

CHANGES IN STUDENT'S ATTITUDES TOWARD EVOLUTION

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Abstract

Since Georgia students receive very little pre-collegiate instruction on evolution, they use atypical repertoire of misconceptions to justify their creationist aversions to the theory. Surveys were administered at the end of a non-majors biology course in which the socio-political dimensions of the evolution/creationism controversy were emphasized. Qualitative analysis revealed students recognized that the controversy is rooted in perceived conflict between religion and science, as well as the obvious inconsistency between scriptural and biological accounts. Their testimony indicated changes in both their understanding of and receptivity toward the theory of evolution. Students recognized that the theory made scientific sense based on recorded empirical evidence and indicated that some parts of the theory hold up under logical review.

Methodology

Participant Research by Class Member

Demographics: VSU Students Enrolled in Area D Core Course

Non-Traditional - 2 Day Discussion of Controversy before Explanation
Myths & Truths about Evolution
Social Controversy

IRB Approved Survey of Classmates Last Day of Course

Open-Ended Questions Requiring Narrative Responses

"Bi-Methodological" (Quantitative & Qualitative) Analysis of 70 Responses

Historic Background

600-300 BCE Ancient Greeks First to Discuss Changing Life Forms
1859 Darwinian Explanation of Natural Selection
19th Century Theory Became Socially Controversial
20th Century Laws/Policies Attempt to Interfere with Science Education
Supreme Court Cases Uphold Teaching of Evolution

Sequential Challenges

Differs from Biblical Account of **Creationism**

Humans Are Not Depicted as God's **Special Creation**

Creation Science Is not Supported by Scientific Evidence

No Reference to a Supernatural or **Intelligent Designer**

Be Taught with "**Strengths & Weaknesses**"

Contrived **Association** with **Global Warming** & Questionable Science

Creationists' Apprehensions

Mistrust: Told to Expect Scientists to Dismiss the Validity of Faith

Misconception: Accepting Evolution Is Incompatible with Religion

Misrepresentation: Science Contradicts the Bible

Misinformation: "Humans Come from Monkeys"

Misunderstanding: Micro & Macro Evolution Are Different

Research Premise

Reticence Is Exacerbated in the "Bible Belt"

Georgia Students Receive Little/No Precollegiate Education on Evolution
Many Hold Deep Reservations about Learning about the Theory

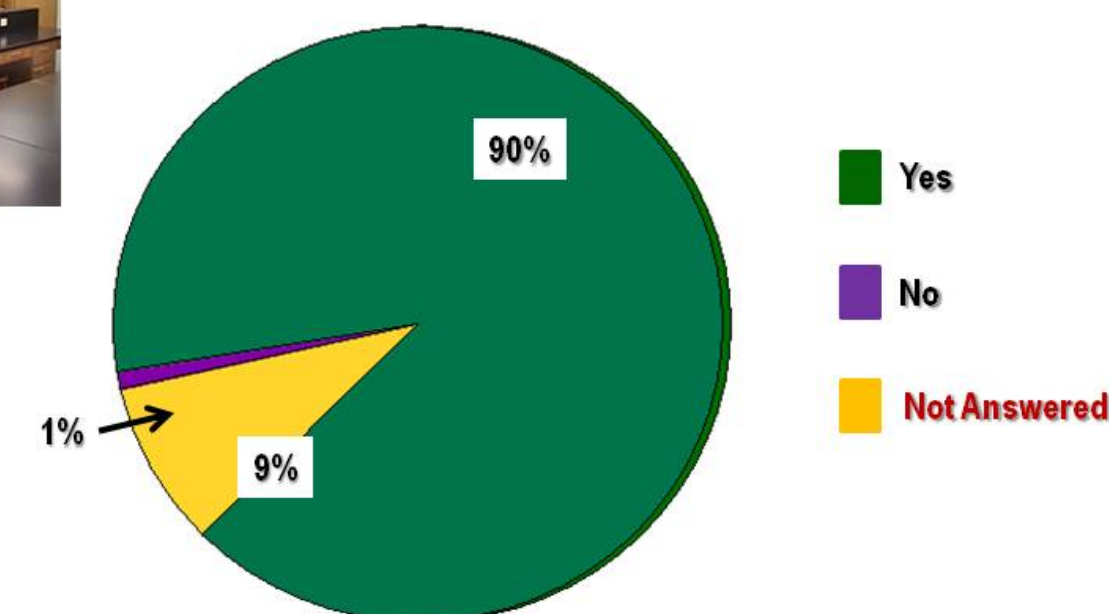
Research Question

Does an Evolution Course Increase Receptivity?

Does Discussion of Evolution & Creationism Reduce Controversy?

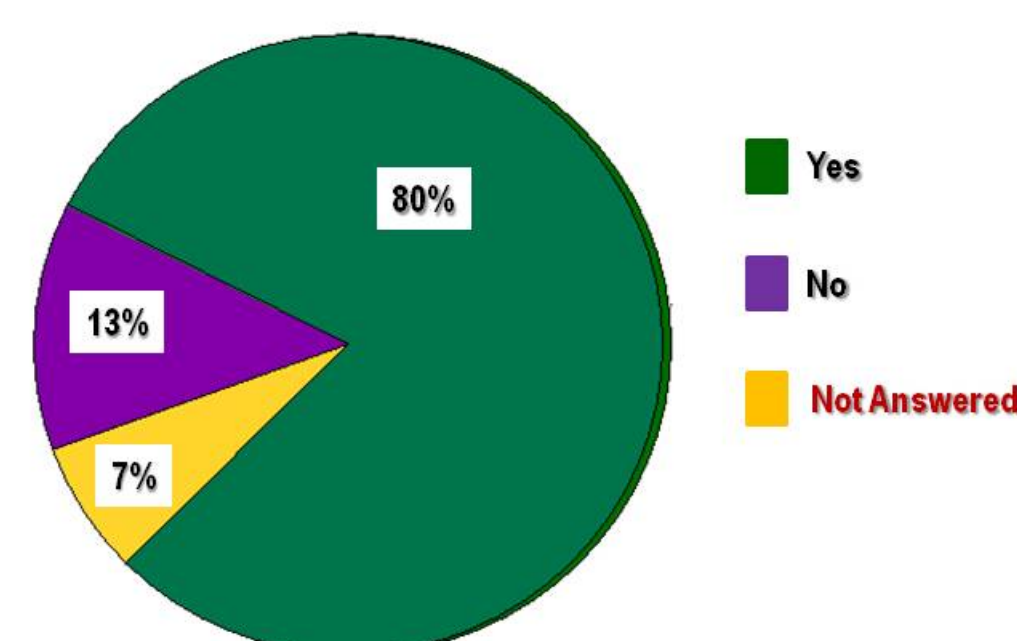
At the Conclusion of BIOL 1010: Evolution & the Diversity of Life...

Evolution Is Controversial



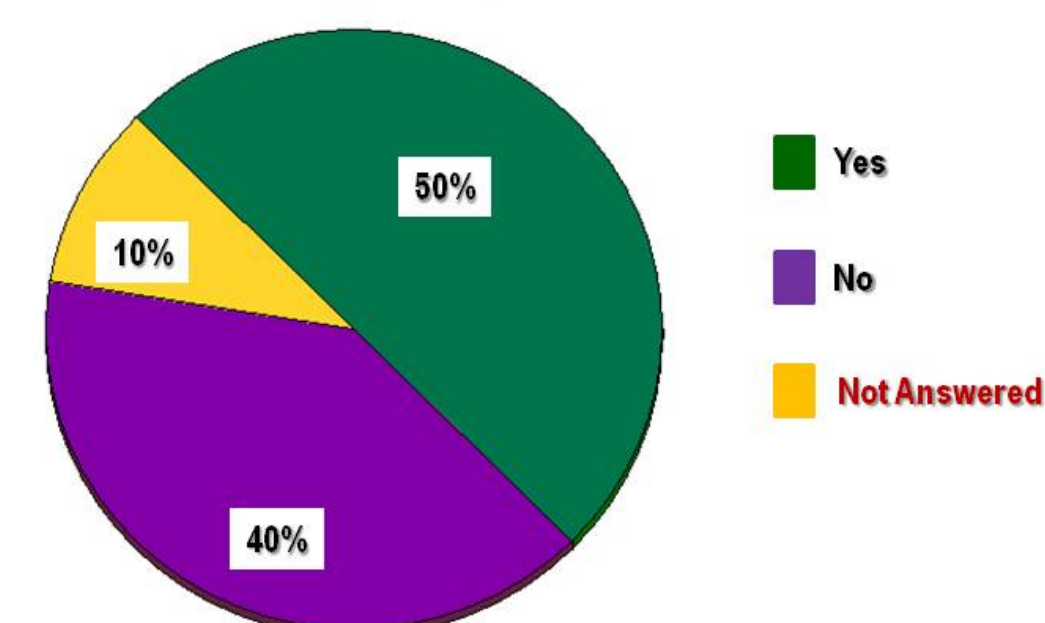
"Because people like to make a big deal out of everything, or that people take everything so literally."
"Because everyone has different opinions about whether or not it conflicts with God and the Bible."
"Because many people are simply misinformed and need to be taught more about it. They think it is something you believe in, rather than a concept to understand."

Evolution Is Logical



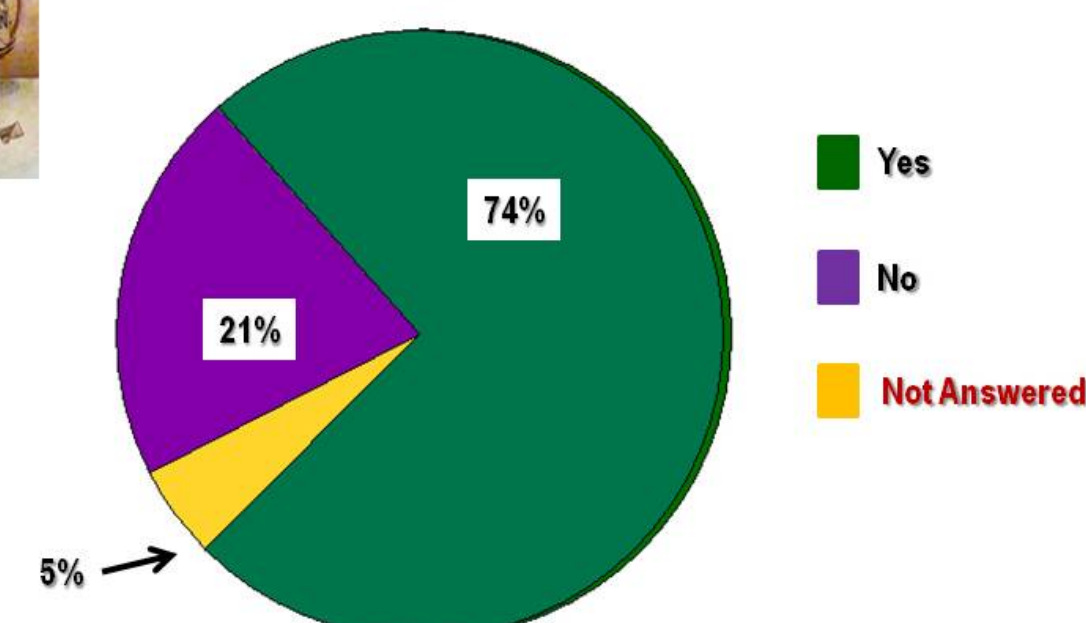
"Yes, because there are fossils and other means of evidence."
"No. Science claims to show the reason that some things happen but evolution has too many unanswered questions."
"Of course it makes sense. Scientists made it up."

Compatibility with Worldview



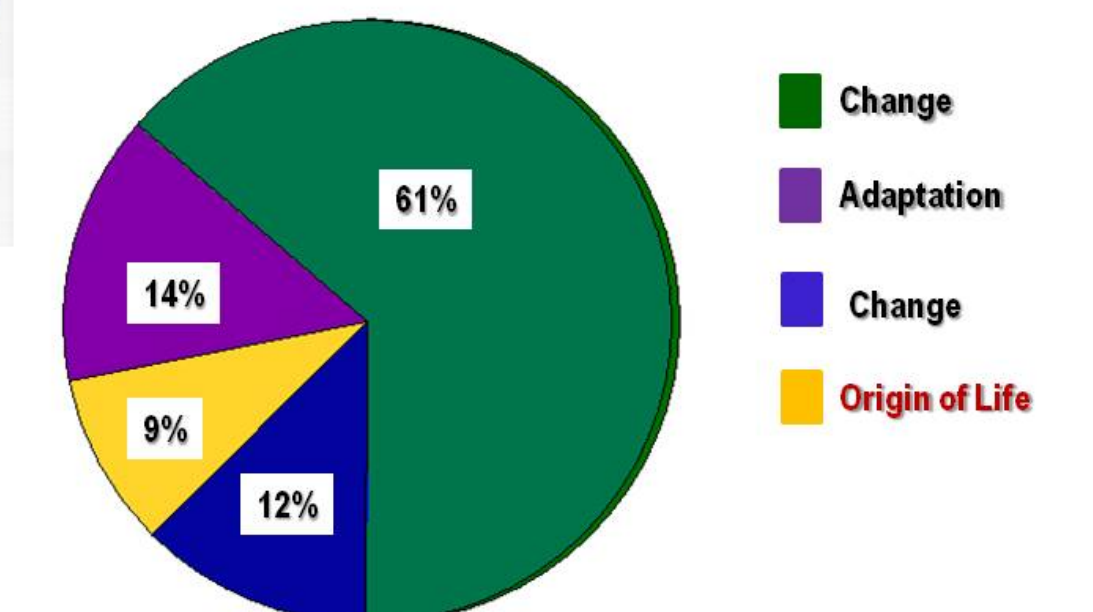
"The theory of evolution doesn't affect my beliefs because I see the two in different ways."
"No, I am a creationist and I still believe God Created all life and the universe in the beginning in six days."
"No, as a Christian I was raised to believe that God made man in his own image."

Changes in Opinions



"It made it easier to believe since it was not forced on us, or an attempt to discredit any other beliefs as well."
"It let me know that scientists don't REALLY believe humans evolved from monkeys."
"That science is not trying to prove religion wrong."

What Evolution Means



"The word, to me, represents the scientific explanation for biodiversity in organisms over time."
"a scientist's reason for (or explanation for) how life began."
"an unproven theory about how organisms change over time"

Discussion

Inaccurate Perceptions Contribute to the Controversy

Reassuring that:
Religion Is Spiritual & Deals with the Supernatural
Science Is Naturalistic & Requires Empirical Evidence

Difficult to Reconcile Accounts of Creation

Concern over the Place of Humans in Universe

Conclusion

It Is Important for Georgia Students to Receive This Instruction

Even Those not Accepting Evolution:

Were Glad to Finally Understand What Evolution Really Is

Had Numerous Misconceptions Cleared Up

Learned Epistemological Distinctions between Religion & Science

Saw that That Science Should Not Seen As an Enemy of Religion

Metal Accumulation in Two Species of Seaweed After Waterborne Metal Exposure

Sasha L. Booth, Department of Biology

Faculty Sponsor: Dr. Gretchen Bielmyer, Department of Biology

Abstract

Marine environments are commonly exposed to metal pollutants from anthropogenic activities such as agriculture, mining, and stormwater runoff, as well as natural inputs from volcanoes and forest fires. In excess, metals may accumulate in marine biota and potentially cause toxicity. The goal of this experiment was to measure metal accumulation in two species of marine seaweed after 48 hours of waterborne exposure to 100 µg/L of cadmium, copper, lead, nickel, and zinc. *Ulva lactuca* and *Agardhiella subulata* were ideal for use in this study because they occupy a variety of coastal habitats such as inner bays and estuaries, and are therefore commonly exposed to polluted environments. Metal accumulation in the seaweed varied between species and among metals, however, significant copper accumulation was observed in both species. This study provides important information concerning metal accumulation in sensitive lower trophic levels, which serve as vital constituents in many food chains.

Introduction

- Elevated levels of Cd, Cu, Ni, Pb, and Zn can be toxic in marine environments.
- Assessing metal accumulation in seaweed is beneficial in showing the introduction of metals into sensitive food webs.
- Accumulated metal has been shown to cause detrimental effects on grazers (Bielmyer et al. 2012).
- The objective of this experiment was to quantify metal accumulation in the seaweed species, *U. lactuca* and *A. subulata*, after waterborne metal exposure.

Methods and Materials

- Metal solutions were prepared with 2L of 32 ppt salt water and 100 µg/L of the following metals: cadmium (Cd), copper (Cu), nickel (Ni), lead (Pb), and zinc (Zn).
- Control solutions were also made for each type of seaweed.
- 2 grams of *Ulva lactuca* and *Agardhiella subulata* were placed in each replicate 2 L glass culture dish for a period of 48 hours. There were two replicates per treatment.
- After two days, the seaweed was dried in the oven for 24 hours, and the dry weight of each seaweed was then recorded.
- The dried seaweed was digested in 2 mL of nitric acid, the samples were diluted 10-fold with 18 mΩ Milli-Q® water, and then the diluted samples were analyzed for metal content using atomic absorption spectrophotometry.

Results and Discussion

Fig. 1 shows that the Cd-exposed *A. subulata* accumulated significant tissue Cd as compared to the controls; whereas no significant increase in Cd accumulation was observed in the Cd-exposed *U. lactuca*. Cu significantly accumulated in both species after 48 h exposure to 100 µg/L and concentrations were higher than any other metal tested (Fig. 2). This pattern of accumulation has been demonstrated in other studies (Bielmyer et al. 2012) and could be due to the essentiality of Cu. Like Cu, Ni significantly accumulated in both species (Fig. 3). Although the average Pb concentrations appeared higher in the Pb-exposed treatments, due to control variability, significant differences were only observed in *A. subulata*, as compared to the controls (Fig. 4). Zn accumulation was slightly elevated in the Zn-exposed treatments; however, no significant differences were observed in either species (Fig. 5). In other studies, Zn has been shown to be highly regulated by aquatic organisms (Bielmyer et al. 2012).

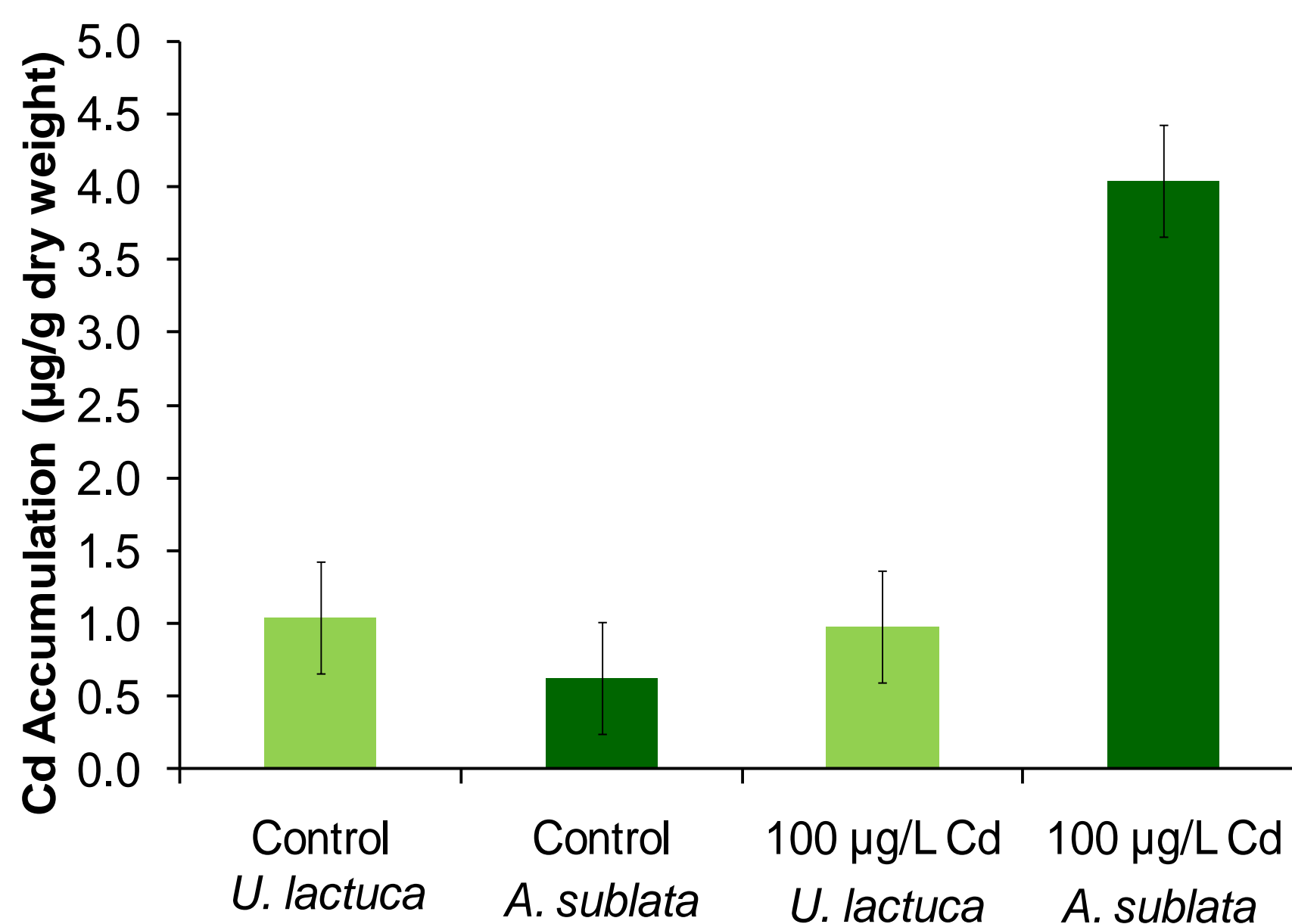


Fig. 1 Cd accumulation in *U. lactuca* and *A. subulata* after 48 h of waterborne Cd exposure.

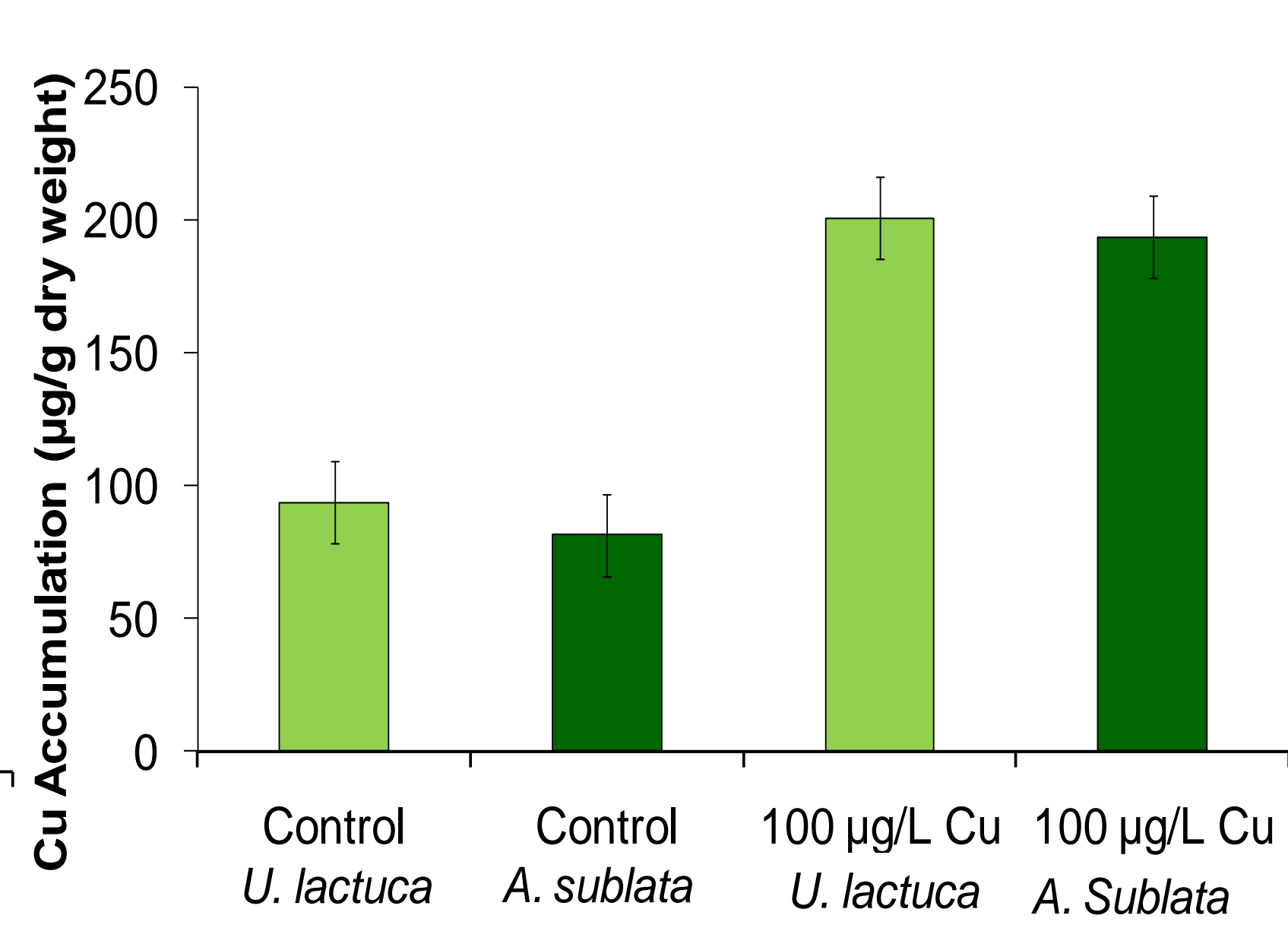


Fig. 2 Cu accumulation in *U. lactuca* and *A. subulata* after 48 h of waterborne Cu exposure.

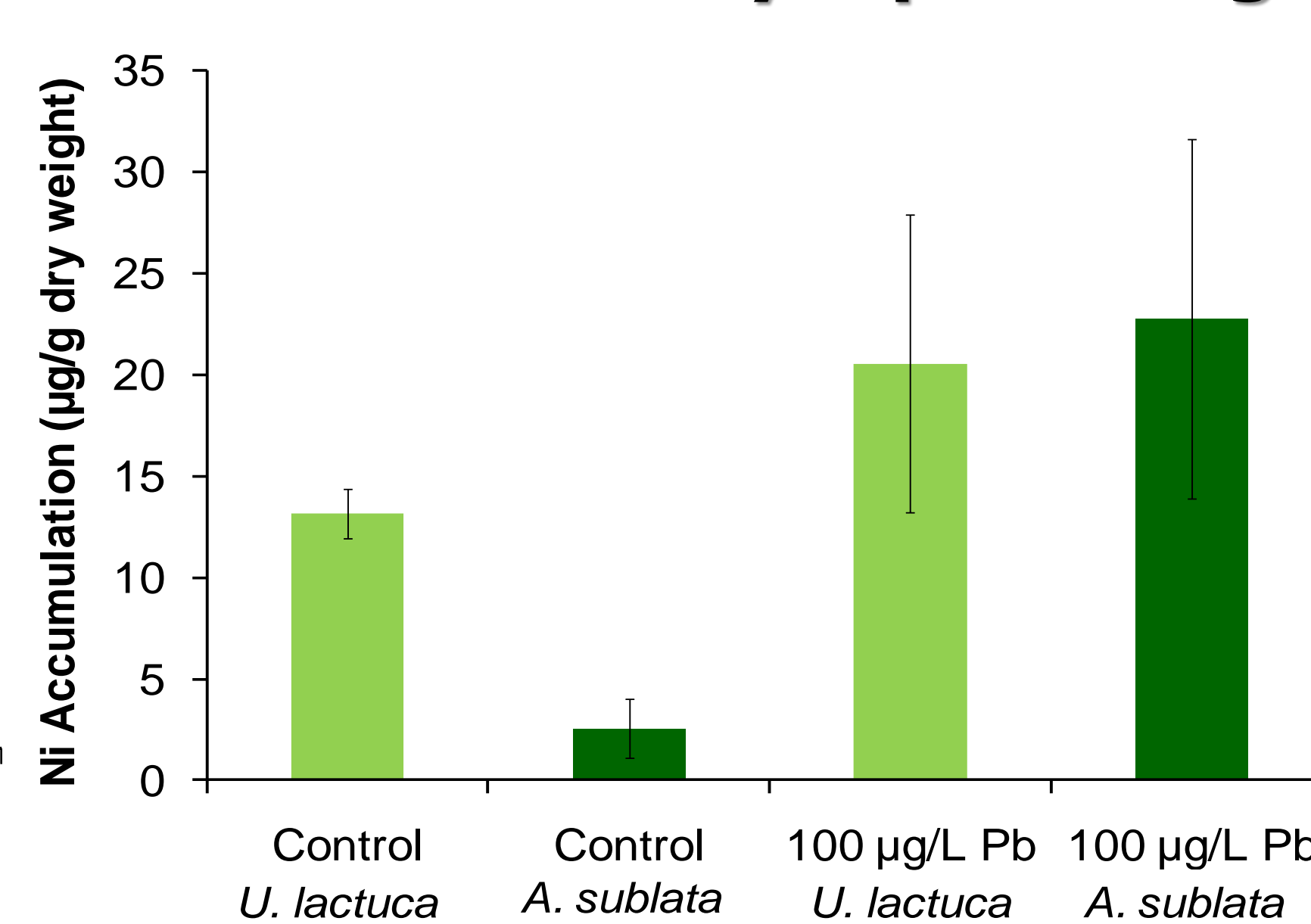


Fig. 3 Ni accumulation in *U. lactuca* and *A. subulata* after 48 h of waterborne Ni exposure.

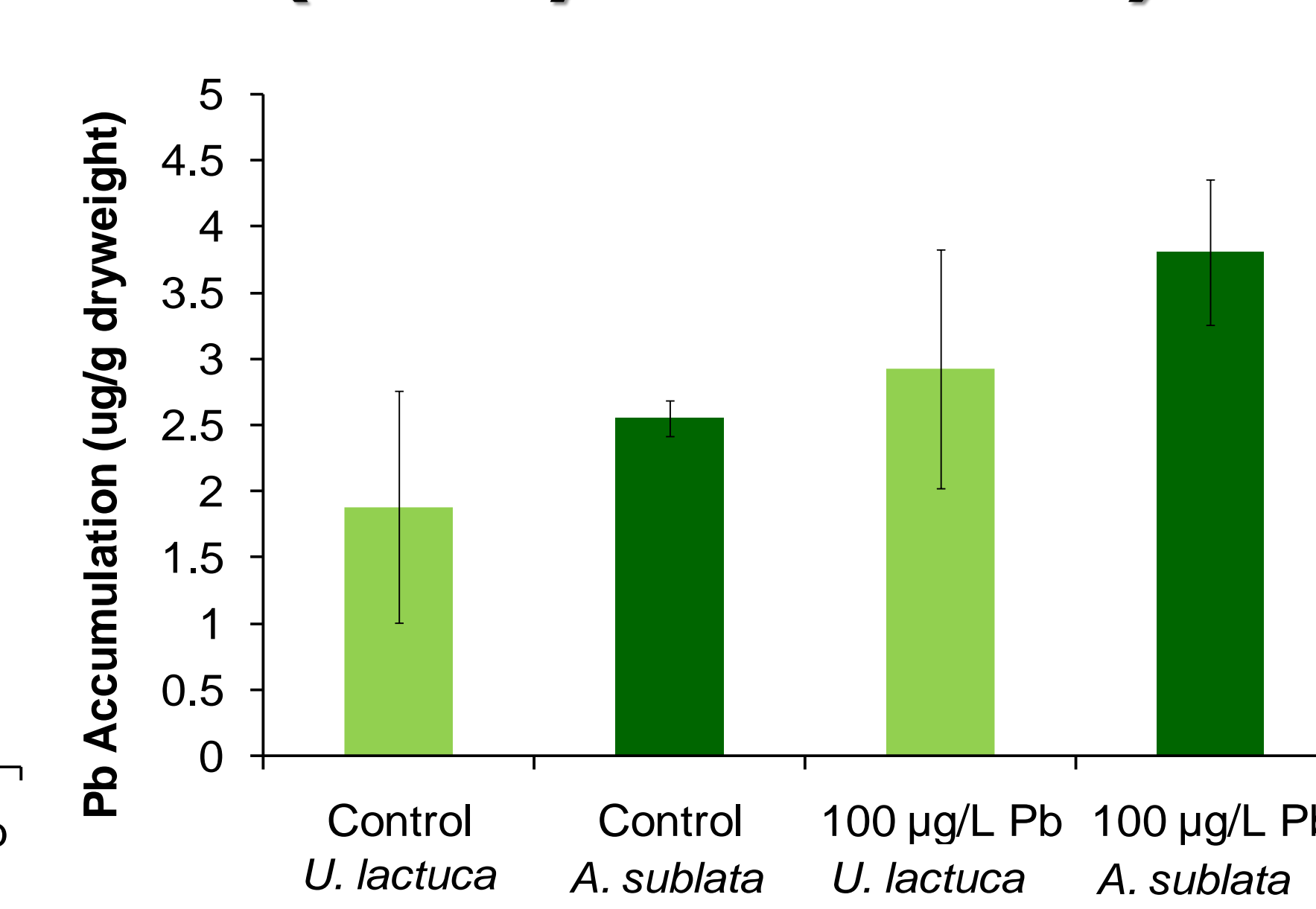


Fig. 4 Pb accumulation in *U. lactuca* and *A. subulata* after 48 h of waterborne Pb exposure.

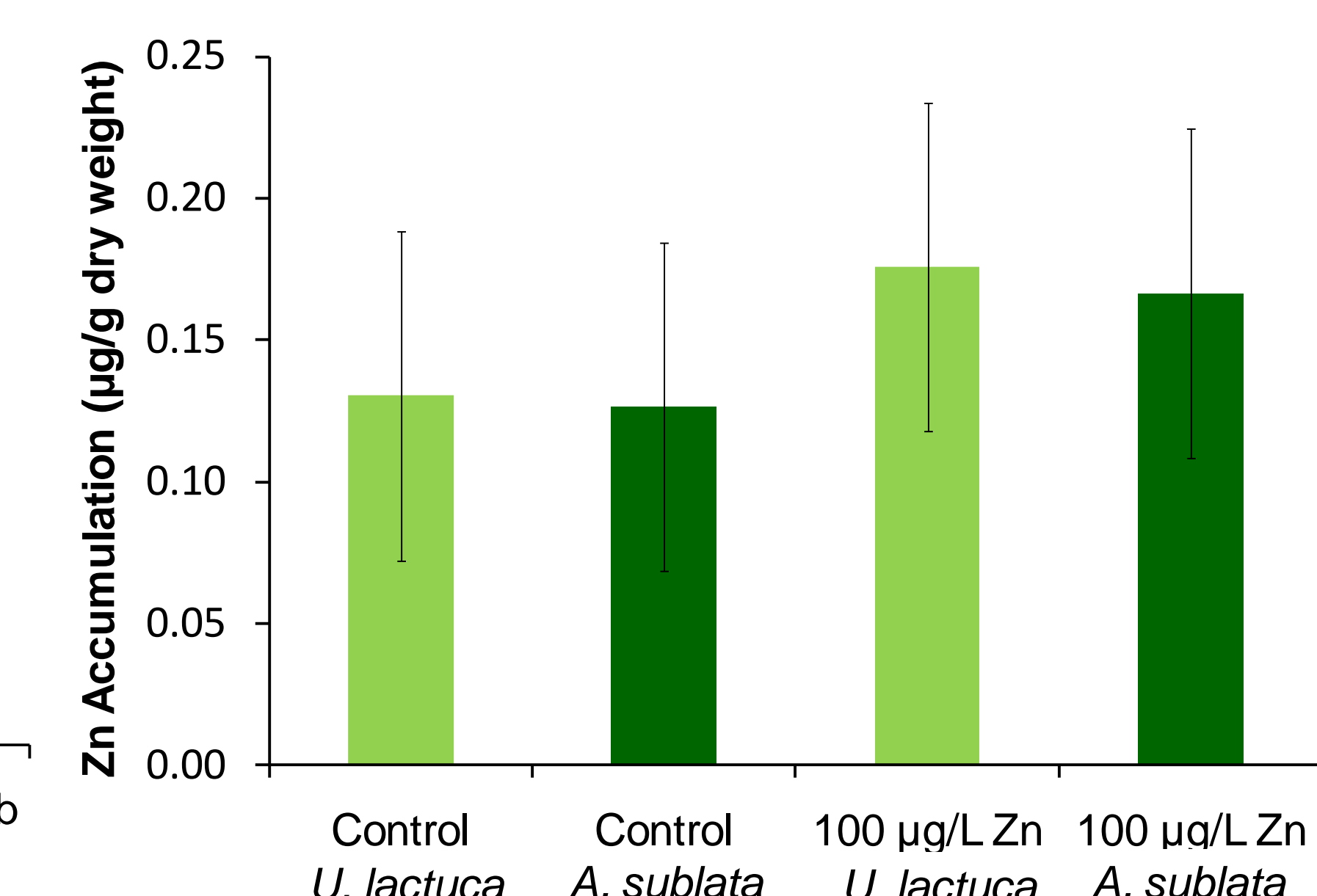


Fig. 5 Zn accumulation in *U. lactuca* and *A. subulata* after 48 h of waterborne Zn exposure.

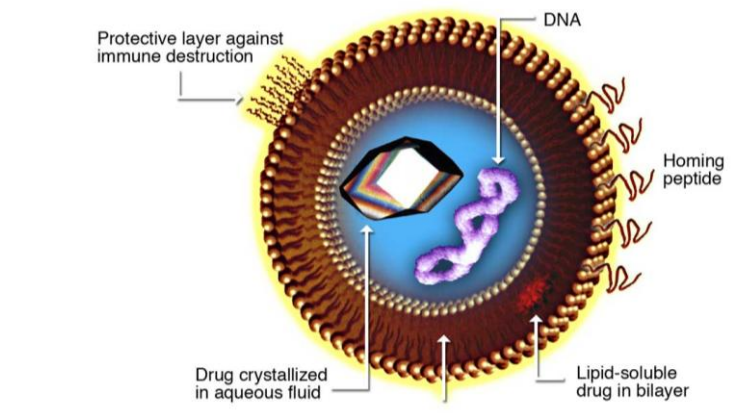
Conclusions: Metal accumulation occurred in both seaweed species as a consequence of waterborne metal exposure at environmentally realistic exposure concentrations. In general, metal accumulated similarly in both seaweed species, with the exception of Cd, where higher concentrations were observed in *A. subulata*. Cu accumulation was most significant in both species of seaweed. The accumulated metal in this sensitive lower trophic level may have implications for grazers.

Reference:

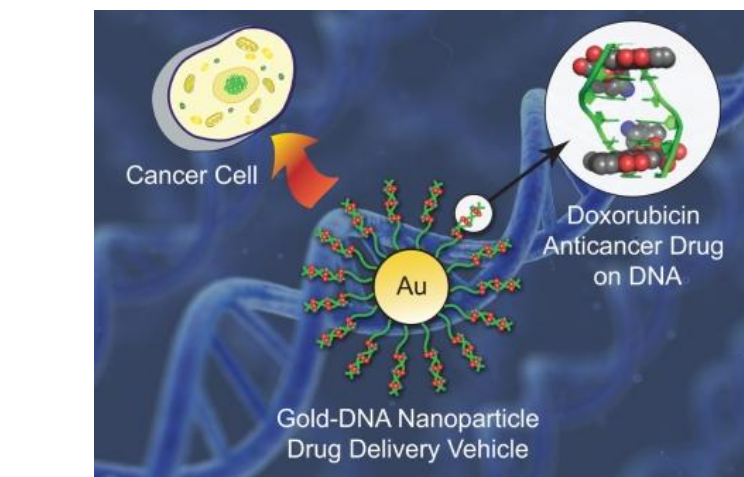
Bielmyer, G.K., T. Jarvis, B.T. Harper, B. Butler, L. Rice, S. Ryan. 2012. Metal Accumulation from Dietary Exposure in the Sea Urchin, *Strongylocentrotus droebachiensis*. *Arch Environ Contam Toxicol* DOI: 10.1007/s00244-012-9755-6.

Other Drug Transport Systems:

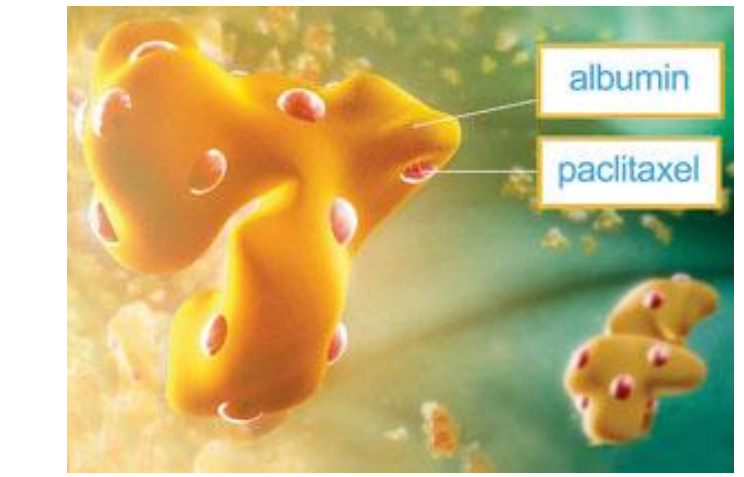
- Liposomes:** their natural chemical composition, controllable pharmacokinetics, and their ability to protect encapsulated drugs allows for drug delivery across cell membranes.



- Nanoparticles:** can deliver drugs that would not normally be able to cross certain membranes in vivo. They can also target the drugs towards specific cells and organs.

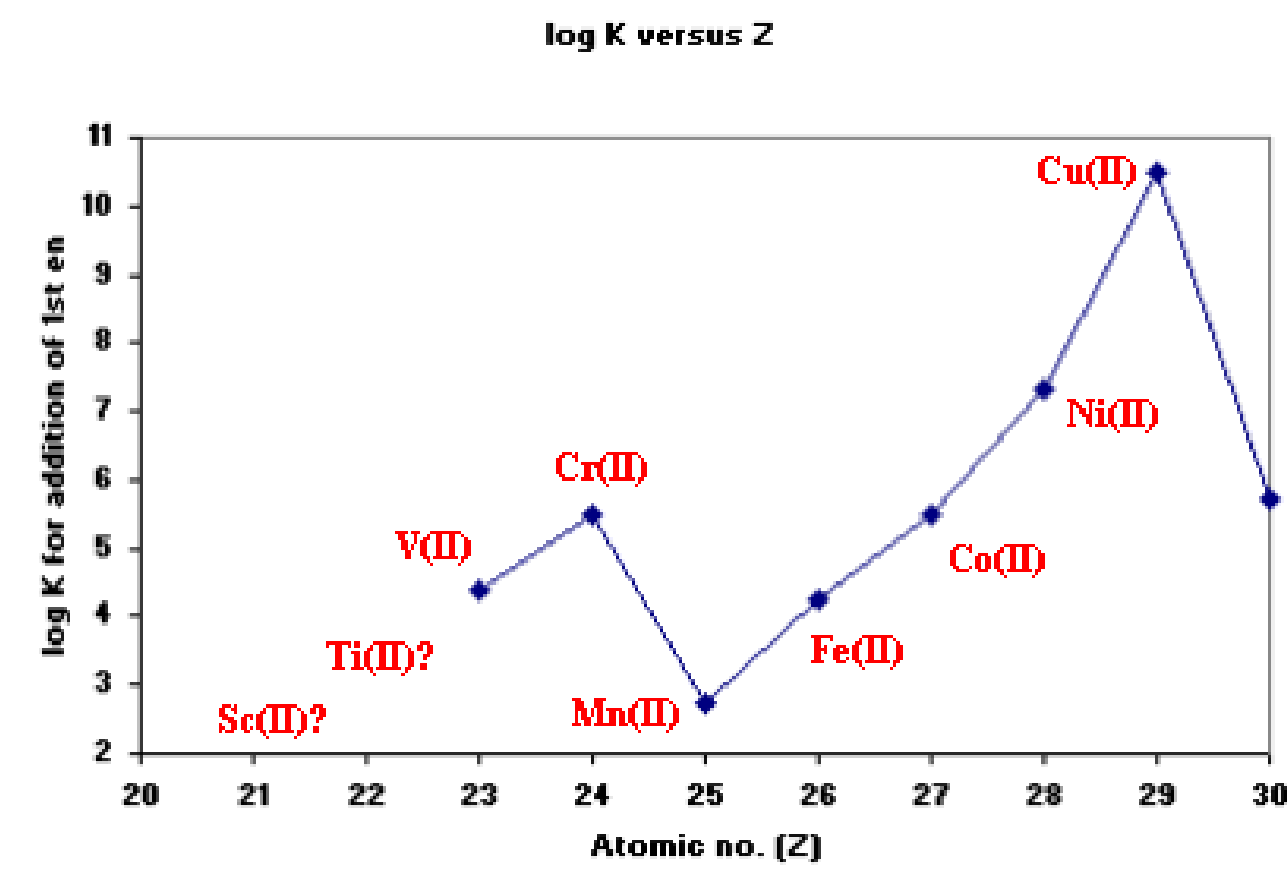


- Proteins:** proteins ,such as albmumin, facilitate uptake of the drug and offer a degree of selectivity. Abraxane is albumin-bound paclitaxel, which is used to treat breast cancer.



Why Copper?

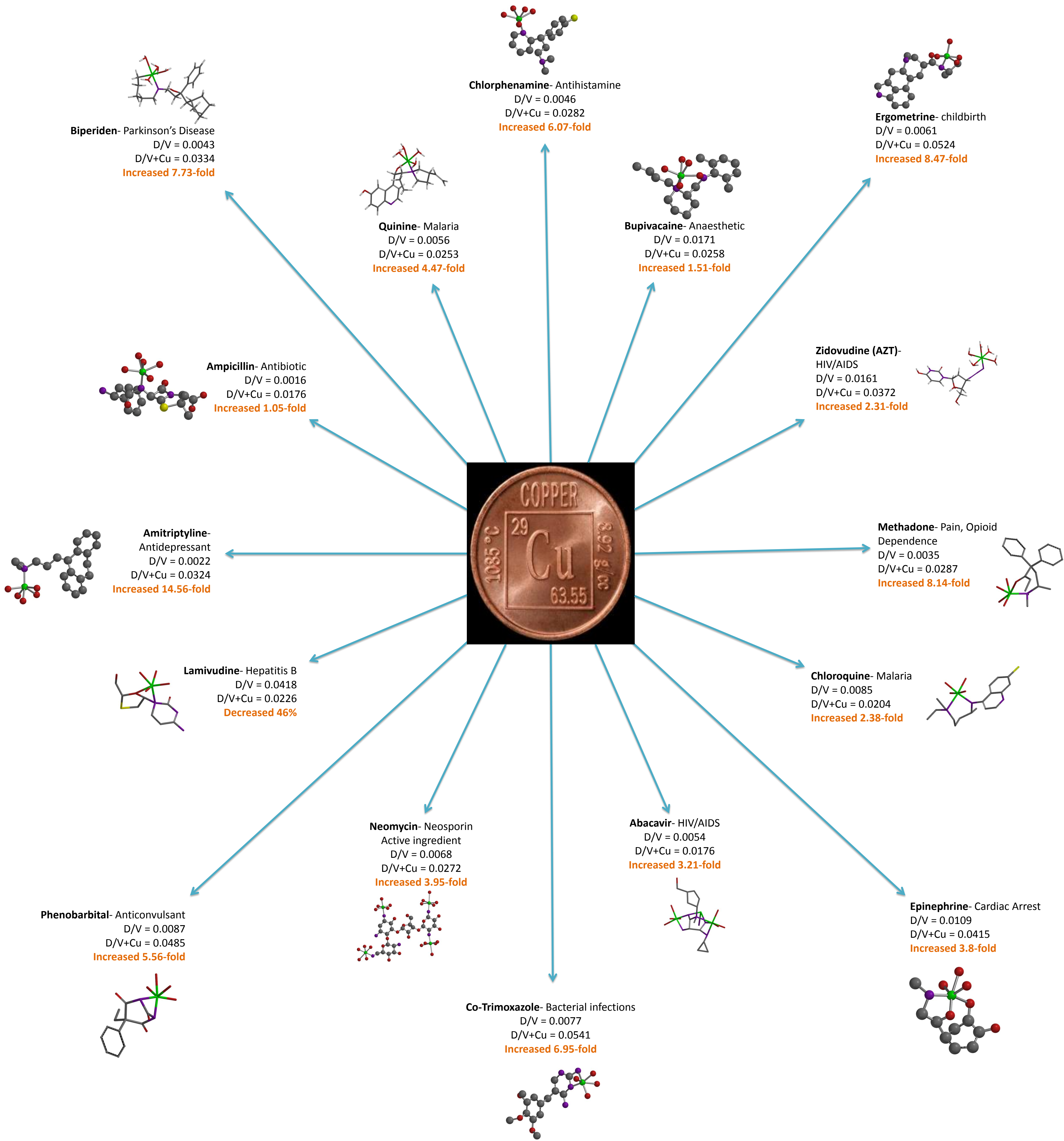
Compared to other first-row transition metal ions, the octahedral Cu(II) ion is much more stable when bound to a ligand containing nitrogen. Binding Cu(II) to the amine group of a drug often times increases its water solubility, thus improving the efficacy of the drug.



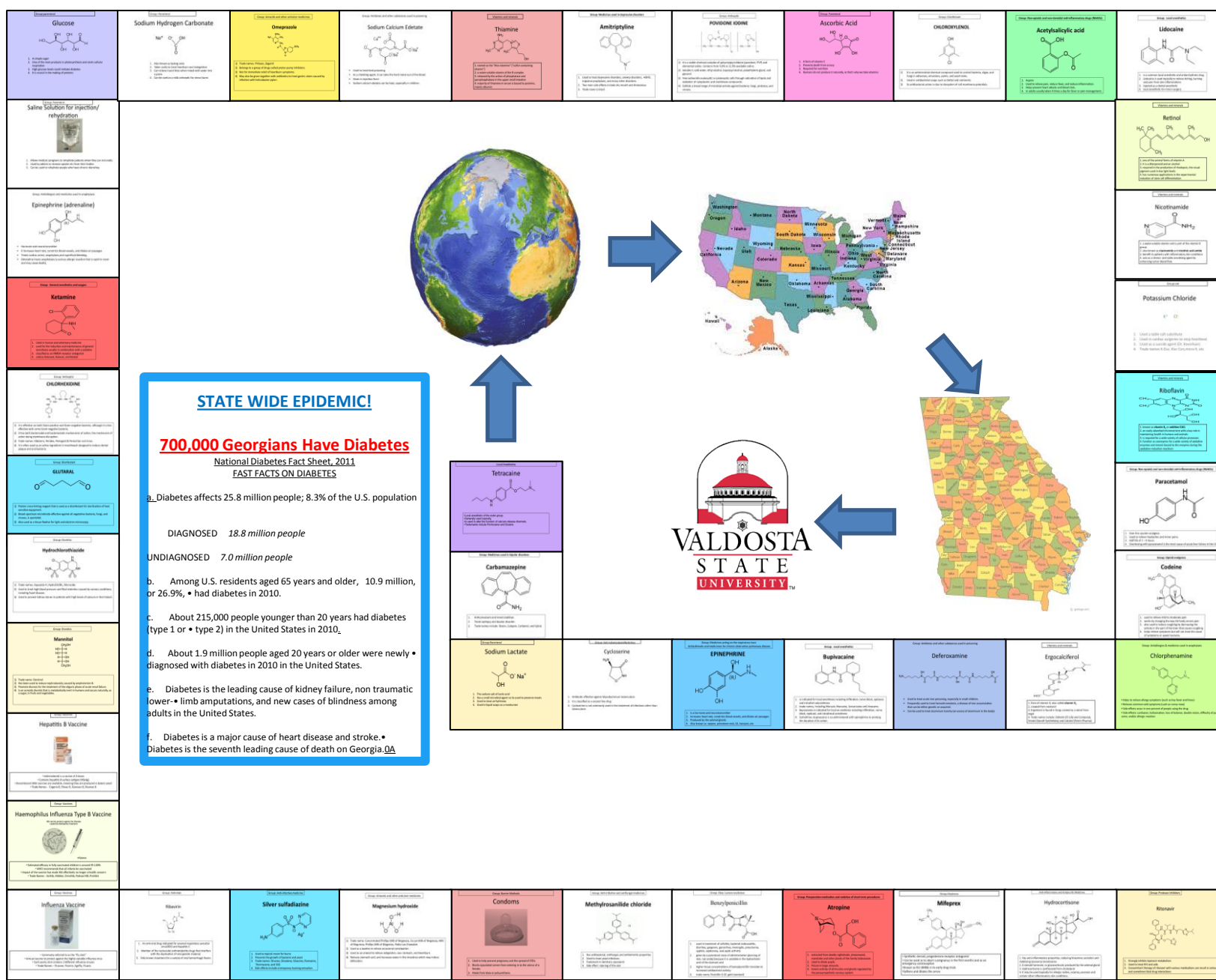
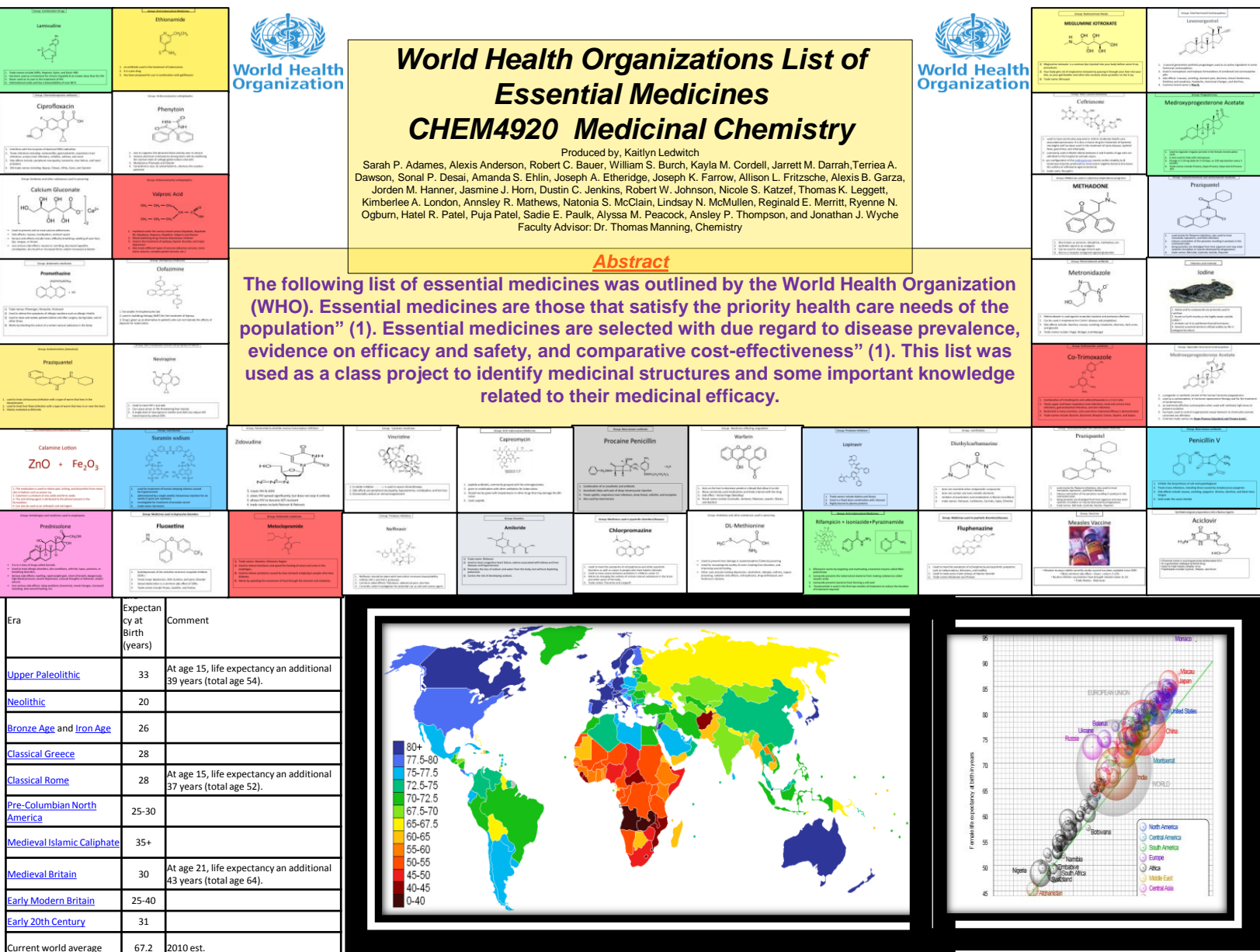
Improving the Efficacy of Amine Containing Medicines: A Computational Approach

Jarrett M. Darrah, Aaron C. Ford, Sierra Marable, Sadie E. Paulk, K. Ledwitch, T. Manning (faculty advisor)
Chemistry Department
Valdosta State University

In this computational study, approximately 150 well known medicinal agents, from malaria drugs to cancer treatments, are examined as candidates for improving their efficacy, by increasing their water solubility. Each of these agents contain an amine. As opposed to other approaches, such as liposomes, nanoparticles or proteins, this study will show that a number of drugs can have improved water solubility, thereby offering better treatment efficiency by binding the amine structure to a specific cation in the correct molecular location. The ratio of the molecules' dipole moment (D; Debye) to molecular volume (V; A³) or its D/V ratio when unbound compared to the bound complex is used to make the physiological argument.



World Health Organization List of Essential Medicines- Approximately 140/320 drugs contain an amine group.



We would like to thank the VSU-QEP Project and the VSU Chemistry Department.



Measuring Permeability of Lipid Membranes to H^+ and Acids

Carolyn B. Newham and Pratik P. Patel

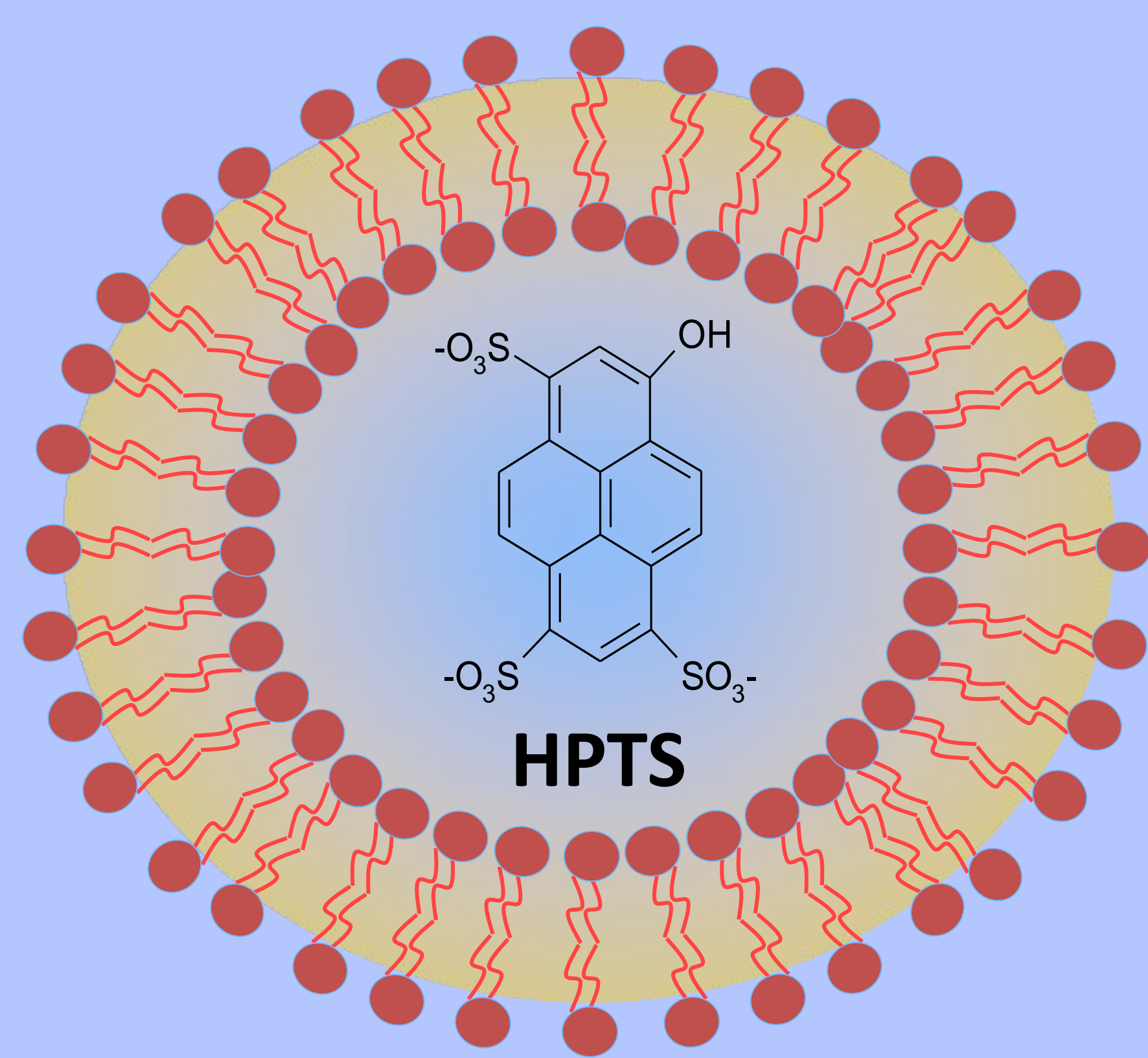
Faculty Sponsor: Dr. Yakov Woldman

Valdosta State University, Department of Biology, Department of Chemistry

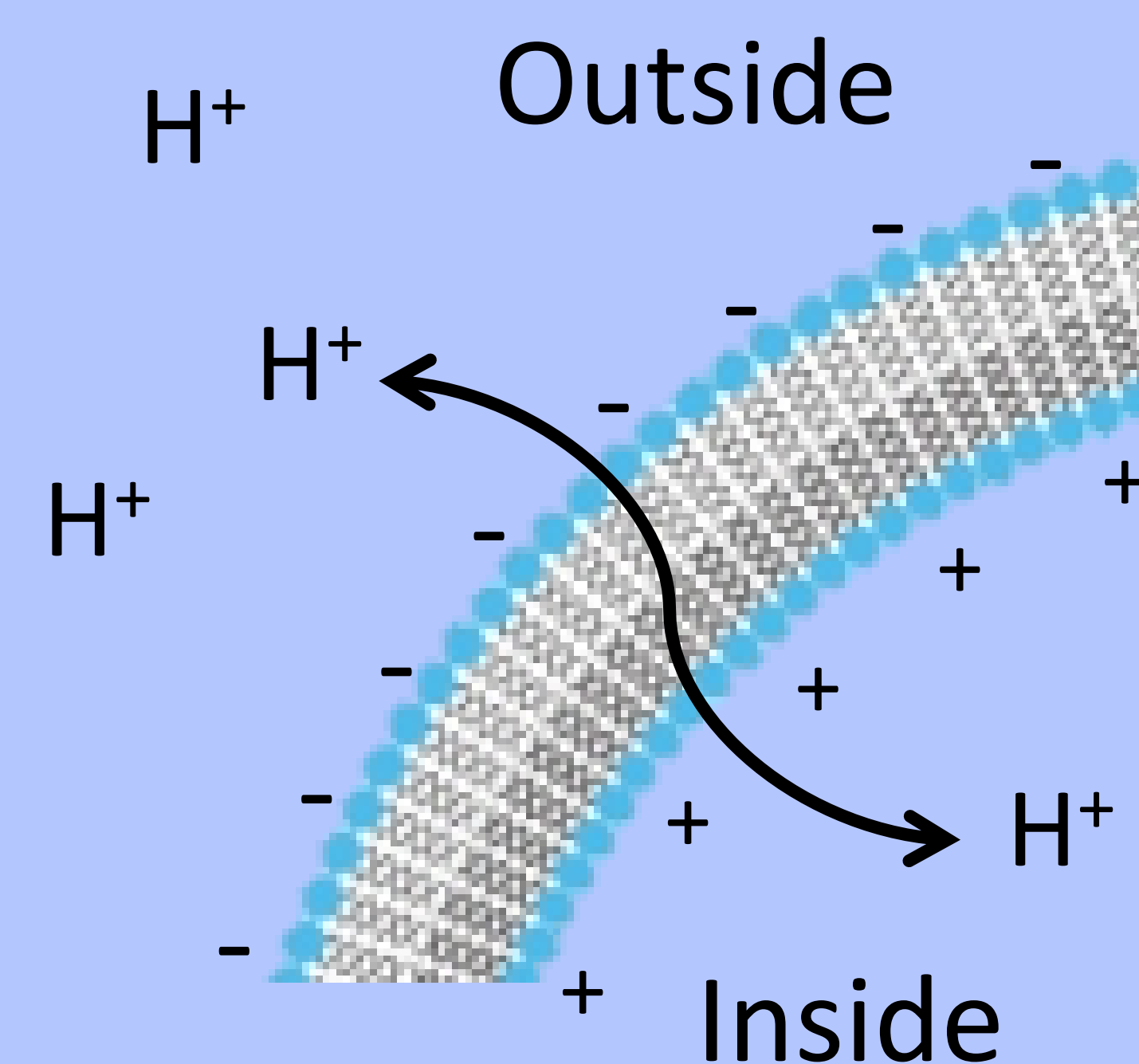
Abstract

Transport through cellular membranes plays a defining role in biological systems. The focus of this research is to study the passive permeability of lipid membranes for small molecules using lipid vesicles (liposomes) as a model. A fluorescent probe that cannot permeate through the membrane was encapsulated inside the liposomes. The spectrum of the probe is pH dependent allowing the H^+ ions concentration to be measured. Various acids and salts were added to the medium outside of the liposomes. Due to the penetration of H^+ or non-dissociated acid molecules through the membrane, the pH inside the liposomes will change. This causes the change in the spectrum of the fluorescent probe inside the liposomes, which was recorded. Phosphatidylcholine, the major component of bacterial and eukaryotic membranes, was used to measure the permeability of lipid membranes in this study.

How we measured the pH inside of the liposomes

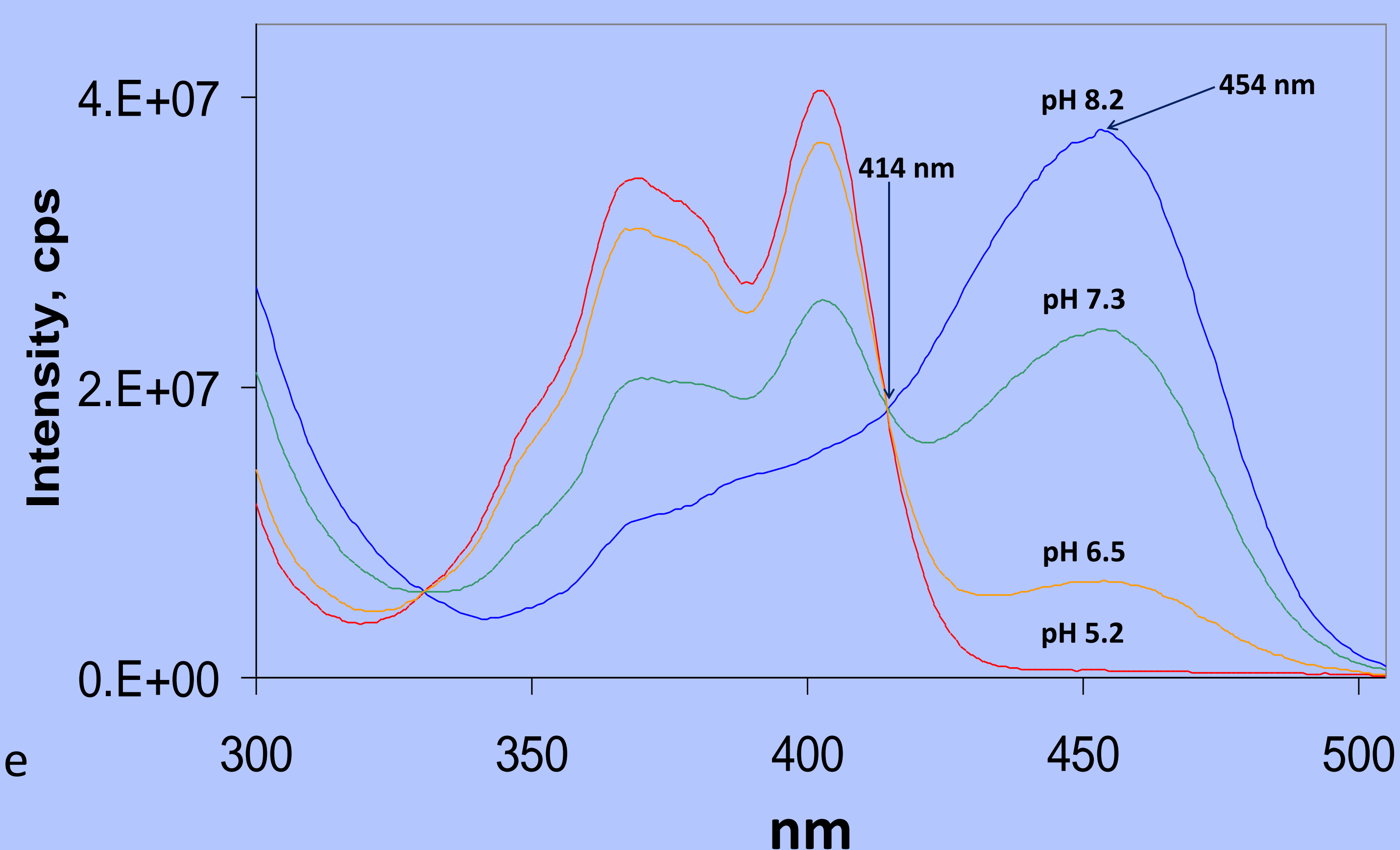


A fluorescent probe was used that can not penetrate through the lipid bilayer. HPTS is a non-penetrating probe with pH-dependent fluorescence. Liposomes were prepared in the presence of HPTS, the probe outside of the liposomes was removed by gel-filtration.



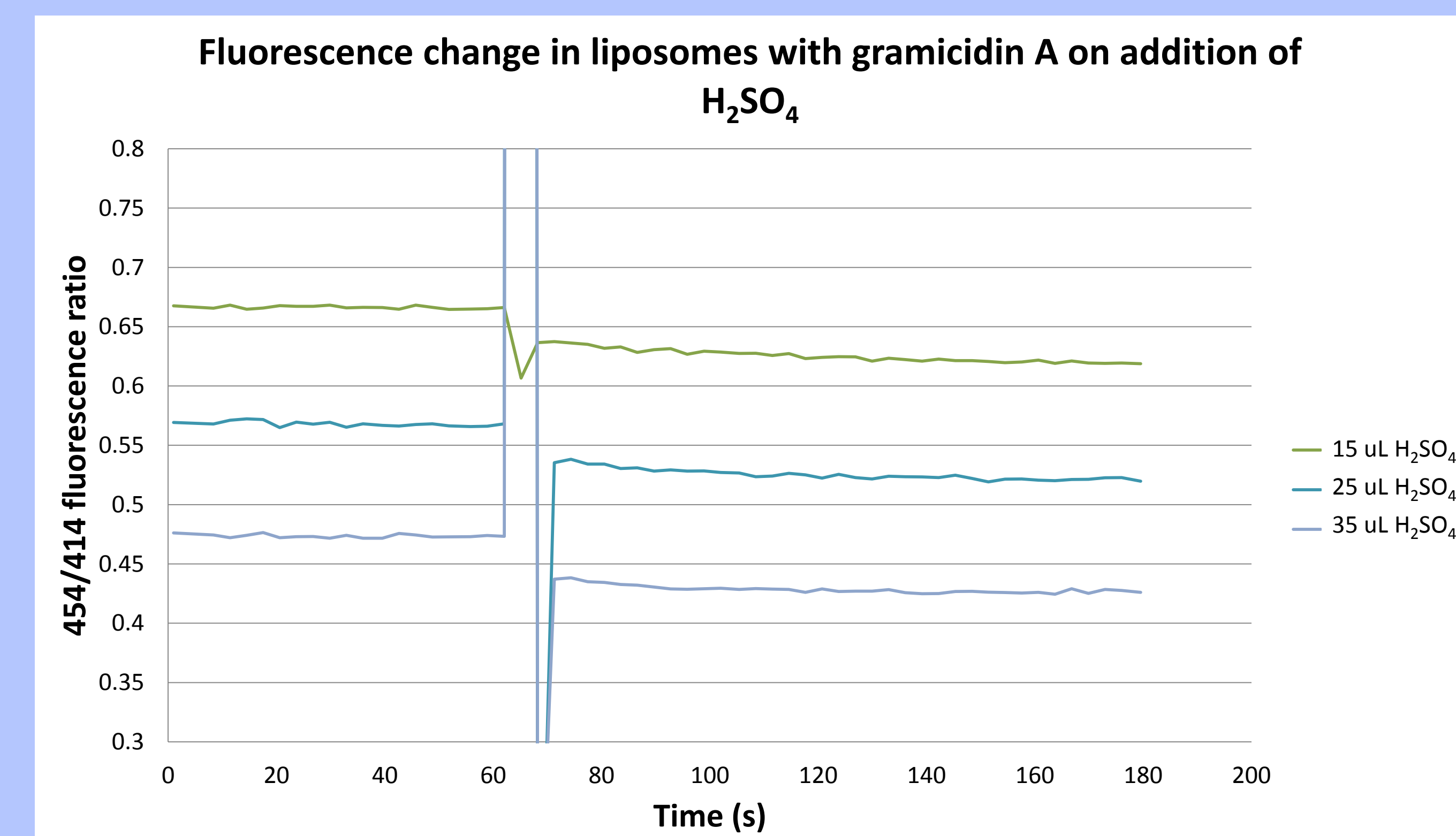
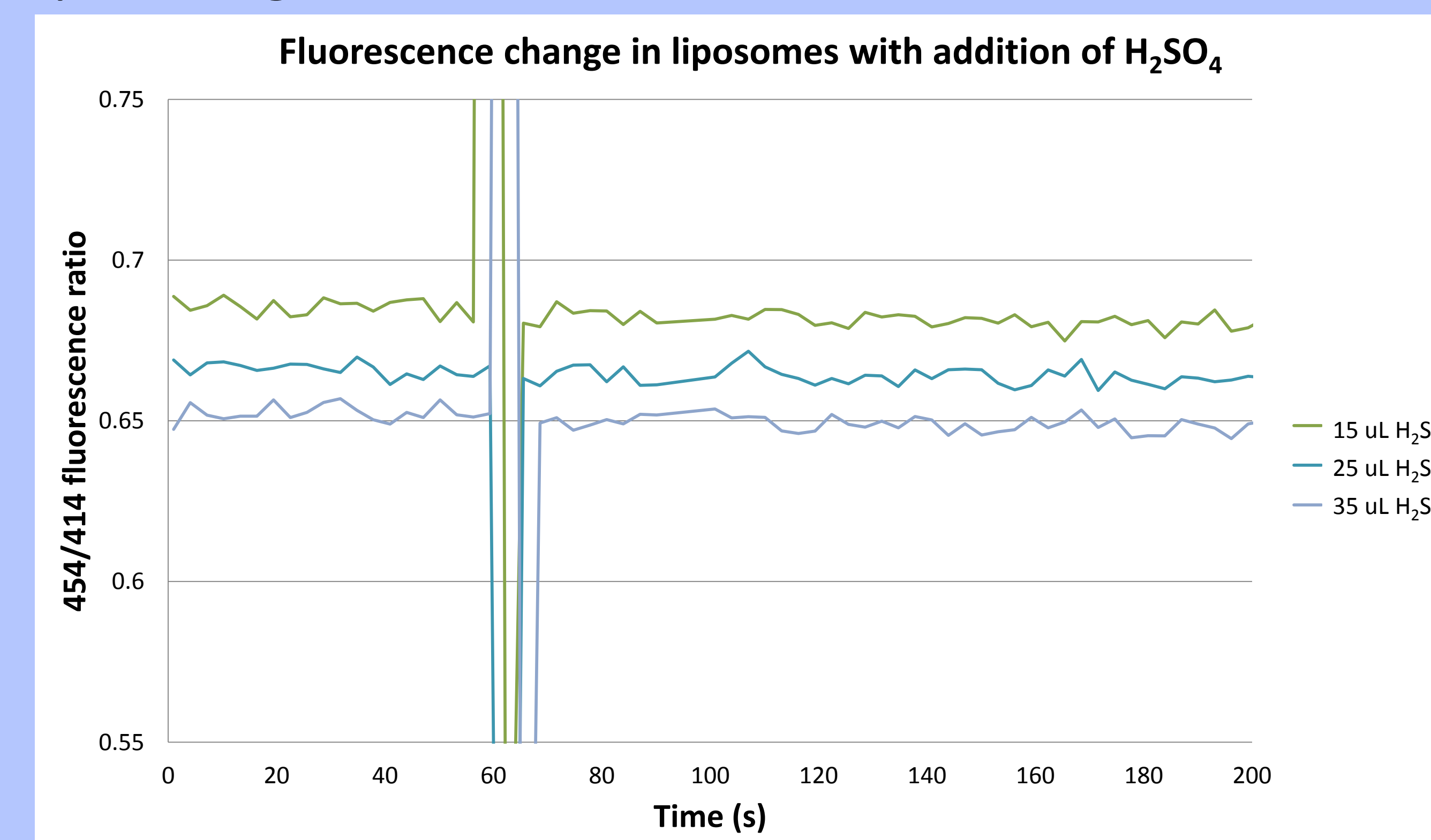
Non-penetrating acid added outside can lower the pH inside of the liposomes. As the pH is lowered outside of the liposome, the concentration of protons increase outside. Protons then begin to enter the liposome, changing the pH and causing the inside to become positively charged. Equilibrium is reached when the developed electric potential counterbalance the protons' concentration difference between inside and outside of the liposome.

Membrane impermeable fluorescent probe Excitation spectra for HPTS, emission 510 nm



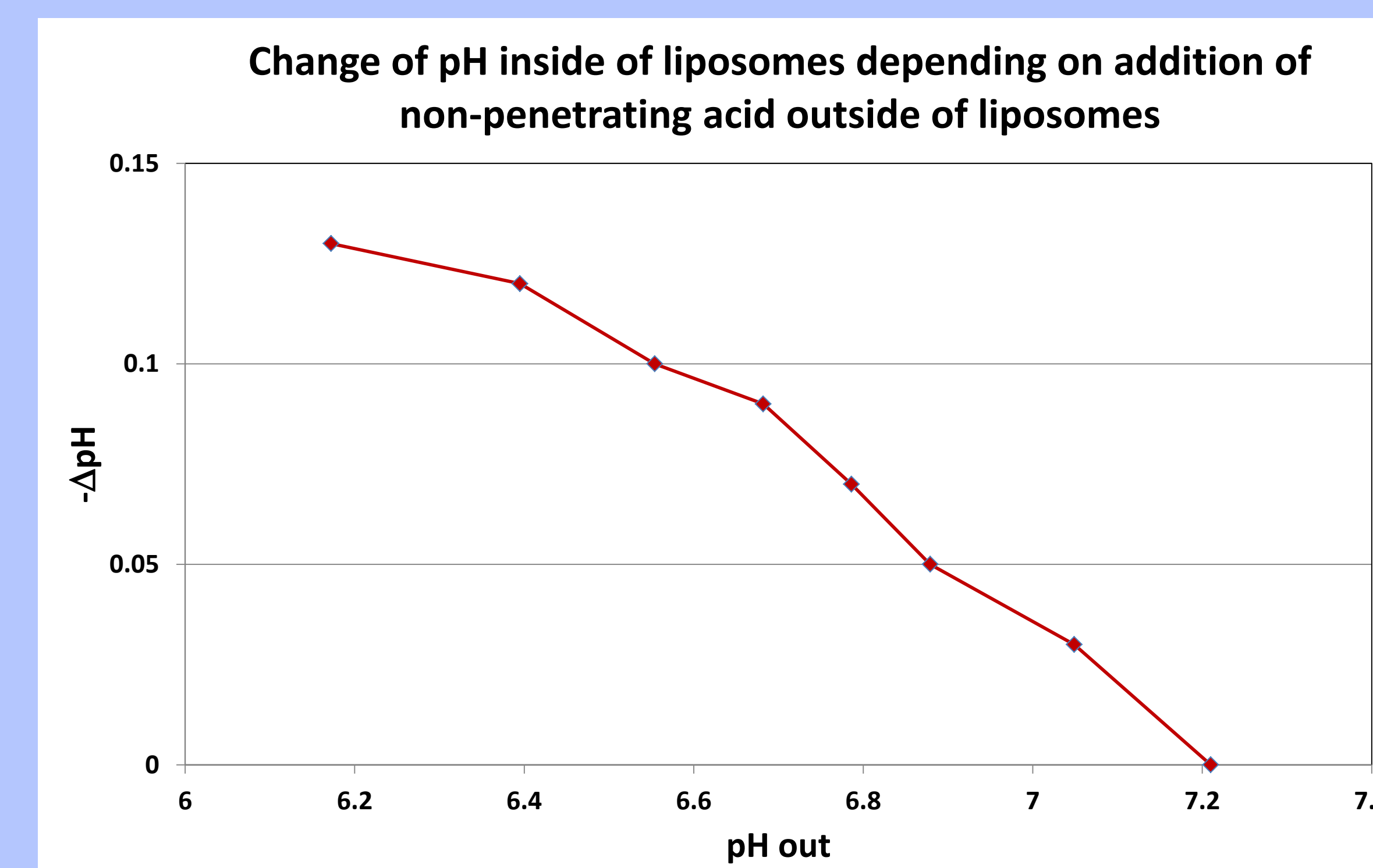
Charge-Uncompensated H^+ Penetration

1M Sulfuric acid (H_2SO_4) was added in increments to our liposomes. The fluorescence of our liposomes was measured using a stationary fluorometer. As acid was added, the pH outside the liposomes decreased. Protons crossing the lipid membrane caused the pH inside of the liposome to decrease. Our pH sensitive probe's fluorescence changed with pH change.



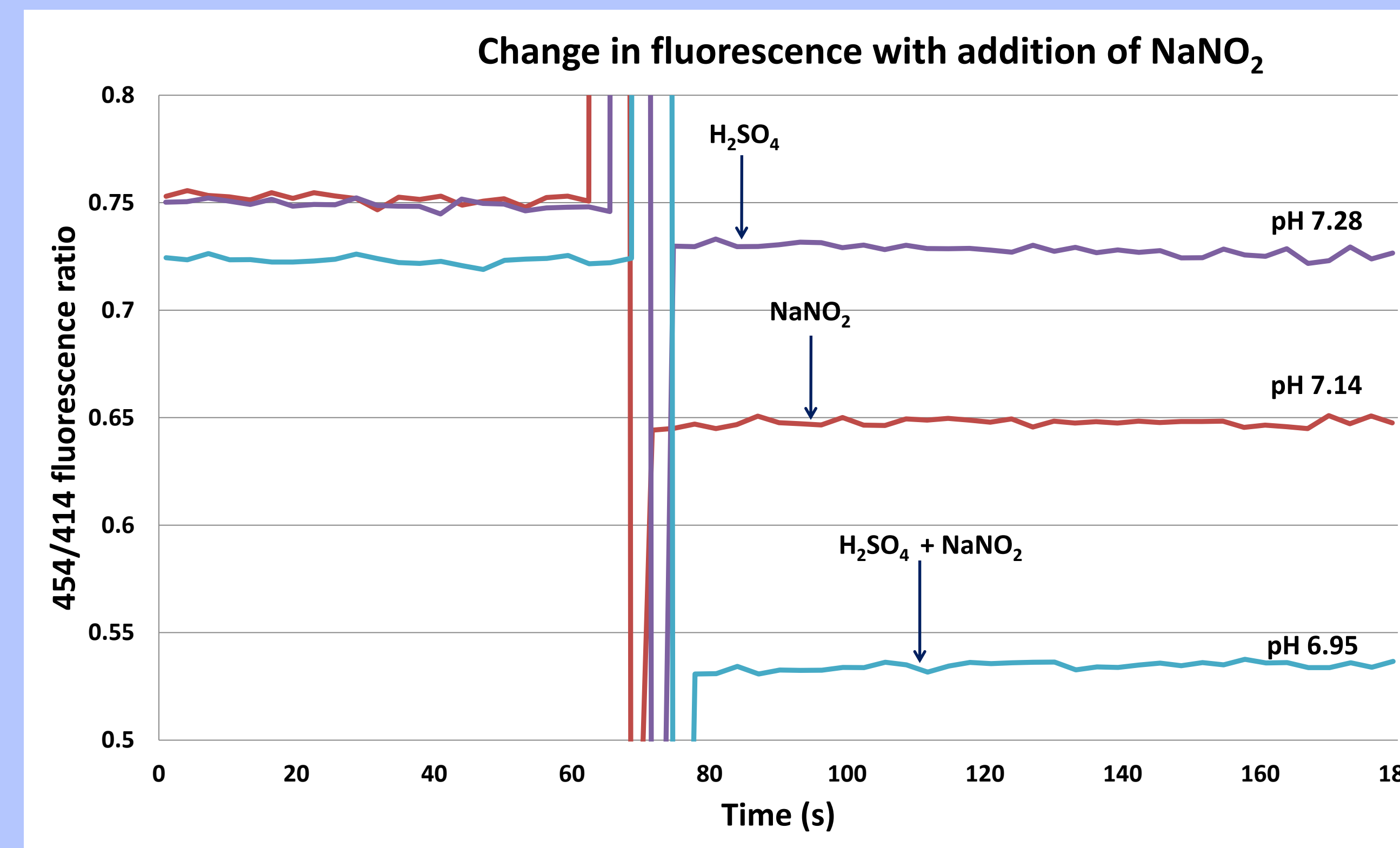
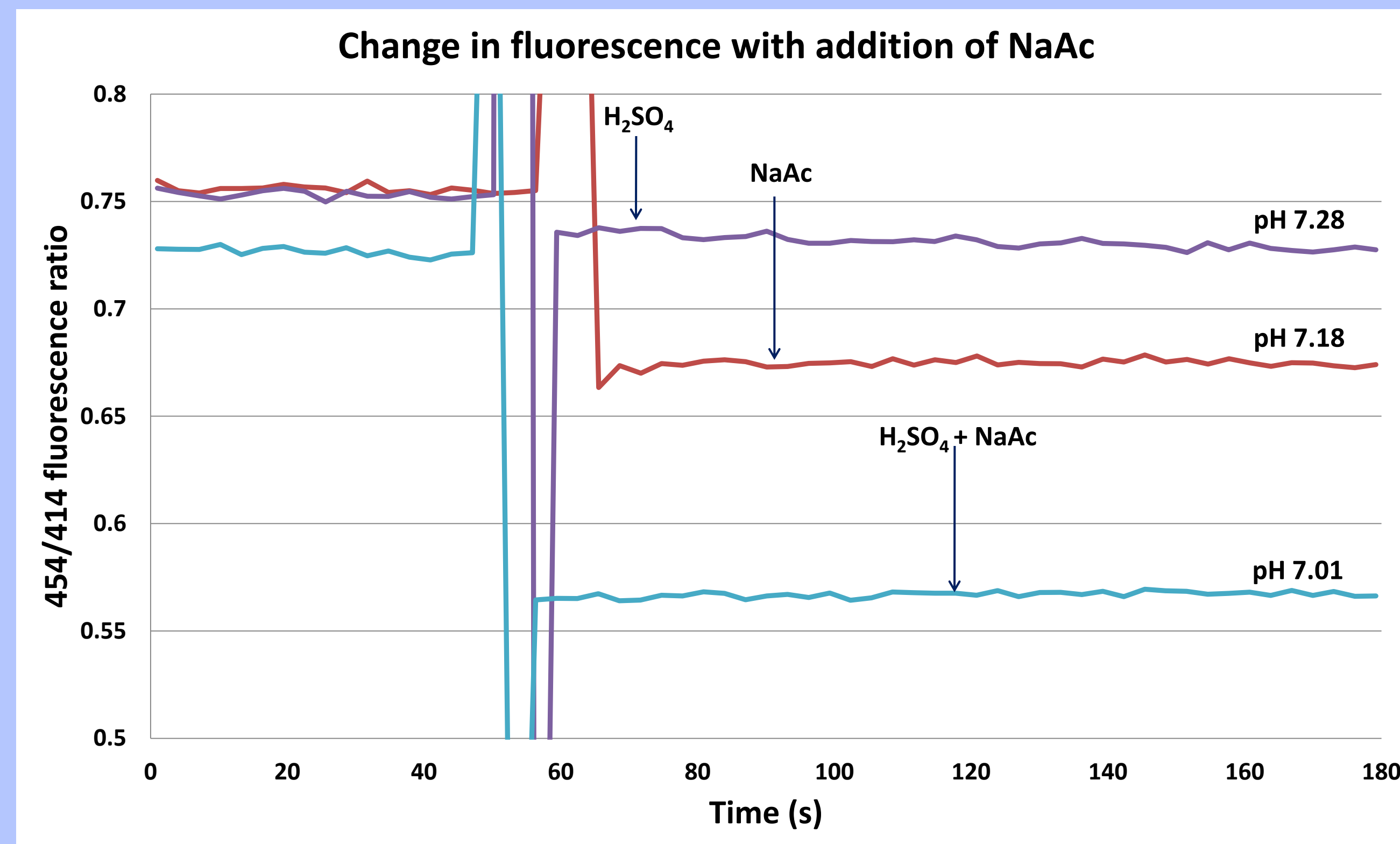
Gramicidin A makes channels in the lipid bilayer, allowing Na^+ ions to move freely out of the liposome, quenching electric potential on the membrane. In this case, pH inside and outside become equal upon acidification.

Note the change in scale.

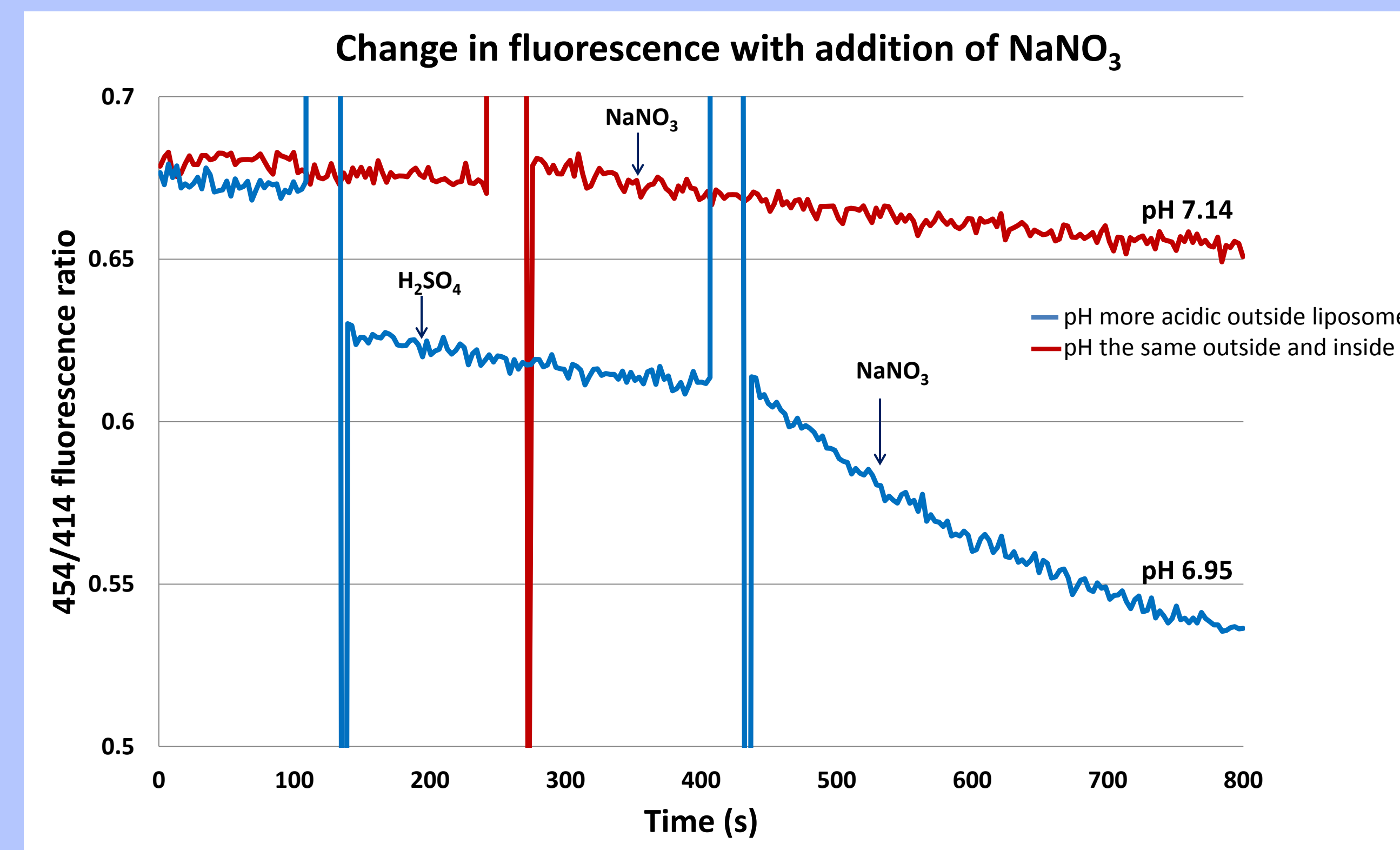
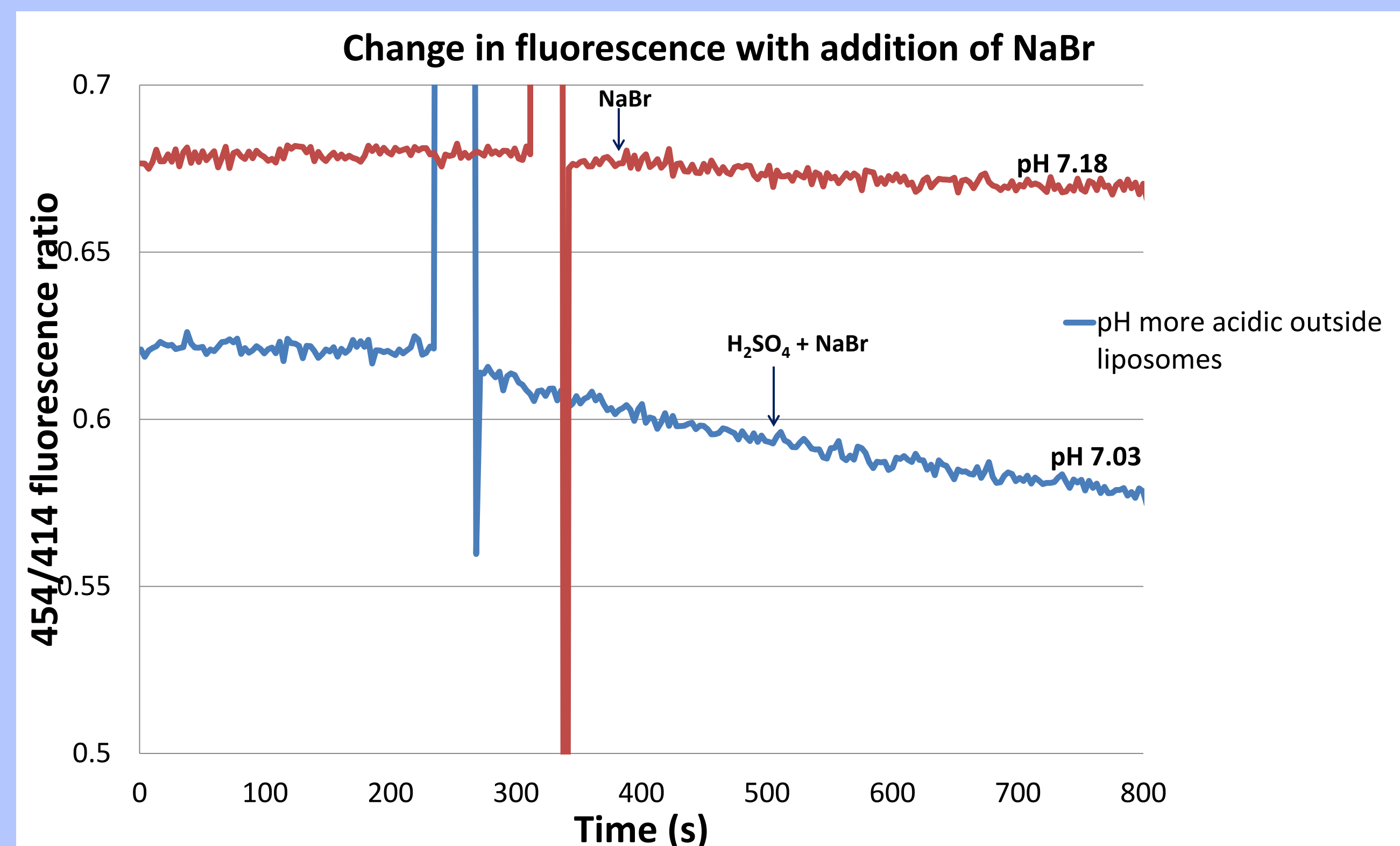


As the pH outside of the liposomes was lowered by H_2SO_4 (non-penetrating acid), pH inside was also lowered, though to a smaller extent. Calculations based on the model of flat capacitor however, predict a 30 times smaller change of inner pH than observed experimentally. Development of an adequate model is currently under way.

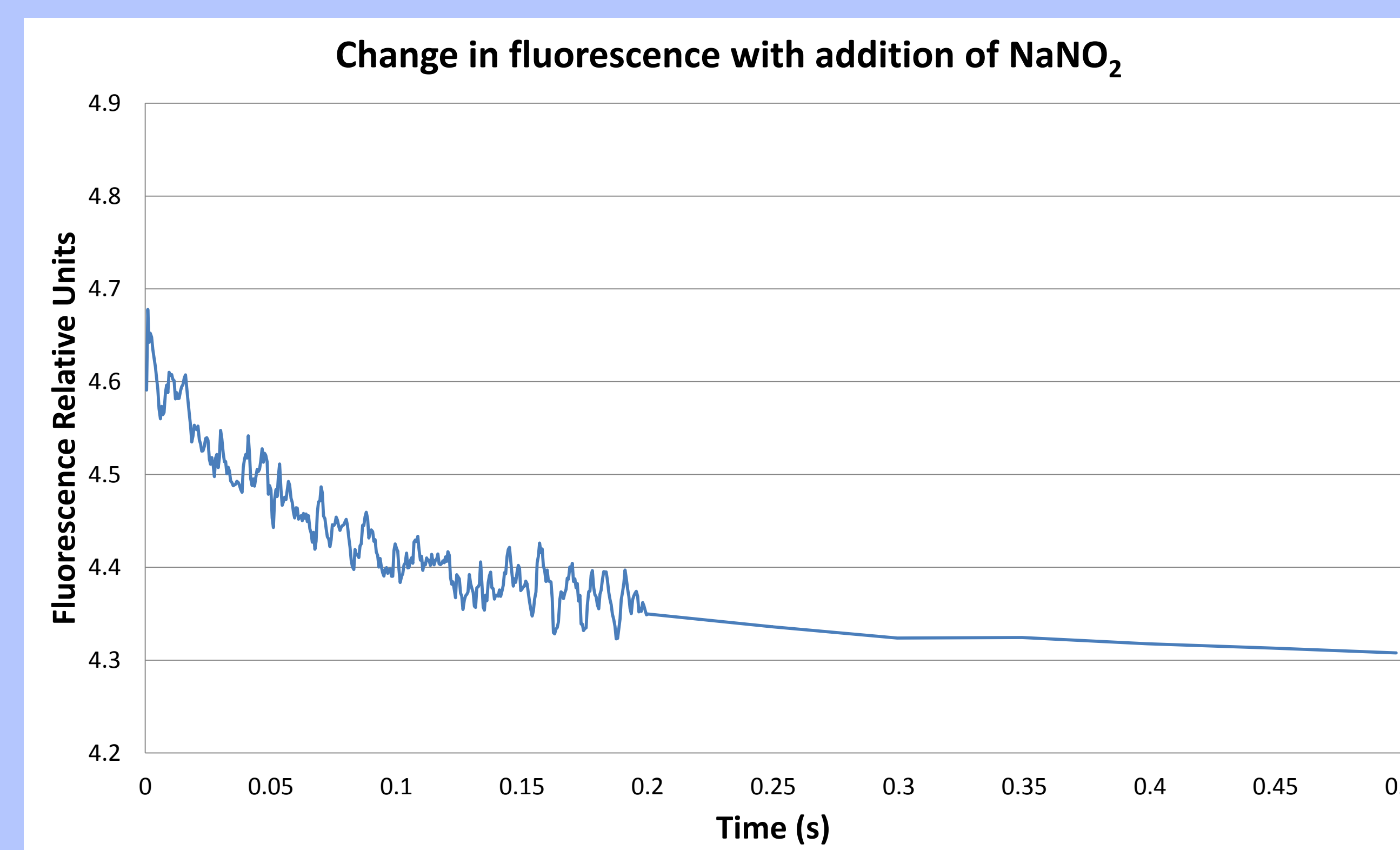
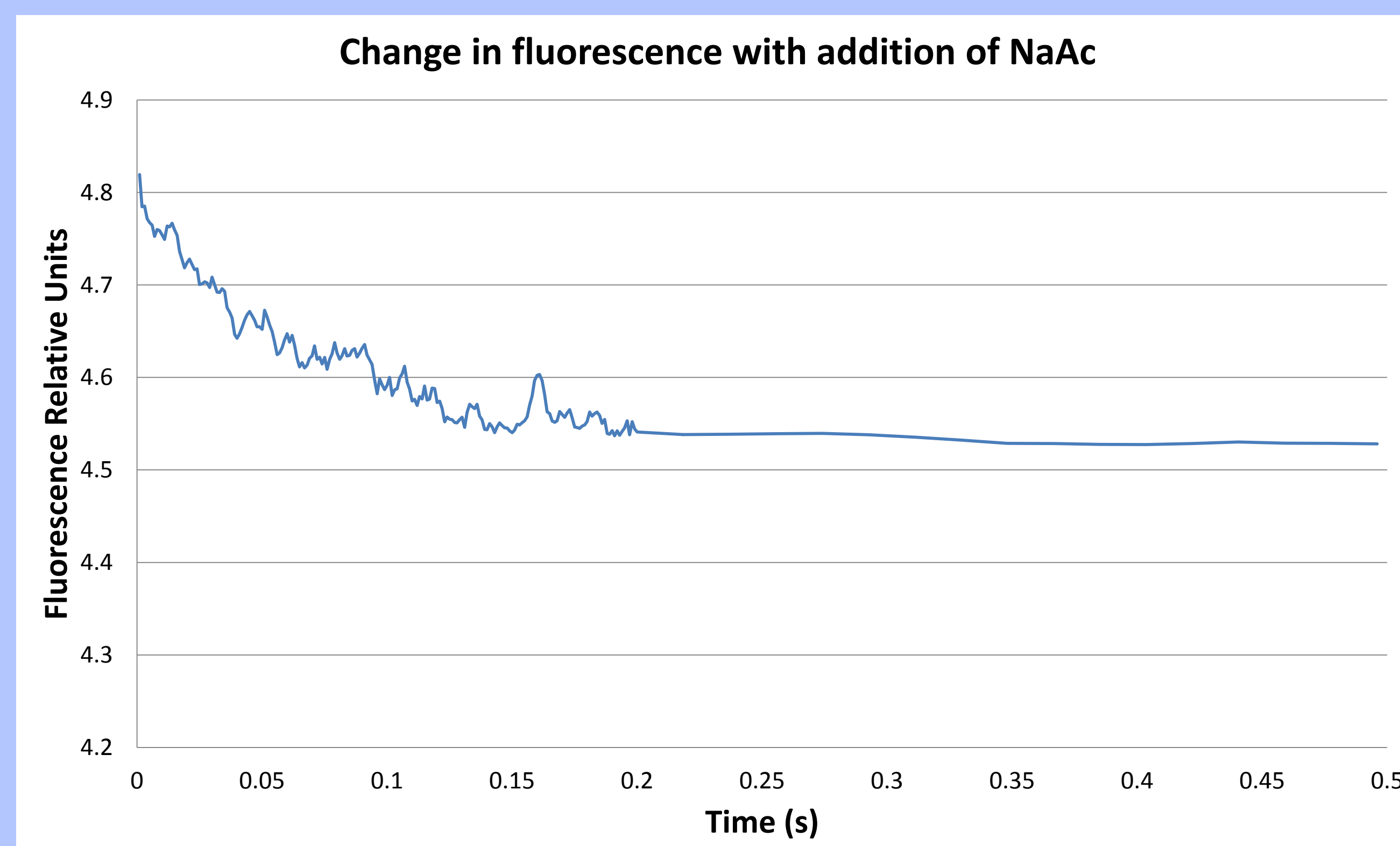
Fluorescence change in liposomes with addition of salts at different pH's



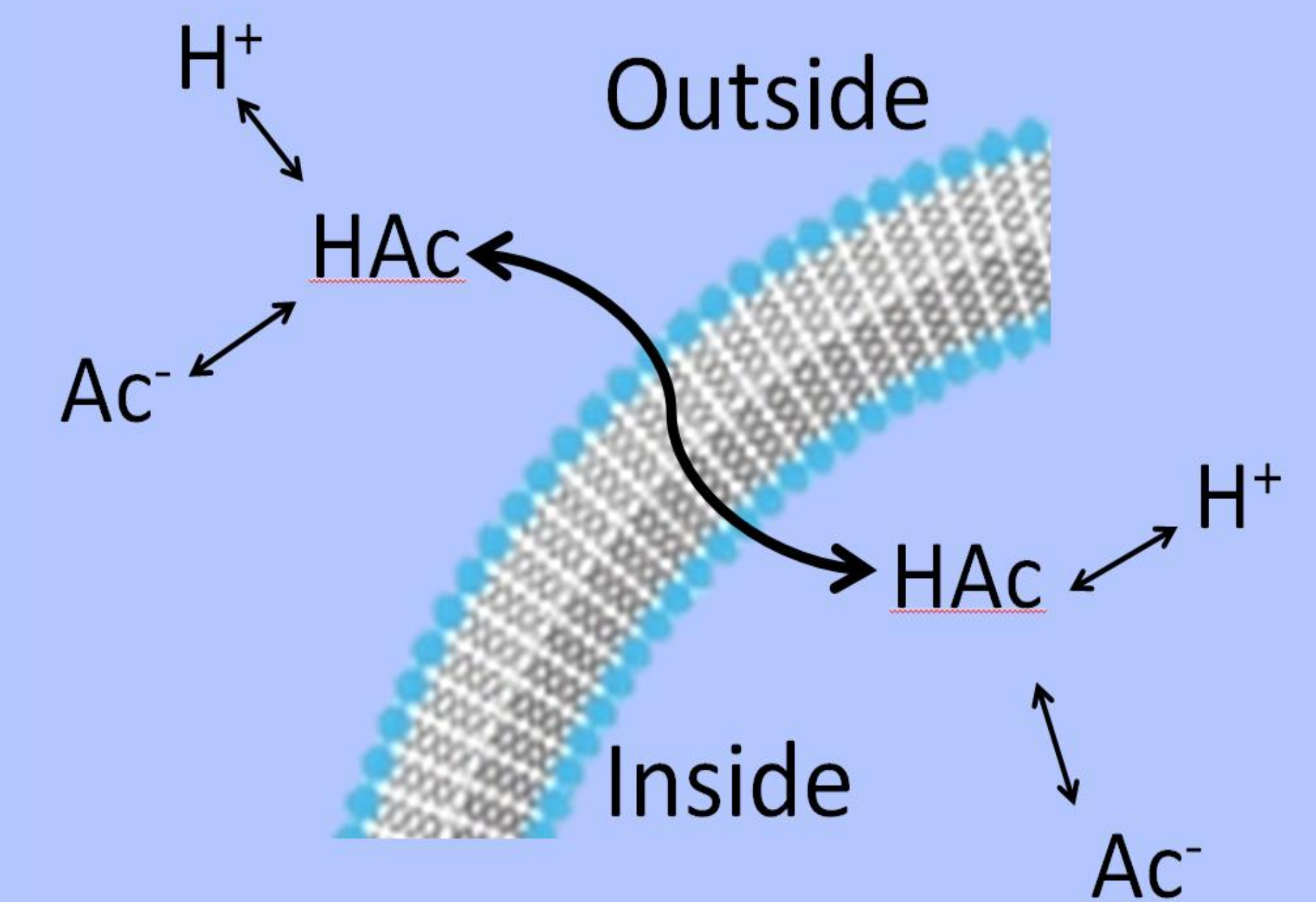
With pH the same outside and inside of the liposomes, there should be no fluorescence change upon addition of salt with the same pH. However, we see the pH inside the liposome drops when we add NaAc or NaNO₂ outside. This happens because non-dissociated acid (HAc or HNO₂, pK_a 4.7 and 3.14, respectively) can freely cross the membrane. If we acidify the medium outside, the inside pH drop is deeper, because the concentration of non-dissociated acid was increased.



Acidification of internal media takes much longer after addition of NaBr or NaNO₃ due to lower concentrations of non-dissociated acid at corresponding pH. The pK_a for HBr is -8 and the pK_a for HNO₃ is -1.44.



The change in fluorescence of liposomes was measured using the KinTek stopped flow fluorometer. This machine allows us to see the first kinetics of fluorescence change. These kinetics are usually so fast that they are not observable on the stationary fluorometer. The rate constant approximately describing the penetration of HAc or HNO₂ through lipid membrane is 14.7 s⁻¹ and 8.8 s⁻¹ respectively.



As the uncharged HAc crosses the lipid bilayer, it dissociates. This causes the pH inside the liposome to decrease.

Future Experimentation:

Our experimental data were not adequately described by the simple model we used. Further research involving the permeability of liposomes containing HPTS probes needs to be performed and change in fluorescence measured. With this data, we hope to be able to apply similar test to membranes of thermophilic archaea to study permeability of archaeal lipid membranes for small molecules.

Introduction

If China becomes the next superpower, what impact would that have on the global economy? China's growth has enabled them to move forward in the global economy. However, China faces problems including the aging population, poverty rates, environmental pollution, and over-dependency on non-renewable resources. If this change progresses, what can we expect and what should the United States' reaction be?

China's Growth

Economical

- Grew 9.7% annually from 1983-2000
- GDP in 2006 was \$10.5 trillion dollars (compared to the US \$12.9 trillion)
- In 1978, China was ranked 23 in world trade, but by 2006, it had become the 3rd largest
- Trade volume of \$1.8 trillion in 2006

Population

- Total population is 20.66% of the world's total
- Labor force accounts 25.40%
- By 2020, the employed population is expected to be 820 million
- 1978, China had 598 Universities recruiting 0.4 million students to 2006, it had 1,800 universities recruiting over 5 million students

China- A New Superpower?

Chase Kelly – Valdosta State University

Problems Facing China

Massive population

- Twisted demographic foundation
- Extensive aging population

Poverty Rates

- Aging population will cause people of working age to drop
- Huge void of jobs that will need to be filled
- Lack of pension plans

Environmental Pollution

- Still very dependent on Fossil Fuels
- Vast amounts of smog
- Toxic river, dangerous coal mining, and rising health problems

Over-dependency on non-renewable resources

- Consumes 1/3 of the world's coal, steel and cement
- Use of non-ferrous metals could reach 30% of world's total

2011 : U.S. trade in goods with China

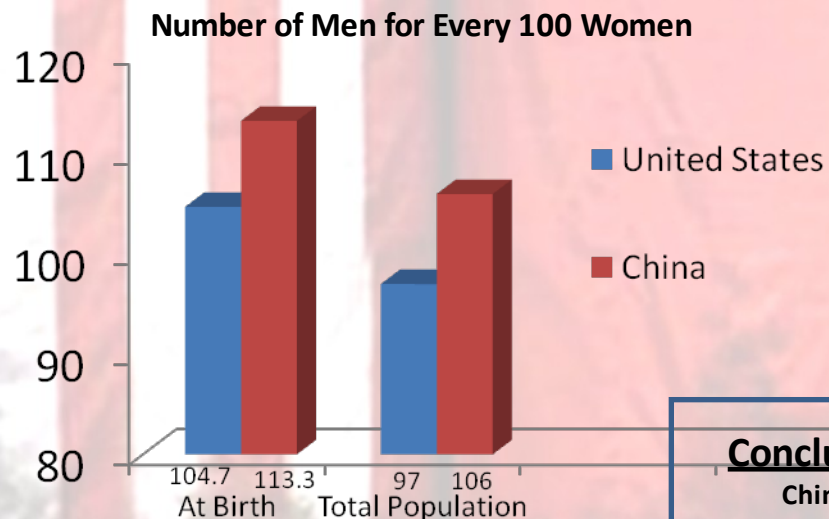
Month	Exports	Imports	Balance
January 2011	8,078.1	31,349.6	-23,271.5
February 2011	8,437.2	27,278.7	-18,841.5
March 2011	9,518.8	27,601.4	-18,082.6
April 2011	7,971.0	29,567.1	-21,596.0
May 2011	7,817.8	32,781.3	-24,963.5
June 2011	7,729.9	34,387.4	-26,657.5
July 2011	8,170.9	35,125.5	-26,954.7
August 2011	8,408.1	37,363.8	-28,955.7
September 2011	8,367.1	36,423.7	-28,056.6
October 2011	9,736.5	37,806.6	-28,070.1
November 2011	9,936.6	36,808.2	-26,871.6
December 2011	9,706.6	32,841.7	-23,135.2
TOTAL 2011	103,878.6	399,335.1	-295,456.5

NOTE: All figures are in millions of U.S. dollars on a nominal basis. Details may not equal totals due to rounding. Source: U.S. Census Bureau

*Can China become the next superpower?
What should we do?*

How Should We React?

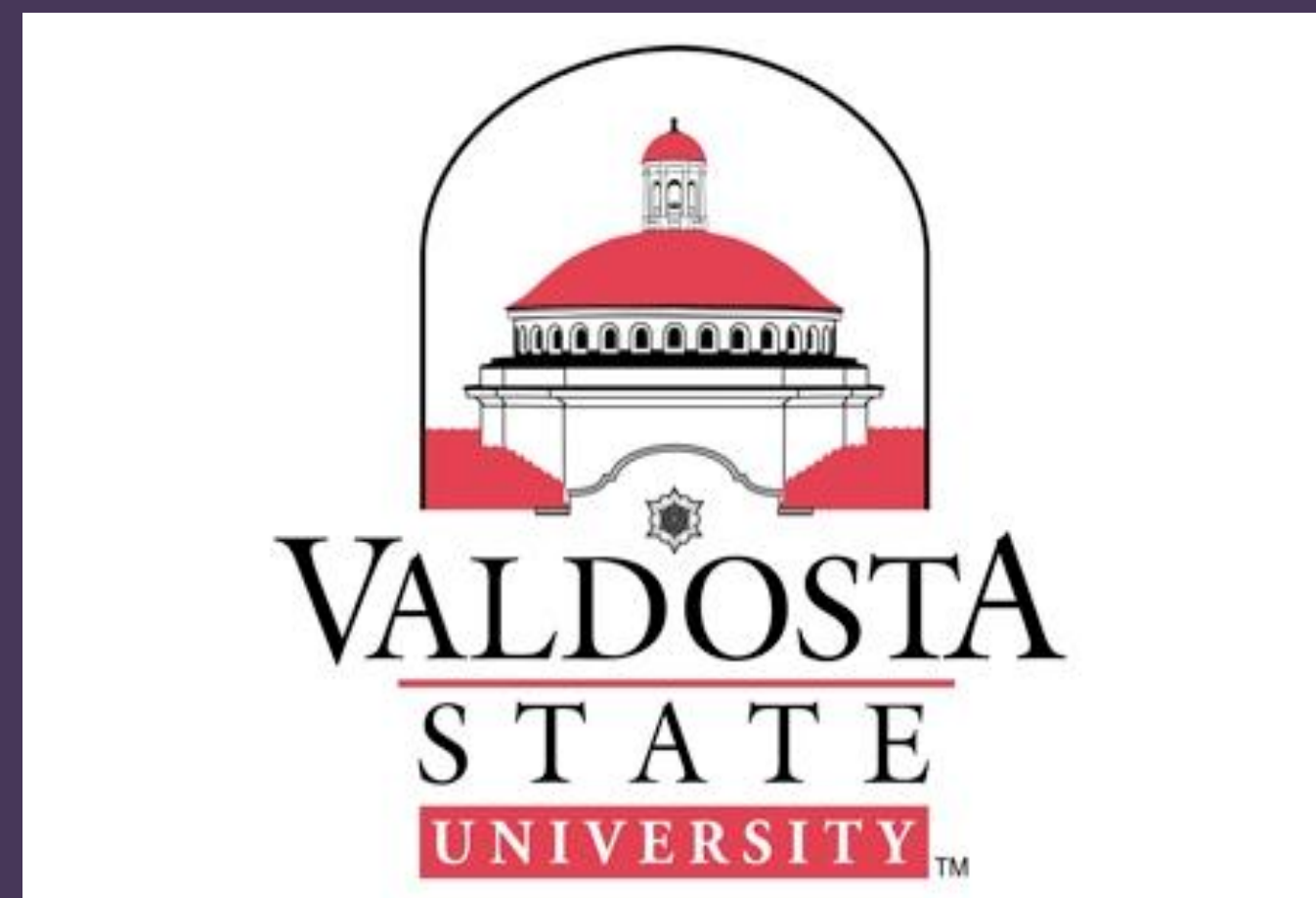
- China is a different superpower: Not a rival, but an ally in trade, jobs, etc.
- Almost \$400 billion dollars in trade between the two in 2011
- Global implications of failure?



Data retrieved from the CIA World Factbook

Conclusion:

China certainly has grown to great proportions, but it has developed some very challenging problems. With the global economy at stake, we should hope that China does not fail.



Exercise for Cancer Survivors and Caregivers in Valdosta, Georgia



John P. Willner, Amanda K. Boone, Samantha J. Murphy, Joshua D. Gervacio, Department of Exercise Physiology
Faculty Sponsor: Dr. Tom V. Darling, Department of Exercise Physiology

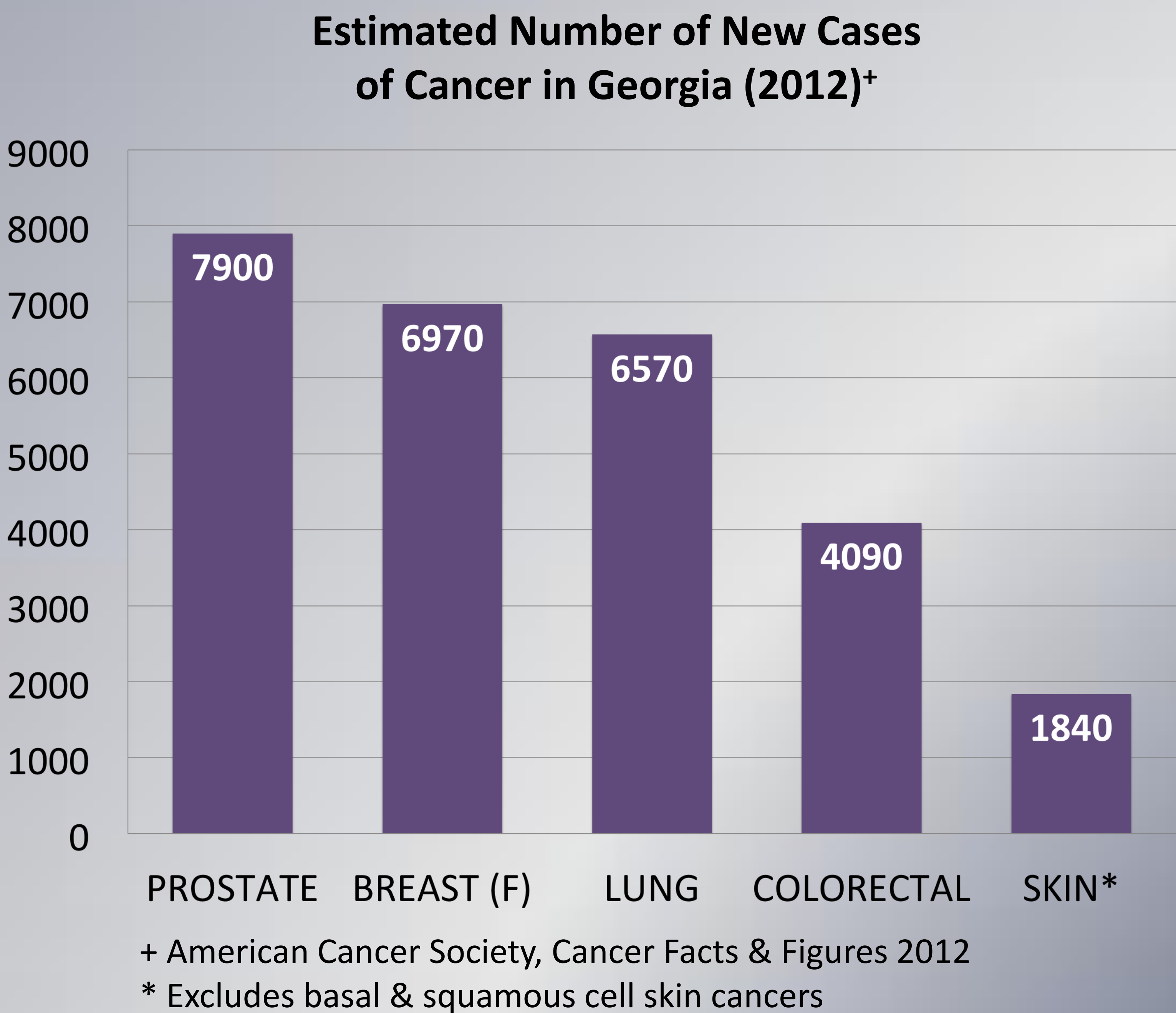
ABSTRACT

The cancer burden is significant. Exercise reduces cancer-related side effects and improves quality of life (QOL). Exercise can be added to routine cancer care as part of cancer prevention, treatment, and remission. Little is known whether cancer survivors and caregivers in Valdosta, Georgia are aware of the importance of exercise, its role in cancer care, and the availability of medical and community services. Valdosta State University (VSU), in partnership with Relay For Life (RFL), will survey cancer survivors and caregivers in the area to assess basic exercise knowledge, exercise participation for cancer, and awareness of available services. The primary goal is to enhance overall care and QOL for cancer survivors through education, increasing awareness, and referral to services. VSU will also collaborate with RFL in establishing community exercise programs. VSU and RFL are committed in providing the best care for cancer survivors and ample support for caregivers in Valdosta, Georgia.

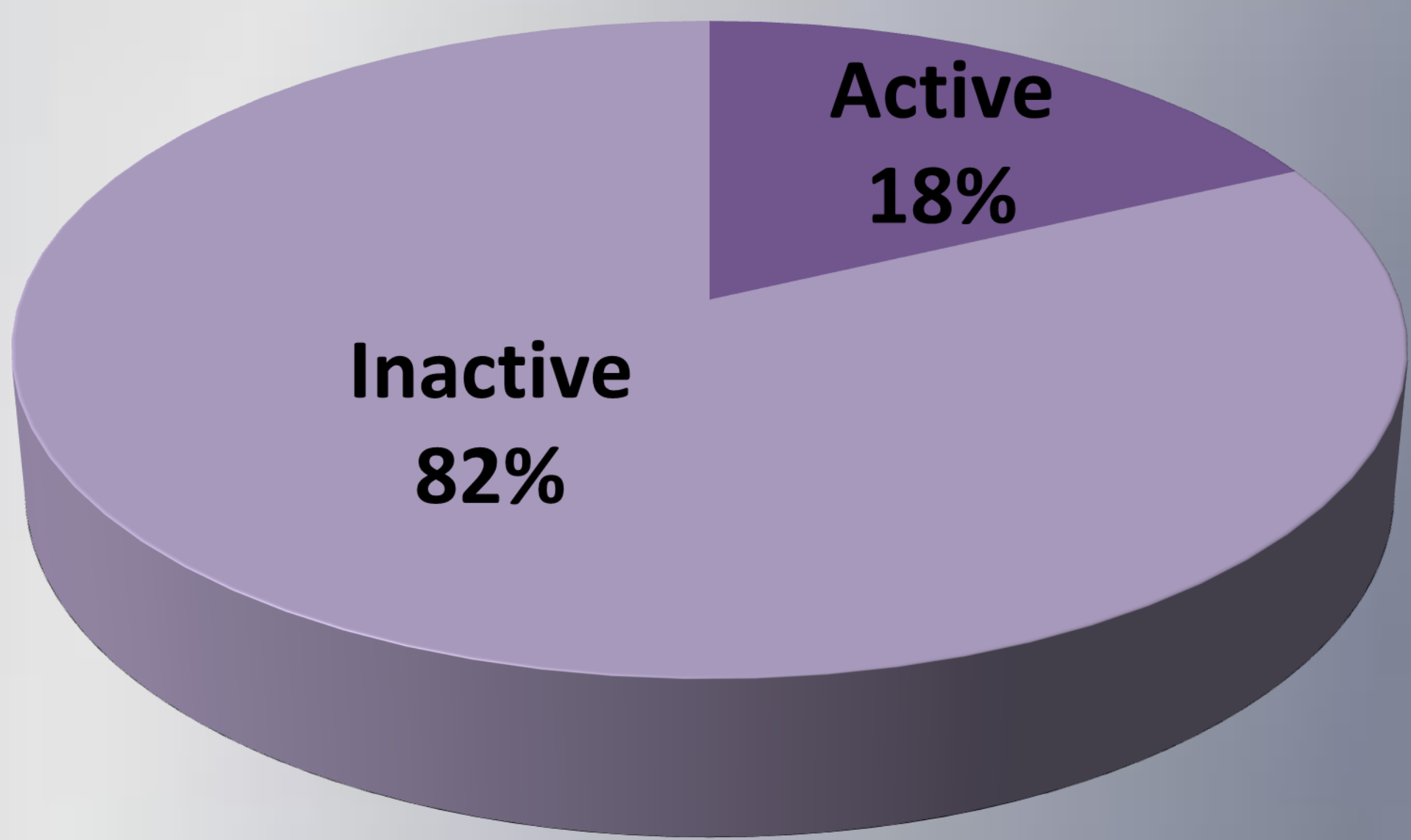
METHODS

250 cancer survivors and 250 caregivers will complete a 10-statement exercise-cancer survey, using a 6-point Likert Scale with responses ranging from “Strongly Disagree” to “Strongly Agree.” Surveys will be distributed during Relay For Life meetings, functions, and events.

CURRENT CANCER DATA



Sedentary Lifestyle



⁺ Centers for Disease Control & Prevention; Health, U.S., 2010

EXERCISE & QOL

Exercise Effects on Cancer⁺

- ↑ Insulin/Glucose regulation
- ↑ Upper-body muscular strength
- ↑ Lower-body muscular strength
- ↑ Hand-grip strength
- ↑ Peak oxygen consumption
- ↑ Peak power output
- ↑ Exercise distance
- ↑ Physical function
- ↑ Emotional function
- ↑ Overall Quality of Life
- ↓ Body weight
- ↓ Body mass index (BMI)
- ↓ Fatigue
- ↓ Depression

⁺ Fong, D.Y., C Ho, J.W., H Hui, B.P., Lee, A.M., Macfarlane, D.J., et al. Physical activity for cancer survivors: meta-analysis of randomised controlled trials. *BMJ*, 2012; 344:e70.

FUTURE RESEARCH

Both cancer survivors and caregivers can benefit from the positive physical and mental effects of exercise. Establishing medical and community exercise programs and increasing exercise participation can significantly decrease the cancer burden in Valdosta, Georgia.

The cacao bean in both the Mayan and Aztec cultures served multiple functions. Traditional usage includes the whole bean, white bean paste, fermented forms and liquid. The cacao bean was used for trade and as gifts to the cultural elites. Cacao was also used in both ceremonial and healing practices in Central America for more than 2,000 years. Both cacao and chocolate sediment can be found in ritual ceramics and in burial sites. The traditional use of cacao and chocolate continues in the Mayan and Aztec communities. However, these traditional practices have become threatened by colonization. The paper will address how the global consumption of chocolate continues to threaten these Indigenous communities as non-Indigenous companies push for expanded production.

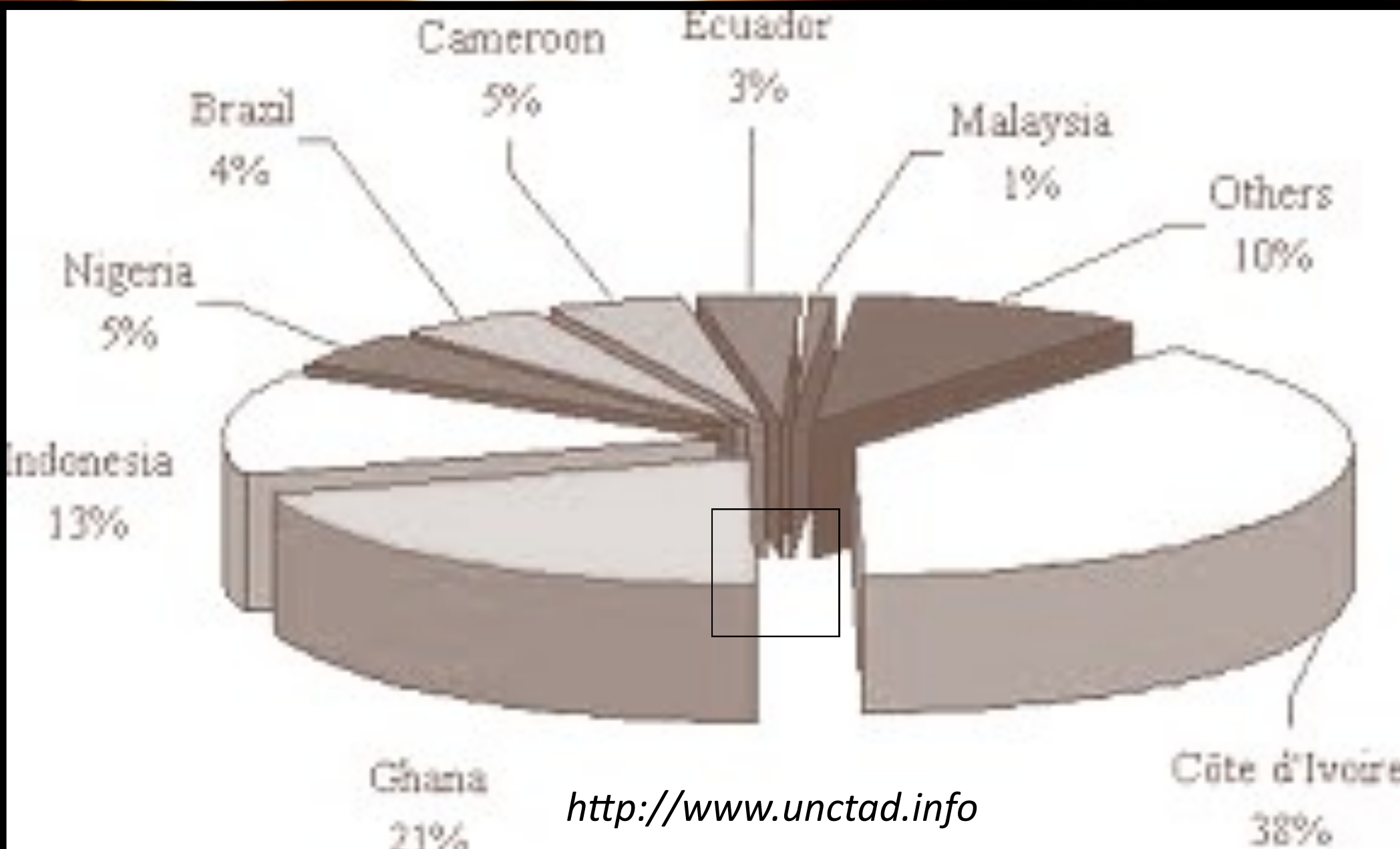
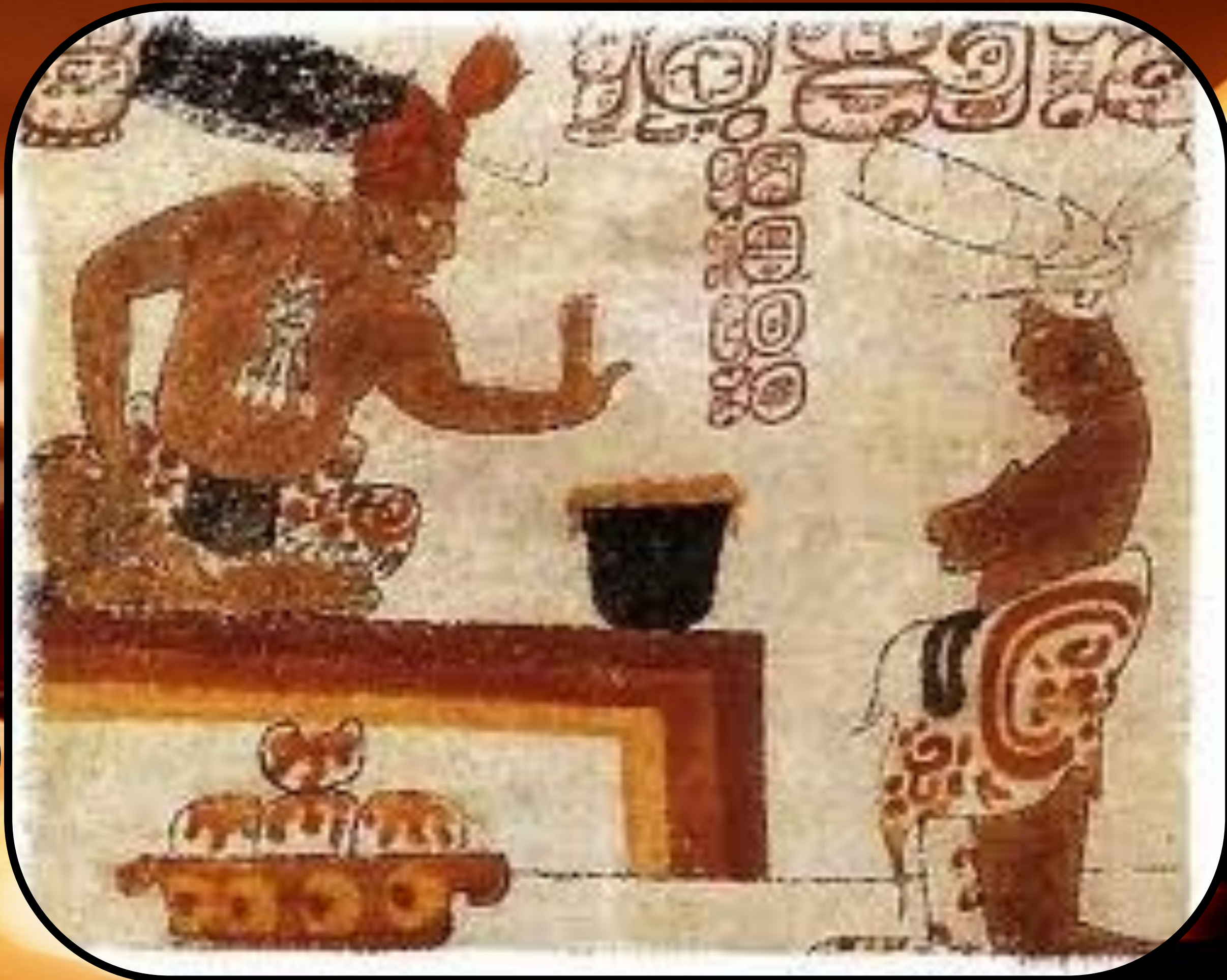
CACAO IN CENTRAL AMERICA

Sydney Haire, Native American Studies

Faculty Sponsor, Lavonna Lovern, Native American Studies



Aside from being something to consume, the cacao bean greatly influenced the lives of the people who first discovered it. The cacao bean has played its role in a wide range of areas from currency, to worship, and of course being the mouth-watering commodity it is today.



Ancient Aztec Recipe

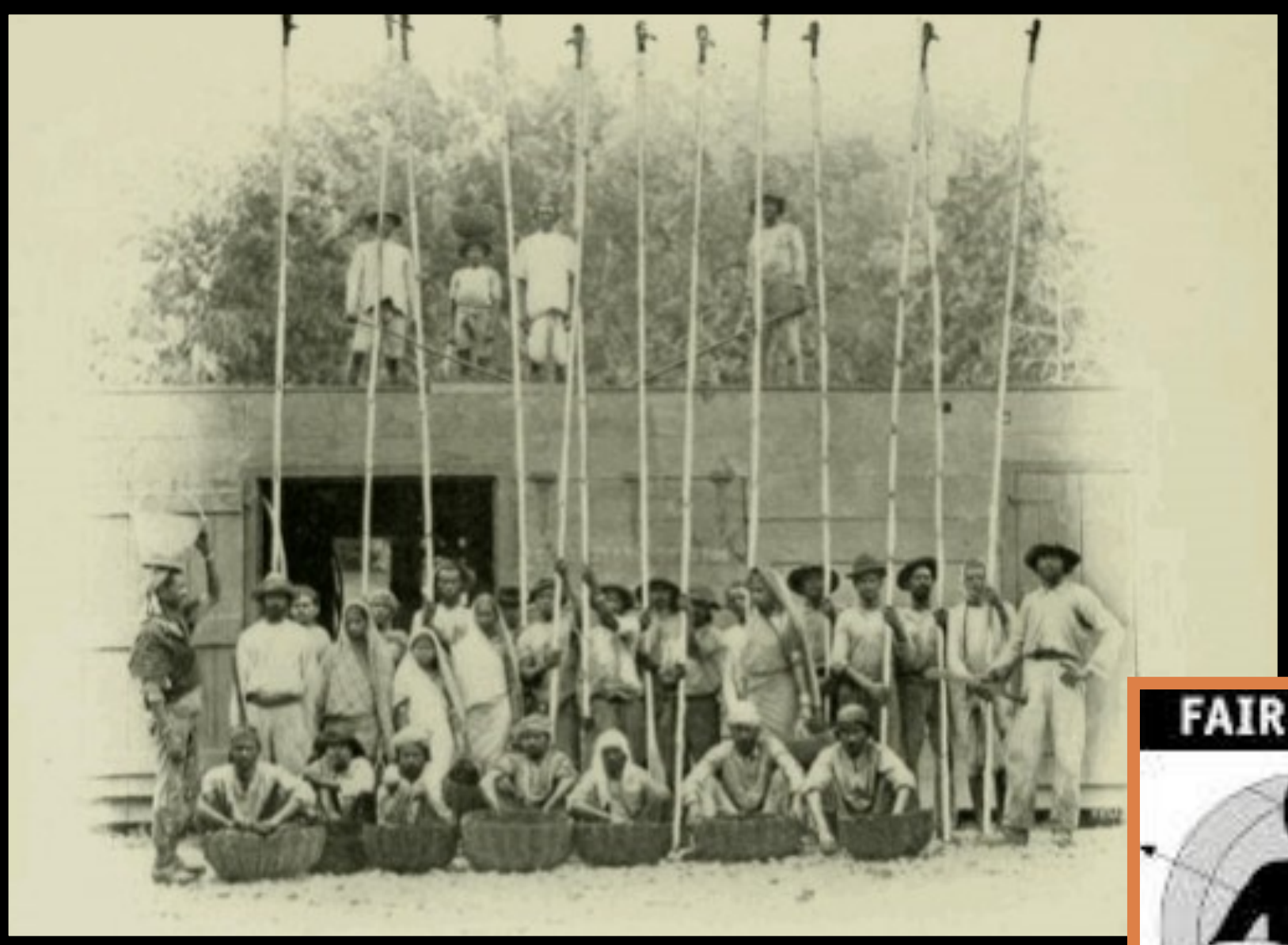
- 1/2 lb semisweet cooking chocolate
- 4 cups milk
- 1/4 teaspoon ground cinnamon
- 2 drops vanilla



1. Break the chocolate into small pieces.
2. Place the chocolate pieces in the top of a double boiler (a heatproof bowl can be used instead).
3. Fill the bottom of the double boiler with cold water. Bring the water to a boil, then turn the heat down to make the water boil gently.
4. Place the container containing the chocolate over the container with the boiling water.
5. Stir the chocolate with a wooden spoon until it has melted.
6. Pour the milk into another saucepan and heat it gently without allowing it to boil.
7. Pour the melted chocolate into the hot milk.
8. Add the cinnamon and the vanilla to the mixture, then bring the mixture to a boil.
9. Turn the heat down. Whisk the mixture for 2 minutes until it is foaming.
10. Pour the chocolate into mugs. Whisk the chocolate again to

<http://www.aztec-indians.com>

"...It disgusts those who are not used to it, for it has foam on the top, or a scum-like bubbling... And the Spanish men, and even more the Spanish women, are addicted to the black chocolate."
- Jesuit José de Acosta



Fair Trade assists small farmers by teaching them the necessary skills to successfully grow cacao and make a profit. Small farmers often have difficulty covering their own costs due to lack of good credit, facing unfair prices, and simply not possessing the basic accounting knowledge. Fair Trade aides in demanding living wages for the

This paper will explore the Inca, Aztec and Mayan civilizations and the use of technology and agricultural advancements. Historically, these empires have been studied based on colonial and post-colonial models, which have labeled them as “primitive”. While designating these empires as “primitive”, Western cultures adopted their advanced technologies including irrigation, seed cross-pollination and mathematical concepts. Western usage involving food and medicine can also be directly traced to these empires. This paper explores the significance of some of the remarkable technology and agricultural advancements developed in Central and South American civilizations.

INDIGENOUS TECHNOLOGY IN CENTRAL AND SOUTH AMERICA

Tony Collins, Native American Studies

Faculty Sponsor, Lavonna Lovern, Native American Studies

The Maya were noted as well for elaborate and highly decorated ceremonial architecture, including temple-pyramids, all built without metal tools.

Aztecs introduced popcorn .



The Incas introduced to the world cross- pollination of seeds.



Aztecs brought about universal education.

The groups of the Mayans, Incas, and Aztecs paved the way for Western Civilization today with all that they invented. These cultures had a lot in common and one of the main similarities were the beautiful architectural monuments. Each group has made significant contributions to civilization today, whether it's the Aztecs with the first educational system, the Incas with introducing cross-pollination or the Mayans giving Western culture the equivalent of Aspirin. Without these cultures and what they contributed to the world where would society be ?

Mayans contributed Aspirins



Abstract:

This paper will examine religious and cultural practices of Native American Indians in the Southeastern United States during the later Mississippian societies. The focus will be on Native American societies that were prominent in the region during the time of Europe's first contact. In order to assist in the distinction between pre- and post-contact cultural practices, the research will document the spread of agricultural and religious practices from Mesoamerica to the southeast. Finally, the discussion will outline the importance of nature in the religious and cultural institutions within the lives

NATIVE AMERICAN RELIGIONS IN THE SOUTHEAST

Chase Landon Studstill, Native American Studies

Faculty Sponsor: Dr. Lavonna Lovern, Native American Studies

Ripening Maize



Native American agricultural implements



The Sun:

**The primary aspect of Mississippian
Agriculture and
Religious activity.**

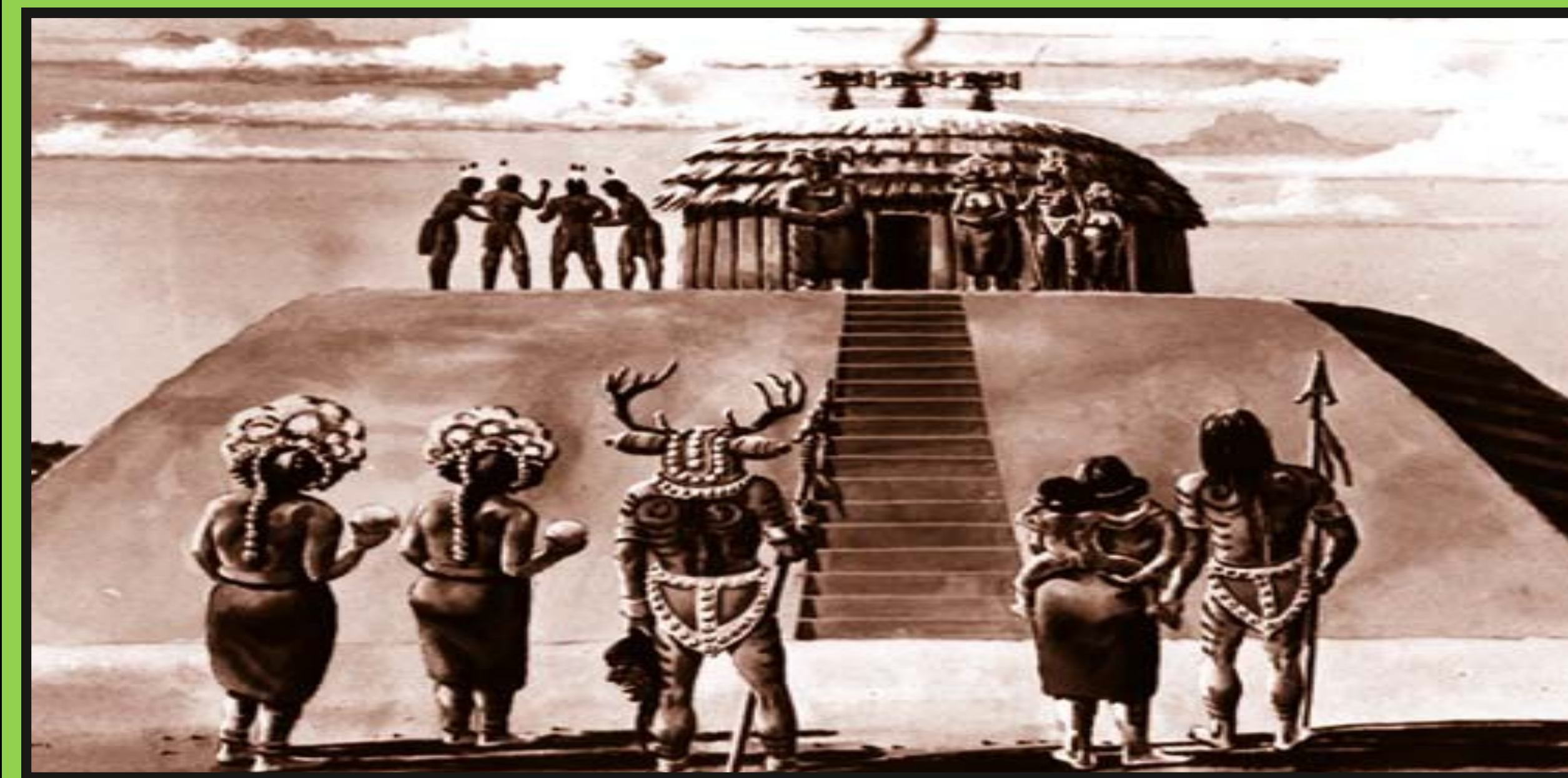
Kolomoki Temple Mound



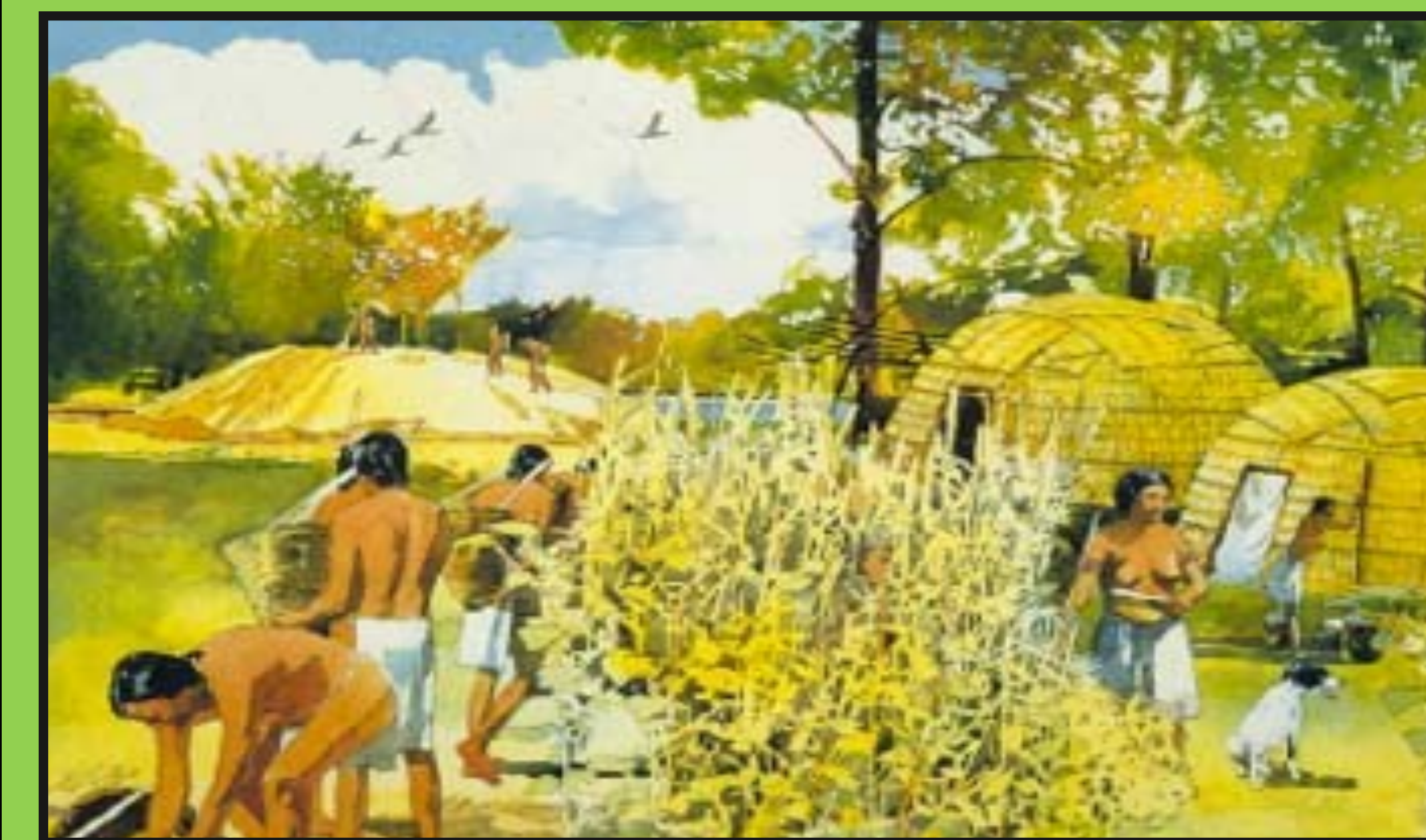
Depiction of the Green Corn Ceremony



Etowah Mound , Bartow County, Georgia



Mound depiction illustrating a Chief's home



Mississippian towns and villages

Abstract

The Dawes Act of 1887 was established in the United States as a solution to the continuing “Indian Problem” that had developed. The establishment of the Dawes Act allowed the American government to enter into a process of surveying and dividing Native American land into parcels that reflected the European/American models of land ownership. The Act also pushed for Native American assimilation into the European/American culture and social norms. The purpose of this paper is to examine the use of the Dawes Act as a means of ending the perceived “Indian Problem” in the United States.

THE “INDIAN PROBLEM” AND THE DAWES ACT OF 1887

Janene Bessent, Native American Studies

Faculty Sponsor: Dr. Lavonna Lovern, Native American Studies

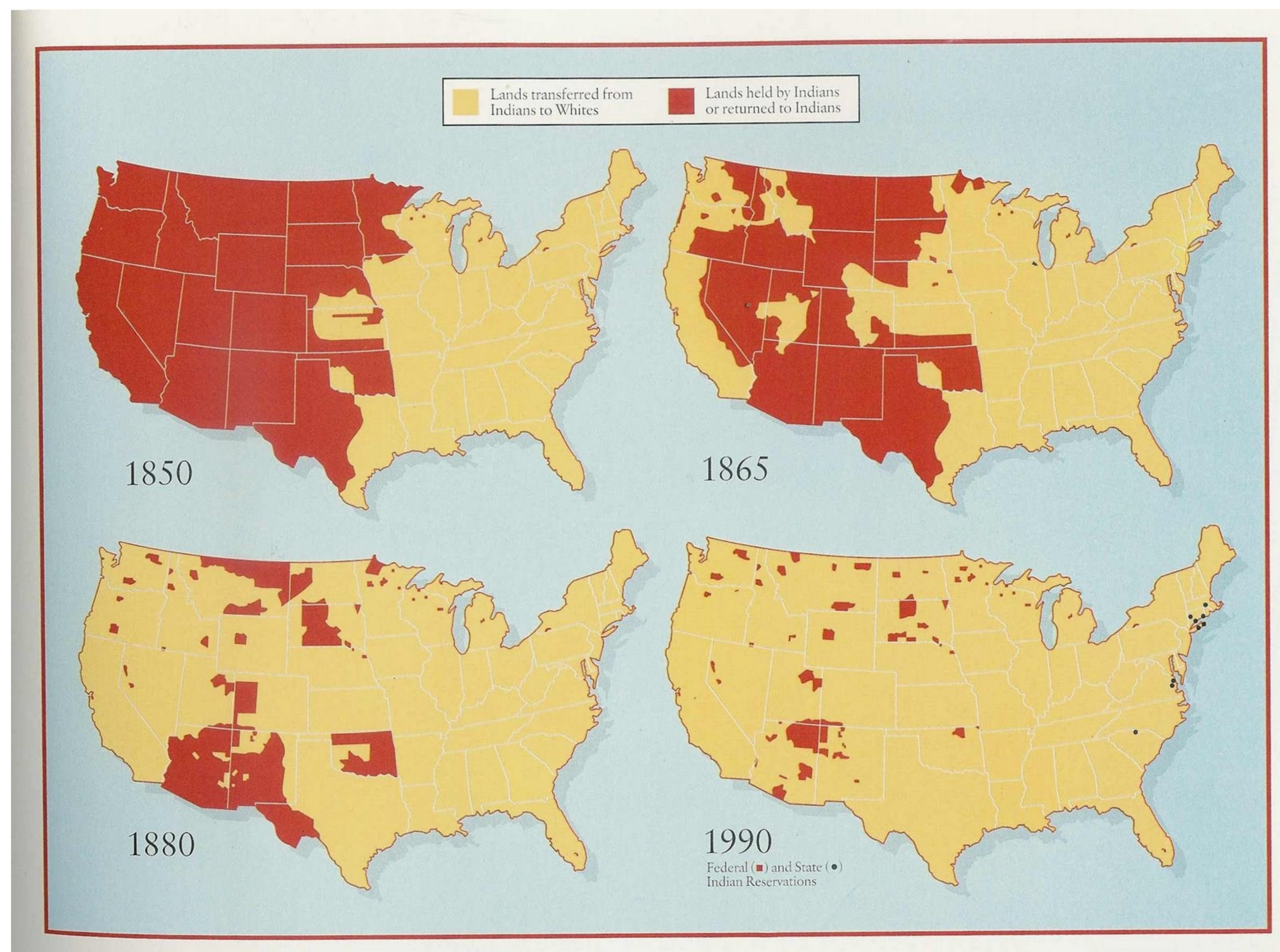


Fig. 1 “As a result of the Dawes Act, Native American lands totaling 138 million acres in 1887 had fallen to 48 million acres by 1934.”



Fig 2 “The massacre of over 300 men, women and children in 1890 at Wounded Knee was the final act that told us to give up our ‘primitive’ ways”

Figure 1: Thomas, David H, Betty Ballantine, and Ian Ballantine. *The Native Americans: An Illustrated History*. Atlanta: Turner Pub, 1993. Print.
Figure 2: <http://www.heyokamagazine.com/HEYOKA.7.RobertRobideau.htm>
Text: Dawes Act: <http://www.pbs.org/weta/thewest/resources/archives/eight/dawes.htm>
Figure 3&4: <http://thepresidency.org/newsroom/on-this-day/707-february-8-1887>
Figure 5: <http://www.dailyonder.com/speak-your-piece-cobell-settlements-small-picture/2009/12/16/2499>
Figure 6: <http://www.enotes.com/indian-reorganization-act-1934-reference/indian-reorganization-act-1934>

The Dawes Act February 8, 1887 (U. S. Statutes at Large, Vol. XXIV, p. 388 ff.)

An act to provide for the allotment of lands in severalty to Indians on the various reservations, and to extend the protection of the laws of the United States and the Territories over the Indians, and for other purposes.

Be it enacted, That in all cases where any tribe or band of Indians has been, or shall hereafter be, located upon any reservation created for their use, either by treaty stipulation or by virtue of an act of Congress or executive order setting apart the same for their use, the President of the United States be, and he hereby is, authorized, whenever in his opinion any reservation or any part thereof of such Indians is advantageous for agricultural and grazing purposes to cause said reservation, or any part thereof, to be surveyed, or resurveyed if necessary, and to allot the lands in said reservations in severalty to any Indian located thereon in quantities as follows:

To each head of a family, one-quarter of a section;

To each single person over eighteen years of age, one-eighth of a section;

To each orphan child under eighteen years of age, one-eighth of a section; and,

To each other single person under eighteen years now living, or who may be born prior to the date of the order of the President directing an allotment of the lands embraced in any reservation, one-sixteenth of a section; . . .

SEC. 5. That upon the approval of the allotments provided for in this act by the Secretary of the Interior, he shall . . . declare that the United States does and will hold the land thus allotted, for the period of twenty-five years, in trust for the sole use and benefit of the Indian to whom such allotment shall have been made, . . . and that at the expiration of said period the United States will convey the same by patent to said Indian, or his heirs as afore-said, in fee, discharged of such trust and free of all charge or encumbrance whatsoever: . . .

SEC. 6. That upon the completion of said allotments and the patenting of the lands to said allottees, each and every member of the respective bands or tribes of Indians to whom allotments have been made shall have the benefit of and be subject to the laws, both civil and criminal, of the State or Territory in which they may reside; . . . And every Indian born within the territorial limits of the United States to whom allotments shall have been made under the provisions of this act, or under any law or treaty, and every Indian born within the territorial limits of the United States who has voluntarily taken up, within said limits, his residence separate and apart from any tribe of Indians therein, and has adopted the habits of civilized life, is hereby declared to be a citizen of the United States, and is entitled to all the rights, privileges, and immunities of such citizens, whether said Indian has been or not, by birth or otherwise, a member of any tribe of Indians within the territorial limits of the United States without in any manner impairing or otherwise affecting the right of any such Indian to tribal or other property.



Fig. 3



Fig. 5

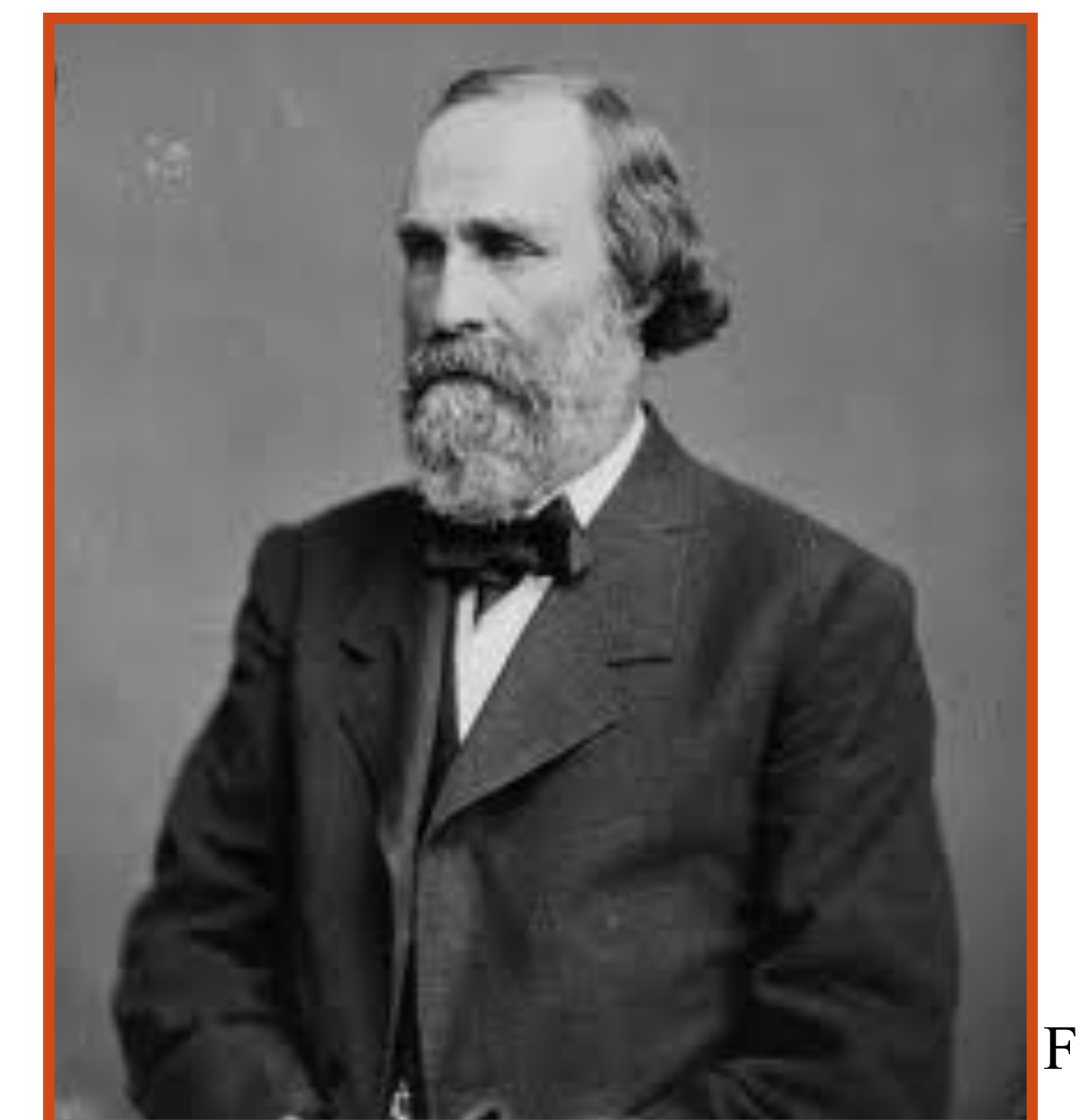


Fig. 4

Sen. Henry Dawes of Massachusetts, namesake of the 1887 Dawes Act.

Indian General Allotment Act of 1887, known as the "Dawes Act," was brought into law under the pretense that the act would help Native Americans, by providing them with land and giving them the opportunity to adopt the European/American ways. “Congressman Henry Dawes, author of the act, once expressed his faith in the civilizing power of private property with the claim that to be civilized was to "wear civilized clothes...cultivate the ground, live in houses, ride in Studebaker wagons, send children to school, drink whiskey [and] own property."



Fig. 6

After the Dawes Act there was a series of new laws to come. “Also known as the Wheeler-Howard Act, the Indian Reorganization Act of 1934 terminated the Dawes Act's allotment system, extended limits on the sale of American Indian lands, and authorized the secretary of the interior to purchase additional lands or proclaim new reservations for Native American people.”



Manipulation by Prison Inmates as it Pertains to Forensic Nurses; an Undergraduates Perspective

David Shoe Valdosta State University College of Nursing.

Advised by Dr. Anita Hufft, and Dr. James Humphrey

Abstract

Background: Forensic nurses working with correctional populations relate their expectations that they will experience manipulation; however there is little research literature on the topic. This study was conducted to expand the knowledge on manipulation as experienced by nurses working in corrections, with the eventual purpose of developing intervention protocols to decrease its frequency and negative consequences that occur as a corollary of nurses being manipulated by inmate clients. With more than 2 million inmates in the United States, 25% of the world's prison population, research studies related to nursing and the delivery of health care to inmate population remain scarce. This may have to do with the lack knowledge by nursing students as well as the lack of funding by government budgets.

Objectives: As part of a larger study on manipulation in forensic settings the objective of this study was to collect data on the experience of manipulation on correctional health care providers forensic nurses in a specific geographic region.

Method: This is a descriptive study conducted in the southern part of Georgia. An interview of 5 nurses and one psychologist were conducted using an open-ended interview technique. The interview schedule and the research data collection strategies were approved through the Valdosta State University IRB in conjunction with Dr. Anita Hufft's research. The interviews took approximately 30 minutes to an hour each

Results: A definition of manipulation of nurses by inmates in a forensic setting was developed based on the descriptions provided by the respondents. The experiences of these nurses have been recorded as well as their suggestions to help other nurses in forensic settings to avoid manipulation by inmates.

Conclusion: The five nurses interviewed in this study recounted that they had experienced manipulation by inmates while working in a prison. They all believed that they were not prepared for the amount of manipulation or the consequences involved of manipulation

by inmates. The five nurses believed that further education by the employer or the nursing school would be useful in their careers.

When reflecting upon inmates, a forensic correctional nurse imparted to me an inmate adage: "There are two days when you come to prison. The day you get here and the day you are released. Everything else is just survival!" This may be the inmate motivation for manipulation upon staff while in prison.

In the forensic environment, manipulation is the act of an inmate trying to get a staff member to do something so that the inmate experiences **personal gain**. The personal gain can be tangible such as goods or services or intangible such as "putting one over" on the staff or what is commonly referred to as "running a game". Manipulation may also be called **deviating from policies and procedures** or Standard Operating Procedures (SOP). All respondents agreed that manipulation was the **effort by an inmate to control a nurse or a staff member**. The inmate would then experience control in an environment in which the inmate has little to no control.

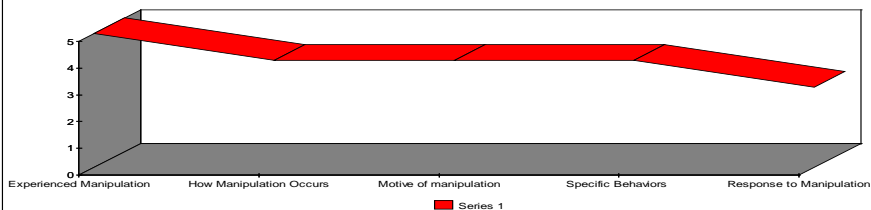
Most of the nurse's believe that they were not ready for a career in forensic nursing. The nurses I interviewed **did not believe they were prepared in school or by institution** they worked at for the intensity of manipulation they would be subjected to

In the nurses and inmate's eyes the **manipulation is progressive and not ending**. "If they catch weakness or even sense that you are weak, they will eat you alive and manipulate you to no end."

Nurses Response to Questions



Nurses with Similar Response



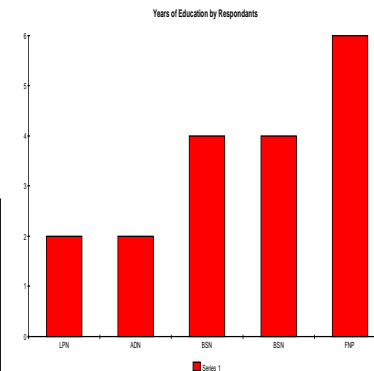
Nurses Response to Questions

What are the outcomes for manipulation? For the inmate/offender? Have you been prepared to deal with manipulation? How do you feel when you have been manipulated? What actions do you take in response to manipulation? What is the outcome of those actions?

The nurses' credentials ranged from Licensed Practical Nurse, RN Associate Degree, RN Bachelor's Degree, and Nurse Practitioner. All of the respondents have either worked in or currently work in a forensic environment for at least 5 years. All of the respondents worked in facilities that had mental health services inside the prison setting

Conclusion: The results of this research are very limited in their size and scope using five nurses as respondents in a particular geographic area and using only one category of forensic venue. This research is beneficial in the fact that it provides underwriting concepts and themes from which to create a definition of manipulation endured by nurses working in corrections.

Nurses who work in a forensic environment face the likelihood of manipulation that is verbal, physical or both. This form of abuse may occur on a daily basis. Notwithstanding, the nurse must provide patient care that is fair, equitable, and culturally competent. This is extremely problematic in the fact the nurse may have never been trained to work in an environment where manipulation is as prevalent as in correctional settings. This would support background for further analysis into the background relevance and significance of manipulation of nurses in the correctional setting.



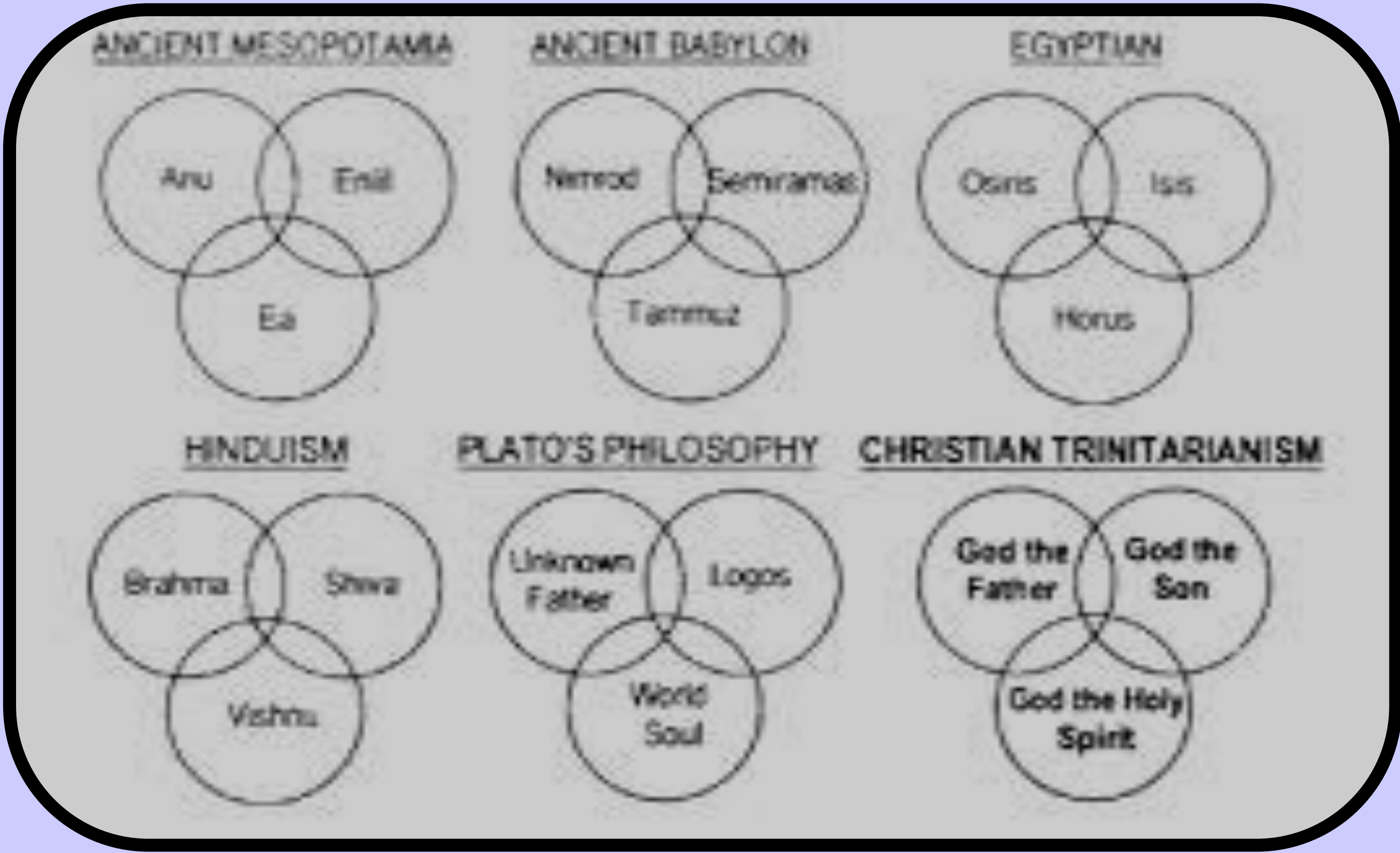
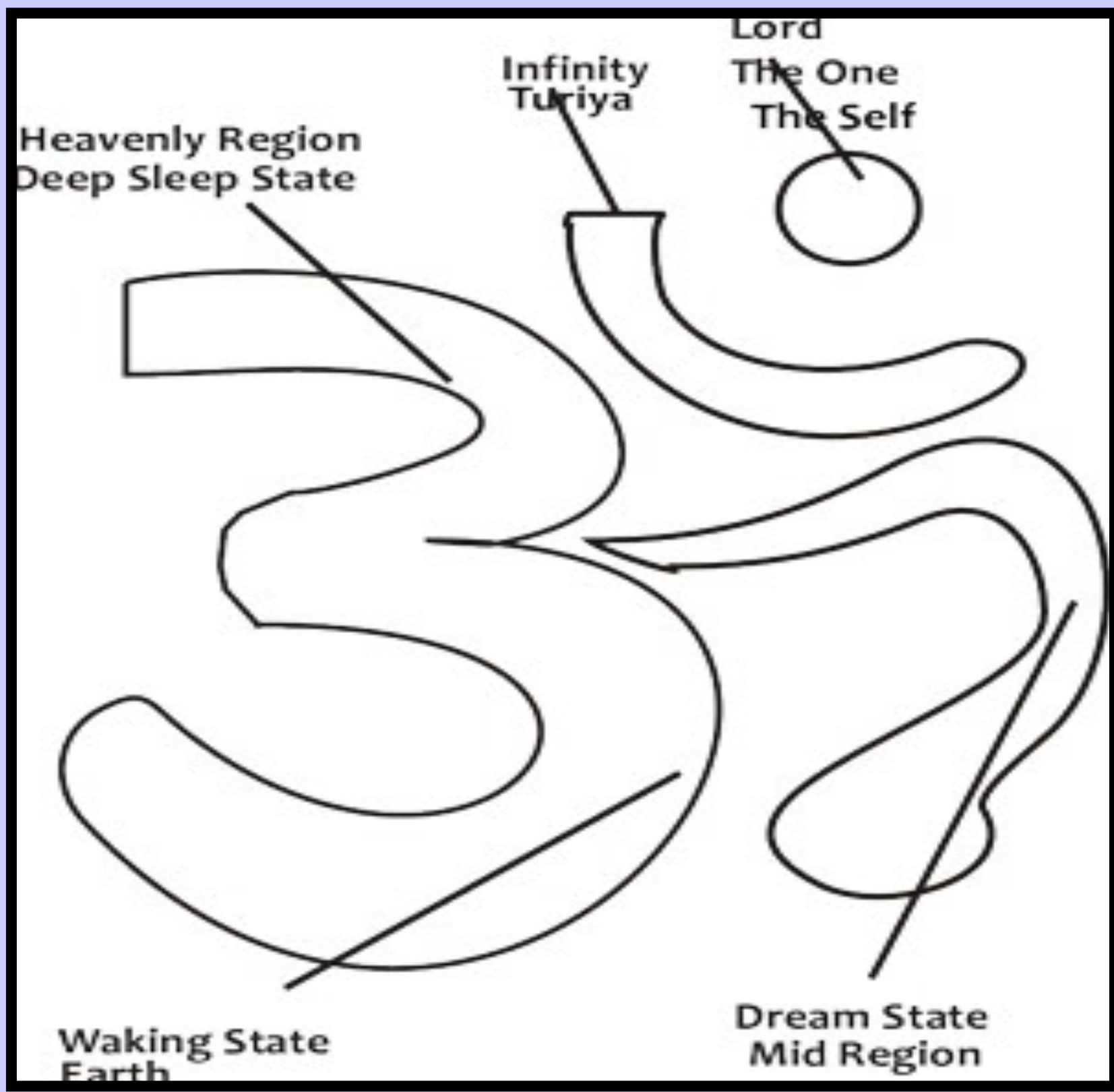
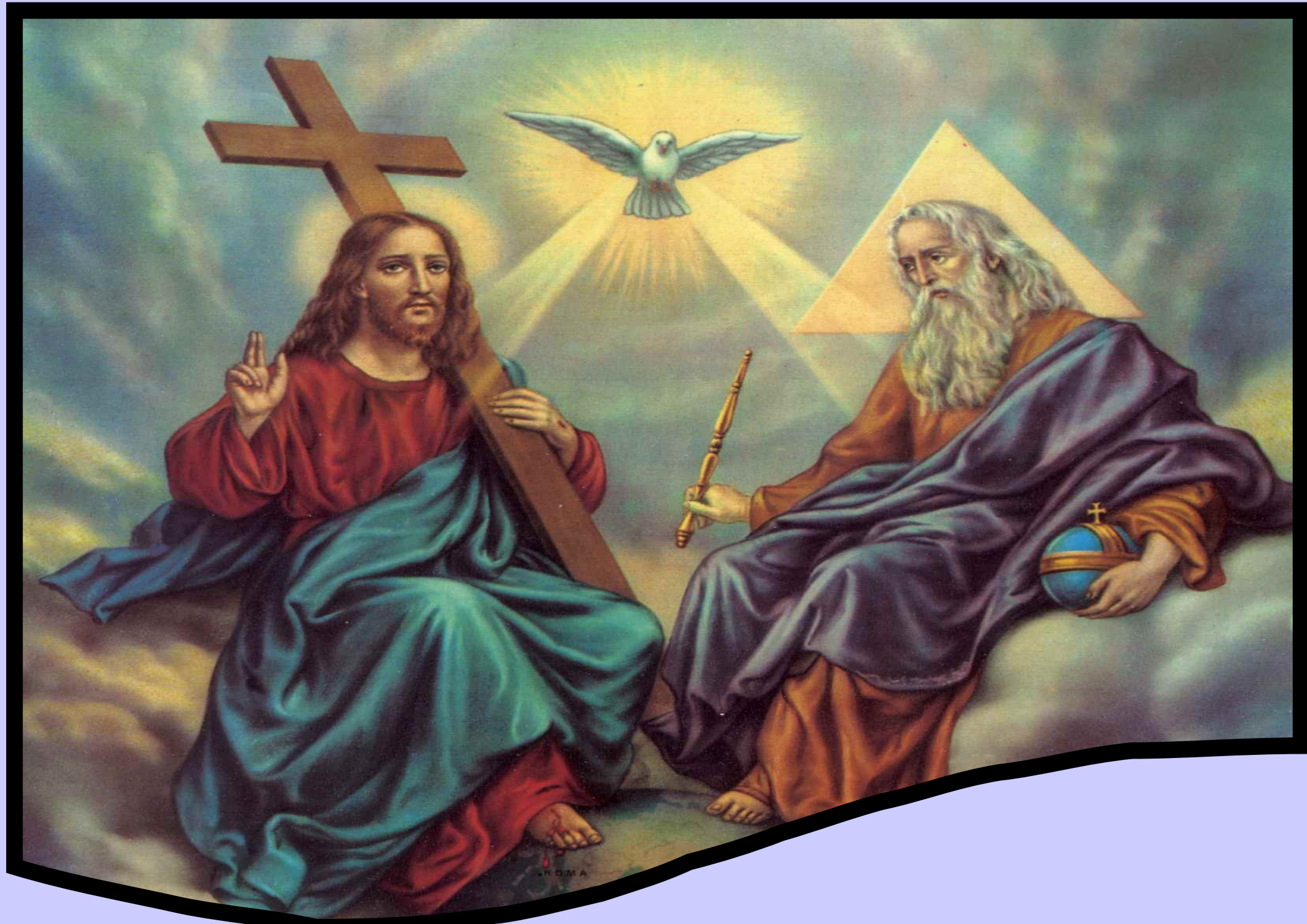
Implications: The responses of these nurses in this study indicate the need for professional development related to the concept of manipulation for nurses working in corrections. These results endorse the expectation that manipulation will transpire in correctional settings and that the object of manipulation is power and control. Newly graduated nurses working in a correctional setting must surmount the competencies essential to equalize compassion with security concerns. The increasing number of inmates in the prison population of the United States exemplifies a substantial population necessitating health care. Institutions of higher learning will need to espouse curriculums and clinical experiences inside correctional institutions in order to encourage options in a correctional nursing career path and to allow those that choose the role to be more efficacious in their endeavors.

This paper examines the similarities and differences involving the theological constructs of the Christian and Hindu trinities. Historically and currently, many people around the world focus on religious differences. While it is important to recognize the differences, it is also important to note the similarities that may allow for positive communication. For example, both the Christian and the Hindu faiths offer some form of divine trinity. While the trinities differ on many issues, there are similar theological roles involving creation, preservation, and a sense of the spirit after-life. This paper will focus on how these theological concepts intersect in the areas of mythology, origination and function as they are used in the praxis of the respective religions’ trinity.

AN EXAMINATION OF CHRISTIAN AND HINDU TRINITIES

Sydney Haire, Department of Philosophy & Religious Studies

Faculty Sponsor: Dr. Lavonna Lovern, Department of Philosophy & Religious Studies



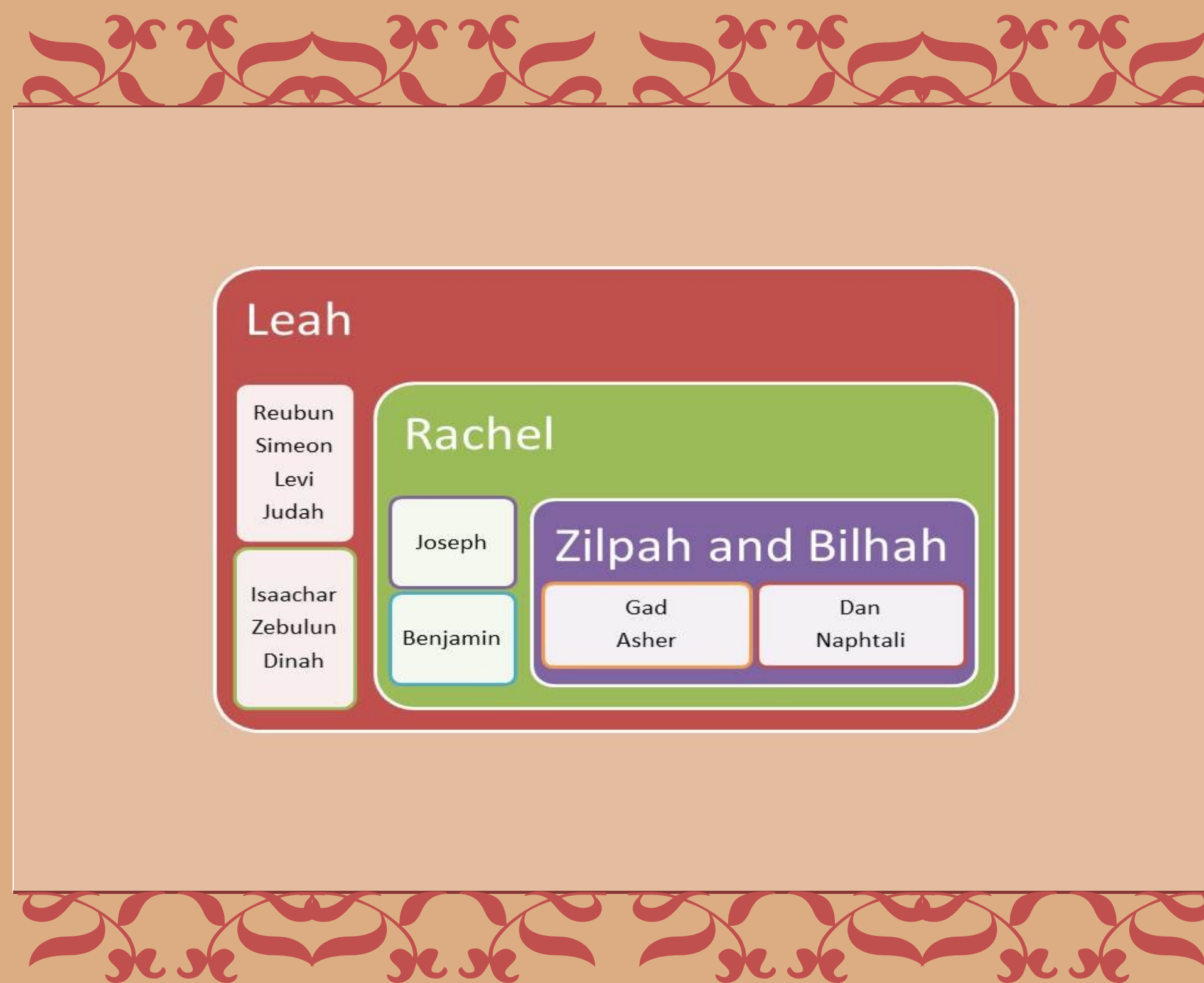
Creation...
Preservation...
Spiritual Afterlife...

	Holy Trinity	Trimurti
<u>Creator</u>	<u>God</u> Creator	<u>Brahma</u> Creator
<u>Preserver</u>	<u>Jesus</u> Human form Died for sins to preserve faith Cast out demons	<u>Vishnu</u> Human form Preserver of universe Fought demonic spirits
<u>Spiritual Afterlife</u>	<u>Holy Spirit</u> Actively Guides God is Always Present	<u>Shiva</u> God of destruction
<u>Exclusively 3 Parts</u>	The Christian theology consists of Father, Son, and the Holy Spirit being three “equal ‘persons’ within one divine being.”	Hinduism includes many (330 million) deities, because the belief is “the di-vine has countless faces.”

ABSTRACT

Leah and Rachel are two of the most well-known matriarchs in biblical literature. Between the two sisters, they are credited with producing the twelve sons of Jacob, father of the Israelite nation. As products of biblical times, both women struggled under the societal expectation to produce children. The competitive relationship that existed between these sisters was the direct result of their need to be accepted in a society that treated barren women as unblessed by God. My paper looks at the ways in which biblical concepts of motherhood affected Leah's and Rachel's relationship and how these ideas have influenced modern views of women as mothers. My research will examine the impact of barrenness, the methods of surrogacy, and the emotional and physical dangers of motherhood for

The Four Wives of Jacob



THE WOMAN'S PLACE

L. Daniel Hawk, in “Cast Out and Cast Off: Hagar, Leah, and the God Who Sees” writes: “...a woman's ability to produce more males also makes her valuable” (11).



Mother- ‘ēm

BARREN WOMEN AND SIBLING RIVALRY:

A STUDY OF RACHEL AND LEAH IN BIBLICAL NARRATIVE

Brenna Lockaby

Dr. Lily Vuong – Religious Studies

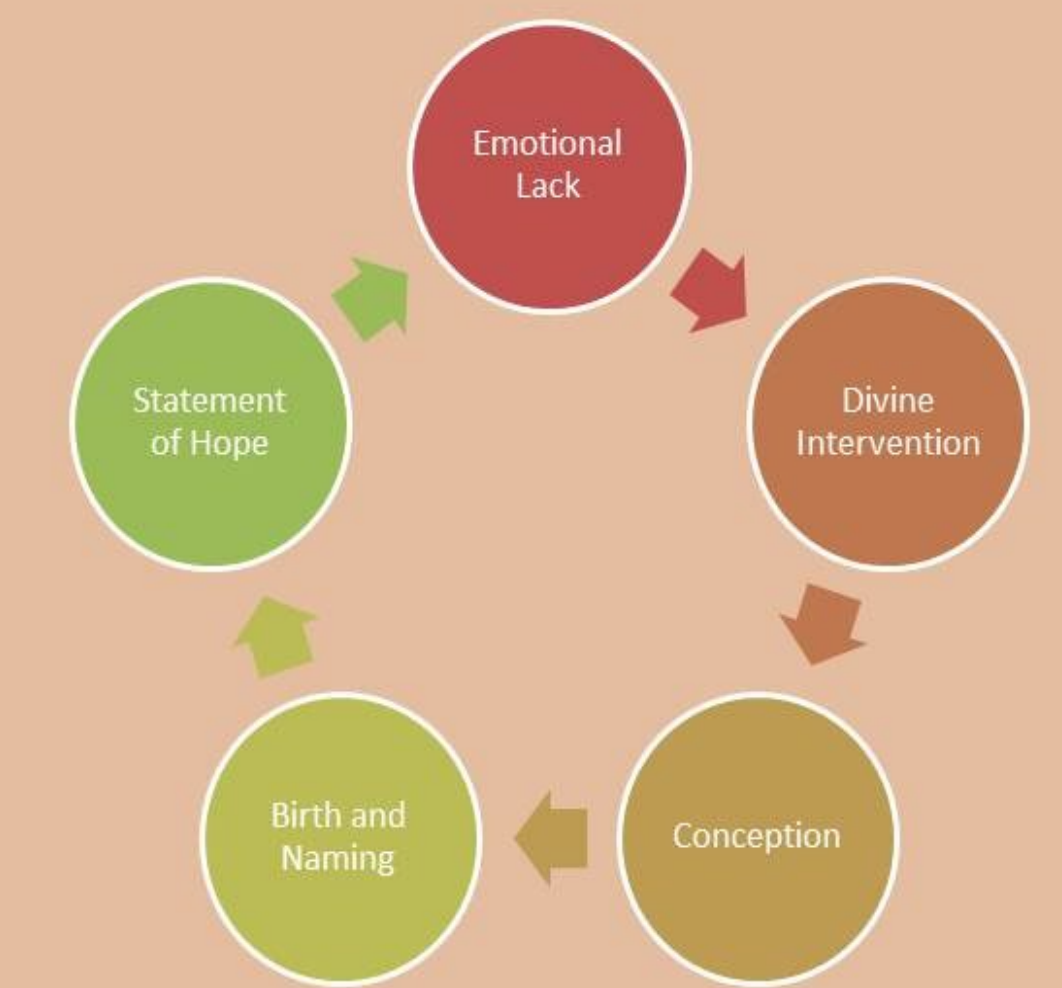


Leah and Rachel compete to experience a dangerous thing: childbirth. For women living in a time where modern medical methods did not exist, bearing children could prove to be fatal.



Fertility is a blessing and barrenness a curse from God: “When the Lord saw that Leah was unloved, he opened her womb; but Rachel was barren” (Gen. 29.31).

Leah's Cycle of Motherhood



Rachel, unfortunately, was just one of the many women who died giving birth. Her suffering was physical and fatal.



It is only after Rachel gives birth to her son Joseph that the two women cease their competition to win Jacob's affection.

CONCLUSION

By living in an androcentric society, these women's identities were defined not by their individual aspirations and goals, but rather by their desire to please their shared husband Jacob through childbearing. Genesis 29:31-30:24, which details the episode between Leah and Rachel, makes no mention of their goals or who they are as women; their story is reduced to one purpose – motherhood. In this way, Genesis defines the relationship between Leah and Rachel as a competition to please their husband.

On the portrayal of women in the Hebrew Bible, Ester Fuchs writes, “The biblical narrative was implicated in the cultural construction of gendered relations, and ought therefore to be read [...] as tendentious political representations of reality, and interpretations of truth.” This paper will explore representations of women in the ancient world with the goal of shedding light on women’s experiences in a male-dominated society. In doing so, I will focus on the stories surrounding the contrasting figures of Eve and Sarah in Genesis and pay close attention to how they are treated by their male counterparts and described by their male authors.

Depictions of Women in the Hebrew Bible

Colin J. Law

Faculty Sponsor: Dr. Lily Vuong

Introduction

For all the female characters mentioned in the Hebrew Bible, there are an equal number of opinions and interpretations regarding their actions. While Buchanan rightly notes the difficulty with understanding the representations of women in the bible because of the limited sources and the tendency to view these women through a modern lens, one can still “read between the lines” to gain important insights into who these women really were. The key is view these women from a historical and biblical perspective in order to place them within their rightful context, while others seem to speculate about the intentions of these women.



Eve

From the Second Creation story in Genesis 2:4b-3:24, the following traditional interpretation has been offered:

- ◊ Eve was subordinate to Adam and, consequently, woman is subordinate to man.
- ◊ Woman’s existence is dependent upon man.
- ◊ Eve was less significant than Adam



From Genesis 3, which depicts the “Fall of Human-kind” fall of man, we can see:

- ◊ A great deal of emphasis is placed on Eve
- ◊ Eve is blamed for causing human troubles
- ◊ Eve is made to be a scapegoat

Sarah

We see in Genesis chapter 12 that Sarah and Abraham led a very nomadic life. Details surrounding their lives may lead us to conclude:

- ◊ Sarah’s decisions and actions were in keeping with her wifely duty and responsibility.
- ◊ She was not treated as an equal counterpart by Abraham.

On two different occasions Abraham asked Sarah to lie and pretend to be his sister so that his own life would not be endangered. These situations reveal:

- ◊ Abraham did not view Sarah as an equal.
- ◊ Sarah’s life was less valuable than Abraham’s.



When Sarah has difficulty conceiving she offers her servant, Hagar, to Abraham. Genesis 16, after Hagar conceives and has a son, Sarah is depicted as:

- ◊ Contemptuous
- ◊ Harsh
- ◊ Envious
- ◊ Petty
- ◊ Self-serving



In Genesis chapters 16 and 21, when Abraham allows Sarah to treat Hagar poorly, and later banishes her, we may infer the following:

- ◊ Hagar did not deserve to be treated with courtesy or respect.
- ◊ Hagar was expendable.

Conclusion

As difficult as it may be, it is important to look at texts in the frame of the time period and context in which they were written and not to make (modern day) assumptions about the characters or their actions. It is also important to remember that the Hebrew Bible was written in a “different cultural context [...] different from our Western idea[s].” By looking at two major female figures, Eve and Sarah, and examining how they were treated by society, we can clearly see that women were considered subordinates to their male counterparts, at least according to the male authors, and were not typically viewed in a positive light.



Abstract

This paper examines the emergence of Norse Neopaganism, focusing specifically on Asatrú and its variants within the United States. While many individuals turn to these religions out of a desire to embrace their ancestors' beliefs, many others seem to find Norse Neopaganism as the ideal companion of white supremacy. The paper will examine both the development of Asatrú and the motivations behind it as well as the development of its racially based offspring. The relationship between white supremacist groups and Norse Neopaganism will be explored, as well as the conflict between white supremacist Christians and white supremacist Neopagans. The paper demonstrates the evolution of this diverse set of religions and their potential impact on society.

Norse Neopaganism:
A Return to Spiritual Roots or an Excuse for Racism?

Alex Lawhorne, Department of Philosophy and Religious Studies
Faculty Sponsor: Dr. Lavonna Lovern,
Department of Philosophy and Religious Studies

Introduction

One of the most important trends in terms of religious studies is the increasing prominence of Neopagan groups. More and more Europeans and European descendants are choosing to embrace the religions of their ancestors and reject the mainstream religions predominant in their countries. The Neopagan movement, however, is as complex as the ancestors themselves; different groups cling to different cultural traditions. One such tradition is Norse polytheism, which was the belief system practiced by the Germanic tribes who moved into Scandinavia thousands of years ago. While folklore makes up the majority of what we know about this ancient belief system, the Norse Neopaganism movement believes that these folk tales hint at the spiritual lives of their ancestors and can be used to return to their ancient beliefs (Strmiska, p. 107). It is apparent, however, that not all groups within Norse Neopaganism have adopted the religion for this purpose. Norse Neopaganism has been tied to European nationalism, white separatism, and national socialism (Schnurbein, p.192).



Norse Neopagan beliefs typically involve the beings and deities mentioned in Norse folklore. These include both the gods and other mythical creatures like dwarves and trolls. The religion does not emphasize any particular afterlife. Its ethical system is not based on fulfilling any particular goals of righteousness, but simply on surviving for as long as possible while maintaining your personal integrity.^{3, 4}



Norse Neopaganism in the United States seems to be most commonly associated with white supremacist groups. These groups feel that whites should embrace the religion of their white ancestors rather than embracing Christianity, which has its roots in Judaism. This type of Norse Neopaganism was actually encouraged by the Nazi government during their reign in Germany. It has now become a part of many neo-Nazi groups within the US. Oklahoma City bomber Timothy McVeigh was at one point associated with "Elohim City," a survivalist compound in Oklahoma which was known to house Norse Neopagan mystics (Wright, p. 206)⁷



Asatrú is a version of Norse Neopaganism which was founded by Sveinbjörn Beinteinsson in Iceland in 1972. The group was intended by many of its founders to be a scholarly one which would collect information about the Norse myths, but Beinteinsson wanted it to be a self-conscious religious organization. Beinteinsson chose the name "Asatrú" as a way of expressing the group's purpose: "Asa" comes from the Icelandic word Aesir (Gods) and "trú" means belief. Here Beinteinsson is seen performing a wedding ceremony between two of the followers of Asatrú.¹



Religion or Racism?

Many of those who follow Asatrú and express interest in the ancient spiritual values of their ancestors. This is notable in the glorification of the "Nine Noble Virtues" which define a good life. Others embrace these religions as true white religions, created by white people and protected by white people.^{5, 6}



There is a conflict between Norse Neopagan white supremacists and Christian white supremacists. The former feel that Christians are remaining a part of a religion which is increasingly filled with minorities and no longer represents the interests of whites. The latter feel that Norse Neopagans are inserting religion in a field where it does not belong. Still more think that both concepts should be completely unrelated. The Asatrú Alliance in the United States declared that their religion is completely apolitical. Likewise, at least one American neo-Nazi thinks that religious differences between white supremacists should be put aside in the name of their common goal of "white unity and Aryan brotherhood and a national state of our own" (Dobratz, p. 294). A slogan along the same lines has become popular within the movement as a response to conflict: "My race is my religion!" (Dobratz, p. 297)^{8, 16}



Norse Neopaganism in its purest form discusses the gods of the ancient Norse myths while allowing worshippers to honor whichever gods they choose. Their spiritual practices usually center around certain events. Weddings and funerals are very spiritual affairs and usually involve a ceremony led by a Gothi, who is the equivalent of a priest or rabbi. "The Blot," seen here, is another important event in Norse Neopagan worship, consisting of a large bonfire at which gods are toasted while participants drink heavily of "burnt wine." It usually takes place at night and in the countryside; up to 50 members usually participate. Asatrú has grown rapidly in Iceland and throughout the globe.²



Article author Michael Strmiska taking part in an Asatrú ritual in Belgium.¹⁵



"I believe Christianity is Jewish... Jesus Christ was Jewish... why should we take a Jewish religion if we're so anti-semitic?" - Nathan Pett (Dobratz, p. 294)^{9, 10}

Picture Credits: 1. amfirstbooks.com , 2. fornsed.tumblr.com , 3. icelandreview.com , 4. northernpath.org , 5.coolchaser.com , 6. vnnforum.com , Spiegel.de , 8. Nazipropaganda.tumblr.com , 9. iwannafile.com , 10. cracked.com , 11. nrm.m.wikipedia.org , 12. eriksodyssey.com , 13. liztsblog.com , 14. timeless myths.com , 15. aozora.freeyellow.com , Background: Mailjc.wordpress.com

Conclusion

In conclusion, the Norse Neopagan movement is clearly developing and evolving very differently. Iceland's Neopagans are recreating a part of their past in a way that seems mostly unconnected to politics or social views. Norse Neopagans elsewhere are laying claim to a past either as an escape from an over-politicized minority religion or as a religion that is more fitting with their political beliefs. The two philosophies are quite divergent, but there is a common root at their cause: social change. Both religions are a reaction to a rapidly changing world, one in which social identity is increasingly confused and contrived. Ásatrú and Odinism provide a religious identity for those who feel excluded or left behind by mainstream religions. These groups will no doubt continue to evolve as the social processes which created them continue as well. They are in need of continuing research, however, people who study these religions must be careful not to confuse those who are apolitical and those who espouse racial ideologies. The two are not universally connected and should not be treated as such.



Abstract:

Thomas Hobbes believed that before we lived in civil society, we were in a state of nature that was characterized by greed and brutality. Immanuel Kant held that because there was no overarching law, polities were in a Hobbesian state of nature and there would never be lasting peace. He proposed that states form a federation of republics and gave some principles toward perpetual peace. However, these all hinged on the idea of the state maintaining sovereignty. I argue that sovereignty is contrary to Kant's goals of perpetual peace.

Perpetual Problems: Sovereignty in Global Politics

Angelique E. Witmer

Department of Philosophy and Religious Studies, Valdosta State University, Valdosta, Georgia

Introduction:

Many Americans understand sovereignty to be an isolated right of power, free from the constraints of international law. Americans are skeptical in general of government, domestically and internationally. However, the United Nations holds that cooperating with other countries is an exercise of sovereignty. International cooperation does not have to be viewed as a threat to national sovereignty.

The UN is ineffective to enforce international law at this time. As an organization of sovereign nations, the UN can only do that which members agree upon. The UN self-identifies a need to review the membership criteria of the Security Council. These sovereign nations do not have equality. There are tiers of power which are based on "might makes right" (the victors of WWII are permanent members of the Security Council with veto power).

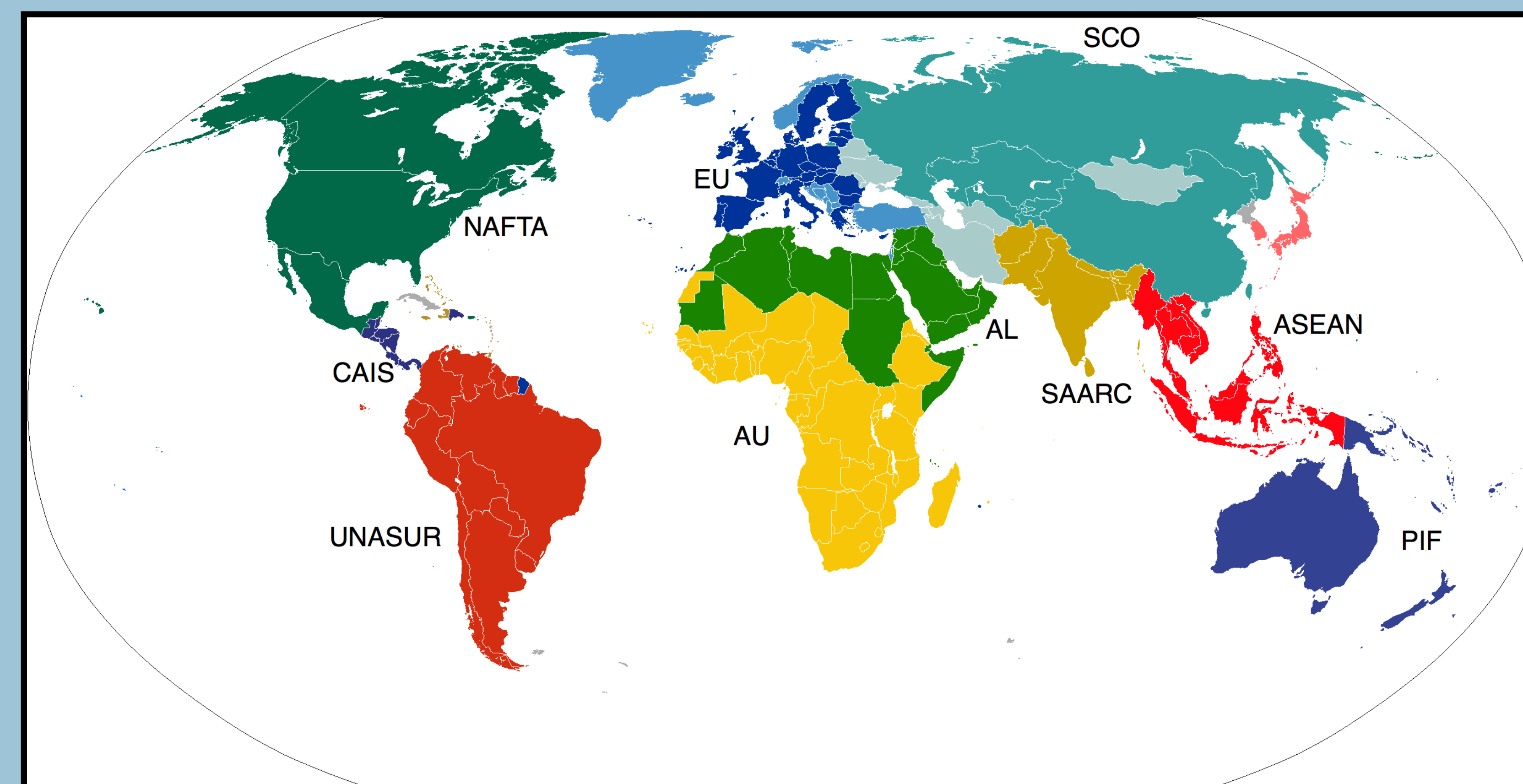
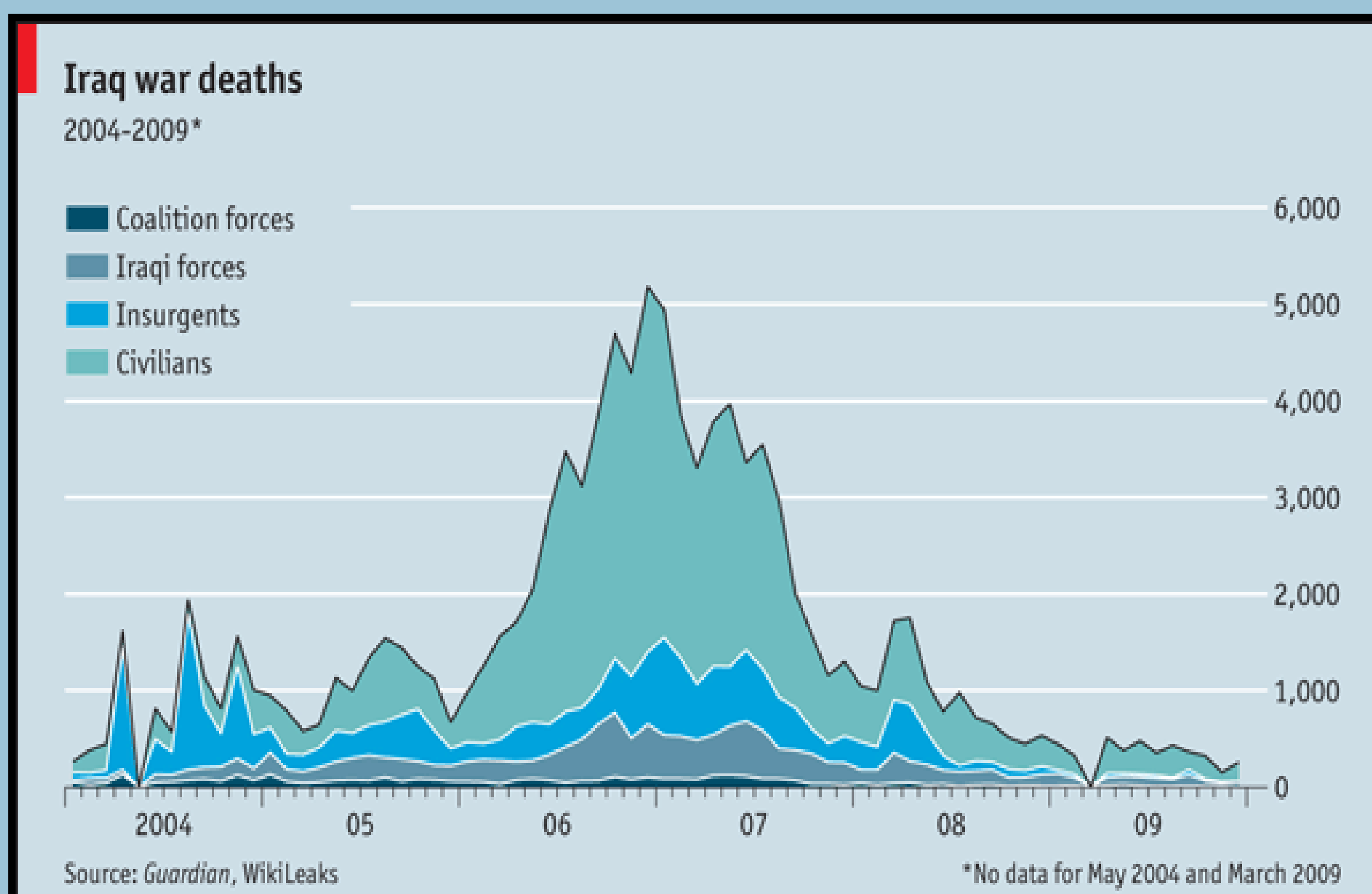
For example, the Iraq war was generally interpreted by UN member nations as an illegal invasion of a sovereign (Secretary General Kofi Annan qtd. in BBC News, 2004). Since the U.S. holds veto power, action by the Security Council to officially rule on the legality of the Iraqi war will most likely not happen.

Another example is that of the International Court of Justice, the judicial arm of the UN. In 1986, the court ruled against the U.S. for supporting rebellion and illegally mining in Nicaragua. In response, the U.S. withdrew from the court (International Court of Justice, 1986).



Kant's Perpetual Peace summed Up:

1. Treaties that allow for future wars are invalid
2. No state shall ever be controlled by another state. States cannot send troops to other states unless they have a common enemy.
3. Standing armies will be totally abolished
4. National debts to promote state interests abroad are illegal
5. No state shall interfere with the constitution or government of another state
6. States cannot do things during war that would make peace unlikely, such as instigating rebellions and assassinating



Conclusions:

Without an international law that is enforceable and sovereign over all nations, it seems that justice is a privilege for those who hold the most wealth and military power. That is no justice at all. As long as there are abuses of justice among free, sovereign states in an international arena, there will be a spectrum of perceived authority versus actual authority among all, which, according to Kant, ends in despotism, revolution and anarchy. Global commerce, information sharing, and social and environmental issues that affect us all have strengthened our place as global citizens.

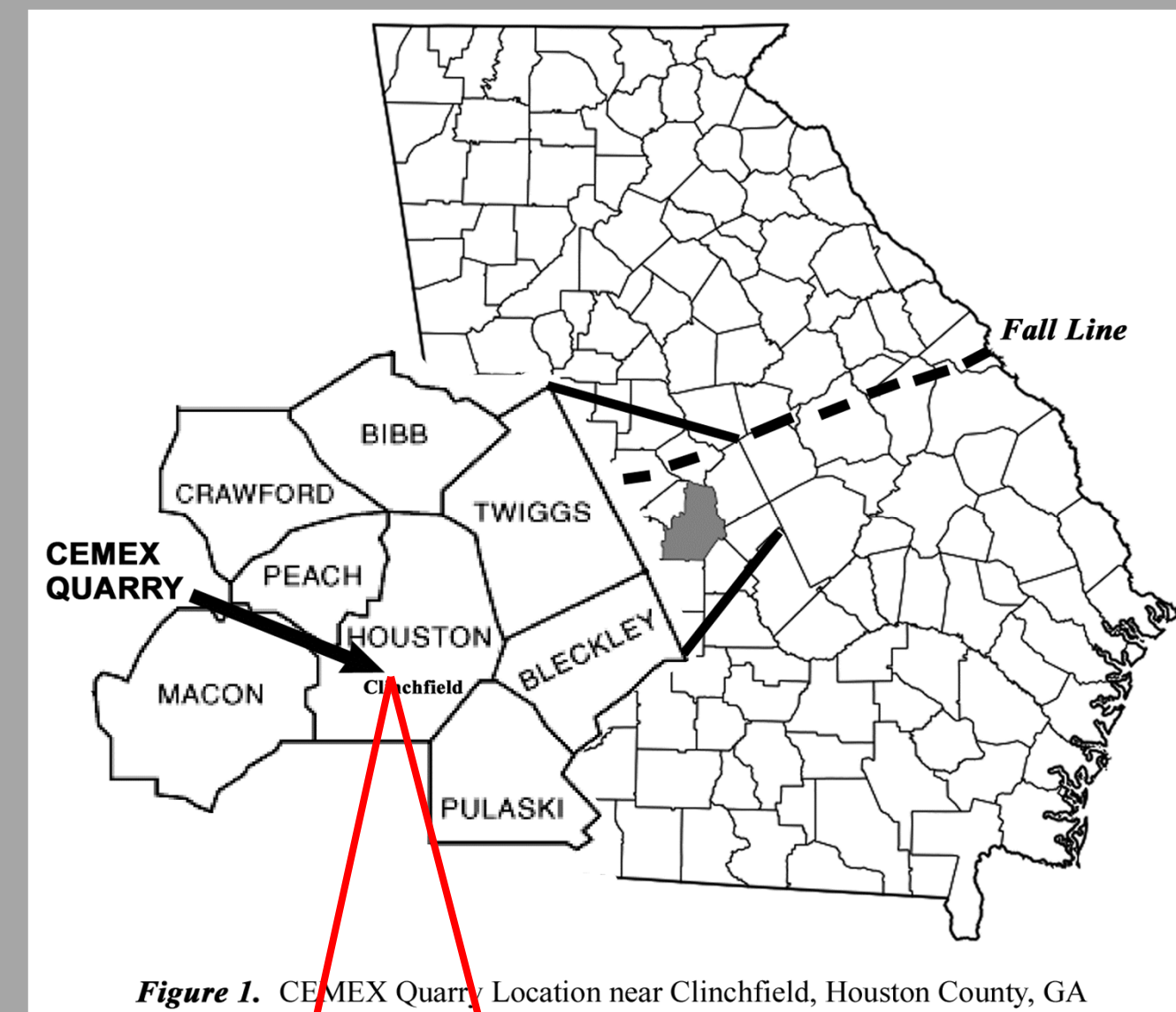
3D Laser Scans of Quarry Exposures in Coastal Plain Strata

Chad Novack, Department of Physics, Astronomy, and Geosciences
Faculty Sponsor: Dr. Donald Thieme, Department of Physics, Astronomy, and Geosciences

Abstract

Terrestrial laser scanning is a new technology which can be used to make three dimensional interpretations of geologic outcrops. We used a Leica C-10 HDS scanner to identify contacts between stratigraphic units at the CEMEX limestone quarry near Clinchfield, Georgia. The upper highwall had approximately 25 meters of the Twiggs clay (Fullers' Earth) overlying limestone from the Tivola tongue of the Ocala formation. In the lower highwall, almost the entire thickness of the Tivola limestone above the Clinchfield sand was present. Preliminary results from the 3D laser scanning suggest that limestone is particularly well preserved beneath the ridges in the quarry area where there are thick deposits of the Twiggs clay.

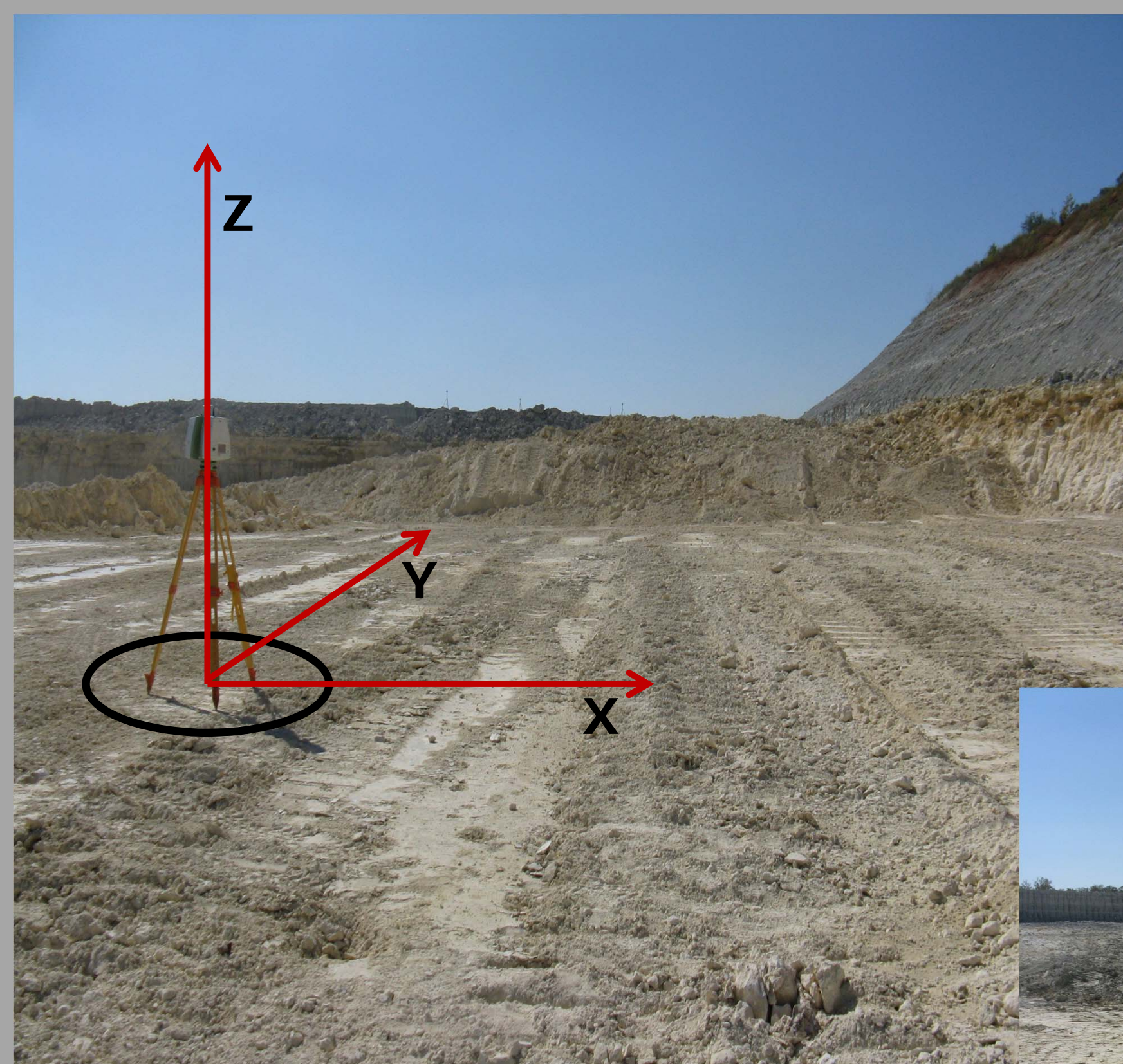
Case Study: CEMEX Quarry - Clinchfield, GA



The CEMEX quarry near Clinchfield, Georgia has been active for nearly 100 years. It has been repeatedly described and sampled by Coastal Plain geologists. The contacts between Tivola (Ocala) limestone and the Twiggs clay occurred during sea level regression, approximately 34 million years ago.

Parameters of Leica C-10 HDS Scanner

- Electronic Distance Measurement: 50-500 Meters
- Automatic Target Recognition: CMOS (Complementary Metal Oxide Semiconductor)
- Pixel Size: 6 micrometers
- Resolution: 10cm @ 100m
- Points Per Second: 58,000 PPS
- Total Points Scanned: 75,653,842



The Leica C-10 HDS scanner scans in all directions (X, Y, Z) and in a 360° clockwise motion. At a scan rate of 58,000 PPS, this makes scanning and examining geologic outcrops both fast and efficient.



Data Collection – CEMEX Limestone Quarry - Clinchfield, GA



Scan Site 1: LiDAR scanner set-up



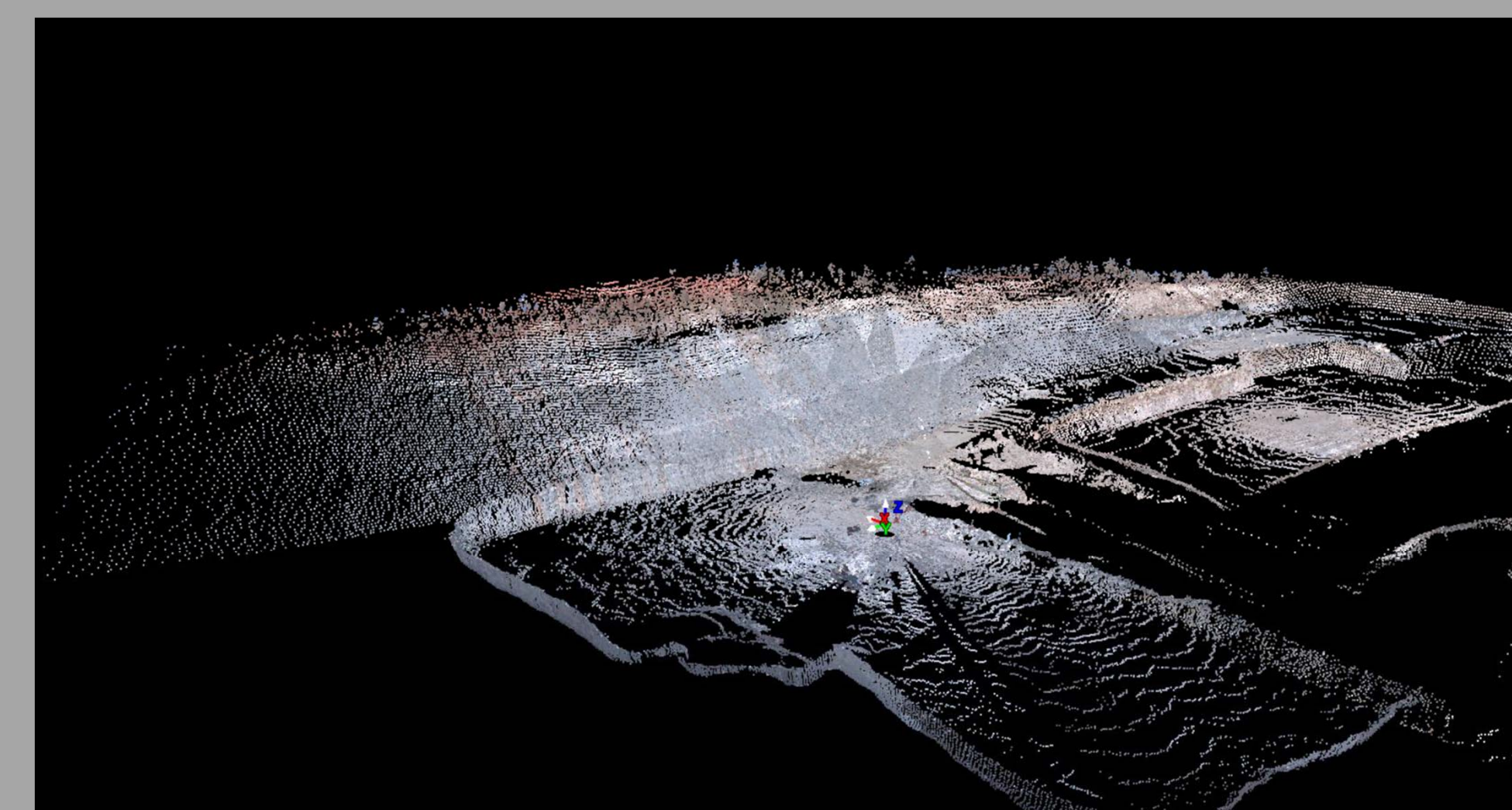
Scan Site 1: GPS set-up



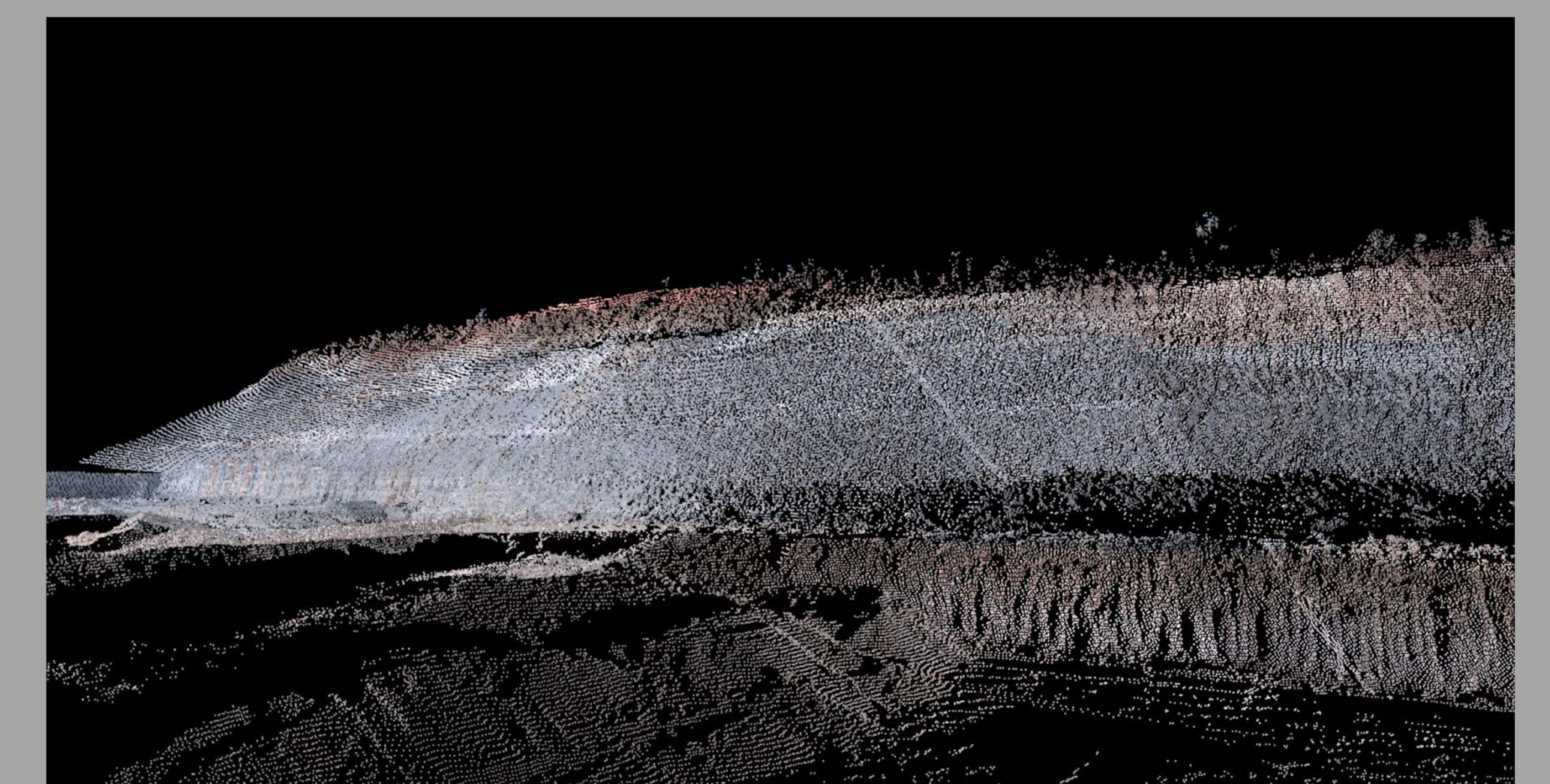
Reflector target set-up

Scan sites were chosen for their proximity to the quarry wall and location in relation to reflector targets. Four scan sites were used to measure a total of eight reflector target locations with overlap on targets between scans.

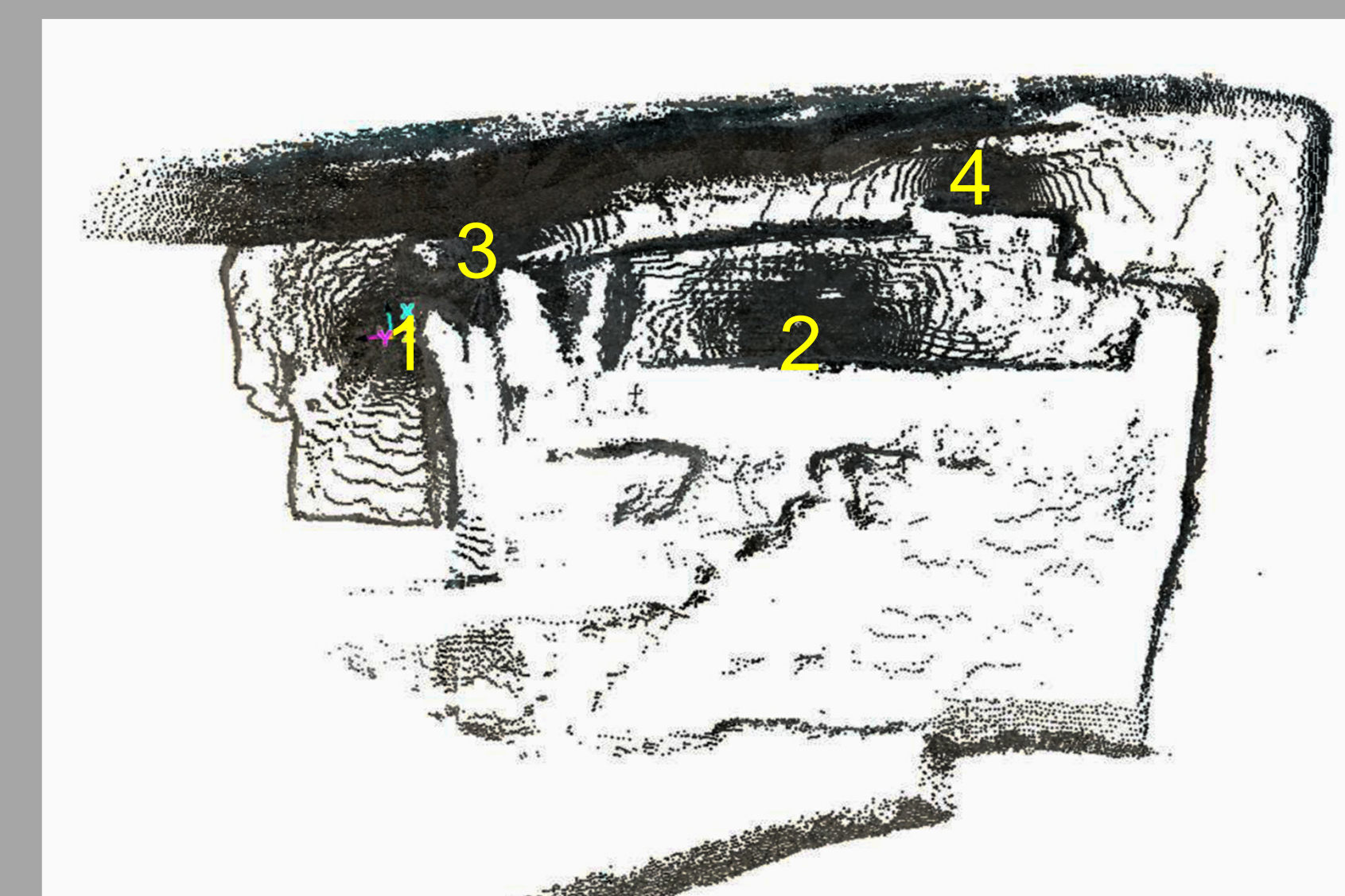
Data Processing – Leica Cyclone I and Google SketchUp



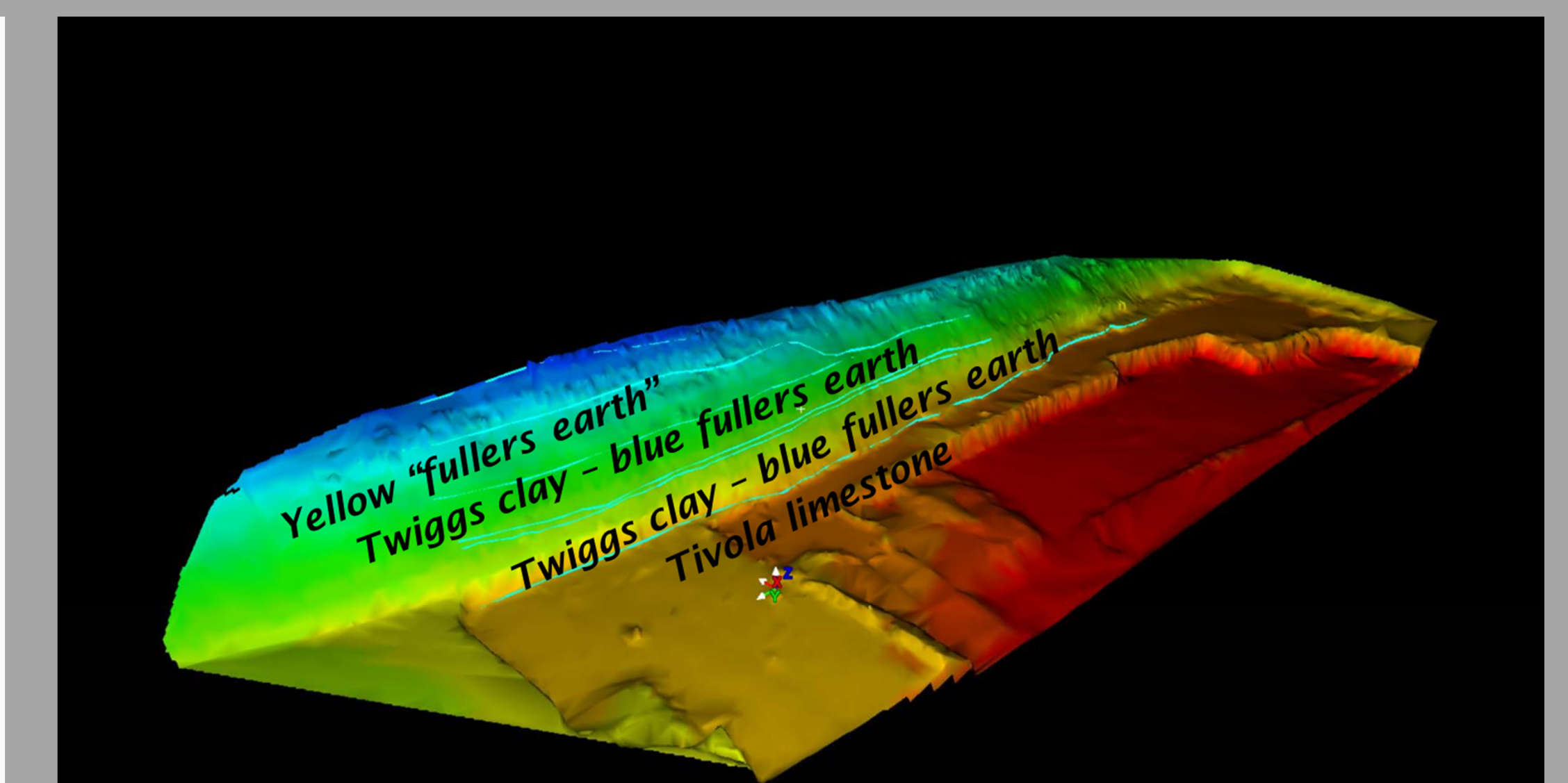
Point Cloud Overview



Point Cloud Contact Detail



Point Density Cloud showing the Scan Sites



TIN Elevation and Contact Cloud

Results

This research has demonstrated the application of ground based laser scanning (LiDAR) in relation to geologic stratigraphy and mining applications. We were able to create a detailed 3D image of Middle Coastal Plain stratigraphy. As well as defining the thickness of Tivola (Ocala) limestone in relation to Twiggs clay (Fuller's Earth) and the locations of the contacts between the many stratigraphic layers. While at the quarry site we were also able to delve into the economic feasibility of LiDAR in a mining environment.



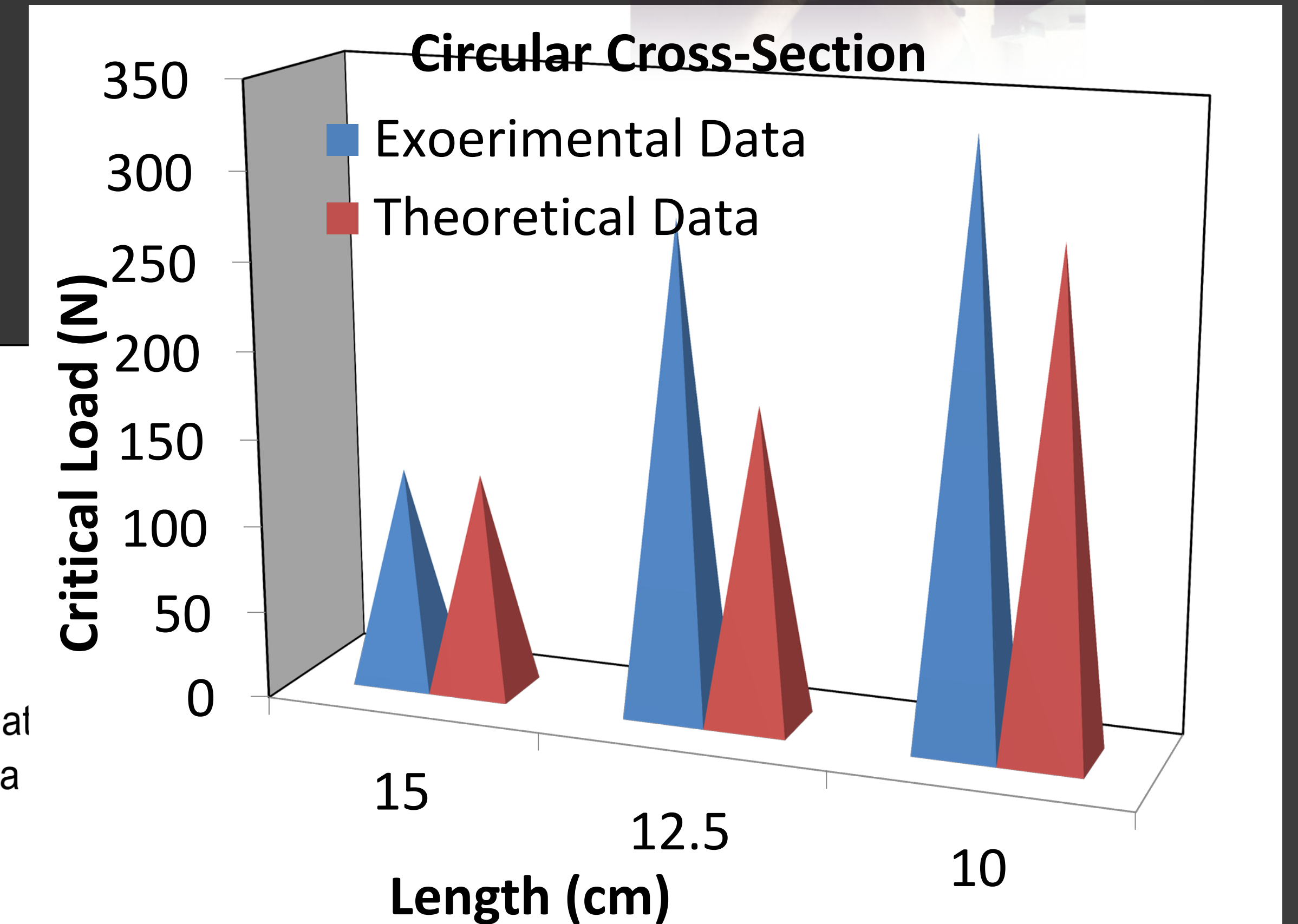
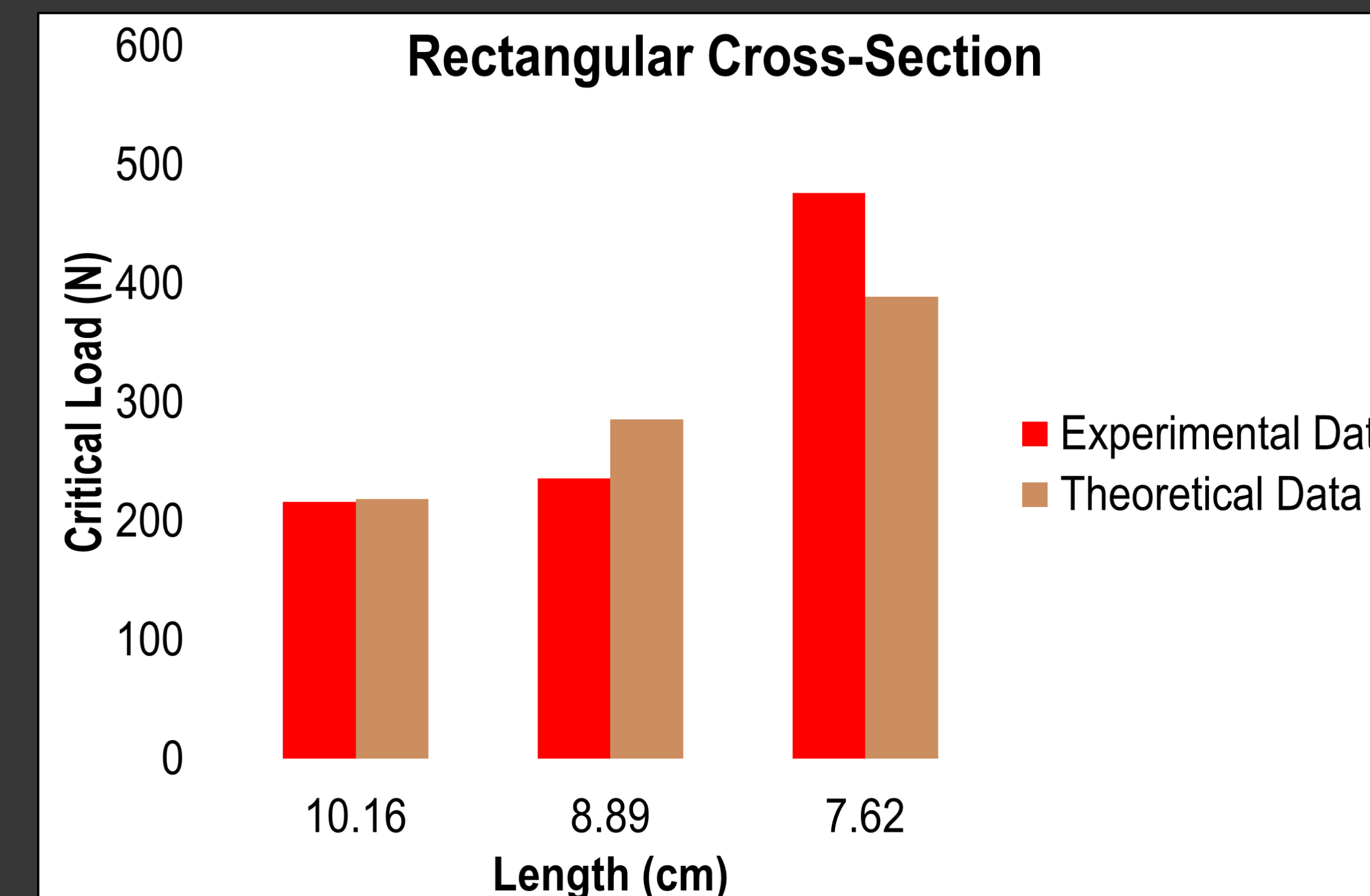
COLUMN BUCKLING AND EULER'S EQUATION: USING MECHANICAL TESTING SYSTEM

Justin R. Womble, Regents Engineering Transfer Program
Dr. Barry Hojjatie, Department of Physics, Astronomy and Geoscience



The purpose of this directed study was to utilize the MTEST equipment available in VSU's engineering department, to prove Euler's Buckling Equation. The main focus was taking our experimental data and proving the formula by cross referencing theoretical data with experimental data. It has been shown by my testing that (assuming constant geometric shape) the maximum load for buckling is inversely proportional to its length.

$$P_{max} = \frac{\pi^2 EI}{L^2}$$



Introduction

My main focus was to prove this maximum buckling load across several test subjects. Using second moment calculations of all the cross-sections mentioned (by integration) and, having been provided an average elasticity modulus, proving Euler's work now only took testing.

Materials and Methods

In my testing, I used wooden dowel rods, rectangular wooden segments, and using the testing apparatus I recorded the peak load on various subject lengths on varying geometric shapes.

Results and Discussion

My figures for critical load showed discrepancy which undoubtedly came from the fact that the columns were not in an ideal, pinned position. The fact that I was using an average Elasticity Modulus did not contribute to my accuracy; this is due to the fact that the actual wood composition was unknown.

Conclusions

Though, they did follow the basic understanding that the critical load is inversely proportional to the length of the column, regardless of the fact that the data varies.

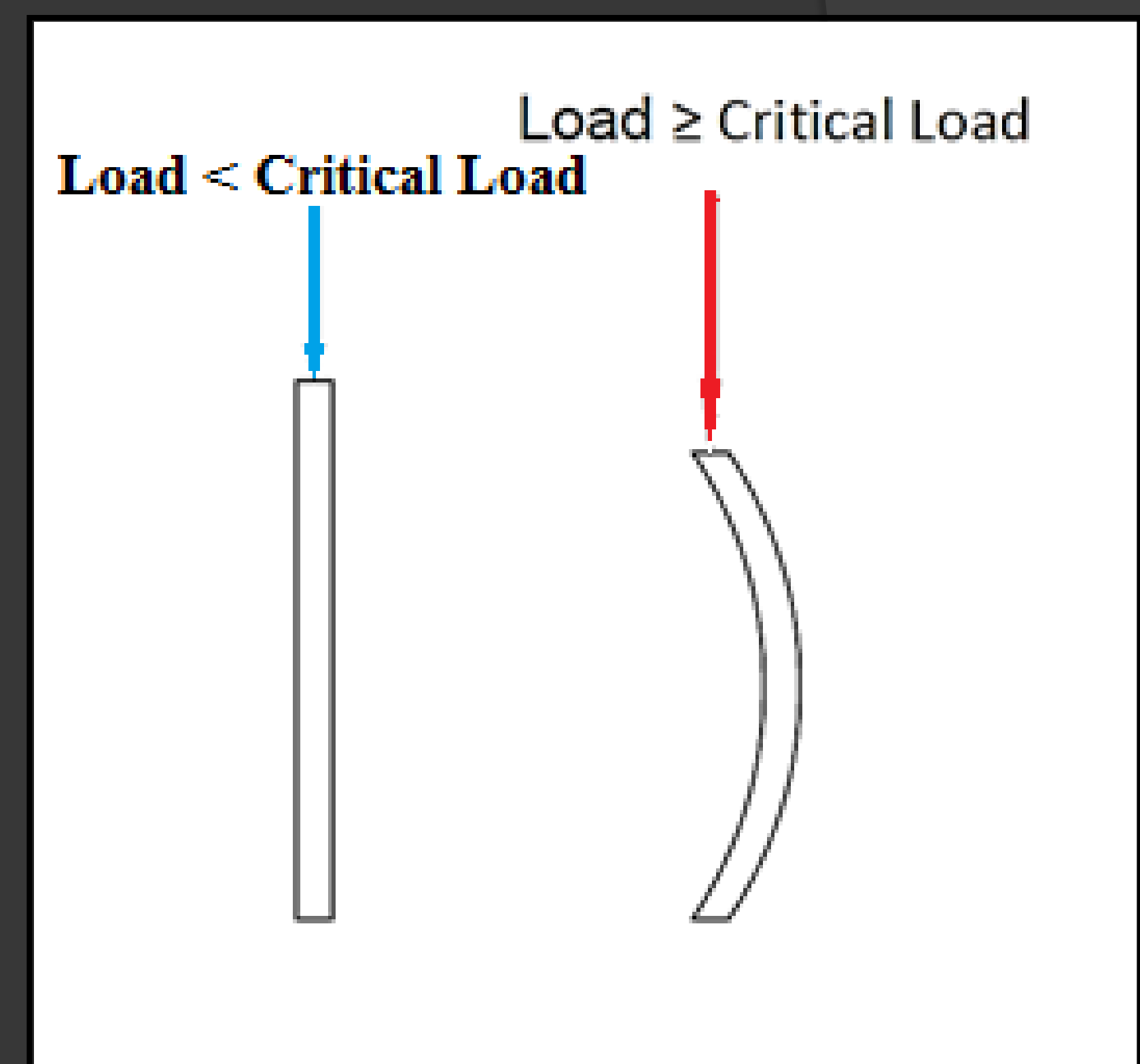
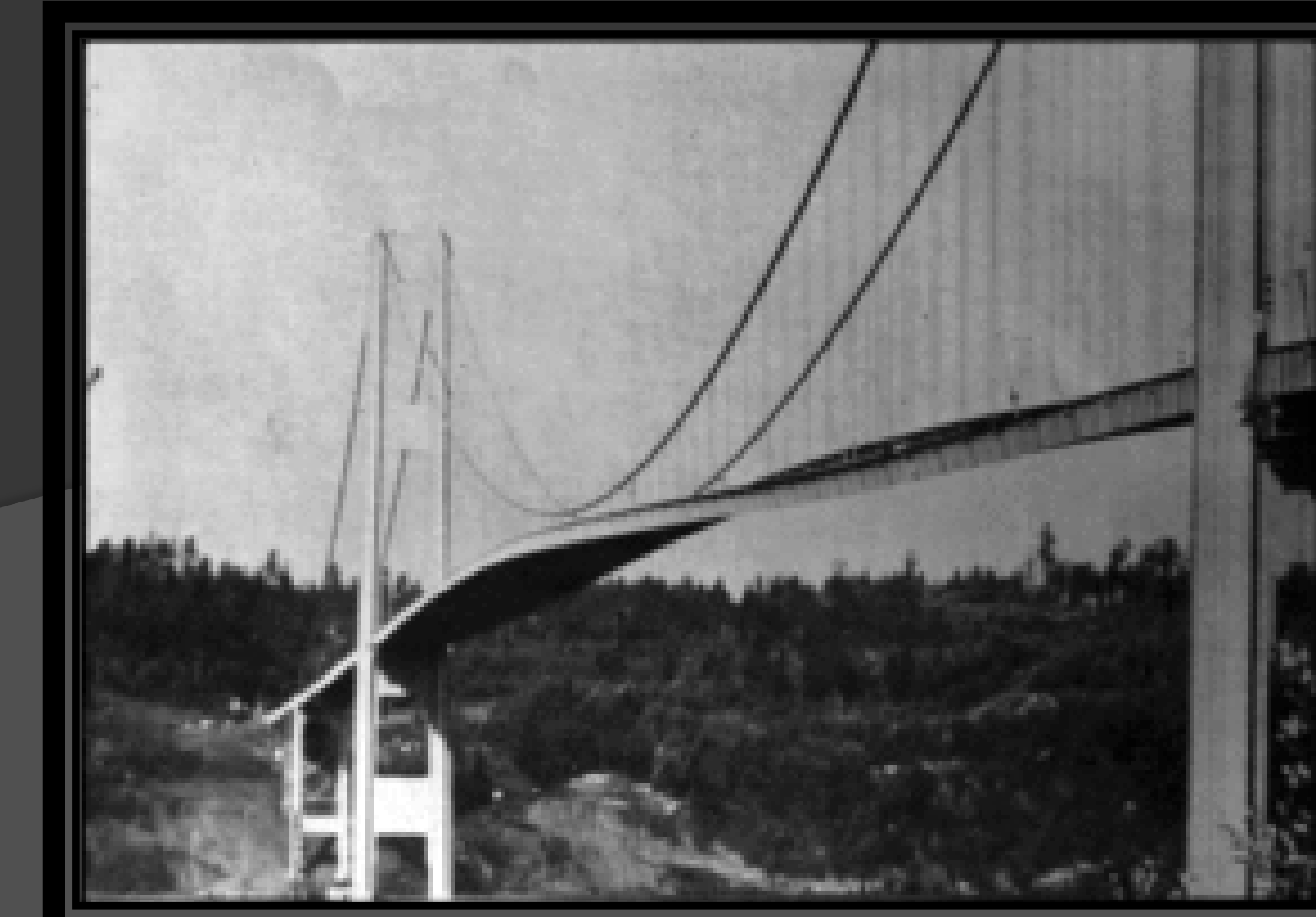
Engineering Failures and Lessons Learned

The Tacoma Narrows Bridge:

The engineers of the time did not take into account an object's natural frequency. This led to the bridge's failure in 1940 when mild winds (roughly 40 mph) caused the bridge to operate under its normal amplitude, causing it to crumble.

The World Trade Center:

Was built as a feat of engineering. The idea of putting the majority of steel supports on the exterior allowed for incredible resistance to lateral forces (wind). Their failure was not directly due to the force of the planes colliding with the side of the towers. In fact, it was more due to the fires (caused by igniting plane fuel) triggering the failure of truss supports. In essence, when the first floor failed, the distribution of weight was altered in a way that caused them to buckle in a column-type fashion.



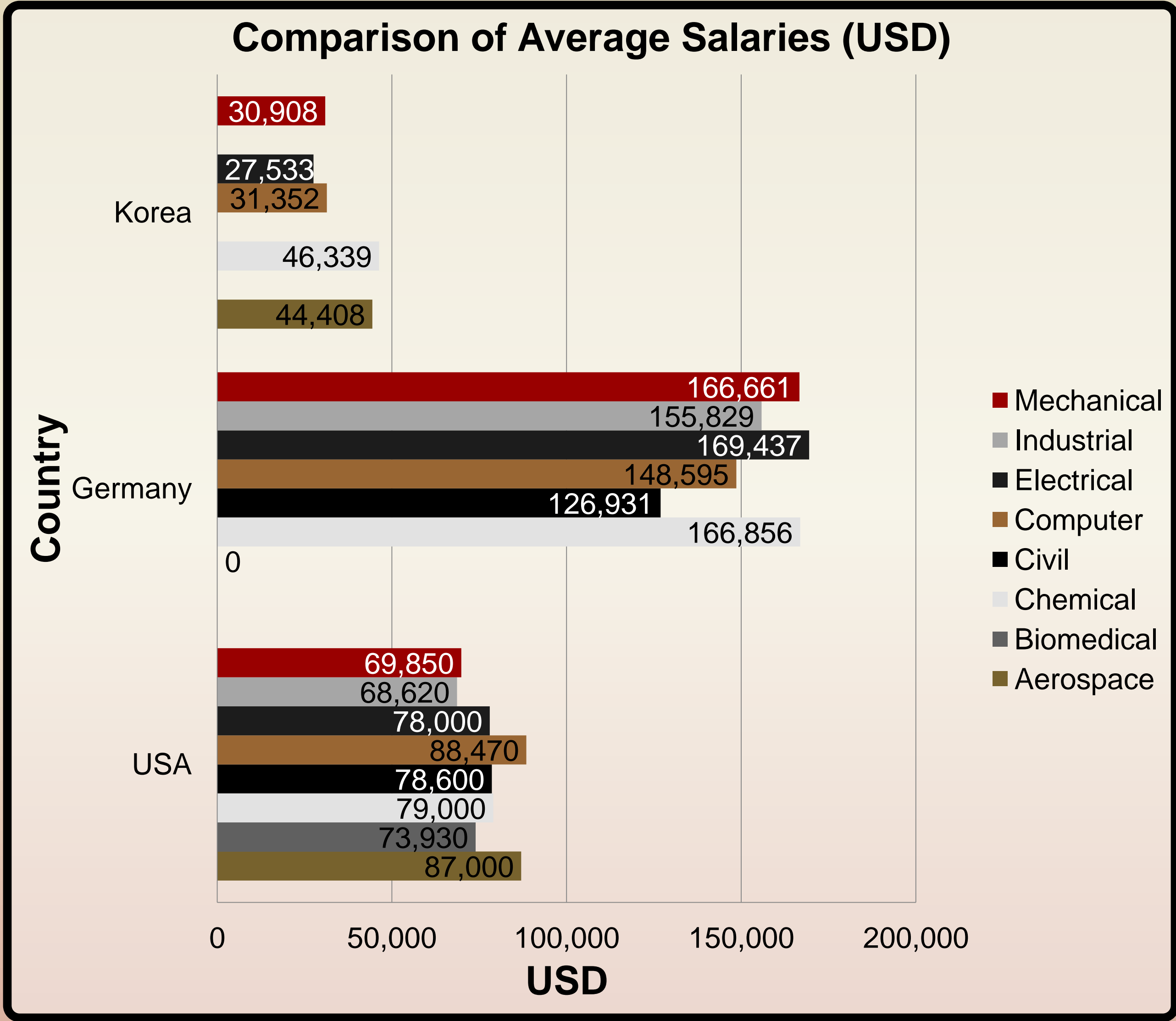
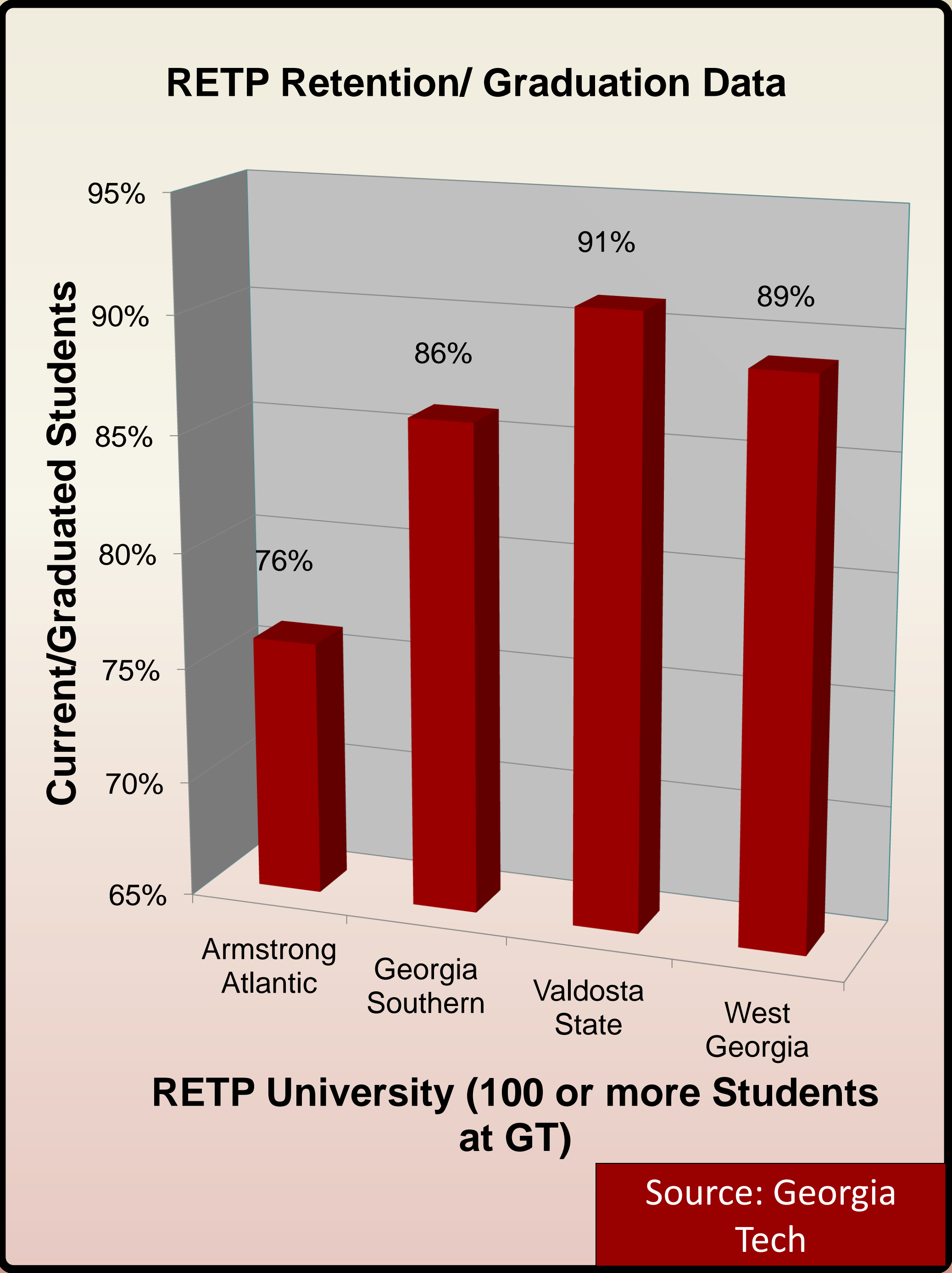
CHALLENGES AND OPPORTUNITIES WITHIN VSU'S ENGINEERING STUDIES PROGRAM: EMPHASIS ON INTERNATIONALISM

Wade Jeffers and Natalie Milko, VSU Engineering Studies Program, PAGE Dept.
Faculty Sponsor: Dr. Barry Hojjatie, PAGE Department

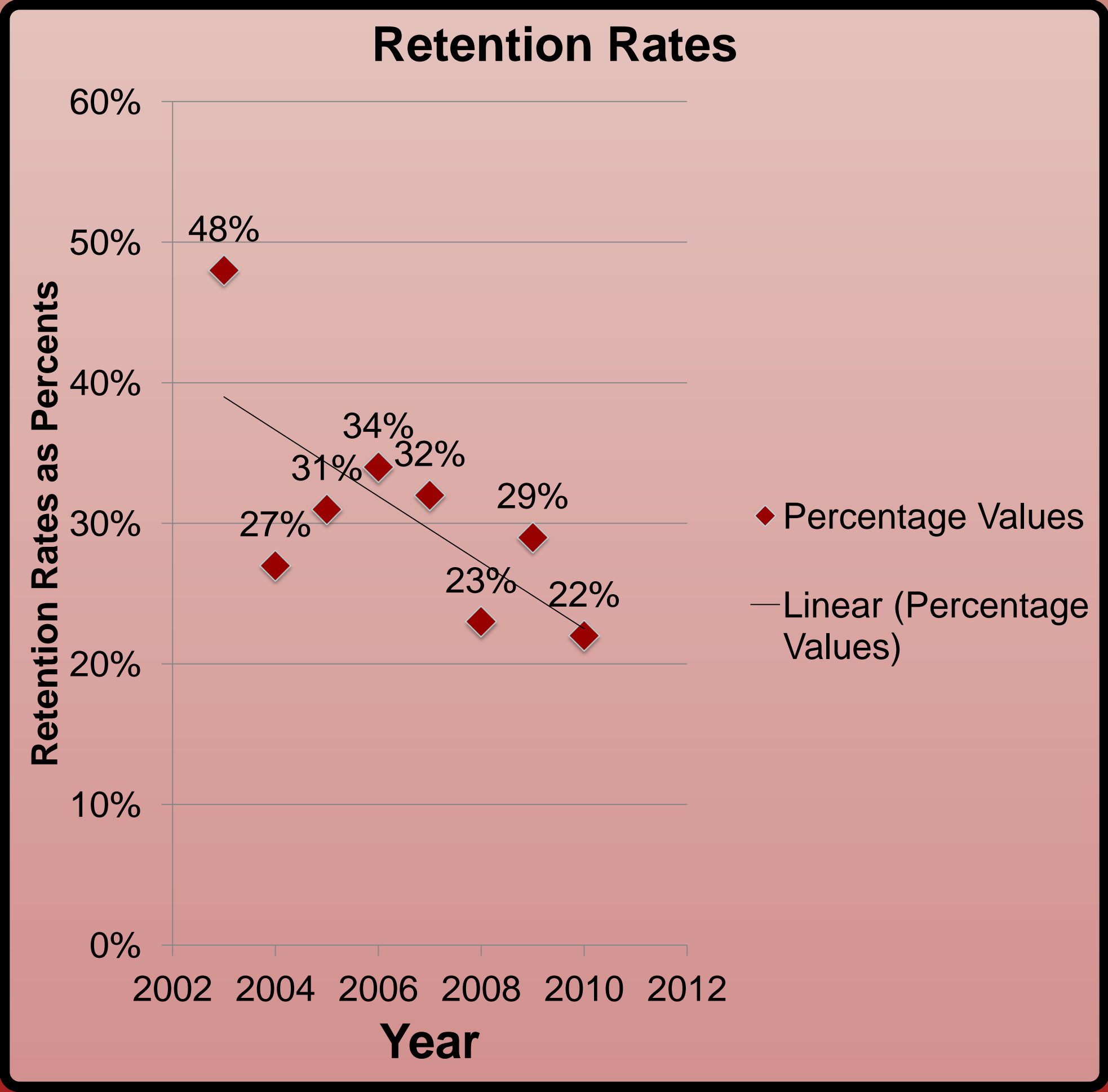
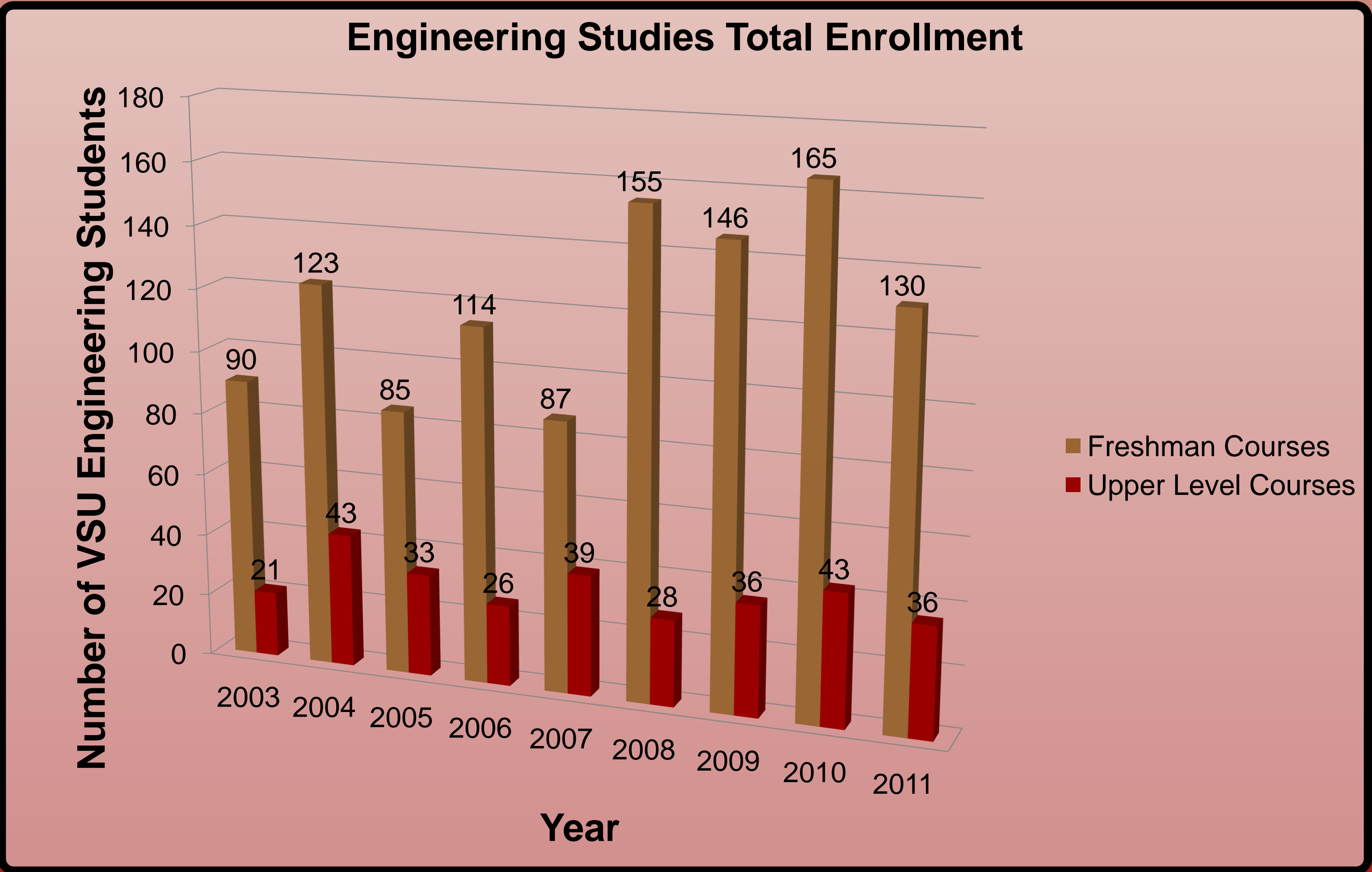


Project Abstract: This study examines the international aspects of the Engineering Studies program at Valdosta State University (VSU), including information on current challenges along with the opportunities associated with completing the program. The objectives of this project are to assess the program, analyze the growth of American and international student enrollment rates, evaluate and determine which groups of international students are choosing engineering as a career field, educate current students on international job opportunities and average salaries of each discipline within the United States, Germany, and South Korea. Collection of data research, surveys of current international VSU engineering students, and interviews of faculty members all showed conclusive results that the Engineering Studies program's enrollment rate at VSU continues to expand, thus proving this program could offer more courses with more faculty members to continue the enrollment expansion and retention rate.

Retention and Enrollment: The graphs below illustrate the increased enrollment in freshman and advanced level courses in all VSU engineering courses from 2003-2011, along with the regressing retention rates due largely to lack of course offerings and pre-requisite technicalities. In order to improve the Engineering program, more upper level courses should be offered during every semester, and an addition of faculty could make this possible.



Sources: <http://www.engineerssalary.org/>,
http://www.boeckler.de/pdf/p_ta_lohnspiegel_ingenieure_2008.pdf,
<http://www.averagesalarysurvey.com/article/average-salary-in-south-korea/12190513.aspx>



Source: Strategic Research and Analysis

Success at GT: The above top left chart shows the success that VSU students have while attending Georgia Tech. Out of the sixteen institutions qualified as a Regents Engineering Transfer Program (RETP) school, four universities have enrolled 100 or more students at Georgia Tech. VSU has the highest retention rate out of these schools, the fewest major changes and the lowest withdrawal rate, compared to these four institutions thus proving the math and engineering courses at VSU are adequately preparing students for the remainder of their academic career at Georgia Tech.

International Job Opportunities: Not only are international students interested in our program, students in our program are interested in going international. The above right graph shows the comparison of average salaries, in USD, of each field of engineering in the USA, Germany and South Korea. The cost of living is different in each country, consumer prices are 9.19% higher in Germany than in America, consumer prices are 16.05% lower in South Korea than in America.

Development of 3-D Models for Human Mandible and Dental Restorations Using CAD

**William M. Bartholomew, VSU Engineering Studies Program, PAGE Dept.,
Faculty Sponsor: Dr. Barry Hojjatie, PAGE Dept.**



PROJECT ABSTRACT: The purpose of this project is to develop a three-dimensional CAD model of a human mandible to be used in stress analysis using computer aided engineering. A composite model of an average size human mandible was employed and using a digital caliper, its various dimensions were measured and applied in the Inventor program to create the computer model. Initially, we did not include the mandibular teeth in the model and only constructed the bone that forms the lower jaw. However, after refining the model to a realistic shape and size, a simplified 3-D model of a single tooth will be assemble to it. Using the three-dimensional printer (prototype) located at the VSU engineering lab, we will create a solid model of the system and then it will be subjected to simulated biting forces to determine the magnitude and directions of the stresses developed within the mandible.

History

The process of dental engineering has a long history that has spanned since ancient history when Egyptian's would hammer seashells into the respective patients teeth. Over the years Many different materials were used in an attempt to replace lost teeth. These include donor teeth, gold, wood, platinum, etc... however all failed due to the body's natural immune system reactions.

Thankfully, in 1952, a Swedish doctor accidentally discovered that aluminum naturally fuses to human bone. Aluminum is now being used in several types of surgeries and reconstructions such as dental implants

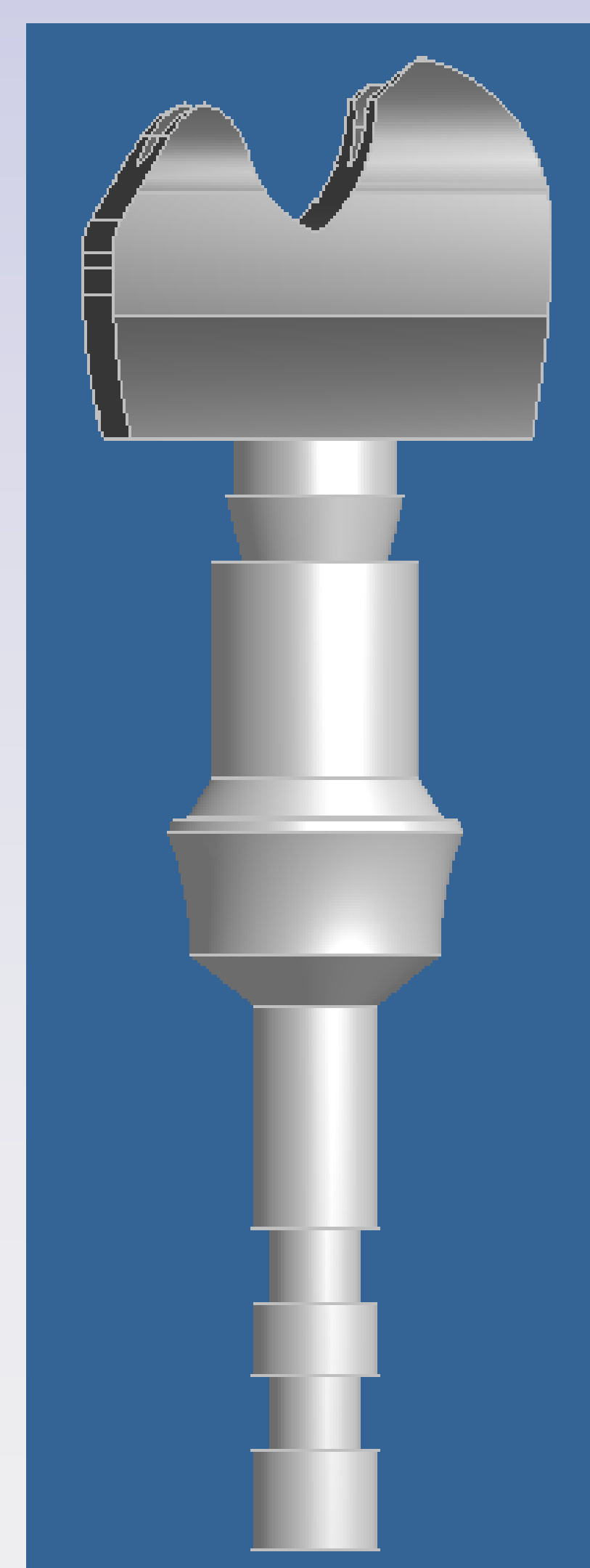


Figure 5

Fig 5 Left - Fully assembled view dental implant.

Fig 6 Right – disassembled view of same dental implant

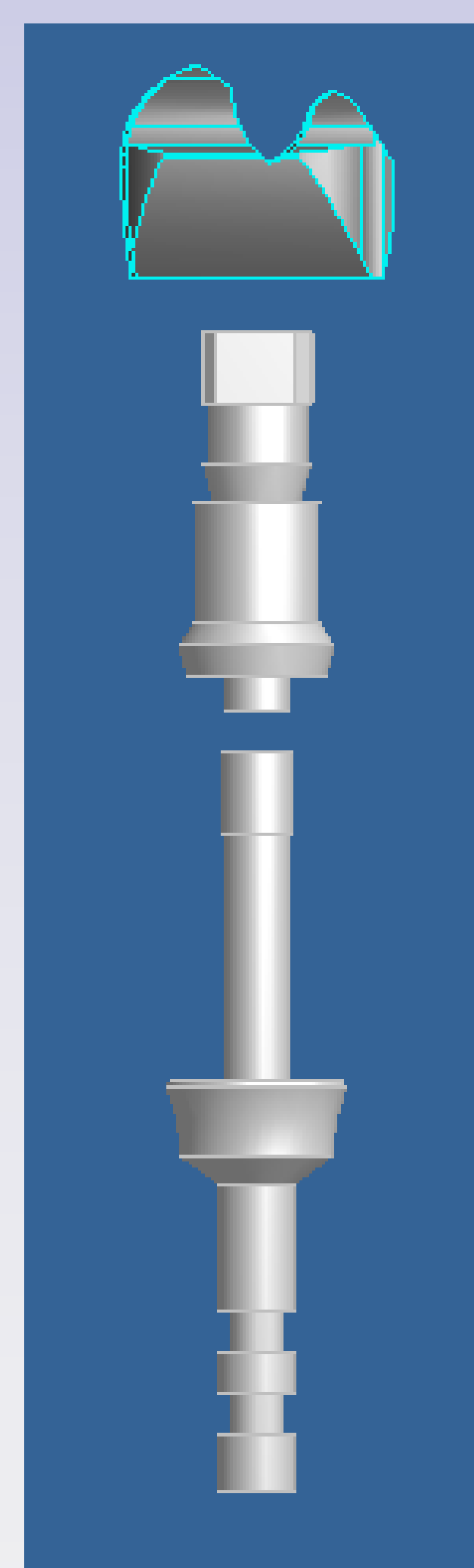


Figure 6

Methods and Results

This was accomplished by using the 'Autodesk Inventor' program . This program has been extremely useful in the recreation of each studied object. For each subject, a real version was originally used for measurements and concept sketches before implementation into the Inventor program . Each subject was successfully recreated using the Inventor program and has proven useful in the study of dentistry.

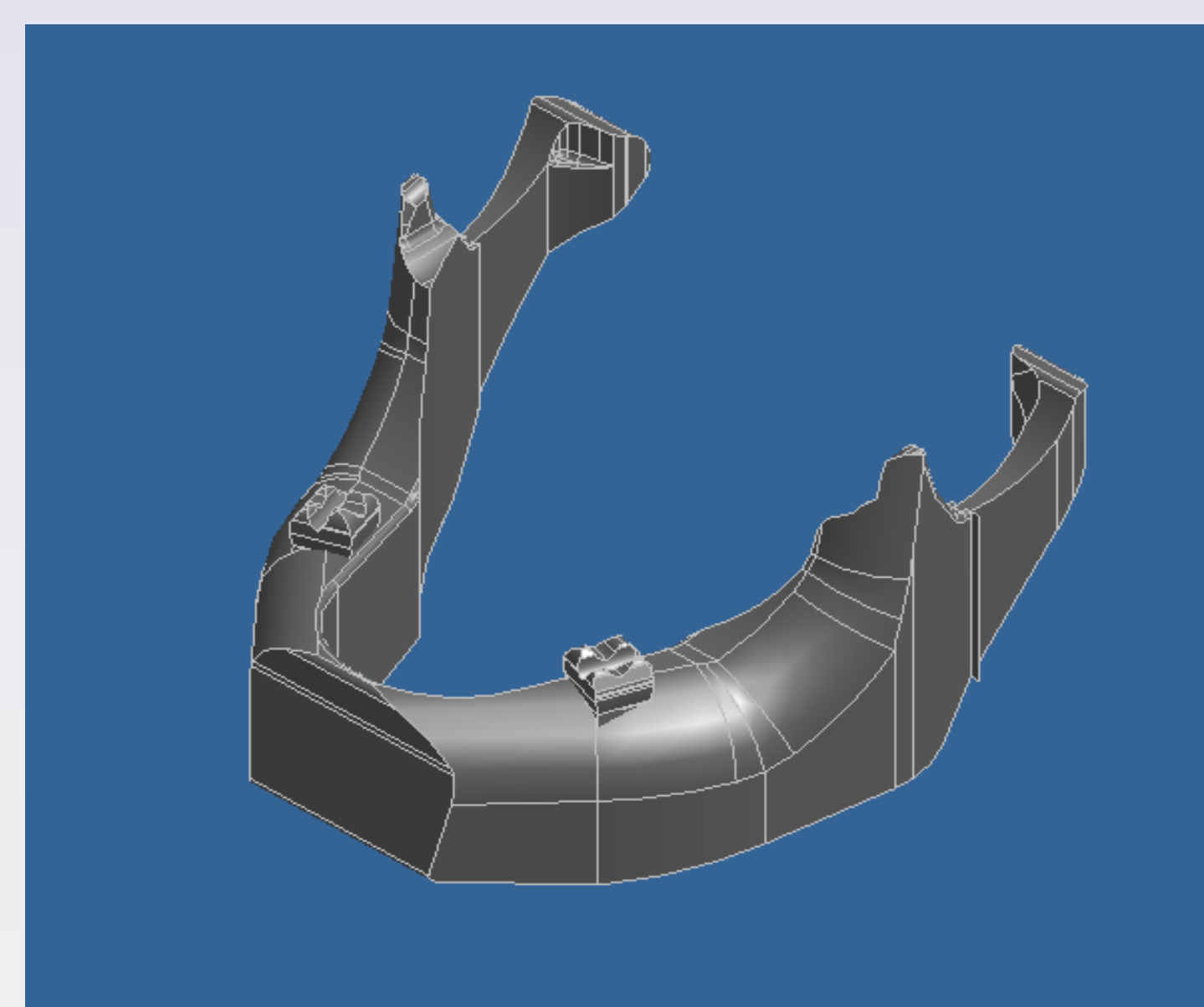


Fig 7 Left - Full model of lower jaw with 2 models of a molar tooth inserted in their respective position.

Fig 8 Right – Same jaw model as left in an orthographic view. Dimensions are accurate as shown



Fig 1 Left - Dental work found on a preserved mummy dating back to 2000 BCE. Two front donor teeth held with several strands of gold wire.



Fig 2 Right - Native American jaw dated over 2500 years ago with gems installed. This practice is considered to only increase the beauty of the subject and has no health benefits.

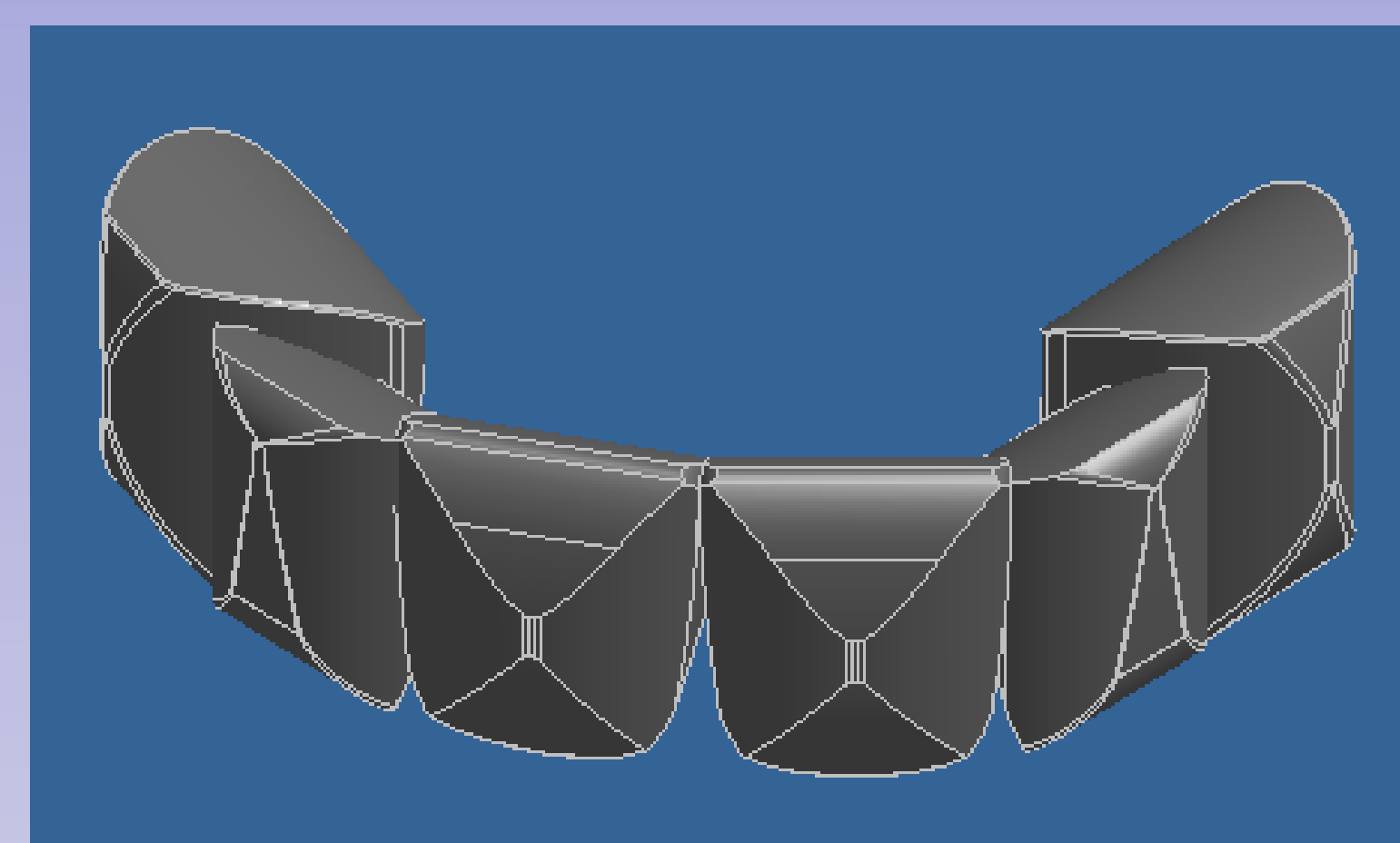


Figure 3

Fig 3 Left - Front/Top view of a Recreated dental bridge.

Fig 4 Right – Back/Low view of the recreated dental bridge.

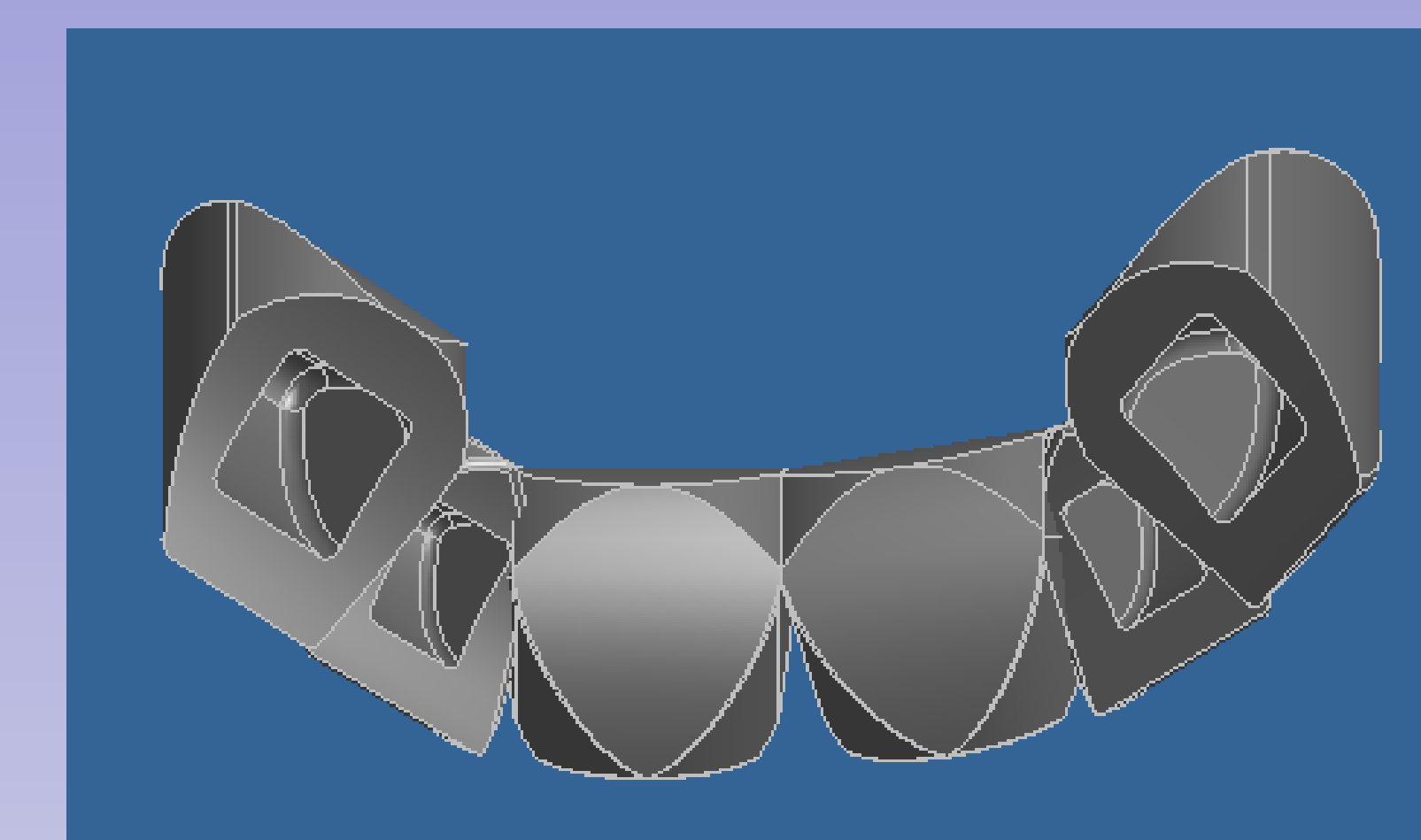
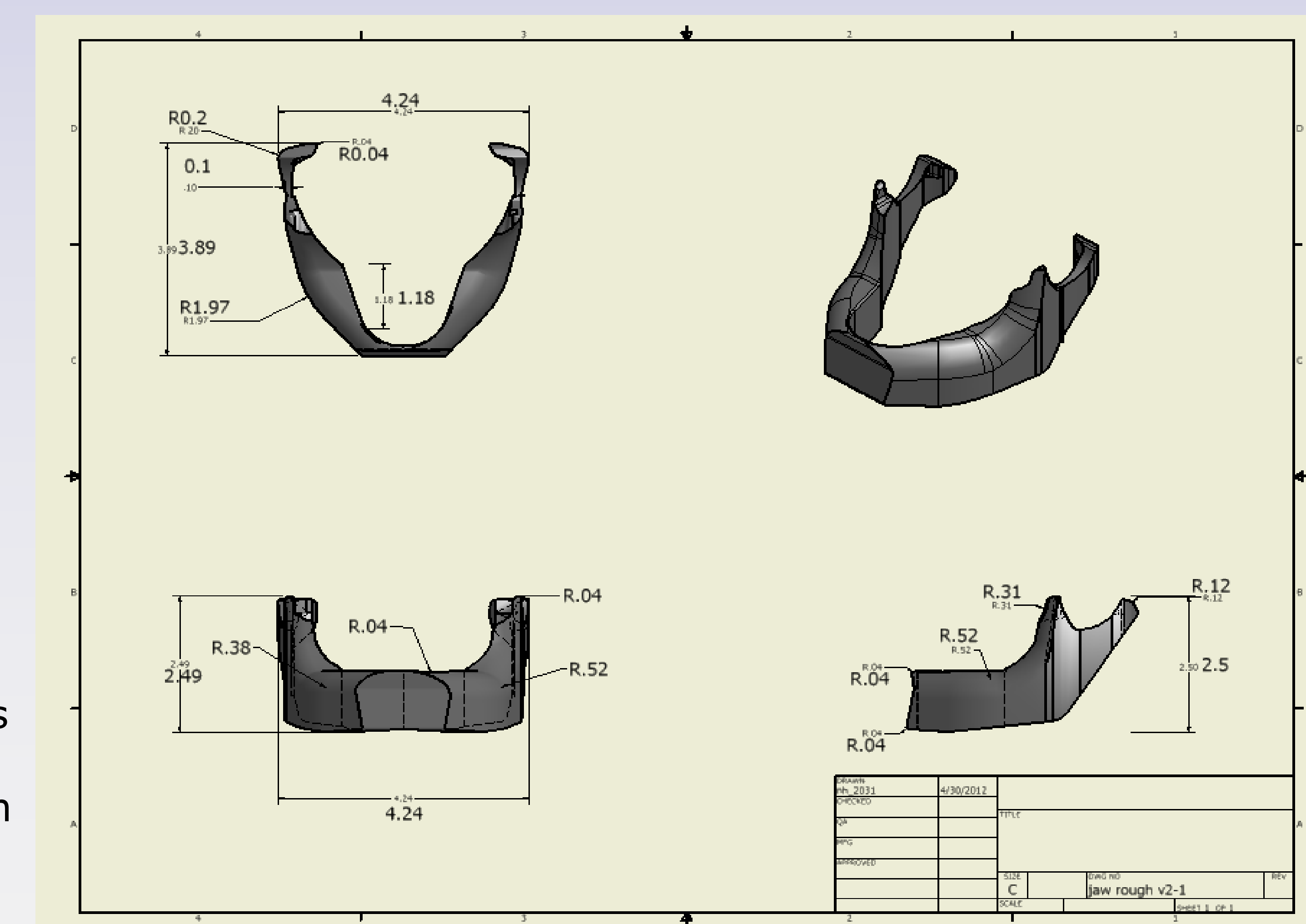


Figure 4

Conclusions

The Autodesk Inventor program was a resounding success in the recreation of all subject in question. The program not only allowed the reconstruction of each piece but also the option to join several subjects together (see figure 7), as well as the ability to use the 3D printer and integration of stress analysis programs.

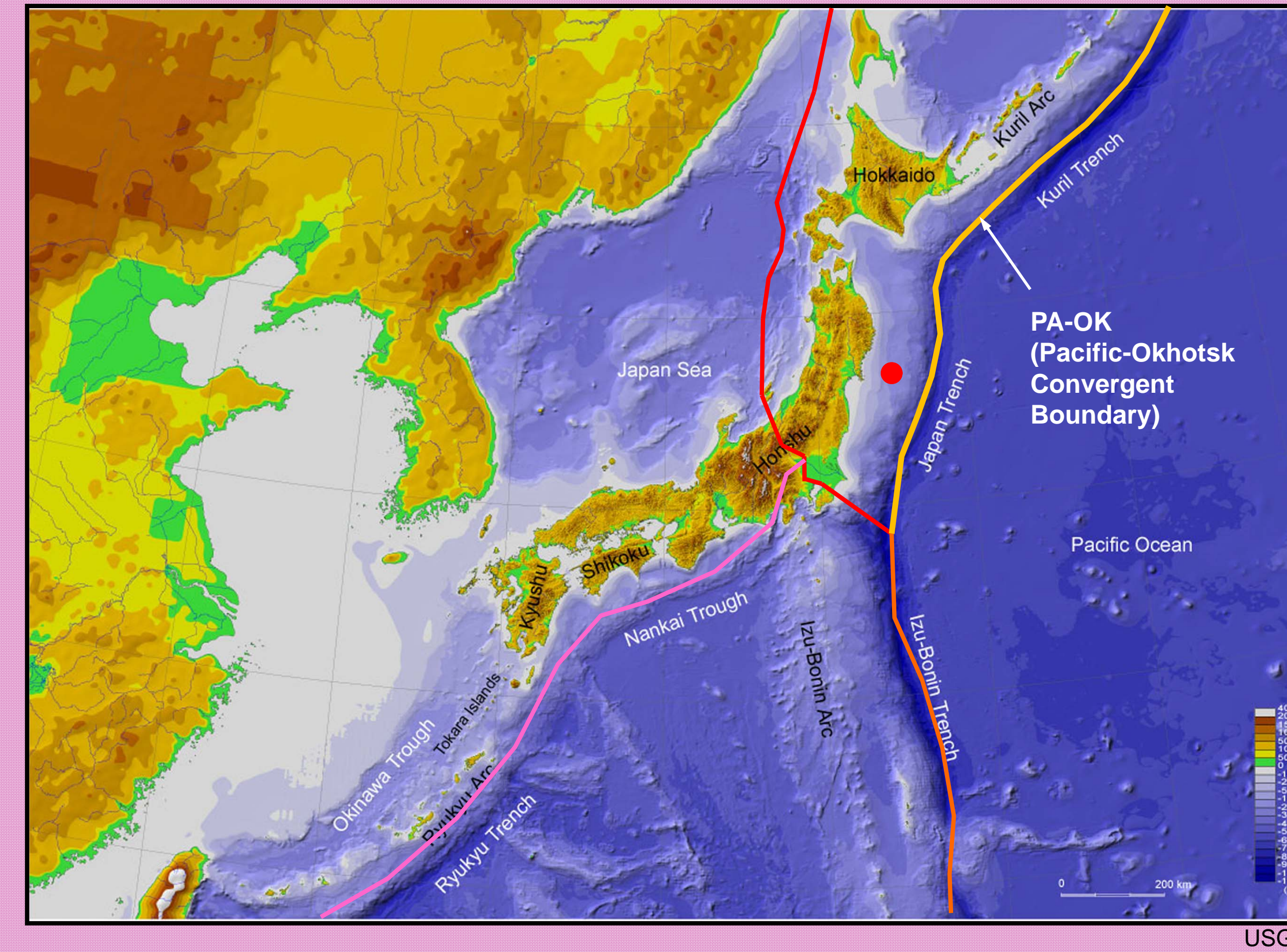


EARTHQUAKES IN AND NEAR JAPAN, MARCH-AUGUST, 2011

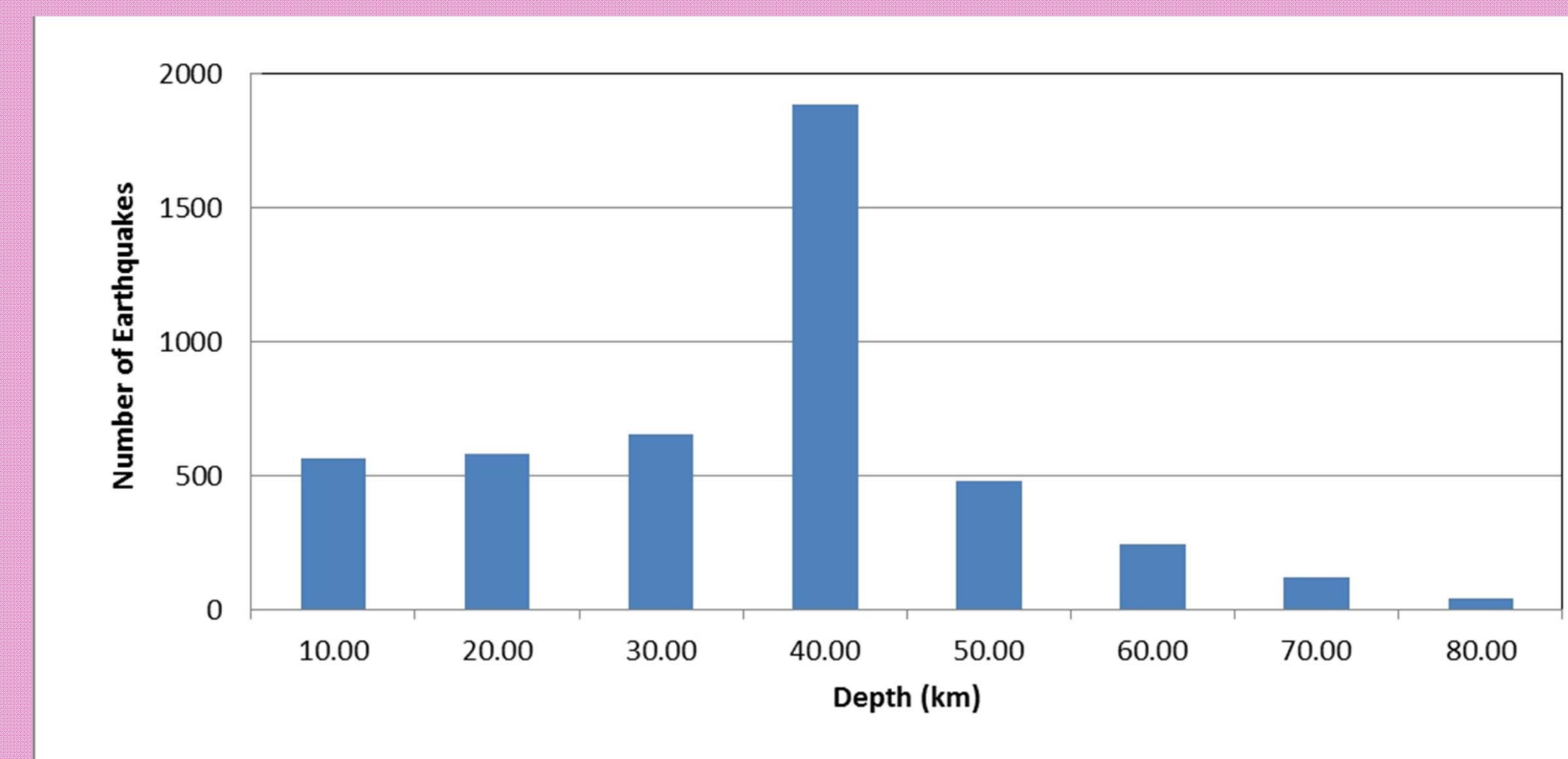
Whitney Rountree, Department of Physics, Astronomy, and Geosciences
Faculty Sponsor: Dr. Donald Thieme, Department of Physics, Astronomy, and Geosciences

Abstract

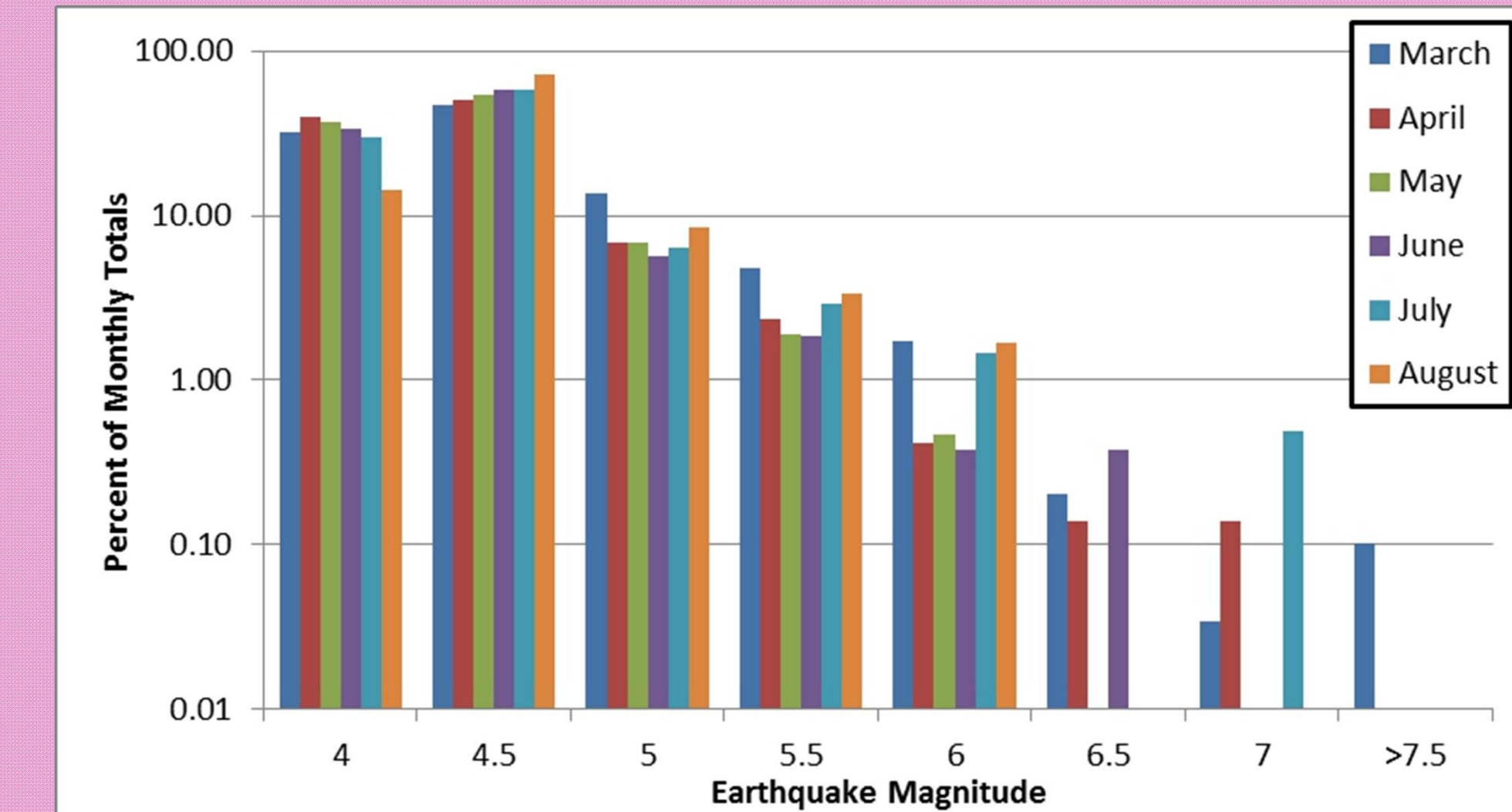
The great Tohoku earthquake of March 11, 2011 was the most powerful to be recorded by seismographs on Japan, with a 9.0 moment magnitude (Mw). We examine all earthquakes of greater than 4.0 Mw tabulated by the National Earthquake Information Center (NEIC) to identify "foreshock" and "aftershock" movements related to the March 11 event. Our results indicate abundant fault activity at crustal depths shallower than 30 km during March of 2011. Of the 4,662 earthquakes studied, 63.4 percent (2,954) occurred during March. Strong earthquakes greater than 4.0 Mw did continue to occur along this boundary through August, however, and crustal movements comparable to that which caused the great Tohoku event may recur in the future.



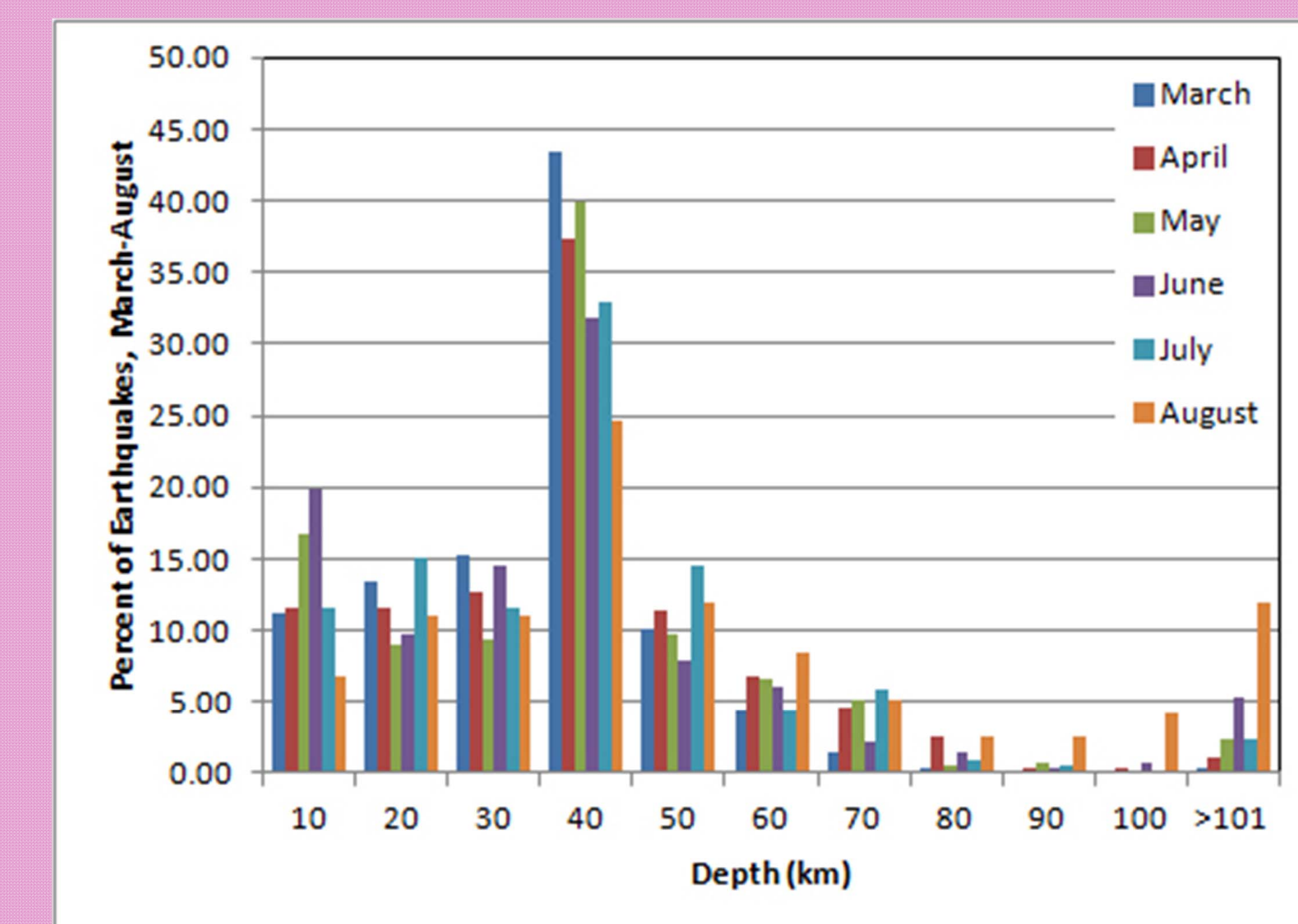
According to the U.S. Geological Survey (2012), the earthquake focus was located 130 km off the Pacific Coast of Honshu Island at a depth of 30 km. This is where the Pacific plate is being subducted along the Pacific-Okhotsk (PA-OK) convergent boundary.



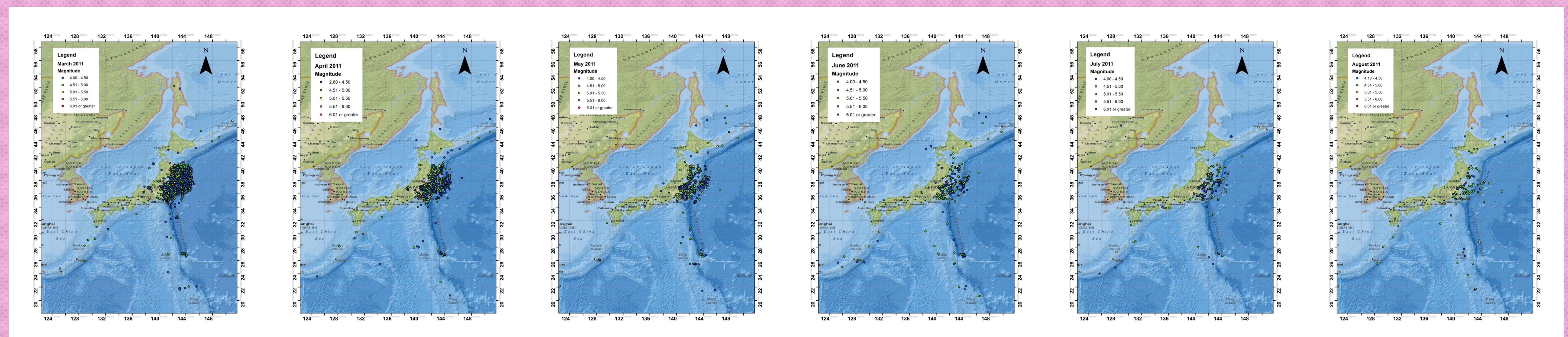
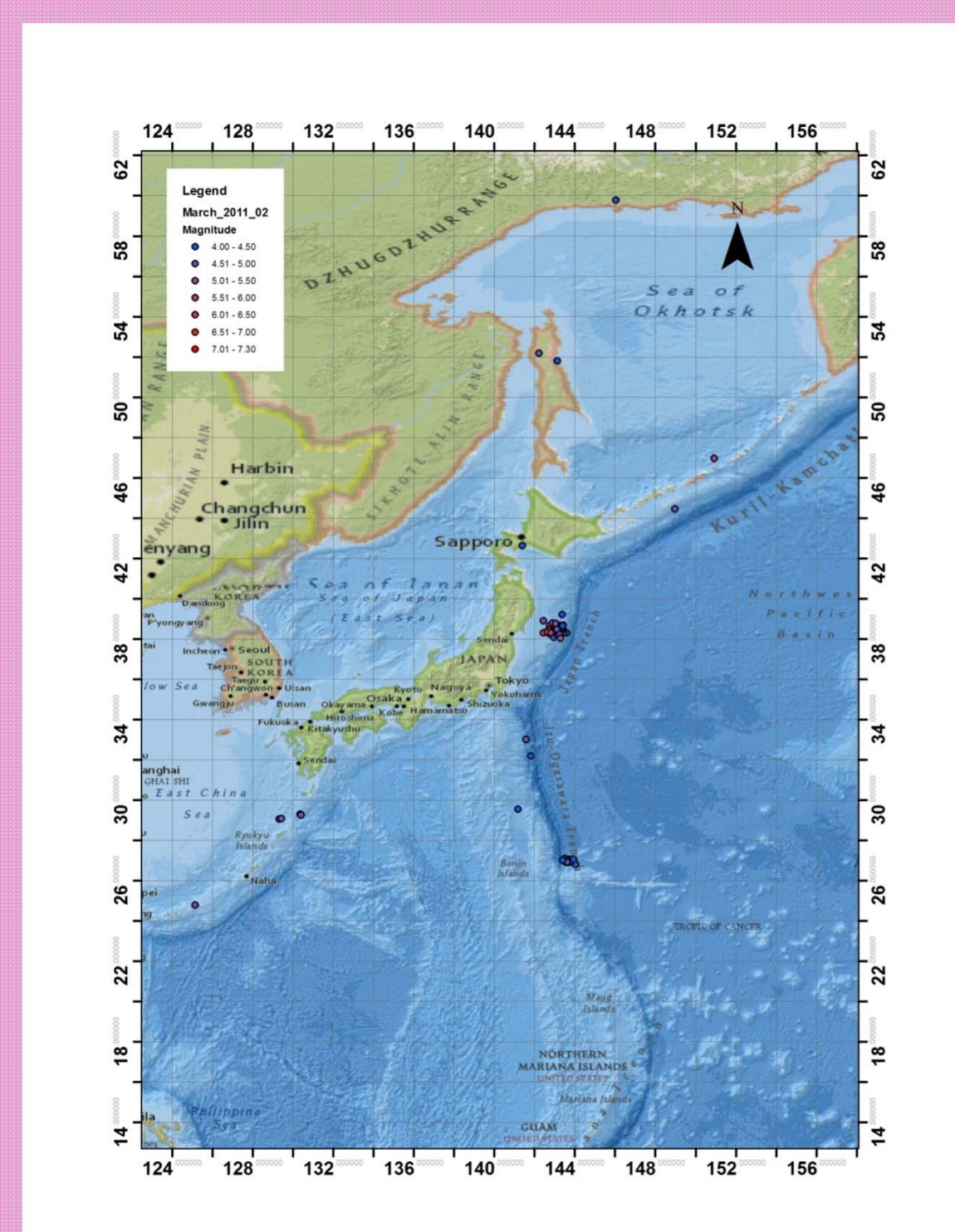
For all 4,662 earthquakes studied, the average depth was slightly greater than the focus estimated for the March 11th event. Depths are normally distributed around the mean for each month.



In addition to the main earthquake event, several aftershocks and foreshocks of greater than 6 Mw occurred during March. Large earthquakes continued to occur from April through August, with particularly large aftershocks of greater than 7 Mw on July 6th and July 10th.



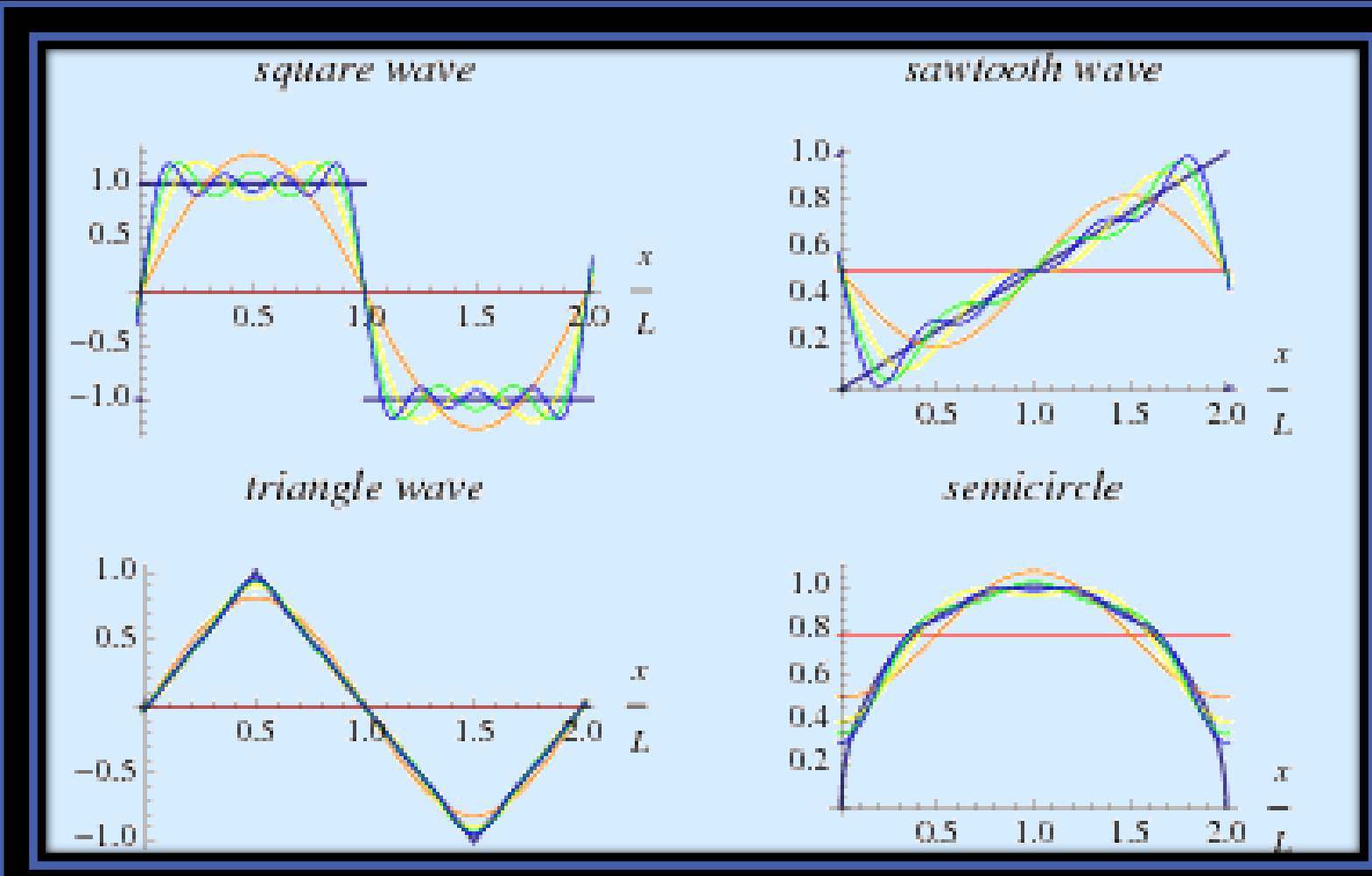
Depth distributions are relatively similar for March through July and the monthly means are close to the combined mean. Considerably deeper earthquakes occurred during August, when the mean depth was 63.7 km.



Foreshocks immediately preceding the March 11th event are tightly clustered along the PA-OK convergent boundary in the vicinity of the epicenter.

Earthquakes in and near Japan for each month from March through August, 2011 have been input into ArcGIS to generate the above computer maps of the earthquake locations. Strong motions along the PA-OK convergent boundary were evidently occurring through July and August of 2011. We are now analyzing the depth as well as magnitude and location of these earthquakes in relation to the boundary itself using ArcGIS.

Results



The Fourier Transform and Its Applications

Cordel A. Williams, Engineering Studies Program

Dr. Frank Flaherty, Faculty Sponsor

$$a(k) = \frac{1}{N} \sum_{x=0}^{N-1} f(x) \cdot \cos\left(k \cdot x \cdot \frac{2\pi}{N}\right)$$

$$b(k) = \frac{1}{N} \sum_{x=0}^{N-1} f(x) \cdot \sin\left(k \cdot x \cdot \frac{2\pi}{N}\right)$$

Abstract

The Fourier Transform has many applications in Engineering and Physics and can be used to analyze waveforms whether optical, electrical, or acoustical. In this experiment we employ Fourier analysis to obtain the frequency spectrum of a normally functioning machine. The machine was then deliberately altered so that the usefulness of Fourier analysis for diagnosing malfunctions can be investigated.

Objective

This study was conducted to attain a basic understanding of the Fourier Transform and the utility of Fourier analysis as a diagnostic tool to detect malfunctions in an electric motor.

Hypotheses

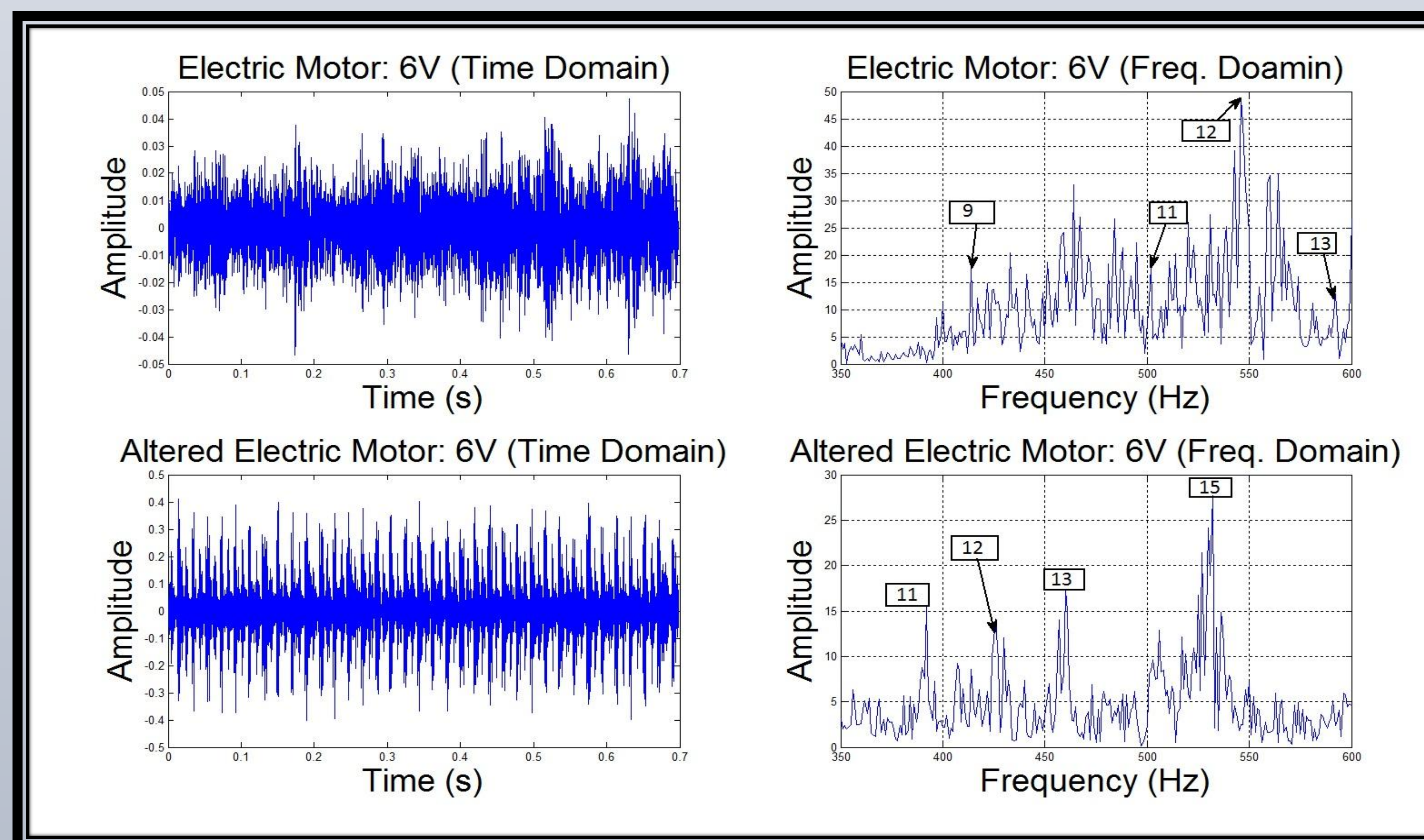
Fourier analysis provides information on the frequency components of signals. If audio data samples are taken from a normally functioning motor and graphed; mainly frequency noise will be seen, and the harmonic motion in its Fourier transform will not be distinct. However, if sound data samples were taken and graphed from a faulted motor; little noise will be seen and there will be a more distinct harmonic motion in its Fourier transform. Hence, allowing for Fourier Analysis to be used to determine the rotational speed of the motor, and as a diagnostic tool for detecting malfunctions in machinery.

Methods

- Connect a four coil electric motor to a power supply .
- Recorded the motors rotations per minute (RPM) as measured by a strobe light at four, six, and eight volts measured with a voltmeter
- Record the sound of the electric motor at four, six, and eight volts using a digital sound recorder.
- Alter the electric motor by soldering two coils together in the electric motor.
- After the electric motor is altered connect it to a power supply.
- Record the altered motors RPM as measured by a strobe light at four, six, and eight volts.
- Record the sound of the altered electric motor at four, six, and eight volts using a digital sound recorder.
- Use the computer language MATLAB to graph the un-altered and altered motor data in the time domain
- Use MATLAB to implement the Fourier Transform on the data to obtain the frequency spectrum of the un-altered and altered motor.

Results

Example: (at 6 V)



Discussion

The labels in the given example represent the peaks harmonic number. Meaning that each labeled peak is a multiple of the fundamental frequency. For instance in the altered motor's frequency spectrum you can take the frequency of any labeled peak and divide it by its harmonic number to retrieve the fundamental frequency of the electric motor . In the un-altered electric motor the fundamental frequency came out to be 45.5 RPS and in the altered motor the fundamental frequency came out to be 35.5 RPS both of which are nearly equivalent to the RPS measured with the stroboscope . In fact, the fundamental frequency retrieved from the graphs is a more accurate measurement of the motor's RPS, because the stroboscope was not calibrated. In addition, it seems as if the high frequency noise in the un-altered motor is spread out on a wider range while the harmonic motion of the frequency in the altered motor is more distinct, because the high frequency components are concentrated in the harmonics of the altered motor's graph.

Conclusion

The Fourier Transform is a very useful tool for remotely measuring the rotational speed of a motor, and a diagnostic tool used to detect malfunctions in the electric motor. Analysis using the Fourier Transform produces frequency information providing a distinct difference between the altered and un- altered electric motor. The Fourier Transform can remotely detect faults while the machine is operating; thus it can provide a warning for preventing damage.

Acknowledgement

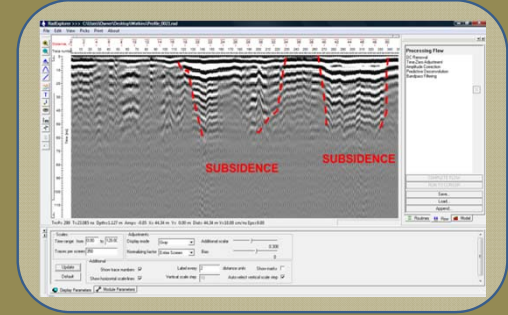
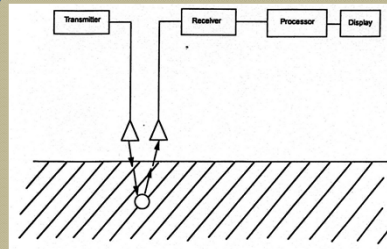
This research was made possible by Dr. Frank Flaherty and the Department of Physics, Astronomy, Geosciences & Engineering Studies

Ground-Penetrating Radar Investigation of Subsidence in Covered Karst near Valdosta

Benjamin Davis, Department of Physics, Astronomy, and Geosciences
Faculty Sponsor: Donald M. Thieme

Abstract

We employed Ground-Penetrating Radar (GPR) to investigate a house lot in a rural area West of Valdosta at which subsidence had occurred. Subsurface anomalies were identified in a 29 x 51 m grid which abutted the house. Two other areas on the same property were also investigated to identify locations which had fewer subsurface anomalies and might be less prone to subsidence than the current house site. The land surface on the property is variably mantled by indurated sand at the top of the Hawthorne Group in the local geology. Soil auger samples taken from within the grid correspond to differences in radar wave velocity along specific profiles. The entire grid of 29 profiles was combined to prepare "Time Slice" maps, which can then be imaged in a single 3D block diagram. Time-Slice GPR analysis shows promise for estimating the likelihood of subsidence in the Valdosta area.



Ground-Penetrating Radar (GPR)

GPR is an active geophysical technique using the radio frequency portion of Electromagnetic spectrum at wavelengths from 0.3 to 3000m. In the present study we used a MALÅ 100 MHz GPR System. Changes in sediment type or degree of compaction are recorded when the radar wave is reflected back to the antenna. Areas of subsidence such as sinkholes in karst regions can be identified. GPR results for the Watkins property provide strong evidence for the subsidence which already affected the house site.

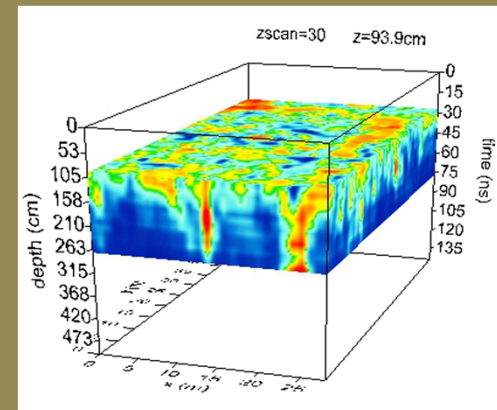
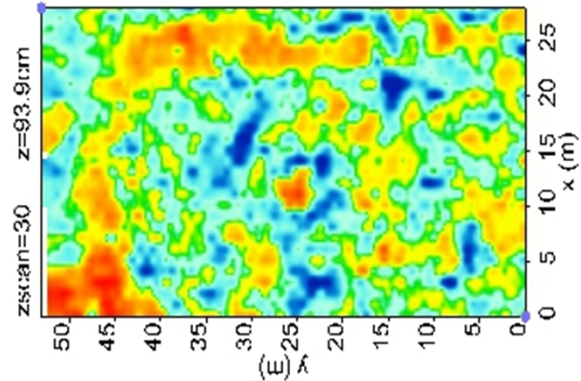
GPR Software

GPR profiles were collected in the field using RAMAC Groundvision GPR Measurement software in order to make 2D images. We used GPR-Slice software to turn our 2D images into 3D models to generate a visible degree of depth of subsidence on the Watkins property.



Watkins site

The area north of the house site (WAT) is the location of the 29 x 51 m grid where this investigation identified subsidence related to the structural damage to the house itself. Two areas to the south and west of the original house were investigated as locations which the owner was interested in moving his house to.



Conclusion

In conclusion, we ran two field investigations where we identified multiple subsurface anomalies trending beneath and around the foundation of the house using Ground-Penetrating Radar (GPR). Following our fieldwork we determined that the two new lots that were scanned using GPR were resting on top of indurated sand and clay of the Hawthorne Group which is more stable.

Urban Sprawl in Madison, Wisconsin and Dane County

Jay Sharpe, Department of Physics, Astronomy, Geosciences & Engineering Studies

Faculty Sponsor: Dr. Jia Lu, Department of Physics, Astronomy, Geosciences & Engineering Studies

ABSTRACT

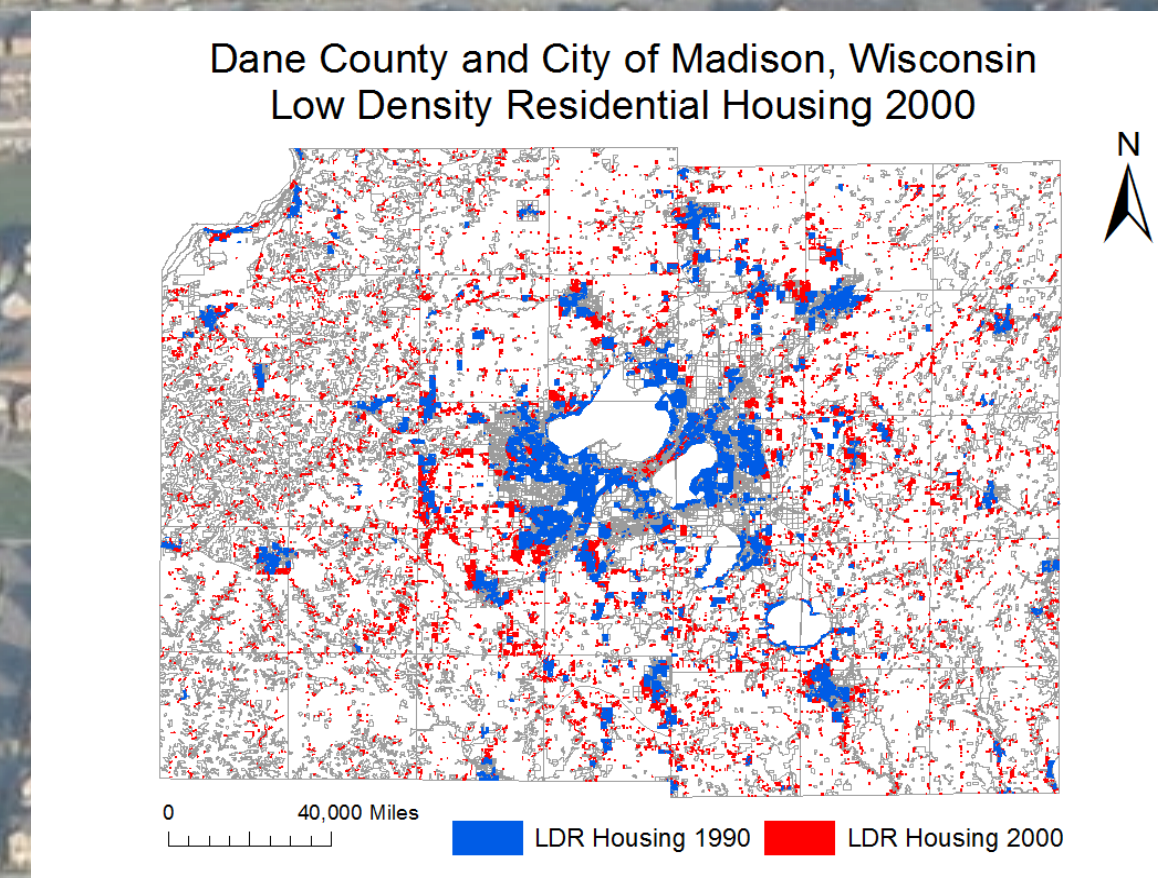
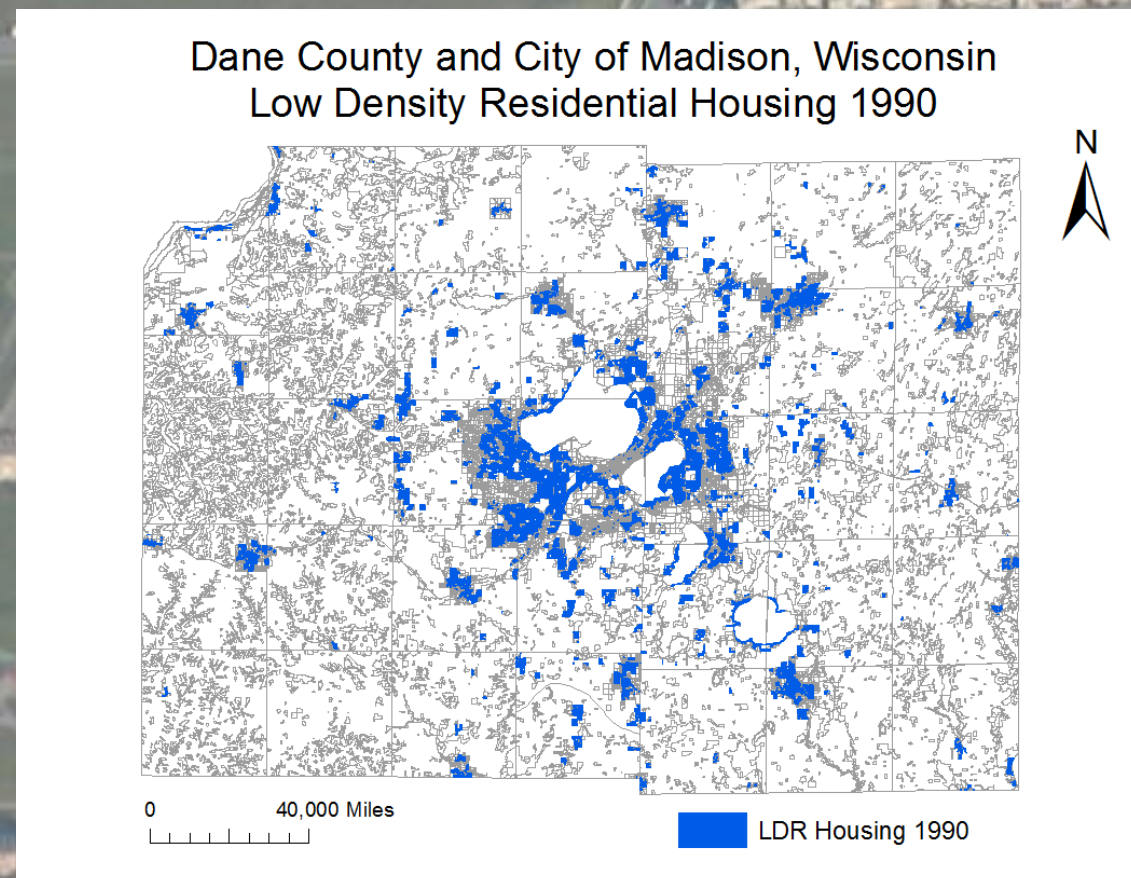
Studies show that urban sprawl can cause significant negative consequences. Many cities in the US introduce policies and plans to help alleviate sprawl and contribute to smarter land use and urban growth. The City of Madison, Wisconsin has been considered an area of smart growth. This study will look at population and land use data between 1990 and 2000 to determine if there is significant issue with urban sprawl; and if so, what policies shall be suggested for smart growth in the future. Preliminary data indicates that there is, indeed, urban sprawl within the area. A more in depth study using interviews and survey of the urban development plans and policies implemented will determine which factors are contributing to the sprawl and suggest related policies to minimized urban sprawl.

INTRODUCTION

- Urban sprawl, product of mismanaged or unrestrained population growth, is a problem plaguing many U.S. cities
- Low density residential (LDR) zones are generally defined as residence consisting of only one family with lots of open space.
- LDR zones are considered one of the most recognizable characteristics for determining sprawl surrounding a city.

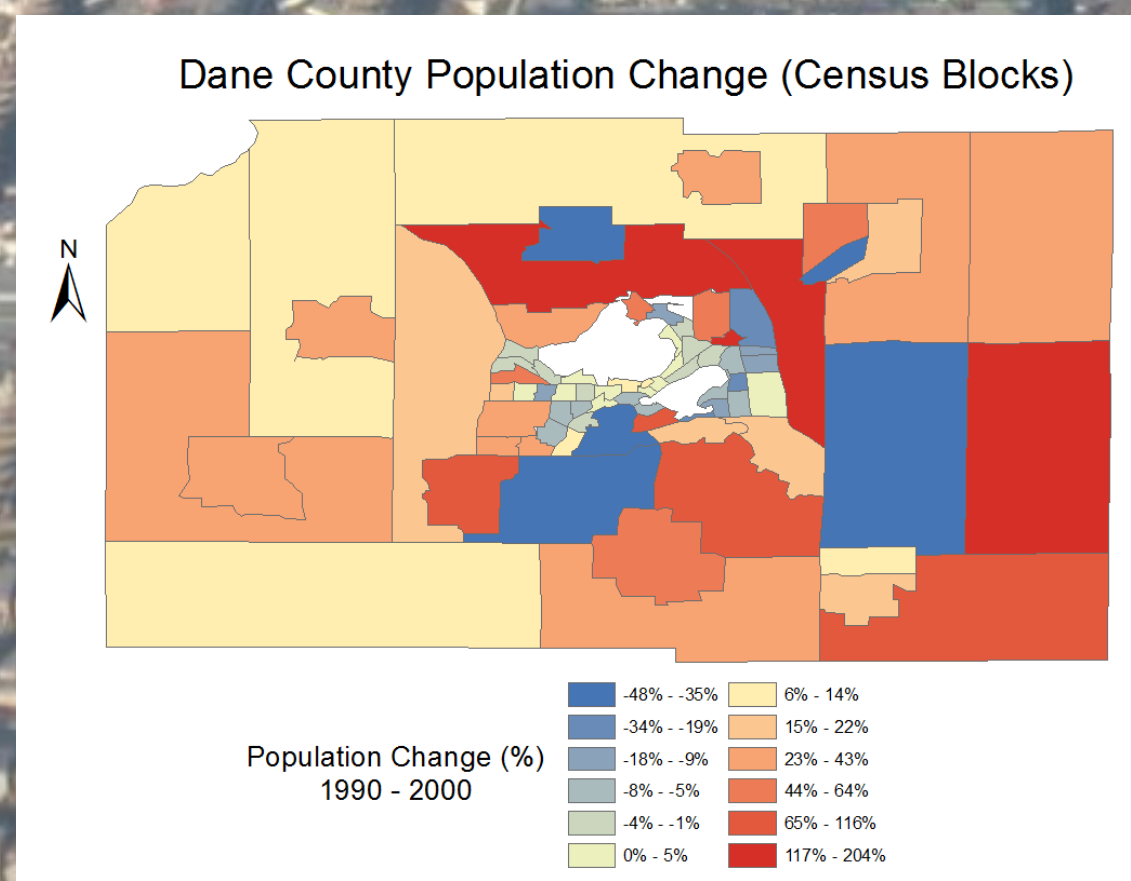
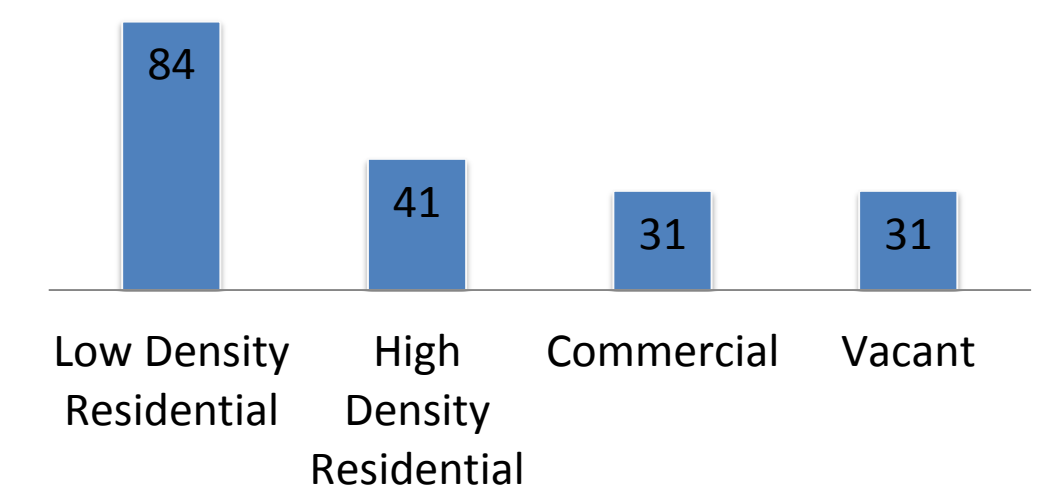
METHODOLOGY

- Comparison of 1990 and 2000 GIS Land-use Data
- Analysis of 1990 and 2000 Census Populations
- Interviews and survey of county and city planners
- Study of current land-use policies in place



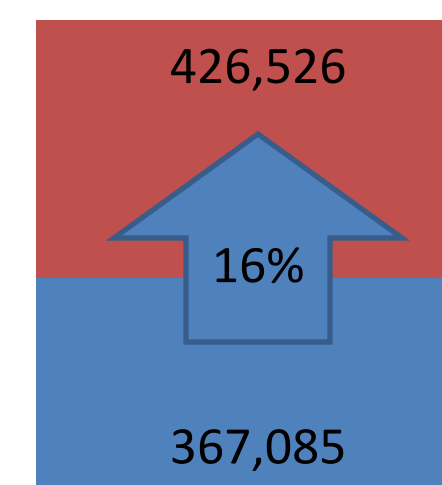
County Land-use Change 1990 - 2000

■ Increase in Land-use (percent)



County Population Change

■ 1990 ■ 2000



Population (Total)

PRELIMINARY RESULTS AND CONCLUSION

- Both city and the surrounding county have experienced urban sprawl between 1990 and 2000
- Population growth increased 16%
- Growth of low density residential housing increased over 80% compared to other land-use growth
- Interviews and survey with both city and county planners indicate attempts to stem urban sprawl
- Policies in place appear to have been either poorly implemented, inefficient or simply ineffective
- The policies should be reassessed to find more viable methods for dealing with urban sprawl

SAMPLE SURVEY QUESTIONS

What key aspects are the focus of the policies implemented in the past decade that you think contributed to the urban development and growth in the area?

- It has been a goal to disperse growth among the various communities in the region, so that Madison does not get the lion's share.* – Rachel Holloway, Regional Planning Commission

Do you feel that these key aspects meet the requirements for good land use, sustainable living, and urban planning?

- Yes, although they could be strengthened/improved to require more infill development.* – Michael Kakuska, Senior Environmental Planner

Since the inception of these policies, do you find that any specific aspect(s) have not met with the desired results?

- The institutional and political aspects of an authentic collaborative consensus-building were not pursued adequately from the start of the creation of regional planning in the region. These are just now being attempted, perhaps too late.* – Kamran Mesbah, Director of Environmental Resources Planning

Abstract & Purpose

The political history of Indonesia is a fascinating one and so is its constitutional system. This poster is an effort to present information that addresses concerns touching upon the political, constitutional, and human rights of the people of Indonesia. Using resources from various sources I assess these conditions focusing on the government which has been central in the manipulation of many Indonesian lives since the nation's independence in 1945 to the present time. The political aspect shows impunity in leadership and the constitutional assessment shows a systematic breakdown of order in the guarantee of the basic rights to its citizens. Civil and human rights records are used as evidence of government transgression and misuse of power. Lastly, my findings demonstrate how corruption and exploitation under the current leadership is manifested.

Introduction & Overview of the Report

The Republic of Indonesia is approximately three times the size of Texas with a population of 237 million people. The country is very diverse with over 583 languages and though it has no official religion, 86.1% of Indonesians are Islamic. Considering the diversity and the majority of population being Islamic, the minority of citizens are constantly abused by the affluent. Indonesian citizens' rights are being violated with little repercussions by authorities due to the fact of their participation in this act as well.

This report examines the History, Constitution, and the Compliance Behavior of the Government of Indonesia. Specifically, I am interested in determining the extent to which citizens enjoy basic rights.

History

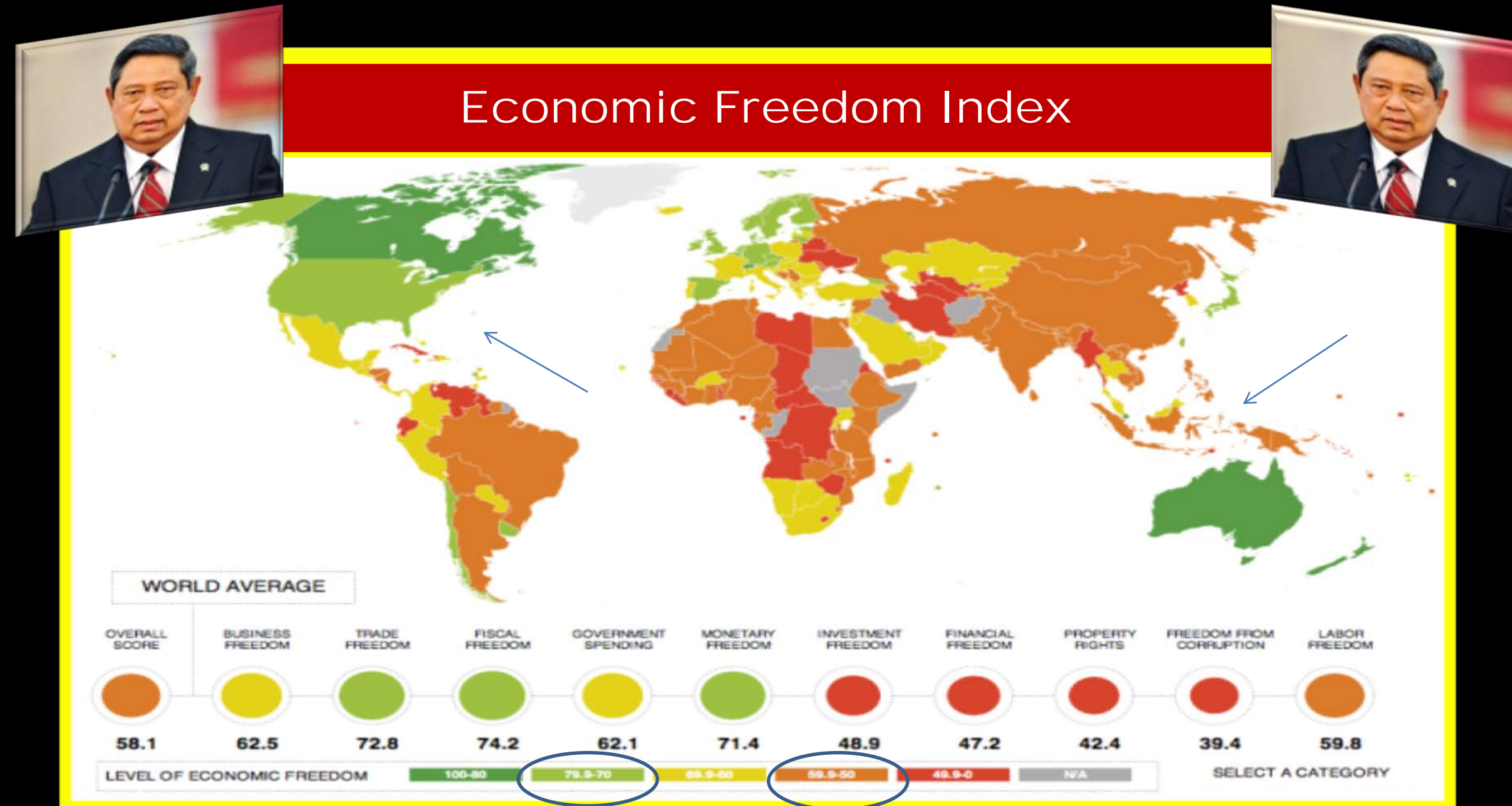
The history of leadership in Indonesia exhibits impunity and constitutional governance. In order from past to present the Presidents are Soekarno (1945 to 1967), Suharto (1967 to 1998), B.J. Habibie (1998 to 1999), next Abdurrahman Wahid (1999 to 2001), Megawati Sukarnoputri (2001 to 2004) and lastly, Susilo Bambang Yudhoyono (2004 to Present). These leaders represent all sorts of relationships with the people of Indonesia. The Republic of Indonesia gained its independence in 1945 from the Dutch. While Indonesia has improved over the years there has been a lot of corruption involving government officials as well. During the Soekarno's ruling six generals were kidnapped and killed by government participants for resisting one of his campaigns. While B.J. Habibie reestablished the International Monetary Fund and released prominent prisoners several citizens were murdered by military forces for favoring an independent nation over maintaining the integration of Indonesia. Under the rule of President Yudhoyono, the current president, corruption still persists. Overall, Indonesia's economic liberty does not bode well.

References

www.loc.gov/law/help/guide/nations/indonesia.php www.state.gov
www.hrw.org www.amnesty.org www.freedomhouse.org

Indonesia

Charita Gates
College of Business
Faculty Sponsor: Dr. Marc G. Pufong,
Dept. of Political Science



Economic Freedom Index

Human Rights Report

U.S. State Department

682 officers were charged criminally and 5437 received disciplinary infractions
Police have beat and killed journalists reporting on police brutality

Freedom House

Security forces go unpunished for violation of human rights
Stoning for adultery and public lashing for homosexual acts
Discrimination in workforce

The four sources researched all acknowledge the corruption in Indonesia. They demonstrate the injustice committed by government officials and their violation of human rights.

Amnesty International

Police reportedly use torture and other ill-treatment, leading to unlawful killings
114 people arrested for peaceful assembly

Human Rights Watch

Some minority groups are banned from meeting
Uses the Defamation law to silence individuals

Branch of Powers

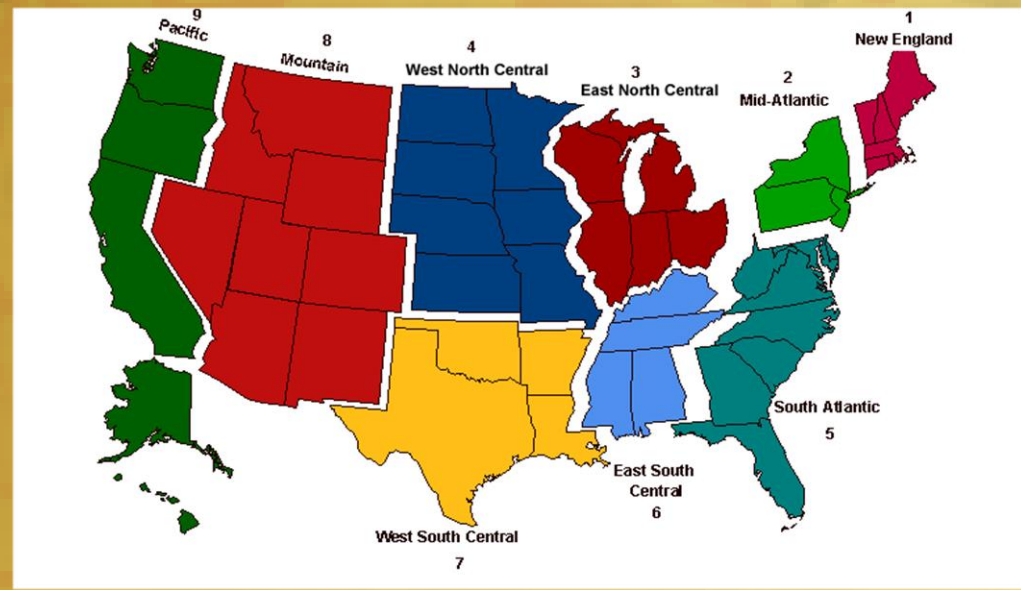
Indonesia consists of three branches of government. The executive branch which contains both the President and Vice-President, who are elected as a pair by the citizens. The legislative branch is known as the People's Consultative Assembly. They have the authority to establish laws and investigate situations that come about. These members are elected from every province through a general election. Last the Judicial branch, the Supreme Court, has the authority to hear trials at the highest level and to review incidents made under any law that challenges the law. There are nine constitutional court judges. Three of these judges are nominated by the Supreme Court, three by the House of Representatives (part of legislative branch), and three by the President. All judges serve a term of five years and can be re-elected another year term. Judges are answerable to the executive and legislative branch.

Human Rights

The Constitution guarantees rights such as life, equal opportunities, religion, protection, speech, freedom to assemble and associate, freedom from torture and discrimination but the question remains does citizens enjoy such rights.

Conclusion

Indonesia's government has improved since 1945 but corruption still remains. This issue will persist until fraudulent officials are removed. Citizens should get more involved and follow government politicians in order to select the best candidates that will represent their rights and are not easily swayed towards corruption.



FY 2010 Federal Spending Across The 50 States

By: Katie Wagon, Department of Political Science and Honors College

Faculty Sponsors: Drs. James LaPlant and Ofelia Nikolova



Abstract:

This quantitative study investigates total federal spending per capita and the various major categories of federal spending across the American states for FY 2010. The demographic, socio-economic, and political predictors of per capita federal spending across the states are explored through multivariate regression analysis. The key independent variables in this study are population density, poverty rate, percentage 65 and older, bureaucrats per capita, tax capacity, the seniority of a state’s US House and Senate delegations, and the percentage of the vote for Obama. Total federal spending per capita and the major categories of federal spending for FY2010 across the 50 states serve as the dependent variables in this analysis. The multivariate regression analysis revealed bureaucrats per capita, population density, percentage of individuals 65 and older, House seniority, and percentage of votes for Obama were statistically significant. Furthermore, this study utilized ANOVA to test if region has played a declining role in the distribution of federal spending. The data analysis revealed region is explaining less of the variance in federal spending, and the disparity across regional divisions has been steadily declining since 1975.

Research Questions:

How does region influence the allocation of federal dollars across the 50 states?

What political and socio-economic factors influence the allocation of federal dollars across the 50 states?

Literature Review:

- Federalism began in the late 1700s and has transformed into different waves since then. Most recent waves of federalism were Empathetic and Pragmatic.
- In regards to region, Thomas Anton (1983) illustrated the Western and Southern states do somewhat better than the Northeastern, and to a lesser degree the North Central states. Also he emphasized the importance of analyzing federal spending over a longer time span, in order for trends to become more prevalent.
- David Morgan and James LaPlant (1996) revealed the higher the percentage of employees for all levels of government within a state, the greater likelihood that a state would receive a larger share of per capita federal funds.
- In their research Michael Moore and John Hibbing (1996) explained how for every additional year of tenure for a member of Congress it led to a small increase in the amount of funds allocated to the district they are from.
- According to Dennis Cauchon (2010) the elderly population in the US influences Medicare spending. Nearly \$468 billion went to Medicare in fiscal year 2010.

Hypotheses:

- H1- States with a high percentage of the population 65 and over should receive more federal aid, especially payments to individuals.
- H2- States with a high population density will presumably receive more federal aid with spending targeted to urban areas.
- H3- States with a high percentage of poverty should receive more federal aid.
- H4- The number of per capita bureaucrats should have a strong and positive impact on federal outlays across the states.
- H5- When the governor’s party affiliation is the same as the President, those particular states should receive more federal aid.
- H6- States with a high percentage of votes for Obama should receive more federal aid during Obama’s time in office.
- H7- States with more years of Congressional seniority should receive more federal aid.
- H8- States with higher tax capacity levels should receive more federal aid.

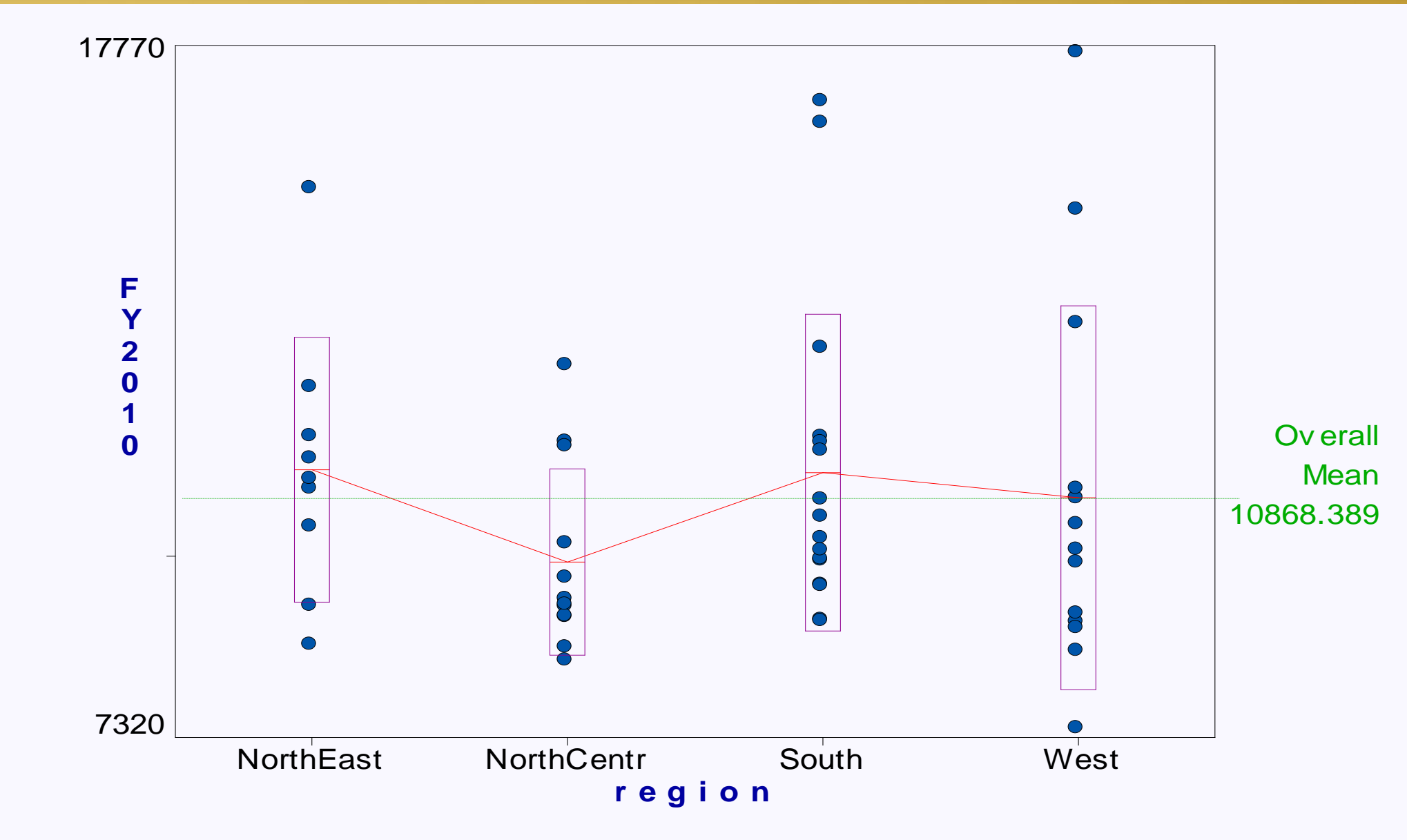
Findings:

Table 2					
Predicting Per Capita Federal Expenditures (FY 2010)					
Independent Variable	Total Outlays	Salaries and Wages	Payments to Individuals	Procurement	Total Grants
% Poverty (2009)	-49.616	-30.458	11.880	-18.819	-16.691
% age 65 and older (2009)	35.270	-152.663	365.686**	-233.777	41.596
Population Density (2009)	2.011	-.312	1.285*	.829	.159
Tax Capacity (2005)	-1531.848	-938.969	290.625	-629.901	-242.028
Bureaucrats/1,000 pop. (2009)	140.715**	56.979**	-.703	45.030**	43.408**
Governor Affiliation (2009)	-422.670	-329.239	-56.778	51.828	-135.310
% Obama (2008)	53.953	38.261*	-24.552	29.881	10.861
111 th Senate Seniority	27.396	-.080	19.466	-.982	6.778
111 th House Seniority	98.882*	51.230*	4.841	19.624	36.749*
Adj. R ²	.368	.401	.452	.125	.402
F	4.172**	4.651**	5.497**	1.775	4.664**

Note: each cell entry is the unstandardized regression coefficient.
N=50
*p <.05.
**p <.01.

ANOVA:

Figure 2: Region and Federal Spending 2010



Conclusion:

- The regional analysis revealed that over the last 35 years the gap for per capita outlays for net domestic spending among the different regions has been slowly but steadily closing.
- Western states are receiving less federal dollars than they did in the past compared to the national average.
- North Eastern states are receiving more federal dollars than they did in the past compared to the national average.
- Region is explaining less of the variance in federal spending: 1990- 12% 2002- 2% 2010- 5%
- Most statistically significant independent variables: Number of bureaucrats per 1,000 population, House of Representative's seniority, Individuals 65 and older

Table 1

Division and Region Ranking in Per Capita Outlays for Net Domestic Spending as a Percentage of National Per Capita Outlays:
1975, 1981, 1982, 1990, 2002, 2010

Rank	1975		1982		1990		2002		2010	
1.	Pac.	146.16%	Pac.	123.69%	Pac.	112.72%	Pac.	117.34%	Pac.	117.39%
2.	Mt.	124.75	Mt.	108.18	Mt.	108.73	W.N. Cent.	111.30	N. Eng	112.96
3.	S. Atl.	106.29	S. Atl.	107.02	W.N. Cent.	105.14	E.S. Cent.	110.66	S. Atl	111.54
4.	W.N. Cent.	101.50	E.S. Cent.	101.31	S. Atl.	104.66	S. Atl.	109.21	E.S. Cent.	111.03
5.	E.S. Cent.	100.88	N. Eng.	96.71	E.S. Cent.	101.69	N. Eng.	104.57	W.N. Cent.	100.06
6.	W.S. Cent.	96.05	M. Atl.	95.50	M. Atl.	98.84	Mt.	101.74	M. Atl	99.23
7.	N. Eng.	92.21	W.N. Cent.	93.89	N. Eng.	94.58	W.S. Cent.	99.99	W.S.Cent.	97.71
8.	M. Atl.	88.93	W.S. Cent.	86.52	W.S. Cent.	93.47	M. Atl	99.94	Mt.	96.03
9.	E.N. Cent.	78.67	E.N. Cent.	82.17	E.N. Cent.	84.94	E.N. Cent.	85.05	E.N. Cent.	87.35
1.	West	132.98	West	114.14	West	110.27	West	107.74	N. East	108.38
2.	South	102.38	South	100.47	South	101.12	South	107.27	South	107.96
3.	N. Cent.	91.99	N. East	96.31	N. Cent.	96.72	N. East	103.03	West	104.25
4.	N. East.	91.12	N. Cent.	89.01	N. East	96.00	N. Cent.	100.38	N. Cent.	94.76

Notes:

The 1975 vales are calculated from Anton, Cawley, and Kramer (1980)

The 1981, 1982, and 1990 values are calculated from Morgan and LaPlant (1996)

The 2002 and 2010 values are calculated by author from the U.S. Census (2003, 2011)

Abstract

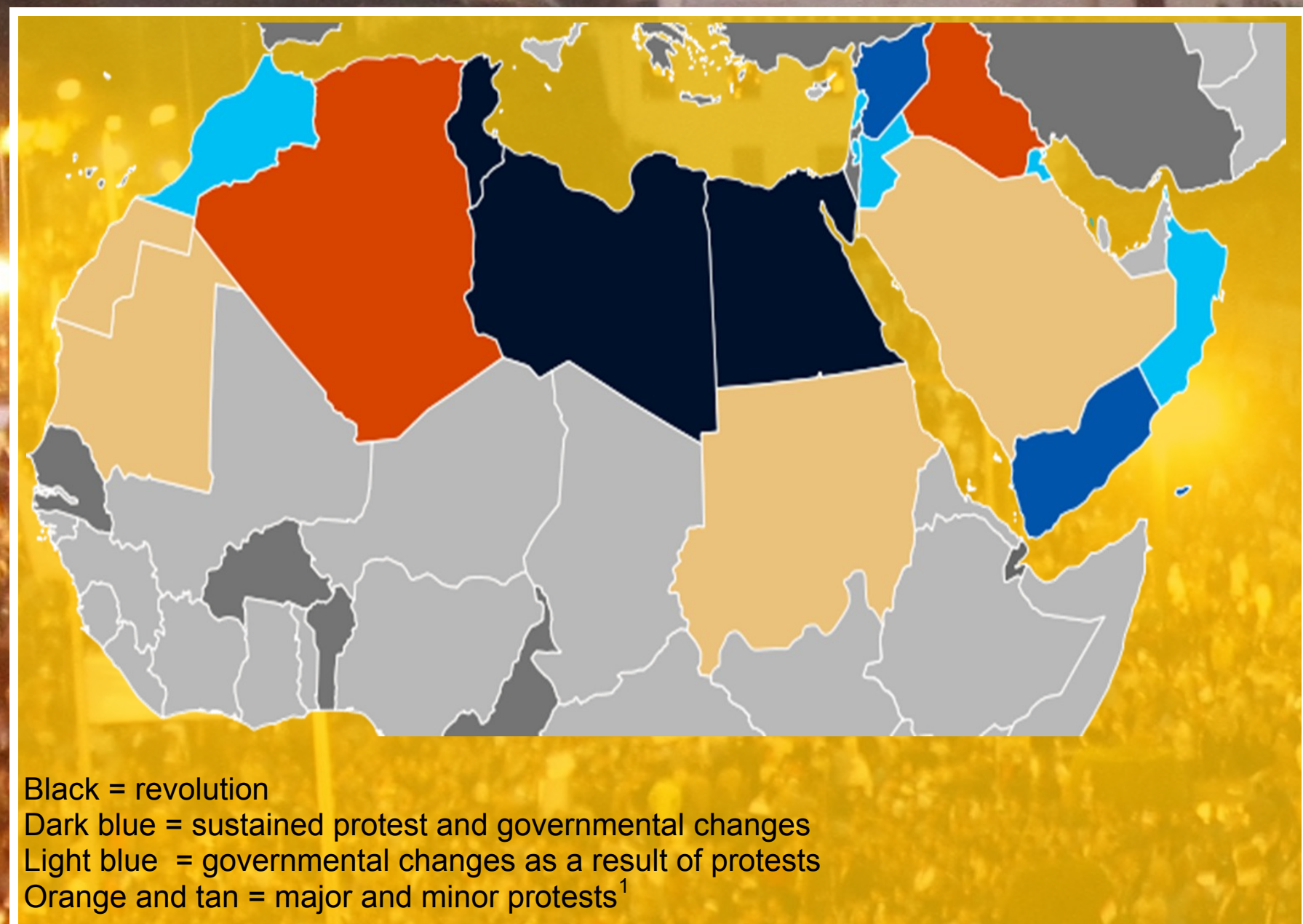
This paper examines the political upheavals in the Middle East which began taking place in early 2011, looking specifically for a relationship between social media (such as Twitter and Facebook) and the organization of these social movements. The paper begins by examining social media and how they are used to inform and influence the public. It then proceeds to detail the social movements within the Arab World and why previous movements which were organized without social media were unsuccessful. The paper then examines specific instances of the use of social media during the Arab Spring of 2011 and whether they have been particularly important. The paper concludes by noting that social media has clearly been used as a tool for the protesters but that further research is required to know whether or not its use was a necessary condition for the uprisings.

Introduction

Two trends which have been dynamically changing our world for several years have suddenly come to a confluence in recent months: the rise of social networking and growing discontent in the Middle East. As new developments in technology have allowed us to communicate with one another more frequently, publicly, and globally we have seen the rise of a new form of activism. And as the economic downturn has exacerbated underlying tensions in the Arab world a sudden outburst of revolution has spread throughout the region. It is clear that both of these trends are unprecedented and changing the globe in ways we had not thought possible even ten years ago, but to what extent are they related?

This paper will examine the relationship, if there is one, between the rise of social media and the Arab Spring. I will begin by reviewing the different types of social media and what they are primarily used for, with a particular focus on Twitter. I will then turn to the Arab Spring and address some of the media debate on this issue. Next I will explore the Arab Spring by looking at three case studies: Egypt, Libya, and Syria. These cases were chosen because the countries are relatively large, allowing for more data. They are also relatively distinct in both national makeup and how their uprisings have progressed. I will explore the historical causes of the uprisings and try to determine why they are happening now. I will examine the use of social media in these cases, providing charts that display the progression of Twitter activity that has been focused on each case. Finally, I will conclude with a summary of my findings.

This issue is of paramount importance for understanding the effect that social media will have on our global society. If there is a connection between the free-flow of communication and this sudden revolutionary outburst then social media may be able to impact democratic development and foreign policy as well as stimulate unrest in other parts of the world. While both parts of my research are still relatively young and difficult to find information on, I hope to examine enough material to determine whether further research is warranted.



What are social media?

Social Media are computer based social networks which allow people to communicate with their subscribers. Social networking developed during the early 00s and has had several leaders and innovators throughout its growth.



friendster

Friendster was the first internet communications outlet which was considered to be "social media." It allowed its members to set up profiles and to connect to one another, but it was not a free service.²



Myspace was critical to the development of Social Media. It allowed its members to set up profiles and connect with each other, but it was also a free service. It was the first platform with over 100 million members.³



Youtube has many features which incorporate social media tools, such as linked profiles and video commenting. Its primary implication in this topic is that it allows visceral images to be seen around the world.⁴



Facebook is the dominant social media platform today. By embracing simpler pages Facebook attracted members who were not previously interested in Social media. It also allows for updates to be sent to all followers.⁵



Twitter also allows updates to be sent to all of a person's followers, but it limits these updates to a more readable 140 characters and sends them to users's phones. It is centrally important to this topic.⁶

twitter



- Updates sent through Twitter are called "Tweets."^{7,8}
- Over 55 million tweets are sent each day.
- Tweets can be viewed on the web or sent to a cellphone; you can also retweet someone's message to all your followers.
- Hashtagging uses the # symbol to denote that your tweet relates to a particular topic. This makes tweets more searchable and easier to gain data from.
- Governments and businesses are using Twitter to advertise and inform.

Social Media and the Arab Spring

Alex Lawhorne, Department of Political Science

Faculty Sponsor: Dr. James Peterson, Department of Political Science

Egypt

- Hosni Mubarak maintained power by pitting modernists and Islamists against each other as a distraction
- Economic issues became more important than cultural ones after the 2008 Economic Crisis
- The first protest in Egypt was organized by an Egyptian Google executive, Wael Ghonim, who used the Facebook pseudonym "El Shaheed" (The martyr)
- Twitter was used within Egypt to mobilize protests as well as to build international support^{9, 10}



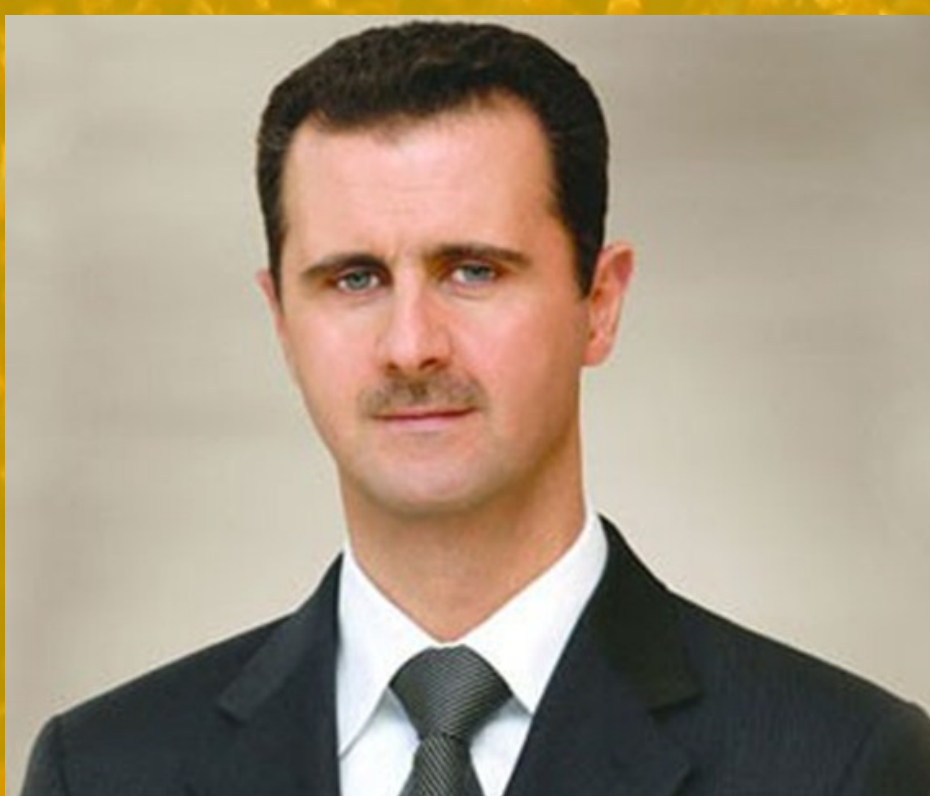
Libya

- Moammar Gaddafi began liberalizing the Libyan economy the early 1990s at the behest of his son Saif
- This was taken as a sign of weakness
- An uprising took place in east Libya which began by capturing a prison in Benghazi
- The uprising was quickly put down by the government
- Similar circumstances with different results
- A media center was launched in Benghazi which began broadcasting online
- Mohammed Nabous made videos about the war until he was killed by sniper fire; the video was subsequently shown online
- Twitter was also used in Libya, but primarily to advertise the war effort internationally^{11,12}

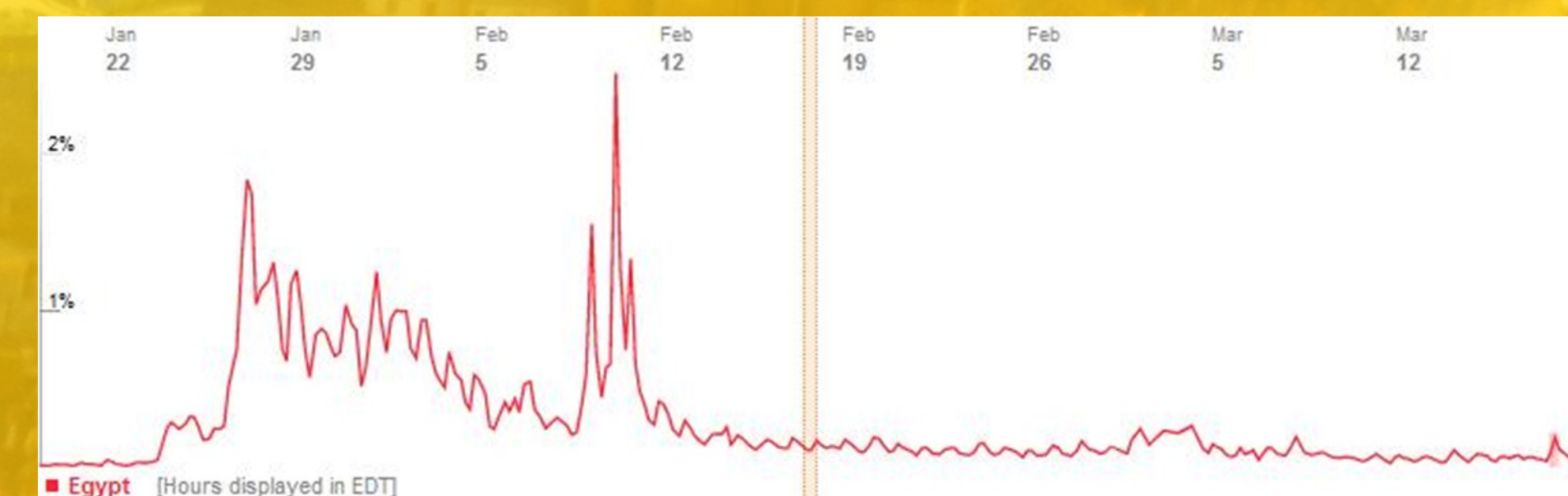


Syria

- Syria is a very diverse country with multiple Islamic sects as well as a substantial Christian minority
- Bashar Al-Assad's regime has offered stability
- Attempts at economic liberalization led to cries for social liberalization as well
- Protests began in Daraa and have been met with violent opposition from the Syrian government.
- Very little information has been broadcast from within Syria via Social Media
- Tweets from Syria have been very explicit; they have included pictures of corpses and other scenes of violence
- The use of this imagery suggests an attempt to marshal international concern and outrage^{13,14}



Egypt Tweets



@LaurenBohn So much smoke. Cab driver yelling at us for taking pictures. Widespread fear. #Cairo #Jan25 <http://twitpic.com/3tkxcs>

ishta_dreams: Shubra broken up by police and 5 arrested heading to join at Tahrir #Jan25

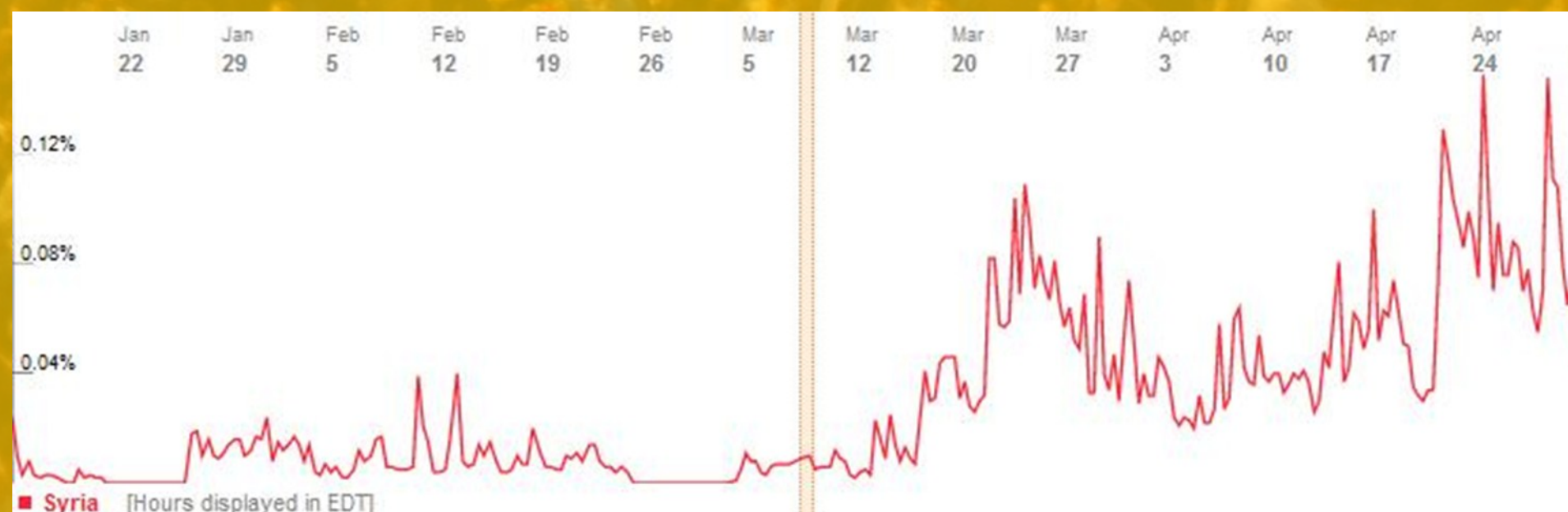
Libya Tweets



missstarlightx: I signed the "SEND HELP TO LIBYA!!!" petition!

LujaynNasser: Video of #Libya fighter jets strafing peaceful protesters : <http://>

Syria Tweets



Leela: RT @ZetonaXX: @BBCWorld Footage from bck of refridgerated lorry being used by Daraa residents 2 store bodies due 2 the seige <http://bit.ly/ieDK9a> #syria

shine401: RT @Monajed: GRAPHIC VIDEO: Old man shot and killed in #Deraa when security forces bombed his house <http://t.co/WvJt4Ve> #Syria #fb

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Conclusion

In conclusion, it is not clear that social media on its own has allowed the Arab Spring to take place. It is worth noting, however, that the current uprising in Libya has been far more successful than the one that took place before the advent of social media. Although the underlying cause of the Arab Spring seems to be economic and social difficulty, it is clear that the use of social media has allowed the opposition to vocalize their concerns in a way that was previously impossible. Perhaps the most notable use of social media has been the attempt to involve Westerners and show them the horrors faced by protesters. This increased communication has potentially helped to involve the West in Libya and encourage greater concern with Syria among Western governments. I conclude that this effect of social media, as well as its use as a mobilizing force, is fundamentally new and worthy of further study.

Kirk Cheyfitz

- Disagreed with Gladwell about the importance of Social Media¹⁶
- He wrote that all generations use the tools available to them to instigate social change.
- He used the example of protest groups during the Vietnam War. They made use of television to ensure that their opinions and footage of their protests were broadcast throughout the world.
- Videos of protests (as well as videos of the violence taking place in Vietnam) helped to galvanize the movements supporters and to recruit new ones.
- While social media does not start social movements, Cheyfitz thinks it would be difficult to say they weren't of crucial importance.



Malcolm Gladwell

- Wrote about the potential impact of Social Media in the New Yorker before the Arab Spring
- Predicted that social media would not really have any effect on social movements.
- Wrote again after the revolution in Egypt, saying that it was **not** really the intervention of Facebook and Twitter which led to the revolutions
- Deep social changes only come from deep social capital development. Social ties are required before people are brave enough to challenge their government.
- The rapid expansion of the civil society throughout the Arab World is the real cause of the Arab Spring¹⁵



VOTING BEHAVIOR AND PROPOSITION 19 TO LEGALIZE MARIJUANA IN CALIFORNIA

Joseph Wagner
Department of Political Science

Abstract

This paper examines some of the possible factors that may have influenced voting behavior during the vote for Proposition 19 in California. The proposition would have essentially legalized marijuana within the state. The analysis looks at factors such as race, percentage of foreign born persons within a community, education level, income level, and support for Proposition 8 to eliminate same-sex marriage. The units of analysis were the 58 counties in California. The analysis shows that race, controlling for outliers, had little to no correlation with that of the percentage support for legalization of marijuana. Per capita money income, percent of persons within a county with a bachelor’s degree or higher, and opposition to Proposition 8 were all statistically significant in a positive correlation with support for Proposition 19.

Research Question

What factors may have influenced support for California’s Proposition 19 to legalize marijuana?

Literature Review

- The legalization of marijuana has been a controversial issue for some time now in America and there are focal points for both support and opposition concerning the issue. Robert MacCoun and Peter Reuter (2011, 47) argue that one such focal point is the cost of enforcing prohibition of drugs with little to no results to show for the expense.
- As time progresses, so does our tolerance of medical marijuana use as seen by more and more states allowing such use to those who are diagnosed with certain illnesses. Ethan Nadelmann argues that “neither drug legalization nor enforcement of anti-drug laws promises to ‘solve’ the drug problem” (1989, 939).
- Kan et al. (2007, 6), prominent voices on the controversy of legalizing marijuana, acknowledge that the majority of people fall somewhere between wanting full legalization and full prohibition of marijuana usage.
- While it is unclear how exactly race factors into support for the legalization of marijuana, there is research that studies minorities and drug use among various minority groups. William Kornblum conducted research on impoverished minority groups in urban areas finding that these groups, and African Americans in particular, are prone to the use of narcotics due to a variety of reasons stemming from “race and class discrimination” throughout history (1991, 418).
- Dembo et al. (1976, 184-185) argue that there are two theories where education can affect marijuana use. The first is the idea of youthful rebelling against the “establishment” while the second theory is more focused on a psychological feeling of alienation among peers, both of which are experienced in college to a certain degree. This supports the idea that as education level increases, exposure to new ideas increases, and should increase support for the legalization of marijuana.
- Income level is closely related to education level. One can expect that as education level rises, income level also rises. Armand Mauss (1969, 357) conducted a study of college students that factored in socio-economic level to see what levels were more apt to use marijuana. Mauss (1969, 357) found that the upper socioeconomic class was “strongly predictive of marijuana use for boys” and decreased in effectively predicting marijuana use as socio-economic status decreased.
- In the 2008 General Election in California, Proposition 8 to eliminate same-sex marriage was up for vote. The measure passed with 52.3% of votes in favor of the proposition. Same-sex marriage is largely considered a socially liberal idea which coincides with the socially liberal idea of legalizing marijuana. This provokes the idea that counties that supported same-sex marriage by opposing Proposition 8 in 2008 in California should also have support for Proposition 19 to legalize marijuana usage.

Data and Methods

The **units of analysis** studied for this research were the 58 counties in California.

Dependent Variable:

Percentage of the vote in favor of Proposition 19 per county

Independent Variables:

Support for gay marriage represented by opposition to Proposition 8 in the 2008 General Election
Percentage of white persons within a county
Percentage of black persons within a county
Percentage foreign born persons within a county
Per capita money income
Percentage of persons with a bachelor’s degree or higher

Hypotheses

- H₁ - As the percentage of white persons within a county increases, support for the legalization of marijuana will increase.
H₂ - As the percentage of black persons within a county increases, support for the legalization of marijuana will decrease.
H₃ - As the percentage of foreign born persons within a county increases, support for the legalization of marijuana will increase.
H₄ - As education level increases, support for the legalization of marijuana will increase.
H₅ - As per capita money income increases, support to exist in for the legalization of marijuana will increase.
H₆ - As the percentage of voters who supported allowing gay marriage 2008 increases, support for the legalization of marijuana will increase.

Variables, Characteristics, and Sources

Table 1

Variable	Min.	Max.	Mean	Median	S.D.	Source
Percent of Support for Prop. 19	31.7	64.1	44.797	44.700	7.810	California Secretary of State
Percent White	56.1	94.9	83.881	87.600	9.428	U.S. Bureau of the Census
Percent Black	0.3	15.3	3.695	2.350	3.421	U.S. Bureau of the Census
Percent Foreign Born	1.6	36.8	15.267	16.750	9.830	U.S. Bureau of the Census
Percent Bachelor’s Degree+	10.3	51.3	21.572	17.600	9.637	U.S. Bureau of the Census
Per Capita Money Income	13239	44939	21000	19000	6181.413	U.S. Bureau of the Census
Percent of Support for Gay Marriage	24.7	75.2	43.381	40.950	13.413	California Secretary of State

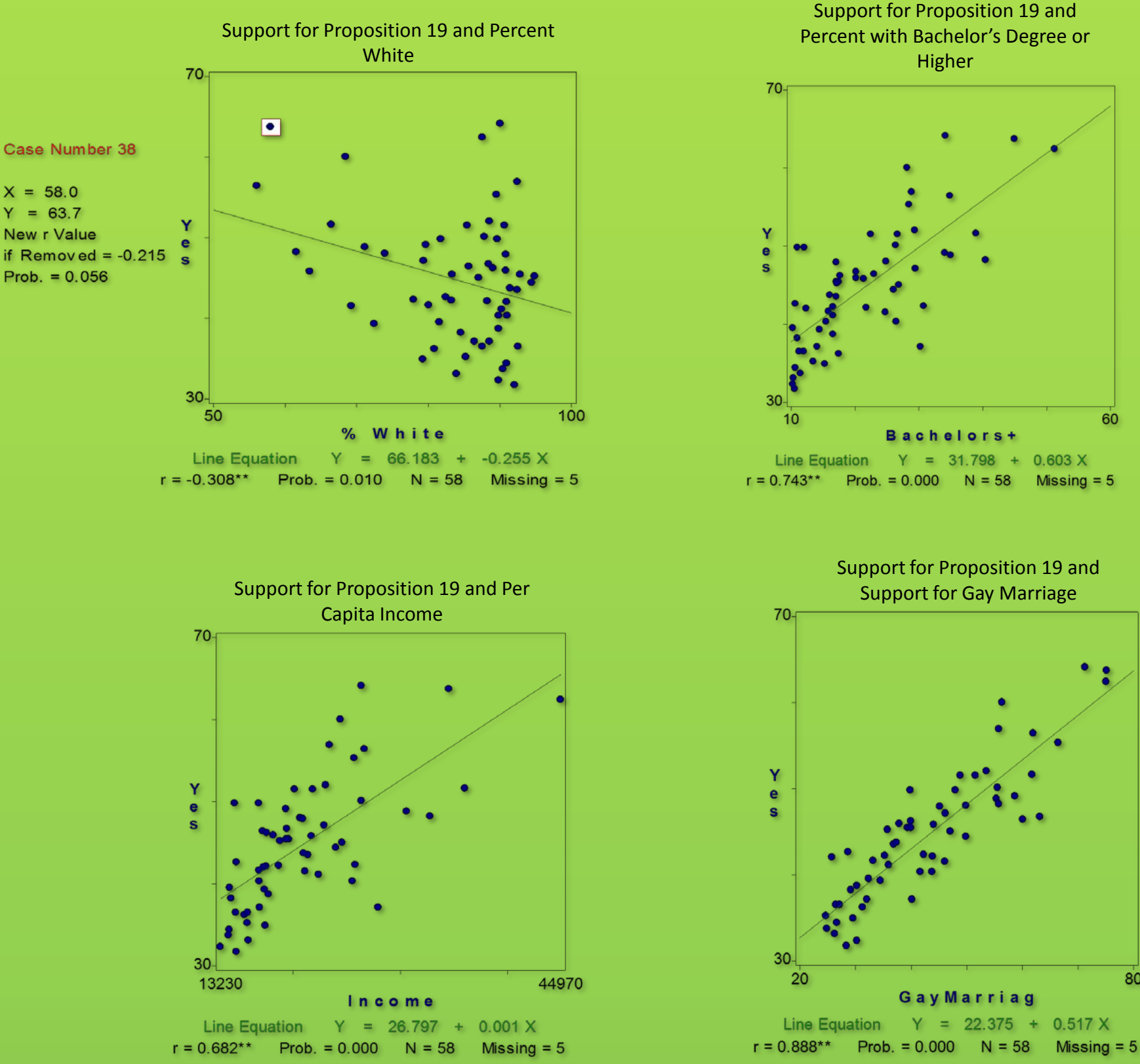
Findings

Correlation Analysis

Table 2

Independent Variables	Correlation
% White	-0.308**
% Black	-0.002
% Foreign	0.071
Bachelors +	0.743**
Income	0.682**
Gay Marriage	0.888**

N=58 *p<.05 **p<.01



Conclusion

The findings show that there were three strong factors that aided in predicting support for the legalization of marijuana. Percentage of persons with a bachelor’s degree or higher, representing education level in this study, had a statistically significant correlation, positively increasing support for legalizing marijuana. This supported the hypothesis that as education level increases, support for Proposition 19 also increases. Per capita money income was also found to be a strong predictor of support for Proposition 19, having a positive correlation. Counties that supported gay marriage in 2008 were found to be strongly correlated with those that supported the legalization of marijuana in 2010, as predicted. This supports the idea that both propositions were associated with the same socially liberal ideology. It also supports the idea that both per capita income and education level are correlated with support for Proposition 19.

Race, after controlling for an outlier in percentage of white persons within a county, was shown to have little to no correlation with that of the percentage support for legalization of marijuana. Even percent foreign born had no correlation with support for legalizing marijuana. This advances the idea that race is not a factor in deciding who supports the use of marijuana and that the use of marijuana crosses racial boundaries. While certain minority groups may be more prone to exposure of harder narcotics, marijuana seems to be a drug that does not follow along the same trend as others.

In conclusion, three findings were shown to predict support for legalizing marijuana, allowing us to reject the null hypotheses for H₄, H₅, and H₆. These were education level, per capita income, and support for gay marriage. Race was found to have no correlation.

Minority Incumbents' Reelection

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Abstract

This paper examines minority incumbents of the House of Representatives seeking reelection in 2010 and the factors that influenced the election outcome. As you can remember, this election was remarkably noted for the surge of Republican and Tea Party candidates replacing numerous Democratic incumbents in the House of Representatives. The analysis looks at variables such as gender, race, poverty, labor force, education, and location. The statistics in the analysis show that the percentage of men, women, whites, population living under the poverty line, population in the labor force, and region of the United States affect the support for a minority incumbent when they are running for reelection.

Research Question

What Are the Factors That Influenced A Minority Incumbent's Reelection in the House of Representatives in 2010?

Literature Review

Until recent elections, the number of men and women voting the United States has been on the decline (Dokoupil 2008). In 1964, 72 percent of voting-age men participated in the general election (Dokoupil 2008). This record amount slowly declined and by 2004 had reach 56 percent (Dokoupil 2008). This decrease in active male voters can be from a number of causes: men are less likely to trust authority, receive a higher education, and more likely to participate in crime related activities than women (Dokoupil 2008).

One of the biggest identifiers of voting behavior, aside from political identification, is race. In 2004, about 36 percent of the voting population was white (White 2008). Most white citizens tend to vote on conservative Republican issues such as abortion, gun rights, and gay marriage, even though it would probably be in their best economic interest to vote Democrat (White 2008).

Even for those who are not experiencing it, it is widely known that unemployment can be a very life-changing event. In January 2010, the United States unemployment rate was 9.7 percent (Burnett 2010, 26). Therefore, it is likely that we can assume that an individual's employment status will affect that person's voting behavior. However, studies show that there is a general disagreement about the impact an individual's unemployment plays on their voting habits (Grafstein 2005, 804). This disagreement comes in the idea that American's tend to view unemployment on a large scale lever, for example: national unemployment (Grafstein 2005, 804).

Data & Methods

Unit of Analysis: House of Representatives Minority Incumbents

Dependent Variable: Percentage Vote for Minority Incumbent

Independent Variables: Percentage of Men
Percentage of Women
Percentage of Whites
Percentage of Population Living Under the Poverty Line
Percentage of Population in the Labor Force
Region of the United States

Hypotheses

- H1: As the percentage of men in a district rises, the support for a minority incumbent will decrease.
H2: As the percentage of women in a district rises, the support for a minority incumbent will also rise.
H3: As the percentage of whites in a district rises, the support for a minority incumbent will decrease.
H4: As the percentage of individuals under the poverty line rises, the support for a minority incumbent will also rise.
H5: As the percentage of the population in the labor force rises, the support for a minority incumbent will decrease.
H6: As the percentage of individuals with a bachelor's degree rises, so will the support for a minority incumbent.
H7: Support for a minority reelection varies by region.

Findings

Table 2

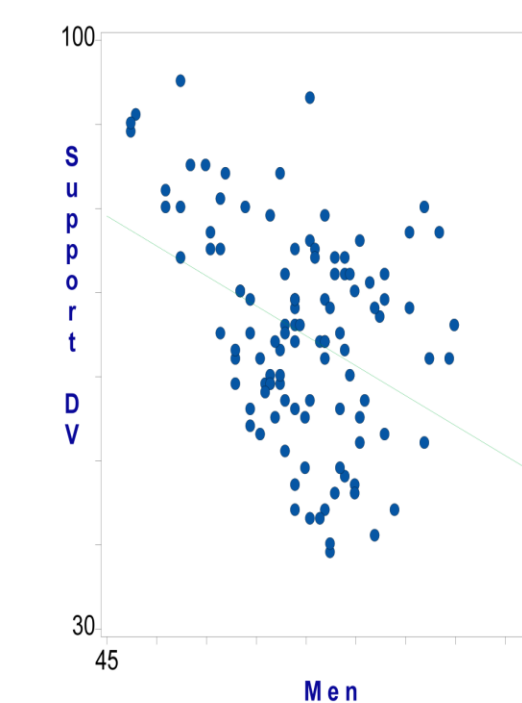
Correlation Analysis of Voter Support For a Minority Candidate

Independent Variable	Support for a Minority Incumbent (%)
Men	-0.410**
Women	0.410**
White	-0.665**
Poverty	0.337**
Labor	-0.224**
Education	0.012

N=112
*p<.05
**p<.01

Figure 3

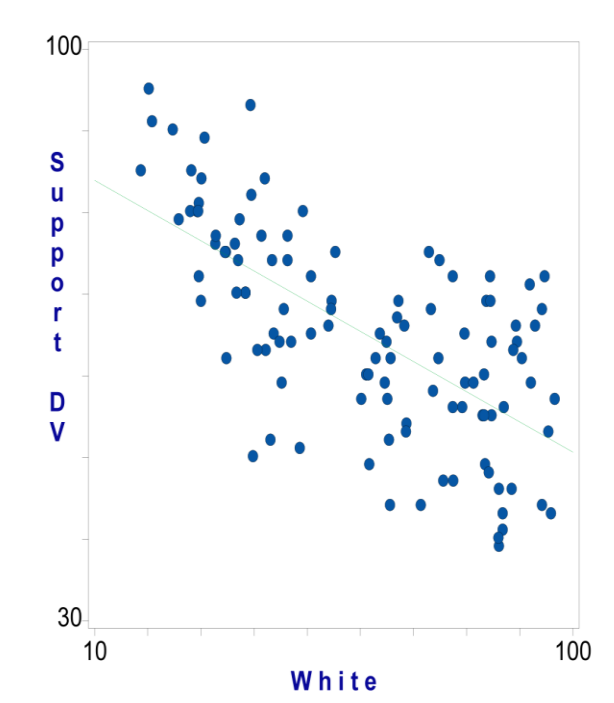
Support for Minority Incumbent with Percentage Men in a District



Line Equation $Y = 239.255 + -3.559 X$
 $r = -0.410^{**}$ Prob. = 0.000 N = 110 Missing = 14

Figure 5

Support for a Minority Incumbent with Percentage of Whites in a District



Line Equation $Y = 87.645 + -0.370 X$
 $r = -0.665^{**}$ Prob. = 0.000 N = 110 Missing = 14

Conclusion

Results showed that the percentage of men, women, whites, population living under the poverty line, population in the labor force, and region of the United States affect the support for a minority incumbent when they are running for reelection. Electoral support for minority incumbents was highest in the northeast and lowest in the west. It is important to mention, however, that the research showed the percentage of population with a bachelor's degree did not have an effect on the support for a minority incumbent's reelection.

Figure 1

Pie Chart of Minority Incumbents and Their Party Identification

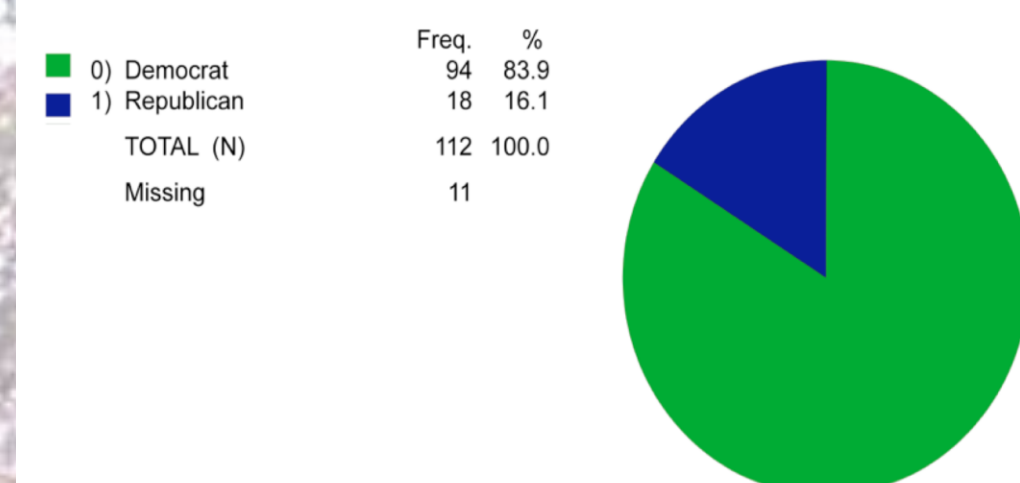


Figure 2

Pie Chart of Minority Incumbent Election Results

