

Denise Bailey

A Scene Design for *Lysistrata*: Women Making Peace In An Urban War.

Claire MacDonald, Fine and Performing Arts

The centerpiece of this project will be a set design for an avant-garde interpretation of Aristophanes' *Lysistrata*. This undertaking will address the problems inherent in making an ancient comedy accessible and relevant to the contemporary theatre audience. The significance of this proposed set design will be to visually support Douglass Parker's translation of the Greek comedy, *Lysistrata*. The setting will be located in a nightclub, appropriately called the Acropolis. By establishing a contemporary venue and look, the design will accentuate the timeless themes and intent of the original play for today's audience. In depth examination of the script will produce a written analysis of the given circumstances of the play. The production concept that evolves from this research will directly inform all subsequent design choices. The design project will include several practical elements. A collage will visually represent the production concept of the play in design terms. A scale drawing of the groundplan will show the spatial relationships of the set components. These elements will culminate in the construction of a scale model of the entire set.

Robert Behrman.

International Politics and The Theory of Thomas Hobbes.

Terry Hall, Philosophy

This paper addresses an important problem in the political theory of Thomas Hobbes (as expressed in *Leviathan* and *De Cive*): nations exist in a state of nature with each other but do not enter into a social contract to obey a sovereign; however men in the state of nature do enter into a social contract and do obey sovereigns precisely because of the state of nature. This paper seeks to resolve why the state of nature impels men into civil society but not sovereigns, and what the character and powers of a civil society of nations might be. In doing so, the differences between the state of nature for men and the state of nature between sovereigns, the character of a social contract between sovereigns, and the usefulness of this theory for approaching international political issues of today will be considered. Specifically, this paper addresses the effect of developments such as increased global communication and computerization, international markets and trade, international corporations, nuclear proliferation, and terrorism and guerilla warfare from the standpoint of Hobbesian social contract theory.

Brittany Clark and Lauren Martin.

Sex, Drugs and peer Involvement: An AddHealth Study.

Todd Miller, Psychology

It has long been said that if one lies down with dogs, one will get up with fleas. The National Longitudinal Study of Adolescent Health, more commonly referred to as "AddHealth", was aimed to study the behavior of adolescents and those environmental stimuli that effects their behavior. It was focused to find the causes of certain behaviors by studying students in the grade levels 7-12, their families, and their friends between the

years of 1994 and 1996. The time interval between waves of study was one year. Close to 6,000 students were interviewed, and the interviews took place both at school and at home. For this study, we will use data from the AddHealth study to look into the idea that deviant peer bonding leads to drug experimentation that in turn leads to sexual activity. We hypothesize that deviant peer bonding increases the chance of drug involvement among adolescents. We further hypothesize that drug involvement leads to increased sexual activity among adolescents. Background variables will include but not be limited to gender and age.

Gwendolyn Cobb.

The Effects of Communism on East German Civil Society.

Linda Pett-Conklin, International Studies

In light of recent developments, it has become obvious that communism has had definite effects on the civil society of East Germany. Through an extensive review of the literature, this paper will examine some of the consequences of this ideology. The methodology employed here will be historical and sociological. Observations on both the public and private realms of East German life will show the effects of communism. In terms of the public realm, areas of discussion will include the lack of concern for the common good, lack of trust in public officials, and the decreased political participation that prevail in East Germany. The consequences of the Stasi will also be mentioned. The areas of private life that will be discussed will include the decreased involvement in community life and the increase in consumerism that has been especially noticeable in East Germany in the post-communist era. In addition to these, the effects that the communist ideology has had on the East German society as it tries to integrate into the Western cultural model will be investigated. The loss of national identity and the East Germans' distinct work ethic are two consequences that fall here. The paper will end with an examination of the role that civil society played in the fall of East German communism in 1989 and the civil society's presence since this time.

Lindy Kertz.

Should We Give the Green Light to the Red Light? Examining the Ethical Limits of Human Sexuality.

Sheira Theisen, Philosophy

Houston, Texas is the second most pornography-saturated city in the United States. Within just a two-mile radius of this university, there are many places where pornographic materials are easily accessible. Pornography is as readily available as the local grocery store. Clearly, pornography is an urgent, as well as perennial issue, demanding serious scholarly investigation. I closely examine the goods and evils of pornography, in its video and photography forms. In order to thoroughly understand what draws so many people to pornography and to provide an intelligent, reasonable and responsible critique, it is necessary to examine both the defenses of and the arguments against pornography in detail. I attempt to enter the minds of each of these schools in order to elucidate their points as effectively as I can, and guide the audience toward an authentic resolution of this difficult and complex problem, using philosophy as my guide.

My assertion is that pornography injures the entire society in which it thrives. When a woman or a man is degraded to just a sexual being, personhood and humanity are purposefully ignored. The habit of ignoring any human's many complex parts runs the risk of ignoring the humanity in every human. Recognition of the appropriate place of human sexuality within the totality of the individual human person in community with others restores the dignity of all persons within that community and paves the way toward true love.

Maria Le and Charlotte Parrott.

The Effects of Habitual Substance Abuse on Goal Achievement.

Todd Miller, Psychology

Bemisia tabaci (B type) is a temperate pest that causes squash silverleaf (SSL) disorder in the *Cucurbita* spp. of southern states. Whitefly nymphs produce honeydew, cause chlorotic spotting and shedding of leaves. Adult *B. tabaci* reduces agricultural yield and crop loss by its feeding damage and serves as a vector for more than 60 plant viruses. Whiteflies feed and lay their eggs on the underside of leaves; thus chemical pesticide must be applied from beneath the plants. Because of the Food Quality Protection Act of 1996, many pesticides are being removed from the market. This is especially true for insecticides. New, environmentally friendly sources are needed to compensate pesticidal demands, including plant secondary compounds. Although many secondary compounds have the potential to be effective, few have been tested or adequately screened for pesticidal activities. We have designed a leaf disk bioassay to test plant secondary compounds. Assay vials were set up by placing 10 milliliters of 1.6% into the bottom of a 20ml scintillation vial. A disk of plant material, excised from the first leaf of a pumpkin plant, was dipped into the test solution and placed in the vial on the agar bed. Fifty pairs of whiteflies were introduced into each assay vial and the vials were placed into a growth chamber. After 48 hours, survival rates of whiteflies were determined. Negative and positive controls were established with distilled water and Isotox[®], a known pesticide of whiteflies. Two lichen secondary compounds, (-)-Usnic acid and Vulpinic acid, showed effectiveness in limiting survival rates of whiteflies. Vulpinic acid, with an average mortality 18%, has a greater pesticidal activity than Usnic acid, which had a 9.93% mortality. In the future, we plan to screen additional compounds for potential insecticidal activity.

Katherine Martin.

John Donne's Influence on the Southern Agrarians: John Crowe Ransom, Allen Tate, Robert Penn Warren and New Criticism.

Elizabeth Parr, English

In 1631, John Donne participated in a revolution against the status quo of the poetic age. His content was revolutionary, his form, conservative. Later, his form grew more revolutionary and his content, more conservative. The historical circumstance under which he wrote was filled with religious oppression and persecution; it was a time of turbulence. Almost 300 years later, John Crowe Ransom led his own literary revolution. In 1922, he, along with Allen Tate, Robert Penn Warren, and twelve others launched a

symposium concerning the Southern Agrarian tradition: I'll Take My Stand. These twelve southerners went on to apply their critique of the cultural situation in America to the literary condition of the time. These twelve Agrarians, following John Crowe Ransom's literary school of "New Criticism," began a movement to examine texts for the sake of the text alone. These critics believed that the attitudes, conditions, and historical circumstances under which the texts were written were not as important as what existed in the text itself. T.S. Eliot said, "The best poetry rises out of turbulent times." For both John Donne and these Agrarians, Eliot's remark clearly holds true. I intend to demonstrate in the composition of these Agrarian works, both theoretical and poetical, John Crowe Ransom, Allen Tate, and Robert Penn Warren in particular were deeply influenced by the poetry and understood the theory latent inside the writing of John Donne.

Harrison Nguyen and Charlotte Parrot.

The Pennebaker Writing Task Effects on Hostility and Health.

Todd Miller, Psychology

Although prior research suggests that writing about past stressful experiences improves health, psychological well-being and GPA, an explanation for why the writing task has such dramatic results has not been forthcoming. One theory suggests that writing about a stressful experience may allow people to come to terms with repressed emotions and stressful past experiences. For this study, we will attempt to determine whether the writing task reduces negative hostile emotions and ruminations. A lack of hostile beliefs has been found to predict good health and psychological functioning. UST psychology majors will be randomly assigned to one of three conditions: a control group, a standard writing task group and a modified writing task group. The standard writing task for this area of research is referred to as the Pennebaker writing task. For the Pennebaker writing task subjects are asked to write for 20 minutes on three consecutive days about a very stressful past experience. For our modified writing task group, subjects will be asked to write about an anger-producing very stressful experience. Before, immediately after and two weeks after the writing task subjects will fill out a variety of questionnaires. For both writing task groups, we expect improvement in self-reported health, less hostility, less depression and an improvement in well-being. In addition, we expect that people who reported higher levels of repressed emotions at the beginning of our study, will receive greater benefits from the writing tasks. We also expect a greater reduction in hostility in our modified writing task condition.

Lindsey Phillips.

Universal Human Rights.

Ron Hatchett, International Studies

The Universal Declaration of Human Rights, drafted in 1948, was a unique endeavor for its time. Hailed as the Magna Carta of all mankind by Eleanor Roosevelt, the Declaration and the several ensuing legal treaties attempted to establish civil, cultural, political and economic rights that apply to all persons regardless of nationality. However, claims to the universality of human rights have been challenged more and more by

groups that feel these charters were designed by a Western liberal hegemony that failed to account for non-Western culture, society and religion. Such challengers argue that the rights outlined in the Universal Declaration of Human Rights and other global treaties are fundamentally grounded in Western culture and religion and therefore are not applicable in other societies with different traditions. They also warn that such declarations are a direct threat to national sovereignty and that individual states should not be subjected to the scrutiny of foreign entities.

Despite these challenges, I maintain that certain human rights are inherently universal and should be upheld as an aspiration for all global citizens. In my discourse, I would like to establish first, that human rights are not grounded in regional culture, but are engendered instead by modern cross-cultural economic, social and scientific developments. Second, I would like to demonstrate that universal human rights are not the enemy of sovereignty or cultural relativism, but rather a natural progression of emerging voluntary global affiliations and multi-national organizations that seek to identify a global problem and develop a common standard applicable to all. In my research, I have attempted to examine different sides of the issue and provide a philosophical, historical and modern context to support my claim.

Stacy Strausborger.

**The Problems Associated with the Synthesis and Analysis of 3,10-Diamine
-3,10- Dimethyl -1,4,8,11-Tetraazacyclotetradecane.**

Gerald Gries, Chemistry and Physics

This project began as the determination of the stability constant of 3,10-diamine-3,10-dimethyl-1,4,8,11-tetraazacyclotetradecane (L4), it has evolved into a painstaking process of synthesizing and isolating L4. The original synthesis¹ has two products, 1,9-diamino-5-methyl-5-nitro-3,7-diazanonane (L2) and 3,10-dimethyl-3,10-diamino-1,4,8,11-tetraazacyclotetradecane (L3) as copper complexes. The article, reports an optimized synthesis to select for L3. After performing the synthesis several times, the amount of L3 formed was far less than anticipated by the experimental data. Copper(II) ethylenediamine (L1) complex is reacted with formaldehyde and nitroethane to form L3 around copper. L2 is produced when only one side of the L1 complex is joined. L2 and L3 are separated by ion-exchange chromatography using Sephadex-SP C-25 cation-exchange resin. The copper is removed and the nitro groups are converted to amino groups by zinc reduction of the L3 copper complex to L4. Copper metal and excess zinc are filtered out. L4 is isolated from the zinc ions using Dowex 50W-X2 cation-exchange resin.² Once this is accomplished, the stability constant will be determined by spectrophotometric or potentiometric methods. The stability constant relates the affinity of a ligand to bond to a metal ion in solution. This is relevant for determining whether or not these ligands are able to separate metal ion from solution.³ The knowledge of metal-ligand bonding strength is very useful for explaining the activity of enzymes, industrial catalysts and for water purification.

Aaron Stryk.

The Transition to Parenthood and its Effects on Marital Satisfaction and Interpersonal Communication.

Robin Williamson, Communications



Aaron Stryk

This presentation summarizes all of the research pertaining to the changes in marriage that take place as a consequence of the transition to parenthood, which has been described as one of the most precipitous changes that takes place in most people's lives.

Previous research has suggested that the transition to parenthood is often detrimental to marital relationships, and thus, greater emphasis has been placed on the problematic and crisis elements of parenthood. Although there is no question that marital lifestyles and behaviors change with parenthood, recent research has challenged the paradigm that the transition to parenthood often causes a decline in marital satisfaction. Today, parenthood is regarded as a specific developmental phase that demands substantial personal, familial and social change.

This study draws attention to the importance of differentiating changes in marital behavior patterns from changes in subjective evaluations of the marriage, and seeks to identify the intra and interpersonal variables that might serve as potential risk factors in the marriage. Specifically, the variables that receive closest attention are personality, communication, affection and closeness, conflict resolution styles, and flexibility with parental roles.

The results of previous studies have varied. While some scholars acknowledge that parenthood may serve as a detriment for only a few marriages, other researchers have found that marital satisfaction declines in all couples, regardless of children. This study attempts to place emphasis on the areas where not enough sufficient data is available and make suggestions for further research, as well as identify factors that serve as buffers against decline in marital satisfaction after the transition to parenthood.

Patrick VanSumeren, Shadi Kafi, Mark Valdez, and Hazel Alphonse.
Is Depression a Predictor of Escalation to Problem Alcohol and Illicit Drug Use?

Todd Miller, Psychology

Illicit substance abuse and depression are prevalent and important social problems for our society. Past research has not provided a clear linkage between these variables or provided a theoretical foundation for examining such a link. However, prior theory suggests that depression is associated with poor or deviant peer and family relations. Some have also suggested that depression may be associated with self-medication that may lead to substance abuse. We proposed to test whether depression was a predictor of poor relationships and self-medication of illicit substances. We use data from the National Youth Survey that was a national probability sample of households in the continental United States in 1976. All youths (N = 1,725) from the ages of 11 to 17 on December 31, 1976 were eligible for the study. The subjects received face-to-face

interviews conducted in the dwelling of the respondent. They were interviewed for the first time in 1977 and annually thereafter during the same months for four consecutive years. Additional three-year follow-ups were conducted in 1983 and 1986. For this study, we will use data from the three-year follow-ups. We hypothesize that increased alcohol and illicit drug use will be predicted by social isolation, deviant peer bonding, low self-esteem, a measure of clinical depression, conduct disorder-like symptoms, a history of self-medication. In addition, we hypothesize that those patients with anxiety will be particularly vulnerable to problem use. Background variables for the current study will be gender, ethnicity, urbanicity and age.

Michelle Dang.

Identification of Carbonyl Compounds in Wine Samples From the Undergraduate Organic Laboratory.

William N. Tinnerman II and Thomas B. Malloy, Jr., Chemistry and Physics

Winemaking has been included in the sophomore Organic Chemistry Laboratory at St. Thomas for over 25 years. Over the last several years, undergraduate research projects have been carried out for determination of parts-per-million (ppm) amounts of acetaldehyde in wine. This is by far, the most common carbonyl compound found in wine, resulting from oxidation of ethanol.

In this project, we undertook to identify other carbonyl species at even lower levels than acetaldehyde. This was accomplished by derivatization of the carbonyl compounds with O-(2,3,4,5,6-pentafluorobenzyl) hydroxylamine hydrochloride and subsequent characterization of the oximes formed by gas chromatography-mass spectrometry techniques.

Electron ionization (EI) mass spectrometry was used to locate the carbonyl derivatives. Both positive and negative ion chemical ionization (PCI and NCI) techniques were used to determine molecular weights and to increase the sensitivity of the analyses. Where possible, identifications were verified by derivatizing and analyzing reference compounds.

Mai Le.

Effect of Lichen Secondary Compounds on Bemisia tabaci Whiteflies (B type).

Rosie Rosell and Joanne Romagni, Biology

Bemisia tabaci (B type) is a temperate pest that causes squash silverleaf (SSL) disorder in the *Cucurbita* spp. of southern states. Whitefly nymphs produce honeydew, cause chlorotic spotting and shedding of leaves. Adult *B. tabaci* reduces agricultural yield and crop loss by its feeding damage and serves as a vector for more than 60 plant viruses. Whiteflies feed and lay their eggs on the underside of leaves; thus chemical pesticide must be applied from beneath the plants. Because of the Food Quality Protection Act of 1996, many pesticides are being removed from the market. This is especially true for insecticides. New, environmentally friendly sources are needed to compensate pesticidal demands, including plant secondary compounds. Although many secondary compounds have the potential to be effective, few have been tested or adequately screened for

pesticidal activities. We have designed a leaf disk bioassay to test plant secondary compounds. Assay vials were set up by placing 10 milliliters of 1.6% into the bottom of a 20ml scintillation vial. A disk of plant material, excised from the first leaf of a pumpkin plant, was dipped into the test solution and placed in the vial on the agar bed. Fifty pairs of whiteflies were introduced into each assay vial and the vials were placed into a growth chamber. After 48 hours, survival rates of whiteflies were determined. Negative and positive controls were established with distilled water and Isotox[®], a known pesticide of whiteflies. Two lichen secondary compounds, (-)-Usnic acid and Vulpinic acid, showed effectiveness in limiting survival rates of whiteflies. Vulpinic acid, with an average mortality 18%, has a greater pesticidal activity than Usnic acid, which had a 9.93% mortality. In the future, we plan to screen additional compounds for potential insecticidal activity.

Margherita Mascolo.

Use of RAPD Primers to Differentiate Medfly (*Ceratitis* spp.) Populations.

Don Frohlich, Biology

The species of the Mediterranean fruit fly, known as *Ceratitis cosyra*, probably originated in Africa and in the past hundred years has spread to tropical and subtropical regions. This has been due to its high reproductive potential and its high ability to adapt to different environments. Its main means of dispersal is flight and through the transport of infected fruits. Not a lot is known about this fly, but it does highly resemble *C. capitata* in both its biology and its survival capacity.

This fly poses economic problems although it has a limited range of host plants. Its main host is mangoes in Kenya and Zambia; an infested fruit shows signs of oviposition punctures and is economically useless. The damage caused by this fly is due to the fact that the females lay eggs in the mesocarpal of fruits. From there, the eggs undergo all the larval stages and hundreds of flies emerge. This results in completely ruined and useless fruits.

There are a number of control techniques that have been implemented in the past years, but none have been completely successful. An insecticide known as Malathon has been the choice pesticide used against these flies.

This research project used molecular techniques known as PCR and RAPD to understand more about the genomic map of this species. Particularly, the project tried to differentiate African populations from laboratory populations by assessing their polymorphism.