Session I

JULIA SCHMITZ: SWEET BRIAR COLLEGE AND THE JACKSON LABORATORY
CO-AUTHORS: CASSIE KEENER, JASON STOCKWELL, SONYA KAMDAR, KEVIN JOHNSON

TO OLIGO OR NOT TO OLIGO? THAT IS THE QUESTION! OPTIMIZING OLIGONUCLEOTIDE ARRAYS USING NORMAL AND CANCEROUS BREAST RNA.
Many facilities use cDNA based microarrays to test the expression of thousands of genes at once. Microarrays used for gene expression are based on competitive hybridization of fluorescently labeled cDNAs with two different dyes. A modification of cDNA arrays employs the use of oligonucleotides (60-70 base pairs); both technologies allow the researcher to test the expression of thousands of genes at once. There are a number of advantages to using oligonucleotide arrays; each oligo is specific for one gene, they do not require PCR, and a smaller amount of oligos are needed per spot. Using the currently available cDNA microarray protocol, we attempted to optimize hybridization methods and oligonucleotide printing. The overall aim of my project was to identify genes of interest using total RNA from normal and cancerous breast tissue. This was completed using the technology of cDNA based arrays. After data analysis, we found literature validating our results, which showed genes linked to cancer.

DAVID W. RODWELL: HAMPTDEN-SYDNEY COLLEGE
CO-AUTHOR: EDWARD P. BUCHANAN
EFFECTS OF ANTI-ENDOTOXIN ANTIBODY ON STEATOTIC LIVERS SUBJECTED TO WARM ISCHEMIA
Endotoxin has been shown to induce apoptosis and necrosis in hepatocytes. Furthermore, its effects have been shown to have a greater negative effect on steatotic hepatocytes. During a liver transplantation procedure, the amount of endotoxin increases in the portal circulation due to occlusion of the porta hepatis, bowel manipulation, and venous congestion. Routine reperfusion is with portal blood alone. When this reperfusion occurs, a bolus of endotoxin rich blood is the first to enter the newly transplanted liver. We sought to test the hypothesis that an endotoxin insult permanently damages steatotic but not lean hepatocytes. Both lean and ob/ob mice were administered saline or monoclonal antibody (mAB) to E. coli via the penile vein 15 minutes prior to induction of ischemia. Reperfusion was allowed for 0, 1, or 24 hours. Upon observing the mice after warm ischemia, we saw that the mice who had received the anti-endotoxin mAb appeared to be healthier than the untreated groups. The groups which received no antibody exhibited piloerection and were less active at 1 hr, 24 hr and 48 hr post-surgery. In this in vivo murine model, anti-endotoxin mAb appears to be cytoprotective in IR injury, ameliorating the deleterious effects of endotoxin on steatotic hepatocytes.

FRANKLIN D. COLYER: UNIVERSITY OF VIRGINIA’S COLLEGE AT WISE
CO-AUTHOR: AMANDA E. WOOD
EFFECTS OF CURRENT RESTORATION PRACTICES ON REPTILE AND AMPHIBIAN SPECIES
The main threat to reptile and amphibian populations today appears to be habitat loss, and surface mining is a severe form of habitat loss. Specific characteristics of various habitat types and their spatial arrangement within the landscape combine to determine whether reptile and amphibian populations will become reestablished after restoration. The primary goal of this study is to assess the ability of modern restoration practices to produce habitats supportive of native reptile and amphibian species on abandoned surface-mined lands. Information from a regional population genetic study of the anuran Hyla c. crucifer is being used to understand the effects of population structuring, dispersal capabilities, and movement patterns among habitats on reestablishment success. A survey of aquatic and semi-aquatic reptiles and amphibians, including walking transects and anuran call surveys, is underway at the Powell River Project in Wise County, Virginia to identify restoration procedures that quickly incorporate herpetofauna on abandoned mine sites. Systematic trapping is being used to document the movement of reptiles and amphibians from undisturbed land to restored mined land. Incorporating ecological data with genetic information is allowing us to provide a contextual framework for the development of restoration plans and guidelines for land use that minimize impacts on native herpetofaunal diversity.
COURTNEY ARNOTT: SWEET BRIAR COLLEGE

A STUDY OF RESIDUAL PHARMACEUTICAL LEVELS IN VIRGINIA WASTEWATER EFFLUENT VIA HPLC
A 1999-2000 study of pharmaceuticals in the environment found detectable levels of organic wastewater contaminants in 111 of the 139 sites sampled. These contaminants were the result of pharmaceutical usage in humans, which releases chemicals into a wastewater treatment system unequipped to remove them from the effluent. (1) This project examined the levels of two pharmaceuticals in wastewater effluent: triclosan, a common bacteriocide, and fluoxetine, a selective serotonin reuptake inhibitor. Four wastewater treatment sites across the state of Virginia were sampled (Lynchburg, Charlottesville, Roanoke, and Richmond). The effluent samples were extracted using C18 solid phase extraction and analyzed with high-pressure liquid chromatography. Significant levels of triclosan were found in three sites; these levels have the potential to produce detrimental effects on the environment. Fluoxetine levels have not yet been quantified.


KIRA N. GRAINGER: CHRISTOPHER NEWPORT UNIVERSITY
CO-AUTHORS: BRYAN POOVEY, JEF W. DEBERRY, ROBERT T. BELCHER, ROBERT B. ATKINSON

A NEW METHOD FOR RE-ESTABLISHING ATLANTIC WHITE CEDAR SWAMPS: EARLY RESULTS FROM THE GREAT DISMAL SWAMP
The historical range of Atlantic white cedar (cedar) included the eastern coastal plain region from Maine to Florida and west to Mississippi. As a result of ditching, intensive harvesting and development, less than 10% remains. Natural reestablishment of cedar is thought to require fire, and there is no consensus on harvesting methods that would facilitate regeneration, which may mimic this perturbation. The study site was a 2.4 ha cedar stand in the Great Dismal Swamp National Wildlife Refuge that was harvested and then cleared with a KG blade in 1991? We sampled 13 randomly selected 1m2 plots in the stands during spring 2002. In each plot, the number of cedar seedlings and the height of each seedling were recorded. The stem density averaged 9.6 (SD 5.3) and the average height was 1.4M (SD 0.3). Saplings were taller when stem density was greater, but the trend was not significant (p < 0.05). Successful stocking densities for cedar range from 13,000 to 32,000 seedlings per hectare, therefore, we conclude that the technique may be used to restore cedar swamps under conditions similar to those in this site. Additional sites should be tested in hopes that restoration of cedar may be achieved within its historic range.

Session II

NATHAN K. MITCHELL: VIRGINIA TECH
CO-AUTHOR: GAIL KIRBY, M.ED.

THE EFFECTS OF COMMUNITY SERVICE LEARNING ON STUDENTS PARTICIPATING IN THE FIRST YEAR SEMINAR
According to longitudinal data collected by the Higher Education Research Institute at University Of California, Los Angeles through the Cooperative Institution Research Program’s (CIRP) Entering Freshmen Survey, the Your First College Year exit survey (YFCY), and qualitative data collected from "Generation X and Y", there are three components missing from first year education. These are an appreciation of difference, interpersonal skills, self-advocacy, and civic/social responsibility. I seek to help remedy these gaps by showing that I plan on measuring the changes in my students by using a survey instrument adapted from Jennifer Post’s master’s thesis, entitled, The Effect of First Year Programs on Academic Success and one on one interview sessions at the midterm (1998). Hopefully, the students will show positive behavioral changes. My main goal is for the students to have a positive learning experience.

SHARON M. HERRMANN: CHRISTOPHER NEWPORT UNIVERSITY

DO COLLEGE MAJOR AND LOCUS OF CONTROL MAKE A DIFFERENCE IN SENTENCING CRIMINAL BEHAVIOR?
The present study examined the interaction of college major and locus of control on differences in sentencing criminal behavior. Seventy-two psychology and criminal justice majors from a small university participated in the study. Participants completed Rotter’s (1966) internal and external locus of control survey and read 8 crime scenarios with low and high levels of severity for 4 different crimes. The 8 crime scenarios featured 2 arsons, 2 burglaries, 2 assaults, and 2 robberies. After reading each scenario, the participants indicated the length of sentence (in months) for the perpetrator. While predicted in the original hypotheses, sentencing differences between psychology and

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criminal justice majors were not found, and internally motivated individuals were not more severe in their sentencing of defendants than externally motivated individuals. As expected, severity of crime had a main effect on sentence. No 2-way interactions were indicated by the analyses, but a trend towards significance was indicated for the locus of control by severity interaction. Results also indicated a trend towards significance for the 3-way interaction between college major, locus of control and severity of crime. The results of the experiment indicated that more participants are needed to increase the power of the study.

KILLIAN ZIMMERMAN: HAMPDEN-SYDNEY COLLEGE

THE EFFECTS OF PARADOXICAL SLEEP DEPRIVATION ON NOVELTY SEEKING IN RATS

Earlier studies have produced conflicting results on the effects of paradoxical sleep deprivation (PSD) on exploratory behavior. These studies either found that PSD increases exploratory behavior or has no effect. Novelty seeking is an integral element of exploratory behavior; thus, if PSD truly increases exploratory behavior, it should also increase novelty seeking. This study assessed the effects of different levels of PSD on novelty seeking. Forty-day old female Sprague-Dawley rats were used as subjects. There were four treatment groups, with six subjects per group. A home cage control group and a stress control group received no PSD. One group received two days of PSD, and another received four days. Subjects were deprived of sleep using the flowerpot method, and novelty seeking was tested in a rectangular chamber with counterbalanced colored sides. PSD increased activity levels, but had no effect on novelty seeking.

ANDREA DUNN, ERIKA CONGLETON, BRANDI HENRY: CHRISTOPHER NEWPORT UNIVERSITY
CO-AUTHOR: JEFFREY A. GIBBONS

HOW FAIR ARE DESERVED OR UNDESERVED REWARDS IN THE WORKPLACE?

The goal of the current experiment is to expand on past research conducted by Henry et al. (2002). Henry et al. examined the effect of contrasting information about employee responsibility on third-party perceptions of fairness, consequences, and employee commitment. Rather than investigating reprimands, this study will examine fairness of deserved or undeserved rewards on third-party perceptions. Specifically, participants will play the role of a third-party observer who witnesses a fellow employee being rewarded for either a self-created or stolen marketing idea. A questionnaire will then be handed out to measure participants' perceived fairness, consequences, and employee commitment. Participants will then receive contrasting information about the deservedness of the reward and then they will receive an identical questionnaire to the previous questionnaire. Based on past research, we expect extreme differences for ratings of fairness, consequences, and commitment after receiving the contrasting information. We also expect participants to positively perceive rewards given by supervisors who rarely reward employees.

DORA J. ELIAS: CHRISTOPHER NEWPORT UNIVERSITY

SEVERITY LEVELS OF CORRECTIVE ACTION: DO MEN AND WOMEN SUPERVISORS DIFFER?

Atwater, Carey and Waldman (2001) reported that female supervisors who administer corrective actions in organizations were viewed as less effective than their male counterparts with regard to eliciting the desired behavioral change in subordinates. However, their study reported the perception of organizational members and did not isolate the extent to which female and male supervisors differ in the severity of disciplinary action selected given identical circumstances. My research hypothesized there would be no difference. The subjects for my research were 31 supervisors employed by a regional newspaper firm. The independent variable was the sex of the supervisor respondent, while age of respondent and years of supervisory experience were tested as intervening variables with varying levels of corrective action as the dependent variable. Participants were presented with four fictional vignettes of a rule or policy violation by an employee. For each vignette, participants were asked to choose one corrective action from among six possible actions of increasing severity—ranging from no action to termination. Results revealed no statistically significant difference between female and male supervisors in the level of corrective action selected. Yet, when segmented based on age, the results suggest that as male supervisors age, they became more lenient (less severe) than women supervisors.

Session III

KELLY MARIE PANNILL: SHEPHERD COLLEGE

OPPRESSION IN THE NINETEENTH-CENTURY AS PRESENTED BY HENRIK IBSEN
Henrik Ibsen spoke out against the oppressive nature of nineteenth-century bourgeois society through his many social plays, especially A Doll’s House and An Enemy of the People. Wives, daughters, and other women were mistreated and subjugated. Those who stood up and presented new ideas were ostracized and their ideas discredited and repressed. A Doll’s House portrays Nora Helmer, a middle-class housewife whoresists the oppression of her husband, while An Enemy of the People depicts a local health official, Dr. Thomas Stockmann, who resists the repression of his reform ideas for local industry in order to protect the town’s health. Nora and Stockmann were ignorant of the true nature of the society in which they lived and thus were oppressed by it. Therefore, in Henrik Ibsen’s A Doll’s House and An Enemy of the People, Nora Helmer and Dr. Stockmann are oppressed by nineteenth-century society because they are naïve to the oppressive power structure of the bourgeois.

GINA M. SANTUCCI: JAMES MADISON UNIVERSITY

LIBBY PRISON: A STRUGGLE FOR OPTIMISM IN A TIME OF DEPRIVATION, CONTAMINATION, AND DEATH
A study concentrating on prison life at the Libby Prison, located in Richmond, which was established to be both a receiving depot for all Union prisoners and a prison for southern political dissenter and Union officers. While the Civil War dragged on, the conditions at Libby grew worse. Overpopulation, unsanitary and vermin-infested living quarters, and nearly inedible food tarnished with insects were a part of the daily life of nearly two thousand prisoners desperate to stay hopeful for an exchange or an escape. The Confederacy’s downward spiral contributed to the horrendous conditions in Libby and created shortages in the already desperate times. Principally based on prisoners’ diaries, including Frederic F. Cavada’s Libby Life and Stephen Beszedits’ The Libby Prison Diary of Colonel Emeric Szabad, the study depicts the harsh realities of war during a time when the nation was attempting to unite. However, the unbearable times divided the populace.

NADINE ZIMMERLI: SHEPHERD COLLEGE

DOOMED YOUTH ON THE WESTERN FRONT: A COMPARISON OF ERICH MARIA REMARQUE’S AND WILFRED OWEN’S LITERARY LEGACIES OF WORLD WAR I
This essay compares Wilfred Owen’s World War I poetry to Erich Maria Remarque’s novel All Quiet on the Western Front and examines the striking similarities between the two authors and their respective war accounts, but also discusses some differences. Overall the paper puts forth the thesis that war in the 20th century, due to sophisticated weaponry, became a universally gruesome experience for all soldiers on the front, no matter what nationality. After all, Owen was an Englishman and Remarque a German, but their literary treatments of the experience of war sound remarkably alike, constantly highlighting the suffering of the common soldier. Thus emphasizing the similarities between Owen and Remarque, the essay compares the life of the authors, effects the front experience had on them and major themes that emerge in both their works.

SCOTT PERKINS: JAMES MADISON UNIVERSITY

A LESSER OF EVILS: IWO JIMA, OKINAWA, AND TRUMAN’S DECISION TO DROP THE BOMB
By the beginning of 1945, World War II had entered its final stage. D-Day, on June 6 of the previous year, had signaled the beginning of the end of fighting in the European theater. In the Pacific, however, things were still going strong. The Americans had been on the offensive since late 1942, and their victories were leading them closer and closer to the Japanese homeland. The paths the Americans took led them to the islands of Iwo Jima and Okinawa, each within striking distance of Japan by aircraft. Both of these islands proved to be very difficult to conquer, with the Japanese employing tactics that exacted maximum attrition on the American fighting forces. After the battles on these two islands ended in April of 1945, the Americans planned to invade Japan, and had been planning the invasion for months. This paper examines how the “fight to the last man” mentality employed by the Japanese on Iwo Jima and Okinawa influenced both the U.S. Military and President Harry S. Truman’s thinking about how to end the war in a manner that was both quick and as free of casualties as possible.

MEGAN TURSK: DAVIS AND ELKINS COLLEGE

THE BEN SHERMAN SHIRT: A SYMBOL FOR THE SKINHEAD SUBCULTURE
Drawing on the tradition of British cultural studies this paper explores the emergence of the skinhead subculture in Great Britain during the 1960s. While examining this subculture historically, politically, and socially, this paper focuses on the significance of the Ben Sherman shirt as a pivotal star in the constellation of the skinhead subculture. Drawing on Levi-Strauss’ idea of bricolage this paper will also explore and analyze the meaning of the Ben Sherman shirt as a rebellion against the parent culture.
Session IV

KATHLEEN J. FOWLER: SWEET BRIAR COLLEGE

SEXUAL INVICTIVE IN CLAUDIAN'S "IN EUTROPIUM"
The year 399 A.D. was a prodigy for the Roman Empire. Two youthful emperors ruled, dividing the land between east and west, the barbaric tribes from the north were testing the borders, and, most horrifying of all, the eunuch Eutropius was made consul. Claudius Claudianus, known to modern scholars as Claudian, court poet for the emperor Honorius in Milan, composed and read two poems deriding this event. "All portents pale before our eunuch consul," Claudian wrote. But why was the idea of a eunuch as consul held with such loathing and derision? What about the nature of eunuchs in general, and Eutropius in particular, would prompt Claudian to write what scholar Alan Cameron called, "the cruelest (and most entertaining) invective that has come down to us from the ancient world"? This presentation will explore briefly the history of eunuchs in Roman society before focusing specifically on Eutropius, the eunuch-consul, Claudian's representation of him, and how the work relates to the literary world in general at the time.

SEAN C. WILLIAMS: RANDOLPH-MACON COLLEGE

SUNYATA AND THE BODY IN POSTWAR JAPANESE LITERATURE
The body as a metaphor is by no means a new literary device, yet the Japanese writers of the postwar era were acutely aware of its true strength. In this paper, I will use the works of Oe Kenzabuuro, Kono Taeko, and Mishima Yukio to analyze how the body is incorporated as a theme into the literary works and messages therein. The works I have chosen "Prize Stock", "Toddler Hunting", and "Onnagata" all explore the corporal sense of the body in similar ways. I use the Buddhist principle of sunyata to examine these similarities and to find a unifying theme. The body is capable of many things and in particular the ability to convey emotions and to "speak" through body language. The Buddhist concept of sunyata teaches that a body lacks self and is dependent on outside conditions for its existence and also that things are ever changing and that people are able to use the emptiness to mold their minds and bodies accordingly. The authors all seem very adept at creating contrasts between social elements and personal ones and with this distinction we clearly realize the importance of self and lack of self and the transitory nature of the physical body.

MICHELLE CHURCH: SWEET BRIAR COLLEGE

LIMINALITY AND THE FUNCTION OF DREAMS IN THE CULT OF ASCLEPIUS
Because of Asclepius' liminal nature, exhibited in his double worship as both god and hero, the liminal states of sleep and dreaming take on significance and characteristics unseen elsewhere in the Greek world. The peculiar nature of dreams in the cult of Asclepius can begin to be understood when considered as a necessary state for interaction with the god. Because Asclepius is a liminal figure, sleep and dreaming, themselves liminal states, are essential to humans who are ill for interacting with him. It is not arbitrary that this very liminal god was a god of healing, or rather, a god of the sick, as sickness itself is a state between life and death. Because this deity had himself already crossed the boundary between life and death twice, going first from mortal life to death, then from death to immortal life as a god, he is particularly suited to tend those hovering on that threshold. It is necessary, then, that a god of healing be familiar with both life and death, and necessary that dreams, existing between these states, be the means of interaction between the god and his followers.

MARY CONNELL: JAMES MADISON UNIVERSITY

SALEM IN CRISIS: AN EXAMINATION OF THE SOCIOECONOMIC INFLUENCE ON WITCHCRAFT
This paper is a look at the social and economic conditions that fueled the outbreak of accusations of witchcraft in Salem, Massachusetts in 1692. Using evidence from court transcripts of the trials and maps, the clear division between the eastern and western sides is documented. The theory that it was the jealousy over economic standing, rather than Puritanical religious fervor that led to the accusations of witchcraft is presented.

SARAH A. CRAMSEY: THE COLLEGE OF WILLIAM & MARY

JUDAISM ON DISPLAY: ANALYZING THE RECENT JEWISH RENAISSANCE IN KRAKOW AND PRAGUE
The formerly communist countries of central and eastern Europe have become the vogue destination of Jewish tourists. Visitors now flock to cities like Krakow, Poland and Prague, Czech Republic in order to connect with a
vibrant Jewish past, despite the fact that both towns can only claim small Jewish populations today. In order to understand the origin and continued stimulus behind this seemingly paradoxical phenomenon, I studied and compared the Jewish renaissances in the aforementioned cities. In both Krakow and Prague, the recent embrace of Jewishness proves to be fueled by economics as well as history; the generated tourism has enabled both cities to gain prominence in a competitive, capitalist world. For the most part, non-Jewish people initiated the movement in both cities; but this similar beginning does not necessitate a similar future. It seems that Prague’s Jewishness is more religious and therefore perhaps more authentic than the Jewishness found in Krakow. The diversified and burgeoning Jewish religious community in Prague accentuates the genuity of its Jewish movement. My research addresses the complexity of these two Jewish movements and offers an explanation as to why the overall Jewish renaissance is quite normal but not necessarily homogeneous.

Session V

KATHERINE N. CROWDER: SWEET BRIAR COLLEGE
CO-AUTHOR: REBEKAH L. BURR

A VIABLE HOMOGENEOUS CARBON DIOXIDE REDUCTION CATALYST: THE FORMATION OF COMPLEX MOLECULES USING CO2 AS THE CARBON SOURCE

The electrocatalytic reduction of carbon dioxide resulting in the formation of multiple carbon-carbon bonds has been accomplished in our labs. Simple products such as oxalate as well as a variety of larger products such as benzoic acid derivatives, phthalic acid derivatives, large alcohols and ketones have been isolated and positively identified. The catalyst is platinum based and has multiple active sites thus allowing for the simultaneous reductions of multiple carbon dioxide molecules. Two of these carbon dioxide radical anions presumably combine to form oxalate. It is speculated that the more complex molecules result from chelation of the resulting oxalate to a platinum center followed by free radical chain polymerization of additional carbon dioxide radical anions into the carbon-oxygen double bond of the oxalate. Experimental design, catalytic strategies and experimental results are presented.

AARON AYLOR: HAMPDEN-SYDENEY COLLEGE
CO-AUTHORS: STANISLAV JARACZ; KOJI NAKANISHI (COLUMBIA UNIVERSITY)

NEW SEPARATION METHOD FOR GINKGOLIDES A, B, C, AND J

A novel method for efficient separation of ginkgolides A, B, C, and J was developed to take advantage of the reactive hydroxyl group on C-10. Benzyl halides were used to benzylation the O at position 10 of ginkgolides B and C to allow for easier separation of the individual ginkgolides by column chromatography. This method has had success in achieving good purity (>95%) for some cases using enriched extracts. However, due to the varied amounts of different compounds, besides ginkgolides, in the enriched extracts, unsatisfactory separation has also occurred. The procedure needs to be refined, but the methodology is very promising.

MICHELLE POORE: SWEET BRIAR COLLEGE

SYNTHESIS OF ANALOGS OF A BIOACTIVE COMPONENT FROM (Z)-LIGUSTILIDE

Ligusticum porteri, a medicinal herb commonly known as Oshà, is marketed as a treatment for headaches, anemia, irregular menstruation and colds due in part to its known antiviral and antibacterial qualities. (Z)-Ligustilide, an isolate from Ligusticum porteri, has been shown in previous research to be responsible for the plant’s bioactivity. This finding has lead to the synthesis of a simpler version of ligustilide, 3-benzylidenebenzaldehyde. Successful bioactivity testing for 3-benzylidenebenzaldehyde showed that the simpler compound sustained ligustilide’s bioactivity, albeit, diminished. The work herein reports on the syntheses of several analogs of 3-benzylidenebenzaldehyde to be used in subsequent structure-activity relationship studies in hopes of developing a new line of bioactive analogs. Once completed, the analogs are hypothesized to show a marked increase in bioactivity relative to both (Z)-ligustilide and 3-benzylidenebenzaldehyde.

YANG-HSI TSAI: VIRGINIA MILITARY INSTITUTE
CO-AUTHOR: JAMES E. TURNER, PHD

THE ANTIOXIDANT POTENTIAL OF SELECTED CHINESE MEDICINAL HERBS

Dietary intake of antioxidants is now believed to reduce the risk from several chronic diseases caused by oxidative stress-induced reactive oxygen species (ROS). Interestingly, numerous traditional Chinese herbal medicines, which have been prescribed for thousands of years, are believed to possess strong scavenging effects against ROS, by
acting alone or in combinations. In this experiment, we report use the ferric reducing antioxidant power (FRAP) assay to analyze the antioxidant effects of several well-known Chinese herbs in comparison with the standard water-soluble antioxidant Vitamin C complex Trolox. Our results demonstrate that an herbal combination and some individual herbs have significant antioxidant potential even greater than Trolox, and may explain the success of their use in traditional Chinese medical practice. Further studies and data-collections are needed to identify the active chemical compounds in the herbs.

NAUSHEENA BAIG: SWEET BRIAR COLLEGE

MOLECULAR MODELING OF BENZYLIDENE PHTHALIDE DERIVATIVES

The rhizome of Ligusticum porteri, more commonly known as Oshá, has been used to treat colds and illnesses such as anemia, headaches, and menstrual irregularities. Studies have shown the bioactive molecule in Oshá is (Z)-ligustilide. The reactive site, purported to be the bioactive site, in (Z)-ligustilide has been found to be at C-8. Ligustilide has been modified by replacing the propyl group at the end of the conjugated lactone with an aromatic ring that contains a functional group and making the phthalide ring aromatic. Currently SAR studies are investigating the affect of varying functional groups on the molecule and bioactivity of the molecule. The size of the lowest unoccupied molecular orbitals (LUMOs) of these molecules was studied using a molecular modeling program. It was found that an electron withdrawing group (EWG) theoretically increased reactivity at C-8 and an electron donating group (EDG) decreased reactivity at C-8.

Session VI

STEPHANIE AYN MCKAUGHAN: JAMES MADISON UNIVERSITY

ALL MEN WERE NOT EQUAL: THE JAPANESE AMERICAN INTERNMENT OF 1942-1945

In February 1942, the United States of America took an unprecedented action against its own population. Constitutional rights were forgotten as Executive Order 9066 decreed that over 120,000 Japanese Americans be removed from their homes in the western defense zone. These people were to be incarcerated in ten internment camps. They were not spies, but were simply assumed to be the enemy because of their racial identity. The Japanese Americans were forced to leave their homes and enter the harsh reality of the American concentration camp. The events leading up to the mass incarceration were not sudden, and contrary to once popular belief, were not militarily based. The Japanese Americans were concentrated on the west coast and had faced discrimination from jealous farmers and business owners since their arrival. The distrust and prejudice towards Japanese Americans only heightened during 1941, when the wartime climate triggered an epidemic of suspicion. Whereas many people had been slightly wary of their Japanese American neighbors before, they were openly discriminatory after the war began. The war turned out to be the perfect pretext for anti-Japanese groups to accomplish their goals: no Japanese in California and the acquisition of Japanese American property.

PHEABE MORRIS: RANDOLPH-MACON WOMAN’S COLLEGE

PROPERTY RIGHTS AND REPARATIONS

The topic of this study is descendant reparations for African Americans. This is one of the most important struggles being waged today as it concerns fundamental issues of human freedom, human justice and most significantly, property rights. This study rests partly on a restorative theory of justice which defines reparations as the making of amends for wrong or injury done and restoration to good or pre-harm condition. There are several ways to frame the issue of reparations, the most popular being the backward looking ethical dimension, which seeks to justify reparations, and the forward looking political/legislative dimension, which seeks to implement reparations. While there has been extensive study of the two, each has been examined at the exclusion of the other. My contention is that such dichotomized views are incomplete and must be linked to enable a comprehensive picture of the issue. To this end, this study will examine the identity of the victim(s) and the perpetrator(s) and trace the unjust transference of property using Nozick and Locke’s theories of property rights to make suggestions for the future.

JENNIFER APRIL: NEUMANN COLLEGE

A NEO-ARISTOTELIAN VIEW OF THE BUSINESS WORLD

In this presentation I will provide a brief background on Aristotelian ethics. This will focus primarily on three concepts: happiness (eudaimonia), virtue (arete), and character development. We will then examine how this can be adapted to 20th century American business. Once accomplished, we will see how a neo-Aristotelian approach can be used to
resolve even the most complex ethical dilemmas faced in the corporate world. In the end, what we find is that in order to live a good life everyone, including business people, must develop a set of virtues. The benefit of a neo-Aristotelian approach is that it focuses on character development, which I will argue is one of the things lacking in the moral development of business people. We will see that this development not only makes for a more virtuous businessperson, it even improves relations in the everyday office environment.

LISA LOVELADY: JAMES MADISON UNIVERSITY

THE EVOLUTION OF REPUBLICAN IDEOLOGY AND THE 1892 HOMESTEAD STRIKE
Post civil war industrialization brought about Gilded Age prosperity and opulence. Yet wealth eluded an ever-increasing diverse society of immigrants as well as the native born. Laborers worked long, hard hours where they owned neither their tools of labor nor their time. As unskilled workers struggled with poor work conditions and the loss of autonomy, they increasingly demanded a share of the wealth. Prevailing labor republican ideology valued the independent artisan and the inherent control of the skilled laborer. With the demise of artisanal labor, unionism for Pennsylvania’s Homestead workers ensured the workers’ rights and a continuing dialogue between the Carnegie Steel Mill and the laborers. But as workers continued to struggle with the loss of power, a shift in republican thought emerged to embrace a more socialist approach to industry where workers claimed the right to participate in management decisions and control industry property rights. The Homestead Strike of 1892 proved to be the turning point of republican thought, illuminating the conflict between the worker and the factory and facilitating the demise on unionism in America for the next forty years.

ROB LUTHER: HAMPDEN-SYDNEY COLLEGE

AN INTROSPECTIVE LOOK AT THE MIND AND THEOLOGY OF MARTIN LUTHER
If Martin Luther was not controversial enough during his life the years that have followed his death have certainly made up for any lack of attention he may or may not have received. There seems to be a sense of mystery around the life and mind of Martin Luther; perhaps the reason is that it is too hard for contemporary historians to fathom how a simple monk managed to rewire 1500 years of standard, accepted, practice on a continent rooted in religion. Certainly the arguments put forth by this man must have been compelling, to say the least. However, it has been said that “revolutionaries are born not bred”, therefore it seems fair to say that it is necessary to take a deeper look into the mind of the man that was ranked the third most influential person of the millennium in two different worldwide surveys. The issue in question is not “who” but “why”; what caused this man to be so passionate, emotional, and revolutionary? What issues were essentially at the heart of his theology? Was Luther’s theological motivation psychological, academic, or a combination of both? These are the questions that this project entertains.

Session VII

NICOLETTE JONES: CHRISTOPHER NEWPORT UNIVERSITY
CO-AUTHOR: JEFFREY A. GIBBONS

ASSESSING EMOTIONS AND MEASURES OF COGNITION FOR PARTICIPANTS’ EXISTENTIAL MOMENTS
This experiment is designed to assess the emotions and measures of cognition for participants’ life events, both experienced and not yet experienced. Each participant will be asked to list and describe 10 existential moments in their life that they have experienced. After each event is recorded, participants will rate their feelings, and pick emotions that match each event. Participants will then be asked to list 10 everyday events, which are specific and unique, but not life defining. Finally, participants will be required to list 10 contrived existential moments that they have not yet personally experienced. The participants will return 2 days later to use Superlab. In a randomized order, the program will display all the events that participants provided and several more contrived events. The participants will be asked to correctly recognize whether or not s/he had experienced the individual events. The program will calculate recognition and reaction times for each participant. Results are expected to show that participants will recognize contrived events most accurately and fastest followed by existential moments and regular events.

JANET PHILLIPS: CHRISTOPHER NEWPORT UNIVERSITY
CO-AUTHORS: KELLEA J. HESTER, CHERYL A. TAYLOR, KELLY B. CARTRIGHT, JEFFREY A. GIBBONS, NICOLE M. TRAXEL (UNIVERSITY OF WISCONSIN)

POOR MEMORY FOR CHARACTER GENDER WHEN WOMEN ARE PORTRAYED AS THE LEAD CHARACTERS IN POSITIVE STORIES
Undergraduate psychology students (N = 60) read 4 scenarios, and they completed a survey that evaluated their memory for character gender after a 20-minute interpolated task. We created 4 different scenarios by crossing male and female main characters with negative or positive actions. Each scenario contained a supporting character having the opposite gender of the main character. The interpolated task included the BRSI (Bem, 1974), the abbreviated Need for Cognition Scale (Cacioppo, Patty, & Kao, 1984), and an Aggression Scale (Mochizuki, 2000). After participants read the 4 scenarios and completed the interpolated task, they were asked to give details about each scenario, including the genders for each of the main and supporting roles. Previous research found that participants generally remembered character gender best when men portrayed positive lead roles (Gibbons et al., under review; Sander et al., 2002). In slight contrast to previous findings, this study showed that character gender was remembered poorly when women portray the lead characters in positive stories. Although character gender was also remembered well when men played the lead character in positive roles, this finding merely approached statistical significance. The results suggest that the concept of positive lead female characters is incongruent with gender stereotypes.

**JASON HARRIS: FERRUM COLLEGE**

**COMMUNICATION: THE IMPORTANCE OF INTERFACING AND APPLICATION**

The role of communication and the ability to relate information in a dynamic and global environment have become increasingly important. As information overload becomes more persuasive in both our professional and personal lives, theoretical concepts of communication help us decide what and how to research pertinent issues, what to present dependent upon the target audience (especially communication across cultures), how to design reports that are useful in many venues, how to present the information for maximum affect and communication, how communication helps build goodwill among at various organizational and environmental levels. Internships can be vital instruments for understanding and mastering these communication skills. This presentation discusses my internship with Issues Management Group on an innovative project involving Roanoke redevelopment Housing Authority in Roanoke, VA. The communication concepts I students in Business Communication were critical to the successful completion of the internship. In addition, the application of communication concepts were essential to a more complete understanding of how communication has a direct impact improving decision making in the workplace and society-at-large.

**PAM MCMAHON: JAMES MADISON UNIVERSITY**

**ASSIMILATION THROUGH EDUCATION: THE PROGRESSIVE EDUCATION MOVEMENT**

Around the turn of the twentieth century, America experienced substantial social and cultural transformations. An influx of immigrants from southern and eastern Europe came to the United States and resided into urban areas across the country. A combination of the new immigrants divergent religious practices, “immoral” family values and filthy living conditions led to the widespread belief that the recent immigrants needed to be assimilated into American culture. Progressive reformers began to preach the importance and down right necessity of a strong public education system. The Progressive education movement focused on poor and immigrant adolescents who resided in the deteriorating sections of urban America. Progressive reformers saw education as a means of transforming these “lost” children into valuable and moral adults. While it is undeniable that Progressive reformers had some humanitarian objectives, in the establishment of public schools, the educational system could also be seen as a movement to Americanize the underprivileged immigrant youth of America.

**CARRIE CONDON: CHRISTOPHER NEWPORT UNIVERSITY**

**CO-AUTHORS: TERESA BETTS, SONYA WOOD**

**CAN REACTION TIME PREDICT EXPOSURE IN A WORD RECOGNITION TASK?**

The goal of the current experiment was to determine if a relation exists between reaction time and exposure. If such a relation exists reaction time may be combined with recognition judgments in a regression equation to provide a stronger prediction of exposure than recognition judgments alone. In the current experiment, participants viewed 40 black words on a white computer screen. Each word was shown individually for 4 seconds with 1 second in-between words during which, the participants viewed a blank white computer screen. Immediately afterwards, participants were asked to identify the 40 targets (words previously seen) and 40 foils (new words). Recognition judgments and reaction times were recorded for each participant. The current data will be combined with data previously collected and then placed into SPSS and analyzed. Based on the results from the previous data, we expect to find a significant negative correlation between reaction time and exposure. In addition, reaction time is expected to be a predictor of exposure above and beyond recognition judgments alone.
Session VIII

AMANDA-PAIGE CONRAD: SWEET BRIAR COLLEGE

COMPARATIVE ANALYSIS OF FEMALE CIRCUMCISION IN AFRICAN AND MIDDLE EASTERN COUNTRIES
This paper looks at the tradition of female circumcision in African and Middle Eastern Countries. By comparing the practice in two separate societies, it also explains the cultural and religious significance, if any, of female circumcisions for both men and women within those societies.

SAMIRA HOSSAIN: SWEET BRIAR COLLEGE

GENDER AND DEVELOPMENT OF WOMEN IN PAKISTAN AND BANGLADESH
I have focused on the gender-based violence that women in Bangladesh and Pakistan faces. My paper talks about the different kind of violence, why it exists and how development organization should shift their focus in order to trigger help where it is most needed.

DENADA RAMNISHTA: NEUMANN COLLEGE

PALESTINE AND ISRAEL: THE LONG-LASTING CONFLICT
An historical, political, and social overview of the long lasting conflict between the Palestinians and the Israelis. I will emphasize the events from 1947 to 2002. The presentation will show the reasons behind the acts of violence committed by both parties. The impact of this violence on individuals and on the two societies will also be discussed. Materials from the United Nations legal documents and information form web sites of the two sides will be presented. I will discuss the role of religion, nationalism, and human rights in this conflict. The discussion of international involvement will play a crucial part in this presentation. I will show how the politics and the interests of other countries influence the conflict between the Palestinians and the Israelis. I will show the view of the international table regarding this case as well as the view of specific allies of each side involved.

THOMAS O. ROBBINS: HAMPDEN-SYDNEY COLLEGE

A POLICY ANALYSIS OF THE REVOLUTIONARY ARMED FORCES OF COLOMBIA (FARC) AND U.S. NATIONAL SECURITY
In the latter half of the 20th Century, the domestic situation in Colombia has been dominated by political corruption and civil conflict. The Revolutionary Armed Forces of Colombia (FARC) has been one of the primary terrorist/guerrilla organizations in the proliferation of the internal struggle through its regular violation of human rights, narcotics trafficking, and kidnapping. In particular, this investigation seeks to determine the role--politically, socially, and militarily--of the FARC within Colombia and in the international political arena. The U.S. National Security Policy is evaluated to determine the efficacy with respect to the FARC. Moreover, the shift in focus of international politics to the "War on Terrorism" has prompted necessary changes in foreign policy and proposed improvements are made accordingly. The tragic political climate in Colombia is the result of a continuous political deterioration over several decades. Indeed, Colombia will need the help and support of international allies to strengthen its political institutions and deter further criminal activities.

JAMES THOMAS GARBER: JAMES MADISON UNIVERSITY

“DOWN WITH CEAUSESCU!”: THE ROMANIAN REVOLUTION
In December 1989, after twenty-five years in power, the communist dictator of Romania, Nicolae Ceausescu was arrested and executed at the hands of his own people. A once beloved leader, Ceausescu defied Soviet rule, keeping Romania independent of the USSR. However, similar to George Orwell’s classic 1984, the Ceausescu regime severely limited personal freedoms by banning all forms of birth control to create larger workforces for industrial plants. Families could possess only one light bulb per room while indoor temperatures could not exceed fifty degrees Fahrenheit to minimize energy costs. Schools even trained children to spy on their families to make sure everyone complied. Following decades of neglect, suppression, and greed, Nicolae and his wife, Elena paid for their atrocities. This paper recounts how a relatively small 1,000 man religious protest escalated into national revolution, and analyzes the impact of Ceausescu’s economic and social policies on the already impoverished people of Romania.
Session IX

JENNY NEUREUTHER: SWEET BRIAR COLLEGE
CO-AUTHOR: DR. SCOTT D. HYMAN

A SEARCH FOR VARIABLE AND TRANSIENT RADIO EMISSION NEAR THE GALACTIC CENTER
The center of our galaxy is an area of high luminosity and density. Exotic astronomical sources there, such as black hole and neutron star binaries, may undergo huge intensity changes, regularly or irregularly with time. Such transient and variable sources tend to emit strongly at low radio frequencies, and some have been observed to produce x-ray emissions. In the first ever low frequency radio survey of the Galactic center we made observations from the Very Large Array radio telescope in New Mexico at the low frequency of 0.33GHz. To find sources whose intensities changed significantly in time compared to their uncertainties, three radio maps made from observations in March 1998, September 1998 and October 1996 were compared. The source intensities on the two maps from 1998 were found to be in close agreement, while the 1996 intensities were consistently 25% lower than the other two. A correction was applied to the measurements from 1996, and all sources were examined for large changes in intensity from map to map. Over 30 sources were identified as possible variables through this process, and one is presently under investigation as a potential transient.

KATIE KIRKWOOD: SWEET BRIAR COLLEGE & INSTITUT DE MICROELECTRONIQUE, ELECTROMAGNETISME, ET PHOTONIQUE
CO-AUTHOR: JOCHEN FICK

STUDY OF GE33AS12SE55 GLASS THIN FILMS
The diffusion of metals into glass thin films is important because of many applications to technology, notably for use in integrated optical circuits. In this study, certain properties, including index of refraction, film thickness, and optical band gap, of Ge33As12Se55 glass thin films were calculated from transmission spectra to form a basis of comparison for silver-doped Ge33As12Se55 glass thin films. Changes in the transmission spectra of the silver-doped Ge33As12Se55 glass thin films were noted as a function of heat treatment in an effort to determine maximum silver diffusion. These optical results were used in an attempt to construct a confined waveguide.

MICHAEL MCFARLANE: CHRISTOPHER NEWPORT UNIVERSITY

DETECTION OF HIDDEN FLAWS IN METAL STRUCTURES
In a time where many of us use air travel to quickly go from one place to another, proper inspection of the structural integrity of the planes we fly on is of the highest importance. Defects in an airplane’s structure are easier to detect if they are somewhat large and on the surface of the metal. However, early detection of small defects can help prevent the larger problems in the future. In addition the defect is usually hidden from sight, either inside the metal or underneath a rivet. Using a Super-conducting Quantum Interference Device (SQUID), the most sensitive magnetic field detection device, we are able to look beneath the surface, finding defects that would not otherwise be detectable. However, the true challenge is not the collection of the data, but being able to filter and analyze it accurately. Using data acquisition and analysis software we have designed, we are currently testing the depth limits of this method of detection and its ability to accurately tell the size and shape of the defect.

MARK JANKOWSKE: THE UNIVERSITY OF VIRGINIA’S COLLEGE AT WISE
CO-AUTHOR: ROBIN L. WOODARD

DOUBLET FORMATION OF THE CATALYTIC SUBUNIT OF DNA-PK IS NOT A RESULT OF PROTEIN PHOSPHORYLATION
DNA-PK has been linked to both DNA double stranded break repair and reinitiation of transcription. A previous study (Woodard et Al., 2001) describing the role of DNA-PK in reinitiation showed an anomalous doublet of the 490 kDa catalytic subunit (p460) in Western blots from in vitro transcription assays when the template was immobilized to magnetic beads. To investigate this finding we grew three lines of Chinese hamster ovary cells, a wild type (AA8), a Ku deficient (xrs6c), and an xrs6c line containing human cDNA for Ku80. In vitro transcription assays were then performed with the nuclear extracts and a DNA template containing a G-less cassette downstream of the heat shock protein-70 (hsp-70) promoter. Visualization of proteins was achieved by 5% SDS-PAGE, and immunoblotting with anti-DNA-PKcs. Time course data indicate that the doublet occurs during preinitiation complex formation and prior to initiating transcription by addition of NTPs. Also, the doublet does not appear to be due to phosphorylation of p460.
Addition of neither protein phosphatase nor the addition of Protein Kinase C inhibitors abrogate the appearance of the doublet.

**ELISE ARNOLD: SWEET BRIAR COLLEGE**

**VISUALIZATION OF NEURITE EXTENSION AND RETRACTION USING REAL-TIME MICROSCOPY**

The interaction between cell surface bound Eph receptors and their Ephrin ligands, expressed on adjacent cells, is important in neuronal path finding and fasciculation during development. It has long been thought that the interaction between these proteins results in repulsion of developing axons. An example of this repulsion has been demonstrated in NG108 cells expressing EphB2. Clustering of EphB2 with soluble Ephrin B1 results in neurite retraction. One of the goals of this project was to visualize this “forward” signaling by real-time microscopy. It has been recently demonstrated that clustering Ephrin B1 ligand on the surface of the cell results in alterations to the cytoskeleton. This "reverse" signaling also results in neurite retraction.

**Session X**

**GEORGEANNE L. OAKES: SWEET BRIAR COLLEGE**

**HOMOSEXUALITY AND RELIGION: A STUDY OF THE EFFECT OF THE STRUCTURE OF RELIGION ON THE ATTITUDES OF HOMOSEXUALITY IN ANCIENT GREECE AND ROME AND EARLY CHRISTIANITY**

The Greeks and Romans of Antiquity experienced a certain level of sexual freedom, with transitive sexuality being quite the norm. All of this changed with the rise of Christianity. Why? These changes are explored primarily through examination of civil and religious laws of these cultures. Further, speculation and analysis of the impact of polytheism and monotheism on the development of the sexuality of these cultures are presented in order to explain why these changes occurred, and why they occurred as they did. It is argued that the structure of Greco-Roman religion, namely polytheism, influences not only the religious and social practices, but also the sexual practices of the Greeks and Romans in giving each of these a fluid or transitive nature. Similarly, Christian religious, social, and sexual practices are influenced by the monotheistic nature of Christianity in that they take on a somewhat binary and rather strict structure. Further, it is argued that Christianity’s attempt at standardizing and narrowing its opinions and laws concerning sexuality was, in a greater sense, part of an attempt to put the mono- into monotheism, and thus pull Christianity further away from polytheism.

**CLINT ALANIS: VIRGINIA MILITARY INSTITUTE**

**A RETURN TO THE CROSS: THE TRIAL OF THE KNIGHTS TEMPLAR**

In the early years of the Crusades a group of pious fighting men came together in the Holy Land to address a pressing issue. Groups of local bandits of the Middle East were making a living by harassing pilgrims from Europe, and the local lords were too preoccupied fighting the Muslim armies to defend them. Through many years and hardships the small group grew and became an international force of wealth and fame. At the pinnacle of their power, they had possessions in Europe and the Middle East. Then came a fateful day in the history of Christendom and Europe. On October 13, 1307 all of the Knights Templar within the boundaries of French control were collectively arrested and rounded up, on the orders of the King of France, Phillip IV. Why would a pious religious order like the Templars, so popular and inspiring among the middle and poorer classes, be persecuted and destroyed by a Catholic French King and the Pope? This is the question posed and answered in “A Return to the Cross: The Trial of the Knights Templar.” This paper will explore the arrest, trial, and I would argue railroading of one of the greatest military orders of the Middle Ages by King Phillip of France and Pope Clement V.

**KURT WOLFE: JAMES MADISON UNIVERSITY**

**THE PLANTING OF ULSTER: ITS MOTIVATIONS AND IMPLICATIONS**

Elizabeth I and her Tudor successors endeavored to establish a secure foothold in Ireland, yet local uprisings and inefficient management undermined their attempts at colonization. Examining the motivations behind the monarchs' commitment to a futile foreign policy suggests that England's business in Ireland was not an extension of her overseas objectives. During the reign of Elizabeth, controlling Ireland was essential for the maintenance of domestic security. James I's efforts abroad were designed to provide revenue to a financially exhausted kingdom. National security and economic issues are valid reasons for England's interference in Ireland. Yet, there are underlying motivations for plantation. England's preoccupation with religion influenced her colonization of Ireland. This preoccupation did not manifest itself in a concerted effort to extend the Anglican Church's domain; rather, it was
concerned with limiting Roman Catholic authority in that region. Seeing the Irish people as immoral led to other assumptions about their character. The Irish became less than human in England’s eyes. Presupposing that the native population was made up of heathens is a practice that England employed in all of her colonial ventures. Investigating her efforts in Ireland one exposes some motivations behind plantation while elucidating a model of English colonization.

MATT LONG: EMORY & HENRY COLLEGE

SKIPPING CHURCH: APPLYING JAMES C. SCOTT’S DOMINATION AND THE ARTS OF RESISTANCE: HIDDEN TRANSCRIPTS TO LATE MEDIEVAL ENGLAND

When we look beyond the peasant rebellions of late medieval England and focus on everyday church life, we see that many peasants were able to ridicule the higher church authority, while keeping themselves out of the public eye and maintaining the image of religious people. In applying James C. Scott’s book, Domination and the Arts of Resistance: Hidden Transcripts, to late medieval England, we can see many examples of the “Hidden Transcript.” Peasants skipped communion, left doors unlocked so pigs can get in, let the roof go unfixed, and came to church drunk. In Scott’s book, he points out how there are subtle ways a subordinate lower class addresses grievances with and ridicules the upper ruling class. In the case of late medieval England, these actions were subtle ways of letting the church know how unhappy the peasants were with its authority and even its religious dogma. Throughout history, lower classes lived in fear of the ruling class and very rarely addressed grievances in the public area. If they did so, there were sometimes dire consequences. In the Middle Ages, these consequences included excommunication and even death.

GWEN MCKINNEY: SWEET BRIAR COLLEGE

EMPERESS THEODORA: PATRONAGE (MATRONAGE) IN BYZANTIUM

The story of Empress Theodora (b.500-547), wife of Justinian I, Byzantine emperor of Constantinople, has largely been based on the writings of Prokopius, and his works, Buildings and Anekdota. Many historians have taken Prokopius’ biased and disapproving history of Theodora as fact until recently, when scholars began to look beyond the Anekdota and uncovered information that is more accurate on which to base their study of the empress. This paper will look at Theodora’s early life and its effect on her subsequent acts of patronage. I will show that public opinion of the empress was not completely negative by examining the portrait mosaic of Theodora in the Church of San Vitale in Ravenna, and how this image enforced her legitimacy as empress. In order to exercise her royal position, I will show that through her patronage, Theodora followed in the footsteps of previous royal women and their Christian philanthropia. I will also suggest an alternative to Prokopius by addressing the empress’ protection of Monophysites in the face of Justinian’s persecution of this religious sect. Thus, by analyzing Theodora’s religious and architectural patronage within its socio-political context, I am able to argue a rereading of this empress’ life, sewing for her a far more multi-dimensional place in history than scholars have traditionally allowed.

Session XI

BROOKE SIMPSON: RANDOLPH-MACON COLLEGE

WESTERN INFLUENCE IN UNCOVERING ANCIENT CHINA

The practice of customary Chinese antiquarianism, jin shi zue, has been around for thousands of years and used as a method for ancient Chinese scholars to base their views and perspectives of the history of China on. But, scholars have formulated these views and perspectives without any physical evidence discovered in situ. This leaves the scholars to form opinions with no definite, genuine or concrete value to their veracity. With the west introducing modern archaeological techniques to China beginning in the first quarter of the 20th century, the mystery of China’s ancient history began to unfold. The introduction of modern archaeology to China has been the key factor in the countries constant attempt to better understand its ancient history. The influence of the western techniques has played a significant role in the endeavor to create an amalgamated concept among the people of China of nationalism and Chinese pride. Without the contributions from the west to Chinese archaeology, China’s history would be based on opinions backed with no concrete evidence.

JANE MCKENZIE: SWEET BRIAR COLLEGE

THE INFLUENCE OF CHINESE EXPORTS ON ENGLISH PORCELAIN
Ceramics have been produced in China for over eight thousand years. Large quantities were produced throughout the entire country for both domestic use and export, the latter arising when Vasco de Gama established a sea trade route to China in 1497. Prior to that time, it was rare that Chinese porcelain reached the West. As Chinese porcelain became more readily available in the West, local porcelain factories were established to attempt to imitate the beauty and designs arriving from China. The trade route between China and London had little to do with porcelain, which was seen as more of a convenience in protecting teas and silks against water damage than a commodity of inherent value. This statement makes clear the official view of companies such as the East India Trading Company. The primary commodities during the eighteenth-century were spices, silver, coinage, and tea. However, East India Trading Company officers frequently brought back three times as much chinaware as their records reflect. It has been documented that the average porcelain ballast was 120 chests but 156 chests appeared in 1756. Much of this was brought back to England for retail merchants, family, and friends. Porcelain was not perceived as important within the hierarchy of goods, and it is only recently that its significance has been recognized.

PORTIA MCMICHAEL: VIRGINIA TECH

THE INVESTIGATION OF HOW HIP-HOP CULTURE HAS INFLUENCED FASHION TRENDS BETWEEN 1979 AND 2001, USING CONTENT ANALYSIS
This study was developed to identify the contributions and influence that African Americans have had in the fashion industry. This particular investigation looks at hip-hop specifically and how it has been a driving influence on fashion trends from 1979 to 2001. Many designers gain inspiration from music, film, and art, but when asked the particular genre of their influence hip-hop culture is not often credited. The historical evidence based on popular fashion magazines, and music videos will be used for comparison with an instrument developed by the researcher. This instrument will allow the comparisons to be measured objectively. The researcher suggests that there has long been influence and contributions by African Americans primarily with in hip-hop that have influenced the trends in fashion.

AMY ZAKORCHEMNY: NEUMANN COLLEGE

THE EVOLUTION OF TWO CULTURES IN PHILADELPHIA
This presentation will focus on the evolution of culture in Philadelphia throughout the 20th century. Culture will be defined and explained using four major categories: material culture, social culture, ideological culture, and the arts. The focus will be on the evolution of social culture and the arts. The evolution of social culture in two Philadelphia neighborhoods, South Philadelphia and Society Hill, will be explored and compared. A visual representation of the arts and culture will also be presented.

GEORGIA V. HANCOCK: JAMES MADISON UNIVERSITY

THE NUREMBERG WAR CRIMES TRIBUNAL: HISTORY’S GREATEST COURT TRIAL?
The Nuremberg War Crimes Trial, which took place from November 1945 to October 1946, is considered by some to be the greatest trial in history. Or at the very least, this was the opinion of English jurist Sir Norman Birkett. The validity of this claim is widely debated. However, the atrocities that caused the need for some sort of more effective resolution remain undisputed. There was no doubt that Germany was responsible for the start of the Second World War, and culpable for the deaths of over twelve million people in the Nazi concentration camps. However, the Allies needed an alternative to blaming the entire nation and indirectly forcing the generally innocent population of German civilians to suffer, as did Article 231, the war guilt clause of the Versailles Treaty that ended World War I. They needed something that would bring closure to this Great War without causing an economic catastrophe. They wanted something that would define the scope of a crime against humanity, so as to prevent something like this from happening ever again. The hope was that the Trial would set a precedent, and place some limits on exactly what could be done during a war.

Poster Session

1
RITA THOMAS: SWEET BRIAR COLLEGE
CO-AUTHORS: THOMAS WESTBROOK, DENNIS J. MCCANCE (UNIVERSITY OF ROCHESTER)

HUMAN PAPILLOMAVIRUS TYPE 16 E6/E7 ONCOGENES INDUCE ANCHORAGE-INDEPENDENT CELL CYCLE PROGRESSION
The ability of an adherent-dependent cell to survive and proliferate without anchorage is an important phenotype in the malignant conversion of primary cells. For example, the tumor suppressor p53 is a key player in regulating cell survival upon loss of anchorage, and mutations in p53 cooperate with oncogenes to promote growth in suspension. Two oncogenes of the Human Papillomavirus Type 16 (HPV 16)—E6 and E7—play an important role in promoting cervical tumorigenesis. This study focuses on the role of E6 and E7 in cell survival and cellular proliferation in wild-type and p53−/− fibroblasts in an anchorage-independent environment. Our data show that wild-type and p53−/− mouse embryo fibroblasts (MEFs) arrest and undergo apoptosis in response to suspension, suggesting that p53 function is dispensable for these processes. In the presence of E6−E7, wild-type and p53−/− MEFs maintain DNA synthesis, but do not prevent apoptosis upon loss of anchorage. These observations suggest that E6−E7 play a role in cell cycle progression, but are not sufficient to promote survival and long-term growth in the absence of anchorage. The ability of a cell to arrest in response to anti-mitogenic signals is partly mediated by cyclin-dependent kinase inhibitors (CKIs). We have begun addressing the biochemical effects of E6−E7 on CKIs in the context of anchorage-independence.

2
WHITNEY CARROLL: CHRISTOPHER NEWPORT UNIVERSITY
CO-AUTHORS: MICHAEL HARRISON, TRAVIS COMER, JESSIE MELLON, MELINDA SPARKS, GARY WHITING

BELOWGROUND DISSOLVED METHANE DISTRIBUTION IN A MELT COLLAPSE WETLAND LOCATED IN DISCONTINUOUS PERMAFROST ZONE OF CANADA
A large amount of the total methane emission from the earth's surface to the atmosphere originates from wetlands (peatlands) located in the high latitude region of the northern hemisphere. A large portion of these northern regions has frozen soil (permafrost) that remains frozen year-round and contains most of the world's dead-plant matter (carbon). With recent warming in the near future of 2 to 4 C for these regions, many regions of frozen soils will melt. With some melting already occurring, this can significantly alter how carbon is processed and stored in these peatlands and affect the type and amount of gases released to the atmosphere once they melt. Of primary concern is the conversion of soil carbon to methane gas, a very potent greenhouse gas. Within these melt features we measured belowground methane concentrations that reflect the processes of production and emission in these regions. At the interface of the melt feature, the mean concentration was 143 micromolar, similar to the mean concentration (125 micromolar) approximately halfway toward the middle. In the middle, belowground concentrations were higher (232 micromolar). The lower belowground concentrations within the melt and halfway regions maybe related to a combination of higher emissions or lower production of methane in these areas as compared to the middle of the melt feature.

3
ELISABETH DAVIDSON: THE UNIVERSITY OF VIRGINIA'S COLLEGE AT WISE
CO-AUTHOR: DR. KEVIN G. JONES

AMPLIFICATION OF 18S RDNA FROM CORTICOLOUS MYXOMYCETES GROWN IN MOIST CHAMBER
Myxomycetes are heterotrophic protists, whose life cycle includes a macroscopic fruiting body stage. These sporocarps are known to act as substrates for a wide range of fungi. The use of field-collected myxomycete sporocarps as a source of DNA for 18s rDNA-based phylogenetic analyses, is currently complicated by the co-amplification of fungal PCR fragments along with their desired myxomycete counterparts. Moist chamber cultures containing living tree bark were tested for their capacity to reliably produce myxomycete fruiting bodies, devoid of fungal colonization. Repeated culturing of bark from Tilia americana consistently yielded sporocarps of 6 species of myxomycetes from across 4 orders, visual evidence of fungal colonization by fungi occurred at low frequency, and appeared to reflect culture age. We are presently completing the use of ascomycete-specific fungal primers to further assess the apparent fungal-free nature of myxomycetes produced by moist chamber culture.

4
BRIAN PARK: VIRGINIA MILITARY INSTITUTE

HIGH INTENSITY RETINAL LIGHT DAMAGE IN DEVELOPING ZEBRAFISH
Fertilized zebrafish eggs were collected and reared in depigmentation solution. At 24hfp (hours post fertilization), dechorination was performed on the eggs. Zebrafish larvae were exposed to constant high intensity light for 48 hours. At 72hfp, zebrafish larvae were sectioned for ocular measurement of the retina. The results show that there are significant decreases in the retinal layer thickness and total retina diameter in the high light exposed zebrafish compared to the control. Ocular measurements were performed on the ganglion cell, inner plexiform, inner nuclear, outer nuclear, outer, and inner segments. In conclusion the high intensity light demonstrated a procedure of...
damaging the retina in the developing zebrafish which now can be used as a model for testing effects of neuroprotectants.

5
MELINDA SPARKS: CHRISTOPHER NEWPORT UNIVERSITY
CO-AUTHORS: MICHAEL HARRISON, JESSICA MELLON, WHITNEY CARROLL, TRAVIS COMER, GARY WHITING

METHANE EMISSION ACROSS A MELTED PEATLAND WITHIN THE DISCONTINUOUS PERMAFROST ZONE OF ALBERTA, CANADA
A large percentage of the total global methane (CH4) emission originates from high-latitude peatlands (above 40oN). Temperature in this region is predicted to increase 2 to 4 C in the near future. This warming could significantly alter the carbon cycling, especially in the southern discontinuous permafrost (frozen soil) zone. As the permafrost melts, the peat surface of the bog subsides and produces a water-saturated wetland. Limited results have suggested that these melt areas may produce 100 to 200 times greater methane emission than the nearby permafrost bog plateau. In these melt regions, a significant amount of previously frozen peat (carbon) is now available for decomposition and contributes to methanogenic processes thereby elevating methane emissions. We assessed methane emissions along a transect extending from the permafrost plateau edge to the middle of the melt within two peatlands of northwestern Alberta. Rates of methane emission ranged from a high of 25 mg CH4 m-2 h-1 near the interface of the permafrost plateau to a low of 0.06 mg CH4 m-2 h-1 half-way along the transect. This variability appears to be related to the presence of sedges (major conduit of methane emission) along the transect.

6
MARIAH GREEN: VIRGINIA MILITARY INSTITUTE
CO-AUTHOR: WADE E. BELL

LIVE CELL IMAGING OF CALCIUM DURING THE CHEMOATTRACTANT OFF-RESPONSE IN PARAMECIUM
Paramecium tetraurelia are unicellular eukaryotes with excitable membranes, which give them the capability to respond to differing environmental stimuli by altering membrane potential, and thus changing their swimming speed and direction. A variety of ion channels are responsible for altering the membrane potential. Characterization of Paramecium ion channels has been dependent upon electrophysiological recording and analysis of mutants for understanding the contribution of ion flow to behavior. We have developed a system for restraining live Paramecium so that they may be observed microscopically while their external environment is altered via perfusion. Cells loaded with a calcium sensitive dye were perfused with experimental and control attractants and intracellular calcium levels were observed. After removal of the attractant acetate from the bathing solution we observed a slow, but significant rise in intracellular calcium. The calcium increase returned to baseline without restimulation. Removal of the attractant ammonium chloride from the bath did not result in a measurable calcium influx. The mechanism for gating these various channels is unknown. Now that we have the capability to observe specific attractant-mediated ion fluxes, we can begin to identify components of these pathways through pharmacological and genetic manipulations.

7
JAMES A. MAXEY: VIRGINIA MILITARY INSTITUTE
CO-AUTHOR: WADE E. BELL

IDENTIFICATION OF A CASCASE AS A POTENTIAL CONTRIBUTOR TO NUCLEAR DEGENERATION DURING AUTOGAMY IN PARAMECIUM
Paramecium tetraurelia can be induced to enter autogamy, an apoptosis-like nuclear degeneration, when they are deprived of nutrients. A well-fed culture will show few cells in a state of autogamy. Cells that do show signs of a degraded macronucleus after being introduced to freshly bacterized media probably have not been through sufficient cell divisions to clear the macronuclear debris from a previous autogamous division. We have found that by two days post-introduction to bacterized media that most cells have been through enough fission events to clear the evidence of starvation-induced autogamy. We have determined that these cells are the best candidates to study the mechanisms that initiate starvation-induced autogamy. Our data indicate that a significant number of cells from these cultures will enter autogamy between twelve and twenty-four hours of starvation. Fluorescence caspase inhibitors show that caspase activity may be present in Paramecium at the twenty-four hour starvation point. This observation is based on both fluorometric studies of populations and fluorescent microscopy of individual cells. These observations represent only one time point. A time-course study must be initiated throughout the starvation period, in conjunction with studies inhibiting autogamy, before significant conclusions about the mechanisms initiating autogamy can be fully understood.
MICHAEL D. WOLTER: ROANOKE COLLEGE

DNA EXTRACTION AND ANALYSIS FROM BUCCAL (CHEEK) CELLS

DNA is the informational center of all living things. DNA is located in the nucleus of cells and can be used to make distinctions between all people. This project was to design an experiment for a student to isolate his or her own DNA and examine it through electrophoresis. The project was also designed to produce an experiment that a college could use with limited technology or materials. The process involved establishing an optimized cell lysis procedure, a method to extract the DNA, a method for removing contaminating proteins, an optimized enzyme digestion, and finally a procedure to electrophorese the extracted DNA. The final protocol was made as short as possible for an undergraduate laboratory class to perform. The protocol was tested in a Chemistry 101 course (not intended for science majors) with a 43% success rate. Overall, the experiment proved successful.

MATTHEW GRAHAME POFERL: ROANOKE COLLEGE

CO-AUTHORS: DR. W. GARY HOLLIS, DR. PAUL DECK

THE PREPARATION OF FLUORINATED, STRAIGHT CHAINED ALKOXY FERROCENE DERIVATIVES

The preparation of seven fluorinated derivates of ferrocene, including the synthesis of the necessary di-substituted ferrocene unit 1,1'-bis(pentafluorophenyl)ferrocene, was accomplished in order to determine their partition coefficients between two solvent environments, one fluorous and one organic. The mixture of ferrocene, one equivalent of N,N,N',N'-tetramethyl-1,2-Ethanediamine, TMEDA, and three equivalents of n-BuLi was allowed to stir for twenty-four hours at 25°C. Two equivalents of hexafluorobenzene were added, and this afforded, after hydrolytic workup, 1,1’-bis(pentafluorophenyl)ferrocene (1) in a low yield. Reaction of compound 1, three equivalents of NaH, and three equivalents of several different alcohols including CF3CH2OH, CF3CF2CH2OH, CF3(CF2)2CH2OH, and CF3(CF2)10CH2OH in THF afforded 1,1’-bis(2,2,2-trifluoro-1-ethoxytetrafluorophenyl)ferrocene (2) in a 43% yield, 1,1’-bis(2,2,3,3,3-pentafluoro-1-propoxytetrafluorophenyl)ferrocene (3) in a 65% yield, 1,1’-bis(2,2,3,3,4,4,4-heptfluoro-1-butoxytetrafluorophenyl)ferrocene (4) in a 33% yield, and 1,1’-bis(2,2,3,3,4,4,5,5,6,6,6-pentadecafluoro-1-decyxytetrafluorophenyl)ferrocene (5) in a 27% yield. Several reactions of 1 and perfluoro-tert-butanol were attempted, but these failed to produce the desired final compound, 1,1’-bis(perfluoro-tert-butoxytetrafluorophenyl)ferrocene (7).

EMMA KATE PAYNE: SWEET BRIAR COLLEGE

TOXIC DESSERTS FOR CANCER CELLS: SYNTHESIS OF GLUCOSAMINE MODIFIED PALLADIUM AND PLATINUM ANTI-CANCER DRUGS

This research focuses on the development of ten novel platinum and palladium anti-cancer drugs that are very effective against cell lines that have become resistant to cis-platin. In addition, many of these compounds are quite selective in cell culture in their cytotoxicity and often show very little activity toward healthy cell lines. Recently, I have explored synthetic routes for attaching glucose to several of the palladium compounds with the aim of improving the solubility properties and cytotoxic selectivity of the compounds. The synthesis, characterization and cell culture results for several novel compounds are presented along with several synthetic strategies for making glucosamine modified palladium(II) and palladium(IV) compounds.

DANIEL A CLARK: VIRGINIA MILITARY INSTITUTE

CO-AUTHORS: TAPPEY H. JONES (VIRGINIA MILITARY INSTITUTE), DIANE W. DAVIDSON (UNIVERSITY OF UTAH)

CHEMISTRY OF "EXPLODING ANTS", CAMPONOTUS SPP. (SAUNDERSEI GROUP)

Camponotus is one of the largest genera of Formicine ants, including our common carpenter ants, Camponotus pennsylvanicus. One of the more interesting groups of these ants is the Camponotus (saundersi) group found in Southeast Asia. These particular ants have the remarkable defensive behavior of exploding when they are disturbed. This is accomplished by muscular contractions around an overdeveloped mandibular gland that extends the length of the insect. The exudates from these ants can be brightly colored from yellow to red. We have conducted chemical analyses of several species in the Camponotus (saundersi) group and identified a set of polyacetate derived aromatic.
compounds in them. We have also shown that the color of these compounds is pH dependent from yellow to red, explaining the color variations observed in the field. In addition to their function as repellents, an aposematic role has been suggested for these compounds.

12
MÉLINDA LIDDELL: SWEET BRIAR COLLEGE

CHUNKING, PRIMACY AND RECENCY EFFECTS: IMPLICATIONS FOR THE SERIAL POSITION CURVE
When recalling a list of items from memory, individuals are better able to remember items from the beginning (primacy effect) and ending (recency effect) portions of the list. Items in the middle of the list are often forgotten. When memory-enhancing techniques are used, recall of the middle items improves, and the primacy and recency effects are often disrupted. The present research investigated whether or not the use of a memory-enhancing technique known as chunking would disrupt the primacy and recency phenomena. When chunking is used, a single unit of information is formed by combining individual stimuli that have a common theme. 49 female college students were either auditory or visually exposed to a list of 35 individual words. For some participants, the middle words in the list were chunked in the form of a sentence. Control participants were presented with the same middle words, but the words were not in sentence form. Participants successfully combined the middle words together when they were chunked into a sentence. As a result, recall of the middle words increased and the primacy and recency phenomena disappeared. These findings suggest that sentences can be used as a form of chunking, the primacy and recency effects do not always occur, and memory techniques can aid in increasing memory recall.

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LAUREN MULLENAX: CHRISTOPHER NEWPORT UNIVERSITY

AMOUNT OF SOCIAL INTERACTION ACROSS TEENAGE GIRLS AND TYPE OF SCHOOLING
This study inspected the social interaction among teenage girls who are either educated at home or in a public institution, as they attended a social retreat for teenage girls by counting the number of different people that each teenage girl inaugurated social interaction with. The amount of social interaction was used to delineate whether or not being educated at home or in a public institution was related to the teenage girls' ability to interact socially with other people. The teenage girls were either 13 or 17-years old and attended either home school or public school. The participants wore tape recorders for the duration of the retreat. This study had three hypotheses. The first hypothesis was that the 17-year old teenage girls would show even less social interaction than the 13-year old teenage girls. The second hypothesis was that the teenage girls who were educated at home would socially interact less than the teenage girls who were educated at a public institution. The third hypothesis was that the teenage girls who were educated at home would socially interact less during the retreat than the teenage girls who were educated publicly, and this effect was expected to be more reliable for the 17-year old teenage girls compared to 13-year old teenage girls.

14
MICHAEL WELCH: CHRISTOPHER NEWPORT UNIVERSITY

9/11 HYPOTHESIS: THE EFFECT OF A TRAUMATIC EVENT EXPERIENCED BY A COMMUNITY ON THE GRADES OF COLLEGE STUDENTS WITH AND WITHOUT CULTURAL EXPERIENCE
Two different groups of participants will be tested to show the effect of a traumatic event experienced by a community on students’ grades. That is, the academic performance of students with a great deal of diverse cultural experience will be compared to the academic performance of students with little diverse cultural experience after a traumatic event experienced by a community. The sample will be selected from Christopher Newport University, and it will be comprised of students taking a selective test to assess the relation of cultural experience on students’ grades. After selection, the sample group’s grades for the semester before and after a traumatic event will be checked to determine any differences in academic performance. The expected result is that after a traumatic event experienced by a community, students with more cultural experience will be able to maintain or increase their grades, while the students with little cultural experience are expected to show a decrease in their grades.

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STEPHANIE GLEASON: SWEET BRIAR COLLEGE
CO-AUTHORS: MARY GORDON SEAY, EMILY SUCHTA

EFFECT OF CLASSICAL MUSIC ON ENCODING AND LONG TERM MEMORY RETRIEVAL
Research has shown that memory is sometimes affected by the situational variables present during encoding, and the degree to which these variables are present or absent during recall. Thus, human memory is context-dependent. The present experiment investigated whether or not music would serve as a significant contextual variable affecting memory retrieval. 46 college-aged female participants learned a list of 30 words while music was playing in the background. After 2-minutes of distraction, participants were tested for their retrieval of the words using a recognition task. During retrieval, half of the participants heard the same music they listened to during encoding. The other half heard different music. The participants' memories were not affected by the degree of music similarity between encoding and retrieval. Participants who heard the same music at encoding and recall did not recognize significantly more words than the subjects who heard different music at encoding and recall. The present results suggest that music may not serve as a significant contextual variable in context-dependent memory investigations. But these results do not replicate previously published findings. The discrepancy between previous and present findings may be the result of significant differences in procedural design, and the use of a recognition task at retrieval instead of free recall.

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REBECCA FOLLIN: SWEET BRIAR COLLEGE

THE EFFECTS OF COLOR AND MUSIC ON CONTEXT-DEPENDENT MEMORY
The accuracy of a person's memory is determined, to a large extent, on the consistency of the conditions present during encoding and retrieval of information. In this way, human memory is said to be context-dependent. The present study investigated context-dependent memory using a word recognition task. Both the background music, and the background color on which the words were presented were manipulated as contextual stimuli. 39 female undergraduate students from Sweet Briar College served as participants. During the encoding session, each participant viewed a PowerPoint slide show containing 30 words presented on differently-colored backgrounds while hearing either rock or classical music. Following a five-minute distracter task, participants then viewed a recognition list on which each word was either presented on the same color background or a differently colored background as during encoding. Within these conditions, some of the participants heard the same music as they heard during encoding, while others heard different music. Neither the color nor music manipulation affected the recognition performance of the participants. These results suggest that background color and background music are not effective contextual cues. However, these results do not replicate previous findings, suggesting that perhaps the recognition task used in the present design was insensitive to the contextual differences.

17
STACY DERYCKERE: CHRISTOPHER NEWPORT UNIVERSITY
CO-AUTHORS: JENNY STEELE, TOM NIPPS, TODD VANMULLEKOM

THE RELATIONSHIP BETWEEN EXECUTIVE EQUITY AND CORPORATE PERFORMANCE: AN ASSESSMENT OF GREED VS. GREATNESS
Recent events in corporate America have shown an ethical and performance dilemma, specifically in executive compensation vs. performance. The purpose of this study was to examine total executive equity and compare it to percent change in net income and shareholder returns. Using 2001 archival data, supplied by the New York Times, 200 companies were examined across accumulated wealth, stock, and compensation performance. The 200 companies were examined based on when they filed their proxies for the 2001 fiscal year. Preliminary results show there is no correlation to a slightly negative correlation in the total executive equity as compared to one-year shareholder returns and percent of change in net income from the previous year. Future research is discussed concerning the psychological variables influencing executive selection and tenure.

18
PETER J. KUHR, CAMERON SMITH: CHRISTOPHER NEWPORT UNIVERSITY

DOES READING NEWSPAPER AND TABLOID STORIES INCREASE THE BELIEVABILITY AND RECOGNITION OF THEIR HEADLINES?
The goal of the experiment will be to determine whether reading newspaper and tabloid stories increases participants' recognition judgments and believability ratings for the stories' headlines. Participants in the experiment will rate the believability of 20 headlines (10 tabloids and 10 newspapers). Five of the tabloid headlines and 5 of the newspaper headlines will contain a story synopsis following the actual headline. After 48 hours, participants will rate 40 headlines (the 20 original headlines as well as 10 new tabloid headlines and 10 newspaper headlines) and they will circle the headlines that they recognize from the first assessment. No story synopses will follow the headlines in the second assessment. The rumor headlines are expected to become more believable over time whereas the true headlines are
expected to become less believable over time. Moreover, this effect is expected to be more dramatic for headlines with stories than without stories in the original assessment. Finally, tabloid headlines are expected to be recognized better than newspaper headlines, but this effect is only expected to be significant for the headlines with stories in the original assessment.

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KELLY GIBBONS: SWEET BRIAR COLLEGE
CO-AUTHORS: LEAH DAVIS, SARAH BARRETT, SASCHA ROGERS

THE EFFECTS OF INTROVERSION-EXTROVERSION AND HUMOR-TYPE PREFERENCE
Previous research has shown that a person’s personality type is a good predictor of how he or she will respond to situational variables. Extroverts, for example, display more outward physical behaviors in certain situations than do introverts. The present study investigated the relationship between a person’s personality type and how they respond in humorous situations. Twenty-three undergraduate female students from a small liberal arts college served as participants. Each was given the Situational Humor Response Questionnaire (Martin & Lefcourt, 1984) as a means of self-reporting how they believed they would respond in different humorous situations. The NEO-S personality inventory (Costa & McCrae, 1991)) was also administered to determine each participant’s personality type (i.e. introversion vs. extraversion). All participants then watched video clips of different comedy styles (satirical, slapstick and crass) and a control clip depicting a non-humorous situation. Observations were made of each participant’s physical responses to the videos (e.g. giggles, smiles, laughs, etc.). Overall, physical responses to satire were found to be significantly greater than all of the other humor types. Furthermore, the participant’s physical responses and their self-reported SHRQ scores were found to be strongly correlated. The SHRQ and NEO-S measures also were found to be significantly correlated indicating that extroverts laughed more than introverts.

20
MEGAN DOUGHTIE: SWEET BRIAR COLLEGE
CO-AUTHOR: ANNA NICOLAISEN

YOUNG ADULT WOMEN’S ATTITUDES TOWARDS MARRIAGE AND DIVORCE
It is widely assumed that divorce has a lasting emotional and ideological impact on the children who come from divorced families. Few studies, however, directly address such an assumption. The present study examined the effects of parental status (divorce vs. married) and the degree of parental conflict (low vs. high) on young adult’s attitudes concerning divorce and marriage. Fifty-one female participants between the ages of 18 and 23 completed three questionnaires: the Parental Conflict Scale, the Attitudes Toward Divorce Scale, and the Attitudes Toward Marriage Scale. Some of the participants were from divorced families while others were from intact families. These groups were subsequently divided into high and low conflict conditions by evaluating their answers on the Conflict Scale. Through analysis, we found that there was a significant difference between the divorce-high conflict group and the marriage-low conflict group on attitudes towards marriage. Participants from divorced households whose parents argued often had more negative attitudes towards their own future marriage, while those from intact homes whose parents never argued had more positive attitudes towards their own marriage. No significant results were found on the measure of attitudes towards divorce. The findings show that parental divorce and the level of parental conflict are associated with a daughter’s attitude toward her own future marriage.

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THE EFFECTS OF CULTURE AND STUDENT TYPE ON BODY ANXIETY
One hundred college students at Christopher Newport University with one hundred college students from Old Dominion University, who were enrolled in psychology courses, completed a survey where they reported their eating behaviors and perceived body image. Participants also provided demographic information related to their backgrounds and physical activities. Surprisingly, amongst the Christopher Newport University sample, body anxiety did not differ across ethnicity or living location, but a slight gender difference was found. Interestingly, body anxiety was correlated with weight, walking, and running. The results from the Old Dominion University sample are in the process of being added to the current data.

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JENNA K. BARDEN: CHRISTOPHER NEWPORT UNIVERSITY
AGGRESSIVE ENCOUNTERS ARE REINFORCING FOR MALE SIAMESE FIGHTING FISH

Using an instrumental choice conditioning procedure, 6 male Siamese fighting fish (Betta splendens) were used to study the reinforcing aspects of aggressive encounters with conspecifics. Subjects were placed in the start box of a submerged T-maze with a guillotine door in place. After the door was removed, experimenters measured the amount of time each subject took to vacate the start box (latency time) and swim down the swimway (swim time). At the end of the T-maze, subjects selected either a 30 s visual encounter with a live male or a 30 s encounter with a mirror presentation. The terminal encounters were reinforcing with decreased latency time and swim time by the end of the experiment. Furthermore, subjects selected significantly more live male presentations over the mirror presentations. These results indicate that the reinforcing properties of aggressive encounters are the result of the dynamic nature of the interaction, and that the opportunity to form a dominance hierarchy with a live male (whether dominance is actually established or not) is preferred over a completely contingent terminal encounter with a mirror in which dominance cannot be established.

ARIC GERKE: VIRGINIA MILITARY INSTITUTE
CO-AUTHORS: WILLIAM G. HUGHES, LENNA P. OJURE

EVALUATION OF THE CORRELATION BETWEEN EEG THETA/BETA MEASUREMENTS, ATTENTION TESTS, AND CREATIVITY AS DEFINED BY THE TORRANCE TEST OF CREATIVE THINKING

This study was designed to investigate the relationship between brain physiology as measured by the ratio of slow wave EEG activity (theta waves at 4-8 Hz) to fast wave (beta waves at 13-21 Hz) and a standardized test for creativity (Torrance Test of Creative Thinking). Relationships were also examined between the theta/beta ratio and two tests of attention (IVA and TOVA) to provide a measure of external validity.

MARIANA S. LAZAROVA: SWEET BRIAR COLLEGE
CO-AUTHORS: JENNIFER WARDE, DR. GRANT DENN

AN EXAMINATION OF MAGNETIC FIELD STRUCTURE AND MOTION OF SHOCKS WITHIN ACTIVE GALACTIC NUCLEI

We have made high-resolution images with the Very Long Baseline Interferometer of four extragalactic sources, representatives of one of the most enigmatic class of objects known as Active Galactic Nuclei (AGNs): three BL Lac objects - BL Lac, 1749+096, and 1823+568 - and the quasar 2134+004. We created contour maps of the sources using data from observations made with the Very Long Baseline Array in August 2001 and January 2002 at 15, 22, and 43 GHz. We observed core-jet structure components in BL Lac, 1823+568, and 2134+004, and a point-like structure in 1749+096. We tested previously proposed helical model for the motion of the jets, which are streaming out of the cores of the AGNs. Further investigations of the twisting of the jet beams from BL Lac objects and quasars are needed to explain the disruptions of the collimated jet flow, and consequently confirm or disprove the hypothetical helical motion.

JOSEPH WUNDER, BRIAN HOLT: VIRGINIA MILITARY INSTITUTE
CO-AUTHOR: MAJ. JAMES SQUIRE

LASER COMMUNICATIONS DEMONSTRATION FOR WESTERN MUSEUM OF SCIENCE

Digital communications are everywhere in today’s world. Cell phones, cable television, and CD players all transmit data using only a series of zeros and ones. The Virginia Science Museum commissioned the creation of a demonstration to intuitively explain how real-world analog signals can be transmitted into a digital signal. Our system converts an audio signal into a stream of 256 possible numbers (from 00000000 to 11111111 in base 2). Each of the 8 digits within each number controls one of 8 visible red lasers that can be viewed before being converted back into an analog signal which is played on the device’s speakers. This system is intuitive and interactive. Museum guests too young to grasp the mathematical significance of the conversion can still appreciate how the loudness they hear is related to the number of lasers they see. The exhibit also allows viewers to block individual lasers using an opaque plastic slider. Sound quality is barely affected until about half of the lasers are obstructed, and then degrades very quickly, unlike analog signals whose degradation is proportional to introduced noise. We hope demonstrations such as this, intrigue young students and help reverse the decades-long decline in American engineering enrollment.
Life, liberty, and the pursuit of happiness; something we as Americans use to describe our citizenship and rights. But is it really possible? Unfortunately, especially in today's complex society, these fundamental rights we expect as Americans do not always go hand in hand. Trade-offs are made on a regular basis. Safety vs. liberty, liberty vs. tolerance, autonomy vs. community, are just a few everyday examples. The key is to maintain a balance, to make sure that no one ideal is forsaken for another. During times of crisis, when people fear their physical and/or economical well being, they begin to forsake liberty for safety and security. After the attacks of September 11, Americans felt vulnerable and frightened. They began to lose sight of the importance of liberty and focus almost completely on economical and physical security. Through popular legislation, the United States government has significantly reduced the amount of liberty guaranteed to its citizens through the Patriot Act and the Financial Anti-Terrorism Act. The likelihood is that the unintended consequences of these new proposals will diminish our freedoms and do nothing to enhance our security.