Motor of *Escherichia coli*"

Social Institutions and Social Processes

Religion and Transcendent Experience (paper session) Pendleton West 105

Mary Gottmann, "Meditation: The Dialogue and the Journey"

Gloria Chyou, "Influence of Religion on Social Values among Chinese- and Euro-Americans"

Lindsay Meade Bigoness, "Characters in Crisis: Self Awareness through Tragedy in Theodore Dreiser's *Jennie Gerhardt*, Willa Cather's *O Pioneers!*, and Ernest Hemingway's *A Farewell to Arms*"

Farrah R. Berse, "Religiosity and Desire for Control: Is There a Relationship between the Two?"
Anne Ladd, Presiding

The Village Market in the Global Economy (exhibition) Jewett Student Gallery

Cindy E. Ko, "Market Women: Visual and Literary Portraits of Women Vendors in Oaxaca, Mexico"

Time and Social Experience (panel) Davis Museum

Cynthia Chang, Erin Collins, Antionette Harmon, Saba Jearld, Carol Kim, Amanda Lucas, Allison Ross, Ida Rothschild, Sarinna Sivily, and Erin York, "Where Does the Time Go? How Wellesley Students Use and Experience Time"

Adaptations, Translations, and Transplantations

Thinking about the Literary (paper session) Library Lecture Room

Julia Pastore, "'What Is That Awful Sound?': Images of Sound in the Poetry of William Wordsworth and Percy Bysshe Shelley"

Bridget Henry, "Underground: Land and Inheritance in Seamus Heaney's Poetry"

Alia Yap, "The Power of the Name"

Monti Llorens, Presiding

Conflict and Contested Terrain

War, Resistance, and After (paper session) Pendleton East 105

Sarah Stevenson, "The White Rose: Political Analysis and Social Context of a Youth Resistance Movement in Nazi Germany"

Jill Rubin, "The Possibility of a German Jewish Identity in Postwar Germany"

Melissa Fay Schwartz, "The Diplomacy of Apology: Germany and Japan's Apologetic Behavior for World War II"

Kristina McBlain, Presiding

The Divided Self (performance) Jewett Auditorium

Lakshmi Ramarajan for Thala, "Generations: Being South Asian in America"

Creative and Performing Arts

Art and Multimedia (exhibition) Founders 120

Lian Jue, "The Vanishing World of Tibet"

Janet Si-Ming Lee, "A Dialogue"

Cate Brandt, "Not the Red Baron"

12:10 – 1:30 Lunch

All members of the Wellesley College Community are invited to have lunch on Severance Green
(In the event of rain, lunch will be served in the dormitories)

1:30 – 2:40

Gender and Sexuality

Never Done: Issues of Women's Work (exhibition and paper session) Jewett 450

Rebecca Sher, "Staying Home: A Photographic Essay"

Ann Ochsendorf, "Constructing Power through Food-for-Work Programs in El Alto, Bolivia"

Jennifer Yeung, "The Effect of Federal Child Care Policies on Female Labor Supply"

Allison Pan, "Working Women: An Analysis of the Variables that Influence Women's Weekly Labor Hours"

Irene Yung, Presiding

Women and Their Bodies (poster session) Jewett Front Lobby

Zoe Stinchfield, "The Role of Fashion Advertisements in Dictating the Ideal Body Image of Women and Men"

Yoo-Lee Yea, "Do Menstrual Hormones Influence the Circadian Rhythms in Cutaneous Blood Flows?"

Gagan S. Khera, "The Effects of Acculturation on the Perception of Body Image in Women of South Asian Descent"

Acquiring the Self

Memory I (poster session) Jewett Front Lobby

Susan K. Camuti, "Adult Attachment and Early Childhood Memories"

Laurie Ann Burlingame, "The Effect of Aging on Memory and Acetylcholine Levels in C57BL/6Nia Mice"

Anita Kishore, "An Examination of the Mechanism Underlying Implicit Memory for Novel Word Associations"

Suzanne A. Henry, "Neonatal Catecholamine Depletion Affects Behavior in Adult Mice"

Identity and Social Awareness (readings) Founders 120

Ann E. DeLeon, Skye Yayoi Drynan, Thaisa Alvarez, Maria Carmen Larios, Emily Harvey, Ellen M. Hoobler, Mala S. Shah, and Xochitl Leon, "Miss 'identity'"

Science and Technology

Surfing the Web (computer demonstrations) Library Lecture Room

Kim Hoang and Jessica Brown, "The Schneider Board of Governors (SBOG) Webpage"

Iris Kuo and Kelli D. Moore, "Web Site Design"

Amy Gembala and Chimi Tornow, "Wellesley on the Web: The Wellesley College Traditions Homepage"

Rockets, Rocks, and Bones (poster session) Jewett Front Lobby

Achieng' Reggy, "Student-Run Program for Exoatmospheric Collecting Technologies and Rocket Experiment (SPECTRE) Software Engineering Unit"

Jessica Scott, "Radiometric Dating of an Oligocene Tuff from the White River Formation Near Douglas, Wyoming"

Adrienne Elena McKee, "Predicting Swimming Styles of Cetaceans Using Flexibility and Osteo-Morphometric Data"

Sarah Parrott, "Mapping Expedition to Gold Butte, Nevada"

Janet Sarson, "The Age and Significance of the Calf Island Sill Complex, Boston Harbor, Massachusetts"

Social Institutions and Social Processes

Politics and the Law (paper session) *Knapp PC Classroom*

Jennifer Schaaf, "Perceptions and Realities of Women's Legislative Efficacy: Republican Women of the United States House of Representatives"

Anne Sterman, "Privacy on the Internet"

Issues in National Development (paper session) *Pendleton West 105*

Chavi Keeney Nana, "Gender Divisions and Community Participation: Overcoming Real and Imagined Obstacles to the Implementation of Community School Programs for Girls in Pakistan"

Victoria Hood, "The Effects of Human Capital Variables on Household Earnings among the Chimane Amerindians of Lowland Bolivia"

Avantika Rao, "Women and Water: The Ganga River at Varanasi, North India"

Kate E. Marshall, "Politics, Economics, and Demographics: The Push Factors for International Migration from Mexico and Algeria, 1962 to the Present"

Adrienne Walker, Presiding

Adaptations, Translations, and Transplantations

Crossing Genres (paper session) *Collins Cinema*

Rachel Findley, "Science-in-Literature: A Study of Three Contemporary Fiction Writers Who Dramatize the Lives of Scientists in Their Work"

Kamaria Wolf, "From One Woman to Another: The Journal as a Connective Link between Women in Two Francophone Novels, *Juletane* and *So Long a Letter*"

Eugenia Beh, "The Space of Genius in David Alfaro Siqueiros's *Portrait of George Gershwin*"

Gretchen Buck, "'What thoroughness! What realism!': Jay Gatsby as Film Producer"

Diana Serritella, Presiding

Issues in Translation I (poster session) *Jewett Front Lobby*

Yasuko Amy Endo, "Phonetic Perception of Japanese Devoiced Vowels by Speakers of English"

Alyssa L. Langlais, "The Relevance of Diglossia: Puerto Rico in the Early 20th Century and Black English Today"

Conflict and Contested Terrain

Border Tensions and Intergroup Conflict (paper session) *Pendleton East 105*

Jennifer Rockwitz, "Tibet under the Rule of Communist China"

Eun Sun An, "Korean Minority in Japan"

Molly R. Levinson, "Beyond Track Two Diplomacy in the Israeli-Palestinian Conflict"

Monti Llorens, Presiding

Contrasting Images (exhibition) *Jewett Student Gallery*

Sarah Andress, "At the Center of Community"

Creative and Performing Arts

Three Fictions: Excerpts from Creative Theses (readings) *Davis Museum*

Gwendolyn Stead, "Good Dog"
 Jamie Kiffel, "Living Without Morality"
 Christen Clark, "Lookout"

2:40 – 3:00 Break

Refreshments available in Jewett (opposite the Auditorium), Pendleton East (Political Science Lounge, first floor), the Davis Museum (Lobby) and the Knapp Media Center (Clapp Library)

3:00 – 4:10

Gender and Sexuality

Film Selves: Gender, Sexuality, and Ethnicity (paper session) *Pendleton East 206*

Maruta Vitols, "The Representation of Women in Post-War Italian Cinema Read through the Historical Context of the Feminist Movement in Italy (1970's-1990's)"
 Maria San Filippo, "Impotence and Emasculation in the Hitchcockian Male"
 Camila Alarcon, "Representations of Chicana Sexuality in American Film"
May Lin, Presiding

Acquiring the Self

Memory II (paper session) *Jewett 372*

Molly Colvin, "Processing of Visually Presented Pictures"
 Robin Combs, "Memory and Identity"
 Janet Sarson, "The Embodied Past: Memory, National Fantasy, and Autoethnography"
Zeba Khan, Presiding

Self-Exploration: Four Creative Journeys (readings and film) *Pendleton West 105*

Ting Bao, "Grandpa"
 Valerie Martin, "The Wind and the Silence"
 Arianne Eyre Miller, "Glancing At Myself"
 Adriana A. Alba, "Waiting"

Science and Technology

The Art and Science of Multimedia (computer demonstrations) *Founders 120*

Achieng' Reggy and Catherine Wu, "Brainstorm"
 Pennie Locklear and M. Florencia Garcia, "The Walls of the Davis Museum"
 Tiffany "Spiff" Fehr and Johanne Blain, "Shel's World"
 Kathleen McCorry and Wona Park, "A Gallery for the People's Princess"
 Tracie Lee and Yelena Nakhimovsky, "Not Quite Everything You Wanted to Know about Jazz"
 Purdy Ho and Carrie McCobb, "Underground Activities"
 Deborah Gaz and Jessica Ciocci, "The Interactive Museum"
 Kristin Olson and Caroline Tsai, "Into the Woods"

Better Living through Physics (posters, film, and discussion) *Pendleton East 112*

Laura Foxman and Elaine Ulrich, "The Physics of Piano Tuning"
 Akhila Balasubramanian and Erin Lunde, "To Spin or Not to Spin: That is the Question—
 The Physics of Basketball Bounce Passes"
 Elizabeth Donnel-Fink, Neira Hajro and Francis Tyler Wellensiek, "Physics of Crop Rotation,
 a.k.a. Modified Plant Geotropism on a Rotating Platform"

Social Institutions and Social Processes**Competition and Protectionism (paper session)** *Library Lecture Room*

Caroline B. Faris, "Trade Protection in the United States I: How Much Is Too Much?"

Sonal Khullar, "Trade Protection in the United States II: How Much Is Too Much?"

Ayesha Malhotra, "Microsoft Windows 95/Internet Explorer Package: Effects on Competition in the Computer Industry"

Juliana Catherine Wu, "Antitrust and the Medical Professions: An Investigation of Price-Fixing Conduct in Physician Networks"

Joanna Miller, Presiding

Race and Class in Urban America (paper session) *Davis Museum*

Naba Sharif, "The Status of the 'Upper-Upper' Class in Yankee City (Newburyport, Massachusetts) in the 1930s and Today"

Erin Pahlke, "The Black Experience in Newburyport, Massachusetts: Explanations for the Persistence of Racial Segregation within Suburbia"

Sherry Hogan, "Social Class and Burial Practices: A Case Study of Newburyport, Massachusetts, in the 1930s"

Caroline Hanley, "Social Dislocation and Urban Poverty"

Angela Carpenter, Presiding

Adaptations, Translations, and Transplantations**Issues in Translation II (panel)** *Jewett 450*

Catherine Cloniger, Sarah Dysken, and Janna Wasilewski, "Finding the Right Word: A Panel Discussion on the Art and Challenge of Translation"

The Photographic Imagination (exhibition) *Jewett Student Gallery*

Tiffany Dewell, Cynthia Eldridge, Marissa Harris, Jessica Hiatt, Jiasuey Hsu, Kathleen McCorry, Adrienne McKee, and Catherine Wu, "Privacy: Issues of Representation and Control"

Adaptations and Translations in Literature (readings and commentary) *Collins Cinema*

Seoyoon Sandy Chu, "Emasculation through Editing: Reading Richard Wright's Novel *Native Son* as Palimpsest"

Julie Levison, "Magic Sites: Women Travelers to the Americas"

Emi Kamura, "Visions of Esther Seligson: A Translation of *Hebras*"

Conflict and Contested Terrain**The Middle East, Islam, and the West (paper session)** *Pendleton East 105*

Mili Saltiel, "President Truman and the Recognition of the State of Israel"

Lakshmi Ramarajan, "Islam vs. The West: Western Theory and Practice towards Islamist Movements in the Middle East"

Emily Selden, "Islam and the Swahili Coast"

Ayse Kaya, "A World in Isolation: Turkey"

Betsy Hanna, Presiding

Making and Breaking: War and Its Effects (paper session) *Pendleton West Salon*

Cady Alpert, "The Economics of the Union Draft: Government Manipulation of the Labor Market During the Civil War"

Emma Ross, "Benin Royal Art and the Inherent Problematics with Its Display in the United States"

Carolyn M. Michael, "Making Peace, Making Men"

Brittney Carlson, Presiding

Creative and Performing Arts

A Theatrical Retrospective (performance) *Davis Museum*

Alicia Kahn, Tegan Cohan, Britt Soderberg, Pauline Yasuda, Lian-Marie Holmes, Elizabeth Wightman, Kate Connor, Keisha Champagnie, Hope Zettwoch, and Colleen Frashure, "Thus Sayeth a Woman"

Artistic Legacies (performance) *Jewett Auditorium*

Maya Paloma Alvarez, Claire-Marie Bender, and Bronwen Bromberger, "The Legacy of the Golden Age of Violin Playing"

4:10 – 4:30 Break

Refreshments available in Jewett (opposite the Auditorium), Pendleton East (Political Science Lounge, first floor), the Davis Museum (Lobby) and the Knapp Media Center (Clapp Library)

4:30 – 5:40

Gender and Sexuality

Gendered Representations (paper session) *Pendleton East 105*

Kelli D. Moore, "Touch Behavior in Advertising"

Evelyn Alfonso and Allison Werner, "Self-Evaluation as a Function of Gender-Composition of Dyad"

Anne Hwang, "The Content and Implicit Nature of Asian-American Female Stereotypes"

Lindsey Kistler, "Gender Constructions in Virtual Communication"

Terry Peterson, Presiding

Acquiring the Self

Personality (paper, computer presentation, and exhibition) *Founders 120*

Grace Song, Janet S. Lee, and Ben Walter, "Metamorphosis"

Carrie Farmer, "Early Stage Vision in Schizotypal Personality Disorder"

Science and Technology

Contemplating the Mystery (paper session) *Jewett 372*

Sarah Glynn, "Behavior of the Primes"

Mariana T. Quina, "Map Coloring and the Four-Color Theorem"

Catherine Leigh, "Mountains and Handshakes: An Introduction to the Catalan Numbers"

Nayana Jha, Presiding

Molecules and How They Function (poster session) *Jewett Front Lobby*

Eileen Rhee, "The Application of Second Harmonic Generation to Determine Molecular Orientation at Interfaces"

Lisa Heyden, "Synthetic Studies of Imidazotriazole Nucleoside Analogs"

Cindy HaeShin Moon, "Structural Studies of Inhibitors and Substrates of EC 3.4.24.15: Possible Effects of Calcium on Conformation"

Suzanne Lee, "Subcloning of a *Mycoplasma fermentans* Gene Encoding a Putative B Lymphocyte Mitogen for Protein Expression"

Caroline B. Faris, "Synthesis and Ribosidation of Chlorotriazole"

Junko Takeshita, "Synthetic Strategies of Imidazotriazoles as Adenosine and Inosine Nucleoside Analogs"

Erica Larschan, "Characterization of Mouse Ribonucleotide Reductase"

Jennifer Adele Floyd, "Spatial Expression of the *LOX1* Gene in Seedlings of *Arabidopsis thaliana*"

Colleen Tsui, Khanh Nguyen, and Letha Pallivathucal, "Activation of Endopeptidase EC 3.4.24.15 by Metal Ions"

Social Institutions and Social Processes

Case Studies in Political Economy (panel) *Library Lecture Room*

Catherine Tyrell, Jennifer Parmelee, Erin Santiago, and Danielle Mulack, "Regionalism in the European Union and Regional Funding in Greece"

Ethnicity in America (panel) *Collins Cinema*

Tammy Chu, Shana Nishihira, Sonya Rhee, and Maria Garrett, "Asian America: Images, Government Policy, and History"

Adaptations, Translations, and Transplantations

Lessons from the Past (performance) *Davis Museum*

Rebecca Longworth, with Karina Beleno, Collene Frashure, Tegan Ashton Cohan, Koren Bernardi, Brett Graettinger, and Olivia Kienzel, "The Antigone Myth in Performance: Anouilh's *Antigone*, Sophocles, and Existentialism"

Artistic Inspiration (exhibition) *Jewett Student Gallery*

Vivienne Wan, "Figures in an Imagined Space"

Life, Death, and the Divine (panel) *Jewett 450*

Margaret Ritter, "The Lyrical Defeat of Death"

Cynthia Odiorne, "To Sing of Highest Works"

Aris Rizos, "Windows of Spirituality: Seventeenth-Century English Devotional Poetry and the Byzantine Icon"

Conflict and Contested Terrain

Human Rights in Comparative Perspective (panel) *Davis Museum*

Rosemary Moffat, Angelica Bernal, and Colby Lenz, "Conflict and Culture: Research and Activism in Ecuador, Costa Rica and South Africa"

Creative and Performing Arts

Wellesley in Concert (performance) *Jewett Auditorium*

Amey Hochberg and others, "A Musical Celebration of Student Work"

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Abstracts

9:30 – 10:40

Gender and Sexuality

Writing Women, Identity, and Culture

Literature of Reclamation: Toni Morrison's *Song of Solomon and Beloved*

Elizabeth Graettinger, *English '98*

ADVISOR: Kate Brogan, *English*

Toni Morrison's literature performs the difficult and necessary role of unearthing the bones of history, of reclaiming the silent spaces buried in what she calls a "grave of time and inattention." These silences represent the interior lives of her ancestors that have been omitted from accounts of slavery written by the dominant class and self-censored in slave-narratives. Morrison uses memory and imagination to uncover these bones and transform them into her literature. In *Song of Solomon and Beloved*, Morrison explores the precarious balance between self-determination and the black community, and between freedom and responsibility in order to shape her own particular style of reclamation.

An Author Divided: The Tension between Chaos and Order in the "Irish Novels" of Maria Edgeworth

Margaret Hathaway, *English '98*

ADVISOR: Yoon Sun Lee, *English*

Maria Edgeworth is often regarded as a political writer, and has been cited variously by critics as both a cause and an opponent of the Irish Union with Great Britain in 1800. The irony in this assessment of *Castle Rackrent*, *Ennui*, and *The Absentee*, her "Irish Novels," is that through tricks of narrative, Edgeworth in fact says very little about politics. Edgeworth's political inclinations are formed in the space between outright colonialism and an Enlightenment respect for the individual, and she consistently appeals for only one value or virtue: education. The malleability of her writing allows it to be claimed by a variety of interests, but Edgeworth, herself, refuses to take a political "side."

Self-Government and Conflicting Feminism in Mrs. Humphry Ward's *Marcella*

Cynthia Liu, *English '98*

ADVISOR: Barbara Harman, *English*

It is extremely difficult to access where to situate Mrs. Humphry Ward's *Marcella* in the canon of New Women Literature. Published in 1894, *Marcella* is a political romance that was a blockbuster novel. The novel explores the complex relationship between self-government and personal integrity. *Marcella*, the future heiress of Mellor Park, must reconcile her selfish ambition for social recognition with her more altruistic goals of social philanthropy. Her public activity, her London nursing, and her social experiments suggest that she belongs to a tradition of tremendously independent female heroines. However, this reading is complicated by *Marcella*'s eventual marriage to the Parliamentarian Aldous Raeburn and her diminution of agency at the conclusion of the novel. *Marcella*'s problematic feminism seems reflective of Mrs. Ward's own conflicted feelings about feminism. Mrs. Ward was a vehement opponent of women's suffrage, the first female journalist on the front in World War I, and the impetus behind the establishment of Somerville College, the first recognized women's college at Oxford.

The Place for Independence: Women in the City in Elizabeth Gaskell's Fiction

Chloe Wigston Smith, *English and French '98*

ADVISOR: Margery Sabin, *English*

In Elizabeth Gaskell's (1810-65) Manchester-inspired works, a resourceful female character emerges who independently imagines and fashions potential alternatives to traditional social structures. In Manchester, Mrs. Leigh of Lizzie Leigh creates her own interpretation of God's mercy in order to reclaim her fallen daughter in a striking reaction to male authority. The city allows for a progressive sense of female independence and, in the novels *Mary Barton* and

North and South, an unconventional access to the public realm. In the urban setting, women's private, emotional needs are set against potentially dangerous threats such as isolation and seduction. The countryside, by contrast, allows for a heavenly escape from emotional and physical urban dangers, but the escape is merely an excursion and thus transitory at best. Within the earthly reality of the city, friendships between women create a vital source of human connection and communication in Gaskell's fiction. Throughout these works, Gaskell argues for a progressive female activity that daringly counters Victorian social norms.

Our Bodies, Our Choices

A Comprehensive Guide to Unintended Pregnancy: Choosing the Option That Is Right for You

Tracy Prout '00, Moriah Campbell-Holt '00, Caroline Richards '99, Mindy (Alisa) Keene '00, and Leslie Golden D3

ADVISOR: Adrienne Asch, *Reproductive Issues*

In response to the needs of young women dealing with unintended pregnancy, we provide this comprehensive handbook. Within the choices of abortion, adoption, and raising the child, there are infinite considerations and consequences. Our goal is to address the many questions a woman faces. Does she wish to have the child or terminate the pregnancy? If she carries the pregnancy to term, will she then raise the child she bears, or will she choose adoption, foster care, or some other arrangement? How does the progression of fetal development influence her choice? What role, if any, should the biological father, or others in her family and friendship groups play in her decision? What are the psychological implications, rewards and difficulties of each choice? In addition to providing information, our hope is that this work will help women garner the strength necessary to make important decisions in reproduction.

Acquiring the Self

The College Experience

Perception and Practice in the Classroom Participation Patterns of Davis Scholars and Traditionally Aged Students

Jessica Shlasko, *Anthropology '98*

ADVISOR: Andrea Levitt, *Language Studies*

The attitudes and perceptions of professors, Davis Scholars, and traditionally aged students in regard to their own and others' participation in classroom discussion are compared to observations of actual classroom interaction. The study has three components: classroom observation, interviews, and a questionnaire. Six different classes were observed for two hours each. Transcriptions of the classroom discussion were analyzed for frequency and length of the students' utterances. I have interviewed the professor, two Davis Scholars, and two traditionally aged students from each of those six classes. Interview questions focused on attitudes towards and evaluation of classroom participation. Three questionnaires—one to traditionally aged students, one to Davis Scholars, and one to professors—were administered to the community at large. Aspects of the data to be addressed include differing perceptions between and within groups and the relationship between those perceptions and actual performance.

Conceptions of Knowledge and Approaches to Learning among Students Majoring in Three Academic Disciplines

Joanna Arch, *Psychology '98*

ADVISOR: Blythe Clinchy, *Psychology*

I interviewed twelve advanced students majoring in History, English, and Chemistry, and explored their conceptions of knowledge and approaches to learning in their major discipline and in two other academic disciplines. Questions addressed include: How do students conceive of truth and knowledge in their own (major) field compared with truth and knowledge in less-familiar fields? Are there differences in how advanced students in different majors view and relate to academic work? Implications for education are discussed.

Individual Differences among Activity Choice: An Examination of Extracurricular Activity Participation and the Big Five

Shannon M. Palaia, Psychology '99

ADVISOR: *Julie Norem, Psychology*

Differences among the extracurricular activity choices of Wellesley College students were studied as a function of their personality. According to the five-factor theory, personality consists of five main trait dimensions: Openness to Experience, Conscientiousness, Extroversion, Agreeableness, and Neuroticism. Study participants completed two personality questionnaires and one activity participation and pattern questionnaire. The study design also led participants to make an activity choice they had not anticipated. Of the several hypotheses proposed, only a few were supported by significant results. The pattern of results, however, lead to the conclusion that students seem to differ in type of activity choice, participation patterns, and reasons for participation in relation to particular trait dimensions.

Quality of Relationships and Women's Health: A Survey of Wellesley College Students

Cinnamon Stetler, Psychobiology '98 and

Stefanie Wolf, Psychobiology '98

ADVISOR: *Linda Williams and Belle Liang, Stone Center Research*

There has been much research on the positive impact of social relationships on physical health and well-being. This research has primarily examined the "quantity, structure, and functions" of social support. However, some work suggests that "quality" of relationships has greater implications on health. Relational Theory, a ground breaking feminist model emphasizing the effectiveness of certain relational qualities, has been advanced by Stone Center Theorists. In the present study, a new measure that reflects Relational Theory concepts has been developed to assess peer, mentoring, and community relationships. This instrument, along with an index of physical health, has been administered to Wellesley College students. The theoretical background of the role of relationships (including peer, mentoring, and

community connections) in physical health among college students and the research methodology of the Wellesley Student Survey will be discussed.

Science and Technology

Fun and Games: Computers as Problem-Solving Tools

Outside In: An Edutainment CD-ROM of the Sphere Eversion Method

Kathleen K. Ong, Computer Science '98

ADVISOR: *Takis Metaxas, Computer Science*

Outside In is an edutainment CD-ROM that explores the multiple steps of turning a sphere (as defined by mathematics, a set of points equidistant from a fixed point, its center) inside out. The problem of how to turn a sphere inside out becomes interesting when a set of rules are defined eliminating the obvious solutions like poking a hole and inverting the sphere. After a few quick tries, what looks easy, can become very mathematical. Professor Bill Thurston developed the sphere eversion method as one way of solving the problem.

The Investigator: Wall Street Made Easy

Elise Matefy, Computer Science and

Psychology '98

ADVISOR: *Takis Metaxas, Computer Science*

Software agents are computer programs that perform a task on behalf of the user. This project investigates the use of agents as monitors which track changes in some piece of information and notify the user of any change. Specifically, the Investigator monitors the values of one or more stocks in the user's portfolio. The agent informs the user when the value of a stock has risen or fallen by a certain amount or reached a certain level, and it tracks the performance of the stock over time. Considerable flexibility is provided through a user-friendly interface that allows the user to customize the behavior of the agent. After the initial input is provided, the monitoring is performed without human intervention. Thus, the user is free to concentrate on more interesting and thought-intensive tasks while remaining informed of any critical information regarding her portfolio.

Wellesley's Natural Environment

Leaf Senescence in the Sugar Maple

Cara Attanucci, Biochemistry '98, Julia Barnard, Biological Sciences '98, Erica Larschan, Biochemistry '98, Laura Shawhughes, Biological Sciences '98, Amy Troy, Biological Sciences and French Studies '98, and Qian Zhou, Biochemistry and Economics '98

ADVISORS: Gary Harris and Martina Koniger, Biological Sciences

In September and October 1997 a field study was conducted on campus monitoring the molecular and physiological changes associated with leaf senescence in sugar maple (*Acer saccharum*). The results revealed: (1) The chlorophyll content was constant until it decreased rapidly at the end of October. Other components that remained constant until the leaves appeared completely yellow were total protein content, photochemical efficiency and initial rapid recovery after high light stress. (2) At light saturation (2000 $\mu\text{mol photons m}^{-2} \text{s}^{-1}$) and ambient CO_2 concentration (360 ppm) maximum photosynthetic rate and stomatal conductance remained constant until the last few days before leaf abscission when they both reached zero. (3) Carotenoids, specific leaf weight, carboxylation efficiency, and the ratio of chlorophyll to membrane protein decreased linearly throughout the fall. (4) In contrast, respiration rates remained constant throughout the fall.

Social Institutions and Social Processes

Social Groups and Parental Interaction

Head Start: An In-Depth Examination

Julie Johanson, Psychology '98
ADVISOR: Barbara Beatty, Education

Head Start is an example of a successful early childhood program that addresses the educational and social needs of preschool children in the United States. By understanding and respecting the developmental needs of young children, this program offers a unique opportunity for children from low-income families to receive quality educa-

tional and emotional support so critical to healthy growth. Head Start provides social services, nutritious meals, health care programs, and an environment in which parental involvement in children's lives is absolutely essential.

African Art Education: Bridging Cultures, Bridging Institutions

Ana de los Santos, American Studies '98
ADVISOR: Corinne Fryhle, Davis Museum and Cultural Center

Through a curriculum unit on Ghana, Africa offered at a local public school, I have created a program using the Davis Museum and Cultural Center as a resource for elementary education where children learn through first-hand interaction with art objects. The curriculum introduces first grade students to a variety of ways to look at and understand African art, including consideration of aesthetics as well as the original context, function and meaning of individual objects. In addition to classroom lessons, students visit the Davis Museum where they focus on objects in the Spring '98 special exhibition, MEMORY: Luba Art and the Making of History. This program is a pilot for an ongoing curriculum-based collaboration between the DMCC and the surrounding public schools, sustained and implemented by the Museum's student docents and community volunteers.

Mother-Child Relationship in Infancy and Children's Response to Maternal Distress at 22 Months

Nikki Schall, Psychology '99
ADVISOR: Jonathan Cheek, Psychology

We examined longitudinal relations between the qualities of the mother-child relationship at 9 and 14 months — specifically maternal responsiveness to child and shared interactive positivity — and the child's empathic and unempathic responses at 22 months in 106 children (53 girls, 53 boys). The qualities of the mother-child relationship were measured using multiple behavioral markers of interactions observed in lengthy naturalistic contexts. Children's empathy was assessed by observing the child's behavior in a contrived laboratory situation when the mother pretended that the child hurt her

finger during play. Broadly ranging affective and behavioral reactions (direction of gaze, verbalizations, facial expressions, reparatory and comforting behaviors, overall distress, as well as aggression, ignoring mother, failing to comfort or make reparations) were coded. As expected, children in relationships characterized by higher maternal responsiveness at 9 months were more empathic to maternal distress at 22 months. Girls showed more empathic responses than boys.

Parental Involvement and Its Relationships to Optimism and Academic Motivation

Jenni Nute, Psychology '99 and Jocelyn Wong, Psychology '99

ADVISOR: *Julie Norem, Psychology*

Two types of parental involvement, academic and emotional, were examined in Wellesley College students. Parental academic involvement and student's academic motivation were thought to be mediated by locus of control. Parent-child emotional interactions and optimism were also thought to be linked. Each participant completed several questionnaires, while their parents and peers each completed one questionnaire. Positive parental academic involvement was correlated with higher motivation for academic work, but the relationship was not mediated by locus of control. Positive emotional interactions correlated with optimism, while negative emotional interactions correlated negatively with optimism.

Maintenance of Social Groups in a Matriarchal, Nonterritorial Species: The Killer Whale

Jakobina Arch, Biological Sciences and Medieval and Renaissance Studies '98

ADVISOR: *Nick Rodenhouse, Biological Sciences*

The study of grouping tendencies is a basic component of behavioral ecology. Usually, there are multiple causes for the formation and continuation of groups. In killer whales (*Orcinus orca*), however, I hypothesize that there is one primary cause: social benefit. Social benefit includes increased inclusive fitness, cooperation, and learning. The killer whale is exceptional because of the characteristics which arise from social benefit:

minimal intraspecific aggression, lack of territoriality, family groups with high inclusive fitness increasing group cohesion, low dispersal among groups, and promiscuous mating. To test the hypothesis, I used a cost-benefit analysis, i.e., is the presence of social benefit or the absence of costs associated with predation or resource limitation most influential for killer whale populations? I used a simulation modeling approach to assess costs and benefits in terms of their effects on population growth. Alternative life-history strategies were assessed by altering the model's structure and parameter values.

Negotiating through the Classroom: Influence of Preferred Playmates and Preferred Activities on Activity Selection of Preschoolers

Alison Goldberg, Psychology and Jewish Studies '98 and Sara DeLong, Psychobiology '99

ADVISOR: *David Pillemer, Psychology*

The influence of peers versus activity preference on activity selection was examined in children ages two to five at the Wellesley College Child Study Center. Observations of peer presence, teacher presence, and activity selection were made over a two week period. These observations were followed by individual interviews in which the children were asked to pick their top three preferred playmates and activities from a set of photographs of their peers and activity choices. Teachers were also asked to rate each child's top three preferred playmates and activities. Four- and five-year-olds were observed to spend significantly more time with their preferred playmates than at a preferred activity. Four- and five-year-old girls spent more time playing in their preferred activities than did boys of the same age. Four-year-olds spent less time with their preferred playmates when a teacher was present. It is expected that two-year-olds will spend significantly more time at preferred activities than with preferred playmates and that there will be fewer sex differences between boys and girls about how much time they spend with preferred activities or playmates. It is expected that there will not be a significant difference

between the amount of time three-year-olds spend with preferred playmates and preferred activities. Sex differences in the three-year-old classroom are unknown.

Spiritual Histories

Russian Orthodoxy of the 19th and Early 20th Centuries: Freedom or Subjugation?

Katherine Bourne, Religion and Russian Area Studies '98

ADVISOR: *Nina Tumarkin, History*

During the 19th Century the Russian Orthodox Church fell increasingly under state control. Despite the subjugation of the Church hierarchy, however, individual religious pursuits provided many, including women, an outlet for freedom of expression, an opportunity for personal initiative, and a source of comfort in difficult times. The developing Russian intelligentsia extensively debated Orthodoxy's conflicting aspects of freedom and subjugation, questioning religion's value to the individual and to society. Some members of the intelligentsia saw Orthodoxy as the key to establishing a utopian society, some saw it as an impediment to societal advance, and many others tried desperately to define meaning and purpose within its realms.

Sephardic Synagogues of Spain

Diba Daneshrad, Art History and Biochemistry '98

ADVISOR: *Fran Malino, Jewish Studies*

The origins of the Jew in the Iberian Peninsula have been clouded by legend and myth. According to Sephardic tradition, the Jews have occupied the Iberian Peninsula since biblical times. As control over the Iberian Peninsula changed, so did the treatment of Jews in that region. It was not until after the Christians regained control that the Jews were able to build beautiful synagogues. The largest population of Jews was centered in Toledo, where the largest of these synagogues can be found. Much of the Moorish influence on the synagogue architecture can be seen in the decorative work. This presentation will examine each synagogue individually.

Adaptations, Translations, and Transplantations

High/Low Culture

"A Dangerous Rome": Bringing *Julius Caesar* to a Modern Audience

Hannah Shay, Economics '98

ADVISOR: *Nora Hussey, Theatre Studies*

Because the soul of *Julius Caesar* is politics, I modeled Rome after Washington D.C. Unlike an ennobled vision of Rome, D.C. is a city we recognize easily as diseased with politics. I anchored the play in the 1930's, because American cultural perceptions of government during this decade reflect the plebeian attitudes in the play. This was also a time of political titans similar to those populating *Julius Caesar*. The language of the play describes people in contradictory extremes. People have been taught particular interpretations of the characters (Caesar as an evil tyrant vs. Caesar as a great populist thinker). I used two forms of propaganda to dislodge preconceptions and to immerse audience members in the political context of the play. One controversial staging choice was the brutality of Caesar's assassination. Textual clues towards a theme of powerlessness, as well as the body stabbed 33 times, justified an unusually cruel staging.

Blue Man Group

Pippa Zainoeddin, Art History '98

ADVISOR: *Patricia Berman, Art History*

Claes Oldenburg wrote in 1961 "I am for an art that is political-erotic-mystical, that does something other than sit on its ass in a museum." The current success of Blue Man Group's "Off-Broadway" performances in New York, Boston, and Chicago questions their validity as avant-garde performance artists because they walk the thin line between our traditional Greenbergian definitions of "high" and "low" art. Walking this thin line has been a theme in much of the art of the 1980s and 1990s. Given this trend, is there a place in the art world for artists who slip in and out of the traditional artistic categories of high and low art? In

this paper I use the Blue Man Group performance as a tool for examining what happens to our definitions of elite art when fringe performance becomes popular.

They Said, "Uh huh huh": A Conservative Analysis of Beavis and Butthead

Elizabeth King '01 and Jennifer Miller '00

ADVISOR: *Thomas Cushman, Sociology*

Beavis and Butthead of the popular MTV series, when explicated according to conservative social theory, come to represent mass man, who continuously endeavors to subvert the power of the elites.

Fundamentally, the nature of the battle between high and mass culture lies in the extreme polarization of the values of each culture. More specifically, reason, logic, and reality drive high culture, while passion, irrationality, and fantasy dictate mass culture. These principles of mass culture physically manifest themselves as kitsch, especially in the forms of television and rock music, which Beavis and Butthead use to threaten the ideals of civilization created by high culture. Socially corruptive, intellectually void, and morally deficient, Beavis and Butthead naturally assume leadership of a regressive uprising that encourages the destruction of high culture and, thus, catalyzes the collapse of civilization itself.

Images of Lesbian Film Noir

Jade Hoai, English '98

ADVISOR: *Vernon Shetley, English*

Revisionary works of film noir have recently emerged from both Hollywood and Hong Kong. They are best described as lesbian noir. Since it evolved from the traditional noir, the lesbian noir shares a number of characteristics with its predecessor. Among these characteristics are lighting, use of angles, and homosocial theory. However, coupled with these shared aspects are significant changes. The make-up of the audience has changed. The division of power on screen is more balanced between gender. Overall, the changes suggest that an evolutionary process is taking place, and as it continues, one may predict the next step: homosexual film noir.

Conflict and Contested Terrain

Art and Resistance

The Sacred and the Profane: Picasso and *Guernica*

Rachael Lerner, for Tau Zeta Epsilon

ADVISOR: *Patricia Berman, Art*

This presentation will look at Picasso's life and development through a number of his works, focusing on his revolutionary piece *Guernica*.

11:00 – 12:10

Gender and Sexuality**Women We Love****Antecedents and Identity: Melissa Etheridge's Self-Definition with Respect to Past Rock 'n' Roll Artists***Becky Soderman, Music '98*ADVISOR: *Martin Brody, Music*

As literary critic Harold Bloom writes in *The Anxiety of Influence*, artists refer to their antecedents both overtly and subtly. Recognizing the influence of and/or distinguishing oneself from past artists is a way of defining oneself. Singer/songwriter/composer Melissa Etheridge defines herself as a feminist and an out lesbian through her covers of songs by Elvis Presley, the Shangri-Las, and Janis Joplin. By comparing herself to Elvis and Joplin and contrasting herself with girl groups of the 1960s, Etheridge creates a persona that is more traditionally masculine than feminine, demonstrating the freedom of gender play for female rock musicians in the 1990s.

There Must Be Something in the Water: Students of Neighboring Towns Stricken with Peggy Fever*Catherine Malone, Art History '98 and**Rachel Li, Art History '98*ADVISOR: *Kathleen Harleman, Davis Museum and Cultural Center*

Peggy Guggenheim, a modern art collector who helped the art world flourish in the 1930s and 1940s, is one of art's most misunderstood and intriguing characters. In her art history thesis, Catherine Malone examines Peggy Guggenheim in her later, more reflective years. As tribute to a woman that only two Wellesley students could love, Rachel Li's studio art project synthesizes her studies of the Peggy Guggenheim modern art collection into a dress construction that incorporates into embroidery and beadwork design paintings by Piet Mondrian and sculpture by Alberto Giacometti and Alexander Calder.

Thelma and Louise: The Criminalization of the American Woman*Elizabeth Holzer '00 and Robin Olinsky '01*ADVISOR: *Susan Silbey, Sociology*

Traditionally, we think of our identity as the obdurate set of social precepts that confine us, straitjacket-like, to our traditional existence. In reality, our identity protects us, as much as it limits us. In committing a deviant act, the actor risks losing the normal identity and taking on that of the criminal. This is the fate of Thelma and Louise, the title characters of the movie *Thelma and Louise*. Our presentation uses these characters, incorporating excerpts from the film as one would quotes from a book, to illustrate the influence of identity in committing deviant acts.

Sexuality through the Ages**Wings of Inspiration: Nietzsche's Influence on Morality and Creativity in Mikhail Kuzmin's *Wings****Brenda Rogowski, Russian Area Studies '98*ADVISOR: *Judith Kalb, Russian*

Mikhail Kuzmin is the author of Russia's first and best-known gay novel, written in 1906. In this exceptional novel, Kuzmin questions definitions of morality and what is "natural." He also explores the transformative and creative power of love, beauty, and art. Kuzmin's beliefs are often quite similar to those of Friedrich Nietzsche, whose ideas on art and morality helped to inspire Russian literature's Modernist movement at the turn of the twentieth century. Although Kuzmin expressed dislike for Nietzsche's ideas, these ideas were inescapable in fin-de-siecle Russia's literary arena, and their influence is evident in Kuzmin's novel.

Lustful Concupiscence: A Study of Sex and Marriage as Portrayed in the Irish Penitentials

Jessica Snyder, History '98

ADVISOR: *Michael Moore, History*

The idea of human sexuality held a strange fascination for members of the church in the sixth and seventh centuries. Many ecclesiastical writings dwelt on this topic, but none in as much detail as the Irish penitentials. These handbooks, written as guides for priests hearing confession, enumerated every conceivable carnal sin, and suggested appropriate penances, providing a glimpse of early medieval attitudes towards sexual activity. The purpose of penance was to cure sin by replacing it with purity. Although early medieval Christians considered any lustful act to be sinful, the penances varied in their severity. Why were some acts considered more sinful than others, and how were the assigned penances supposed to cure the sinner?

Representations of Hermaphroditos in Hellenistic and Roman Art

R. C. E. Tatem, Classical and Near Eastern Archaeology '98

ADVISOR: *Miranda Marvin, Art and Greek and Latin*

Hermaphroditos, the son of Hermes and Aphrodite, first appears in Greek inscriptions, literature, and material culture in the fourth century B.C. The earliest references place him in a religious context, and it is not until the first century B.C. that the details of his myth survive. Possessing both male and female sexual characteristics, much of his iconography in art is drawn from Aphrodite, and representations have been found in a number of different media and archaeological contexts. While the number of Greek inscriptions and representations of Hermaphroditos are limited, during the Roman period his popularity explodes. He is the subject of a number of wall paintings from Pompeii, and even table legs onto which he is carved have been found in houses. On a fundamental level, these

representations all seem to have a talismanic function, although the presence of Hermaphroditos in the decorative arts seems to suggest a more complicated function for this complex character.

Acquiring the Self

Growing Up: Studies of Youth and Childhood

The Role of Friendship in Preschoolers' Collaborations During Problem-Solving and Creativity Tasks

Meredith Gunlicks, Psychology '98

ADVISOR: *Sheila Brachfeld-Child, Psychology*

The purpose of this study was to determine how friendship status affects preschool collaborators' ability to solve a cognitive problem and to be creative on an artistic task. In addition, the children's interactions during these two types of tasks were compared. Children from the Wellesley College Child Study Center were paired with a friend or an acquaintance and asked to work collaboratively to solve a cognitive problem and to produce a creative design with magnets of various colors and geometric shapes. Verbal, non-verbal, and task behaviors were coded and the designs produced on the creativity task were rated. The effects of friendship status, task requirements, gender, and age will be discussed.

Can Modeling Encourage Student Learning without Decreasing Intrinsic Motivation?

Kimberly Davidson, Psychology '98

ADVISOR: *Beth Hennessey, Psychology*

One of the greatest challenges in teaching is to encourage and support student learning without diminishing intrinsic motivation. Observations collected by Professor Beth Hennessey in a fourth grade classroom were coded and analyzed. The classroom teacher supported student learning through praise and positive reinforcement, and also used a technique called modeling. Throughout the day, she highlighted examples of desirable classroom behavior to positively reinforce students and demonstrate to the rest of the class what was expected. Few studies have examined modeling techniques. Instead,

research has focused on the “hidden costs of reward.” In other words, tangible reward (including verbal praise) can often serve to decrease student motivation and hinder performance. A review of the research on intrinsic motivation and the effects of rewards reveals that modeling may be an effective technique that can be used by teachers to encourage student learning and appropriate classroom behavior without decreasing intrinsic motivation.

The Effects of Listening to Music on the Creativity of College Women and Preschool Children

Carolyn Osterwalder, Psychology '98
 ADVISOR: *Beth Hennessey, Psychology*

Two investigations assessed the effect of music on creativity. In Study I, college women listened to a Mozart sonata, a Mendelssohn piece, or a relaxation tape. Participants then completed a measure of verbal creativity and made a collage. In Study II, preschool children either listened to the Mendelssohn piece or participated in a relaxation “game.” All participants then made a collage and told a story to accompany a picture book without words. It was hypothesized, in Study I, that subjects listening to the Mendelssohn selection would earn the highest creativity scores on both creativity measures. Subjects in the “no music” condition were expected to earn the lowest creativity scores. It was hypothesized, in Study II, that subjects listening to Mendelssohn would earn higher creativity scores on both the storytelling and collage-making tasks than would subjects in the “no music” condition. Results will be discussed.

Children of Disabled Parents: How Disability Affects Growing Up

Jeanne Lukacek, Biochemistry '98
 ADVISOR: *Adrienne Asch, Reproductive Issues*

The children of disabled parents were studied to determine the effects the disability had on their childhood. This was completed from the view point of both the disabled parent and the non-disabled child. The literature from the parents was researched and examined. How, if at all, do they see their disability affecting their child's development? The children themselves were

studied through their literature and through original interviews. How do they perceive their childhood? When they compare themselves to others, what do they think of their experience? Recurring themes were found throughout both viewpoints. One of these themes is that the disability is only one variable in the lives of the parents and children, and cannot be isolated to determine the quality of parenting or the quality of childhood.

Becoming a Writer

Finding a Voice While Writing across the Disciplines

Sonal Khullar, Political Science '00, Rachel Findley, English '98, and Kerry Cooke, English D3

ADVISOR: *Alex Johnson, Writing Program*

As Writing Tutors, we find ourselves on both sides of the academic looking glass: helping fellow students solve writing problems in various disciplines, as well as struggling with our own work in those very disciplines. In both cases, we are searching for ways to focus argument, synthesize primary and secondary sources, and organize evidence within papers. Above all, though, we are concerned with establishing a voice in the work while writing for multiple disciplines. We would like to address this topic while touching on larger aspects of the writing experience at Wellesley such as the writing process, argument, organization and revision. We will discuss solutions to many of the problems students cite when writing for multiple disciplines.

Science and Technology

Lakes, Soil, and the Things That Live There

Our Commons

Myna Joseph, Studio Art and Biology '98
 ADVISOR: *Carlos Dorrien, Studio Art*

The essential tragedy of Lake Victoria, East Africa, is that this lake is a common resource. It once was the site of the fastest known example of evolution of many species from one ancestral species, but now it is the site of the greatest vertebrate mass

extinction of our times and largest inland fishery in the world. This piece focuses in general on the human implications of ecological problems at the lake and specifically on women's roles in and access to the Lake Victoria fishery, a deteriorating public commons. Through dialogue and images, the complexity of perspectives on and interpretations of dilemmas that arise from human interactions with natural resources is examined.

The Mechanism of Cyanophycin Formation in the Cyanobacterium *Anabaena* sp. Strain PCC 7120

Ting Bao, Biochemistry and English '99
 ADVISOR: *Mary Allen, Biological Sciences*

A previous study on the cyanobacterium *Anabaena* CS 336, an argC minus mutant of *Anabaena* sp. strain PCC 7120, suggested that there may be a second pathway for strain 7120 to make cyanophycin, a nitrogen store in cyanobacteria. In the current study, cells were grown for at least 48 hours to obtain exponentially growing cells. Then they were starved for nitrogen for 12 hours before adding NH₄⁺ and chloramphenicol. Results show that the ratio of cyanophycin to chlorophyll decreases from 2.4 in exponential cells to 1.5 in cells starved for nitrogen for 12 hours, and then increases to 3.9 twelve hours after chloramphenicol was added; the ratio of cyanophycin to dry weight decreases from 2.2% to 0.4%, then increases to 0.8% under the same growth conditions. These results confirm that there might be two pathways to make cyanophycin in the cyanobacterium *Anabaena* strain 7120.

Urban Light Pollution Alters the Diel Vertical Migration of Freshwater Zooplankton in a Suburban Lake

Hannah Walsh, Biological Sciences '99 and Stephanie Pierce, Biological Sciences '98
 ADVISOR: *Marianne Moore, Biological Sciences*

Zooplankton in both freshwater and marine ecosystems use light as a stimulus for their diel nocturnal migrations. The relative change in light intensity acts as the cue that initiates this daily migration. Some animals

are extremely sensitive to light levels and avoid complete migration in full moonlight. It was predicted that urban light pollution would decrease the amplitude and magnitude of zooplankton vertical migration in urban lakes. Black and clear plastic, cylindrical enclosures were deployed vertically in the water column within a half hour of sunset in Lake Waban, a suburban lake near Boston. Zooplankton within the enclosures and at open lake sites were sampled at three depths. The migration of *Daphnia retrocurva* was significantly greater in amplitude and magnitude in the black enclosures than in the clear and lake treatments. The results supported the hypothesis that urban light pollution is sufficient to inhibit diel vertical migration of zooplankton.

The Effects of Wastewater Irrigation on the Quality of the Oak Forest Soil Organic Horizon as Determined by pH and Cation Exchange Capacity

Sophie Parker, Biological Sciences '99
 ADVISOR: *Marianne Moore, Biological Sciences*

Soil quality was studied in forest plots irrigated with wastewater from the Falmouth Sewage Treatment Plant in Cape Cod, Massachusetts. The exchange acidity and base saturation of soils collected along an irrigation gradient were measured to determine the effects of wastewater irrigation on cation exchange capacity (CEC). As a simple measure of soil quality, CEC is the sum of soil exchange acidity and base saturation. In general, CEC of the soil decreased with irrigation. With increasing distance from the spray head, the pH and exchange acidity of the soil increased, while base saturation decreased. High concentrations of base cations such as Na⁺ and Mg²⁺ in the wastewater caused an increase in soil base saturation close to the spray head. Protons forced off soil exchange sites complexed with NO₃⁻ and leached from the system, and this loss of protons caused an elevation in the pH of soils receiving high wastewater inputs.

Differential Protein Expression Induced by Heat Shock in the Cyanobacterium *Synechocystis* sp. Strain PCC 6308

Keren Lisa Witkin, *Biological Sciences '98*
 ADVISOR: Mary Allen, *Biological Sciences*

Expression of heat shock proteins was induced in *Synechocystis* sp. strain PCC 6308 by transferring the cells from 35° to 45°C. Protein separation by two-dimensional electrophoresis revealed that heat shocked cells produced two proteins of approximately 10-15kD which were absent in cells grown at the conventional temperature. When control and heat shock gels were transferred to nitrocellulose membrane and probed with an antibody to cyanobacterial Hsp60, the protein was found to be more abundant after heat shock. Exponential phase cells were pulse labeled with a ³⁵S protein labeling mixture at 35°C and after distinct time intervals at 45°C. Total protein expression was found to decrease drastically under heat shock. Cells exposed to the higher temperature for more than five minutes exhibited preferential expression of several distinct proteins. Proteins of approximately 60kD, 70kD, and 100kD reached maximum expression at 30 minutes of heat shock, while an approximately 25 kD protein peaked after 60 minutes.

The Effects of Growth Medium, Breaking Buffers, and Low Temperature Storage on the Exopolyphosphatase Activity of *Synechocystis* sp. Strain PCC 6308

Kyung Hee Yi, *Biological Chemistry '98*
 ADVISOR: Mary Allen, *Biological Sciences*

The specific activities of the enzyme exopolyphosphatase in *Synechocystis* sp. strain PCC 6308 cells grown in three different types of media were determined: 1) normal #11 media grown for four days, 2) media with low sulfur and excess phosphate grown for four days, and 3) media with low sulfur and excess phosphate for four days and transferred to media with no phosphate for one day. The cells grown in the different media were broken in two different buffers, HEPES (50 mM, pH = 8) and PIPES (50 mM, pH = 6). PIPES buffer was found previously to keep the cytoplasmic membrane more intact for localization studies than HEPES buffer. Enzyme activity in HEPES and PIPES buffers needed to be determined before further localization

studies. Exopolyphosphatase activity in HEPES buffer was greater than that in PIPES buffer for cells grown in medium 2. PIPES buffer showed enzyme activity for the cells grown in media 3, whereas the product in HEPES buffer did not give stable spectrophotometric readings. Enzyme activity for cells grown in normal media was approximately the same in HEPES and PIPES buffers. The significance of the difference in activity was determined through repetitive assays. Crude extract storage at 4°C does not prevent enzyme activity loss.

Effects of Inhibition of Protein Synthesis on Polyphosphate Synthesis in the Cyanobacterium *Synechocystis* sp. Strain PCC 6803

Krystal Hernandez '01, Jennie Seeg '01, and Tanyka Wilson '01
 ADVISOR: Mary Allen, *Biological Sciences*

Cyanobacteria produce polyphosphate when they are starved for sulfur in the presence of excess phosphate. In order to determine if other inhibition of protein synthesis would also increase the polyphosphate content of cells, the cyanobacterium *Synechocystis* sp. strain PCC6803 was grown in the presence of lincomycin, protein synthesis inhibitor that inhibits the transcription of RNA in Gram negative bacteria. Lincomycin was added to cells once they entered exponential growth. A concentration of 0.5 µg/ml lincomycin caused the leveling off the growth rate. If more than 0.5 µg/ml of lincomycin was added the cells lysed; any less and the cells continued exponential growth. The presence or absence of polyphosphate will be determined using NMR spectroscopy. Other inhibitors of transcription, such as actinomycin D, will also be tested for their ability to cause polyphosphate.

Analysis of a *gfp-flhN* Gene Fusion and its Incorporation into the Flagellar Motor of *Escherichia coli*

K. Nicole Clouse, *Biological Chemistry '98*
 ADVISOR: Drew Webb, *Biology*

The bacterium *Escherichia coli* swims by rotating a flagellar filament powered and directed by a motor at its base. This motor is a complex, precise structure consisting of many different proteins that work together to direct the rotation of the attached flagellar filament. An *in vivo* examination of one of

these motor proteins, FliN, was performed by studying a gene fusion between green fluorescent protein (*gfp*) and *fliN*. Although this fusion was shown to be unstable in wild-type cells, it became almost completely stable when a mutation was introduced in the gene for the cytoplasmic protease *lon*. It was also shown that the *gfp-fliN* fusion complemented the motility defect of strains containing a null mutation for the *fliN* gene, and that the ability of these $\Delta fliN$ strains to exhibit chemotaxis was restored by introducing the *gfp-fliN* fusion.

Social Institutions and Social Processes

Religion and Transcendent Experience

Meditation: The Dialogue and the Journey

Mary Gottmann, *Religion '98*

ADVISOR: T. James Kodera, *Religion*

A major spiritual development is occurring in today's world: Eastern and Western religious traditions, especially Hinduism, Buddhism and Christianity, are engaging in interreligious dialogue. A primary way of approach is through the meditative path each tradition includes. The thought of three important figures in the Dialogue is discussed: Thomas Merton, Bede Griffiths and Ruben Habito. The issue of accommodating the Christian God to the non-theistic Eastern traditions is investigated, and some common ground is pointed out. The Journey of an interreligious meditator is described in terms of change and development. A new Christian contemplative community active in The Dialogue is discussed. Finally, some conclusions are drawn for the future of world religion.

Influence of Religion on Social Values among Chinese- and Euro-Americans

Gloria Chyou, *Psychology '98*

ADVISOR: Paul Wink, *Psychology*

The influence of religion on social values among Chinese- and Euro-Americans was studied by comparing Protestant, Catholic, and Agnostic college students from the University of California at Berkeley. As expected, (a) Agnostic students (irrespective

of ethnicity) were less traditional and conservative in their beliefs than religious students, and (b) Catholic students embraced stronger universalist values than Protestant students. For Catholic and Agnostic students, ethnicity did not have an effect on the overall pattern of scores on measures of openness to new experience and traditionality of values. However, Protestant Chinese-American students scored significantly lower on the measure of openness than their Euro-American counterparts. This result was attributable to stronger religious belief among Chinese-American Protestants. The relation between ethnicity and religion in shaping and expression of social values is discussed.

Characters in Crisis: Self Awareness through Tragedy in Theodore Dreiser's *Jennie Gerhardt*, Willa Cather's *O Pioneers!*, and Ernest Hemingway's *A Farewell to Arms*

Lindsay Meade Bigoness, *English '98*

ADVISOR: William Cain, *English*

The protagonists in the three novels undergo hardships which spark their personal crises. As their wills are tested, the characters question life's significance. Yet Dreiser's *Jennie Gerhardt*, Cather's *Alexandra Bergson*, and Hemingway's *Fredric Henry* endure these seemingly daunting challenges. The novels explore the redeeming value of suffering as a catalyst for the protagonist's higher consciousness. An examination of each author's intricate and distinctive use of language illuminates their characters' reflections. In the face of immediate tragedy, the three characters gain an intensified awareness of their environments, of the meanings of love and loss, and of their individual strengths and perceptions.

Religiosity and Control: Is There a Relationship between the Two?

Farrah R. Berse, *Psychology and Jewish Studies '99*

ADVISOR: Julie Norem, *Psychology*

In this study of Wellesley College students the possible relationship between religiosity and control was studied. Participants completed questionnaires assessing religiosity levels on three subscales (intrinsic, extrinsic, and quest orientations) and desire for control. In addition, participants performed a group decision-

making task and then filled out a questionnaire assessing their level of perceived control and level of satisfaction with that amount of control. The results from the questionnaire were used to validate the results on the desire for control scale. Intrinsic religiosity and desire for control were found to have a curvilinear relationship.

The Village Market in the Global Economy

Market Women: Visual and Literary Portraits of Women Vendors in Oaxaca, Mexico

Cindy E. Ko, International Relations '98

ADVISORS: *Lorraine Roses, Spanish and Judith Black, Studio Art*

I can still hear the sound of her voice, loud over the din of crowds, traffic and other street sounds, her words dragged out in a slow, thick nasal cry, advertising the sale of chiclets and a handful of razors beside 20 de Noviembre Street in Benito Juárez Market in the heart of downtown Oaxaca. To the newcomer, the markets of Oaxaca offer a sensory feast of colors and odors and sounds. One could spend countless hours wandering through the veritable maze of fruit stands and clothing stalls in the vast, complex markets of Oaxaca. Through introductions made by my personal contacts who lived, worked or studied in the city, I met some of the women who sold in these markets. The result of those meetings and conversations is a book of portraits and interviews in which they reveal something of their work and their lives and, as I learned, some of the enormous differences in economic and social standing among them and the markets in which they worked.

Time and Social Experience

Where Does the Time Go? How Wellesley Students Use and Experience Time

Cynthia Chang, '99, Erin Collins '99, Antionette Harmon SX, Saba Jearld '99, Carol Kim '00, Amanda Lucas '99, Alison Ross '99, Ida Rothschild '99, Sarinna Sivilay '99, and Erin York '99

ADVISOR: *Susan Silbey, Sociology*

Our presentation is based on eight surveys of Wellesley College students conducted by the members of the Sociology 301 Research

Methods class. We discuss our findings in terms of our hypotheses, which were modeled after various sociological theories related to the use and experience of time. Topics and theories explored include: the relationship between a student's socio-economic status and her experience of time at Wellesley; the relationship between time management and stress; the distribution of time in activities designed to gain both cultural and social capital; Cooley's Looking Glass Self; perceptions of cyclical and longitudinal time; future orientation and career expectations; family background, immigration, and career expectations; risk taking behavior and time; and finally, how the process of choosing a college affects the use of time at college.

Adaptations, Translations, and Transplantations

Thinking about the Literary

"What Is That Awful Sound?": Images of Sound in the Poetry of William Wordsworth and Percy Bysshe Shelley

Julia Pastore, English '98

ADVISOR: *Alison Hickey, English*

The assertion of an active Imagination, or the ability of the mind to "half create" meaning, is one of the most important themes in Romantic poetry. Wordsworth and Shelley use sound imagery to assert the mind's creative power. Sound's bodilessness, sourcelessness and nonsymbolic nature necessitate the use of an active Imagination to make meaning of the experience. Images of sound play an important role in many of Wordsworth's poems, such as "On the Power of Sound," "There Was a Boy," and such lyrics to birds as "To the Cuckoo." Shelley's "Hymn to Intellectual Beauty," "Alastor" and "To a Skylark" use images of sound to assert the mind's creativity. Through an analysis of specific poems and a discussion of the characteristics of sound which make it particularly suited to assert an active Imagination, my research presents an analysis of how and why Wordsworth and Shelley chose to emphasize sound in much of their poetry.

Underground: Land and Inheritance in Seamus Heaney's Poetry

Bridget Henry, English '98

ADVISOR: *Alison Hickey, English*

In poems such as "Digging," "Punishment," and "Glanmore Sonnets," Seamus Heaney uses land and earth imagery to explore issues of inheritance. In part because of his own agricultural background, Heaney associates familial inheritance with concepts of land and earth. In his earliest works, he addresses the complexities of inheritance by examining the individual's struggle to maintain familial tradition and his concurrent desire to emancipate himself from the constraints of such traditions and develop his own interests and talents. This examination of familial inheritance leads to a broader exploration of the implications of inheritance among larger groups, particularly the Irish as a cultural and political community, and, further, an examination of literary inheritance. Heaney's search responds to Stephen Dedalus' deterministic concept of history as a nightmare from which he is trying to awake; but does Heaney himself awake?

The Power of the Name

Alia Yap, English '98

ADVISOR: *Larry Rosenwald, English*

Where does identity reside and how is it undermined? Using James Fennimore Cooper's *The Last of the Mohicans* and Toni Morrison's *Song of Solomon* I explore the modes of identification that society uses to name its subjects and the ways in which these named subjects resist, accept or manipulate their given identity. In addressing *The Last of the Mohicans*, I show how Cooper's novel is in part a documentation of his investigation of the plasticity of name. I contend that he is playing with the boundaries of identity and looking for ways to isolate or control identity if and when it becomes unbound, as when the hero disguises himself as a bear, a white man is mistaken for an Indian, or when a white woman is disguised as an Indian woman. In addressing *Song of Solomon*, I look at how identity or a name is preserved, either through the written word or through oral tradition.

Conflict and Contested Terrain

War, Resistance, and After

The White Rose: Political Analysis and Social Context of a Youth Resistance Movement in Nazi Germany

Sarah Stevenson, History '98

ADVISOR: *Jonathan Knudsen, History*

After distributing leaflets and painting anti-Nazi graffiti on buildings in and around Munich University between 1942 and 1943, six members of a German resistance group known as the White Rose were arrested, tried, and executed for treason. Approximately thirty others were imprisoned and persecuted for their involvement with this movement. In most works concerning resistance to the Third Reich, the members of the White Rose resistance group are presented as the "pure and moral resistance, neither power- nor interest-oriented." My research seeks to challenge this perception and expand historical analysis of the White Rose. This presentation will provide insight into this facet of German youth resistance to Nazi totalitarianism through an analysis of their political motives and resistance theory as evidenced in their leaflets, as well as treatment of their specific social context.

The Possibility of a German Jewish Identity in Postwar Germany

Jill Rubin, History '98

ADVISORS: *Frances Malino, Jewish Studies and History and Thomas Nolden, German*

Though a small community of German and eastern European Jews re-established Jewish life in Germany after the Second World War, many regarded their stay in Germany as temporary and insisted that no Jews should live there after the Holocaust. They viewed German society warily and refused to plan for the future of a German Jewish community. Many Jews, however, did stay. Their children grew up in an atmosphere where their identity and existence as Jews in Germany was questioned by their parents, German society, the worldwide Jewish community and themselves. It is this generation, however, who sought to answer this question. Many responded by leaving Germany. Others decided to affect change by

becoming politically active and challenging German society, the established German Jewish community and the worldwide Jewish community. They began to forge a new identity for themselves as Jews living in Germany, and their assertiveness has impacted their children's generation.

The Diplomacy of Apology: Germany and Japan's Apologetic Behavior for World War II

Melissa Fay Schwartz, International Relations '98

ADVISOR: *Robert Paarlberg, Political Science*

Why do countries apologize for past actions, and why do they choose not to? Looking at two very different examples of apologetic behavior can help us find the answer. Since 1953, Germany has expressed remorse for the Holocaust through government statements and the payment of restitution to the state of Israel and individual victims. However, Japan has been reluctant to apologize for its aggression during WWII. While some claim that cultural differences and the mentalities of the people can explain this dichotomy, I do not agree. My hypothesis is that apologies are made for international and domestic political reasons. Both West Germany and Japan wanted to reenter the international system and regain respect, but the Cold War and alliance with the United States required different actions from the Japanese and the Germans at the time. Domestic political issues in the countries also influenced apologetic behavior.

The Divided Self

Generations: Being South Asian in America

Lakshmi Ramarajan, International Relations '98

ADVISOR: *Katie Griswold, Physical Education*

Thala is a group of women who share a love and need for performance as a mode of personal expression. Entitled Generations, this piece is a combination of dance (choreographed by Anindita Basu '00) and the spoken word. It depicts the passing of generations, the changing of immigrant culture, and the double-edged sword of being South Asian and American in America. The cultures we live in nurture a part of us even while they restrict a part of us. Through the performance

of South Asian classical dance, American jazz and a wide variety of music and literature we attempt to express what we are as a generation of South Asians in America. This is a work in progress.

Creative and Performing Arts

Art and Multimedia

The Vanishing World of Tibet

Lian Jue, Art History '98

ADVISOR: *Naomi Ribner, Studio Art*

For the past four decades, the Tibetan culture has been threatened with extinction since the People's Liberation Army of China invaded Tibet in 1950. In order to "liberate" the Tibetans from their theocratic form of government and incorporate the region into the Communist motherland, Tibet's 6,000 monasteries were destroyed, religious freedom restricted, its people tortured, raped, and imprisoned, and its natural resources exploited. Consequently, 1.2 million Tibetans have died to date. The genocide of their peaceful culture continues despite increasing support from the West. Artistic expression can be a powerful medium to bring attention to their plight. Created through computer imaging, these banners are a celebration of the beautiful, yet vanishing, people and land of Tibet. I hope that audience members will feel connected with their suffering, and ultimately, be more aware of the horrific violations of their human rights after viewing this exhibition.

A Dialogue

Janet Si-Ming Lee, Multimedia Arts '98

ADVISOR: *Naomi Ribner, Studio Art*

"A Dialogue" is a senior-thesis multimedia project presenting an interactive poetry-art anthology. This project aspires to illustrate an intimate poetic "dialogue" between my mother, a Chinese immigrant to the U.S., and me, a first-generation Chinese-American. Through a personalization of the Chinese and English languages "conversing" to each other as would, for example, a Chinese-American perceiving the alien words of a Chinese-born person, the implications of different perspectives arising from the generation gap and cultural differences will be explored.

1:30 – 2:40

Gender and Sexuality**Never Done: Issues of Women's Work****Staying Home: A Photographic Essay***Rebecca Sher, Studio Art '00*ADVISOR: *Judith Black, Studio Art*

This presentation is based on my documentation of an at-home mother/child dyad and the isolation that results for a woman who chooses to stay home with her newborn. Once, mothering was another link in life's social connections. Women were surrounded by extended family members and other mothers at home raising their babies. Currently, with many women returning to professional careers after giving birth, the result is a lack of support systems for those choosing to stay home. Last July, my friend Abby had her first child, Jonah, at 35 years of age. She left behind her established social and business networks to be home with her son. Her sudden sense of being cut off from familiar connections reminded me of my own experience fifteen years earlier when I'd stayed home to care for my newborn son. Though the circumstances were a bit different, (I was 20 years old and had left extended family and college), the feelings of isolation were similar. Over a three month period, I photographed Abby and Jonah on a weekly basis. This body of work is a combination of the visual documentation and the narrative text transcribed from a taped conversation with Abby.

Constructing Power through Food-for-Work Programs in El Alto, Bolivia*Ann Ochsendorf, Anthropology '98*ADVISOR: *Sally Merry, Anthropology*

Each year thousands of women in the migrant city of El Alto haul stones, build cobblestone streets and dig sewage lines in exchange for food donated by the U.S. Agency for International Development. In a city characterized by cultural hybridity and economic instability, the food-for-work programs have become a site for the contes-

tation of political power and identity (on both the local and global level). The food-for-work programs are part of the neoliberal development model and the advancement of U.S. hegemony in Bolivia. The programs are then refashioned within the local cultural and political context of El Alto. The women workers, in turn, negotiate the political and economic structure of the food-for-work programs in order to advance their own individual and family position.

The Effect of Federal Child Care Policies on Female Labor Supply*Jennifer Yeung, Economics '98*ADVISOR: *Joseph Joyce, Economics*

As it has become more socially acceptable and economically necessary for mothers of young children to work outside the home, more women consider the decision between staying home to care for their children and working in the labor force. Choosing the latter necessarily means finding alternative care for their children, which may present a significant barrier to employment. This presentation uses state-level data between 1986 and 1996 to investigate the relationship between child care policies and the labor supply behavior of mothers with young children.

Working Women: An Analysis of the Variables that Influence Women's Weekly Labor Hours*Alison Pan, Economics and Psychology '99*ADVISOR: *S. Brock Blomberg, Economics*

Economic theory proposes that working hours are determined by wages. Yet many other variables such as age, education, and experience influence our decision to work. Women, in particular, are influenced by family and social factors. The number of children, ages of these children, marital status and spousal income will likely change the number of hours she commits to the workplace. Regression analysis allows economists to study how each of these individual variables will change women's weekly labor hours. The software program,

RATS (Regression Analysis Time Series), allows the researcher to study sub-groups. Thus certain types of women could be compared to each other: "married, college-educated women" or "unmarried, educated women with children" and other conceivable sub-groups. For example, we find that single women will increase their hours more than married women if they obtain a college degree.

Women and Their Bodies

The Role of Fashion Advertisement in Dictating the Ideal Body Image of Women and Men

Zoë Stinchfield, *Psychology '98*
 ADVISOR: Linda Carli, *Psychology*

This presentation examines the change in the ideal body image of women and men in fashion magazines, as represented in the chest-to-waist and waist-to-hip ratios of male and female models in fashion magazines during 1980-1995. Eating disorders such as anorexia nervosa and bulimia have been increasing over the last several decades, and it is thought that socio-cultural factors are responsible for this pattern. I hypothesized that the chest-to-waist ratios of men and women would begin to decrease while their waist-to-hip ratios would begin to increase. This would demonstrate a trend toward a "tubular" and androgynous body shape. My hypothesis was confirmed, and I suggest that this ideal body image is a difficult and unrealistic body type to achieve. These results support the conclusion that the media, especially fashion advertisements, are correlated with the increase in eating disorders for both men and women.

Do Menstrual Hormones Influence the Circadian Rhythms in Cutaneous Blood Flows?

Yoo-Lee Yea, *Biological Sciences '98*
 ADVISOR: Mary D. Coyne, *Biological Sciences*

Core body temperature (CBT) is a summation of two rhythms that alter a set-point in the hypothalamus of the brain. Cutaneous blood flow adjusts the CBT to its new 'set-point' by heat gain or loss. We investigated the changes of this blood flow over 24-hour (circadian rhythm) and 28-day menstrual

periods (monthly rhythm). We found that there was an increase in skin temperature, i.e. blood flow, in the hands (distal) and a decrease in heart rate at night compared to daytime, suggesting a decreased sympathetic tone. However, skin temperature in the torso (proximal) decreased, suggesting there may be competing controls on skin blood flow in the proximal versus distal areas. We hypothesize that the hormone, melatonin, released nocturnally, may act directly on proximal blood vessels to cause vasoconstriction. We are investigating whether the reproductive hormones further modify the circadian rhythms of cutaneous blood flow during the menstrual cycle.

The Effects of Acculturation on the Perception of Body Image in Women of South Asian Descent

Gagan S. Khera, *Psychology '98*
 ADVISOR: Elissa Koff, *Psychology*

The main purpose of this study is to compare South Asian women (e.g., Indian, Pakistani, Bengali, etc.) at varying levels of acculturation on body image variables and factors such as parental expectations, perfectionism, religiosity, and self perception that can influence body image. Very few research studies have focused on South Asian women in the U.S. in general and there appear to be no published studies that address body image in particular. It is important to study South Asian women as an individual group because research conducted on East Asian populations (e.g., Chinese, Japanese) has found results unique to each culture. It will be interesting to see whether within the South Asian population there are correlations between higher or lower acculturation and body proportion dissatisfaction, drive for thinness, height and body weight satisfaction, bulimic behaviors, concern over mistakes, personal standards, perfectionism, and internalization of societal norms.

Acquiring the Self

Memory I

Adult Attachment and Early Childhood Memories

Susan K. Camuti, Psychology '98

ADVISOR: *David Pillemer, Psychology*

Attachment theory identifies the quality of parent-child interactions as a critical determinant of healthy emotional development. Similarly, social interaction theory of autobiographical memory formation places parent-child co-construction of narratives as central. While attachment theory has been looked at extensively with respect to infant-parent separation, as well as adult parental and romantic roles, little has been done relating attachment status and the construction of autobiographical memory. A questionnaire has been administered to 100 Wellesley College students, assessing both attachment status and memory for early childhood events. Participants will be placed in one of four adult attachment categories (secure, dismissing, preoccupied, or fearful), and analyses will determine whether adult attachment status is predictive of the affective content of early childhood memories, age at the time of the remembered experiences, and whether the experiences were talked about with a parent at the time.

The Effect of Aging on Memory and Acetylcholine Levels in C57BL/6Nia Mice

Laurie Ann Burlingame, Biological Sciences and Psychology '99

ADVISOR: *Joanne Berger-Sweeney, Biological Sciences*

We used a commonly tested strain of laboratory mice, C57BL/6Nia, for our study of normative aging effects on different types of memory. In this study, mice of three ages, young (4 months), middle (17 months), and aged (25-26 months) were run through a behavioral battery. Mice performed spatial, spatial reversal, and cued navigation tasks in the Morris water maze to examine non-spatial and spatial reference memory, and were run in an odor discrimination task to test non-spatial reference and working memory. Basic reflexes, anxiety in a plus

maze, and locomotor activity were also measured. The results show that aged mice are impaired relative to young mice in both non-spatial and spatial reference memory in the absence of differences in reflexes and anxiety. Generally, middle-aged mice performed intermediately between the young and aged mice. Neurochemical assays are currently being performed to see if these behavioral deficits can be linked to age-related alterations in acetylcholine levels.

An Examination of the Mechanism Underlying Implicit Memory for Novel Word Associations

Anita Kishore, Psychology '98

ADVISOR: *Margaret Keane, Psychology*

Performance on many tasks can be influenced by prior experiences even if one is not deliberately recalling those experiences. This form of unconscious memory for prior events or experiences is referred to as implicit memory or priming. Amnesic patients demonstrate normal priming even though they cannot explicitly or deliberately remember recent events. One theory that attempts to explain this pattern of spared and impaired memory performance predicts that amnesic patients should not show priming for novel word associations. Experiments designed to test this prediction, however, have yielded mixed results. The present study tests the following hypotheses: 1) Tasks in which amnesic patients show normal associative priming tap implicit memory for novel *perceptual* associations; and 2) Tasks in which amnesic patients show impaired associative priming tap implicit memory for novel *conceptual* associations. These hypotheses are tested by examining how new-associative priming is affected by perceptual and conceptual manipulations in normal cognition.

Neonatal Catecholamine Depletion Affects Behavior in Adult Mice

Suzanne A. Henry, Psychobiology '98

ADVISOR: *Joanne Berger-Sweeney, Biological Science*

Previously we have shown that 5,7-Dihydroxytryptamine (5,7-DHT) lesions of the basal forebrain region in neonatal mice produce long-lasting decreases in cortical

and hippocampal norepinephrine and serotonin that persist into adulthood. In addition to persistent alterations in neurochemicals, the lesions produce long-lasting alterations in the animal's behavior. In adulthood, lesioned mice perform a simple delayed non-match to sample (DNMS) odor discrimination task faster and more accurately than control mice. Using this task with lesioned and control mice, we could not determine whether the improved performance of DNMS was related to alterations in working memory or attention. In order to distinguish between these possibilities, we modified the simple DNMS task by adding multiple presentation trials. Control mice are able to learn these tasks; we are now testing 5,7-DHT lesioned mice on the revised protocol to more accurately assess lesion-induced alterations in performance.

Identity and Social Awareness

Miss "identity"

Ann E. De Leon, Biochemistry '99, Skye Yayio Drynan, Spanish and Latin American Studies '98, Thaisa Alvarez, Political Science '98, Maria Carmen Larios, Latin American Studies '00, Emily Harvey, Environmental Science and Spanish '98, Ellen M. Hoobler, Latin American Studies '98, Mala S. Shah, Latin American Studies '98, and Xochitl Leon, Economics '99

ADVISORS: *Margorie Agosin, Spanish and James Oles, Art History*

Bilingual readings of Latin-American women authors and presentation of original student work focusing on the issue of identity and Miss "identity." Latin-American women's concerns are not just exclusive to an isolated community, but serve as a springboard to inspire a wide range of social, personal, artistic, and global issues. The effect of the "Wellesley experience" on personal change, growth and self-awareness is an underlying theme in some of the works to be presented by students. The bilingual readings, poetry, and creative writings to be presented are an invitation to the Wellesley community to experience the diversity, beauty, and poetry of the Spanish language while fostering social awareness.

Science and Technology

Surfing the Web

The Schneider Board of Governors (SBOG) Webpage

Kim Hoang, International Relations and Studio Art '00 and Jessica Brown, English '99

ADVISOR: *Randy Shull, Computer Science*

The Schneider Board of Governors (SBOG) web page's five links, related to our rainbow theme are the History of SBOG, the Calendar of Events, Who are we?, Recent Events, and a link to a suggestion box. The most important link is the Calendar of Events page because it is a useful method of promoting events that SBOG programmed for the semester. The other links provide the viewer with a background of the board, the past events it programmed, and how a student interested in becoming a part of the board can apply. This page also explains the Wellesley College entertainment board for viewers who are unfamiliar with the campus. The SBOG web page includes several interactive components for the viewer such as an image map of this year's members, a suggestion box, and sound clips of upcoming performers.

Web Site Design

Iris Kuo '00 and Kelli D. Moore, Psychology '98

ADVISOR: *Randy Shull, Computer Science*

Web page design is a growing resource tool, form of advertising, and creative expression. The challenges offered by web site design include balancing client wants with technological abilities, harmonizing ideas with partners, and the actual design process. We discuss how we collaborated with clients and demonstrate our finished web page. The design included in the discussion will be the techniques and applications used to create the page.

Wellesley on the Web: The Wellesley College Traditions Homepage

Amy Gembala, Philosophy '00 and Chimi Tornow, Economics and Political Science '00
 ADVISOR: *Randy Shull, Computer Science*

It's been said that a list of all the traditions at Wellesley could fill a book. The Wellesley College Traditions Homepage focuses on four of the most celebrated of them: Flower Sunday, Hooprolling, Junior Show, and Stepsinging. All have helped to define "the Wellesley experience" since the last century and are especially important today as a unifying bond for our diverse student body. The web site's interlinked pages, viewed in a web browser, provide a glimpse at some of the lighthearted moments in the history of these traditions. The design features hypertext markup language (HTML) and historical photographs in a graphical interface. The site pays tribute to the power of traditions to shape the common identity, spirit, and pride of Wellesley women.

Rockets, Rocks, and Bones

Student-Run Program for Exoatmospheric Collecting Technologies and Rocket Experiment (SPECTRE) Software Engineering Unit

Achieng' Reggy, Computer Science '98
 ADVISOR: *Jennifer Stephan, Computer Science*

SPECTRE is a sounding rocket experiment being developed for NASA's student launch program by Boston University, in collaboration with Wellesley College. The experiment involves the collection and storage of scientific data using a sounding rocket. The instruments aboard the rocket will measure solar radiation (x-ray, photon, and UV) at different altitudes and store this experimental data in on-board flash memory. The data will then be used to determine atmospheric absorption at various wavelengths. A Graphical Users Interface was created using Java programming language, to decode the data and transform it to a more useable format for scientific analysis. The software was designed to be user-friendly and applied fundamental principles of software engineering including modularity, abstraction, and evolvability. In the event that the memory

chips in the rocket are not recovered, a telemetry system has been established to send the experimental data to a NASA ground station by means of a radio transmission link. The software was designed to work with data from either source.

Radiometric Dating of an Oligocene Tuff from the White River Formation Near Douglas, Wyoming

Jessica Scott, Geology '99
 ADVISOR: *Margaret Thompson, Geology*

Volcanic ash layers, or tuffs, from the Oligocene White River Formation near Douglas, Wyoming have been correlated with the Upper Purplish White Layer (UPW) of western Nebraska and Ash J from the Flagstaff Rim in central Wyoming. Another tuff, which may correlate with a layer at Douglas, is the Lower Whitney Ash (LWA) of South Dakota and Nebraska. Reported ages for the LWA, UPW, and Ash J, are 31.85 Ma, 33.59 Ma, and 34.48 Ma, respectively. Three tuff samples are being dated based on the $^{40}\text{Ar}/^{39}\text{Ar}$ ratios in biotite and the radiogenic Pb levels in zircon to confirm suggested correlations, to constrain the age of the Whitneyan land mammal age boundary and to place the Douglas area within the global time scale for the Oligocene.

Predicting Swimming Styles of Cetaceans Using Flexibility and Osteo-Morphometric Data

Adrienne Elena McKee, Biological Sciences '98
 ADVISOR: *Emily Buchholtz, Biological Sciences*

Cetaceans propel themselves via undulation of the flukes. This method of generating motion contrasts sharply with that of the oscillation of axial limbs as seen in propulsion of land-dwelling tetrapods. Yet Cetaceans, including sea and river dolphins, porpoises, and belugas, are aquatic descendants of terrestrial quadrupeds. How did the vertebrae column evolve to allow for this sort of propulsion? Are there clues in the ways in which modern delphinids swim that can be used to predict flexibility and morphometric parameters of extinct species? This project makes use of video-taped observations and osteological data concerning *Delphinaterus*, *Tursiops*, and *Inia* species to form a hypothe-

sis that relates swimming and post-cranial measurements. This hypothesis will first be used to predict the swimming patterns of live species, including *Phocena phoceana* (harbor porpoise) as a test to analyze its accuracy before predicting the swimming styles of extinct species.

Mapping Expedition to Gold Butte, Nevada

Sarah Parrott, Geology '99

ADVISOR: *Margaret Thompson, Geology*

The Gold Butte block is located in the southeastern corner of Nevada. It is included in the Basin and Range Province near its border with the western part of the Colorado Plateau. The Basin and Range Province is an area where the crust has been massively extended, or pulled apart. Previous geologists have interpreted the Gold Butte block as a crustal section rotated to the surface. The MIT Field Geology class, 12:144/155, traveled to Gold Butte to do geologic mapping of the area, from January 5 through January 29, 1998. Because the detachment fault — along with the block that would have been rotated — runs between the basement and overlying strata, the tipped crustal section model seems unlikely. The experience of field study is an essential part of a geologist's education, which is impossible to attain through classroom or laboratory work.

The Age and Significance of the Calf Island Sill Complex, Boston Harbor, Massachusetts

Janet Sarson, Geology '98

ADVISOR: *Margaret Thompson, Geology*

Calf Island in Boston Harbor is upheld largely by sills that formed when molten magma intruded parallel to and partially melted Latest Precambrian Cambridge Argillite. Both the sills and the enclosing argillite are folded. Since the youngest documented episode of folding in southeastern New England dates from the Permian period, the current rendering of these sills as Lower Jurassic on the Bedrock Geologic Map of Massachusetts (Zen, 1983) clearly is incorrect. I have documented and interpreted the mineralogy and crystallization history of gabbro samples from the sills.

Through isotopic analysis of zircons extracted from the gabbro, I will determine a precise age for the sills. Bulk chemical analyses allow compositional comparisons between this intrusion and others in the Boston area and farther afield. By untangling the age and geological significance of Calf Island, I may be able to expose a hitherto unrecognized aspect of the magmatic history of New England.

Social Institutions and Social Processes

Politics and the Law

Perceptions and Realities of Women's Legislative Efficacy: Republican Women of the United States House of Representatives

Jennifer Schaaf, History and

Political Science '98

ADVISOR: *Christina Fastnow, Political Science*

I will present a study of the levels of legislative activism demonstrated by female Republican members of the United States House of Representatives from 1917 to 1946. In the earliest period of women's membership in the House of Representatives, approximately half of the women who served gained their seats through appointments or special elections to fill seats vacated by their close relatives. The other half of these female legislators gained their seats independently of familial connections. In addition to assessing the importance of gender differences between male and female legislators, I intend to prove that female relatives behaved differently from female non-relatives in the legislative arena. I will demonstrate that relatives did not participate in the legislative process as fully and successfully as non-relatives. This study rests on the belief that the way in which a Member of Congress is elected impacts her behavior once in office.

Privacy on the Internet

Anne Sterman, *Political Science '98*

ADVISOR: Tom Burke, *Political Science*

Because the nature of the Internet is such that it depends upon mass participation in order to maintain its value as a broadly-based source of information, privacy advocates argue that protecting privacy rights on-line is the most important way to maintain the Internet's integrity. Since the technical nature of the Internet is such that a web site operator may gather data about visitors both with and without their knowledge, the issues of privacy surrounding user data threaten to discourage large numbers of users from the Internet as their fear of privacy violations increases. Surveys reveal that privacy is the number one concern of Internet users as they increasingly experience violations of their privacy on-line. Given the pressing nature of the privacy issue, the Internet industry is proposing a method of allowing users and web sites to communicate about their privacy preferences and practices.

Issues in National Development

Gender Divisions and Community Participation: Overcoming Real and Imagined Obstacles to the Implementation of Community School Programs for Girls in Pakistan

Chavi Keeney Nana, *International Relations '00*

ADVISOR: Joel Krieger, *Political Science*

Preconceived ideas about the status of women in Islamic societies color popular opinion and inform development program policy targeted at combating social ills in Islamic nations. These expectations often prove false, and development agencies find themselves attempting to overcome obstacles which simply do not exist. The Fellowship School Programme, conceived in 1993 at the Balochistan Education Foundation, establishes and funds community-run, primary schools for girls in urban slum areas of Karachi. Program coordinators expected to encounter staunch opposition to female education and adopted an aggressive approach in soliciting community support. Over 70 percent of the participating commu-

nities, however, showed immediate support for the program. While the status of women in Pakistan remains substandard and awareness of gender restrictions is crucial to program success, community school promoters found themselves re-evaluating personal opinions and organizational policy on gender norms as often as they asked communities to re-examine their own ideas.

The Effects of Human Capital Variables on Household Earnings among the Chimane Amerindians of Lowland Bolivia

Victoria Hood, *Spanish CE4*

ADVISOR: Brock Blomberg, *Economics*

Original data collected in the summer of 1995 is analyzed to examine the effects of human capital variables, such as education, work experience, and speaking Spanish, on household earnings among the Chimane Amerindians of Lowland Bolivia. Although many similar studies have been done in Latin America with respect to native groups already well-integrated into national economic systems, this is one of the only known studies to examine such variables in a culturally isolated group. The findings indicate that even among a primary autarkic group such as the Chimane, human capital attainments, in general, do have interesting impacts on household earnings.

Women and Water: The Ganga River at Varansi, North India

Avantika Rao, *Environmental Science '98*

ADVISOR: Nick Rodenhouse, *Biological Sciences*

My research focuses on a year of study and research abroad in the city of Varanasi, which lies at a highly visited ritual bathing spot on the holy river Ganga. Multiple lenses and media through which river pollution is seen and experienced are explored, including: interviews with fifty local women on their relationship to the river and pollution; work in the local water quality laboratory; interviews with activists working to clean up the river; and interviews with the American environmental engineers designing the next sewage treatment plant for the city. My results describe the attempts of residents of a changing city to describe their spiritual and scientific ideas of "pollution" and express

their faith in foreign technology. I conclude that risk perception is subjectively influenced by traditional ideas (e.g. about pollution and “West is best”), that a “feminine” image of the river is strongly linked to the reality of pollution, that the decision-making processes are currently selectively participatory, and that the transplanting of technology from developed to developing nations is problematic.

**Politics, Economics, and Demographics:
The Push Factors for International
Migration from Mexico and Algeria, 1962
to the Present**

Kate E. Marshall '00

ADVISOR: *Gallya Lahav, Political Science*

The explanation for the large migratory flows from Algeria to France and from Mexico to the United States lies in the unique mix of sociological push factors and the multifaceted historical relationship between the countries of emigration and those of immigration. Sociological push factors (i.e., conditions in the countries of emigration that predispose inhabitants toward migration) can, for both Algeria and Mexico, be placed in one of three broad categories: political, economic, and demographic. The circumstances denoted by these broad categories, when coupled with historical programs of labor recruitment between the countries of emigration and those of immigration, offer a compelling reason as to why migration from Algeria to France and from Mexico to the United States exists. Comparing the sociological push factors at work in both Algeria and Mexico against the backdrop of the pull factor of historical relationships with the perspective host countries explains migratory flows between Algeria and France and Mexico and the United States, as well as presaging for the future.

**Adaptations, Translations,
and Transplantations**

Crossing Genres

**Science-in-Literature: A Study of Three
Contemporary Fiction Writers Who
Dramatize the Lives of Scientists in
Their Work**

Rachel Findley, English '98

ADVISOR: *Marilyn Sides, English*

Carl Djerassi, Andrea Barrett, and Alan Lightman are three contemporary authors who incorporate “real science,” not science fiction or fantasy, into their works of literary fiction. Because these authors are contemporary, they provide a current look at the ways in which science is being dramatized in literature. They use scientific issues, scientific concepts, science history, and scientists themselves as the material of their fictions. The intersection of science and literature is seen in their writing on the levels of both plot and language. The work of each writer is inflected by their different scientific disciplines: chemistry, physics, and biology. The motives of these writers range from the instructive to the purely literary. Because of their dual expertise in science and in fiction writing, these authors, and the reactions of the literary and scientific worlds to these texts, provide an opportunity to reflect upon C. P. Snow’s classic essay “The Two Cultures.”

**From One Woman to Another: The
Journal as Connective Link Between
Women in Two Francophone Novels,
Juletane and *So Long a Letter***

Kamaria Wolf, French '98

ADVISOR: *Michele Respaut, French*

Sharing one’s story is a common form of expression in women’s experience and literature. *Juletane* by Myriam Warner-Vieyra and *So Long a Letter* by Mariama Bâ both relate stories, set in Senegal, of women who use writing as a tool to examine a faltered marriage and its ramifications in their lives. For *Juletane*, in the novel of the same name, her journal records her inability to escape eventual madness. In contrast,

Ramatoulaye, in *So Long a Letter*, uses her journal-letter as a way to assign meaning to her experience as well as to chronicle her movement out of an unhappy situation. I propose to examine the two women's use of writing as a commentary upon their experiences: How do the intended readers influence the context of the writing? What is the journal's effect on the actual reader? And in what ways do the journals serve as a literary mirror?

The Space of Genius in David Alfaro Siqueiros's *Portrait of George Gershwin*

Eugenia Beh, Art History '99

ADVISOR: *James Oles, Art History*

Although perhaps the most celebrated American composer of the 1920s, George Gershwin occupied an ambiguous position in the music world. His fame and talent as an entertainer were undisputed; his integrity and ability as an artist were frequently questioned by the musical establishment. Tension between his seemingly contradictory styles is evident in his *Concerto in F* (1925), which takes elements from the New York musical vernacular and presents them in the form of a classical piano concerto. In *Portrait of George Gershwin*, painted by his close friend, the Mexican artist David Alfaro Siqueiros, Gershwin is represented performing this concerto in a space evoking the music he plays. Comparing the painting and the score, I consider how references to music and "genius" begin to emerge in Siqueiros's work, suggesting a relationship between composition in painting and orchestral arrangements, and between music and art in general.

"What thoroughness! What realism!": Jay Gatsby as Film Producer

Gretchen Buck, English '98

ADVISOR: *Michael Cooper, English*

Much of F. Scott Fitzgerald's fiction is termed "cinematic" because it employs imagery, dialogue, and the effect of camera techniques, creating a memorably audio-visual experience. He builds upon this theme by introducing characters who are associated with the film industry. *The Great Gatsby* takes this fascination with cinema one step

further by posing Jay Gatsby as a movie producer. When he returns from war to find his love married to another, Jay Gatsby puts his efforts and newly acquired fortunes into getting her back. Gatsby's efforts at impressing Daisy include all of the aspects of producing a movie: he writes the story and dialogue, constructs sets with meticulous detail, and creates and steps into the role of the leading man. His romance story fails to reach its happy ending, however, because he refuses to step out of his movie world and into reality.

Issues in Translation I

Phonetic Perception of Japanese Devoiced Vowels by Speakers of English

Yasuko Amy Endo, Language Studies '98

ADVISOR: *Andrea Levitt, French*

Unlike other languages, Japanese vowels /i/ and /u/ demonstrate a unique phenomenon where the vowels become devoiced vowels when found between voiceless stops (/k/ and /t/) and (/sh/). For example, the first /i/ in the word 'kikai' meaning "machine" becomes devoiced when found between two voiceless stops. Adult learners of a second language often display difficulty in perceiving or discriminating non-native speech sounds. Therefore, native speakers of Japanese language can produce and discriminate the different devoiced vowels, whereas listeners not familiar to Japanese may perceive the two devoiced vowels as identical.

The Relevance of Diglossia: Puerto Rico in the Early 20th Century and Black English Today

Alyssa L. Langlais, Anthropology and Language Studies '98

ADVISOR: *Andrea Levitt, French*

Diglossia was first introduced by the linguist Charles H. Ferguson in 1959 as a term that describes linguistic situations in which two or more varieties of a language are used for separate purposes within a linguistic community. The High variety is generally used for prestigious purposes such as education and government while the Low variety is used for everyday conversation. As originally proposed by Ferguson, the applica-

tion of the term carries specific requirements. However, linguists such as Joshua Fishman and James Tollefson have recently introduced a broader set of criteria which recognizes the wide range of variability across situations with diglossic qualities. This poster session examines the relevance of the term diglossia in two linguistic communities: among bilingual speakers of Spanish and English in Puerto Rico in the 1920s and 1930s and among bidialectal speakers of Black American English and Standard American English in the United States today.

Conflict and Contested Terrain

Border Tensions and Intergroup Conflict

Tibet under the Rule of Communist China

Jennifer Rockwitz, International Relations '00

ADVISOR: *Yuan-chu Lam, Chinese*

Self-determination in Tibet has become a widely debated subject. Following the military deployment of the People's Liberation Army (PLA) in 1959, the Dalai Lama, the spiritual and temporal leader of the Tibetan people, was exiled to Dharmasala, India. The fourteenth Dalai Lama is different from all of his predecessors. He holds symbolic significance as the keeper of Tibetan culture and religion. Even though the average person does not know much about Tibetan history, they respect the Dalai Lama and want to help his cause. This presentation will summarize the accomplishments of this unique figure and introduce the Tibetan society he left behind.

Korean Minority in Japan

Eun Sun An, Japanese Studies '98

ADVISOR: *T. James Kodera, Religion*

In 1910, Japan annexed Korea as part of its growing empire, and the Korean people were forced to undergo an aggressive process of assimilation. The colonialists sought to erase Korea's indigenous culture and attempted to replace it with a transplant of Japanese social structure and beliefs. Despite their legal status as Japanese citizens, ethnic Koreans found themselves to be an isolated minority group, excluded from any meaningful participation in Japanese society. The insolubility of

Koreans was due to the very ideology that served as the motivation and justification for Japan's imperialism. Under the Family State (*kazoku kokka*) system, the state exceeded a mere political entity and instead came to be identified as an extended family unit, inextricably linked by a common bloodline. It was this blood that distinguished the Yamato people of Japan from all the others. In a societal construct that equated racial uniformity with superiority and membership, integration proved illusive for Japan's Korean minority.

Beyond Track Two Diplomacy in the Israeli-Palestinian Conflict

Molly R. Levinson, Political Science '98

ADVISOR: *Linda Miller, Political Science*

The Israeli-Palestinian conflict is a protracted social conflict that is perceived as intercommunal in nature since the end of the Cold War. Methods of conflict resolution have not fully acknowledged the need for asymmetry of power between the two communities or a system that addresses the differing cultures of the two groups. This presentation will address the need to develop new methods of conflict resolution in light of the realization that the conflict is intercommunal and the possibilities for new methods that can be developed.

Contrasting Images

At the Center of Community

Sarah Andress, Studio Art and

Art History '99

ADVISOR: *Judy Black, Art*

In my photographic comparison of two communities, I am examining what lies at the center of communities: what are they formed around and what keeps them together? The two communities I have chosen, one in Chicago centered around the historic Pullman manufacturing plant and one in Cambridge, Massachusetts centered around a historic Baptist church, are both made up of a diverse grouping of people who view their communities in very different ways. And although the people who make up these societies are so varied, there still exists a strong total of experience, which I believe is due to the physical and

ideological bases that both of the communities have. I explored these places with my camera, both photographing and talking to people. I got very varied responses from all of the people I talked to, but I learned a lot about people and the places they call home. Those are the things I want to show in this project.

Creative and Performing Arts

Three Fictions: Excerpts from Creative Theses

Good Dog

Gwendolyn Stead, English and Psychology '98
 ADVISOR: *Marilyn Sides, English*

This fable-like story is told through the voice of Barney Burry, an all-bark, no-bite kind of guy, who just can't win. When a stray dog shows up at his apartment, disturbing his peace of mind and ruining his chances for love, Barney is determined to throw the dog out. But the dog won't leave willingly, and his arrival sparks a series of strange events that will change Barney's feelings about love, canine and otherwise, forever.

Living Without Morality

Jamie Kiffel, English '98
 ADVISOR: *Yu-Jin Ko, English*

This thesis, written in the form of a novel, follows the adventures of Pepper, a young man who is convinced that he has obliterated his identity. Pepper, a misogynistic genius, provokes questions about immorality vs. amorality, the definition and endurance of self, solipsism vs. evil, and insanity. Pepper's narration is at once convoluted and poetic, often challenging the reader to decide if he is a trustworthy storyteller or merely a madman. The novel strives to test the boundaries of how far a reader will trust his or her narrator simply because he is the only guide provided. Ultimately, the novel leaves space for the reader to complete the story with his or her own judgment of what is true.

3:00 – 4:10

Gender and Sexuality

Film Selves: Gender, Sexuality, and Ethnicity

The Representation of Women in Post-War Italian Cinema Read Through the Historical Context of the Feminist Movement in Italy (1970's-1990's)

Maruta Vitols, *Italian Culture '98*

ADVISOR: Flavia Laviosa, *Italian*

Gender undoubtedly affects a film director's view of women. This perception, then, is translated on screen through the presentation or invalidation of female stereotypes. Furthermore, this representation of women often reflects the contemporary cultural climate. This is certainly the case for the films by Italian women directors. Four works by Francesca Archibugi, Liliana Cavani, and Lina Wertmüller all examine women's issues and voice the concerns of the developing feminist movement in Italy from the 1970's through the 1990's. *The Night Porter* (Cavani, 1974) metaphorically illustrates the growing self-awareness of women and their demand for equal rights. *Swept Away...* (Wertmüller, 1974) and *Sotto...sotto* (Wertmüller, 1984) both offer critiques of the culturally constructed sexual hierarchy, as well as of the traditional gender roles. Finally, *Verso sera* (Archibugi, 1990) presents the continuing discussion of a woman's place in society, specifically addressing the issue of motherhood.

Impotence and Emasculation in the Hitchcockian Male

Maria San Filippo, *Film Studies and Political Science '98*

ADVISOR: Vernon Shetley, *English*

After viewing more than a dozen of legendary director Alfred Hitchcock's works, I have documented several recurring narrative themes. When considered concurrently, these repeating elements construct rigid gender roles for Hitchcock's characters. The result is the creation of a cinematic role

which can definitively be termed the Hitchcockian Male, and which is the basis for numerous criticisms from feminist film theorists of Hitchcock's alleged misogyny. This Hitchcockian Male is characterized through a repeating cinematic process: an initial tragic emasculation, followed by suffering due to ensuing impotence and incompetence, leading finally to redemption through the necessary submission of a formerly confident and capable female character. Using video accompaniment as visual "proof," I will trace this conception of the Hitchcockian Male by examining closely a few of the more illustrious themes: impotence in *Vertigo*; voyeurism in *Rear Window*; homoeroticism in *Strangers on a Train*; and female sexual promiscuity in *Notorious* and *The Birds*.

Representations of Chicana Sexuality in American Film

Camila Alarcon, *Women's Studies '98*

ADVISOR: Geeta Patel, *Women's Studies*

Theoretical approaches concerning the representations of Chicanas in American films have not been extensive and rarely diverge from the virgin/vamp dichotomy. Renditions of this include the "good" Catholic girl who unavoidably goes "bad," or the illustrious image of the over-sexualized Chicana, already fully fetishized and even more ready to serve the white man. Other representations, conversely, leave the Chicana devoid of any desires. She is hard-working, saintlike, usually a mother figure, whose main purpose in life is to keep the family together. Although this virgin/vamp dichotomy is rampant in most American films, and especially those produced by or in the style of Hollywood, I am mostly interested in addressing other modes in which sexuality is portrayed. After all, reading the Chicana representations in film is more intriguing and complicated than what the stringent virgin/vamp dichotomy implies.

Acquiring the Self

Memory II

Processing of Visually Presented Pictures

Molly Colvin, Psychobiology '98

ADVISOR: *Margaret M. Keane, Psychology*

Priming is a form of implicit memory which measures the effect of prior exposure to a stimulus on subsequent identification of the stimulus following a delay. In this study, the predictions of two competing theories of perceptual priming were tested. The bias mechanism theory predicts that prior exposure to a stimulus (e.g., a butterfly) will facilitate subsequent identification of the stimulus. However, the bias mechanism theory also predicts that prior exposure to a stimulus (e.g., a butterfly) will hinder subsequent identification of a different, but perceptually similar stimulus (e.g., a bow tie). In contrast, the perceptual representation system theory predicts that prior exposure to a stimulus will only facilitate subsequent identification of that stimulus and will have no effect on subsequent identification of perceptually similar stimuli. The present study examines the conditions under which identification of pictures is enhanced or hindered by recent exposure to identical, similar, or dissimilar pictures.

Memory and Identity

Robin Combs, Architecture D3

ADVISOR: *Geeta Patel, Women's Studies*

Life is a series of change, of letting go of old ways of being that do not work anymore. Those old ways of being are connected with memories, people, and idealism that is lost. Yet, these things make up our past, and the past is the place from which each of us lifts our foot and puts it down in the present. It is the thing that draws people of like experiences together and shelters them against isolation. Though we are constantly moving away from our past, we carry it with us and draw from it to make sense of our present. To hold these things, we name them, show them in art, and tell them in stories. Through sculpture and memoir I have

recorded my past, considering both how it has shaped who I am and the difficulty of integrating who I have been with who I am becoming.

The Embodied Past: Memory, National Fantasy, and Autoethnography

Janet Sarson, Geology '98

ADVISOR: *Geeta Patel, Women's Studies*

Memory is activated and enacted in negotiation with objects, such as photographic representation and memorabilia. I am interested in how personal memory and national fantasy about the past intersect to produce differences organized around class, race, and sexuality. I use personal narrative and questions around the narrative to explore the above issues. These questions include: What are repositories of memory? How are personal objects that embody memory, like photographs, albums, family stories, and our very bodies, continuous with "nationally" sanctioned objects that carry national history or memory, like newspaper stories, statues, commemorative sites, and museum exhibits? Presenting with Robin Combs, I will read from a work which is interdisciplinary, based in memoir and drawing on historical studies on memory, political questions and engagements around nationalism and commemoration, and anthropological literature on autoethnography.

Self-Exploration: Four Creative Journeys

Grandpa

Ting Bao, Biochemistry and English '99

ADVISOR: *Marilyn Sides, English*

This is a chapter from *Chinese Root*, a novel-in-progress about a Chinese girl and her family's experience in the late 1970s, the waning days of the Cultural Revolution. In this chapter, entitled "Grandpa," the main character recalls her family's return from exile in the provinces to live with her grandparents in Beijing. It shows the separations and disruptions brought by the Cultural Revolution, that enormous national upheaval, to an ordinary Chinese family.

Glancing at Myself

Arienne Eyre Miller, Political Science '99

ADVISOR: *Alexandra Johnson, Writing Program*

My poetry is my truth. Everything I am and want to be is in my poetry. All that is, or has ever been true about myself, is somewhere in my writing. It is my art, my expression, and my therapy. Every awful thing I have ever felt about myself I have tried to write down. Everything that I have been too afraid to write down, or has been too painful to write down, still haunts me to this day. Poetry is how I remember things based on the way I feel. It is history told from the perspective of my own unique truth. My words, no matter what form they may take, can never be a poem if they are not truthful. Every bad poem I have ever written has been a record of the lies I have told myself. My poetry is my truth; and without it I cannot see myself.

Waiting

Adriana A. Alba, Political Science '98

ADVISOR: *Maurizio Viano, Italian*

It is in the search and wait to find ourselves that we gain knowledge of who we really are. We find out what inspires or spiritualizes us, what frightens us or what hurts us. We come to know how to comfort ourselves in times of despair. I explore this gradual unfolding and discovery of the self in my film/video project entitled "Waiting." The story reveals the magical relationship that exists between the self and the soul, and the injury that results in losing contact with the inner self. The film/video contrasts the intimate wait to recover the soul with the common instances in our everyday lives in which we wait for things to happen. I hope to uncover a greater self awareness in the viewer through this project.

Science and Technology

The Art and Science of Multimedia

ADVISOR: *Takis Metaxas, Computer Science*

In the spring of 1998, a course entitled "The Art and Science of Multimedia" was offered. Pairs of students with complementary talents formed teams that produced creative and challenging interactive multimedia projects with varying themes. This interactive presentation will give the attendees the opportunity to learn about the creative and technical details of such projects.

"Brainstorm" (Achieng' Reggy '98 and Catherine Wu '99) is an interactive thought journal where users get to express their thoughts and feelings on various issues presented to them in several ways. Users find themselves inside the brain and are allowed to walk around and explore a number of rooms within each of the different chambers of the mind.

"The Walls of the Davis Museum" (Penny Locklear D4 and M. Florencia Garcia '00) engages the user in a virtual tour of the "art" of Wellesley's Davis Museum. It is divided into two parts: The art of the Davis Museum and the Davis Museum as art.

"Shel's World" (Tiffany "Spiff" Fehr '00 and Johanne Blain '00) is a multimedia entertaining exploration of Shel Silverstein's poetry and songs for enthusiasts of all ages. Our multimedia project features a variety of techniques and interaction that promotes learning and poetry appreciation.

"A Gallery for the People's Princess" (Kathleen McCorry '99 and Wona Park '98) is an interactive photo gallery CD ROM looking at the life of the late Princess Diana.

"Not Quite Everything You Wanted to Know About Jazz" (Tracie Lee '00 and Yelena Nakhimovsky '00) is an interactive experience with information on the sometimes intimidating genre of jazz in a fun, upbeat manner.

“Underground Activities” (Purdy Ho ’00 and Carrie McCobb ’99) is a study of volcanic activities in the Pacific Rim focusing on the history and geology of the region, and the way it affects people’s lives.

“The Interactive Museum” (Deborah Gaz ’98 and Jessica Ciocci ’99) is a virtual interactive museum for the average person’s experience in art.

“Into the Woods” (Kristin Olson ’00 and Caroline Tsai ’99) is an interactive game loosely based on the musical with the same name. The player has to find her way around this forest by consulting characters coming out of popular tales.

Better Living through Physics

The Physics of Piano Tuning

Laura Foxman ’01 and Elaine Ulrich ’01
 ADVISOR: *Ted Ducas, Physics*

We investigated the process of tuning a piano using basic principles of physics as well as computer Fourier analysis of sounds from pianos, tuning forks, and electronically-generated tones. The piano is a complex instrument composed of many strings stretched to different tensions. The frequencies of vibrations of the strings can be changed by varying the tensions. Tuning a piano involves adjusting the frequencies considering factors of both absolute and relative pitch, where pitch is related to the perceived frequency. Relative frequencies can be determined by observing “beats” or differences between played notes. We consulted with an expert piano tuner who illustrated the use of beats in tuning a piano. Setting the proper relationship among the notes in a scale, or temperament, involves a compromise from ideal mathematical relationships made necessary by the physical properties of the strings as well as human perception.

To Spin or Not to Spin: That Is the Question—The Physics of Basketball Bounce Passes

Akhila Balasubramanian ’00 and Erin Lunde ’00

ADVISOR: *Ted Ducas, Physics*

Basketball coaches claim that the ideal bounce pass is one with backspin that bounces two-thirds of the distance to the target. The purpose of this project was to test the validity of this claim. We analyzed the translational and rotational motions of bounces with initial backspin, topspin, and no spin, using Newton’s second law of motion, energy concepts, and rotational dynamics. We made measurements by videotaping the trajectory of the ball before and after the bounce. We analyzed the video frame by frame to determine the position and orientation of the ball as functions of time. We found that a bounce pass delivered with backspin does indeed leave the floor at a greater angle than it initially hit and results in the lowest final speed of the ball. The angles and speeds of the bounces were in agreement with the force and energy analysis of the motion.

Physics of Crop Rotation, a.k.a. Modified Plant Geotropism on a Rotating Platform

Elizabeth Donnell-Fink ’01, Neira Hajro ’01 and Francis Tyler Wellensiek ’01

ADVISOR: *Ted Ducas, Physics*

We observed the effect on corn seedlings of growing on a platform in uniform circular motion. The objective was to measure the effect of this accelerating reference frame on their geotropism: the tendency of the plants to orient themselves along the force of gravity. Corn seedlings were grown on a constantly rotating turntable for seven days. We observed that the corn stems were inclined towards the center of the turntable with the plants at greater distances from the center of the circle at greater angles of inclination than those at lesser distances. This dependence is what one would expect based on the hypothesis that the plants respond to the effective gravitational force they experience in their rotating coordinate system. This effective force acts at an angle

which increases with increasing radial acceleration, and the radial acceleration increases with distance from the center of rotation.

Social Institutions and Social Processes

Competition and Protectionism

Trade Protection in the United States I: How Much Is Too Much?

Caroline B. Faris, Biology and Economics '99
 ADVISOR: *David L. Lindauer, Economics*

The International Trade Commission ("ITC") determined, according to the Tariff Act of 1930, that the U.S. coumarin industry was materially injured by imports from the People's Republic of China. The Department of Commerce ("Department") affirmed that coumarin was sold at less than fair value in the domestic U.S. market, and an anti-dumping duty was placed on imports of Chinese coumarin. In making this determination, however, both the ITC and the Department considered very selective evidence and information. The ITC determination that Chinese coumarin dumping occurred was the result of a number of protection biases. This makes potential benefits from freer international trade difficult to realize due to the protection of inefficient domestic industries. To assess the situation from a more objective perspective, additional causes for material injury are taken into account.

Trade Protection in the United States II: How Much Is Too Much?

Sonal Khullar, Economics '00
 ADVISOR: *David L. Lindauer, Economics*

The International Trade Commission (ITC) investigation of increased Canadian imports of wheat, wheat flour, and semolina into the United States is an unusual case. The United States, the world's largest exporter of wheat, found itself being concerned with excessive imports. The party bringing a claim of material injury before the Commission was not a hurt industry, but a US government department whose programs protect the

farm industry. The effect of increased imports on these programs, which are an indirect form of protectionism, was called into question. The circumstances surrounding the dispute are unique to the commodity: wheat is an agricultural product that is heavily protected and receives both extensive price support and export subsidies. Indeed, the case before the ITC was one of interventionism compounded: an extensive price support system led to the provision of large export subsidies, which, in turn, led to increased imports and the institution of barriers to trade. Because wheat is not allowed to respond naturally to the market forces of supply and demand, this interventionism has serious consequences on social welfare. I examine the decision of the ITC, analyze its economic effects, and suggest alternative measures.

Microsoft's Windows 95/Internet Explorer Package: Effects on Competition in the Software Industry

Ayesha Malhotra, Economics '98
 ADVISOR: *Susan Skeath, Economics*

The Antitrust Division of the Justice Department filed a petition against Microsoft in October 1997 claiming the software company operates in contempt of a consent decree the firm signed in 1995. Microsoft pledged not to transfer its monopoly power in operating systems into other markets. Microsoft currently controls 85% of the operating system market with Windows. By bundling Windows 95 with Internet Explorer, a browser, Microsoft is allegedly violating the consent decree which states that Microsoft may not require computer manufacturers who license Windows to also license any other software product. The economic implications of the case focus on how Microsoft's integration strategy is anti-competitive and harms consumers. The effects on the marketplace look at Microsoft's main competitor in the browser market, Netscape. A guilty verdict will set a unique legal precedent in the software industry.

Antitrust and the Medical Professions: An Investigation of Price-Fixing Conduct in Physician Networks

Juliana Catherine Wu, Economics and Mathematics '98

ADVISOR: *Susan Skeath, Economics*

Rapid changes in healthcare from both the demand and supply sides have had important implications on antitrust enforcement. In recent years, consumers' demand for more effective services and the consolidation among providers/insurers have altered the competitive landscape in healthcare. Specifically, physician networks have emerged for cost-containment purpose. While some argue that risk-sharing and utilization control should bring lower costs and higher quality, antitrust concerns arise when such ventures result in the exchange of competitively sensitive information among competing physicians which enables them to coordinate outside the venture. The issue is further complicated by the argument that the provision of health services is inherently different from all other industries and should therefore receive different treatment from the enforcement agencies. This presentation will provide an analysis of the healthcare industry, antitrust enforcement in the context of healthcare, and the Court's approach in evaluating antitrust issues in the physician market.

Race and Class in Urban America

The Status of the "Upper-Upper" Class in Yankee City (Newburyport, MA) in the 1930's and Today

Naba Sharif '01

ADVISOR: *Esther Wilder, Sociology*

The classic study of Yankee City by William Lloyd Warner emphasizes the social stratification of Yankee City during the 1930's. The analysis of the social, political, and economic lifestyle of the upper-upper class is distinguished due to the remarkably different life they led than any other observed class. They distanced themselves from other classes socially and geographically, comparatively similar to the Brahmins of the caste system in India. Utilizing primarily inherited wealth, most were old-

family aristocrats, belonging to the class solely due to family name. Societal features included exclusive social associations. Statistical and primary sources (interviews with residents) today reveal that through the years, the importance of ascribed status (ancestral aristocracy) in Newburyport has diminished, and has been replaced by emphasis on achieved status (economic aristocracy). Today, what was once a clear upper-upper class has dissolved into a broad spectrum of what is considered high society.

The Black Experience in Newburyport, Massachusetts: Explanations for the Persistence of Racial Segregation within Suburbia

Erin Pahlke '00

ADVISOR: *Esther Wilder, Sociology*

The purpose of this study was to examine the lack of racial diversity within Newburyport over the past seventy years. Interviews with local residents of various races revealed evidence of subtle racism. Respondents reported that blacks were unable to afford homes in the area, were in need of better forms of public transportation, and would bring down property values. White residents of Newburyport spoke of token black community members in order to indicate a lack of racism. National studies indicate that although blacks prefer living in integrated neighborhoods, they are uncomfortable to be the first black to move in for fear of not being accepted. This study of Newburyport has shown that blacks face many difficulties when trying to become part of a largely white community, and many suburbs are likely to remain segregated until the practices of whites change.

Social Dislocation and Urban Poverty

Caroline Hanley, Sociology '98

ADVISOR: *Thomas Cushman, Sociology*

This paper explores the relationship between experiences of the urban poor and conditions of the late modern world. Modernity is understood as fundamentally dynamic and globally oriented. Communication and transportation technologies allow personal relationships and business to take place across vast distances around the globe. However, research indicates that in ghetto

areas, the problems of extreme poverty and social dislocation are very entrenched and seem to resist change. Furthermore, residents of the inner city seem to experience a high degree of spatial isolation. While modern life is characterized by frequent communication and rapid change, residents of the inner city appear to live in a chronically isolated world. I interviewed fifteen residents of low-income communities in Boston to determine to what extent their experiences incorporate features of modernity, and to what extent certain conditions set their lives apart.

Adaptations, Translations, and Transplantations

Issues in Translation II

Finding the Right Word: A Panel Discussion on the Art and Challenge of Translation

Catherine Cloniger, French '98, Sarah Dysken, French '98, and Janna Wasilewski, English and Medieval and Renaissance Studies '99

ADVISOR: *James Petterson, French*

How would you translate "Cheez-Wiz" into a foreign language? What would a friend overseas think you were saying if you told her she was "pretty cool"? The challenge of translation is to find a way of using one language to convey all the nuance and meaning of another; the art lies in doing so successfully. In this presentation we will discuss our own recent translations and our methodology for dealing with such problems as determining the role of the translator, resolving cultural differences, finding equivalents for slang, colloquialisms, and idioms, and preserving the tone and style of the original text. Examples will be taken from our work: "La Femme-Chef," an African legend from the Congo, translated by Catherine Cloniger; "Chacun cherche son chat," a French screenplay translated by Sarah Dysken; and "Crónica de los reyes católicos," a fifteenth-century Spanish chronicle translated by Janna Wasilewski.

The Photographic Imagination

Privacy: Issues of Representation and Control

Tiffany Dewell '00, Cynthia Eldridge, Biological Sciences and Art '00, Marissa Harris '99, Jessica Hiatt '99, Jiasuey Hsu, Environmental Science and Philosophy '00, Kathleen McCorry '99, Adrienne McKee '98, and Catherine Wu '99

ADVISORS: *Marilyn Hatch and Judy Black, Studio Art, and Maud Chaplin, Philosophy*

Using various photographic techniques and presentation methods, this exhibit explores the ambiguity of the relationship between the camera and issues of privacy. How can private ideas be converted into images? Who decides what is private: the photographer, the subject, or the viewer? Can the subject have control over her/his own representation? What constitutes a private space or a private community? To explore these questions we will examine the following: hidden motives and strategy as visualized through a game of chess; confidentiality issues involving patients and their infirmities; issues of surveillance; the implications of non-verbal communication using gestures as the interpretive tool; the intimate representation of body parts; the conversion of a guarded military community into a public enterprise; and the exploration of a "transition area" unfolding between the public and private using a combination of photographs and book arts.

Adaptations and Translations in Literature

Emasculation through Editing: Reading Richard Wright's Novel *Native Son* as Palimpsest

Seoyoon Sandy Chu, English and Psychology '00

ADVISOR: *Margaret Cezair-Thompson, English*

In 1940, Richard Wright's editors at HarperPerennial decided to omit controversial sexual and interracial scenes in his novel *Native Son*. The censoring diminished the human sexuality and heightened the sense of animalistic sexuality of the black male protagonist. The restoration of the edited text in 1991 reinstated the past editing

of the controversial sections, and re-edited the novel with the original writings of Wright. The twice-edited text exposes the original articulation of racial and sexual tension intended by Wright, but it also bears the literary battle scars from its history of effacement. Thus, the current edition of the novel insists on being read as a palimpsest, resounding Wright's themes of suppression, constraint, and emasculation.

Magic Sites: Women Travelers to the Americas

Julie Levison, History '98

ADVISOR: *Marjorie Agosin, Spanish*

The nationalities of women travelers and their reasons for exploration are as varied as the women who set foot on the land of South America. Yet for all these women, their travel satisfied a natural urge to explore the world. In times when a woman could not freely travel unless escorted by a man or in a large group, these women had to rely on a resilient spirit and creativity to pursue their uncommon adventures. My study of women travelers has come to fruition in an anthology, entitled *Magic Sites: Women Travelers to the Americas*, currently in press, which I coauthored with Marjorie Agosin, Professor of Spanish. In preparing the anthology, I researched, compiled, and analyzed more than thirty journals of women who traveled from Europe and North America to South America in the nineteenth and twentieth centuries. Included in this anthology is the travel memoir of Helen Sanborn, Wellesley College Class of 1885, who learned Spanish so that she could accompany her father to Guatemala. I wish to show that travel, for women, was an act of resistance to the traditional fetters of domesticity.

Visions of Esther Seligson: A Translation of Hebras

Emi Kamura, Spanish and Biology '98

ADVISOR: *Marjorie Agosin, Spanish*

No one writes quite like Esther Seligson. She is part of a distinct genre, one of very few Jewish women writers in Mexico, among them Angelina Muñiz-Huberman and Margo Glantz. Seligson does not write about

politics, or oppression, or human rights; her themes include human attraction, passionate relationships, spiritual pilgrimages, and sensual knowledge. Her writings often include elements from Greek and Aztec mythology, the Jewish Kabbalah, and the Bible. Her work is especially interesting because of these elements and her ability to address both the Jewish and Mexican cultures, to include the Precolombian and the Kabbalah side by side. Seligson's writing is difficult: one must wade through a sea of metaphors and travel through space and time and read through her transparent words. Perhaps because she is so difficult, no one has come forth to translate her works into other languages. I have taken up this challenge and will be doing a Spanish to English translation of Esther Seligson's most recent publication, a collection of short stories called *Hebras*.

Conflict and Contested Terrain

The Middle East, Islam, and the West

President Truman and the Recognition of the State of Israel

Mili Saltiel, Economics and History '98

ADVISOR: *Frances Malino, History*

President Truman's decision to recognize the State of Israel was a catalyst for the future of the Jewish people. There has been a lot of discussion on the factors and motivations that led to the recognition of Israel. It has been attributed to a number of things, such as his religious belief that Jews as the Chosen People, needed to return to their long lost ancient land and his empathy for the Holocaust survivors yearning to go to Palestine. The majority of scholars have argued that the importance of the Jewish vote for the 1948 presidential elections was the driving force behind his decision. In my opinion, there is no single determinant that led to his sponsoring Israel but a number of elements, different pieces of a puzzle. Each piece varies in importance over time but nevertheless, if one were missing, the sponsoring would not have taken place.

Islam vs. the West: Western Theory and Practice Towards Islamist Movements in the Middle East

Lakshmi Ramarajan, International Relations '98

ADVISOR: *Lidwien Kapteijns, History*

The recent explosion of academic and policy studies on Islam and Islamist movements has brought forth numerous opinions on the threat of Islam to the West. A case study, namely Iran, was used to test the validity of these opinions. As the watershed event that brought the power and potential of Islamism to the world's eyes, and as the stereotypical event that American foreign policy attempts to prevent in other areas of the world, Iran is often held up as evidence of Islam's inherent antagonism towards the West and as proof of the threat that Islamism poses to the Western-led international state system. The case study attempts to refute these views and prove that policy built on these assumptions may actually create problems instead of solving them.

A World in Isolation: Turkey

Ayse Kaya, Political Science '00

ADVISOR: *Guy M. Rogers, History*

In their daily lives, the Turks remain in isolation from the rest of the world. They are isolated in two ways. First, despite the potent prevalence of world affairs in the Turkish life, Turks, most of the time, choose to resist or delay interference with these affairs. Second, the obscurity of where Turkey belongs in the eyes of people of other cultures and nations leads Turkey into further detachment from the world. If we look closely at the Turkish life, we discover that Turkey is itself a world. The country is a hybrid map of all cultures, religions, social classes; traces of many histories prevail and even the climate varies from one part to another. Unable to unravel the complexity of their world to outsiders and incorporate the greater world into that of their own, Turks remain in isolation.

Making and Breaking: War and Its Effects

The Economics of the Union Draft: Government Manipulations of the Labor Market During the Civil War

Cady Alpert, Economics '98

ADVISORS: *Kyle Kauffman and Joe Joyce, Economics*

Many aspects of the Civil War have been analyzed by historians and economists. One area that has received very little attention is the issue of how the Union government raised the nearly two and three-quarters million men needed to fight the war and consequently what incentives were created by the unique ways in which soldiers were asked to serve. Initially, the Union army relied on volunteers, just as they had in the past. However, the volunteer market dried up after about twelve months. It was with this lack of volunteers that the Union turned to initiating a draft. The threat of a draft as well as the actual drafts created many disturbances in the economic market for soldiers. With the use of a micro-level data set of nearly 2000 Union army soldiers from Massachusetts and a data set of substitutes from Iowa, I will show how the techniques used to raise an army by the Union government had profound effects on the local economies, caused much strife within the Union army, and quite probably prolonged the war because of the time it took to rally the troops.

Benin Royal Art and the Inherent Problematics with Its Display in the United States

Emma Ross, Art History '98

ADVISOR: *Pat Berman, Art*

During the 1897 British Punitive Expedition, or the "Sack of Benin," almost fourteen thousand art objects were violently removed from the city of Benin. Many of these objects are included today in United States museum collections. Few of these museums acknowledge this history and few of these museums seek to rectify it. This paper seeks to interrogate current displays and to present an alternative methodology.

Making Peace, Making Men

Carolyn M. Michael, *Policial Science '98*
 ADVISOR: Katherine Moon, *Political Science*

Although is often assumed to be benign, the realities of peacekeeping operations as a whole and peacekeepers individually often fail to live up to their "tough but tender" image. I explore the role of competing masculinities in creating this discord between image and reality.

Creative and Performing Arts

A Theatrical Retrospective

Thus Sayeth a Woman

Alicia Kahn, *Theatre Studies and Economics '98*, Tegan Cohan, *Theatre Studies '98*, Britt Soderberg, *Psychology '98*, Pauline Yasuda '00, Lian-Marie Holmes, *Theatre Studies '98*, Elizabeth Wightman '01, Kate Connor '01, Keisha Champagnie, *Theatre Studies '98*, Hope Zettwoch, *Theatre Studies '98*, and Collene Frashure DS
 ADVISOR: Nora Hussey, *Theatre Studies*

The cultural and vocationally diverse theatrical community at Wellesley presents a retrospective of the work created in the 1997-98 season. This piece represents the many issues, cultures, and individuals brought to life in the theatrical realm during this season. Similar to last year, the emphasis will be on the essence of theatre, which is the relationship between audience and actor. The issues and ideas confronted will encompass everything from the Black Diaspora to the literary legacy of the Brontë sisters. In addition, there is a piece created for the Conference which brings to life the poems of Marjorie Agosín (Spanish department) that give voice to the Mothers of the Disappeared in Latin America. The program will represent not only a retrospective of past creations, but also a glimpse into future endeavors.

Artistic Legacies

The Legacy of the Golden Age of Violin Playing

Maya Paloma Alvarez, *Economics '00*, Claire-Marie Bender, *Biological Sciences '00*, and Bronwen Bromberger '01
 ADVISOR: Nancy Cirillo, *Music Department*

As three violinists who have been playing since early childhood, we celebrate a golden age of violin playing by performing three of the great works for violin of the late nineteenth and early twentieth centuries. Chausson's *Poème*, composed in 1896, was dedicated to the great Belgian violinist Eugene Ysaÿe. The Sibelius *Violin Concerto* was written in an age when women began to break into the male-dominated world of violin performance. The debut of the piece in America was by Maud Powell, one of the first women virtuose. Finally, we present the Prokofiev *Violin Concerto No. 2*, which was composed at the height of the career of the most famous violinist of the twentieth century, Jascha Heifetz. The legacy of these performers and their artistry continues today, as we and other musicians like us, honor the past by reliving its music.

4:30 – 5:40

Gender and Sexuality

Gendered Representations

Self-Evaluation as a Function of Gender-Composition of Dyad

Evelyn Alfonso, Psychology '98 and Allison Werner, Psychology '98

ADVISOR: *Linda Carli, Psychology*

This study examined the effects of gender composition of groups on subjects' self-evaluations. Sixty-six subjects (33 male and 33 female) discussed one of two topics with a confederate whose opinion differed from their own. Audiotaped discussions were done in groups of two, in same-sex and mixed-sex pairs. At the end of each discussion, subjects were asked to rate their performance, indicating how many ideas they had contributed and the quality of their arguments. Results revealed that men gave themselves higher ratings than women. Moreover, both male and female subjects gave themselves higher ratings after interacting with a female confederate. However, independent ratings of the transcripts of the discussion revealed no effects for either the gender of the subjects or the confederate on the quality or quantity of subjects' arguments.

The Content and Implicit Nature of Asian-American Female Stereotypes

Anne Hwang, Psychology '98

ADVISOR: *Julie Norem, Psychology*

The content and implicit nature of Asian-American female stereotypes were studied using Asian-American female participants from Wellesley College. Stereotypes about Asian-American females were collected using a free-response questionnaire. Two categories of stereotypes were used to test the implicit nature of these stereotypes (the Trendy/Dragon Lady Asian, and the Submissive/Nerdy Asian). Words flashed subliminally on a screen were presented as primes to subjects. Subjects then completed

self-ratings on dimensions related to the stereotypes being primed. Subjects were expected to rate themselves higher on characteristics for which they were primed. Subjects were then asked to rate an Asian-American female in two commercials acting either sexy and trendy or intelligent and soft-spoken. Subjects were expected to rate the actress more extremely in the commercial counter to the stereotype for which they were primed.

Gender Constructions in Virtual Communication

Lindsey Kistler, Biology '98

ADVISOR: *Maud Chaplin, Philosophy*

In Judith Butler's *Gender Trouble*, gender is identified as "never fixed, always fluid." This allows a great possibility for alternative constructions of gender to emerge in virtual communication. The body is both absent (in the literal sense) and "hyper-present" in these situations, as individuals seek to reorient themselves to a world in which established methods of doing so are no longer relevant. Without the burden of societal sex/gender polarization and rigid definition, individuals are faced with the opportunity and challenge of negotiating their gender identities in internet communication. The pressure of communicating solely through text simultaneously limits and expands the ways in which the individual can form his/her identity in a social context without the burdens associated with "real life" interactions (e.g. visual appearance, legal name, self-preservation). What happens when individuals form spaces and identities for their gendered selves in a distinctly non-gendered communications medium? Inspired by a women's only chat room on IRC (Internet Relay Chat), this paper hopes to shed light on these "information age" complexities of identity.

Acquiring the Self

Personality

Metamorphosis

Grace Song, Psychology '98, Janet S. Lee, Multimedia Arts '98, and Ben Walter, Course 6 - MIT '00

ADVISOR: *Elissa Koff, Psychology*

"Metamorphosis" is an interactive MBTI-based personality test on-line. In this Web game, you, the Website visitor, are an android faced with a series of social scenarios that lead you to finding your true identity. Whether it entails being caught in a cocktail-tango or hanging midway between galaxies, "Metamorphosis" dares you to be you!

Early Stage Vision in Schizotypal Personality Disorder

Carrie Farmer, Psychobiology and Spanish '98

ADVISOR: *Margaret Keane, Psychology*

Previous biological and neuropsychological research has shown that there is a strong relationship between schizophrenia and schizotypal personality disorder (SPD). Vision research has shown that schizophrenia is associated with an early stage visual processing deficit implicating a disturbance in the transient channel (magnocellular pathway) of the visual system. Because of the correlation between schizophrenia and SPD, it is expected that a similar deficit would be found in persons with SPD. This study examines whether such a deficit exists by testing the integrity of the transient channel in SPD. Participants will be presented with stimuli of different spatial and temporal frequencies, and sensitivity levels for each type of stimulus will be determined. Since the transient channel mediates the processing of stimuli with low-spatial and high-temporal frequencies, it is expected that persons with SPD will have lower sensitivity levels for these types of stimuli than normal control participants.

Science and Technology

Contemplating the Mystery

Behavior of the Primes

Sarah Glynn, Mathematics '98

ADVISOR: *Patrick Morton, Mathematics*

In the field of Number Theory exists a class of positive integers known as the primes (integers > 1 , divisible only by themselves & 1). Since recorded mathematics, the primes have been a confounding and fascinating area of study in which beautiful theorems exist. We are first introduced to the primes through the Fundamental Theorem of Arithmetic, which states that every natural number > 1 can be represented uniquely as a product of primes. When we look at tables of primes we notice that although the number of primes is infinite, the frequency with which they occur among the natural numbers gradually diminishes, suggesting that their density tends to zero. Although computers greatly facilitate the investigation of the primes, the existing methods for computing primes are still only approximations. This unpredictable behavior makes the primes an enigmatic and compelling area of mathematics in which most conjectures remain unproved and problems unsolved.

Map Coloring and the Four-Color Theorem

Mariana T. Quina, Mathematics '99

ADVISOR: *Ann Trenk, Mathematics*

Suppose a mapmaker wants to color each state of a map of the United States so that no two bordering states are the same color, using as few colors as possible. Remarkably, the countries of any map can be colored using at most four colors so that neighboring countries are differently colored. This result is known as the Four-Color Theorem. Mathematicians have been intrigued by this problem for over 100 years. The problem was first "solved" in 1879 by Alfred Kempe. Unfortunately a flaw was found in his proof 11 years later. It was not until 1976 that

Kenneth Appel and Wolfgang Haken from the University of Illinois solved the problem. We will look at a brief history of the Four-Color problem, discuss where Kempe went wrong, and how his proof is useful in building a basis for Appel and Haken's solution.

Mountains and Handshakes: An Introduction to the Catalan Numbers

Catherine Leigh, Mathematics '99

ADVISOR: *Ann Trenk, Mathematics*

The Catalan numbers are the following sequence of numbers: 1, 1, 2, 5, 14, 42, 132, 429, for which no pattern is immediately obvious. However, the Catalan numbers frequently occur as the solution to seemingly unrelated problems in mathematics. After some reflection, one finds that the Catalan numbers satisfy a recurrence relation; for example, $42 = 1(14) + 1(5) + 2(2) + 5(1) + 14(1)$ where the numbers in parentheses are the Catalan numbers and the numbers not in parentheses are the Catalan numbers in backwards order. More generally, $c_n = c_0c_{n-1} + c_1c_{n-2} + \dots + c_{n-1}c_0$ where c_n is the n th Catalan number, starting with $n=0$. I intend to describe some of the problems involving everyday objects for which the sequence is the solution and to show how these problems are related. I hope that these problems will help the audience glimpse the connection between mathematical problem solving and everyday life.

Molecules and How They Function

The Application of Second Harmonic Generation to Determine Molecular Orientation at Interfaces

Eileen Rhee, Chemistry '98

ADVISOR: *Shane Ohline, Chemistry*

Optical second harmonic generation (SHG) is the nonlinear conversion of two photons of frequency to a single photon of frequency 2, which is obtained from the break in symmetry that occurs at the interface between two centrosymmetric media. Using a nanosecond Q-switched laser as the source for fundamental light (532 nm), the average molecular orientation of methylene blue molecules adsorbed onto a silica substrate is determined from measurements of the SHG

from the interface at a wavelength of 266 nm. The measurement of the polarization dependence of the nonlinear SHG response should lead to the determination that the average methylene blue orientation is at an average angle of 58° between the long axis of the molecule and the surface normal. The successful optimization of the SHG laboratory set-up, which includes the design and construction of optical components for attenuating the laser and maximizing the SHG signal, will be shown.

Synthetic Studies of Imidazotriazole Nucleoside Analogs

Lisa Diane Heyden, Biological

Chemistry '98

ADVISOR: *David Haines, Chemistry*

The main goal of this project is the synthesis of 1-b-D-ribofuranosylimidazo-[1,5-c][1,2,4]-triazolo-5-one, a nucleoside analog of inosine which is designed to inhibit inosine monophosphate dehydrogenase (IMPDH) in transformed cells. The analog, which is based on the ribavirin model, should affect cell replication by interfering with DNA synthesis, and thereby serve as an effective antitumor agent. Inosine monophosphate (IMP) serves as the substrate for IMPDH, the rate-limiting enzyme in guanosine monophosphate (GMP) synthesis. Two types of IMP dehydrogenase isoforms have been isolated in humans. Type I is constitutively expressed and is the principle isoform in normal and differentiated cells. The Type II isoform, however, emerges as the dominant species upon cellular transformation. Thus, an inosine analog should specifically inhibit DNA replication in transformed cells.

Structural Studies of Inhibitors and Substrates of EC 3.4.24.15: Possible Effects of Calcium on Conformation

Cindy HaeShin Moon, Biological

Chemistry '98

ADVISOR: *Adele J. Wolfson, Chemistry*

Endopeptidase (EP 24.15) has been found to hydrolyze many biologically active peptides such as neurotensin and bradykinin. We have previously reported the differential activation of EP 24.15 toward some

substrates by metal ions, including Ca^{2+} . In order to investigate the effect of metal ions on ligand structure, we have employed two dimensional $^1\text{H-NMR}$ techniques.

Preliminary data on cFP-AAY-pAB (an inhibitor of EP 24.15) from Rotating Frame Overhauser Effect Spectroscopy (ROESY) indicate no observable effect on conformation of the peptide by Ca^{2+} in D_2O . Because of the difficulty in detecting peptide resonances in the presence of water, a pre-saturation solvent suppression technique was developed. Employing this method, successful spectra of peptides in aqueous medium have been obtained. The combined use of NMR and infrared spectroscopy may produce sufficient structural information on substrates and inhibitors of EP 24.15 to determine the enzyme's requirements for effective ligand binding.

Subcloning of a *Mycoplasma fermentans* Gene Encoding a Putative B Lymphocyte Mitogen for Protein Expression

Suzanne Lee, Biochemistry '98

ADVISOR: *Andrew Webb, Biological Sciences*

Mycoplasma infection of cell cultures is common, resulting in a wide range of cellular changes in various cell types, including human B and T lymphocytes, macrophages, and monocytes. However, in most cases, the precise mechanisms mediating these effects on immune cells remained to be elucidated. Our laboratory has cloned the *M. fermentans* gene encoding IL-X, a 42-45 kD protein originally isolated from the supernatants of a human lymphoblastoid (EBV+) B cell line exhibiting increased proliferation. PCR-coupled site-directed mutagenesis was used to subclone the entire IL-X gene into pTYB1, an IMPACT T7 (Intein Mediated Purification with an Affinity Chitin-binding Tag) expression vector. This construct is currently being expressed in the presence of an opal (TGA) tRNA suppressor using the IMPACT T7 protein expression system. Biological assays investigating the effect of IL-X on lymphoblastoid and other immune cells will be undertaken once sufficient amounts of the IL-X protein are obtained.

Synthesis and Ribosidation of Chlorotriazole

Caroline B. Faris, Biology and Economics '99
ADVISOR: *David R. Haines, Chemistry*

The heightened understanding of the interaction between nucleoside substrates and their catalytic enzymes has helped in the drug design on nucleoside analogs that will potentially behave as antitumor and antiviral agents. The transformation of cells causes an increase in the rate of RNA and DNA synthesis and a decrease in the selectivity of enzymes compared to those of normal cells. Nucleoside analogs are designed to target the enzymes of these transformed cells, while causing minimal toxicity to the highly selective normal cells. This decrease in the selectivity of transformed cells would potentially cause key enzymes to interact with compounds that are structurally similar to the adenosine and inosine nucleosides: their analogs. We have investigated the synthesis and ribosidation of chlorotriazole as an intermediate in generating precursors to nucleoside analogs. Elaboration of the chlorotriazole can lead to a variety of bicyclic heterocycle synthesis. Ribosidation of chlorotriazole by fusion with a protected ribose produced the expected three nucleosides, with ribose at N, being predominant. Unambiguous elucidation of the structures of these nucleosides will be discussed.

Synthetic Strategies of Imidazotriazoles as Adenosine and Inosine Nucleoside Analogs

Junko Takeshita, Chemistry '98

ADVISOR: *David R. Haines, Chemistry*

Virus-transformed cells have increased RNA synthetic capabilities as compared to normal cells. The retardation of RNA synthesis has, therefore, been a focus of anti viral chemotherapy. Since viruses require host cell nucleotides to synthesize viral DNA or RNA, adenosine and inosine are crucial nucleoside precursors to essential processes in the cell and the virus. By creating nucleoside analogs that mimic the structure of the naturally occurring nucleosides, viral replication can be decreased. As part of our work on the syntheses of adenosine and inosine nucleoside analogs, we have investigated the

use of selectively N-substituted triazolinones. Phenyl analogs were used as models in order to develop the syntheses for the bicyclic heterocyclic ring systems. Phenyl triazolone was chlorinated by reaction with phosphoryl chloride, generating a phenyl chlorotriazole intermediate. This chlorinated intermediate allowed for nucleophilic substitution at C3 by cyanide. Subsequent reduction of the nitrile then yielded the immediate precursor to both analogs.

Spatial Expression of the LOX1 Gene in Seedlings of *Arabidopsis thaliana*

Jennifer Adèle Floyd, Biochemistry '98

ADVISOR: *T. Kaye Peterman, Biological Sciences*

Lipoxygenase is an enzyme that catalyzes the oxidation of a *cis,cis*-1,4-pentadiene system, creating conjugated hydroperoxydiene derivatives. Because lipoxygenase is found in high levels in stressed plant tissues and in young seedlings, it is thought that it is important in stress responses and during early development. In *Arabidopsis thaliana*, the LOX1 gene is highly expressed in the root. Studies of LOX1 expression using a promoter/b-glucuronidase reporter gene construct are under way. Transgenic plants were created using a vacuum infiltration technique. These transgenic plants have revealed that LOX1 expression is localized to the epidermal cells of the root. Though the promoter/reporter gene system is a useful way of visualizing the expression of a gene, the reporter gene could be showing a different expression pattern than the endogenous gene. For this reason, the LOX1 gene expression is also being studied using immunostaining of thin sections of the *Arabidopsis thaliana* root.

Activation of Endopeptidase EC3.4.24.15 by Metal Ions

Colleen Tsui, Biological Chemistry '98, Khanh Nguyen, Chemistry '99, and Letha Pallivathucal, Biological Chemistry '99

ADVISOR: *Adele Wolfson, Chemistry*

We have previously shown that the activity of Endopeptidase EC 3.4.24.15 (thimet oligopeptidase, EP 24.15) is increased in the presence of calcium and manganese ions. This effect was observed only with certain

substrates with bulky groups at the N- and C- termini, typified by the quenched fluorescent compound 7-methoxycoumarin-4-acetyl-proleu-ala-ala-p-nitroanilide (MCA-peptide). The metals do not appear to bind to the enzyme itself, but rather to enhance binding of ligands. We have now extended these findings to include the activation of another substrate, MCC (7-methoxycoumarin-4-carboxyl) -peptide by calcium and manganese, and of MCA-peptide by cadmium ions. The activating effect of cadmium appears to be more dependent on substrate on thiol concentrations than is the effect of the other divalent ions. These findings are of particular interest since they imply that Cd-NMR may be used to probe the conformations of natural and artificial substrates for EP 24.1.

Social Institutions and Social Processes

Case Studies in Political Economy

Regionalism in the European Union and Regional Funding in Greece

Catherine Tyrell, Political Science '98,

Jen Parmelee, Political Science '98,

Erin Santiago, Political Science '98, and

Danielle Mulack, Political Science '98

ADVISOR: *Gallya Lahav, Political Science*

As the European Union faces the decision to deepen the union by increasing the ties and connections between member states or widen the union by adding new members, the economic status of the regions of the European Union member states and the proposed new member states becomes a crucial piece of the debate. Greece is in a critical position regarding enlargement of the European Union as it attempts to insure future funding of its regions while encouraging increased trade with Eastern Europe. Regional issues such as agricultural funding to sustain poorer farming regions and allow them to modernize, and transportation to increase trade and commerce in depressed regions, are major aspects of the debate over widening versus deepening the European Union.

Ethnicity in America

Asian America: Images, Government Policy, and History

Tammy Chu, Shana Nishihira, Sonya Rhee, Film Studies '99, and Maria Garrett, Anthropology and Cognitive Science '98
 ADVISOR: T. James Kodera, Religion

Tammy Chu

My paper focuses on the phenomena of Asians passing for a different Asian ethnicity within the United States. During the early 1900s, the writer Winnifred Eaton who was half Chinese and half English, passed as Japanese under the pseudonym of Onoto Watanna. During World War II, Fred Korematsu, a Japanese American, passed as Spanish Hawaiian by changing his name and having minor plastic surgery. Through a comparative analysis of the historical contexts within which these individuals "passed," I will explore how race and ethnicity are constructed in the United States during times of national crisis and the relationship between passing, racism, and internalized racism. In particular, I will study how anti-Chinese sentiment, exemplified by the Chinese Exclusion Act, and anti-Japanese sentiment, exemplified by Executive Order 9066, were part of larger political, social, and economic movements to constrict the literal and figurative boundaries of America in order to sustain white privilege and power.

Shana Nishihira

Approximately 34,000 Americans of Asian descent served in the U.S. Armed Forces in Vietnam during the Vietnam War. While a numerical minority, their experiences as Asians fighting against Asians in what has been characterized as a "racist" war, together with the historical need for them to prove their American identity, and the specific experience of Japanese American internment, work to make significant the Asian American presence in Vietnam. Due to the fact that published critical discussions and first person accounts on this subject remain few, I used interviews with several Asian American veterans for the core of this paper. Through their accounts of their experiences as Asian American soldiers and the secondary sources

available, I examine how an Asian identity, feelings of patriotism, experiences of racism and the formation of ethnic and racial communities in the military in Vietnam shaped and affected the roles Asian Americans played as soldiers during the War.

Sonya Rhee

The documentary will focus on students' experiences at an Asian American retreat and I plan to use the retreat as a lens through which we can explore larger issues concerning Asian Americans and our community at Wellesley. The interviews will be conducted with a handful of students who participated in the retreat on Cape Cod. They range from students who have very little experience with Wellesley to those students who have been significantly involved in Asian American issues at Wellesley for four years. This documentary should be seen as only a small step in a larger process in addressing concerns not only within the Asian American community, but within the greater Wellesley community as well.

Maria Garrett

This paper examines the portrayal of romantic relationships between Asian men and Caucasian women in Hollywood films over the course of the twentieth century. Many of these films rely on the literature and legacy of "Yellow Peril" fears and fantasies to make their stories believable to a white American audience. The threat of sexual contact between the Asian and Caucasian races, a pervasive fear in "Yellow Peril" discourse, is perceived as especially potent when an Asian man appears to pose a sexual threat to a Caucasian woman. I will examine three themes in American cinematic depictions of Asian men in relationships with Caucasian women: the inscrutable sexual predator, the pedophile, and the sexually impotent nerd. Rather than attempt an analysis grounded purely in cultural studies, I have situated the race and gender stereotypes at the heart of these cinematic narratives within other cultural institutions such as American humor, cartoons, photography, newspapers and United States anti-miscegenation and

immigration laws. Hollywood's interracial romances, and the images, stereotypes, and stories of which they are composed, are not random. Rather, these romances grew out of institutions that surrounded the production of their stories.

Adaptations, Translations, and Transplantations

Lessons From the Past

The Antigone Myth in Performance: Anouilh's *Antigone*, Sophocles, and Existentialism

Rebecca Longworth, *Philosophy '98*, Director,
Karina Beleno '00, Collene Frashure DS,
Tegan Ashton Cohan '98, Koren Bernardi '99,
Betta Graettinger '98, and Olivia Kienzel '98
ADVISOR: Kenneth P. Winkler, *Philosophy*

The *Antigone* of Jean Anouilh had a controversial premiere in Paris in 1944. Some thought Anouilh was a Fascist; others proclaimed him an Anarchist. In the English translation of 1946 this important ambiguity was lost on New York audiences, who found the play irrelevant to post-war Americans, an obvious yet unconvincing polemic against fascism. But as a reworking of Sophocles' classic, Anouilh's play is more authentic to the original when the antagonists engage in a struggle in which either could be, and is, in the right. This performance and its accompanying dramaturgical materials seek to present Creon and Antigone as both right and wrong, equally wise yet blind. At Anouilh's writing and in our own time, the reverence given to heroes is hesitant if not wholly denied. In the context of a familiar tragedy, Anouilh's *Antigone* makes a case for heroism, while Creon tries to dissuade her.

Life, Death, and the Divine

The Lyrical Defeat of Death

Margaret Ritter, *English '99*
ADVISOR: Jodi Mikalachki, *English*

The seventeenth century lyric addresses human mortality within a context of intense religious self-scrutiny. Though differing in tone, structure, and poetic details, Donne's "Death be not Proud," Herrick's "To Death,"

and Vaughan's "Easter Hymn" are alike in that each provides the means whereby its creator confronts and gains control over death through formally self-conscious schematic treatment. Donne defeats death triumphantly by attacking it with violent verbal "strokes" (12) and harnessing it into the rigid structure of the sonnet. Herrick attains his gentle dominion over death by "fitting" (10) it into his pious, melodious song; his "feet of innocence" (14) progress along all the steps of a traditional Christian path to insure his ultimate salvation and everlasting life. Vaughan gains supremacy over death by an act of poetic redemption; his simple devotional verses counteract the sinful, deadly lyrics of his seventeenth century predecessors, thus delivering and resurrecting poetry from its fallen, death-ridden state. Ultimately each poet surmounts death by framing this destructive, universal power within the self-contained, microcosmic construct of the lyrical poem.

To Sing of Highest Works

Cynthia Odiorne, *English '98*
ADVISOR: Jodi Mikalachki, *English*

Poets have always examined the divine through their work. What role, if any, does God play in our lives? More to the point for a poet, what role should higher powers play in poetry? Mid-seventeenth century poets, faced with the political turmoil of Puritanism against Catholicism, had no easy answers to those questions. Robert Herrick, in "The Argument: To His Book," took a secular view, celebrating the pleasures of daily life and not concerning himself much with the immortal world. George Herbert wrestled with his belief that poetry bordered on sinfulness in "Jordan [I]," trying to find a balance between his piety and his desire to write. Responding to these poets, my lyric "Dreamings" sought to replay the conflicts of these poems in our modern culture. I wonder if it is still possible for poets to transcend themselves by articulating their faith in poetic form.

Windows of Spirituality: Seventeenth Century English Devotional Poetry and the Byzantine Icon

Aris Rizos, English '99

ADVISOR: *Jodi Mikalachki, English*

Many Western observers will be struck by the style of an Eastern Byzantine icon, as well as by the reverence shown to icons. They have a curious archaic strangeness that partly fascinates, partly repels. A similar mystical strangeness characterizes the metaphysical poetry of seventeenth-century England, particularly in the intensely emotional spirituality of devotional lyrics. I explore this cross-cultural connection by juxtaposing three English poems with Byzantine icons treating similar subjects: Robert Herrick's "To Keep a True Lent" and an icon of the raising of Lazarus (one of the gospel stories included in the orthodox observance of Lent); John Donne's "Good Friday 1613 Riding Westward" and a Crucifixion icon; and George Herbert's "Easter" and an icon of the harrowing of hell. Throughout, I draw parallels between the icons and the poems as tools for personal reflection and windows to spirituality.

Conflict and Contested Terrain

Human Rights in Comparative Perspective

Conflict and Culture: Research and Activism in Ecuador, Costa Rica, and South Africa

Rosemary Moffat, International Relations '99, Angelica Bernal, Cognitive Science '98, and Colby Lenz, International Relations '99

ADVISORS: *Sally Merry, Anthropology and Victor Kazanjian, Peace and Justice Studies*

Rosemary Moffat, Angelica Bernal, and Colby Lenz traveled to South Africa, Ecuador, and Costa Rica to research and actively participate in three projects in the fields of human rights and development. Rosemary's work focused on emergent human rights policy in a new democratic South Africa. Angelica studied child labor in the rural and urban sectors of Ecuador. Colby participated in a project of

indigenous empowerment through alternative community development, and the making of a documentary on this project. Short film screenings will complement the three presentations. In coming together, the three students hope to explore common and divergent themes in conflict and culture.

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