



A Celebration of Student Achievement • April 29, 1999 • Wellesley College

Conference Proceedings



The Ruhlman Conference

It gives us great pleasure to welcome you to the 1999 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 over 250 Wellesley students, the 1999 Conference is organized around eight major themes: Gender and Sexuality; Identity and Society; Perspectives on Difference; Tradition and Innovation; Nature, Science, and Technology; Image, Text, and Subtext; Politics, Power, and Society; and Wellesley in Time and Space. 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.

The 1999 Ruhlman Conference Committee

Lee Cuba
*Professor of Sociology and Associate Dean
of the College*

Pamela Daniels
Dean of the Class of 2000

Julie Drucker Donnelly
Director of Service Learning

Roxanne Euben
Assistant Professor of Political Science

Julie Flowers
Class of 2001

Andrea Levitt
Professor of French and Linguistics

Phyllis McGibbon
Associate Professor of Art

Betsy Stearns
*Manager of External Conferences and Summer
Programs*

Desirée Urquhart
Class of 1999

Adele Wolfson
Class of 1966 Professor of Chemistry



Thematic Overview

Gender and Sexuality

Women's Changing Roles (paper session)	9:30	Jewett 372
Women and Social Change (panel)	9:30	Science Center 278
Women and Religion (paper session)	11:00	Science Center 278
In Their Own Space: A Photo-essay of Women (exhibition)	11:00	Jewett Student Gallery
Gender and Sexuality in Literature (paper session)	1:30	Science Center 268
Women's Stories: A Theatrical Retrospective (performance)	1:30	Jewett Auditorium
Gender and Education (paper session)	3:00	Pendleton East 105
Women in the World Economy (paper session)	4:30	Jewett 372

Identity and Society

Women's Lives and Family Dynamics (paper session)	9:30	Founders 120
Voice and Connection I (readings)	11:00	Davis Museum
Growing Up: Issues in Child Development (paper session)	1:30	Founders 120
Self and Society (poster session)	1:30	Jewett Front Lobby
Voice and Connection II (readings and film)	1:30	Collins Cinema
Growing Up over Time: Issues in Adolescent and Adult Development (paper session)	3:00	Jewett 372
Writing about the Self (readings)	4:30	Davis Museum

Perspectives on Difference

Women, Children and Cross-Cultural Forces (paper session)	9:30	Pendleton West 105
Multiculturalism in America (paper session)	11:00	Pendleton West 105
Philosophy and Diversity (paper session)	1:30	Pendleton West 105
Border Crossings (panel)	1:30	Pendleton West Salon
Technology and World Languages: New Connections (panel)	3:00	Science Center 277
Exploring Diversity through Art (exhibition)	4:30	Jewett Student Gallery
Gender and Class: A Bilingual Performance (performance)	4:30	Collins Cinema

Tradition and Innovation

Writing History (panel)	9:30	Library Lecture Room
(Re)Visioning Art (paper session)	11:00	Jewett 450
Performance and Social Change (performance)	11:00	Collins Cinema
Adaptations and Translations (paper session)	1:30	Jewett 372
Literature and Context (paper session)	3:00	Pendleton West Salon
Broadening the Canon (paper session)	3:00	Science Center 278
New Music (performance)	3:00	Jewett Auditorium
Politics of Culture and Cultural Politics (paper session)	4:30	Pendleton East 105
Defining Our Tools (poster session)	4:30	Jewett Front Lobby
The Performers and the Performance (performance)	4:30	Jewett Auditorium


**Nature, Science,
and Technology**

Making Molecules (poster session)	9:30	Jewett Front Lobby
Nature as Inspiration (readings)	9:30	Davis Museum
Looking at Molecules (poster session)	11:00	Jewett Front Lobby
Better Living through Mathematics (paper session)	11:00	Jewett 372
Science Outreach (poster session)	1:30	Science Center 278
Natural Adaptation (poster session)	3:00	Jewett Front Lobby
The Pizza Problem and Other Puzzles (exhibition)	3:00	Science Center Lounge
Robots on Parade (exhibition)	3:00	Science Center Lounge
Induced Adaptation (poster session)	4:30	Jewett Front Lobby
The Art and Science of Multimedia (computer demonstrations)	4:30	Science Center 277

**Image, Text,
and Subtext**

The Visual Book: Inside and Out (exhibitions)	9:30	Jewett Student Gallery and Clapp Library
Like Life (exhibitions)	11:00	Jewett Student Gallery
Drawing from Within (exhibition)	1:30	Jewett Student Gallery
Filming Africa (paper session)	3:00	Collins Cinema

**Politics, Power,
and Society**

Urban Problems and Public Policy (paper session)	9:30	Pendleton East 105
Human Tragedy: Tales of Genocide (paper session and exhibition)	11:00	Library Lecture Room
Studies in Economic History (panel)	11:00	Pendleton East 105
The American Experience (paper session)	1:30	Pendleton East 105
Social and Political Perspectives on Development (panel)	1:30	Knapp PC Classroom
Issues in National Development (paper session)	3:00	Knapp PC Classroom
What's Fair? Welfare Reform and Affirmative Action (panel)	3:00	Library Lecture Room
Images of Immigration (paper session)	4:30	Pendleton West Salon
Law and Philosophy (paper session)	4:30	Library Lecture Room

**Wellesley in
Time and Space**

Where Does the Time Go? (panel)	9:30	Jewett Auditorium
Somewhere between Soccer and Smoking (film and paper session)	11:00	Jewett Auditorium
Exploring Wellesley (paper session)	1:30	Library Lecture Room
Reconstructing Places (exhibition)	3:00	Jewett Sculpture Court
Wellesley Connections (exhibition)	4:30	Jewett/Pendleton Connector
Experiencing Ruhlman (exhibition)	4:30	Various Campus Locations

Conference Schedule

8:30 – 9:30 Continental Breakfast

Served opposite Jewett Auditorium

9:30 – 10:40

Gender and Sexuality

Women's Changing Roles (paper session) *Jewett 372*

Leah Smith, "Wise Women or Witches: Female Physicians and Healers in the Middle Ages"

Sara Smucker and Kate Ward, "Nice Girls Don't: An Exploration of Sociosexuality, Feminist Identity and Self-Esteem"

Breeze Giannasio, "A Liberal Feminist Analysis of Commercial Surrogacy"

Michele Lapointe, Presiding

Women and Social Change (panel) *Science Center 278*

Christine Falvo, Jacqueline Gran and Darcy Penick, "Perspectives on Human Rights Activism and Individuals' Roles in Conflicts in the Balkan States"

Identity and Society

Women's Lives and Family Dynamics (paper session) *Founders 120*

Kimberly Dahl, "Relationships among Self-Esteem, Sexuality, and Parental Behavior"

Tina Kauh, "Korean American Women's Perceptions of Discrepant Emotional Responses: Implications for Mother-Daughter Relationships"

Kimberly Judge and Elizabeth David, "Romance, Deceit, and Audiotapes: Individual Differences in Response to Perceptions of Conflict in Romantic Relationships"

Julie E. Flowers, Presiding

Perspectives on Difference

Women, Children and Cross-Cultural Forces (paper session) *Pendleton West 105*

Panagoula "Yuly" Diamanti, "Exploring the Experience of Daughters of Greek Parents Born and Raised in the United States"

Lori Peterson, "The Effects of Transracial Adoption on Korean American Women"

Sharlene Brown, "Havoc in the Caribbean: Jamaican Women and Structural Adjustment"

Marie Pierre Py, "Effect of Racism and Gender Discrimination on the Social and Economic Situation of Mexico's Rural Indigenous Women"

Siri Kvalvik, Presiding

Tradition and Innovation

Writing History (panel) *Library Lecture Room*

Caitlin Augusta, Aleksandra Pfau, Sarah Rowley and Jessica Lehr, "Writing the Past: A Medieval Perspective"

Nature, Science, and Technology

Making Molecules (poster session) *Jewett Front Lobby*

Meghana Haté, "Synthesis of an Adenosine Analog"

Lisa Wittenhagen, "Strategies for the Cyanation of 4-Phenyl-1,2,4 triazole as a Method for the Synthesis of an Adenosine Analog"

Becky Tu-Sekine and Jessica L. Davis, "Formation of Waxy Derivatives of Isonicotinic Acid Hydrazide and Investigation into the Low Relative Efficacy of the Isonicotinoyl Hydrazone of Cyclopentanone in Destroying *Mycobacterium Tuberculosis* H37Rv"

Ann Marie Meyer, "Thioamide Substitution in Peptides"

Katherine Doerr, "Formation of Carbon-Carbon Bonds at the C3 Position on 1,2,4-Triazoles"

Irene M. Lee, "Halogenation of Heterocyclic Compounds with Halo-Succinimides"

Marielle Yohe, "Polymerization and Solubility of Fluoromet Hemoglobin S"

Nature as Inspiration (readings) *Davis Museum*

Kat Bolstad, Devika Maulik and Anna Raphael, "Three Voices in Nature Writing"

Image, Text, and Subtext

The Visual Book: Inside and Out (exhibitions) *Jewett Student Gallery and Clapp Library*

Nicole Scholtz, Alexis Dinniman, Laura Feldman and Theresa Tribble, "The Body:

A Book of Parts: Building a Collaborative Book"

Catherine Brandt and Allaire K. Diamond, "Judge a Book by Its Cover"

Valentina Maria Morales and Susana Deborah Reisman, "Scars/Cicatrices"

Amber Marra, "The Development of Scientific Illustration" (Clapp Library)

Politics, Power, and Society

Urban Problems and Public Policy (paper session) *Pendleton East 105*

Sabra S. Smith, "Study of Housing Segregation in Five American Cities"

Ellen Gulbrandsen, "The Social Welfare Implications of Breaking Up the American Tobacco Company"

Sarah Rosen, "The Effect of Work Participation Requirements on Welfare Exit"

Michelle Greenwald, Presiding

Wellesley in Time and Space

Where Does the Time Go? (panel) *Jewett Auditorium*

Elizabeth Holzer, Danielle Corke, Jess Hardie, Sage Lazar, Anne Freden, Iris Pilika, Ingrid Nelson and Sherry Hogan, "How Wellesley Students Use and Experience Time"

10:40 – 11:00 Break

Continental breakfast served opposite Jewett Auditorium

11:00 – 12:10

Gender and Sexuality

Women and Religion (paper session) *Science Center 278*

Lashaune Johnson, "Translating the Language of Pain: Hildegard of Bingen in the Twentieth Century"

Lisa Knott, "Always a Lady: Gender Roles and Women in Ministry in the United Pentacostal Church, International"

Sarah Whedon, "Why She Calls Herself a Witch: An Inquiry into Naming and Defining within Paganism"

Mari Lou Granger, Presiding

In Their Own Space: A Photo-essay of Women (exhibition) *Jewett Student Gallery*

Tootsie Bookman, Tiff Dewell, Jess Hiatt, Susana Reisman and Veronica Ades, "As One Sees It"

Identity and Society**Voice and Connection I (readings)** *Davis Museum*

Erica Valenti, "Still Life"
 Ann Marie Chomat, "Baba"
 Arianne Eyre Miller, "Everything That Was"
 Meredith M. Malburne, "Grandpa"

Aleicia Latimer, Presiding

**Perspectives on
Difference****Multiculturalism in America (paper session)** *Pendleton West 105*

Shana Hildebrand, "Jamaica Plain: Development and Gentrification of an Urban Neighborhood"
 Hwa-Young Song, "The Role of Christianity in the Acculturation of the Korean American"
 Olga Garcia, "Bilingual Education in the United States"
 Erica Schattle, "Schenkerian Pedagogy in the Age of Multiculturalism"

Shelley Topping, Presiding

Tradition and Innovation**(Re)Visioning Art (paper session)** *Jewett 450*

Heidi M. Curtiss, "The Blue Eyes of Africa-Diffuse Reflectance Infrared Fourier Transform Analysis of Blue Pigments from a Yoruba Gelede Mask"
 Jennifer Smyth, "The Sleep of Surrender: Botticelli's Mars and His Mythological Ancestors"
 Amy Weinstein, "Eroticism Contrived: Female Sexuality in the Painting and Drawing of Gustav Klimt"
 Miriam Neirick, "The Hue and Cry of Nonconformist Art in Soviet Russia, 1956-1978"

Angela Carpenter, Presiding

Performance and Social Change (performance) *Collins Cinema*

Desirée Urquhart, "The Role of Theatre in Sustainable Community Development: Creating a Blueprint for Successful Social, Cultural and Educational Intervention in American Inner Cities"

**Nature, Science,
and Technology****Looking at Molecules (poster session)** *Jewett Front Lobby*

Becky Tu-Sekine, "Expression and Characterization of IL-X, a Putative B-Cell Mitogen"
 Lindsay de Flesco, "A Comparison of NMR Studies with Theoretical Calculations for Selected Di-tert-butylsilanes"
 Ting Bao, "*In Vitro* NMR Study of ¹⁵N Labeled Cyanophycin Synthesized by the Cyanobacterium *Synechocystis* sp. Strain PCC 6308"
 Rachel Gershman, "Silicon-29 and Carbon-13 NMR Studies of Some Diisopropylsilanes"
 Melanie Jardim and Khalilah Duncan, "Molecular Modeling and the Investigation of the Shapes of Triphenyl-Delta-Lactones"
 Haley Hieronymus, "Kinetic Analysis of Calcium-Mediated Endopeptidase 24.15 Activation"
 Khanh P. Nguyen, "Fundamental Studies in Catalysis"
 Connie Chang, "Surface Orientation of Dye Molecules Absorbed on Quartz Using Second Harmonic Generation and Atomic Force Microscopy"
 Lea Medeiros and Keifsen Schleifer, "Studies in Computational Chemistry"

Better Living through Mathematics (paper session) *Jewett 372*

Jennifer Ross, "Chaos in the Brain"
 Dorothy Lam, "Point-Source Geometric Tomography"
 Danielle L'Ecuyer, "Escher Unplugged: An Application of Mathematics to Art and Wallpaper Design"
 Molly Fenn and Anitashree Balaji, "Conjecturing, Proving, and the Art of Tiling"

Rebecca Silver, Presiding



Image, Text, and Subtext

Like Life (exhibitions) *Jewett Student Gallery*

Jennifer Michalsky and Jessica Ciocci, "Play/People"
 Emily A. Stull, "Mixed Media: Self-Portrait Construction"
 Anna Raphael, "Open/Closed Mosaic"

Politics, Power, and Society

Human Tragedy: Tales of Genocide (paper session and exhibition) *Library Lecture Room*

Leila Toplic, "Cultural Genocide in Bosnia"
 Ida Rothschild, "The Dirty War: A Case Study and Theoretical Analysis of Genocide in Argentina"
 Cara Joy David and Lara D. Mikhalevsky, "Tibet: Cultural Genocide in Progress"
 Ellen Cho and Iris Pilika, "The Khmer Rouge: The Deification of Pol Pot and Redemption Ideology"
 Donna Pinto, "The Code X File: An Introduction to the Act of Categorization, and the Process of Genocide"

Studies in Economic History (panel) *Pendleton East 105*

Lesley Bunim, Kayla Dorsey and Amy Sheridan, "Scandals in Economic History"

Wellesley in Time and Space

Somewhere between Soccer and Smoking (film and paper session) *Jewett Auditorium*

Joanna Hilgenberg, "Wellesley College Soccer 1998"
 Waetie Burnette, "Black and Queer at Wellesley: A Theoretical Examination of the Lives of Black Lesbians and Bisexuals at Wellesley College"
 Tina Kauh, "Cultural Influences on the Formation of Professor-Student Mentor Relationships among Asian American Students"
 Laurie Ann Burlingame, "Smoking Behavior among College-Aged Women"
Roberta Taylor, Presiding

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 residence halls)*

1:30 – 2:40

Gender and Sexuality

Gender and Sexuality in Literature (paper session) *Science Center 268*

Tyler Chance, "The Impenetrable Surface: An Opening to Spiritual Transcendence in Rossetti's *House of Life* Sonnets?"
 Lisa Hinrichsen, "Gender, Genre, Genitalia, and Jeanette: Winterson as Pomo Homo"
 Connie Chan, "Narrating AIDS"
Hina Ghory, Presiding

Women's Stories: A Theatrical Retrospective (performance) *Jewett Auditorium*

Wellesley Theatre Students, "Sing Her Praises!"

Identity and Society**Growing Up: Issues in Child Development (paper session)** *Founders 120*

Sara Smucker, "Emerging Patterns: The Effects of Schooling and Gender on Disidentification with Learning among Four- and Five-Year-Old African American Children"

Rebecca Sanborn, "Running Out of Time: The Struggle with Time Management from Elementary School through the First Year of College"

Sharon Colvin, "A Spectrum of Development in Theory of Mind: Variations on False Belief and Appearance-Reality Tasks with Preschool Children"

Sherry Hogan, Presiding

Self and Society (poster session) *Jewett Front Lobby*

Mary Borensztein, "Self-Mutilation: Psychological and Social Causes and Influences"

Elizabeth Louik, "Autonomy Levels of Preschool Children in Montessori and Non-Montessori Environments"

Jennifer Davis, Farah Gloria and Maura Marquez, "The Evaluation of Minority Women in Leadership Roles"

Sara DeLong, "Trauma and Memory: Ways of Remembering in Victims and Their Loved Ones"

Cara Joy David, "Fear of Success in College Women"

Lindsey Clark and Maria Chu, "Conformity in Preschool Age Children"

Voice and Connection II (readings and film) *Collins Cinema*

Stacie Garnett, "Picturing Sam"

Valerie Martin, "The Wind and the Silence"

Kara Blanchard, "Rag Doll: A Film about Seeing Only the Mask while the True Face Is Pushed Back, Stepped on, Glossed over, and Forgotten About"

Perspectives on Difference**Philosophy and Diversity (paper session)** *Pendleton West 105*

Jessica Lehr, "The Classification of *ëManí*: An Explanation of the Influence of Science and the Eighteenth-Century Naturalist Movement on the Development of the Modern Western Concept of "The Other""

Karen Arnold, "Evolutionary Prejudice: Misuses of Darwin's Theory of Natural Selection"

Sarah Fishleder, "Perspectives on Ethics in the Global Community"

Kristina Roberts, Presiding

Border Crossings (panel) *Pendleton West Salon*

Jenessa Boleda, Gillian Green and Virginia Slaughter, "American Like Me: Stories of Biculturalism"

Tradition and Innovation**Adaptations and Translations (paper session)** *Jewett 372*

Rebecca Morin, "Collective Improvisation in the First Bill Evans Trio, 1959-1961"

Helena Winston, "Speaking without Noise: The Uses of Words in the Art of Roy Lichtenstein, James Johnson, and Jenny Holzer"

Kara A. Flyg, "The Protean Sign: Changing Codes in Cindy Sherman's Untitled Film Stills"

Olga Leslie, Presiding

Nature, Science, and Technology**Science Outreach (poster session)** *Science Center 278*

Jennifer A. Malmstrom, "Teaching Science to Middle School Students"

Becky Schaefer, "Linking Art and Marine Science in Computer-Simulated Atlantic Journeys"



Gretchen Campbell, Jennifer Ross, Ann Sanders and Frances Tyler Wellensiek, "VOGUE: Video of Physics in Reduced Gravity Used for Education"

Sonya Marie Funaro Soto, "Preservation of Indigenous Medicinal Plant Knowledge in a Modernizing Community"

Image, Text, and Subtext

Drawing from Within (exhibition) *Jewett Student Gallery*

Tiffany "Spiff" Fehr, Amelia Kraehe, Sara B. Edwards, Lisa Aronsson, Jennifer Miller, Anne Cross and Linda Zug, "Master Draftswomen: Projects from ARTS 314, Advanced Drawing"

Politics, Power, and Society

The American Experience (paper session) *Pendleton East 105*

Debra Elkind, "New England Vernacular Architecture: Quaker Meeting Houses of Southeastern Massachusetts"

Sonja Lynne Mitchell, "A Hierarchy Continued in Death: The Families of Men Lost at Sea in Eighteenth- and Nineteenth-Century New England"

Julia Rosenstock, "Lots of Boys Enlisted under the Wrong Names: The Experiences of Women Who Fought in the American Civil War"

Elizabeth Schmidt, "Quindaro, Kansas: City Politics and Historical Preservation"

Joanna Hilgenberg, Presiding

Social and Political Perspectives on Development (panel) *Knapp PC Classroom*

Linda Guandalini, Elizabeth Holzer and Leila Toplic, "Misuse and Abuse of Power: The United Nations and Rwanda"

Wellesley in Time and Space

Exploring Wellesley (paper session) *Library Lecture Room*

Molly Hellerman, "The Rediscovery of Wellesley Traditions"

Allaire K. Diamond, "Web of Species: An On-line Field Guide to Wellesley's Landscape and History"

Sonya Rhee, "The Stars Are in Your Hands": An Introduction to the Historical Astronomical Instruments at Whitin Observatory"

Lorraine Palmer, "Biophilia as an Underlying Design Principle in the Landscapes of Frederick Law Olmsted"

Maryanne Kiley, Presiding

2:40 – 3:00 Break

Refreshments available in Jewett (opposite the Auditorium), the Davis Museum (Lobby), the Science Center (Lounge) and Pendleton East (Political Science Lounge)

3:00 – 4:10

Gender and Sexuality

Gender and Education (paper session) *Pendleton East 105*

Quyen Mai Ngo, "Effects of a Self-Defense Program on the Coping Ability, Self-Esteem, and Self-Efficacy of Girls Ages 8-14 Years"

Alison Ross, "The Religion Factor: The College Experiences of Religious High School Graduates"

Danielle Fishbein, "The Young Women's Leadership School: Law, Policy, and Single-Sex Public Education"

Susan E. Sanders, "Failing at Fairness: An Examination of Gender Equity in Education"

Caroline McGregor, Presiding

Identity and Society**Growing Up over Time: Issues in Adolescent and Adult Development (paper session)** Jewett 372

Angela Carpenter, "Factors that Contribute to Second Language Proficiency"

Sharon Ng, "What Becomes of Resilient Children: Findings from a Longitudinal Study"

Meredith Rose, "Influence of Adolescent Personality Structure on Adaptation to Life in Old Age"

Rosemary Merchant, "The Impact of Stress on Adolescent Somatization"

Alison Pan, Presiding

**Perspectives on
Difference****Technology and World Languages: New Connections (panel)** Science Center 277

Karen Chang, Jane Choi, Chrisanne Souza, Mayra de la Garza and Erica Rosales, "Multimedia Applications in the Teaching and Learning of World Languages"

**Tradition and
Innovation****Literature and Context (paper session)** Pendleton West Salon

Marianne Montgomery, "'Is This the Region?' and 'this scept'red isle': Reading Nationalism in *Richard II* and *Paradise Lost*"

Theresa A. Peterson, "Tatyana and Lizaveta, Women in Limen: Exploring Liminality in Aleksander Pushkin's Works"

Eleanor King, "Conrad's Accomplice: The Reductionist Ending of Achebe's *Things Fall Apart*"

Carolyn Bojanowski and Bonnie Anderson, "*North and South*: Elizabeth Bishop's Sense of Home in Nova Scotia and Brazil"

Keif Schleifer, Presiding

Broadening the Canon (paper session) Science Center 278

Emily Nacol, "A Reconciliation of Faith and Reason: The Political Thought of Thomas Aquinas, Ibn Rushd and Muhammad 'Abduh'"

Mari Lou Granger, "Socrates Had a Wife and Children"

Hui Men, "Merging Two Worlds: The Religion and Poetry of Two Chinese Poets, Li Bo (701-762) and Wang Wei (ca. 699-761)"

Elizabeth W. Son, "Voices of Hope and Resistance: Selected Korean Poetry of Yi Sanghwa, Yi Yuksa and Sim Hun"

Nabeena Chatterjee, Presiding

New Music (performance) Jewett Auditorium

Erica Schattle, "Building the Ears of Tomorrow: A Concert of Contemporary and Twentieth-Century Music"

**Nature, Science,
and Technology****Natural Adaptation (poster session)** Jewett Front Lobby

Hannah Walsh, "Latitudinal Differences in the Growth Rate and Stoichiometry of an Important Freshwater Grazer"

Laurie Ann Burlingame, "Sex Differences in the Neurogenesis of Basal Forebrain Cholinergic Neurons in Mice"

Nicole Mejia and Dana Williams, "Changes in Membrane Fluidity in *Rhododendron maximum*"

Sophie Parker, "Population Dynamics of Terrestrial Slugs *Limax maximus* and *Arion ater* in Eight Forest Fragments on the Wellesley College Campus, Wellesley, Massachusetts"

Anne Marie Chomat, "Predicting Locomotor Style of a Jurassic Ichthyosaur"

Marianne Terrot and Tanyka Wilson, "Optimization of Assay for the Cyanobacterial Enzyme Cyanophycinase"

The Pizza Problem and Other Puzzles (exhibition) *Science Center Lounge*

Hye-Hyun An, Meghan Baivier, Gretchen Campbell, Jeanette Campos, Martha Cheng, Betsy Jelinek, Lefty Keans, Rachel Lomasky, Lisa Osiecki, Roya Rastegar, and Sarah Zoll, "Pizza, Prisoners, and Permutations: An Interactive Hands-on Exhibit in Mathematics"

Robots on Parade (exhibition) *Science Center Lounge*

Allison Dupuy, Krista Miller, Desirée Urquhart, Andinet Amare, Laura Graff, Anna Raphael, Emily Puente and Ann Hintzman, "Robotic Design Studio, 1999"

Image, Text, and Subtext**Filming Africa (paper session)** *Collins Cinema*

Farrah T. Giroux and May Haduong, "FESPACO - A Journey into African Cinema and Culture"

Jennifer Thompson and Cassie Hamilton, "Five Fish Out of Water: Wellesley Students in Ouagadougou"

Amy Wood, "The International Distribution Crisis in Contemporary African and African Diaspora Filmmaking"

Ting Ni, Presiding

Politics, Power, and Society**Issues in National Development (paper session)** *Knapp PC Classroom*

Ann Strini, "Latin America's Impact on International Law of the Sea: Expansion of Territorial Limits and Economic Zones"

Lisa Schroerer, "Effects of Economic Instability on Growth in Chile between 1964 and 1989"

Alison Barker, "Land Reform in Southern Africa: Whose Rules?"

Dina Guirguis, "Colonial Egypt: A Poststructuralist Analysis"

Cindy Kang, Presiding

What's Fair? Welfare Reform and Affirmative Action (panel) *Library Lecture Room*

Lyzette Bullock, Michelle Cheuk, Portia Hensley, Helena Hwang, Deborah Kohn and Erin S. York, "Social and Economic Inequality in America"

Wellesley in Time and Space**Reconstructing Places (exhibition)** *Jewett Sculpture Court*

Pauline Lombardi, Lorraine Palmer, Julie Smolinski and Mayu Endo, "Jewett Arts Center Sculpture Court Redesign"

4:10 – 4:30 Break

Refreshments available in Jewett (opposite the Auditorium), the Davis Museum (Lobby), the Science Center (Lounge) and Pendleton East (Political Science Lounge)

4:30 – 5:40

Gender and Sexuality**Women in the World Economy (paper session)** *Jewett 372*

Maya Kumar, "The Effects of Globalization on Women: Tourism and the Influx of Capital"

Janouska Grandoit, "Tontines: An Institution for Savings, Investments, Self-help, and Empowerment"

Diva Singh, Presiding

Identity and Society**Writing about the Self (readings)** *Davis Museum*

Ting Bao, Bo Young Lee, Kavitha Nair and Lillian Shuey, "Exploration of the Self"

**Perspectives on
Difference****Exploring Diversity through Art (exhibition)** *Jewett Student Gallery*

Jennifer Chau, "Eyelids and Irises"

Gender and Class: A Bilingual Performance (performance) *Collins Cinema*

Mayra de la Garza, Cristina Esquerra, Irma Jáuregui, Marcela Limas, Anna Ríos and Ana Rosales,
"Espigas maduras/ Shafts of Wheat"

Tradition and Innovation**Politics of Culture and Cultural Politics (paper session)** *Pendleton East 105*

Janet Han, "The Lost Treasures: The Controversy of Looted Art in Museums"

Elizabeth Daniel, "'Barging into the Saloon of Historiography': Recent Trends in Scholarship on
the Palestinian Question"

Desirée Garcia, "Singing through the Whiteness: Jewish Ethnicity in Hollywood Musicals, 1930-1950"

Sarah Andress, "Interpreting Wellesley's Knox Photographic Collection"

Nancy Ward, Presiding

Defining Our Tools (poster session) *Jewett Front Lobby*

Jessica Scott, "Geochronology of Oligocene Tuffs from the White River Formation,
Douglas, Wyoming"

Stephanie T. Goode, "MRI Studies of Anterior Uveitis in a Rabbit Model Treated with Prednisolone
Acetate or Saline"

Catherine Leigh, "The Prime Divisors of Polynomials"

Sophie Parker, "Dogs as Models in the Study of Predator Olfaction"

Kerry McKinstry, "RR Lyrae Stars and the Blazhko Effect"

The Performers and the Performance (performance) *Jewett Auditorium*

Lindsay Schmidt, Christine Chen, Caroline Tsai, Eliza Heaton, Maya Alvarez, Hay-Mie Cho
and Cecilia Kwok, "An Act of Co-creation"

**Nature, Science,
and Technology****Induced Adaptation (poster session)** *Jewett Front Lobby*

Jean Huang, "Acid Tolerance in the Cyanobacterium *Synechocystis* sp. Strain PCC 6308"

Akhila Balasubramanian, "The Effect of Heat Shock on Protein Synthesis in the Cyanobacterium
Synechocystis sp. Strain PCC 6308"

Krystal Hernandez, Jennifer Seeg and Alyssa Brown, "The Effect of Inhibition of Protein Synthesis
on Polyphosphate Synthesis in Cyanobacterium *Synechocystis* sp. Strain PCC 6803"

Sarah Parrott, "Scapular Stability: A Predisposing Factor in Shoulder Injury"

Sheila Ravendhran, "Models of Dyslexia in Rats: Brain Lesions and Their Effects on Neuronal Size"

Erika Dahlin-Lee, "Spatial Learning Impairment in Mice Overexpressing the C-100 Amyloid
Precursor Protein"

Caroline A. Frei, "Determining the Parameters for Cyanophycin Development in *Synechocystis*
sp. Strain 6308"

The Art and Science of Multimedia (computer demonstrations) *Science Center 277*

Ambika Singhanian, Kristina McBlain, Abigail Akzin, Wendy Knox, Anne Cross, Sowon Jun,
Jenny Cuasapaz, Tootsie Bookman, Jess Hiatt, Carrie Ruppert, Leila Toplic, Erica Wang,
Emily Braunstein, Krissy Lovejoy, Natalie Douglas and Dana Lamb, "Eight Multimedia
Productions"

**Politics, Power,
and Society****Images of Immigration (paper session)** *Pendleton West Salon*

Charlotte Ashamu, "Who Am I?: Racial and Ethnic Identities among First and Second Generation Nigerians"

Saba A. Jearld, "Constructing Ethnicity in America: The Development and Management of Ethnic Identities among Second-Generation Haitians"

Amelia Brown, "Investigating Transnational Politics: A Case Study of the Dominican Liberation Party"

Lisia Helen Morales, "Puerto Rican Racial Self-Identity: How Does It Differ from Society's Racial Definition of Puerto Ricans?"

Celeste Villegas, "The Implications of Intermarriage: Cultural Conflict and Identity Formation in the Children of Intermarriage"

Law and Philosophy (paper session) *Library Lecture Room*

Susannah Eastlake-Wade, "The Individual and Political Society in Epicurean Philosophy"

Ann Gove Zaltman, "Privacy: A System of Interrelated Constructs"

Erin S. York, "Social Status in the Jury Room: Power and Influence by Race, Class and Gender"

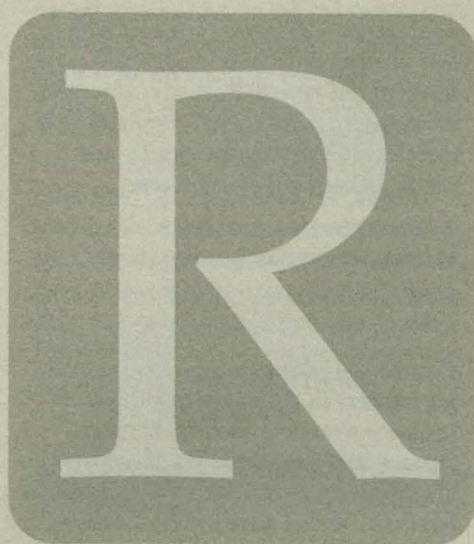
Lydia Chan, Presiding

**Wellesley in Time
and Space****Wellesley Connections (exhibition)** *Jewett/Pendleton Connector*

Jessica Burton, Alina Campana, Jessica Ciocci, Cameron Harvey, Cassandra Johnson, Tejal Kothari, Sarah Michet, Aditi Rao, Sarah Smith and Mie Yoshinaga, "Bridge"

Experiencing Ruhlman (exhibition) *Various Campus Locations*

A. M. Bell and R. A. Jarghen, "Interactive Information Source"



Abstracts

9:30 – 10:40

Gender and Sexuality**Women's Changing Roles****Wise Women or Witches:
Female Physicians and Healers
in the Middle Ages***Leah Smith, French '99*ADVISOR: *Michèle Respaut, French*

During the middle ages, women worked as healers under a diversity of titles including physician, midwife, surgeon, barber-surgeon, old woman, mire, and empiric. Through the use of literary examples such as *Tristan et Iseult*, Chrétien de Troye's *Perceval*, *Eric et Enide*, and *Yvain*; Boccaccio's *Decameron*, and the lais of Marie de France, the role of woman as healer will be examined. Comparisons will also be made between the fictional healer and the reality as described in historical and legal documentation. Finally, extracts from illuminated manuscripts and woodcuts will be used to further illustrate this topic.

**Nice Girls Don't: An Exploration
of Sociosexuality, Feminist Identity
and Self-Esteem***Sara Smucker, Psychology and Jewish
Studies '99 and Katie Ward, Psychology
and Women's Studies '00*ADVISOR: *Jonathan Cheek, Psychology*

The "promiscuous woman" has been portrayed in popular culture by two contradictory paradigms: the liberated woman and the validation seeker. Sociosexual orientation describes an individual's willingness to engage in sexual relationships in the absence of psychological closeness. The present research investigates the relationships between sociosexual orientation, feminist identity, and self-esteem in college-aged women. Previous research suggested a relationship between unrestricted sociosexual orientation, a willingness to engage in relations without emotional bonding, and nontraditional female behavior, today recognized as traits related to a developed feminist identity. Findings suggest that a more restricted

sociosexual orientation correlates with a less developed feminist identity and lower levels of self-esteem. Similarly, unrestricted sociosexual orientation correlates with more developed feminist identity and certain dimensions of self-esteem.

**A Liberal Feminist Analysis
of Commercial Surrogacy***Breeze K. Giannasio, Spanish '99*ADVISOR: *Maud Chaplin, Philosophy*

Commercial surrogacy is a rapidly growing industry in the United States, yet feminists remain divided on the issue. Some worry that prohibiting the sale of women's reproductive services will reinforce cultural stereotypes of women, particularly pregnant women, as irrational, emotionally driven, and incapable of making informed decisions about their bodies. Others contend that allowing the sale of women's reproductive services objectifies women as fetal environments. I examine the issue of commercial surrogacy from the perspective of both women's rights and children's interests. After reviewing the practice for potential, actual, and essential exploitation, I will analyze the traditional basis for the legal assignment of parental rights which fuels commercial surrogacy. I will discuss three definitions of parenthood: the genetic definition, the contractual definition, and the social definition. Of these three, I suggest the social definition is the most likely to create the emotional ties which motivate parents to act in the best interests of a particular child.

Women and Social Change**Perspectives on Human Rights Activism
and Individuals' Roles in Conflicts in
the Balkan States***Chris Falvo, Political Science and
Spanish '99, Jackie Gran, Political Science
'99 and Darcy Penick, Peace and Justice
Studies '00*ADVISOR: *Sally Merry, Anthropology*

Recent fighting in the Balkan States springs from conflicts that have been brewing there for hundreds of years.

The role that human rights discourse has played in giving this conflict distinct labels, – from "ethnic cleansing" or "genocide," to its publicizing of issues such as rape and postwar trauma, – has brought great attention to this region's conflicts. The power of "human rights" is not only evident in such labels, but also through the individuals and organizations that have worked during this decade to better conditions for all groups of people in the region. We explore the role individuals play in this fight to improve conditions in the former Yugoslavia. We bring together interviews and research to tell powerful stories about the impact of human rights activism on many different aspects of the conflicts in the Balkan States.

Identity and Society**Women's Lives and Family
Dynamics****Relationships among Self-Esteem,
Sexuality, and Parental Behavior***Kim Dahl, Psychology '00*ADVISOR: *Jonathan Cheek, Psychology*

The effects of parental behavior and social values were studied using a sample of 58 college women. Participants completed measures of self-esteem and sexual self-esteem, as well as measures that analyzed the parenting style and parental nurturance of the participants' parents. The relationship between these variables was examined using correlations and backward regressions. Results indicate that masculine sex-role orientation has a strong predictive relationship for self-esteem as well as for sexual self-esteem. Authoritative parenting style also had some predictive value for self-esteem as did parental nurturance. The correlation, however, between both self- and sexual-esteem and the masculine sex-role orientation was much stronger. These results possibly indicate that possession of socially valued traits have a stronger influence on self-esteem than family.



Korean American Women's Perceptions of Discrepant Emotional Responses: Implications for Mother-Daughter Relationships

Tina Kauh, *Psychology '99*

ADVISOR: Nancy Genero, *Psychology*

Emotional behaviors, or "emotion-scripts," are consistent with culture-specific norms and values. The study of cross-cultural variations in scripts may expand our understanding of the nature and impact of interpersonal misunderstandings. For example, this study examined Korean American college women's perceptions of their mothers' emotional responses across different achievement situations. The underlying premise for this study is that Korean American women have been influenced by both Asian and American values, potentially creating conflict between themselves and their more traditional Asian mothers. Using four hypothetical achievement scenarios, students rated how they thought their mothers "would" and "should" respond emotionally. Average discrepancy scores between "would" and "should" responses were computed and analyzed statistically. In addition, discrepancies were correlated with standardized measures of relationship quality and self-esteem. The implications of these findings for Korean American daughter and mother relationships will be discussed.

Romance, Deceit, and Audio Tapes: Individual Differences in Response to Perceptions of Conflict in Romantic Relationships

Elizabeth David, *Neuroscience '00*
and Kimberly Judge, *Psychology and Art History '00*

ADVISOR: Jonathan Cheek, *Psychology*

We investigated individual differences in response to conflict in romantic relationships. Forty-four college-age women participated in the study by answering a packet of personality measures, listening to taped conversations of conflict between romantically involved individuals, and answering questions about their reactions, feelings, and predicted response to the conflict. Participants who reported a hurt response to the taped

stimulus scored higher for shyness than did participants who reported a confused response. Sensing types, according to the MBTI, reported a confused response to the taped stimulus, whereas Intuitive types reported an angry response. Participants who responded angrily tended to score higher on dismissive attachment style. Participants who responded by dealing with the problem themselves scored higher on secure attachment style and lower for fearful attachment style than participants who dealt with other people. Future research should continue to investigate the psychological aspects of perceived conflict in romantic relationships.

Perspectives on Difference

Women, Children, and Cross-Cultural Forces

Exploring the Experience of Daughters of Greek Parents Born and Raised in the United States

Panagoula Diamanti, *Political Science '99*

ADVISOR: Anastasia Karakasidou,
Anthropology

Four Wellesley women (two students, an alumna, and a staff member) were interviewed about their experience as daughters of Greek families who were born and raised in the United States. Either one or both of their parents came from Greece some decades ago. Although the experiences of these women differ, they also share some important characteristics. They cannot deny either their American or their Greek side. Their attitude towards their dual identity changed through time; while they did not want to be considered different from their American peers when they were younger, they came to appreciate their Greek background as they grew older. The two cultures were sometimes compatible and sometimes in conflict with each other. Cultural conflict was present especially with respect to issues like women's education, religion, language, gender roles, and relationships.

The Effects of Transracial Adoption on Korean American Women

Lori Peterson, *Philosophy '00*

ADVISOR: Wendy Wagner-Robeson,
Wellesley Center for Research on Women

In the late 1950s, Korean children began to be adopted by European Americans and brought to live in the United States. These children left Korea to begin new lives with their adoptive families, leaving behind connections to their biological families and culture of origin. As the first significant wave of transracial/transcultural adoptees, Korean American women between the ages of 25 and 50 years of age speak with authentic voices as they share their unique insights of adoption through the use of questionnaires and personal writings. Their reflections provide an opportunity to examine the effects of transracial adoption over a lifetime on a woman's sense of self in relation to her adoptive family, spouses and partners, her children, and significant others.

Tradition and Innovation

Writing History

ADVISOR: Kathryn Lynch, *English*

Historiography and Bias in Hincmar of Rheims' *Annals of St. Bertin*

Caitlin Augusta, *Medieval and Renaissance Studies '99*

Hincmar of Rheims, a ninth-century Frankish archbishop and advisor to Charlemagne's descendants, ceaselessly expounded his views on religion, politics, and the revolutionary idea of sacral kingship. One of the few examples of a humorous historian (albeit unintentionally), Hincmar did not doubt the correctness of his position on every imaginable subject. When Hincmar took over the notations of the *Annals of St. Bertin*, he transformed the dry, factual annal form into an opinionated forum for Hincmar's own ideas about politics, religion, and time itself. The result is historiography freed from expectations of unbiased or impartial history and one that perfectly meshes with its current Christian context.

Evil Nephews and Incestuous Relations: The Character of Mordred as Social Commentary in the Arthurian Legend

Aleksandra Pfau '99

Geoffrey of Monmouth, the authors of the French *Vulgate Cycle*, and Thomas Malory manipulate their portrayals of the past to comment upon their contemporaries. The Arthurian Legend, a strong national myth for the English, is the perfect locale for their commentary. Geoffrey of Monmouth's *History of the Kings of Britain* reflects the civil war between Henry I's nephew, Stephen, and daughter, Matilda, in numerous presentations of evil nephews and powerful queens, culminating in the characters of Mordred and Guinevere. The *Vulgate Cycle*, composed between 1215 and 1230, reflects numerous changes in contemporary society. It may have been composed in reaction to issues of succession and the waning power of the nobility. Thomas Malory's *Morte D'Arthur* is a translation of the *Vulgate Cycle* which makes a number of significant changes to that text, reflecting an England torn by the Wars of the Roses.

"A Mirror Reflecting Our Own Life": Prophecy and History in Early Insular Texts

Sarah E. Rowley, *Medieval/Renaissance Studies and English* '99

The fifth-century British authors Patrick and Gildas could not be more unlike in outlook, situation or choice of genres. Yet both believed that the events of their age fulfilled historical prophecies. For the missionary Patrick, biblical predictions of the world's conversion in the last age before the apocalypse provided the context for his work in Ireland and allowed him to connect his own visions to the larger story of salvation history. Similarly, the sermon-writer Gildas saw the sacred history of the Old Testament as a mirror reflecting the realities of his own time, and like Patrick presented himself as a prophet in the biblical tradition. In fact, prophecy pervades the writings of both of these authors, indicating that the past played an important role in their understanding of the present. The view

of time inherent in their uses of prophecy sets up a complicated relationship between past, present and future.

The True Story of Troilus and Criseyde: Making History in the Middle Ages

Jessica Lehr, *English and Anthropology* '99

What does the way a tale is told tell us about the time in which it was written? The love story of Troilus and Criseyde has been told many times, by many different authors. In its earliest versions, it existed merely on the periphery of tales of the women, warriors and battles of the Trojan War. By the time of Boccaccio and Chaucer, the lovers' story had become a tale in its own right, independent of stories about the Trojan War. Today, the story has all but disappeared. This talk will explore changing methods of historiography between the Middle Ages and the Renaissance, through different approaches to the story of Troilus and Criseyde. It will concentrate primarily on the versions of Chaucer and Shakespeare, but will also draw upon other versions of the tale.

Nature, Science, and Technology

Making Molecules

Synthesis of an Adenosine Analog

Meghana Haté, *Biological Chemistry* '99
Advisor: David Haines, *Chemistry*

The focus of this research is to develop an efficient method of synthesis for the adenosine and inosine analogs, 6-amino-3- β -D-ribofuranosylimidazo-[3,4-b][1,2,4]-triazole and 3-4- β -D-ribofuranosylimidazo-[3,4-b][1,2,4]-triazolin-6-one, respectively. The synthesis of the desired precursor of the model system, 3-cyano-4-phenyl-[1,2,4]-triazole, involves the cyanation of 4-phenyl-[1,2,4]-triazole via a lithiated triazole intermediate. Catalytic hydrogenation of 3-cyano-4-phenyl-[1,2,4]-triazole results in formation of 3-aminomethyl-4-phenyl-[1,2,4]-triazole. Subsequent ring closure in the presence of cyanogen bromide and carbonyl diimidazole results in the formation of modified versions of the

adenosine and inosine analogs, respectively. Adapting the synthesis of the model system to that of 6-amino-3- β -D-ribofuranosylimidazo-[3,4-b][1,2,4]-triazole and 3-b-D-ribofuranosylimidazo-[3,4-b][1,2,4]-triazolin-6-one, requires incorporation of the ribose entity. Simple fusion of [1,2,4]-triazole and 1-O-acetyl-[2,3,5]-tri-O-benzoyl- β -D-ribofuranose results in the formation of 1-B-D-[2,3,5]-tri-O-ribofuranosyl-[1,2,4]-triazole. In order to encourage formation of the desired precursor, 4- β -D-[2,3,5]-tri-O-ribofuranosyl-[1,2,4]-triazole, the fusion has been attempted in the presence of a strong base and various protecting groups.

Strategies for the Cyanation of 4-phenyl-1,2,4-triazole as a Method for the Synthesis of an Adenosine Analog

Lisa Wittenhagen, *Biological Chemistry* '00

Advisor: David Haines, *Chemistry*

The adenosine analog of 6-amino-3- β -ribofuranosylimidazo-[3,4-b]-triazole has the potential to inhibit viral replication through competitive inhibition of the S-adenosyl-L-homocysteine hydrolase enzyme. A synthetic model for this adenosine analog, 6-amino-3-phenylimidazo-[3,4-b]-triazole, was created by the substitution of a phenyl group for the ribose substituent. The difficulty in this research was the production of the cyanated product, 3-cyano-4-phenyl-1,2,4-triazole. The cyanation of 4-phenyl-1,2,4-triazole occurs through the electrophilic addition of the cyano cation to the triazole anion. Previous research used n-butyllithium to create the triazole anion, yet this strategy led to the formation of side products. Another base, t-butyllithium, was used since it is more basic and less nucleophilic. The most efficient synthesis of the monocyanated product was achieved through the fast addition of cyanobenzotriazole to a mixture of 4-phenyl-1,2,4-triazole with one equivalent of t-butyllithium in tetrahydrofuran.

Formation of Waxy Derivatives of Isonicotinic Acid Hydrazone and Investigation into the Low Relative Efficacy of the Isonicotinoyl Hydrazone of Cyclopentanone in Destroying *Mycobacterium Tuberculosis* H37Rv

Becky Tu-Sekine, *Biological Chemistry '99*
and Jessica L. Davis, *Psychology '99*
Advisor: Michael J. Hearn, *Chemistry*

Studies on the fluidity of the lipid domain of the mycobacterial species demonstrate a high degree of impermeability due to the quasi-crystalline structure formed by mycolic acid homologs present in the cell wall. In an effort to increase the lipophilic character of the tuberculostatic drug isonicotinic acid hydrazone (INH), 37 compounds were synthesized and classified, and the lipophilicities determined. Lipophilicities of the synthesized compounds ranged from 8838.1 to 32,300 relative to INH. In addition, the low inhibition rate of mycobacterial growth exhibited by the isonicotinoyl hydrazone of cyclopentanone relative to its cyclohexanone counterpart was investigated through competition experiments between the two INH derivatives and L-(+)-arabinogalactan to test the hypothesis that the reduced efficacy was due to a side reaction between the cyclopentane hydrazone and a sugar molecule in the bacterial cell wall. Results indicate that the transfer of INH to L-(+)-arabinogalactan occurs in similar proportions for both analogs under the conditions of the experiment, and therefore does not explain the difference in inhibitory qualities between the two derivatives.

Thioamide Substitution in Peptides

Ann Marie Meyer, *Biological Chemistry '99*
Advisor: Julia Miwa, *Chemistry*

A thioamide inhibitor for the enzyme EP 24.15 was synthesized. The thioamide bond was substituted at the *in vivo* cleavage point of a previously synthesized potent inhibitor. The goal of the thio substitution was to strengthen the bond so that less *in vivo* cleavage will occur and more intact inhibitor will reach the enzyme. In addition, a side reaction in longer thio substituted peptides was studied. The side reaction results when a

thiopeptide is exposed to acidic environments necessary for peptide synthesis. Both a standard peptide and a truncated peptide were synthesized. The truncated peptide is a product of the cleavage. An HPLC gradient was developed to separate the two fragments. The standard thiopeptide then was exposed to acid, and the side reaction was followed on the HPLC gradient. Different acidic environments were tested to determine whether it was possible to decrease the extent of undesired reaction.

Formation of Carbon-Carbon Bonds at the C3 Position on 1,2,4-Triazoles

Katherine Doerr, *Chemistry '99*
Advisor: David Haines, *Chemistry*

Several approaches to form a carbon-carbon bond at the C3 position on N4-substituted 1,2,4-triazole have been explored. Our laboratory's previously reported work in this area attempted to replace the carbonyl or thionyl group of 1,2,4-triazolin-3-ones and 1,2,4-triazolin-3-thiones with a carbon-carbon bond *via* the Wittig reaction. An extension of this work using the Eschenmoser sulphide contraction will be detailed. A new carbon-carbon bond at the C3 position may also be achieved with organometallic reagents. The C3-lithiated salt was prepared by the reaction of 4-phenyl-1,2,4-triazole with *tert*-butyllithium. The reaction with zinc chloride produced the organozinc reagent. This useful species was *in situ* cross-coupled with vinylbromide in the presence of catalytic tetrakis(triphenylphosphine)palladium(0) to yield 3-ethenyl-4-phenyl-1,2,4-triazole. The product is an essential precursor to the synthesis of xanthosine and guanosine nucleoside analogs.

Halogenation of Heterocyclic Compounds with Halo-Succinimides

Irene M. Lee, *History '99*
Advisor: David Haines, *Chemistry*

Several previous attempts have been made to synthesize the adenosine analog, 6-amino-3- β -D-ribofuranosylimidazo-[3,4,b]-1,2,4-triazole, which is theorized to have anti-viral and anti-tumoral properties. The more stable analog, 6-amino-3-phenylimidazo-[3,4,b]-1,2,4-triazole has been used to develop a suitable synthetic

pathway. This study attempted to build the second heterocyclic ring on phenyltriazole through nucleophilic aromatic substitution of a halogen. Several approaches to halogenation of heterocyclic compounds were also studied. Particularly, bromination of 4-phenyl-1,2,4-triazole with N-bromosuccinimide was found to proceed under very mild conditions to give 3-bromo-4-phenyl-1,2,4-triazole in high yield. The generality and regioselectivity of this reaction on a series of other nitrogen heterocycles will be discussed. The next step in the synthetic pathway, cyanation of 3-bromo-4-phenyl-1,2,4-triazole will also be discussed

Polymerization and Solubility of Fluoromet Hemoglobin S

Marielle Yohe, *Chemistry '99*
Advisor: Adele Wolfson, *Chemistry and Ishita Mukerji, Wesleyan University*

Sickle cell hemoglobin (HbS) aggregates and forms fibers as a consequence of a single point mutation in the β 6 position (E β 6V). We are studying the structural and chemical factors involved in this fiber formation by using a fluoromet hemoglobin derivative (FmetHbS). Kinetic progress curves show that FmetHbS polymerizes via a mechanism similar to that for deoxyHbS, and thus represents a good model system for our studies. In this study, FmetHbS is converted to the T state by the binding of the allosteric effector, inositol hexaphosphate (IHP), to a site in the central cavity of the FmetHbS tetramer. Kinetic studies of FmetHbS polymerization, however, are suggestive of a second binding site for IHP, which inhibits polymerization. Carboxymethylation of the -NH3 termini of the α chains has been performed to probe for an additional IHP binding site. The effects of IHP, phosphate, and this α chain modification on FmetHbS polymerization will be discussed.

Nature as Inspiration

Three Voices in Nature Writing

Kat Bolstad, Environmental Science '01, Devika Maulik, English '00 and Anna Raphael '01

ADVISOR: *Ken Winkler, Philosophy*

Environmental philosophy includes a genre of writing called "nature writing," in which the author closely observes the natural world or several aspects thereof and is inspired to write about his/her experiences. Nature writing encompasses works by such authors as Virginia Woolf, Henry David Thoreau, and Aldo Leopold. This project is to be a reading of three original nature writing pieces: Kat Bolstad describes a camping trip to Assateague Island; Devika Maulik explores the ways in which her observations of nature reflect her ethnic heritage; and Anna Raphael describes the curious juxtaposition of objects and living things in a cemetery, and ruminates on the microbial fate of her recently deceased uncle Vasha.

Image, Text, and Subtext

The Visual Book: Inside and Out

The Body: A Book of Parts: Building a Collaborative Book

Alexis Dinniman, Art History '00, Laura Feldman, Sociology '01, Nicole Scholtz, Physics '01 and Theresa Tribble, English '01

ADVISOR: *Marilyn Hatch and Ruth Rogers, Special Collections Librarians*

Each year students collaborate in the Book Arts Lab to produce an original book. This year participants manipulated photocopied body parts and layered them in a windowpane format. The group created original text and printed the text by letterpress onto the photocopies using a combination of the Vandercook SP-15, the Washington, and the Chandler and Price platen presses. The books were then handbound by the class in a limited edition of twenty copies.

Scars/Cicatrices

Valentina Maria Morales, Religion and Spanish '99 and Susana Deborah Reisman, Economics '99

ADVISOR: *Johnny Webster, Spanish*

Scars/Cicatrices is a collection of bilingual poetry and photos. Two bilingual women in distinct mediums collaborate, giving a face to the thoughts, emotions, experiences and differences that have shaped their lives. Scars/Cicatrices is a celebration of the margin; of a people with a muddled history whose blood runs in the colors of both the master and the slave. This collection seeks to encompass acute emotions that tear at the human heart through images and words. The photography and poetry were selected independently by each person and later matched to compliment one another. The final product includes a presentation of the poetry and method of the project, as well as an exhibition of the book.

The Development of Scientific Illustration

Amber Marra, Biology '99

ADVISOR: *Stephen Harris, History*

The development of botanical illustration brought together a delicate mix of art and science. From the earliest woodcut herbals to nineteenth century botanical periodicals, plant identification could only be as good as the image presented on paper. With the advent of printing, techniques of mass producing images challenged the printer, artist, and author to produce quality for a specific audience. Early flower admiration by wealthy amateurs is seen in folio-sized picture books, whereas field books intended for mass consumption show humbler origins. Botany did not emerge as a taxonomical science until after Linneus devised a systematic classification of plants based on external characteristics. Identification, and consequently, classification of plants became intimately linked to how well plants could be illustrated. "Pressed Leaves," an exhibition of rare book illustrations in Special Collections (fourth floor of Clapp Library), follows the evolution of floral illustration from early printed book to modern text.

Politics, Power, and Society

Urban Problems and Public Policy

Study of Housing Segregation in Five American Cities

Sabra S. Smith, Political Science '99

ADVISOR: *Karl E. Case, Economics and Wilbur Rich, Political Science*

Using census data from 1970, 1980, and 1990, urban racial housing segregation was studied in five metropolitan areas: Atlanta, Boston, Detroit, Chicago, and St. Louis. From this, the apparent trends in segregation at the tract level were determined across three decades. Given differences in cities and politics, these trends will be examined, and special attention paid to the policy implications of the past, present, and for the future.

The Social Welfare Implications of Breaking Up the American Tobacco Company

Ellen Gulbrandsen, Economics '99

ADVISOR: *Susan Skeath, Economics*

In the 1911 United States v. American Tobacco Company decision, the Supreme Court ruled that the company was in violation of the Sherman Antitrust Act. As a result, American Tobacco was broken up into several competing companies. Because cigarette smoking is detrimental to the health of individuals other than smokers, this antitrust action may not have been economically efficient. Using the tobacco industry and the 1911 decision as a case study, I present theoretical arguments about the welfare implications of changing market structure in the presence of negative externalities. In addition, I consider how the welfare implications may be affected by advertising and excise taxes.

The Effect of Work Participation Requirements on Welfare Exit

Sarah Rosen, Economics '99

ADVISOR: *Phil Levine, Economics*

The end of welfare as an entitlement and the implementation of time limits will have a negative effect on welfare recipients if they are not able to find jobs and become self-sufficient. Work participation



requirements are expected to move recipients into work and off welfare. In order to test this expectation, I am studying the effect of the work participation requirements under the JOBS program from 1988-1996. Using a proportional hazard model I am estimating the impact of the work participation requirements on the probability of welfare exit.

Wellesley in Time and Space

Where Does the Time Go?

How Wellesley Students Use and Experience Time

ADVISOR: *Susan Silbey, Sociology*

Elizabeth Holzer '00, "Anomie and Sleeping Habits among Wellesley College Students"

Danielle Corke '99 and Jess Hardie '00, "The Influence of Time Use on Wellesley College Students' Satisfaction"

Sage Lazar '00, "The Effects of Busy-ness on Wellesley Students' External and Internal Worlds"

Anne Freden '00, "Time Usage and Future Orientation among Wellesley College Students"

Iris Pilika '00 and Ingrid Nelson '01, "Variations in Time Usage among Domestic and International Students"

Sherry Hogan D3, "Variations in Time Usage among Nontraditional Students"

11:00 – 12:10

Gender and Sexuality

Women and Religion

Translating the Language of Pain: Hildegard of Bingen in the Twentieth Century

LaShaune Johnson, *Sociology and
Medieval/Renaissance Studies '99*

ADVISOR: Rachel Jacoff, *Italian*

In recent years, the hauntingly beautiful music of medieval visionary Hildegard of Bingen has become well known. It is striking to modern listeners and readers of her visions to discover that Hildegard was illiterate. It is even more surprising to learn that she was a migraine patient. Pathologists hypothesize that her auditory and visual visions were likely manifestations of the symptoms of migraines. Hildegard saw things differently. She experienced her visions as a gift of God, and she wrote of them in that spirit. Regardless of spiritual background, modern women can learn something from Hildegard. They can touch the lives of others by turning the emotional and physical pain that women often endure into the language of art or social activism.

Why She Calls Herself a Witch: An Inquiry into Naming and Defining within Paganism

Sarah Whedon, *Religion and Theatre
Studies, '99*

ADVISOR: Barbara Geller, *Religion*

Struggling for acceptance in an often hostile world, members of the contemporary Pagan community have endeavored to name and define themselves, and have explored ways in which to identify with individual and communal expressions of Paganism. Pagans have appropriated a range of words to describe themselves, from tame *spiritual feminist* to *Witch*. This study draws, in part, on survey data to explore Pagan modes of self-identification. These data provide evidence of the diversity within Paganism, as Pagans seek both to create meaning and

coherence in a new and evolving religious movement and to understand themselves in relationship to other organized religions. Given the relative dearth of scholarly works on Paganism, the study also includes an overview of the essential beliefs and rituals common to most Pagan religious communities.

In Their Own Space: A Photo-essay of Women

As One Sees It

Tootsie Bookman, *Multimedia Studies '00*, Tiff Dewell, *Philosophy and Studio Art '00*, Jess Hiatt, *Studio Art '99*, Susana Reisman, *Economics '99* and Veronica Ades, *History '99*

ADVISOR: Judy Black, *Art*

This exhibit explores the various roles of women, from subject matter to subject maker. Each project examines representation using different photographic techniques and camera formats. Through the perspective of our individual lenses, we will strive to deconstruct the popular images presented by the media, and influence the way others perceive those images. Inspired by different sources and exploring a variety of presentation styles, these projects share the common theme of women: in their own space, in surveillance, in portraiture, in different cultures, and through body parts. Furthermore, we have all photographed the same subject matter in order to bring together our different styles, points of view, and interpretation. This small group project is presented in a collective exhibit in addition to our own personal projects.

Identity and Society

Voice and Connection I

Still Life

Erika Valenti, *English '99*

ADVISOR: Margaret Cezair-Thompson

A lyric short story, "Still Life" tells of two females, a young daughter and a mother, and the days following the death of a

family member. This story delves especially into the consciousness of the young girl, and into the painful realizations that death holds for children. I particularly relied on vivid imagery and point-of-view shifts to immerse the reader/listener into the family's world.

Baba

Anne Marie Chomat, *Biological
Sciences '99*

ADVISOR: Michèle Respaut, *French*

These are passages from "Baba," a short story about my grandfather during his terminal illness. Childhood memories of summers with my grandparents in California – times of laughter, sunshine, bare feet, and a sense of freedom – and more recent and painful memories associated with my grandfather's dying are interwoven throughout the story in two movements, unfolding in opposite directions through time, chronologically. This organization juxtaposes the ideas of a return to youth and the inevitable passing of life. It also symbolizes the birth there is in every death – the birth of those who are left behind as they rediscover the fragility, beauty, and intensity of living, and the rebirth of the past through memories.

Everything That Was

Arianne Eyre Miller, *Political Science '99*

ADVISOR: Frank Bidart, *English*

Everything That Was is an in-progress selection of poems written during two consecutive independent studies during the 1998-1999 academic year. Most of the poems narrate and construct the complexities of a love relationship, whereas a few deal with child-parent relationships, both in retrospect and of late.

Grandpa

Meredith M. Malburne, *English and
French '99*

ADVISOR: Margaret Cezair-Thompson,
English

Grandpa is a contemplation of age, love, family, and human nature. An older gentleman tries to come to terms with

the ever-changing world that surrounds him without losing himself or those who love him. This short piece of fiction explores the complicated and complex character of a man important in many lives: Grandpa.

Perspectives on Difference

Multiculturalism in America

The Role of Christianity in the Acculturation of the Korean American

Hwa-Young Song, Psychology '00
Advisor: *Paul Wink, Psychology*

This paper explores the multifaceted relationship between Koreans and Korean Americans and Christianity – first from the historical viewpoint of Korea's past and then through examination of the experiences of Korean immigrants in the U.S. What are the implications of Christianity among Koreans? Using statistical analysis of data collected from a survey of Korean college students, this paper looks at religious diversity and differences in social attitudes among students as a means of exploring the issue of multiculturalism. The aim of this paper is to break down the stereotype that all Koreans are alike.

Bilingual Education in the United States

Olga Garcia, Psychology '99
Advisor: *Beth Hennessey, Psychology*

This paper is based on research in three areas: the theories of bilingual education; the history of laws governing bilingual programs in this country; and of the implementation of a wide variety of bilingual and multicultural programs across the nation. This project involved conventional library research as well as interviews and observations conducted at Massachusetts public elementary schools. The paper includes a chronology of legislation on bilingual education; different types of bilingual education programs and the different teaching philosophies, approaches, and goals behind them; the attitudes of parents, teachers, administrators, and taxpayers; federal and state funding; a discussion of stigmatization repercussions on students in bilingual

programs; and a discussion of the consequences of being in or not being in a bilingual program.

Tradition and Innovation

(Re)Visioning Art

Blue Eyes of Africa: Diffuse Reflectance Infrared Fourier Transform Analysis of Blue Pigment from a Yoruba Gelede Mask

Heidi Curtiss, Art History '99
Advisor: *Margaret Merritt, Chemistry*

An analysis of the blue pigment from the eyes of a Yoruba Gelede mask was performed to evaluate a noncontact, nondestructive spectral technique: Diffuse Reflectance Infrared Fourier Transform (DRIFT). A portable fiber-optic spectroscopy system was used in the Davis Museum and Cultural Center to characterize the surface paint layer of the mask. Comparisons of the DRIFT spectra of the mask and standards were made to a library of blue pigments from Western European artworks obtained using other methods. The results of these studies demonstrate the applicability of DRIFT to art objects: the spectral data identified the blue pigment as synthetic Ultramarine. This result is intriguing because this is a non-native pigment rather than plant-derived indigo. The use of this vibrant pigment—found in colonial washing powders—in African art provides evidence of the ingenuity of native artists.

The Sleep of Surrender: Botticelli's Mars and His Mythological Ancestors

Jennifer Smyth '99
Advisor: *Lilian Armstrong, Art*

In spite of its ambiguous provenance, Botticelli's *Mars and Venus* has been influenced by both the artist's knowledge of Classical Antiquity and by the early Renaissance tradition of marriage painting. Its iconographic peculiarity, a sleeping, nude Mars watched by an alert, clothed Venus, is uniquely related to particular images of Endymion and Paris as well as to early Renaissance admonitory texts on sexual excess and marriage. Endymion, Paris, and Mars are three

mythological men who are, to varying degrees, portrayed nude, reclining, and asleep before a goddess's gaze. What does it signify to early Renaissance minds to see a man, whether a Classical Endymion, early Renaissance Paris, or late-Quattrocento Mars, lie unconscious or nude before this female gaze? It is the purpose of this paper to describe, through Classical and early Renaissance visual and literary analogies with which Botticelli would have been familiar, the consequences of sexual surrender.

Eroticism Contrived: Female Sexuality in the Painting and Drawing of Gustav Klimt

Amy Weinstein, Art History '99
Advisor: *Pat Berman, Art*

Fin-de-siècle Europe was characterized by legitimate discussions of sex in scientific and artistic circles. Many new theories of sexuality and femininity, such as those of Sigmund Freud, Richard von Krafft-Ebing, and Otto Weininger, created overwhelming sexual and political obstacles for women who were busy fighting for voting rights and other freedoms. Artistic representations of women, often negative and violent, were laced with the general fears and misunderstandings of female sexuality and emotion. Women's sexuality had been transformed into a mysteriously intriguing entity, often grouped with hysteria and mental illness. Gustav Klimt, Vienna's most celebrated painter, created several paintings and many erotic drawings depicting lesbian sexual intimacy. A budding cultural awareness of sexuality, influenced by Freud's writing and contemporary medical journals, inspired men to paint their fears and desires on canvas, unintentionally creating a theme of contrived eroticism in art.

The Hue and Cry of Nonconformist Art in Soviet Russia, 1956-1978

Miriam Neirick, History '99
Advisor: *Nina Tumarkin, History*

In the late 1950s, a group of Soviet artists began to test the boundaries of approved art in Soviet Russia. Initially, these artists remained largely disengaged from politics, preferring to transcend rather than confront contemporary social

and political ills by exploring spiritual, folkloric landscapes. Despite the apolitical orientation of nonconformist art, the Soviet government identified it as politically tendentious and expelled deviant artists from the Artists' Unions. By the mid 1970s, these artists had fully embraced their status as dissident artists, a transition marked by their more daring and politically motivated confrontations with the Soviet authorities. This development is also reflected in the concurrent emergence of an art highly critical of Soviet political and social institutions. Unofficial artists did not rest long upon the peak of their achievement in the 1970s, as the Soviet government initiated a strategy to diffuse the political and aesthetic force of the unofficial art movement by co-opting mildly aberrant artists and encouraging the more confrontational artists to emigrate.

Performance and Social Change

The Role of Theatre in Sustainable Community Development: Creating a Blueprint for Successful Social, Cultural, and Educational Intervention in American Inner Cities

Desirée Urquhart, Theatre Studies '99
ADVISOR: *Nora Hussey, Theatre Studies*

The importance of the arts in education, civic life, and the economy has often been devalued or ignored in American society. The arts, however, play a meaningful role in human communication, social and psychological development, academic performance, multicultural understanding, economic development, and scientific achievement. This is particularly true of theatre which (unlike the other arts defined by the legislation that established the NEA) can be a collaboration of music, dance, drama, architecture, creative writing, design, graphic arts, and other multimedia. Theatre integrates these forms to exploit, explore, reveal, or change the human condition. This presentation will explain how and why communities and governments are embracing the arts again; it will focus on programs that validate theatre's unique role in this renaissance. The presentation culminates in a

staged reading from a performance created to give voice to inner-city testimonies of theatre's impact on urban life.

Nature, Science, and Technology

Looking at Molecules

Expression and Characterization of IL-X, a Putative B-cell Mitogen

Becky Tu-Sekine, Biological Chemistry '99
ADVISOR: *Andrew C. Webb, Biological Sciences*

IL-X, a putative B-cell mitogen isolated from *Mycoplasma fermentans*, has been cloned in a series of wild-type and mutagenized expression constructs using ligation independent cloning (LIC) and stitch PCR. Initial heterologous expression of the wild-type constructs was performed in the presence of an opal suppressor to encourage insertion of tryptophan at the five internal TGA codons present in the IL-X gene (TGA, the universal stop codon, codes for tryptophan in mycoplasma). Initial expression attempts resulted in protein fragments of variable length, with the majority terminating prior to the first TGA codon. To investigate the cause of the premature translational stop, in-vitro expression studies using wild-type and mutagenized *rIL-X* constructs are being conducted in a rabbit reticulocyte system to identify variations in the expression pattern that may be due to *E. coli* rare codon usage, or secondary structure in the mRNA. This data will be used to optimize protein expression in preparation for testing on various hematopoietic cell lines.

A Comparison of NMR Studies with Theoretical Calculations for Selected Di-tert-butylsilanes

Lindsay de Flesco, Chemistry '99
ADVISOR: *Jean Fuller-Stanley, Chemistry*

Studies have revealed that when silicon forms a bond with electronegative substituents, it has a greater negative character than carbon in analogous compounds. This research is an investigation of the distribution of electron density around the central silicon atom of two di-tert-butylsilanes, namely di-tert-butylsilyl triflate and di-tert-butylsilyl trifluoroacetate. Infrared

spectroscopy and Si-29 INEPT, C-13, and H-1 NMR were employed to analyze the results of the organic syntheses, and specifically the absorption of the Si-H bond in each reaction. Gas chromatography/mass spectroscopy also aided in identifying the organosilicon compounds. In addition, the charge and hybridization of silicon predicted by theoretical (semi-empirical) calculations, performed using Spartan 5.0, were compared to the chemical shifts and coupling constants obtained from the Si-29 NMR spectra. The experimental results and theoretical calculations together confirmed the negative character of silicon in the di-tert-butylsilanes; hyperconjugation, backbonding, and/or steric compression may account for silicon's unusual bonding behavior.

In Vitro NMR study of ¹⁵N Labeled Cyanophycin Synthesized by the Cyanobacterium *Synechocystis sp.* Strain PCC 6308

Ting Bao, Biological Chemistry and English '99
ADVISOR: *Mary M. Allen, Biological Sciences*

In vitro ¹⁵N NMR spectroscopy was used to further characterize cyanophycin (CGP), the only known nonprotein nitrogen storage polymer in cyanobacteria, from the cyanobacterium *Synechocystis sp.* Strain PCC 6308. The results showed that insoluble CGP is detectable by NMR spectroscopy; CGP was found to have higher solubility in 0.1 N HCl than in 0.1 N NaOH and to have different conformations in these two solutions. It was also found that there was no NMR-detectable CGP in a cell's crude extract.

Si-29 and C-13 NMR Studies of Some Diisopropylsilanes

Rachel Gershman, Chemistry '99
ADVISOR: *Jean Fuller-Stanley, Chemistry*

Organosilicon compounds are increasingly being used as analogs to carbon compounds in several fields, such as biology and medicine; therefore, studies on how these organosilicon compounds behave are important. Most elements when bonded to an electronegative group, which withdraws electron density to itself, lose

electron density. This loss of electron density is shown in a nuclear magnetic resonance (NMR) spectrum as a large increase in the chemical shift (downfield). Silicon, however, demonstrates the opposite trend: when bonded to certain electronegative groups, silicon gains electron density, which is indicated by a decrease in the chemical shift (upfield). Possible bonding mechanisms will be investigated for two particular types of organosilicon compounds: diisopropylsilyltriflates and diisopropylsilyltrifluoroacetates. Si-29 NMR, other NMR, and FT-IR (Fourier Transformer- Infrared) techniques will be used to study the strength and nature of the bonds between silicon and its adjacent atoms. Additional confirmation of the organosilicon compounds will be provided by analysis of GC/MS (gas chromatography/mass spectroscopy) data.

Molecular Modeling and the Investigation of the Shapes of Triphenyl-Delta-Lactones

Melanie Jardim '01 and Khalilah Duncan '02

ADVISOR: *Jean Fuller-Stanley, Chemistry*

Delta Lactones are an integral part of many natural products of therapeutic interests. The shapes that these molecules adopt are crucial to their function as biologically useful substances. Two dominant conformations (shapes): the boat and half-chair, have been shown in the chemical literature. Our studies will use two molecular modeling programs: Hyperchem and Quanta to determine the lowest energy conformations of all the isomers of some triphenyl-delta-lactones in the gas phase as well as in different solvents.

Kinetic Analysis of Calcium-Mediated Endopeptidase 24.15 Activation

Haley Hieronymus, Biological Chemistry '99

ADVISOR: *Adele J. Wolfson, Chemistry*

Calcium differentially activates endopeptidase 24.15 towards hydrolysis of synthetic substrates, including the quenched-fluorescent methoxycoumarin substrate (MCC). Kinetic studies of EP 24.15 activity in the presence and absence

of CaCl₂ were carried out and analyzed using several algorithms. The K_m of MCC cleavage decreased in the presence of Ca²⁺ while the V_{max} remained unaltered. These results suggest that metal ions increase the affinity of ligand binding in an ion- and substrate-specific manner. To explore the mechanism of calcium-mediated increase in ligand affinity, EP24.15 activity was assayed in the presence of Ca²⁺ after substrate preincubation with Ca²⁺; this preincubation decreased the K_m without affecting V_{max}, suggesting that Ca²⁺ may increase hydrolysis by interacting with the ligand. Enzyme preincubation with Ca²⁺ followed by activity assay changed neither the K_m or V_{max} as analyzed by Hanes and direct linear methods, yet an increase in both K_m and V_{max} was observed using the Lineweaver-Burk model.

Fundamental Studies in Catalysis

Khanh P. Nguyen, Chemistry and Economics '99

ADVISOR: *Christopher R. Arumainayagam, Chemistry*

The cost of producing industrial chemicals is directly related to the time it takes to convert reactants to products. A catalyst is a substance that increases the rate of a reaction without being consumed as part of the reaction process. In 1993, over one trillion dollars were spent on the use, production, and development of catalysts. The rational design of catalysts demands a molecular understanding of surface reactions. In surface science experiments, gaseous reactants are deposited on highly ordered, single crystalline surfaces with well-defined atomic structure and chemical composition at ultrahigh vacuum (10⁻¹¹ Torr) pressures. We have studied the reactions of formaldehyde on a Molybdenum single crystal catalyst because formaldehyde is involved in many important industrial reactions. A noteworthy finding from our research is the production of ethylene via carbon-carbon coupling. This is the first known example of a coupling reaction on Mo(110), a highly reactive surface.

Surface Orientation of Dye Molecules Adsorbed on Quartz Using Second Harmonic Generation and Atomic Force Microscopy

Connie Chang, Chemistry '99

ADVISOR: *Shane Ohline, Chemistry*

The orientation of laser dye molecules physically adsorbed onto quartz surfaces allows one to study not only the interactions of the molecules with the surface, but the interactions of the dye molecules with each other. Previous studies determined the orientation of a monolayer coating of methylene blue dye molecules on a quartz surface by second harmonic generation (SHG), assuming that the surface was coated with a monolayer of individual dye molecules. However, we have shown using UV-vis spectroscopy, computer modeling, and atomic force microscopy (AFM), that surfaces coated using this procedure exhibit a multilayer structure on the surface. Thus, we propose new possibilities for orientations of the dye molecules based on their aggregation.

Studies in Computational Chemistry

Lea Medeiros, Chemistry '00 and Keifsen Schleifer, Architecture '00

ADVISOR: *Christopher R. Arumainayagam, Chemistry*

The presentation of the 1997 Nobel Prize in Chemistry to John Pople and Walter Kohn for their contributions to computational chemistry illustrates the growing importance of this field. Often used to complement traditional laboratory chemistry, computational chemistry can be used to bypass difficult experiments and investigate molecules too unstable to study via experimentation. Several different computational chemistry methods, varying in efficiency and accuracy, can be employed to obtain various information such as molecular properties, transition state structure, or dynamic behavior of the system of interest. Some methods, such as *ab initio*, are based on quantum mechanics while other methods, such as molecular mechanics, rely on classical physics to determine the desired output. In this study the semiempirical method, a quantum mechanical method, was

utilized to determine and explore the transition state structure of the Diels-Alder reaction of maleic acid anhydride ($C_4O_3H_2$) with cyclopentadiene (C_5H_6).

Better Living through Mathematics

Chaos in the Brain

Jennifer Ross, Physics and Mathematics '00

ADVISOR: *Ann Trenk, Mathematics*

Often, when modeling the world around us, scientists come across functions that behave “chaotically” meaning they demonstrate topological transitivity, sensitive dependence on initial conditions, and a dense set of periodic points. Neuroscience is an area to which chaos theory can be applied. Some researchers think that, because the brain is a complex dynamical system made of billions of subsystems (neurons), classical models which only take one neuron into account at a time, are not fully grasping the complexity of the brain. These scientists believe that the new field of chaotic, non-linear dynamical systems could help to correctly reinterpret the current oversimplified models of the brain. This talk will provide a mathematical framework upon which one specific neuroscience experiment will be explained using the ideas of chaos theory and will be easily accessible to all students, regardless of mathematical background.

Point-Source Geometric Tomography

Dorothy Lam, Mathematics '99

ADVISOR: *Fred Shultz, Mathematics*

Geometric tomography is a field of mathematics involved with the retrieval of information about a geometric body via idealized X rays. We give a new proof of a theorem by Gardner stating that with the exception of parallel wedges, convex polygons can be uniquely determined by X ray transforms from a single point source. We also provide a proof that the values of the X ray transform at four angles uniquely determine a wedge of a convex polygon, and give an algorithm to reconstruct the shape and location of convex polygons from a single point source.

Escher Unplugged: An Application of Mathematics to Art and Wallpaper Design

Danielle L'Ecuyer, Mathematics '00

ADVISOR: *Anne Trenk, Mathematics*

Suppose you want to design a wallpaper pattern, using just one motif and repeating that motif infinitely many times. How many different wallpaper patterns can you make this way if you are allowed only to rotate your motif, reflect it about an axis, or translate it (“move” the motif to another spot on your wallpaper)? While the possibilities may seem endless, in fact there are only 17 significantly different wallpaper patterns you could produce. We will analyze this problem using techniques from an area of mathematics called group theory. These techniques are the mathematical foundation for some of the well known works of artist M.C. Escher. We will use Escher’s art work to help illustrate some of the patterns. No prior knowledge of mathematics will be assumed.

Conjecturing, Proving, and the Art of Tiling

Molly Fenn, Math '00 and Anitashree

Balaji, Math and Chemistry '00

ADVISOR: *Helen Wang, Mathematics*

Several geometric brainteasers will be presented and their solutions will be discussed. Though these problems are worded in a way that can be understood by anyone, solving them requires ingenuity and mathematical intuition. The beauty of these problems lies in their simple and seemingly obvious solutions, which nevertheless call for time-consuming deliberation. All the solutions that will be presented will involve using coloring and tiling on checkerboards. Example of a problem to be presented: A yard is divided into $n \times n$ squares by footpaths (it looks like a chessboard). You want to have all squares covered by grass. If at least two neighbors of a square are fully covered, then the grass will extend into it, too; otherwise not. What is the minimum number of squares to be planted initially, so that the grass will extend to the whole yard?

Image, Text, and Subtext

Like Life

Play/People

Jessica Ciocci, Psychology and Studio Art '99 and Jen Michalsky, History '99

ADVISOR: *Judy Black, Art*

We photographed dolls, exploring the subject matter as more than toys, but as memories of our own childhood, and in found dolls, as mementos of strangers. As many of the dolls are in imperfect condition, it is unclear if the dolls’ disfigurement is a result of loving overuse or neglect and abuse. In working and playing with these toys, it became intriguing to see these plastic dolls as stand-ins for our own lives and players in actions that are distinctly human. Dolls are very much a part of childrens’ (and especially little girls’) imaginative lives and development, and act as charged symbols of societal understandings of adult life. Much in the way that children use dolls to explore implicit roles and their developing ideas, we became interested in photographing dolls as a similar sort of play – a mock of human experiences and understandings of the world. We specifically chose to align the dolls in the positions of life that both evoke common human experiences (based largely on our personal daily activities at Wellesley) and that emphasize their artifice and the fact that they are dolls and cannot be human. We were also interested in exploring different ways of looking at the same actions and events (our subject matter) by employing several camera formats.

Mixed Media: Self-Portrait Construction

Emily A. Stull, Studio Art '99

ADVISOR: *Phyllis McGibbon, Art*

Self-Portrait Construction is an examination of self in both two and three dimensions through the form of a dressing screen. However, *Construction* is also an examination of other; for to define self it is necessary to distinguish self from other. This differentiation and dependence of self upon others appears again in the roles of viewer and viewee created by the dressing screen. A dressing screen is a

division; it is both a concrete barrier interacting with space and an abstract barrier symbolizing individual space and our continual need to conceal the body. Screens and dressing screens raise a number of other ideas and associations, too many to describe here, so it is my hope that *Construction* will provide the audience with an impetus for dialogue and examination of these ideas.

Open/Closed Mosaic

Anna Raphael '01

ADVISOR: Phyllis McGibbon, Art

Open/Closed Mosaic is composed of six hexagonal tiles, each containing a single image: a fist, an open hand, a shut eye, an open eye, or a pair of high-heeled shoes shown in two different positions. The three image pairs forming the mosaic represent particular open/closed states. There is openness to observation and reluctance to observe [eye tiles]. One can embrace tactile experience or remain sheltered from it [hand tiles]. As for the shoes, I modeled them after Dorothy's ruby slippers in the heels-clicked and unclicked modes. Amazing things can happen by simply switching to the opposite state. Finally, the flexibility in arrangement afforded by the tiles shows that we are, at any given moment, shifting conglomerates of various open and closed possibilities.

Politics, Power, and Society

Human Tragedy: Tales of Genocide

Cultural Genocide in Bosnia

Leila Toplic, *Media Arts and Sciences and Peace and Justice Studies '01*

ADVISOR: Thomas Cushman, Sociology

This presentation is about genocide in Bosnia and Herzegovina, specifically focusing on the cultural genocide that occurred during the 1992-1995 war. I will analyze motives behind the Serb genocidal campaign for destruction of the cultural/historic heritage of Bosnian Muslims and Croats. The core of my study is the town of Banja Luka (my hometown). I focus on one aspect of the Serb "ethnic cleansing" campaign that was implement-

ed there, which is the attack on cultural and religious monuments of Bosnian Muslims in Banja Luka, as a way of destroying their roots and identity. I will discuss Serbian nationalists' intentions to eliminate any indications of the Muslims' existence in Bosnia and to recreate history and the culture of the country.

The Khmer Rouge: The Deification of Pol Pot and Redemption Ideology

Ellen Cho, *Sociology '00* and Iris Pilika, *Sociology '00*

ADVISOR: Thomas Cushman, Sociology

From the beginning until the end of its regime, the Khmer Rouge implemented an extreme and intense Communist ideological program. Its actions resulted in a revolution, which took place with what David Chandler describes as "extraordinary speed and intensity." Two points of interest in the Cambodian genocide are the ideology of the Khmer Rouge and the life of its most important leader, Pol Pot. What led the regime members to be so extreme was the unique and radical nature of its ideology. The Khmer Rouge felt it was its mission to redeem the Cambodian people from their corrupt, bourgeois ways. Pol Pot had a significant role in designing the ideology of the Khmer Rouge and in directing its implementation. This presentation focuses on the redemption ideology and the deification of Pol Pot in Khmer Rouge propaganda.

The Code X File: An Introduction to the Act of Categorization and the Process of Genocide

Donna Pinto, *Art History '99*

ADVISOR: Thomas Cushman, Sociology

After the systematic killing of millions of Jews, as well as the members of certain other groups that had been targeted by Nazi Germany, many people asked, "How could it have been allowed to happen?" Since that time, some of us have found comfort in the belief that it could never happen again. Unfortunately, there have continued to be numerous troubling reminders of genocide's staying power. Since the Second World War many more people have been killed as victims of domestic massacres and genocides than by international war. Most recently, a

brutal war raged in what was once Yugoslavia. Although Western nations had documented evidence that ethnic cleansing was taking place in Bosnia-Herzegovina, we could not agree about what might be done. And, the killing continued. The Code X List project was designed to enable students to experience categorization first hand, a depersonalized process that is central to genocide. In cases of genocide individuals are selected for elimination because they meet a set of well-defined criteria for group membership. While the act of categorization can be totally benign (as it is in the case of the Code X List), it is not always innocent. Beyond the periphery of our immediate concerns, the victims of genocide are depending upon us to not look away.

Studies in Economic History

Scandals in Economic History

Lesley Bunim, *Economics and Art History '99*, Kayla Dorsey, *Economics '99* and Amy Sheridan, *Economics and Mathematics '99*

ADVISOR: Kyle Kauffman, Economics

We will be discussing the scandalous effects of prohibition, the New South and South Africa's Apartheid. These three papers represent three particularly interesting cases over the past century on the relationship between institutions and economic outcomes. The study of economic history is a new field and constitutes an interdisciplinary research program that deals explicitly with the link between institutions, institutional change and economic performance. All three papers deal with laws and institutions that have had important economic effects for their respective regions.

Wellesley in Time and Space

Somewhere between Soccer and Smoking

Wellesley College Soccer 1998

Joanna Hilgenberg, *Psychology '01*

ADVISOR: Salem Mekuria, Art

A film documenting the Wellesley College soccer team's unprecedented success in

1998 will be presented. For the first time in Wellesley's history, the soccer team was ranked #2 in New England and #10 in the United States in Division III. This film captures the team's spirit and features highlights of the season, including the NEWMAC (New England Men's and Women's Athletic Conference) and NCAA (National Collegiate Athletic Association) postseason tournaments.

**Black and Queer at Wellesley:
A Theoretical Examination of the Lives
of Black Lesbians and Bisexuals at
Wellesley College**

Waetie Burnette '99
ADVISOR: *Michael Cooper, English*

Mirroring American society at large, black communities are still reluctant to fully recognize the presence of their queer constituents. How do black women at Wellesley who identify as lesbian or bisexual create support networks during their college years? How do issues of stigma and deviance merge in discussions about race and queer sexuality? Do these issues emerge at all? It shouldn't be surprising that most of us don't know the answers to these questions. After all, these discussions are most often limited to the private sphere. And for many black women, coming out at all may mean alienating themselves from many of the support systems that are usually available for their black peers who are straight. Using an anthropological approach, and drawing upon anonymous interviews and observations, this talk will examine what it means to be black and queer at Wellesley, lifting a piece of the cloak that is rarely lifted.

**Cultural Influences on the Formation of
Professor-Student Mentor Relationships
among Asian American Students**

Tina Kauh, Psychology '99
ADVISOR: *Belle Liang, Psychology and
Linda Williams, Stone Center*

Research on the interpersonal connections of adolescents and young adults has revealed that relationships with unrelated adults, or mentors, become increasingly significant in later adolescence. However, research has also indicated that mentoring programs have limited success due

to failures in the formation of functional mentoring relationships. It is therefore important to elucidate those factors that may contribute to mentor formation, mentor quality, and positive mentoring outcomes. This study examined mentor formation, perceived quality, and beneficial outcomes of possessing mentor relationships in 126 Asian and 261 Caucasian college students. Results showed no ethnic group differences in perceived importance of mentor relationships. Significantly fewer Asians versus Caucasians, however, reported having a mentor. Caucasian students also reported greater satisfaction with their mentee experience. Moreover, Asians who reported having mentors indicated positive outcomes, such as decreased loneliness.

**Smoking Behavior among
College-Aged Women**

*Laurie Ann Burlingame, Biological
Sciences and Psychology '99*
ADVISOR: *Belle Liang, Psychology*

Many individuals attempt to quit smoking by enrolling in a cessation program. Unfortunately, only 23.6% of individuals who use cessation programs are successful in their quitting attempts, regardless of the type of program used. In order to design successful cessation programs, information is needed on the psychological and physiological factors involved in the maintenance and initiation of smoking behavior. Although much research has gone into understanding the factors involved in why individuals smoke, there is a dearth of research into gender differences in smoking behavior. This is surprising because although smoking prevalence has decreased in the United States since the 1960s, rates in women have been especially hard to change since the habit has become increasingly popular in this population. The purpose of this study was to design a survey that would assess which psychological factors are most important for the initiation and maintenance of smoking behavior in college-aged women.

1:30 – 2:40

Gender and Sexuality

Gender and Sexuality in Literature

The Impenetrable Surface: An Opening to Spiritual Transcendence in Rossetti's *House of Life* Sonnets?

Tyler Chance, *English '99*
ADVISOR: Alison Hickey, *English*

Throughout his sonnet sequence, *The House of Life*, the Pre-Raphaelite poet and painter Dante Gabriel Rossetti strives for spiritual completion. Rossetti seeks this completion through connection with something outside himself, usually his beloved. Consequently, his sonnets frequently take up the quest toward this figure, attempting to capture a full understanding of her and exploring the feelings of longing, joy, and frustration within the speaker himself. In these sonnets, Rossetti employs his keen painter's eye to create a proliferation of surfaces, including objects of art, embodied ideals, natural settings, women's bodies, and the sonnet form itself, upon which his speaker pursues his quest. Such dependence on surface rejects the tendency of the spiritual quester for introspection and abstract thought, thus proposing another method of questing and raising some significant questions: Why is surface essential for transcendence in Rossetti's poetry? And, more importantly, can surface truly succeed in providing a link to spiritual completion?

Gender, Genre, Genitalia, and Jeanette: Winterson as Pomo Homo

Lisa Hinrichsen, *English '99*
ADVISOR: Michael Cooper, *English*

My Ruhlman talk will attempt to summarize some of the main lines of argument of my honors thesis, "Writing from the Body: Gender and Genre in the Novels of Jeanette Winterson." This thesis examines the way in which Winterson's fiction explores both unconventional narrative techniques, such as the incongruous blending of incommensurable genres, and unconventional gender roles and sexualities. I make the argument that,

for Winterson, the destabilization of traditional narrative structures serves as a trope for the destabilization of traditional gender roles and sexualities – and vice versa. Indeed, Winterson's notion seems to be that in order to give voice to the kinds of sexual narratives that have heretofore been left out of English fiction – gay narratives, narratives of transgendered and intersexual characters – she must invent a new form of narrative that in its formal complexity, its rebellion against literary norms, and its polyvalent quality, mirrors the characters and experiences it aims to capture.

Narrating AIDS

Connie Chan, *French and History '99*
ADVISOR: Michèle Respaut, *French*

In recent years, a number of authors have published books based on their personal experiences with AIDS. French and American narrative texts that approach AIDS reveal a number of common features. These include the association of sexuality with AIDS, thoughts on the role of the medical world in the life of the person with AIDS, the idea of accelerated aging of the body, and the author's role in remembering/ re-remembering the person with AIDS. Included in this study of AIDS writing are works by Hervé Guibert, Jamaica Kincaid, Amy Hoffman, and Cyrill Collard.

Women's Stories: A Theatrical Retrospective

Sing Her Praises!

Wellesley Theatre Students
ADVISOR: Nora Hussey, *Theatre Studies*

The theatrical community at Wellesley, which is both culturally and vocationally diverse in composition, presents a retrospective of the work created in the 1998-99 season. This piece, which will be orchestrated with the assistance of director Nora Hussey and choreographer Katie Griswold, will represent the many issues, cultures, and individuals that were brought to life in the theatrical realm during this season. As in the very

successful performances of the past two years, the emphasis will be on the essence of theatre, which is the relationship between audience and actor. The title stems from an unusually high incorporation of music in the theatre season this year to express women's stories. The issues and ideas confronted will encompass everything from contemporary political satire, to the ministry of Jesus Christ, to the painful struggles of an African American woman's life.

Identity and Society

Growing Up: Issues in Child Development

Emerging Patterns: The Effects of Schooling and Gender on Disidentification with Learning among Four- and Five-Year-Old African American Children

Sara Smucker, *Psychology and
Jewish Studies '99*
ADVISOR: Beth Hennessey, *Psychology
and Heidi Gralinski-Bakker,
Harvard University*

Disidentification with learning has been described as the absence of a relation between academic self-esteem and overall self-esteem. The present investigation focused on black and African American children, who have been singled out in previous research to be most at risk for disidentification due to their ethnicity, gender, and SES. Because this study was among the first to address disidentification in children who had yet to enter or were just entering school, it was possible to examine directly the role played by schooling in the disidentification process. A comparison of children's self-reported levels of identification with learning and their observed levels of academic motivation was carried out in an effort to address the question of whether these two variables are significantly correlated. Results indicated significant levels of disidentification with learning even in children who had had little or no school

experience. In addition, boys were found to evidence significantly higher levels of disidentification than were girls.

Running out of Time: The Struggle with Time Management from Elementary School through the First Year of College

Rebecca Sanborn, Psychology '00

ADVISOR: *Beth Hennessey, Psychology*

Many first-year college students have trouble with time management. They struggle with finishing assignments and cannot juggle their many commitments. These difficulties may stem from the fact that most college students come unprepared to meet these challenges. Time management is not often addressed by primary or secondary school curriculums. Is time even an issue in classrooms serving younger students? A review of the literature reveals that little attention has been directed at this question. Yet my own analysis of observations made in one fourth grade reveals that children often ran out of time and rarely finished all of the activities planned for the day. These students and their teacher could have greatly benefited from direct instruction in time management. I will argue that the development of effective time management skills is a crucial educational goal – one that must be addressed in teacher training programs and classrooms at all levels.

A Spectrum of Development in Theory of Mind: Variations on False Belief and Appearance-Reality Tasks with Preschool Children

Sharon Colvin, Psychology '99

ADVISOR: *Tracy Gleason, Psychology*

Theory of mind is a person's understanding that his/her thoughts, desires, beliefs, and perceptions are different from those belonging to others. The tasks used to study these skills in children address the understanding of the distinction between appearance and reality and of false beliefs. A controversy in psychological research surrounds the origin of these skills. The literature supports the idea that while these tasks are difficult for three-year olds, the addition of active participation and the incorporation of pretense improves their performance by

adding finer gradations to the measurements of these skills. This study tested three- and four-year olds' ability to perform on easier variations of the original tasks: appearance-reality with the addition of active participation (deception) and false belief with the addition of both active participation and pretense. While the pretense scenario did not bring about the expected improvement, the addition of deception did support the hypothesis for both tasks.

Self and Society

Self-Mutilation: Psychological and Social Causes and Influences

Mary Borensztein, Psychology '99

ADVISOR: *Paul Wink, Psychology*

This poster presents the results of a literature review on self-mutilation. More than two million Americans engage in a self-mutilating behavior today. Self-mutilating behavior, most commonly manifested as "cutting," became a public concern three years ago when Princess Diana confessed to having the disorder. Since then, much work has been done on the disorder. I will present data on the relationship between "cutting," and such other factors as past sexual abuse, rape, and poor parent-adolescent communication. I will also review the history of the disorder, its causes and what contributes to its maintenance. Gender differences in manifestation of the disorder will also be addressed, along with reasons for the general failure of medical psychiatry in the past to treat the disorder.

Autonomy Levels of Preschool Children in Montessori and Non-Montessori Environments

Elizabeth Louik, Psychology '99

ADVISOR: *Beth Hennessey, Psychology*

This study examines the impact of Montessori and non-Montessori approaches to preschool education on the development of autonomy in young children. Data were collected at a traditional preschool and at a local Montessori school. Participating children were individually interviewed and their autonomy was measured as they engaged in a variety of fun tasks. Classroom teachers

also rated each child on their level of autonomy, and the children's spontaneous behavior was assessed using a classroom observational coding system. The Montessori philosophy places particular emphasis on self-motivation and self-discipline and strives to help children to facilitate their own learning. It is predicted that the Montessori children will be rated as more autonomous than their non-Montessori peers in the classroom observation, the interview, and the teacher assessments.

The Evaluation of Minority Women in Leadership Roles

Jennifer Davis '99, Maura Marquez '99 and Farah Gloria '00

ADVISOR: *Linda Carli, Psychology*

This study examined the evaluation of Caucasian and minority female leaders. Using the Social Role Theory and the Status Characteristics Theory, we sought to test whether compared with Caucasian female leaders, minority female leaders would receive lower evaluations as task leaders and higher evaluations as social leaders. Our subjects were voluntary participants from the Wellesley College campus. Our results were obtained using a 2X4 analyses of variance. Race and type of leadership style did not interact as we predicted. Our findings showed that our subjects gave positive evaluations for both leadership styles, regardless of leaders' ethnic background. The subjects indicate that female leaders need to have both task and social leadership skills to be a successful leader in the workplace. The few significant race effects showed that the subjects preferred the minority leaders to the Caucasian leaders. We believe that our subjects were overcompensating for their own prejudices by giving the minority women a more favorable rating.

Trauma and Memory: Ways of Remembering in Victims and Their Loved Ones

Sara DeLong, Psychobiology '99

ADVISOR: *David Pillemer, Psychology*

As the employees of a suburban restaurant arrived at work on the morning of May 15, 1993, they were blindfolded,

bound, and robbed. In an ordeal lasting over two hours, their lives were repeatedly threatened. Although no one was seriously hurt physically, the psychological implications of experiencing such a trauma could have a lasting impact on both the primary victims and their loved ones. Interviews of victims and a male and female loved one were conducted one month and six months following the trauma. Inventories assessing posttraumatic symptoms, personal impact of the event, mastery, social support, dissociation, emotional state, coping skills, anger, and interpersonal dependency were also administered at one month and six months to all participants. We expect to find relationships between personality characteristics, PTSD symptoms, and the consistency and cohesiveness of the trauma memory over time.

Conformity in Preschool Age Children

Lindsey Clark, Psychology '99 and Maria Chu, Psychobiology '99
 ADVISOR: David B. Pillemer, Psychology

Relationships between conformity, birth order, and gender were examined in a sample of 30 preschool children. Each child was asked to color a picture of balloons and a picture of fish while observing a model "colored by a peer" or "from a book." The colors each child chose to color with and their relation to sample drawing colors were used to determine level of conformity. As hypothesized, overall conformity to the book model was higher than conformity to the peer model. In addition, firstborns were more likely to conform to the book model than were laterborns. Counter to expectations, older subjects conformed more than younger subjects (especially to the book model). No birth order differences were found in conformity to the peer model, nor were there any significant gender differences in conformity to either model.

Voice and Connection II

Picturing Sam

Stacie Garnett, English '99
 ADVISOR: Adam Schwartz, Writing

Picturing Sam is a novella about a young boy, his artwork, and the way other people interpret his behavior. The story revolves around Sam, a ten-year-old artistic little boy, who seems more comfortable communicating through his drawings than through words. While the focus of the story remains on Sam, much of the drama involves the relationships between Sam, his Uncle Evan, and his teacher Sarah. As the story develops, each of these three characters adds his or her own unique perspective and tells the story from his or her own point of view. Both Evan and Sarah are enchanted by the mystery of Sam's thoughts and the power of his artwork. Furthermore, they are concerned about his attitude towards his art since his father, Tom, applies pressure for him to quit such a silly pursuit and take up something more productive and more manly.

Rag Doll: A Film about Seeing Only the Mask While the True Face Is Pushed Back, Stepped on, Glossed over and Forgotten About

Kara Blanchard, Film Studies '01
 ADVISOR: Salem Mekuria, Art

We define ourselves by the opinions of others. Through praise or criticism the foundations of a person's psyche can be built up or torn down until there is nothing but self-doubt, fear, and uncertainty. *Rag Doll* introduces us to Sarah, an extreme example of what could happen to a young woman if she were to listen to all of the criticism, doubts, and implications told to her. How far can someone be pushed in an atmosphere that is focused on competition and emulation? When we stumble over uncertainty in our path, it is difficult to regain enough confidence to continue walking. It is easy to forget that you have the option of being right. It is easier to assume you are wrong.

Perspectives on Difference

Philosophy and Diversity

The Classification of *ëManí*: An Exploration of the Influence of Science and the Eighteenth-Century Naturalist Movement on the Development of the Modern Western Concept of "The Other"

Jessica Lehr, Anthropology and English '99

ADVISOR: Sally Merry, Anthropology

When did race first become a biological concept? I would argue that it was during the "Age of Enlightenment," the eighteenth century, a time when science was on the rise and man was constantly questioning the world around him. In his *Systema Naturae* (1735), the Swedish naturalist Linnaeus was the first to include humans within a classificatory system with the rest of Creation. In the 10th edition of his (1758) he divides *Homo sapiens* into races. As an influential scholar and professor, Linnaeus's work was known and accepted throughout Europe, and his students accompanied many of the great exploratory voyages of the later half of the eighteenth century. My thesis focuses on the influence of the eighteenth-century naturalist movement, most specifically the works of Carl von Linne (Linnaeus) and Johan Friedrich Blumenbach, on Imperialism and the formation of our modern conceptions of "the other."

Evolutionary Prejudice: Misuses of Darwin's Theory of Natural Selection

Karen Arnold, Philosophy and Biological Sciences '99

ADVISOR: Mary Kate McGowan, Philosophy

Darwin's theory of evolution stands at the heart of modern biology. Darwin knew that his theory had wide-reaching applications to the study of human nature. Unfortunately, he did not foresee the myriad of ways in which his theory could be misused to further the racist or sexist aims of theorists. Evolutionary explanations have often been used to promote hate and bigotry. I will explore the following questions: can we reject prejudiced

misuses of evolutionary theory without discrediting Darwin's theory of natural selection? Can evolutionary theory be fair-minded? By focusing on the philosophical concept of relevant explanation I shall outline some criteria that a good explanation of human behavior must fulfill. This analysis of explanation will be used to criticize racist evolutionary explanations of IQ differences between different races.

Perspectives on Ethics in the Global Community

Sarah P. Fishleder, Philosophy '00
 ADVISOR: *Ifeanyi Menkiti, Philosophy*

The world's nation-states face the inevitability of a global community; new ethical approaches to problem solving are needed. It is vital that nation-states be able to maintain identity, but not at the cost of successful global relations. Human rights conflicts provide an excellent venue for examining cultural conflicts, by demonstrating the way in which differing cultural perspectives can obscure the real issues behind several transnational conflicts. By introducing the concept of moral relativism, or the view that standards are grounded in social approval, and contrasting it with another extreme, cultural imperialism, an epistemological midpoint can be identified. The work of thinkers such as Jean-Jacques Rousseau, Jean-Paul Sartre and Edward Saïd will help to define this midpoint and contribute to a detailed approach to resolving cultural conflicts.

Border Crossings

American Like Me: Stories of Biculturalism

Jenessa Boleda, Spanish and International Relations '01, Gillian Green, Spanish and Mathematics '01, and Virginia Slaughter, Spanish and Economics '00
 ADVISOR: *Nancy Hall, Spanish*

We are American. Biculturalism is similar to looking through a window whose two different colored panes can slide together or be viewed separately. Living along the cultural borders of Latin America and the United States forms a sense of identity, provides various perspectives of the

world and thus creates an equal love for both cultures. Bicultural individuals struggle with the advantages of being able to understand two cultures and the disadvantages of not knowing where we fit in. This panel brings together students from a variety of fields – sociology, literature, music and dance – whose lives have been enriched by a deep sense of affiliation with both the United States and Costa Rica, Cuba, Mexico, and Puerto Rico.

Tradition and Innovation

Adaptations and Translations

Collective Improvisation in the First Bill Evans Trio, 1959-1961

Rebecca Morin, Music '99
 ADVISOR: *Jay Panetta, Music*

The first significant trio of pianist Bill Evans was created with the goal of achieving what Evans called “simultaneous improvisation.” Formed in 1959 and featuring bassist Scott LaFaro and drummer Paul Motian, this ensemble forged a more balanced trio dynamic than was customary. The soloist-oriented language of postwar jazz generally relegated the bassist and drummer of a piano trio to subordinate roles; by contrast, LaFaro and Motian were granted an unprecedented degree of musical freedom. Most significantly, a form of improvisational dialogue dominated the Trio's work, rather than a traditional sequence of solos. While many musicians of the 1950s subverted conventional jazz forms and structures, the Evans Trio practiced their collective improvisation within standard harmonic and formal constraints. Despite this conservatism, the Trio embraced the same burgeoning philosophy of creative and improvisational freedom that characterized the more rebellious music that would come to be known as “free jazz.”

Speaking without Noise: The Uses of Words in the Art of Roy Lichtenstein, James Johnson, and Jenny Holzer

Helena Winston, Art History and Biological Sciences '99
 ADVISOR: *Rebecca Bedell, Art*

Words have been a part of pictorial art for centuries. Their appearances range from

Egyptian hieroglyphs to embellished letters in illuminated manuscripts to Surrealist word-images. Although the latter part of the twentieth century has seen the proliferation of the word in art, as many modern artists explore its potentialities, critics have often let the words speak for themselves and have not examined the meaning of their presence. An evaluation of the work of Roy Lichtenstein (a pop artist famed for his ‘comics’), James Johnson (a relatively unknown Colorado-based artist), and Jenny Holzer (known for her electronic signboards) reveals that these radically divergent artists all exploit the qualities of the word to increase the disturbing and disquieting effects of their work and to challenge multiple degrees of authority.

The Protean Sign: Changing Codes in Cindy Sherman's Untitled Film Stills

Kara Flyg, Art History '99
 ADVISOR: *Pat Berman, Art*

Cindy Sherman, artist, model, and performance artist, produced more than eighty works collectively known as the Untitled Film Stills between 1977 and 1980. Acting as both the photographer and subject of these stills, Sherman used props, make-up, and costumes to loosely cite images of women in films and magazines, simultaneously reflecting and manipulating the viewer's concepts of gender, narrative structure, and codes of representation. I will explore the extent to which semiotics, psychoanalysis, counter-psychoanalysis, and mimesis play roles in Sherman's work as well as how Sherman utilizes/resists the idea of the feminine masquerade in these photographs.

Nature, Science, and Technology

Science Outreach

Teaching Science to Middle School Students

Jennifer A. Malmstrom, Geology '00
 ADVISOR: *Harold Andrews, Geology*

One of the weakest areas of education today is the middle school science curriculum. During the last decade, educators have been reforming curricula to

raise the standards of science education. An example of such a curriculum is the use of dinosaurs to teach geology. This curriculum provides educators with a series of activities that will allow students a hands-on opportunity to explore the earth sciences. Through an inquiry approach to dinosaur studies students will explore the formation of the earth, the deposition of sediment, the interdependency of living organisms, evolution, extinction, fossil excavation, and radiometric dating techniques. Furthermore, dinosaur studies offer the opportunity of incorporating other sciences such as physics, chemistry, math, and biology into the classroom. The interdisciplinary element of this curriculum conveys to the students that math and chemistry are not subjects only applied in the classroom, but in our everyday lives.

Linking Art and Marine Science in Computer-Simulated Atlantic Journeys

Becky Schaefer, Biological Sciences and History '99

ADVISOR: *Marianne Moore, Biological Sciences*

An interactive computer exhibit, based on new public art at Logan International Airport, is being designed to increase public appreciation and awareness of marine biodiversity in New England. The art installation, stretching the combined length of 10 football fields, will feature more than 70 marine species and 6 habitats from the Northwest Atlantic Ocean. The multimedia program, called "Atlantic Journeys," will be installed on computers in all airport terminals. Exhibit users will be able to explore New England's marine resources, the value of the ocean to scientists, artists, and the general public, and human impacts on local ocean life. Interactive games and simulations will encourage the use of both scientific thinking and the imagination, and challenge users to ask questions and address problems. This project has the potential to serve as a model for future public science exhibits in nontraditional public spaces.

VOGUE: Video of Physics in Reduced Gravity Used for Education

Gretchen Campbell '01, Jennifer Ross '00, Ann Sanders '01 and Frances Tyler Wellensiek '01

ADVISOR: *Robbie Berg, Physics and Ted Ducas, Physics*

The use of demonstrations is recognized as a highly effective tool in the teaching of physics. Currently teachers do not have access to videos from which accurate quantitative measurements of physics in microgravity can be made. Such simple examples as playing catch or bubbles floating to the surface of a liquid illustrate how gravitational effects influence our intuition and show the effects of microgravity on everyday physics phenomena. This March, a team of four students traveled to NASA's Johnson Space Center to fly on the KC-135 aircraft, a plane whose parabolic flight path results in periods of microgravity. A video of basic mechanics demonstrations in microgravity was filmed during the flights. These demonstrations will serve a dual purpose: not only can they be a resource for high school and introductory college level physics courses, but they can also be used to motivate young girls to pursue the sciences.

Preservation of Indigenous Medicinal Plant Knowledge in a Modernizing Community

Sonya Maria Funaro Soto, Anthropology '00

ADVISOR: *Sally Merry, Anthropology*

It is well understood that there has been a loss of traditional medicinal plant knowledge among indigenous communities around the world associated with rapid modernization and global capitalism. My research concerns the loss of popular knowledge in the city of Oaxaca, Mexico as well as the decreased utilization of traditional healing methods. The preservation of popular medicinal plant knowledge was examined through spontaneous plant identification by Don Nicolas, an elderly man living in Xoxocotlan, Oaxaca. I will present a group of plants that represent the extent of Don Nicolas' knowledge and discuss

how this group compares with the extent of indigenous medicinal plant knowledge in Oaxaca. I will also demonstrate that there are an increasing number of people and organizations dedicated to the preservation and revitalization of this knowledge.

Image, Text, and Subtext

Drawing from Within

Master Draftswomen: Projects from ARTS 314, Advanced Drawing

Tiffany "Spiff" Fehr, Studio Art and Media Studies '00, Amelia Kraeche, Studio Art '99, Sara B. Edwards, Studio Art '02, Lisa Aronsson, Art History '99, Jennifer Miller, Art History and French '00, Anne Cross, Computer Science '99, and Linda Zug, Post-Baccalaureate
ADVISOR: *Elaine Spatz-Rabinowitz, Art*

The focus of Advanced Drawing was developing a personal approach to drawing founded on the fundamentals of "seeing." After moving through the basics, we sought to explore more advanced problems in drawing through projects such as building and abstracting still-life towers, drawing from a multitude of perspectives in a rotational setting, doing a series on new media and experimenting with lack of technical control (drawing with unconventional tools, with the 'wrong' hand, with new materials, etc.). Building on these assignments, at the end of the semester we began our independent work, focusing on individual style and on personally tailored advanced problems in drawing. The work we are proud to present displays examples of our lessons throughout the course as well as our final independent projects.



Politics, Power, and Society

The American Experience

New England Vernacular Architecture: Quaker Meeting Houses of Southeastern Massachusetts

Debra Elkind, Architecture DS4
 ADVISOR: *James F. O'Gorman, Art*

Vernacular architecture is not the creation of academically trained designers or builders. Rather, it is the reflection of local needs and tradition. Design and construction methods are passed down orally, old forms serve as models for new, and local materials are used. While architectural changes come slowly under these constraints, reinterpretation of old forms is necessary in order to meet the evolving needs of those who utilize the buildings. This hypothesis is supported with a slide presentation and discussion of four Quaker meeting houses in southeastern Massachusetts – Sandwich, Yarmouth, and Falmouth on Cape Cod, and Apponegansett on the mainland. The latter eighteenth-century building illustrates the “typical” New England Quaker meeting house form. Original features from the three nineteenth-century meeting houses demonstrate how local traditions and practical factors contributed to modifications of that form. Later renovations give further evidence that vernacular architecture responds to social, economic, and religious changes.

A Hierarchy Continued in Death: The Families of Men Lost at Sea in Eighteenth- and Nineteenth-Century New England

Sonja Lynne Mitchell, Mathematics '99
 ADVISOR: *Lidwien Kapteijns, History*

Thousands of men who sailed from ports in New England during the eighteenth and nineteenth centuries aboard merchant, whaling, and fishing vessels died while still at sea. The survival of their wives, children, and parents, who were left without a bread-winning husband, father, or son, was closely linked to the lost man's specific place in the strictly hierarchical maritime culture. The continuation of this hierarchy after death, as

experienced by the surviving families, was sustained through custom, regulation, and law. This is illustrated clearly in primary-source documentation from the time period, including ships' logs, personal letters of seamen and their families, newspaper articles, American consular letters, and records from the beneficent fraternal organizations of ships' officers. This research was done at the G.W. Blunt White Maritime Library at Mystic Seaport Museum during the fall 1997 term of the Williams College-Mystic Seaport Maritime Studies Program.

Lots of Boys Enlisted under the Wrong Names: The Experiences of Women Who Fought in the American Civil War

Julia Rosenstock, History '00
 ADVISOR: *Elizabeth Varon, History*

Among all of the intriguing aspects of the American Civil War is buried perhaps the most fascinating: the phenomenon of the estimated four hundred women from both North and South who enlisted as men and lived and fought as male soldiers. Who were they? What was their experience in the war? Most importantly, why did they do what they did? The failure of the contemporary propaganda to satisfy the needs and desires of the women of the Union and Confederacy was perhaps the chief cause of their unorthodox actions. This failure stemmed from the contrast in women's and men's roles in this era, and the solution these four hundred women independently struck on – in essence, to become men – was uniquely effective.

Social and Political Perspectives on Development

Misuse and Abuse of Power: The United Nations and Rwanda

Linda Guandalini, Political Science '99,
Elizabeth Holzer, Sociology '00 and
Leila Toplic '01
 ADVISOR: *Lidwien Kapteijns, Women's Studies, Peggy Levitt, Sociology and Robert Paarlberg, Political Science*

This presentation is about international responsibility, particularly the limitations of the United Nations as the guardian of human dignity. Nothing reveals so much as real life so we chose to create a case

study of a failure. In 1994 the international community failed Rwanda. It failed to stop the Hutu from slaying thousands of Tutsi. The core of our study is the 1994 civil war and its aftermath. We focus on human rights violations, ethnic hatred, creation of a refugee society, and the ensuing health crisis. What precipitated this drastic cultural overthrow, what in the social consciousness allowed it, and why did the United Nations fail to stop it?

Wellesley in Time and Space

Exploring Wellesley

The Rediscovery of Wellesley Traditions

Molly Hellerman, Economics and Spanish '99
 ADVISOR: *Rebecca Bedell, Art*

This talk will turn the listener into a participant as we explore three Wellesley traditions. The first, the annual play on Lake Waban, is no longer practiced, while the other two, hoop-rolling and tree planting, continue to play an active role in Wellesley life. As we quickly approach the twenty-first century and the 125th anniversary of Wellesley, it is important to continue conversations about the heritage of our College. Not only does it give us a greater appreciation for the past, but also allows us to better contribute to the future.

Web of Species: An On-line Field Guide to Wellesley's Landscape and History

Allaire Diamond, Environmental Ethics and German '01
 ADVISOR: *Nicholas Rodenhouse, Biological Sciences*

Web of Species is an on-line field guide to the plant and animal species living on Wellesley's campus. Landscape exists in both time and space. *Web of Species*, by combining science, art, design, and history, enables the visitor to appreciate the campus in ways corresponding to both concepts. Every species has evolved through time, and through the web site's taxonomic tree, one learns the process of development undergone by each organism. Wellesley's varied spaces are natural

habitats; the visitor can find out about a particular species by navigating to its habitat on a campus map. Five habitats are represented on *Web of Species*: forest, glade, meadow, wetland, and the arboretum. Once the visitor has found a particular species, he or she can read an individual species page, with biological characteristics, natural history information, and interesting connections. The site also includes a virtual nature walk and a compilation of relevant links.

**“The Stars Are in Your Hands”:
An Introduction to the Historical
Astronomical Instruments at
Whitin Observatory**

Sonya Rhee, Film and Media Studies '99
ADVISOR: *Kim McLeod, Astronomy*

Whitin Observatory has amassed a significant collection of astronomical instruments over its almost one hundred years in existence. Included in this collection is an array of historically important instruments, ranging in size from a 4-inch spectroscope to a 60-foot telescope. Each instrument is a testimony to the progression of technology, astronomy, and history. One such example is the Duncan Globe, a celestial sphere designed in 1924 by astronomy department chair John Duncan. I will present the Duncan Globe and describe the progression of celestial spheres used since then. In addition I will exhibit a few other specially chosen instruments as well as present a web page devoted to this collection.

**Biophilia as an Underlying Design
Principle in the Landscapes of Frederick
Law Olmsted**

Lorraine Palmer, Architecture '00
ADVISOR: *Peter Fergusson, Art*

Frederick Law Olmsted, the father of American landscape architecture, created many extraordinary landscapes. An understanding of Olmsted's visionary designs and the mechanisms by which these landscapes function may be gained by applying, to the Olmstedian landscape, Edward O. Wilson's biophilia hypothesis. An extension of Charles Darwin's theory of natural selection, biophilia is a positive, innate response to specific aspects of the natural landscape. The biophilic

response is triggered because these landscape features were indicators of favorable conditions crucial to early man's survival, such as food, water and safety. Olmsted generously employed specific landscape features with the intent of promoting such positive responses. Although Wilson formally defined the biophilia hypothesis more than 120 years after Olmsted began his career, there is convincing evidence that Olmsted relied on his own innate sense of biophilia as a significant underlying design principle.

3:00 – 4:10

Gender and Sexuality

Gender and Education

Effects of a Self-Defense Program on the Coping Ability, Self-Esteem, and Self-Efficacy of Girls Ages 8-14 Years

Quyên Mai Ngo, Psychology '99

ADVISOR: *Linda Carli, Psychology*

The relation between participation in a self-defense program and girls' coping ability, self-esteem, and self-efficacy will be examined. The self-defense program, Girls' LEAP, is directed towards girls ages 8-14 years. Participation in the program is believed to be positively correlated with coping ability, self-esteem, and self-efficacy. Participants will be asked to fill out a questionnaire measuring the three variables at the beginning of the workshop series, and then again at the end. Girls' scores before and after the workshop series will be compared.

The Religion Factor: The College Experiences of Religious High School Graduates

Alison Ross, Sociology '99

ADVISOR: *Peggy Levitt, Sociology*

Fifteen women, five each from Jewish, Catholic, and Protestant high schools, currently attending secular Boston-area colleges, participated in interviews regarding religiously-influenced practices at home, high school teachings, both religious and secular, and current lifestyle habits and decisions. Their responses will be analyzed in three contexts: 1) formal participation in religious activities (e.g. worship services), 2) informal participation in religious activities (e.g. holiday meals with specific family or friends), and 3) personal decision making (e.g. meditation before important decisions). Based on current literature, it is expected that, regardless of denomination, religion will continue to influence these women's lives, even though they currently live and learn in a secular environment.

The Young Women's Leadership School: Law, Policy, and Single-Sex Public Education

Danielle Fishbein, Political Science '99

ADVISOR: *Tom Burke, Political Science*

The Young Women's Leadership School (TYWLS) of East Harlem opened its doors in 1996 to 50 seventh-grade girls as an experiment in single-sex public education. Its supporters contend that, while not a permanent solution to gender inequity in our nation's schools, institutions such as TYWLS can demonstrate how educators and policymakers may ensure that girls and women possess the greatest range of opportunity and choice to empower them in society. Not only does a study of TWLS illustrate many of the difficulties with researching the benefits of single-sex schools for girls and women, but it also provides context for a discussion of the theoretical, legal, and public policy issues involved in supporting the educational option of sex segregated learning.

Identity and Society

Growing Up over Time: Issues in Adolescent and Adult Development

Factors that Contribute to Second Language Proficiency

Angela Carpenter, Language Studies '99

ADVISOR: *Andrea Levitt, French and Linguistics*

Attitude and motivation to learn a language evolve as a result of the interaction of many factors, including the role of parents, peers, and teachers in influencing the learner; how strongly the learner identifies with the target culture; and how much the learner wishes to succeed in the language to improve career prospects or social status or to meet an educational requirement. A study was conducted using international students from Wellesley and elsewhere to ascertain which of the above factors significantly contributed to subjects' high performance on the Test of English as a Foreign

Language (TOEFL). Subjects completed a questionnaire rating how strongly each of 60 items influenced their language learning experience. For the group of subjects studied, the factors that affected proficiency in acquiring English were: learning in the language, having other people in their family or community who speak the language, general enjoyment of learning languages, and specific enjoyment of learning the target language.

What Becomes of Resilient Children: Findings from a Longitudinal Study

Sharon Ng, Psychology '99

ADVISOR: *Paul Wink, Psychology*

The long-term implications of resiliency, or the ability to approach life in a flexible and adaptive manner were investigated using data from a longitudinal study. Participants in the longitudinal study were interviewed in late adolescence (in the 1930s) and subsequently four times in adulthood (when they were in their 30s, 40s, 50s, and 70s). Results support the hypothesis that resilient adolescents show greater life satisfaction and better mental health in old age than their less resilient counterparts. Some of the concurrent correlates of resiliency in adolescence, such as social class and family conflict, were also explored.

Influence of Adolescent Personality Structure on Adaptation to Life in Old Age

Meredith Rose, Psychology '99

ADVISOR: *Paul Wink, Psychology*

Adolescence is a time when we begin to explore answers to the question "Who am I?" According to Erik Erikson, some individuals develop a firm sense of identity in adolescence while others continue to explore their identity well into adulthood. I use data from a longitudinal study of men and women to investigate the implications of these two types of identity formation for psychosocial functioning in old age. My findings indicate that individuals who achieve a sense of identity early on in life turn into adults who are satisfied with their life but who



are also quite conventional. In contrast, those individuals who postpone identity formation in adolescence are likely in old age to be more open to new experience and to be receptive to new ideas.

The Impact of Stress on Adolescent Somatization

Rosemary Merchant '01

ADVISOR: Belle Liang, Psychology

There is a small body of literature on the impact of stress and negative life events on the physical health and psychosomatic complaints of adolescent medical patients. In a pilot study, approximately 25 consecutive adolescent patients who presented at pediatric gastroenterology clinics, affiliated with a major teaching hospital, were surveyed. These surveys included items pertaining to medical symptomology, negative life events, resiliency and coping abilities, and also sources of social support. This initial data, together with the literature on social support and relational theory, provides the basis for our discussion of interventions that could be useful to this population.

Tradition and Innovation

Literature and Context

"Is this the Region?" and "this scept'red isle": Reading Nationalism in *Richard II* and *Paradise Lost*

Marianne Montgomery, English '99

ADVISOR: Jodi Mikalachki, English

Although Milton's *Paradise Lost*, with its biblical topic, claims to be historical and universal, it proposes a reading of English history that reevaluates Gaunt's vision of the English nation in Shakespeare's *Richard II*. In *Paradise Lost*, when Satan first glimpses hell and asks "Is this the Region, this the Soil, the Clime / ... / That we must change for Heav'n, this mournful gloom / For that celestial light?," Milton is rewriting Gaunt's idealization of England's past, his "scept'red isle" speech: "This blessed plot, this earth, this realm, this England." Outside of history, Milton's Satan accepts history in a way that Gaunt does not,

internalizing place and historical process rather than choosing the ultimately unfulfilling and unproductive path of nostalgia. Intent on the future, Satan's energies are imperialistic rather than nationalistic, but, because he himself embodies hell, his imperialism is ultimately as unsatisfying as Gaunt's appeals to England's lost past.

Tatyana and Lizaveta, Women in Limen: Exploring Liminality in Aleksandr Pushkin's Works

Theresa A. Peterson, Russian Area Studies '99

ADVISOR: Elena Semeka-Pankratov, Russian

The heroines of two of Aleksandr Pushkin's most famous works share a curious trait; they are both liminal characters, standing at the juncture between life events. To emphasize the position of these characters and make their true identities accessible to the readers, Pushkin used liminal spaces in architecture and a host of mythopoetic imagery which crossed social and cultural boundaries.

Conrad's Accomplice: The Reductionist Ending of Achebe's *Things Fall Apart*

Eleanor King, English '99

ADVISOR: Margaret Cezair-Thompson, English

Joseph Conrad's *Heart of Darkness*, written in 1899, is the fictitious account of Marlow's journey to the center of Africa. Cited as one of the "half-dozen greatest short novels in the English language," Conrad's narration serves to remind readers of the early colonial perceptions and biases projected onto everything African. In 1959, Chinua Achebe published *Things Fall Apart*, a novel about an African tribe before and after colonial exposure. Critics revered Achebe's work because it delivered not only a voice, but also an identity, to "that dumb thing" silenced by Conrad. By negating Conrad's images, Achebe succeeded in undermining racialized portrayals of African identity but failed to deliver a sustainable voice. By imposing silence on Okonkwo, Achebe symbolically imposes silence on all Africans, and thus irrevocably links himself to Conrad.

North and South: Elizabeth Bishop's Sense of Home in Nova Scotia and Brazil

Bonnie Anderson, English '99 and Carolyn Bojanowski, English and Spanish '99

ADVISOR: Marjorie Agosín, Spanish and Frank Bidart, English

The modern poet Elizabeth Bishop's career includes travel to a variety of locations. Each of these locales influences her development as a poet and as an individual. Her early home in Nova Scotia is a touchstone of image and memory to which Bishop often returns in her writing, although, only in late adulthood is she able to make a concrete connection to her youth. A 20-year resident of Brazil, Bishop discovers a new home in an exotic locale. There, Bishop writes about her immediate Latin American surroundings and culture while simultaneously returning to her personal past in Nova Scotia. From Petropolis and Ouro Preto, she explores the culture and characteristics of the contrasting yet surprisingly familiar Nova Scotian and Brazilian settings. Her work reflects a deepening understanding of self through her love of these two divergent places. Bishop reveals how her "North" is inextricably linked to her "South."

Broadening the Canon

A Reconciliation of Faith and Reason: The Political Thought of Thomas Aquinas, Ibn Rushd and Muhammad 'Abduh

Emily Nacol, Political Science '99

ADVISOR: Roxanne Euben, Political Science

As philosophical inquiry and religion intersect, the struggle between reason and faith becomes central. For political thought, the outcome of this discourse determines how the community is shaped. Thomas Aquinas, Ibn Rushd and Muhammad 'Abduh, despite their different eras and traditions, are each drawn to this problem. For Ibn Rushd and Abduh, the problem is whether philosophy has a place in the Muslim tradition of revealed truth. If so, what are the implications for wisdom and authority in the community?

For Aquinas, the concern is finding a place for critical reason in Christianity and discovering what it could mean for social hierarchy and law. Because they address the same question, these three theorists invite comparison. However, the task itself raises new questions about comparing across time and culture. Therefore, it might be necessary to frame this traditional debate differently to engage with the work of each philosopher and find effective bases for comparison.

Socrates Had a Wife and Children

Mari Lou Granger, American Studies '99
ADVISOR: *Maud Chaplin, Philosophy*

Traditionally dominated by white males, the field of philosophy is in the process of redefining itself. In this study, my goal is to explore "other" points of view. Rather than reading reactions to classic philosophical works; I am interested in new or different ideas from as many perspectives as possible. My criteria has been, "Is this writer telling us how we ought to live?" Looking at Mary Catherine Bates, Martha Nussbaum, Seyla Benhabib, Lucius Outlaw, Cornel West, Frederick Douglass and more, my presentation will summarize my findings and set them in the context of insider versus outsider and modern versus postmodern.

Merging Two Worlds: The Religion and Poetry of Two Chinese Poets, Li Bo (701-762) and Wang Wei (699-761)

Hui Men, Physics '99
ADVISOR: *Sherry Mou, Chinese*

Throughout Chinese poetic tradition, poetry has always retained a very strong autobiographical flavor. A poet's external and internal worlds transform, join, and integrate to create poems whose web of words capture an enlivened personal experience. This presentation will explore in detail a case of such integration in two exemplary classical Chinese poets, Li Bo (701-762) and Wang Wei (699-761): I will discuss the impact of these poets' religious beliefs on their poetic styles, and the reflection of their unconventional comprehension of religion through their poetry. Li Bo's adoption of Taoism leads him to celebrate the world of motion in his poetry, whereas Wang

Wei's internalization of Buddhism directs him to capture a world of tranquillity. Despite their different religious beliefs, both poets reached a similar enlightened attitude towards life. Their poetry displays freedom of the mind, enabling them to transcend social standards and worldly matters, while continuing to inspire readers across time, space, and culture.

Voices of Hope and Resistance: Selected Korean Poetry of Yi Sanghwa, Yi Yuksa, and Sim Hun

Elizabeth W. Son, English '00
ADVISOR: *Jung Sun Oh, Religion*

Yi Sanghwa, Yi Yuksa, and Sim Hun created some of the most subtly powerful poems in protest against Japanese colonial rule in Korea (1910-1945). At a time when the demise of the Korean spirit and identity loomed, these national poets utilized literature as an implicit form of resistance. Through the diction, figurative language, and tone in "Does Spring Come to Stolen Fields," "Flower," and "When That Day Comes," Yi Sanghwa, Yi Yuksa, and Sim Hun, respectively, capture the struggles of Koreans during the Japanese imbroglio, and uplift the Korean spirit with the hope of liberation awaiting all suffering Koreans. Indeed these poets succeeded in keeping the fire of hope burning, and that day of independence did come when all Koreans rejoiced in one triumphant voice.

New Music

Building the Ears of Tomorrow: A Concert of Contemporary and Twentieth-Century Music

Erica Schattle, Music, '99
ADVISOR: *Martin Brody, Music*

At the turn of the century, one cannot leave her ears one hundred years in the musical past. Now more than ever, it is important for listeners and performers to become familiar with the music of today. This academic year reflects a growing student interest in contemporary and twentieth-century music. Courses are currently offered in electronic music and twentieth-century composition, not to mention the formation of FJT, a student organization dedicated to the promotion

of contemporary and twentieth-century music. This concert will showcase new student compositions from the electronic music and twentieth-century music courses as well as student performances of twentieth-century compositions.

Nature, Science, and Technology

Natural Adaptation

Latitudinal Differences in the Growth Rate and Stoichiometry of an Important Freshwater Grazer

Hannah Walsh, Biological Sciences '99
ADVISOR: *Marianne Moore, Biological Sciences*

Ecological stoichiometry is the study of nutrient ratios in organisms and in ecosystems. During the summer of 1998, I worked in northern Wisconsin and arctic Alaska studying an important grazer in freshwater lakes: *Daphnia pulex*. In bottle experiments, *D. pulex* were given a phosphate supplement and their growth rate was measured. The growing season is much shorter in Alaska than in Wisconsin, and *D. pulex* populations in Alaska have a faster growth rate. Changes in cell content to achieve this faster growth rate change the nitrogen:phosphorus ratio of the organism, and put the organism at a greater potential for phosphorus limitation. If the *D. pulex* populations in Alaska are limited by phosphorus, they should exhibit a greater increase in growth rate in response to the phosphorus addition than the *D. pulex* populations in Wisconsin. Ecological stoichiometry ties together ecosystem dynamics and cellular biology.

Sex Differences in the Neurogenesis of Basal Forebrain Cholinergic Neurons in Mice

Laurie Ann Burlingame, Biological Sciences and Psychology '99
ADVISOR: *Joanne Berger-Sweeney, Biological Sciences*

Males and females perform differently on cognitive tasks thought to involve the cholinergic neurotransmitter system of the brain. For example, males are better than females at spatial memory tasks.

The major source of cholinergic input to the “cognitive” regions of the brain arises from subcortical neurons residing in the basal forebrain (BF). Previous studies in rodents have shown that the BF cholinergic system develops differentially in males and females, with the system maturing faster in females. No one, however, has determined if differences in the developing cholinergic system exist from inception (birth of cholinergic neurons in the BF). The purpose of this study is to examine if there are sex differences in the neurogenesis (birthdate) of BF cholinergic neurons in mice. Pregnant mice will be injected with a birthdating agent, which is incorporated into the DNA of actively dividing fetal cells. The brains from the offspring of the injected mice will be processed for the presence of the birthdating agent and a cholinergic marker. Neurons in the BF which have both labels will be counted and compared between the sexes.

Changes in Membrane Fluidity in *Rhododendron maximum*

Nicole Mejia '02 and Dana Williams '02
ADVISOR: Martina Königer, Biological Sciences

We examined changes in membrane fluidity of *Rhododendron maximum* leaves in response to short-term changes in temperature. After exposing leaves to temperatures between 5 and 35 °C for 45 minutes the half-time of chlorophyll a fluorescence decay was measured and the membrane fluidity was calculated. Our results showed that membrane fluidity of leaves harvested in the fall and winter did not change in response to exposures at these temperatures. These findings were in contrast to results from similar experiments

Population Dynamics of Terrestrial Slugs *Limax maximus* and *Arion ater* in Eight Forest Fragments on the Wellesley College Campus, Wellesley, Massachusetts

Sophie Parker, Biological Sciences '99
ADVISOR: Nick Rodenhouse, Biological Sciences

Patterns in habitat disturbance may be revealed through an examination of the

differences in the terrestrial gastropod populations of forest fragments with separate land use histories. Slug populations in eight forest patches were enumerated and the length of individual slugs was measured. Determinations were made of the percent soil moisture, percent canopy cover, leaf litter depth, and soil nutrient concentration of each forest patch. Sites with higher soil moisture and nutrient content and less canopy cover and leaf litter had higher total slug population. I incorporated these findings into an age-structured simulation model that predicts R, the net reproductive rate of the slug population, given specific environmental conditions. Calcium concentration of the soil was strongly correlated with slug population size in each site. The model predicts that $R < 1$ in seven of the forest fragments, indicating that slug population in these patches may be sustained by immigration from nearby lawns.

Predicting Locomotor Style of a Jurassic Ichthyosaur

Anne Marie Chomat, Biological Sciences '99
ADVISOR: Emily Buchholtz, Biological Sciences

Ichthyosaurs were a group of highly adapted, obligate marine reptiles in the Mesozoic Era that were common and widespread inhabitants of inland seas worldwide during most of the Triassic and Jurassic. This thesis focuses on analyzing the swimming style of the Jurassic ichthyosaur *Baptanodon*, a study based on a comparison of the body shape and vertebral column of the genus to that of thunniform bony and cartilaginous fish (e.g. tunas) and of dolphins and porpoises, which we believe sheds light on the flexibility of the vertebral column and swimming style of the extinct reptile. The project involved the collection of an ichthyosaur specimen in the Jurassic Sundance Formation of Wyoming, reconstruction of the fragmentary fossil, documentation of its vertebral morphology, comparison of this morphology with that known from other ichthyosaurs, and physical modeling of vertebral flexibility given variations of vertebral shape and count.

Optimization of Assay for the Cyanobacterial Enzyme Cyanophycinase

Marianne Terrot '01 and Tanyka Wilson '01
ADVISOR: Adele J. Wolfson, Chemistry

Cyanobacteria store nitrogen in a polypeptide called cyanophycin (CGP). Our research has focused on the development of reliable methods for identifying and quantifying cyanophycinase, the enzyme which breaks down CGP, in cell extracts. CGP is highly insoluble, making most direct assays difficult and poorly reproducible. Gel electrophoresis using gels permeated with protease substrates revealed that cell extracts contain several enzymes, including some with molecular weights corresponding to that of cyanophycinase, capable of digesting casein. Since casein might be a suitable substrate for cyanophycinase, yellow casein was used in a colorimetric assay. In tests of crude cell extracts, casein digestion was observed after incubation. Current work focuses on the optimization of the yellow-casein assay. Another approach investigated has been the possibility of permeating gels with CGP itself and using these gels to test cell extracts. Although difficult to carry out, such an assay would offer far greater specificity than replacement-substrate assays.

The Pizza Problem and Other Puzzles

Pizza, Prisoners, and Permutations: An Interactive Hands-on Exhibit in Mathematics

Hye-Hyun An '01, Meghan Baivier '01, Gretchen Campbell '01, Jeanette Campos '00, Martha Cheng '01, Betsy Jelinek '01, Lefty Keans '00, Rachel Lomasky '01, Lisa Osiecki '00, Roya Rastegar '01 and Sarah Zoll '01
ADVISOR: Ann Trenk, Mathematics

How many pieces of pizza can you make with three straight cuts? What if you use four or five straight cuts? Can you help a prisoner escape from a grid-shaped prison if she must pick up a key from each cell along the escape route? Come to the Math 225 exhibit and play with our models and

learn how to solve these and other fun problems. This exhibit is designed for the general public – no background in mathematics is needed or expected!

Robots on Parade

Robotic Design Studio, 1999

Allison Dupuy '02, Krista Miller '02, Desirée Urquhart '00, Andinet Amare '00, Laura Graff '01, Anna Raphael '00, Emily Puente '00 and Ann Hintzman '99
ADVISOR: Robbie Berg, Physics

A display of robots from the 1999 Robotic Design Studio Class, including “Squirrel Trap,” “Rock, Paper, Scissors,” “Lullabye and Goodnight,” and “Popeye and Olive Oyl: A Fire Fighting Robot.”

Image, Text, and Subtext

Filming Africa

FESPACO – A Journey into African Cinema and Culture

Farrah T. Giroux, *French and English* '99 and May Haduong, *Film Studies* '00
ADVISOR: Salem Mekuria, Art

FESPACO is the largest and oldest African Film Festival in existence. In February of this year, we traveled to Ouagadougou, Burkina Faso, West Africa. There, we were able to attend numerous films and cultural events that surrounded the festival. This presentation is a documentation of our trip and experiences. We will incorporate photos, text, slides, and music in the display.

Five Fish Out of Water: Wellesley Students in Ouagadougou

Jennifer Thompson, *Film Studies* '01 and Cassie Hamilton, *Film Studies* '01
ADVISOR: Salem Mekuria, Art

The FESPACO film festival was created in 1969 in Ouagadougou, Burkina Faso on the initiative of a few film enthusiasts on January 7, 1972. The festival became an institution by decree in Burkina Faso and is now held biennially. Its purpose was to contribute to the expansion and development of African cinema as a means of expression, education and awareness. Five film students have been given the

opportunity to attend this festival and expand their horizons as far as their knowledge of films is concerned. What will they gain from this experience? How will it help in their development as student filmmakers? Video documentation focusing on their experiences in Ouagadougou will be shown.

The International Distribution Crisis in Contemporary African and African Diaspora Filmmaking

Amy Wood '99
ADVISOR: Salem Mekuria, Art

This year's theme at the 1999 FESPACO, the Pan-African Film Festival in Burkina Faso, is distribution. As the proverb goes, “Whoever controls distribution, controls cinema.” The economic power of film distribution, despite the continual growth of African Cinema since its inception in the 1960s, is still dominated by foreign-based companies, preventing the establishment of strong domestic film industry and impeding the creation of national cinemas on the cultural, economic, political, and social levels. While inventing an aesthetic of Black African Cinema within the world tradition, artists are attempting to balance socio-political filmmaking and the preservation of indigenous cultural traditions with commercially viable creations. Interviews with filmmakers, producers, international film scholars, and festival participants will present an overview of the current distribution crisis affecting the production and funding of contemporary African film both on the local and the global scale.

Politics, Power, and Society

Issues in National Development

Latin America's Impact on International Law of the Sea: Expansion of Territorial Limits and Economic Zones

Ann Strini, *International Relations* '99
ADVISOR: Lois Wasserspring, *Political Science*

Law of the Sea is the oldest and most controversial area of international law today. As soon as fishing became

profitable, property of the sea became an important issue in international law. World powers first dictated these laws, but by the sixteenth century, a three-mile ‘protection’ zone was established among nations. Following World War II, Latin American states emerged as independent world actors that challenged existing international law based on the depletion of the fish stocks near their coastal shores. Chile, Equador, and Peru passed laws which extended their territorial seas to 200 miles. Over the next thirty years, a United Nations Convention met to codify law of the sea; they drafted a set of international norms which now regulate territorial seas and conserve natural resources. Presently, disagreements in areas such as the Falkland/Malvinas Islands have erupted to challenge the transgressors of these international norms.

Effects of Economic Instability on Growth in Chile between 1964 and 1989

Lisa Schroeer, *Economics* '99
ADVISOR: Joseph Joyce, *Economics*

Chile experienced great economic volatility between 1964 and 1989. Plagued by modest growth and moderate to high inflation for most of its history, Chile attempted socialism in 1970. Three years after the socialist experiment began, the military staged a coup. The research presented will show the effects of the changing monetary and fiscal policies driven by the changing regimes. The expected results are that inflation and the government deficit had a negative effect on growth.

What's Fair? Welfare Reform and Affirmative Action

Social and Economic Inequality in America

Lyzette Bullock '01, Michelle Cheuk, *Sociology and Economics* '00, Portia Hensley, *Sociology* '01, Helena Hwang, *Peace and Justice Studies* '01, Deborah Kohn, *Religion* '00 and Erin S. York, *Sociology* '99

ADVISOR: Esther Wilder, *Sociology*

Current debates about social and economic inequality center on competing

concepts of fairness and equal opportunity. While many Americans deny the existence of a class structure, others acknowledge that opportunities for socioeconomic attainment and political power vary according to race, ethnicity, and gender. This panel discussion will offer a multifaceted examination of social and economic inequality in America. We will outline techniques for measuring inequality and quantify the extent to which certain groups experience social and economic advantage and disadvantage. We will also present theoretical explanations for understanding the emergence and persistence of social inequality in America. Finally, we will outline recent economic, legal, and political attempts to address inequality in America, with particular attention given to the Welfare Reform Act of 1996 and ongoing legal debates regarding affirmative action programs (in both education and employment) and school voucher systems.

Wellesley in Time and Space

Reconstructing Places

Jewett Arts Center Sculpture Court Redesign

Pauline Lombardi, Architecture '99, Lorraine Palmer, Architecture '00, Julie Smolinski, Art History and French '99 and Mayu Endo FX
 ADVISOR: *Alice Friedman, Art and Phyllis McGibbon, Art*

The Jewett Sculpture Court originally served as a display area for the Wellesley College sculpture collection. Since the construction of the Davis Museum, this space has lacked a specific program and often remains empty. This redesign provides a program for this valuable but currently underused space. The existing architecture of the Sculpture Court, bordered by the open stairwell, implies that the space should be experienced not only as a single room, but as part of a vertical corridor connecting multiple horizontal spaces. The Sculpture Court, suspended between the second and third floors, deconstructs the traditional building organization from discreet horizontal

layering to a fluid vertical integration of space. The redesign is based on this concept and incorporates a number of spaces to enhance the feeling of continuity. Using the Sculpture Court as the central focus, the redesign creates a series of spaces that are perceptually connected.

4:30 – 5:40

Gender and Sexuality**Women in the World Economy****The Effects of Globalization on Women: Tourism and the Influx of Capital***Maya Kumar, Psychology '00*ADVISOR: *Rosanna Hertz, Women's Studies*

Using interviews conducted in a rural Costa Rican town in the summer of 1998, this presentation will explore various effects that globalization and tourism have had on Latin America. Specific themes to be investigated include changes in the labor force and domestic economy, the shift from traditional values to Western practices and ideals, and recent migration patterns within the region. Ultimately, these changes have affected the dynamics of women's lives and in turn, play an important role in shaping family dynamics within the region.

Tontines: An Institution for Savings, Investments, Self-help, and Empowerment*Janouska Grandoit, International Relations and Africana Studies '99*ADVISOR: *David Lindauer, Economics*

This study is a further investigation into the phenomenon of the tontine in Senegalese society – in particular Senegalese women's society – and the conditions in the society that gave rise to this phenomenon. Two tontines were surveyed: one in a small regional town of Senegal, Bargny (forty-five minutes from Dakar, the capital) and one in a neighborhood of the Dakar (Point E). Each group was interviewed and completed questionnaires. The main difference between the tontines was the necessity of their tontine's financial support. The women of Bargny did not have alternatives available to them. Banks were far from their reach. Therefore, the money that their tontine offered was their only resource for credit and savings. In Point E the women had a variety of organizations that support them and their efforts. Therefore, their

membership in the tontine, though helpful, was not vital. Both tontines possessed the essential ingredient of solidarity and mutual aid.

Identity and Society**Writing about the Self****Exploration of the Self***Ting Bao, English and Biochemistry '99, Bo Young Lee, English and French '99, Kavitha Nair, English '99 and Lillian Shuey, English '99*ADVISOR: *Marilyn Sides, English*

We have been working on creative writing theses which deal with a personal exploration. Through different forms of creative writing, we each illustrate how cultural circumstances influence identity and the development of the self.

Ting Bao

"Junior High School" is a chapter from my short novel, *Chinese Root*. The novel is about a Chinese girl and her family's experience from the late 1970s, the waning days of the Cultural Revolution, to the early 1990s. In this chapter, we see the main character, Ling Ling, her sister, May, and Ling Ling's schoolmates, reacting to the incredible pressures to succeed in the Chinese educational system. Success at school makes the very top student a star to teachers and parents; failure, even mediocrity, means public and private humiliation.

Bo Young Lee

My reading is from a section of my creative writing thesis that centers around a Korean American family, as seen through the eyes of the daughter, Jennifer. The main character of Jennifer explores the relationships she holds with her mother, her father, and her brother. She observes how each member is strangely isolated from one another in his or her own particular obsession in life, yet still remains loyal and committed to the immediate family.

Kavitha Nair

My creative writing thesis takes the form of a collection of poetry in which I explore the location and the formation of an identity from between two often conflicting cultural identities, that of my Indian heritage and that of my American upbringing. In addition to this more general theme, the poems also explore more specific themes such as sexuality and womanhood, and spirituality.

Lillian Shuey

This selection is from my thesis, "Night Bus In Nepal," a collection of short stories about a student studying abroad. The stories center around the main character, Emma, and how she responds to rabid dogs, wild leopards, and untamed Americans.

Perspectives on Difference**Exploring Diversity through Art****Eyelids and Irises***Jennifer Chau, Women's Studies '99*ADVISOR: *Sherry Mou, Chinese*

Eyelids and Irises is an exhibit that explores the politics of seeing and looking as related to gender and race. Viewers will be asked to consider "the physical" and then to challenge what they see. The outside does not always reflect what is on the inside. Issues of growing up biracial are highlighted. What happens when you are "stuck in the middle"? Where do you fit in? Do others take responsibility for identifying you? These issues are intensified as gender comes into play. Gender issues cannot be ignored in thinking about how "the gaze" is given and received. What causes women to be looked at? What are women valued for? How does race add "gaze-potential" to women of color? *Eyelids and Irises* asks all of these questions and allows the female voice to speak up against her objectification.

Tradition and Innovation

Politics of Culture and Cultural Politics

The Lost Treasures: The Controversy of Looted Art in Museums

Janet Han, *Art History '00*
 ADVISOR: Richard Wallace, *Art*

Art museums have been dealing with the growing controversy involving art looted by Nazis from Holocaust victims. A significant number of these looted art works are now on the walls of prestigious museums. Museums that claim that the purchase is done in good faith, often find themselves in a moral dilemma. The looted art poses a threat to the integrity of the museum. As the cases of Nazi looted art illustrate, the art world has been relatively indifferent to the ethics surrounding the acquisition of looted art. With lax laws, museums have continued to acquire art works which have no record of prior ownership or have a connection to illegal excavation and smuggling. An increased awareness of these unethical collecting behaviors prompted the need for ethical guidelines in the art market.

"Barging into the Saloon of Historiography": Recent Trends in Scholarship on the Palestinian Question

Elizabeth Daniel, *History '99*
 ADVISOR: Lidwien Kapteijns, *History*

The Palestinian Question is frequently considered to be the central issue of conflict in the Middle East today, as it has been since the establishment of the Israeli state in May 1948. Recent trends in the scholarly historiography of the Israeli/Arab conflict have shaped the course of this heated debate. The opening of British and Israeli state archives twenty years ago led to a Revisionist historiography movement, in which a number of authors analyzed newly available documents, contesting Israeli-supported myths about 1948 and the events leading up to it. The Palestinian Intifada, or grassroots uprising (1987-1992), led to a different wave of critical historiography focusing on Israeli human rights abuses,

Palestinian self-determination, and women's contributions within the resistance movement. While the Revisionist scholars emphasize that they are writing history and not memory, Intifada authors claim their credibility lies in their more subjective and personal analysis.

Singing through the Whiteness: Jewish Ethnicity in Hollywood Musicals, 1930-1950

Desirée Garcia, *History '99*
 ADVISOR: Elizabeth Varon, *History*

Critics have attacked the musical of Hollywood's "golden era" for unrealistically portraying an ethnically diverse America with homogeneously white characters, themes and settings. Considering, however, that Hollywood was founded by Eastern European Jewish immigrants who were caught in the struggle of mediating between the Old World and the New, the absence of ethnicity in their films hardly seems plausible. The musical was the only genre in which the movie moguls could most effectively assert the importance of entertainment in the lives of the audience and thereby justify their own positions as the nation's arbiter of such entertainment. The musical also evoked nostalgia for strong families and communities, something that was lacking in the moguls' poverty-stricken youth. As a result, the seemingly escapist musicals of Hollywood's golden era demonstrate the moguls' insecurity, arising out of their Jewishness and immigrant status, of holding positions of power in a Gentile society.

Interpreting Wellesley's Knox Photographic Collection

Sarah Andress '99
 ADVISOR: Anastasia Karakasidou, *Anthropology*

In 1887, Mary Alice Knox taught the first course in the History of Oriental Civilization at Wellesley College. The course was taught by the "modern laboratory method" and with photographs that she had collected during her travels in Japan. These photographs are in the collection of Wellesley's Davis Museum now and were shown at the Wellesley College

Museum in 1988 along with related photographs from Harvard's Peabody Museum in the exhibition, *A Timely Encounter*. The subjects of the photographs are Japanese, but the photographers were European. Taken at the precarious moment in the development of Japanese relations with the West, the photographs are important objects in the understanding of how cultures impact and relate to one another. Also, because Japan was in the formative years of the Meiji Restoration at the time the photographs were taken, the Knox collection can give us insight into Japan's transition into modernity.

Defining Our Tools

Geochronology of Oligocene Tuffs from the White River Formation, Douglas, Wyoming

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

The White River Formation near Douglas, Wyoming consists of volcanic ash-rich sediments interbedded with several layers of volcanic ash, or tuffs. Abundant mammal fossils facilitate biostratigraphic zonation and location of the Eocene-Oligocene boundary. $^{40}\text{Ar}/^{39}\text{Ar}$ radiometric ages on biotite have been determined for a sample located just above the Eocene-Oligocene boundary, Tuff 5, and another sample, Tuff 7Q. These tuffs yield ages of 33.5 ± 0.8 and 30.7 ± 0.9 million years (Ma), respectively. Preliminary analysis of Tuff 7Q, using the U/Pb method on zircons, additionally yields an age of 32.9 ± 0.2 Ma, possibly a more accurate age. Further U/Pb analyses on 7 tuffs, including Tuff 5 and Tuff 7Q, will constitute the first such geochronology of White River tuffs and will allow their correlation with others in surrounding states. These analyses will also help to locate the Orellan-Whitneyan land mammal age boundary within the Douglas section, characterize rates of climatic change and place these tuffs in the global time scale for the Oligocene.

MRI Studies of Anterior Uveitis in a Rabbit Model Treated with Prednisolone Acetate or Saline

Stephanie T. Goode, Chemistry '99
ADVISOR: Nancy H. Kolodny, Chemistry

Contrast-enhanced magnetic resonance imaging (MRI) was used to quantitatively study the effects of anterior uveitis, and treatment with 1% prednisolone acetate or saline, on blood-aqueous barrier permeability in rabbit eyes. Uveitis was induced by subcutaneous injection of tuberculosis antigen followed 10 days later by injection of a centrifuged microparticulate suspension of antigen into the vitreous cavity of one eye of each rabbit. Prior to uveitis induction, and one, eight, and fifteen days after uveitis induction, T1-weighted MR imaging was carried out on a Bruker Biospec 2T MRI system. ParaVision software was used to analyze the intensity of several regions of the image, from which spatial and kinetic data were obtained. Differences have been found in the kinetics and spatial distribution of contrast agent (Magnevist) in normal rabbit eyes, uveitic eyes, and eyes treated with 1% prednisolone acetate or saline.

The Prime Divisors of Polynomials

Catherine Leigh, Mathematics '99
ADVISOR: Patrick Morton, Mathematics

A prime p is a prime divisor of a polynomial $f(x)$ if there is an integer m such that $f(m)$ is divisible by p . For example, if $f(x) = x^2 + 1$, then 2, 5, and 13 are prime divisors of $f(x)$ since $1^2 + 1 = 2$, $2^2 + 1 = 5$ and $5^2 + 1 = 26 = 2 \times 13$. Furthermore, it can be shown that the prime divisors of $f(x) = x^2 + 1$ are 2 and all of the primes p for which the remainder is 1 when p is divided by 4. In my thesis, I am looking at a special class of polynomials and trying to classify the prime divisors of polynomials in that class. In my poster, I describe some basic concepts from number theory which I have used in my thesis as well as giving a more in depth look at the questions that I am exploring.

Dogs as Models in the Study of Predator Olfaction

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

Standardized odor attractant tablets are often used as tools in the study of predator ecology, particularly with scent stations to assess mammalian predator populations. Despite their frequent use, little has been done to determine how far predators can smell these tablets, or how the distance of first detection varies with changes in weather conditions. Two Australian Shepherds and one Samoyed, all obedience and agility trained, were used to study how far standard odor attractant tablets can be detected. The greatest downwind distance a test dog was able to detect odor from a tablet was 1,029 meters. This occurred with 85% relative humidity, an air temperature of 74° F, and a slight breeze (< 1 mph). Changes in the dogs' first detection distances appear to be correlated with wind and other weather conditions. This information may aid researchers in estimating the distances from which wild predators are attracted to scent stations.

The Performers and the Performance

An Act of Cocreation

Brahms String Quartet
Christine Chen, Russian Area Studies '99,
Caroline Tsai, Computer Science '99,
Lindsay Schmidt, Latin '99 and Eliza Heaton '02

Dvořák Piano Trio
Maya Alvarez, History '00, Hay-Mie Cho '01 and Cecilia Kwok '02

ADVISOR: Nancy Cirillo, Music

The chamber music of the two great composers, Brahms and Dvořák, contains the most intimate musical thoughts. As performers, we understand that performance of such intimate works is an act of cocreation. With this understanding, we present two masterpieces: Brahms' String Quartet in A minor and Dvořák's Piano Trio in G minor. In order to be successful cocreators we must study the scores carefully and interpret even the smallest

musical details. What we, as performers, bring to the music is reflected in every subtle nuance and shade, and an understanding of this can only enhance the enjoyment experienced by both the audience and ourselves. We use our many and varied talents to create a unified interpretation of the music. A piece of music is the product of creation, and performance is the act of molding that creation into something tangible, thus becoming an act of creation in and of itself.

Nature, Science, and Technology

Induced Adaptation

Acid Tolerance in the Cyanobacterium *Synechocystis* sp. Strain PCC 6308

Jean Huang '01
ADVISOR: Mary M. Allen, Biological Sciences

The cyanobacterium *Synechocystis* sp. strain PCC 6308, which normally grows in a medium of pH 8, is able to tolerate acid shock as low as pH 3. Within minutes, cells that survive acid shock also neutralize the external medium to around pH 6 suggesting this response is needed for survival through acidic conditions. A variety of experiments were carried out to study this acid tolerance response. Acid shocked exponentially growing cells that were able to tolerate acid shock returned to exponential growth after a lag phase. *In vivo* 31P-NMR spectroscopy revealed that during acid shock, cells did not lyse and the internal pH of the cells was lowered by, but was not equivalent to, the acidic pH medium. SDS-PAGE and pulse labeling experiments revealed the role of several possible chaperone proteins in this response.

The Effect of Heat Shock on Protein Synthesis in the Cyanobacterium *Synechocystis* sp. Strain PCC 6308

Akhila Balasubramanian, Biological Chemistry '99
ADVISOR: Mary M. Allen, Biological Sciences

All known organisms respond to environmental stresses by decreasing overall protein synthesis and increasing the

production of certain specific proteins. During heat stress, these proteins are called heat shock proteins (Hsps) and among other functions, they help the cell to overcome stress by aiding cellular proteins to remain in the correct configuration. The goal of this research is to identify potential heat shock proteins in the cyanobacterial strain *Synechocystis* sp. strain PCC 6308. The cells, which normally grow at 35°C, were shocked at 45°C and their proteins examined by SDS PAGE, immunoblotting and autoradiography pulse experiments. Autoradiography revealed differential protein synthesis over time: many proteins were made up to 10 min. into heat shock, after which overall protein synthesis drastically decreased. Several high and low molecular weight proteins have been identified as potential Hsps, three of which have been shown to cross-react with antibodies to Hsps from other bacterial species.

The Effects of Inhibition of Protein Synthesis on Phosphate Synthesis in Cyanobacterium *Synechocystis* sp. Strain PCC 6803

Krystal Hernandez '01, Jennifer Seeg '01 and Alyssa Brown '02

ADVISOR: Mary M. Allen, Biological Sciences

Cyanobacteria produce polyphosphate when they are starved for sulfur in the presence of excess phosphate. In order to determine if other inhibitors of protein synthesis would also increase the polyphosphate content of cells, the cyanobacterium *Synechocystis* sp. PCC 6803 was grown in the presence of lincomycin, a 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 of the growth rate. If more than 0.5 µg/ml lincomycin was added, the cells lysed; if less, the cells continued exponential growth. The absence of polyphosphate was determined using NMR spectroscopy. Other inhibitors of transcription and translation, such as chlorotetracycline, will also be tested for their ability to cause polyphosphate formation.

Scapular Stability: A Predisposing Factor in Shoulder Injury

Sarah Parrott, Geology '99

ADVISOR: Connie Bauman, PERA

Scapular stability is part of upper body strength that is often ignored. Typical upper body strengthening exercises, such as the bench press and the overhead press, do not address the scapula. Scapular stability can, however, play a key role in shoulder injuries. The Athletic Training staff of Wellesley College focuses on shoulder stability as part of the pre-screening program for all varsity athletes, because of the strong correlation between stability and injury. The human shoulder joint is very unstable, compared to other joints. Because of the greater range of motion that occurs in the shoulder joint, the stability must come from muscles rather than ligaments. The shoulder is susceptible to subluxation or dislocation when the muscles are not strong. The scapular stabilizers not only help with injury prevention, but also with overall upper body strength. Ever wonder why you cannot do a push up? Weak shoulder stabilizers could be part of the problem. There are a number of simple exercises that can help strengthen scapular stabilizers and assist that can help strengthen scapular stabilizers and assist with shoulder strength, as well as help prevent shoulder injury.

Models of Dyslexia in Rats: Brain Lesions and Their Effects on Neuronal Size

Sheila Ravendhran, Psychobiology '00

ADVISOR: Joanne Berger-Sweeney, Biological Sciences and Glenn Rosen, Harvard Medical School

Induction of microgyria in early infancy to the cerebral cortex of rats produces effects that mimic ectopias and anomalies exhibited in human dyslexic brains. This microgyria induction results in long lasting behavior deficits in auditory processing. Deficits in audition are congruent with processing deficits observed in dyslexic children. In human children, ectopias have been observed in the parietal, frontal, and temporal cortices. The current study measured the effects of frontal, parietal, temporal, and occipital

lesions on the medial geniculate nucleus' (MGN, a region concerned with audition) neuronal size in rats. As in previous experiments, lesioned males suffered more dramatically than females. However, in contrast to former studies, only caudal lesions produced significant results in males – whereas prior studies maintained that only rostral lesions provoked significant MGN neuronal size differences (when compared to controls). Further experiments must be conducted to fully understand connections between the MGN and regions of cerebral cortex.

Spatial Learning Impairment in Mice Overexpressing the C-100 Amyloid Precursor Protein

Erika Dahlin-Lee, Neuroscience '00

ADVISOR: Joanne Berger-Sweeney, Biological Sciences

Alzheimer's Disease (AD) is a disorder which is marked by progressive dementia including impairment of spatial learning. Previous research suggests that the Amyloid Precursor Protein (APP-C100) may be linked to the cognitive deficits seen in AD, and that mice which overexpress C-100 are impaired on cognitive spatial tasks. To test whether the amount of expression of C-100 affects the age of onset of spatial deficits or the magnitude of deficits, mice were genetically manipulated to overexpress either one (heterozygotes) or two (homozygotes) copies of the C-100 gene. Animals at four months and eight months old were tested in each group in a spatial task called the Morris Water Maze. Eight month-old homozygotes showed the most spatial impairment and homozygotes at both ages showed deficits when compared to controls and heterozygotes. These findings suggest that C-100 may be linked to age-related spatial deficits in mice.

Determining the Parameters for Cyanophycin Development in *Synechocystis* sp. Strain 6308

Caroline A. Frei, Biochemistry '99, Regis College

ADVISOR: Mary M. Allen, Biological Sciences

Previous experiments have determined that when cyanobacteria undergoes

nutrient deprivation there is a marked increase in the amount of cyanophycin peptide granule present in the system. This level has also been noted to decline upon introduction of these nutrients to the biological system. Earlier examinations of this phenomenon, diluted the media during introduction a fact of which has been shown to mask some of the growth parameters, that were previously unseen. This current study was undertaken to determine if the increase and decline in cyanophycin can be quantifiably examined using NMR analysis, which theoretically would show the characteristic increase in nitrogen storage in deprived cells. *Synechocystis* sp. 6308 cells were inoculated in BG # 11 medias deprived individually of light, sulfur and phosphorus and allowed to grow until their individual OD readings indicated that they had reached stationary development, after which the deprived conditions were introduced into the system.

The Art and Science of Multimedia

Eight Multimedia Productions

ADVISOR: Takis Metaxas, Computer Science and Naomi Ribner, Art

Khoj: A Search through Mysterious India

Ambika Singhania '00 and Kristina McBlain PB

"Khoj" is an interactive adventure game which provides basic information and entertainment for fifth to seventh graders in India. The object of the game is for the user to find an item described in a letter. While searching for this item, the users stumble onto clues and interesting facts about India that lead them (usually) to triumph in the end. We have inserted hurdles and surprises that can send the users back to the beginning, make this game more interesting, and at the same time not discouraging. Although the age group is preteenage children, we hope this game is fun to explore for everyone!

Our Last Semester

Abigail Akzin '99 and Wendy Knox '99

In this multimedia application, we explore the excitement and terror that every Wellesley graduating senior experiences in their last semester in college. This application reveals a wide range of feelings by exploring the potential paths that a senior can take, whether it be applying to medical school, entering the work force, getting married, or continuing her education in graduate school. The application's format mimics a scrapbook containing both images and text. The project revolves around a timeline outlining the months of senior spring semester.

Escape

Anne Cross '99 and Sowon Jun '99

In the style of "Myst," "Escape" is a game that requires the player to use detective and logical skills to escape a dragon's lair before the dragon returns to eat the player. During the course of the game, the player explores the four rooms of the dragon's lair, in search of the clues that will unlock the front door. By the end of the game, the player will have solved six riddles: the three on the front door and one for each room she tries to enter.

Casa de Cultura

Jenny Cuasapaz '00 and Tootsie Bookman '00

"Casa de Cultura" is a bilingual (English-Spanish) exploration of Latin American culture via samples in art, poetry, and music. The meaning and artist of the works is also discussed. This is for use by anyone, but a minimal knowledge of Spanish will increase appreciation.

Photo Fun House

Jess Hiatt '99 and Carrie Ruppert '00

The photo fun house is an interactive photography exhibition designed to expose the user to various photographers and areas of photography, as well as for entertainment purposes. The "fun house" consists of four rooms: a celebrity room, an abstract room, a room of female body parts, and a theater containing earlier twentieth-century photography. Various animations and user interactivity enhance the experience of viewing the photographs.

Quest

Leila Toplic '01 and Erica Wang '00

Designers Leila Toplic and Erica Wang have created *Quest*, a multimedia catalogue based on an imaginary boutique presenting their multimedia art work and original fashion designs. In addition to breaking from the conventional distribution of mail order catalogs, the *Quest* CD-ROM catalog allows for a new, customized shopping experience. In light of the current age of E-commerce, they have recognized the inconvenience and inefficiency of on-line shopping (including download time, security issues, limits of on-line presentation of products, etc.). The *Quest* CD-ROM is customized, user-friendly, entertaining, informative about fashion, and devised for easy selection and purchase. The CD-ROM allows the shopper to customize her selection of clothing according to her body type, skin tone, or her choice of personal style.

Work Avoidance 101

Emily Braunstein '01 and Krissy Lovejoy '01

A humorous, interactive manual of procrastination techniques for college students. Click on an object in a virtual dorm room to begin your exploration of procrastination.

Photography 101

Natalie Douglas '00 and Dana Lamb '99

So you just bought a \$350 camera and you only know how to point and shoot? Then *Photography 101* is for you! *Photography 101*, an interactive CD-ROM program which integrates images, text, sound, and video, teaches the basics of the darkroom and using a 35mm camera. The user learns about the various parts of a 35mm camera through simulation and experimentation. The user can then enter our digital darkroom and take either a guided or self-guided tour, each of which introduces the user to the basics of developing film and making prints.

Politics, Power, and Society

Images of Immigration

ADVISOR: *Peggy Levitt, Sociology*

Who Am I?: Racial and Ethnic Identities among First and Second Generation Nigerians

Charlotte Ashamu '01

Since 1965, large flows of immigrants have come to the U.S. from Latin America, Asia, and Africa. In recent years, traditional theories about immigrant assimilation have been challenged and reconstructed to more accurately reflect the experiences of new, nonwhite immigrants and their children. During the past thirty years, Nigerians immigrants have become an increasingly visible segment of the foreign-born black population in the United States. Removed from their country of origin, first and second generation Nigerians must begin to understand and assert their personal identities in relation to American culture. What paths are they taking with respect to identity formation? Are the younger Nigerians identifying more closely with their African American peers, abandoning their cultural backgrounds, or are they maintaining their own national identities? By closely listening to the voices of young Nigerians, we can begin to shed light on how the experiences of new immigrant groups differ from those of earlier European immigrants.

Constructing Ethnicity in America: The Development and Management of Ethnic Identities among Second-Generation Haitians

Saba A. Jearld, Sociology '99

Using interviews administered to a small group of college enrolled second-generation Haitians, this study examines how these individuals developed and manage their own ethnic identities, since they are often seen as African American by others. The interview questions were designed to ascertain the respondents' ideas about his or her ethnicity in America. Questions, situated in scenarios such as family interactions, neighborhood, school, and Haiti, delved into how the individuals

constructed and dealt with their identity in those situations and how their ethnic identity was established in contrast or comparison to other ethnic groups. Parental attitudes towards African Americans, parental value establishment and deep familial ties all affected and aided these individuals in developing their ethnic identity. The use of explicit markers, that are symbolic of a Haitian connection, were used to differentiate themselves from African Americans and illustrate this difference to others. These findings support various theories concerned with the everlasting presence of ethnic individuals who decide against complete assimilation in America.

Investigating Transnational Politics: A Case Study of the Dominican Liberation Party

Amelia Brown, International Relations '99

One in ten Dominicans lives outside the Dominican Republic, and Dominicans represent the seventh largest source of immigration to the United States. Unlike many immigrant groups of the past, Dominican migrants tend to maintain strong ties to their homeland, sending back remittances, returning often, and even participating in homeland politics. These continued connections between the sending and receiving country have created a transnational culture, a culture based on relations across national boundaries, rather than solely within them. This project explores the political aspects of transnationalism through interviews with Boston leaders of the Dominican Liberation Party (PLD), political and government officials in Santo Domingo, and US and Dominican officials in Washington D.C.

Puerto Rican Racial Self-Identity: How Does It Differ from Society's Racial Definition of Puerto Ricans?

Lisia Helen Morales, Latin American Studies '99

Puerto Rican racial identity was studied at an alternative high school in Boston. Questions were posed based on different institutions that the average student may come into contact with over the course of

their lifetime. Two different groups of racial self-identification were found. Roughly half of the students identified with being "Puerto Rican" while the other half saw themselves as hyphenated Americans. No one stated a purely "American" identity. For many Puerto Ricans, being Puerto Rican signifies both their ethnicity and race. Race among this group is undefined due to a mixture of ethnic heritage including African, indigenous, and European ancestry. Puerto Ricans are opting out of the dichotomous racial classification of the U.S. The results support 1990 census data which classifies close to half of Puerto Ricans in the "other" category.

The Implications of Inter-marriage: Cultural Conflict and Identity Formation in the Children of Inter-marriage

Celeste Villegas, Latin American Studies '99

As inter-marriage becomes more frequent, there is a need for comprehensive studies on how it affects the children of these marriages. The consequences that inter-marriage has on both the parents and the children and the factors that influence how mixed children are forming ethnic identities are all aspects that are open for exploration and study. What are the factors that influence mixed children to choose one ethnicity over another? How, what, and why are they choosing what they are choosing? How much influence does society have over these choices? Through interviewing a pool of ten respondents, I hoped to shed light on these intriguing questions. Findings suggest that environment, parents, peers, language skills, exposure to parents' cultures, cultural conflicts, and the amount of societal pressure put on the child all play crucial roles in identity formation in mixed children.

Law and Philosophy

The Individual and Political Society in Epicurean Philosophy

Susannah Eastlake-Wade, Latin '99
ADVISOR: *Raymond Starr, Classical Studies*

In the middle of the first century BC, Lucretius, a Roman poet and philosopher,

wrote the *De rerum natura*, an epic poem that laid forth the doctrines of Epicurean philosophy. Epicureanism is a hedonic philosophy, defining individual pleasure as the ultimate good. In the *De rerum natura*, Lucretius identifies an organized, political society as necessary for the attainment of individual happiness. Simultaneously, however, he argues that actual political involvement threatens that happiness. In this presentation, I will discuss the tension between the individual Epicurean and political society further. This becomes a particularly relevant issue to examine in light of the several prominent political figures in late Republican Rome who identified themselves as Epicureans.

Privacy: A System of Interrelated Constructs

Ann Gove Zaltman, Cognitive Science '00
 ADVISOR: *Maud H. Chaplin, Philosophy*

This research addresses a philosophical issue: the meaning(s) of privacy. A qualitative method based on current cognitive and social science theories was used. Seven participants were asked to consider the issue of privacy, noting their thoughts and feelings. Each participant then gathered pictures to illustrate their ideas. The pictures and other sensory metaphors served as stimuli for one-on-one, in-depth interviews and as ingredients to construct summary collages, aided by a digital imaging specialist. Initial analysis consisted of identifying, labeling, and defining ideas or constructs. Constructs mentioned frequently in related pairs created a mental model or consensus map of privacy. Recurring topics were identified as thematic metaphors. Further analysis revealed deep metaphors: overarching concepts forming the most fundamental orientations people use to organize their thoughts and feelings about privacy. The summary digital images illustrate the themes and deep metaphors underlying peoples' thoughts and feelings about privacy.

Social Status in the Jury Room: Power and Influence by Race, Class and Gender

Erin S. York, Sociology '99
 ADVISOR: *Susan Silbey, Sociology*

This paper explores the nature of the social interaction that occurs between members of a jury during the process of deliberations. The jury is understood as a body that is both demographically representative and deliberative, as it brings people of various backgrounds to a face-to-face discussion. Although institutional and procedural norms within the jury system emphasize the principle of equal status among jurors, jury studies and small group research have demonstrated that power and influence within the jury are often disproportionate by class, gender, and race. Within jury deliberations, I have identified several locations in which the process of status generalization may allow external power and prestige differentials to operate inside the jury room. I have surveyed jurors on fourteen criminal and civil trials in Massachusetts courts to determine the roles played by class, gender, and race in foreperson selection and leadership, individual speaking time, and the topics emphasized by jurors.

between members of the advanced printmaking class. We will utilize the methods and vocabulary of printmaking as we (temporarily) transform the glass lined bridge that links the Jewett Arts Center with Pendleton West.

Experiencing Ruhlman Interactive Information Source

A.M. Bell, Architecture '99 and R.A. Jarghen, Studio Art '99
 ADVISOR: *Phyllis McGibbon, Art*

Informational maps and kiosks have been placed at key locations across the campus to guide Ruhlman Conference attendees as they navigate the rich web of information and knowledge that is Wellesley College. These interactive displays are the realization of cutting-edge, innovative methods for information communications.

Wellesley in Time and Space

Wellesley Connections

Jessica Burton, Architecture '00, Alina Campana, Architecture '00, Jessica Ciocci, Psychology and Studio Art '99, Cameron Harvey, Studio Art '99, Cassandra Johnson, Studio Art '00, Tejal Kothari, PB, Sarah Michet, Studio Art and Art History '99, Aditi Rao, Media Arts and Sciences and Mathematics '99, Sarah Smith, Studio Art '99 and Mie Yoshinaga, Studio Art and Astronomy '01
 ADVISOR: *Phyllis McGibbon, Art*

A bridge may simply be a way of getting from here to there. But it may also serve as a meeting point, a place between. How does our awareness shift as we leave the certainty of one place and project ourselves into another? This site-based installation is a collaboration