ANTHROPOLOGY

NAVAJO AGING AND CULTURE CHANGE  Lori E. Dodd (Charles C. Hughes), Department of Anthropology, University of Utah, Salt Lake City, UT 84112

Aging is a multi-faceted process that all individuals must confront. Cultural responses to aging and the beliefs and behaviors regarding the aged vary greatly. The Navajo is one group with a unique set of interpretations of and practices towards aging. Traditionally, elders were considered to be the holders of sacred knowledge and were revered. Today, the Navajo people are in the throes of massive change, a change so profound that, for the first time in their history, a majority of youth cannot adequately speak the Navajo language, and many lack interest in learning “traditions” because television and Super Nintendo are much more engaging. These changes jeopardize the status and treatment of elders, who are increasingly placed in uncertain roles. Interviews with 50 Navajos (ranging from 15 minutes to 2 hours each) were collected during a six-week long research project in a remote Navajo community; three cohorts—elders, mid-aged adults, and youth—were interviewed as to their attitudes and practices in relation to the aging individuals of their community. Of particular importance are the differences across generations and the role of recent and ongoing cultural change. [NCUR 1995 entry]

BIOLOGY

ANALYSIS OF DROSOPHILA CNS MIDLINE DEVELOPMENT VIA TARGETED GENE EXPRESSION  Lori A. Hrdlicka (John R. Nambu), Hong Xiao, Christopher J. Hynds, Melissa Quigley, David Lee, Biology Department, Morrill Science Center, University of Massachusetts, Amherst, MA 01003

A system for targeting gene expression in Drosophila was recently devised to study development of the embryonic central nervous system (CNS) midline. P[Gal4] enhanced trap fly strains were screened to identify insertions which yield tissue specific patterns of Gal4 expression in the developing embryo. Strains were identified that exhibit expression in a wide range of tissues, including some or all of the CNS and peripheral nervous system. In addition, P element mediated DNA transformation was used to generate several transgenic Drosophila strains, including P[UAS/single-minded]. This strain contains a gene that encodes a helix-loop-helix transcription factor required for normal CNS midline and adjacent ventral epidermal development. In the transgenic strain, single-minded is under control of the Gal4 binding sites UAS (Gal4 is a DNA binding yeast transcription factor). When these P[UAS] flies are crossed to P[Gal4] flies, the gene on the P[UAS] element is expressed in a spatial and temporal pattern dictated by the P[Gal4] strain. In experiments where single-minded expression is driven in and strong “pair-rule” epidermal stripes by a P[paired/Gal4] strain there are specific developmental defects in anterior/posterior patterning of the ventral epidermis and CNS. These flies also exhibit repression of the wingless and engrailed genes along the ventral epidermis. These defects may be due to fate changes in the cells which are expressing ectopic single-minded. [NCUR entry]

CHEMICAL ENGINEERING

EFFECTS OF KINETICS ON RESIDUE CURVE MAPS FOR REACTIVE DISTILLATION  Ganesh Venimadhava, George Buzad, Michael F. Doherty, and Michael F. Malone, Department of Chemical Engineering, University of Massachusetts, Amherst, MA 01003

A class of models is derived for studying the effects of chemical kinetics on residue curve maps for reactive distillation. Activity-based rate and phase equilibrium expressions provide an accurate and thermodynamically consistent description of composition changes in nonideal, reacting vapor-liquid mixtures. For certain strategies of operation, which dictate the rate of product removal, the model equations are nonautonomous, leading to unusual behavior. However, for a certain special product removal policy, the
CHEMICAL ENGINEERING (cont.)
effects of kinetics can be described by a single parameter, the Damköhler number, the nonreactive simple distillation residue curve map is recovered and the singular points are the pure components and azeotropes in the nonreactive mixture. A bifurcation analysis shows the deformation and, in some cases, the disappearance of these singular points as the Damköhler number is increased until the equilibrium reactive residue curve map is recovered at large values. The bifurcation analysis reveals the limitations of the equilibrium analysis. A model problem for the reactive distillation of methyl tertbutyl ether from isobutene and methanol is solved.

FOOD SCIENCE
REGULATION OF BENZYLADENINE-INDUCED IN VITRO SHOOT ORGANOGENESIS IN MELON (Cucumis melo L.) BY PROLINE AND PROLINE ANALOGS  Michael C. Milazzo, Gregory Kellett, Kendall Haynesworth (Kalidas Shetty), Department of Food Science, University of Massachusetts, Amherst, MA 01003

Melon is a fruit crop being targeted by our laboratory for expression of novel proteins important to the food industry. To achieve this, efficient gene transfer through an effective tissue culture-based regeneration system is required. We developed an effective benzyladenine (cytokinin) induced shoot organogenesis from cotyledon explants of melon. This in vitro developmental process can be further stimulated by proline through potential activation of proposed proline-linked pentose phosphate pathway, which may regulate purine metabolism. In this study, benzyladenine-induced shoot organogenesis was substantially stimulated by exogenous supplementation of proline and/or proline precursors in combination with proline analogs like azetidine-2-carboxylate (A-2-C), hydroxy proline (HP), and thioproline (TP). Among these treatments, proline in combination with A-2-C or HP showed the highest stimulation. The extent of stimulation of organogenesis correlated closely with increased levels of endogenous proline content. These results clearly indicate that stimulation of proline synthesis is closely linked to in vitro differentiation, thereby strengthening the hypothesis that proline-linked activation of purine metabolism via the pentose phosphate pathway may be important for organogenesis. Fish protein hydrolysates, a natural source of proline and proline precursors, were also shown to stimulate shoot organogenesis. This shows excellent potential for the use of a low-value waste product from the Massachusetts fisheries industry for value added application in the plant micropropagation industry. Fundamentally, this research provides novel insight into the understanding of cytokinin-induced shoot organogenesis. The applications of improved shoot organogenesis by modulation of proline metabolism will be critical for development of gene transfer systems through improved micropropagation.

HISTORY
RED RIVER AND THE PATRIFOCAL WORLD OF THE HUDSON BAY ENGLISH, 1821-1870  Rachel A. Mortiz (Laurel Carrington), Newberry Library, 60 W. Walton Street, Chicago, IL 60610

This paper examines the importance of familial relationships in the formation and eventual dissolution of identity among the Hudson Bay English. Termed the “natives” of the Hudson Bay region, these people were the product of two hundred years of intermarriage between Hudson Bay fur trappers and Indian women. Hudson Bay natives emerged as distinct from their maternal, Indian relatives in the late 19th century, and in only one hundred years their distinction and largely disappeared in an increasingly Anglicized and racialized white world. Unlike their métis counterparts, mixed-bloods sought identity and validation in the world of their white fathers; the very mature of the mixed-blood family was played out in the settled world of the Red River Colony, present day Winnipeg, Canada. Yusing primary resources at the Newberry Library, this paper is an examination of the mixed-bloods in the world of Red River from 1821-1870. [NCUR 1995 entry]
LITERATURE
THE FIRST WORKS OF HEGEL AND NIETZSCHE: YOUTH SPIES A UNIVERSAL SPIRIT  Matthew J. Daube (William Moebius), Department of Comparative Literature, University of Massachusetts, Amherst, MA 01003

To some, Nietzsche and Hegel make strange bedfellows. To most, they are rarely mentioned in the same context, despite the fact that Nietzsche grew up in a Germany still reverberating with Hegel’s influence. If one listens to stereotypes, Hegel is a favorite of traditionalist professors and proponents of order, whereas Nietzsche is quoted by wild-eyed poets and students dressed in black. The view will be put forward, however, that these two icons of German philosophy are birds of a similar feather. To explore this contention, this paper will concentrate on each author’s first attempt to outline his philosophy in a major work. For Nietzsche, that was The Birth of Tragedy, a tantalizing plea for western society to return to the exciting combination of Apollonian logic and Dionysian freedom last found in the heights of Greek tragedy. In Hegel’s Phenomenology of Spirit, an unknown student rhapsodizes about the process of life—a process strikingly similar to the interplay of Nietzsche’s Apollonian and Dionysian spirits. By placing these works side by side, one finds two young philosophers rejecting the science and religion of their times and surveying history for explanations as to what drives the world. Both Hegel and Nietzsche believe that behind everything lies a universal essence which humanity must recognize in order to live to the fullest. These discoveries shed light on their later philosophies and are intriguingly relevant to an age often tired of the uncertainty of postmodernism.

MUSIC
A MATTER OF TASTE: OBSERVING BAROQUE PERFORMING PRACTICE IN HANDEL’S WATER MUSIC IN PERFORMANCE AND ON RECORDING  Scott T. Anderson (Patricia Kazarow), Department of Music, Gustavus Adolphus College, St. Peter, MN 56082

George Frideric Handel’s Water Music is familiar to almost everyone’s ears, but many of the recordings hear demonstrate questionable performance practice. The competent performer or critical listener must have a firm knowledge of Baroque performance practice in order to successfully fulfill Handel’s musical intentions. My paper approached this problem first with a discussion of the life and times of Handel and the historical place of his works, and an examination of the score of the Water Music was undertaken to locate particular concerns for the conductor or listener who seeks an authentic performance. Finally, a comparison of the two recordings of the Water Music was made so that a critical listener may make careful decisions when selecting a recording to study or enjoy. [NCUR 1995 entry]

PSYCHOLOGY
ATTRIBUTIONAL BIASES AS A FUNCTION OF CULTURE AND GENDER  Lorraine R. Reitzel (Dr. Rita M. Pullium), Department of Psychology, Elon College, NC 27244

This study examined whether the use of attributional biases, specifically the fundamental attribution error and the self-serving bias, is a universal occurrence or function of Western individualism. Japanese and American students were given questionnaires to measure their degree of individualism-collectivism and their use of attributional biases in everyday events. Results showed no significant differences between culture or gender groups on collectivism and on the fundamental attribution error, but an analysis of the use of the self-serving bias revealed that Japanese females tended to take less credit for positive events as compared to the other groups, and American males tended to take less blame for negative events. Discussion centered on social and cultural explanations for these tendencies. [NCUR 1995 entry]

PUBLIC SERVICE
A LOOK AT FAMILY LITERACY  Rachel F. Kuzmeskus (Clement Seldin*), Bachelor’s Degree with Individual Concentration, School of Education*, University of Massachusetts, Amherst, MA 01003.

Literacy development in children takes place in both the home and school. Thus, it is important for educators to develop a partnership with parents in their children’s literacy. This paper will document a home literacy workshop especially developed and presented to support low-income families. The workshop is one part of an eight-workshop series that received its funding from the Executive Office of the Health and Human Services through the Children Service of Amherst. The series was created to provide low-income families support through a variety of resources to overcome some of the difficulties and stresses they are confronted with daily in efforts to improve the educational quality of their children.
PUBLIC SERVICE (cont.)

In the workshop, the concept of literacy development will be explored through a variety of planned activities, practice, and exposure to resources. The workshop will also examine how the use of shared and silent reading, real-life literacy experiences (notes, lists), read aloud, storytelling, rereading, writing and reading connections, discussion and response, and popular multimedia (television, magazines, newspaper) encourage school-aged children to read more. The workshop will refer parents to low-investment resources such as libraries, book-swaps, and book-making. The effectiveness of the workshop will be evaluated through a post-workshop questionnaire. The workshop’s intended result is to support the literacy of low-income children through the education, involvement and empowerment of their parents and family. In conclusion, to enhance the connection between home and school literacy there must be increased outreach to parents.

SOCIOLOGY

WISCONSIN’S WORK NOT WELFARE: PERPETUATING THE PLIGHT OF THE POOR? Priya Seshan (Myra J. George, Dr. Courtney Marlaire), Department of Sociology, Marquette University, Milwaukee, WI 53233.

The number of individuals who rely on Aid to Families with Dependent Children, or AFDC as it is commonly known, has increased dramatically in the 1990’s to approximately 15 million individuals. As the number of those reliant on AFDC continues to increase, politicians are scrambling to find the golden reform plan that will “end welfare as we know it.” Under Governor Tommy Thompson, Wisconsin is at the forefront of welfare reform. Thompson plans to install a pilot program entitled “Work Not Welfare” that will require assistance. After two years of receiving assistance, benefits will cease. This study evaluated to “Work Not Welfare” program to determine if it is a genuine attempt to help the Wisconsin welfare recipients. Myths concerning the welfare mother were examined. Three interviews with welfare recipients were conducted in which they discussed their experiences and opinions regarding the welfare system and reform. Six interviews were also conducted with bureaucratic officials to discover the basis, aims, and impact of welfare reform. Recipients reported that they had experienced stigma due to their recipient status, believed the amount of monthly aid allotted to be inadequate, and expressed great anguish at not being able to provide for their children. All recipients reported that the “Work Not Welfare” plan is too harsh and did not take the actual needs of recipients into account. “Work Not Welfare” is an end to “welfare as we know it,” but will merely perpetuate the plight of the poor. [NCUR 1995 entry]

VISUAL ARTS

CHILDHOOD’S METAPHOR: PSYCHO/SPRITUAL GROWTH IN BLACK AND WHITE PHOTOGRAPHY Brenda Be (Bolton), (Shelia Oliveira), Department of Design: Photography, University of Massachusetts Dartmouth, 285 Old Wesport Road, North Dartmouth, MA 02747-2300

After engaging in study, research and personal work in psychological and spiritual (nonsectarian) development, I sought ways to integrate the ideas I was experiencing into my artwork. I began a series of subdued narratives, which in modified linear fashion give the impression of revealing or hinting at certain truths of a psychological/spiritual nature. These images are theatrical and metaphorical depictions of inner/emotional states. One of the most effective ways I have found to facilitate the metaphor of growth is to portray children. The children’s pose, environment, actions, and expressions are used to indicate certain definable or indefinable subjective states of being or stages of growth. I was influenced in this direction by the work of Sally Mann, who also photographed her own children and those of others extensively. Although unlike Ms. Mann I am not particularly interested in documentation with this series, I am indebted to her impact: the idea that images of children could be serious, somber, beautiful, and metaphorical rather than cute and cuddly. In this series I have found the very simple ad elegant traditional method of exposure and printing, the zone system pioneered by Ansel Adams, imparts expressive theatricality with its low grain, clear details and broad tonal range. My images are designed to create a moment of peace, of reflection; and as they stay with the mind over time, hopefully even lead to new directions in the viewer’s own path.