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In Situ 2016: University of Pennsylvania Undergraduate Research Journal

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IN SITU
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Undergraduate Anthropology At Penn

Entry into the world of anthropology at Penn is an intensive process. Undergraduates usually register for the major in the spring semester of their sophomore year and graduate just two years later. The first item on their program is involvement in research. Research is active learning. Writing up and publishing one’s own research is professionalizing. This is the 2016 issue of the Penn Anthropology Undergraduate Research Journal, In Situ, which marks the initial stage in the professionalization of the latest cadre of Penn anthropology majors.

As we continue to ride the modern wave of social and cultural change, with population growth and advancing technology bringing us into interaction with larger and larger numbers of people, we become more globally aware. Anthropology began as a global science, but in a very different world. It was the study of the pre-literate peoples who had been left outside the world’s historical civilizations and had been located during the so-called Age of Discovery, or later in the Colonial Period. Beginning in the 19th century, we focused on the cultural and the evolutionary among these peoples that had been neglected by historians. As we learned more, our interests expanded. By the end of the century we were including language in our focus, and eventually by the middle of the 20th century by collecting data on more and more of the languages that had not developed a written form we had transformed the global study of language. At the same time our archaeological studies of the prehistoric and early historical periods had expanded, and by the middle of the 20th century anthropology had become the general study of the human condition—evolutionary, behavioral, biological, historical, social, cultural and linguistic. Penn had made important contributions to each of these processes.

The past century became the cultural century, when we changed the world by developing and defining the concept of culture as the significant factor in human diversity, not only by globalizing the study of cultural and linguistic diversity, but by showing how climate change and demographic factors of population growth and decline, and migration, played into development of that diversity from the palaeolithic down to the modern world. We clarified the trajectory of human experience by our archaeological mapping of world prehistory, as well as contributing archaeological data to historical studies. We mapped language change as a global phenomenon. We saw the relationship between human and other primate behavior, and we analysed the biological processes that have been and continue to be the foundation of our human condition. As we continue to make progress in understanding and managing the deoxyribonucleic acid (DNA) that underlies our biology, and as the world’s cultural communities grow larger and larger with the effect of diluting the concept of culture, we can expect that the 21st century will be the biological century.

The world around us is changing faster and faster. The Liberal Arts curriculum was designed to prepare us for a productive intellectual life in the modern world. But the curriculum has barely changed in fifty years—apart from the General Requirement, which ensures broad coverage, and was modified in 2006. Changing the curriculum is like changing the Constitution: everyone has to agree on the details. It is difficult and takes time, with the result that significant
changes are rarely attempted. But every year our students bring new experience into our community, and use what we teach them to ask new questions. By encouraging them and helping them to formulate new research questions, we contribute to the development of our field, using our anthropological methods to unite the experience of the past generation with the curiosity of the next. As anthropology continues to develop, our research interests change. While the curriculum provides training in the basic methods, research facilitates application and personalization of those methods.

Anthropology is at the center of the curriculum. It is a life science, a social science and a humanity. Anthropologists, whatever their research questions, collect quantitative as well as qualitative data. We can therefore interact and collaborate with any of the other disciplines of the School of Arts and Sciences and any of the other Schools of the University, whose interests overlap with our purpose. Our interdisciplinary connections are increasing with our global awareness. We no longer make rigorous distinctions between academic and professional. We stand at the gateway to all professional careers and research endeavors.

The articles in this issue illustrate this anthropological trajectory. The work was done in China, Cuba, and India, as well as Mississippi in the U.S. and here on the Penn campus. They transcend the historical divisions between biological, medical, social and cultural research, and illustrate several archaeological methods of analysis. Each of them was first presented at our annual Undergraduate Research Conference, AnthroFest, on February 26, 2016, where the authors not only introduced their work to our anthropology community, but received feedback and led discussion of it that they then incorporated into the write-ups which are presented here, providing a useful representation of Penn Anthropology in the second half of the second decade of the 21st century.

Brian Spooner
Anthropology Undergraduate Chair
Guantanamera: Healthcare Delivery to Women in Cuba

Ivana Kohut

On December 17, 2014, President Obama stated that, “In the most significant changes in our policy in more than fifty years, we will end an outdated approach […] and we will begin to normalize relations between [Cuba and the United States]. Through these changes, we intend to create more opportunities for the American and Cuban people, and begin a new chapter among the nations of the Americas.” The political statement has and most likely will continue to inspire change, notably change pertaining to travel and trade restrictions. The United States of America’s desire for a new relationship with Cuba has moreover created an intense fascination, a unique Cuba Locura, in USA media. Travel agencies, as an example, paint Cuba as unique due to its scenic beaches and greenery. The rich architecture in Old La Habana and cobblestoned streets frequented by cars that would make any collector green with envy, are strong pieces of evidence to the fact that Cuba has been frozen in time. And though these qualities are uniquely Cuban, they are by no means the only characteristics that set Cuba apart from other Caribbean and even Latin American countries. Universal access to healthcare, and an explicit prioritization of women’s health during pregnancy, constitute a unique facet of the Cuban healthcare and policy. Cuba boasts one of the highest doctor-patient ratios, a statement that separates the country from many others in the Western hemisphere. The Cuban state has likewise implemented many resources to revolutionize healthcare so that the right to health is as fundamental as any other right upheld by the state.

The Hassenfeld Family Social Impact Foundation through the Center for Undergraduate Research and Fellowships (CURF) at the University of Pennsylvania, funded my three-week research opportunity to Cuba in the summer of 2015. The study I conducted aims to analyze the unique and renowned Cuban healthcare system currently in practice. With impressively low TB, AIDS and malaria mortality rates, Cuba is the frontrunner for healthcare delivery in Latin America, and is deemed the “healthcare model” for many Caribbean countries (Paul Farmer). In addition, “at approximately nine deaths per every one thousand newborns” (Randal), Cuba has one of the lowest infant mortality rates in the world. The study was developed in order to examine how Cuba translates written health policy into practice. Logistically, how does the Cuban government explicitly protect women’s health in terms of services and broader systems? In turn, how are these systems accessed by the average Cuban woman on a daily basis? What makes the current system practical and impractical? That is, the research studies the effectiveness of the current, general health system for women through qualitative interviewing procedures. A total of 89 interviews1 were conducted in 9 provinces (Pinar del Rio, Artemisa, La Habana, Mayabeque, Matanzas, Cienfuegos, Villa Clara, Sancti Spiritus, and Ciego de Ávila) with an average of about 8-10 interviews per province. Interviewees were categorized into three cohorts (ages 18-32, ages 33-69, ages 70 plus) so as to assess the healthcare system’s delivery at various stages of development. The collected data evaluates which primary, reproductive, and geriatric care services are delivered effectively.2 Access to medications, to physicians, and to health information were analyzed when measuring effectiveness.

Availability of general practitioners, free of charge, constitutes a defining quality of the primary care system. The Consultorio Médico de la Familia (CMF, the Family Doctor Consultation Center) is an establishment supported by the Cuban government to increase access to physicians (in both urban and rural areas). A CMF is specific to each town, city, or community equivalent (based on location boundaries, such as in more rural areas). The CMF is a two-floored structure in which a general practitioner sees patients on the ground level and lives permanently in the center on the second level. The state encourages these physicians to live in the CMF for an extended period of time (a decade or more) so as to truly get to know and understand the community.

1 84 valid interviews.
2 Note that the only healthcare system made available to Cuban citizens is the government provided care.
that s/he serves. The program fosters stronger patient-doctor relationships in which the doctor quite literally serves the community as a doctor of the people (a concept inspired by the health systems in the former USSR). As a result, the doctor becomes family-like within a town, and in this way practices her/his profession better since s/he gains the trust, and in many cases the love, of the greater community. The CMF system hence reduces the lab coat boundaries between doctors and patients for the better.

The CMF system additionally facilitates a more logistical access to the physician. As an interviewee stated, “Here in Cuba, a child can be without shoes but never without vaccines.” Again, the CMF enables such an incredible feat considering that through this institution, the doctor is made available, is trusted, and is able to firsthand observe the community and act according to the health needs s/he witnesses as not just a doctor but as a community member. For instance, 88.10% of the interviewees stated that they have easy access to a doctor because of their local CMF. The CMF doctor is most often a general practitioner considering that the CMF rarely houses specialists. Even so, the only specialist who frequently visits the CMF is the OBGYN specialist. The CMF physician is obligated to report any pregnancies that occur in her/his vicinity and to contact an OBGYN specialist to visit her/his CMF. The pregnant woman then meets the specialist in the CMF of the district she lives in. If the pregnant woman consistently refuses to keep her appointments with the OBGYN specialist, the specialist is legally obligated to visit her in her home and conduct the tests there (even if she does not want to undergo examination). This extreme measure ensures not only her own health during pregnancy, but also the health of her child. All of which contributes to impressively low infant and mother mortality rates in childbirth.

Through health policy, notably the Maternity Law, women’s reproductive health is designed to protect all women (medically and in the workforce) before, during and after pregnancy. Under the Maternity Law, a woman’s employer must grant her paid leave of absence post-partum. The law states that a woman is permitted up to a year of paid leave after the birth of her child. The paid leave of absence is furthermore flexible. For instance, if the woman gives birth to multiple children, to a child with disabilities, or to a child born prematurely, she is automatically eligible to request more paid time off from work. In some cases, women can also be eligible for a paid leave of absence up to two weeks prior to her due date. This is especially the case if the woman has had a difficult or high-risk pregnancy. The state largely supports paid leave for these women and protection for pregnant women in the workforce, so that women do not have to choose between being professionals (and being active participants in the Revolution thereof) versus being mothers.

The state additionally provides Hogares Maternos (Homes for Mothers) for women who experience a high-risk pregnancy. (These pregnancies can be deemed “high-risk” based on the medical health, emotional health, and or domestic circumstance of the mother.) These homes are fully staffed with medical personnel 24/7 and are environments that offer a strong, reliable community for women during a vulnerable time. Again, her stay in the Hogar Materno is fully funded by the state.

Likewise, in the event that a woman gives birth to a child prematurely, the state offers her the opportunity to stay with her child in the hospital. This hospital stay is fully funded by the state so that the mother can: a) learn how to care for the child and b) breastfeed her child regularly. The concept of breastfeeding is interestingly a recurring theme in the interviews. One hundred percent of the women interviewed stated that they breastfeed/fed their children (the average is a period of 1-2 years post-partum). According to many of the interviewed women, the state encourages breastfeeding so that mothers can nurture a relationship with their children and because access to infant formula is incredibly limited.

Under the current healthcare system, the state also ensures that most women have access

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3 Access here is defined in terms of walking distance.
4 In some cases, she can meet appointments in a polyclinic or hospital.
5 Details concerning pay are ultimately determined by the employer.
to contraceptives. Correspondingly, 60.71% of the women who participated in the study stated that they have/had access to contraceptives. Often, such access is made available through the CMF, polyclinics, and schools. Similarly, infertility treatment is funded by the state under the health-care.

Comparatively, the state healthcare supports geriatric health specifically through care centers intended for aging populations. In the field, I came across various full time care centers (nursing home equivalents) throughout the provinces visited. However, when speaking with the women, I found that culturally many women considered taking care of aging relatives at home more acceptable than sending them to a nursing home. That is, sending one’s aging relatives or friends away to be taken care of in their advanced years is ubiquitously considered culturally taboo. In many cases, the elderly live together in the same house but are constantly “checked” upon by relatives, neighbors or close friends. Full time care centers are truly only utilized if an elderly individual has a severe medical circumstance. Another less taboo and more utilized service includes Círculos de los Abuelos. This phrase quite literally translates to “Grandparent Nursery.” The center is open for a few hours every few days and serves as a place for the elderly to socialize, dance, and exercise. There are no actual doctors or health professionals present since the center is not meant for admissions or check-ups of any kind. It is simply a way for retired Cubans to have increased physical activity while socializing with peers.

Another unique aspect of the care policy includes the distribution of health information to citizens. Access to Internet is difficult considering that the few servers present on the island are not currently equipped for the ever growing demand. Consequently, when a woman or man has a medical question in Cuba, finding an answer is not as easy as emailing a nurse or searching WebMD. As a result, the state financially supports Medical Information Centers. These centers are often separate wings in polyclinics or separate buildings (not associated with the CMF in any way). The purpose of the Medical Information Center is to provide a space where citizens can ask medical professionals questions about a health disorder, concern, etcetera. These centers do not treat nor admit patients, but rather were created so that people have uniform access to medical information. In addition to Medical Information Centers, the state designs and implements health courses in schools (elementary and secondary schools). Lastly, through television programs and the cooperative efforts of the CDR (Communist Defense of the Revolution, which is analogous to USA town governments or councils) with the CMF, the state promotes ways in which citizens can stay healthy, particularly during flu or cold seasons, on community levels.

Though the current health system has incredible benefits for Cuban women, there seems to be a general deficiency of doctors domestically in hospitals and polyclinics due to the state’s tendencies towards Health Diplomacy. Cuba “boasts more than 30,000 physicians [Cuba also has the most medical schools than any other country in the world], yielding one of the highest doctor-patient ratios in the world” (Randal). However, many of these doctors and specialists are exported to countries like Brazil, Haiti, and Angola. In return, Cuba gains political alliances and economic benefits (receives money, products such as toothpaste, and so on). Ultimately, however, less specialists are present at home to take care of the Cuban people. As a result, the provided healthcare in polyclinics and smaller hospitals tends to be inefficient because of the general lack of medical specialists (i.e. long waiting periods, 

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6 A health center that is modeled off of the polyclinics in the former USSR. Polyclinics are designed to: promote preventative care, treat when necessary, and care for the body as a holistic entity. 58.33% of the women interviewed stated that there are salient differences between a polyclinic and a hospital. These women stated that a hospital is: bigger, cleaner, attends better (staff is more mannered), has a significantly shorter wait period, has better technology, has more seasoned doctors, treats major diseases and illnesses (i.e. cancers), generally has more staff and greater staff variation, is significantly more specialized, and is designed for admissions.

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fewer technicians that can operate machinery for specialized tests, etcetera).

I witnessed the lack of accessibility to medical specialists firsthand in the field. While in a small town in central Cuba, I met a woman who needed a copy of her prescription for glasses since the original was misplaced. Unfortunately, her local polyclinic and CMF do not offer ophthalmological services and do not maintain a copy of such records. It became necessary for the elderly woman to travel 21 kilometers to the polyclinic where she had her initial evaluation. Transportation, particularly for the elderly in rural environments, is very challenging since it often involves riding in the back of trucks where the passenger must remain standing and balance as best as possible. This particular elderly woman ambulated with the use of a cane and had the beginning of Parkinson's, which limits her transportation options. The woman had to wait until a relative who had access to a vehicle visited her so that she could be driven to the polyclinic. Upon arrival to the polyclinic, the woman was informed that records of previous exams were not kept and that she must have another examination. However, the equipment in the polyclinic was out of order and the staff did not know when it would be repaired. It was suggested that the woman travel an additional 49 kilometers to the nearest polyclinic where the examination may be completed. Eventually the woman decided to return home since she was aware that there would be no assurance that she would be seen. Later on that week, her relative transported her to the polyclinic that could complete the examination. This polyclinic was approximately 70 kilometers away from her home. When the woman arrived at the polyclinic, the staff informed her that she would not be able to have the exam performed on that particular day. Even so, she would be examined by an eye surgeon who would provide a prescription for the examination. As the woman waited for her turn to see the specialist, she spoke with the other patients who were also waiting to be seen by physicians. Through conversation, it became apparent that it was not unusual for patients to wait five hours or more to see the specialist (especially if the specialist had a reputation of being an excellent surgeon). When the elderly woman was finally called to be seen by the surgeon, she entered a room with six other patients who had also been waiting. There was no privacy in the room; the doctor and multiple patients were present as the woman offered her medical history and was examined by the surgeon. The physician assured the elderly woman that she was indeed a good candidate for surgery, but that it was first necessary for the ophthalmological to be completed. Unfortunately, the woman had to wait until the equipment was in working order.

This ethnographic account supports another recurring theme in the interviews. When asked how long the average wait-period is in a polyclinic or hospital, 89.29% stated that they wait over 3 hours before seeing the health professional. The political tendency towards Health Diplomacy is one factor that can explain long wait periods in hospitals and polyclinics in spite of the high doctor-patient ratio.

Access to emergency transportation and care is likewise not as meticulously delivered nor made accessible to women universally. In Cuba, the SIUM (Servicios Intensivos de Urgencia Médica, intensive urgent medical services) is the equivalent of an ambulatory service. When an individual needs urgent ambulatory care (cases of strokes, heart attacks, major accidents, etcetera), the SIUM transports the individual to an emergency room. However, 15.48% of the women interviewed stated that in the case of an emergency, they do not make use of the SIUM but of the “other” option. “Other” included the following: personal car, flagging down drivers on highways or roads, a friend/neighbor’s vehicle, a military vehicle (respondent’s son is in the military), “whatever you find”, street car, bus, or a polyclinic’s car (if the individual had already arrived at the polyclinic and needed to be transferred from the polyclinic to the hospital). For women in rural areas particularly, the SIUM has been known to never arrive or to be severely delayed in the transportation process, especially if called at an odd hour (such as nighttime). Therefore, although everyone can have access to emergency care, logistically the SIUM is not made readily available to everyone, especially to women from rural areas.
Similarly, the current health system demonstrates a need for improvement concerning the availability of non-prescription and over-the-counter products. In the field, 71.43% of the women interviewed stated that they had easy access to prescription medications. However, this number essentially flips when asked if women had access to non-prescription medications. For instance, 75% of the women interviewed stated that they do not have easy access to non-prescription medication or over-the-counter products. Examples include the following: band-aids, feminine care products, non-prescription pain medications (Advil, Tylenol, Aspirin, or any other equivalent), medications for hemorrhoids, diabetes test strips (and in some cases insulin), and antacids. Subsequently, many interviewed women identified that the doctors in Cuba are excellent because they know “how to do so much, how to truly help a person heal, with very few devices and medications” (including prescription and non-prescription products).

At first glance, lack of access to such medical products could be explained by a lack of access to pharmacies. However, 92.86% of the women stated that they have a pharmacy within walking distance. When further attempting to explain the lack of access to such products, many of the women I spoke to stated it is a negative consequence of the embargo. Several women explained that because of the embargo, it is difficult to find goods since pharmacies are simply poorly stocked. Even so, some claimed that medications or products from China and Brazil are more readily obtained since these countries share political and economic ties with Cuba.

Lastly, though no one personally pays for healthcare in Cuba, fine lines to such a statement exist. For instance, 100% of the women interviewed stated that they do not pay their doctor nor do they pay to be admitted nor seen in health centers (chiefly hospitals, Hogares Maternos, polyclinics, mental health institutions, Grandparent Nurseries, the CMF). These women also stated that they generally do not pay for very expensive treatments that are administered in these health facilities. However, these women are expected to pay for medications (prescription medications purchased in pharmacies) and over-the-counter products (such as feminine care products and toothpaste). Some women also stated that their orthodontic work is not included in the healthcare and must be paid for out of pocket. Generally the healthcare costs are assumed by the state, but the state prioritizes equal, financial access to more expensive forms of medication in comparison to minor ones.

Cuba’s healthcare policies and the resulting healthcare systems prove distinctive primarily because of the uniform and meticulous delivery of medical care regardless of financial, racial, or gender bias. The fulcrum of the state’s health policy is to uphold the promise of protecting a person’s health as a human right, especially for women during pregnancy. This fundamental promise of healthcare access to the best of the state’s abilities has accelerated life-expectancy to an impressive 76 years of age (Randal). Even so, a lack of access to emergency transport, long wait periods in medical facilities (notably hospitals and polyclinics), and the scarcity of more minor medications and medical products are significant setbacks. As geopolitical relationships between the United States of America and Cuba become more open, crucial changes to healthcare systems and health resources will be inevitable (notably changes in the access of non-prescription products, of specialized care, and even of ambulatory care). With these changes, ethnographic studies will grow increasingly more important so that the voices of the Cuban people can be recorded and amplified—so that a conversation can occur between two forces that have been opposing each other for nearly half a century. Through ethnography combined with qualitative interviewing, conversations about health in Cuba will become people-centered, truly Cuba-centered, so that successes of the system can be voiced in tandem with the areas for improvement. Such a centering will hopefully promote peaceful dialogue between the two countries on the accounts of healthcare, but also on more difficult topics such as politics. With time and true understanding, the dialogue has potential to mature into a mutualistic relationship in which Cuban medical

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7 This list is not exhaustive.

8 However, costs for teeth pulling are assumed by the state.
needs can be met through the United States of America, and even vice-versa.

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Works Referenced


Climate Change, Scheduled Castes, and Scheduled Tribes:
Analyzing Socioeconomic and Climate Change Vulnerabilities Amongst Female Farmers in Rural Madhya Pradesh

Kelly Anne Bridges

News reports about extreme heat inundated my social media accounts and television in the weeks leading up to my internship in India. Less than three months beforehand, I received a travel grant from the University of Pennsylvania’s Center for the Advance Study of India and Penn Abroad’s International Internship Program to intern with the non-profit organization, Samaj Pragati Sahayog. The organization was established nearly twenty-five years ago in the central Indian state of Madhya Pradesh to fight rampant large-scale dam projects that threatened the food, water, and economic securities of marginalized agricultural communities (Shankar 2015). Since then, the organization has diversified its projects to address watershed management, climate-resilient crop production, animal health and husbandry, community media, maternal and childhood nutrition, adult literacy, textile training through Kumbaya clothing company, and Self-Help Group programs (Samaj Pragati Sahayog 2014). My role this summer was to collect case studies of some of Samaj Pragati Sahayog’s initiatives, as well as to help develop their website, which had last been updated in 2012. I also used the ten weeks that I was in India – from June 4, 2015 to August 11, 2015 – to conduct interviews for my independent research.

Although I arrived in Madhya Pradesh on June 4, the monsoon did not arrive until July 18 – nearly one month later than expected. I initially dreaded the thought of monsoon rains before I arrived in western Madhya Pradesh; however, like the others that I lived and worked with, I began yearning for the rains to arrive. Not only was I relieved from the summer heat, but so too were local farmers. Not long after the monsoon rains began did the region blossom with water and green life. Nearby farms, some of which had unfortunately flooded, were also starting to see increased growth of cotton, soy, maize, and indigenous crops. Despite this growth, the month-long wait for monsoon rains increased the vulnerability and risk amongst local farmers of poor agricultural production. For example, high temperatures at certain periods of a crop’s life cycle can lower yields (Challinor et al. 2007). Due to the events I experienced, I decided to investigate climate change risks in the region that I worked in.

In addition to climate change risks, I also became interested in social vulnerabilities through the interviews I conducted with female farmers for my internship. Over the summer, I interviewed women belonging to the Self-Help Group Program and other related initiatives, including the Livestock, Poultry and Adult Literacy programs. Through these conversations, I learned about several vulnerabilities that plague rural female farmers. These include gendered vulnerabilities, arising from inadequate access to education, daughter-in-law status, and the purdah, as well as economic vulnerabilities and cultural vulnerabilities relating to their status as members of Scheduled Tribes, Scheduled Castes, or Other Backward Classes. These conversations prompted me to look further into the intersection between socioeconomic vulnerabilities and climate change risks. I was guided by the following research questions: (1) what are the socioeconomic vulnerabilities rural female farmers face and (2) how do existing and future climate change risks affect existing socioeconomic vulnerabilities?

Samaj Pragati Sahayog and Socioeconomic and Climate Vulnerabilities

Before arriving in India last summer, I failed to fully comprehend how large Samaj Pragati Sahayog is. The non-profit organization consists of approximately 250 employees and works in 436 villages and 15 towns throughout the Dewas and Khargoan Districts. The organization also operates an office in the city of Dewas, which I had the opportunity to visit. In total, Samaj Pragati Sahayog works with approximately 34,400 families throughout the region, most of which belong to Scheduled Caste (or Dalit) and Scheduled Tribe (or Adivasi) populations. They also work with Other Backward Classes (OBC) communities (Samaj Pragati Sahayog 2014).

This summer, I mostly worked with and interviewed Scheduled Tribe and Scheduled Caste...
populations in rural and semi-urban communities whose primary livelihood is agricultural production. Most of the men and women I interviewed were landless laborers. In total, I interviewed two men and twenty-nine women associated with Samaj Pragati Sahayog as either employees or beneficiaries. As indicated by the number of women I spoke with, I spent my summer primarily focused on female farmers in the region. These women have not only been historically marginalized due to their gender, but also their status as either a member of a Scheduled Tribe or Scheduled Caste community. These conditions have created and deepened existing vulnerabilities.

Although members of India’s Scheduled Castes were granted legal protection in India’s 1949 Constitution through a ban on caste discrimination and the establishment of affirmative action policies, many continue to be disenfranchised especially in the “Hindi Belt,” which includes Madhya Pradesh (Bob 2007). In rural India, “Dalits [Scheduled Castes] are excluded from village wells, temples, and tea shops, forced to subordinate themselves before upper caste neighbors, discriminated against in land and housing allocation, and prevented from participating in local government institutions [and receiving adequate education]” (Bob 2007, 173). Consequently, members of Scheduled Castes are disproportionally poorer than any other caste group (Thorat and Newman 2007). Approximately 33% of average income disparities between upper castes and the marginalized Scheduled Castes and Scheduled Tribes are ascribed to discrimination (Borooah 2005). Furthermore, the agricultural wage rate is lower for Scheduled Caste individuals than nonscheduled ones (Gaiha et al. 2007). Not only are these communities socially

Scheduled Tribes are excluded from the caste systems, British colonialism forced the previously self-governing Scheduled Tribes to the fringes of society, as the areas they inhabited were reclassified in 1935 as ‘(partially) excluded’ (Kijima 2006). Like Scheduled Castes, Scheduled Tribes have also been discriminated against with lower wages and poor access to education (Dhesi 1998). Consequently, 50.3% of rural Scheduled Tribe households and 49.2% of rural Scheduled Caste households are poor (Gaiha et al. 2007). Furthermore, approximately 23.5% of the poverty gap between upper castes and Scheduled Tribes is ascribed to disparities in education (Gaiha et al. 2008). Illiteracy amongst those in Scheduled Tribe populations is as high as 45.3%, whereas this number drops to 33.4% in Scheduled Caste and 24% in nonscheduled populations (Gang et al. 2008).

Lower caste and tribal women are some of India’s most marginalized social groups (Deshpande 2007). More specifically, Haan (2004) claims that “Tribal women in ‘remote’ areas are among the most deprived people in the sub-continent” (3). Scheduled Tribe women (as well as Scheduled Caste women) face numerous pressures that affect their socioeconomic status and agency. In many communities, females are unable to move about freely due to the purdah and daughter-in-law statuses (Roy and Tisdell 2002). Several of the women I interviewed told me that cultural restrictions govern how, when, and where a woman can travel. One woman that I met in passing even told me that she would not be able to leave her house to accompany him because of her daughter-in-law status. Other disadvantages that Tribal women face include low literacy rates, limited employment opportunities, and poor access to loans and private sector assistance (Bhasin 2007; Roy and Tisdell 2002). Regarding literacy, girls are oftentimes denied a full education, because of “financial constraints, early marriages, submissiveness, motherhood, and parental perception of education on women’s worldview” (Bhasin 2007). Consequently, only 27.24% of rural tribal women are literate in Madhya Pradesh, whereas 52.51% of rural tribal men are literate (Mitra and Singh 2008).

Not only are these communities socially
and economically vulnerable, but they are also climate vulnerable. Regional Scheduled Caste and Scheduled Tribe farmers are particularly reliant on constant and predictable rainfall, as they work mostly in rain-fed fields. Since 1990, Samaj Pragati Sahayog has worked to increase the use of irrigation through dams, wells, and other watershed structures and management methods in an effort to help farmers adapt to climate change. In helping farmers irrigate their fields, however, the organization has unintentionally promoted mono-cropping. The farmers that now have enough water to sustain fields of cotton, corn, and soybean, are also beginning to deplete groundwater resources at a higher rate to feed these water-intensive crops. These practices have made farmers especially vulnerable to climate change (Shankar 2015).

Additionally, since 2012, monsoon rains have become more variable. Both this year and last year, the monsoon rains were delayed by one month, which affected the harvest. Additionally, two years back, fields flooded during the summer devastating soybean fields. That February, hailstorms caused 100% losses in some areas where wheat was grown. In order to address these concerns, Samaj Pragati Sahayog is currently promoting indigenous varieties, such as sorghum, to decrease the number of mono-cropped fields and to limit groundwater usage. These crops are also adapted to drought conditions. Samaj Pragati Sahayog is also implementing additional technologies and management methods to address climate variability (Samaj Pragati Sahayog 2014).

Samaj Pragati Sahayog has established a number of diverse programs since its creation in the 1990s – the most important of which is its Self-Help Group Program that serves as the vehicle by which community members can learn about and access other Samaj Pragati Sahayog initiatives, including those that address climate change risks and socioeconomic vulnerabilities. The Self-Help Group Program consists of 2,253 Self-Help Groups and 34,400 female members, and each Self-Help Group consists of 10 to 20 women. The groups are the means by which women voice their concerns, such as poor access to water, lacking education, alcoholism, poor nutrition, and economic hardships, among others. It is also a vehicle by which women can create bank accounts, promote savings, attend day or night school, access Samaj Pragati Sahayog’s various programs, and acquire low-interest loans. These programs include Samaj Pragati Sahayog’s Livestock Program – which not only creates additional income generating activities through the production of meat (e.g. goat) and milk (e.g. buffalo and cow), but also helps sustainably maintain current traditional livelihoods – Poultry Program, and Adult Literacy Program (Samaj Pragati Sahayog 2014).

Although these programs have helped protect existing livelihoods and create alternative ones, the Adult Literacy Program has been one of the more influential programs. The program was established in October 2010 to improve female literacy and to ultimately empower rural women. When Samaj Pragati Sahayog first entered the region, they noted that women were not allowed to use public transportation, enter banks, or run for public office without knowing how to read and write. By providing adult literacy courses through the day and night school programs, Samaj Pragati Sahayog could help local women gain their independence by allowing them to travel more freely, manage their bank accounts, and advocate for themselves politically by attending government meetings or by running for office. In the rural countryside of western Madhya Pradesh where Scheduled Castes, Scheduled Tribes, and Other Backward Classes reside, very few women had ever even sat in a classroom. By 2011, Samaj Pragati Sahayog established six night schools in Khategaon, Bagli, and Udainagar. The Khategaon site had the largest number of students with other seventy women enrolled (Samaj Pragati Sahayog 2012).

The interviews I conducted provided me with greater insight into the socioeconomic vulnerabilities and climate change risks female farmers face in western Madhya Pradesh. Five interviewees acknowledged climate change risks within their farming communities. The last three even borrowed livestock loans to purchase cattle and poultry in response to these risks. Furthermore, all of the interviewees discussed socioeconomic vulnerabilities that exist within their communities including: travel limitations, social stigmas towards work, poor political representation, defaulting on loans, illiteracy, cultural expec-
tations, and discrimination. In western Madhya Pradesh, existing socioeconomic vulnerabilities may worsen with existing and future climate change risks.

One of the most significant socioeconomic vulnerabilities is poverty, which all my interviewees live in. As explained in earlier sections, Scheduled Caste and especially Scheduled Tribe women are disproportionately poorer than their nonscheduled counterparts due to inadequate access to education, loans, and employment opportunities (Bhasin 2007; Roy and Tisdell 2002). Poverty is not only a socioeconomic vulnerability, but also a climatic vulnerability for rural women, as the poor are “immediately and adversely affected by all forms of environmental degradation, including climate change impacts,” as they are “dependent...on their natural environment” to survive (Roy and Venema 2002, 80). Extreme weather events can negatively impact water and food security. Furthermore, they can negatively impact economic security. In Madhya Pradesh and across the world, agriculture-dependent livelihoods are at risk from climate change (Varghese 2011).

As exemplified in the previous paragraph, the concerns that arise from socioeconomic vulnerabilities and climate change risks are food, water, and economic insecurities. Samaj Pragati Sahayog is addressing these concerns through its Self-Help Group Program and other related initiatives. Samaj Pragati Sahayog’s alternative livelihood loan packages (e.g. sewing machine loans, shop loans, livestock loans, and poultry loans) and Self-Help Group programs provide women with more reliable income generating activities apart from agricultural production. These income generating activities provide women with the financial means to increase their access to food and water resources outside of their communities. Furthermore, it allows women to break the cycle of poverty, by giving them the financial means to pay for their children’s private education and for climate adaptive tools (Shankar 2015). Samaj Pragati Sahayog also addresses food and water insecurities directly through the aforementioned climate-resilient projects, management methods, and technologies (Samaj Pragati Sahayog 2014).

Before Samaj Pragati Sahayog created Self-Help Groups in the Dewas District, the communities relied heavily on moneylenders and micro-finance institutions (MFIs) for loans. These institutions provided loans with a significantly higher interest rate and inadvertently promoted indebtedness. In contrast, Self-Help Groups provide communities with easy credit, low interest rates, tailored loan installments, and the ability for individuals to negotiate the terms of their loans. Self-Help Groups also have a social component, as I mentioned previously, in that Self-Help Group meetings serve as platforms for members to discuss issues in their communities, form friendships, and learn about government schemes and programs (Tirkey 2015). Despite the current and future climate change risks, I am confident that the lives of local women will improve through Samaj Pragati Sahayog’s alternative livelihood loan programs and other Self-Help Group Program initiatives.

In order for the organization’s work to be the most successful, however, it must also be sustainable. The most efficient way for the Self-Help Group Program to become sustainable is through the expansion and improvement of the Adult Literacy Program, which can mitigate some socioeconomic vulnerabilities. Of the current programs Samaj Pragati Sahayog must address, this is perhaps the most daunting, because of social pressures and misconceptions that affect attendance (Bachaniya 2015). Literacy is a powerful tool to empower women and is key to improving political involvement and communication with bank officials, as well as lessening the economic gap (Samaj Pragati Sahayog 2012; Mitra and Singh 2008; Gaiha et al. 2008; Bhasin 2007; Roy and Tisdell 2002). For example, women with improved reading and writing skills can qualify for other forms of employment, including positions as mitaans and community resource workers. Consequently, it is also key to mitigating climate change risks and climatic vulnerabilities. In the coming years, Samaj Pragati Sahayog will have to improve other current initiatives and create new ones to best address the existing socioeconomic and climatic vulnerabilities rural Scheduled Caste and Schedule Tribe women face.
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Choice, Control and Childbirth: 
Cesarean Deliveries on Maternal Request in Shanghai, China 
Eileen Wang

Rates of cesarean deliveries—a surgical procedure used to deliver a baby through the mother’s abdomen—have risen dramatically in China within the past 25 years, from 3.4% in 1988 to estimates of 58% in 2010 (Hellerstein, Feldman, and Duan 2014). There are a host of structural and provider factors contributing to this phenomenon in China including: rapid development and urbanization; increasing hospitalization of births; low provider to patient ratio; a highly strained medical system; and provider financial incentives to perform cesarean sections (Hellerstein, Feldman, and Duan 2014). Nevertheless, there are also an increasing number of women in China who directly request cesarean deliveries. In particular, the proportion of cesarean deliveries on maternal request (CDMR), has increased dramatically from 2% of all cesareans in 1994 to 28% in 2011 (Zhang et al. 2008; Liu et al. 2014) which covers 21 cities and counties in two provinces in southeast China. We examined the rate of cesarean delivery and cesarean delivery on maternal request in 1.1 million singleton births from 1994 to early 2006. Cesarean delivery on maternal request was defined as a prelabor cesarean delivery for a singleton gestation without contraindications for vaginal delivery at 38 weeks of gestation or later. During the 13-year study period, the percentage of women who had high school or higher education increased from 13% to 46%. The overall cesarean rate increased from 22% in 1994 to 60% in 2003 and moderated to 56% in 2006. The corresponding rates of cesarean delivery on maternal request (per 100 all deliveries. However, while C-sections are life-saving operations, unnecessary surgeries for low-risk mothers may lead to increased maternal and neonatal morbidity compared to spontaneous vaginal delivery (Lumbiganon et al. 2010). It also contributes to reproductive risks for women who wish to have more children in the future.

Who are these women who request cesareans? According to the literature, they are often of higher socioeconomic status, are older, live in cities, have health insurance (Tang, Li, and Wu 2006). Researchers have also found that factors for their decision include anxiety about the inability to complete a vaginal delivery, worry about fetal safety, concern about the effect of vaginal delivery on their figure or sex life, and the ability to choose an auspicious delivery date. Other major factors include fear of pain – less than 1% of women in labor are given epidural analgesia—as well as the demand for a “perfect” child or birth outcome, as a consequence of state policy restricting parents to one child (Tang, Li, and Wu 2006). This family planning policy also shaped risk-benefit calculations, leading women to believe that there would be no future reproductive consequences to having a cesarean (Li and Zhao 2007; Hellerstein, Feldman, and Duan 2014).

Given this landscape of childbirth, I was particularly interested in understanding the interplay of all of the actors involved in the birth decision-making process and, in particular, at the moment of the request. To what extent are women’s requests acknowledged or rejected by doctors, and how do larger structural factors, like state policy, play into these doctor-patient interactions? In other words: who decides how a mother delivers?

Ethnographic orientation

To explore this issue, I conducted ethnographic fieldwork in Shanghai, China for two months at Jiangbei District Hospital, a medium-sized, state-owned hospital. Provider salaries come from the government, although bonuses are paid by hospitals from user fees. Around 2,400 deliveries occur there every year, a little more than a third of which are by cesarean. During my two months, I was able to conduct participant-observation in the outpatient and inpatient departments, attend prenatal classes, and interview women, providers and family members about birth and, in particular, delivery decision-making.

1 The state relaxed this family planning policy, also known as the “One-Child Policy,” in 2016. Now all couples are allowed two children.
Going into the field, I was expecting to investigate CDMR, which is more common among higher socioeconomic women, as noted in the literature. However, the majority of the women giving birth at Jiangbei only had a junior high or high school education and were typically migrants working temporarily in Shanghai. At first, I thought this demographic would not be conducive to my research question pertaining to CDMR. But as I delved deeper into my fieldwork, I realized that socioeconomic status did not matter in terms of who requested cesareans; instead, it mattered in terms of who received them, and whether the requests were considered “legitimate.” This led me to further ask: who possesses the power to make delivery decisions within the Chinese medical system?

The state-provider-patient relationship

In China, the doctor-patient relationship is generally paternalistic. The doctor is seen as an authoritative figure in medical decisions. Often times doctors would perform an exam without informing the woman of what they were doing. In cases in which the physician recommended a cesarean delivery for a medical reason, the woman almost always conceded. In turn, physicians are subordinate to the state in many ways. Doctors working in public hospitals are salaried state employees paid by government and have little say over working conditions or levels of pay (Yang 2008). According to one OB/GYN, physicians are paid only 1600 renminbi per month (250 dollars), which must be complemented by bonuses based on the number of procedures they perform.

In regards to cesarean decision-making, the Shanghai government has begun to control public hospitals’ C-section rates; if it goes above certain percentage, they will cut a portion of the hospital’s income. In response to this pressure, physicians and nurses have started to reduce unnecessary C-sections, particularly those requested by mothers. As Min Wang, a nurse-midwife at Jiangbei, told me,

“Before the rules were looser. In other words - if you know that person, if the mother requests it, or if the mother adamantly says, ‘I want a cesarean’ - then [doctors] will allow it. So then in the cesarean indication box we would write “requested surgery.” But right now, everything is stricter. Now it’s not like if you want a cesarean you can have a cesarean. You have to have a medical indication like macrosomia [excessive fetal birth weight], uterine scar, placenta previa [in which the baby’s placenta covers the opening in the mother’s cervix] or other medical issues. Before if you requested it they would give it to you. But now if you request it there is no way to give them a cesarean."

With stricter controls on cesarean section rates, supposedly “scientific” and “medical” reasons are now the only justifications for cesarean deliveries. However, these restrictions on CDMRs are not foolproof policies. I found that women continue to request and receive cesareans in spite of medical and state authority and scientific guidelines—challenging the paradigm of power structures in the state-provider-patient relationship and demonstrating their agency in birth decision-making.

Women who received requested cesareans

Who are these women who are able to navigate medical and state authority, and how are they able to do so? I found that, as indicated in the literature, those who requested and received a cesarean were more likely to be of high socioeconomic status. According to the logbook of cesarean deliveries at Jiangbei, of women who requested and received cesareans, 90 to 95% were of “VIP” status, or patients who had purchased private, more expensive rooms. The reasons for these requests were consistent with those found in previous research, which I have mentioned earlier. The ways in which these women defended their requests, however, provide insight into how they overcame medical and state authority. Some would refuse to change their personal decision, despite doctors’ recommendations. These women would often indirectly use money or their VIP status to stake their demand, reflecting the commercialization and commodification of health care. Others who requested and received cesarean sections had conceived by in vitro fertilization (IVF). According to one of the doctors I interviewed, requested cesarean deliveries were jus-
tifiable for IVF babies because of the enormous amount of economic investment already funneled into creating the “precious” baby. To them, cesarean sections presented a safer, more controlled method to protect this investment during delivery – again reflecting a certain consumerist and medicalized view of reproduction and childbirth. These examples also show how the predominant power structures and scientific basis for cesarean decision-making may be complicated by women's social and economic capital.

This is further exemplified by the fact that the majority of the nurse-midwives at Jiangbei requested cesareans when they gave birth, even as they discouraged other women from doing so. Like other women, they feared pain or the risk of vaginal birth to their baby. As nurse-midwife Fang Liu told me,

“If you were to ask me which is better, cesarean or vaginal, I would definitely tell you, vaginal delivery is better. This is definite. Using what we have learned in our specialty training, we have learned vaginal delivery is better because there’s less harm to the body, the recovery is faster, all that. But, if you told me to choose, I would still choose cesarean. It’s because I felt like I was just too afraid of childbirth pain. I felt like I was afraid of pain. I didn’t feel like I was the courageous type of person.”

Her story demonstrates how the calculus of decision-making depends on the role that one takes—whether as a provider who takes into account state and professional guidelines in medical-decision making, or as a woman who is giving birth herself. It also, again, raises questions about the supposedly “scientific” basis to delivery decision-making.

Women who did not receive requested cesareans

As I mentioned previously, women of lower socioeconomic status request C-sections as well. However, they do not necessarily receive them because providers may not consider their requests legitimate. Granted, the majority of these women I interviewed did not prefer cesarean deliveries and did not request them before labor. Still, even as they asked for one during labor due to the experience of labor pain, the providers would simply ignore, dismiss, or roll their eyes at them.

But a request is a request. I argue that the reasons women request cesareans before labor are the same as those who request it during labor, except the former is in response to the fear of pain and labor whereas the latter is in response to the experience of it. In either case, their reasoning for cesarean delivery was not any more “scientific.” But when it comes to these lower socioeconomic status women who request cesareans during labor, physicians paternalistically assume that they can handle the pain or that they do not really know what they “really want” because they are not making a rational risk-benefit analysis. However, that physicians do not see requests as valid thus effectively renders these women’s appeals invisible. It dismisses the legitimacy of their claim to agency and control over childbirth. This view, perpetuated by scholars examining only the cesarean deliveries requested by mothers and fulfilled by doctors, brushes over the lived experiences of all Chinese women, as well as the underlying doctor-patient power dynamics that construct the “legitimate request.”

In summary, I have noted that the state and medical profession hold significant authority in controlling the childbirth process in China, although women may have the ability to navigate that authority in the form of CDMR. However, this is highly stratified along socioeconomic lines, and such medical decisions are not necessarily based off of “scientific” but social and economic reasons. That many women continue to demand cesarean sections point to larger issues beyond the power dynamics in the medical system including: the medicalization of childbirth, lack of pain relief or social support during labor, and the One-Child Policy – topics beyond the scope of this paper. While top-down Chinese policies have been more or less effective in reducing cesarean section rates, they have done little to affect the underlying environment generating fear of vaginal childbirth. This can only be addressed by adjusting norms, changing population reproductive policies, providing universal pain relief, and offering social support for all women.
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Exploring The Penn Face: Researching Student Mental Health at Penn
Antonia Diener

Trigger Warning: Mental health, self-harm, suicide

Introduction: Who’s Afraid of the Penn Face?

Student 1 (external): “Hi, how are you?”

Student 2 (external): “Great, thanks! See you!”

Student 1 (internal): Wow, they really have it all together – why don’t I?

Student 2 (internal): I’m really struggling. I don’t know what to do.

Student 3 (external): “I’m SO stressed – I have 2 papers, a midterm, and an a capella show this weekend!”

Student 4 (external): “You think that’s bad – I’ve got 2 midterms, a case study, and a conference – and I only got 2 hours of sleep last night.”

It is perhaps inaccurate to say that all Penn undergraduate students have been involved in conversations following the above two types – that said, it is not inconceivable that these scripts repeat over and over around our campus. Issues of mental health are nothing new to college campuses, and to say that the present moment is unique is perhaps a stretch. Regardless, if the articles published in the Daily Pennsylvanian1 are any indication, the University of Pennsylvania is experiencing a resurgence in interest of mental health, as evidenced by the formation and subsequent policy recommendations of a Mental Health Task Force, among other things.

In all this discourse about mental health among Penn’s undergraduates, one term seems to arise again and again: The Penn Face. According to one college-house sponsored event2, the Penn Face refers to the feeling that other individuals “are on top of it all, causing [students] to feel overwhelmed” when they realize their lives do not seem as effortlessly perfect. In the opening passage, I have demonstrated two sides of the Penn Face as I have experienced it anecdotally as a Penn undergraduate. On the left is perhaps the more classic example – two students in conversation, one exuding a sense of easy confidence and togetherness while secretly struggling to stay afloat. The other student, unaware of this internal struggle, only perceives the external façade, causing them to feel their comrade breezing by. The right passage demonstrates the flip side – a sort of one-upping, or what I refer to somewhat jokingly as the misery Olympics. Both students likely feel overwhelmed and are seeking validation for their experiences, but are also in competition over whose situation is the more taxing, creating a vicious cycle of sorts.

This idea of the Penn Face is not unique – one only need refer to the Duckling Syndrome3, made famous by students at Stanford University, as evidence for the sentiment that this sort of masking behavior is spread across campuses. This project, therefore, does not endeavor to prove that the current mental health climate at Penn is unique or even special. Rather, it is an examination of what exactly students are thinking and feeling at present, in their own words, documented by a member of the undergraduate community. It is important to note that as of this writing, the data collection for this project is ongoing and by no means complete. What I here present, therefore, is less an formal data analysis and more of an exercise in thinking about how to create a project focused on the mental health of


one’s own community, during a time when mental health and wellness are hot-button topics. Without further ado, therefore, let us begin said examination.

Position: Why Am I Here?

Before we can do any work with mental health on campus, I, as investigator and author, see it fit to discuss my own position with regard to this research. In brief: I am a member of the Penn undergraduate body as a senior in the College of Arts and Sciences studying Anthropology (Medical Anthropology and Global Health) and Religious Studies. In my time at Penn, I have been involved with several mental health and wellness groups, and this investment shapes and informs much of my current research. I have been a part of the Reach-A-Peer Helpline as a Peer Counselor for the past three and half years, and have had three separate board positions (Vice President of Training, Director of Training, and President). Additionally, I have been a member of the Counseling and Psychological Services (CAPS) Student Advisory Board – both as a general body member and as a member of the executive board – for three years. Finally, the University of Pennsylvania recently launched a new initiative called Thrive at Penn – a series of online modules designed to introduce students to health and wellness issues on Penn’s campus. As someone involved with the mental health community, I was asked to speak about my experiences on film for distribution to the incoming freshmen, and later the student body at large.

It goes without saying, therefore, that I am not breaking new ground with this research. My motivations for research are drawn from things I have experienced and heard discussed in my various circles, both in and out of mental health/wellness groups. I first heard the term the Penn Face, for example, at a meeting with CAPS staff some years ago. This project, therefore, is not simply an intellectual pursuit of knowledge production; rather, it is the culmination of years of experience and work, formalized via an IRB approved protocol. I seek to validate the experiences of myself and my peers, and to formally examine the current state of the school.

Background: Why Are We Here?

In order to summarize the purpose of this project, I choose to quote from my IRB submission:

“The discourse surrounding mental health has proven to be both varied and long lasting, due to the vital importance of mental health on the student experience. It is imperative, therefore, to understand how the students themselves, particularly those who have been socialized to the Penn lifestyle, discuss and present their own mental health when in public versus in private, in order to understand what is happening at the University.” [Italics added by author for emphasis]

Research Question

The formal question guiding this research is as follows:

What are the social and cultural factors that impact students’ public and private presentations of self with regard to mental health at the University of Pennsylvania (Penn)?

Goal and Specific Aims: What Am I Working For?

The goal of this research is to understand what differences there are, if any, in how students present their mental health and well being in a public versus private setting, as well as to understand how these differences are shaped by specific cultural and social factors at the University of Pennsylvania.

In particular, the goal of this project is broken down into three Specific Aims, which were used to guide and shape the study instrument:

1) To understand students’ attitudes in regard to their own mental health
2) To understand students’ attitudes toward mental health in general

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4 See more: http://www.vpul.upenn.edu/rap-on-line/
5 See more: http://www.puhcweb.com/caps/
6 See more: https://secure.www.upenn.edu/nso/tap.html
3) To understand how students’ perceptions of mental health differ when presented publically versus privately

NB: In regard to these specific aims, students refers to undergraduate students at the University of Pennsylvania who are at least 18 years of age and who have completed at least one full academic year at Penn.

Process: Where to Begin? / Instruments

As with any human subjects research study, this project is beholden to an approved protocol in accordance with the stipulations of the Institutional Review Board at the University of Pennsylvania. The research process is long and multifaceted, as outlined below:

- Research Conception
- Advisor Selection
- Project Approval
- Project Proposal
- Funding Proposal
- Institutional Review Board
- Subject acquisition (in progress)
- Semi-Structured Interviews
- Transcription, Cleaning
- Coding
- Synthesis

Currently, I am in the stage of Subject Acquisition and Semi-Structured Interviews. At the time of this writing, I have conducted seven Semi-Structured Interviews with undergraduate students. These interviews are the only mode of primary data collection I am using for this project will be these interviews, although I will be backing up and contextualizing my data via anthropological research from peer-reviewed journals.

The interview guide covers a wide array of topics. Importantly, it is first and foremost a guide, rather than a script. The questions listed therein are oftentimes repetitive, as the idea is to get people talking rather than to acquire specific answers. I am interested in experiences rather than specific answers, as I make clear during my initial introductory statements.

Considerations: “Have You Thought About…?”

Doing a research project centered on mental health involves a unique set of considerations. Obviously, the subject matter at hand can be incredibly sensitive, and it is important for the researcher to take appropriate precautions. The first step in this process is appropriately obtaining informed consent and making sure that all the participants involved understand the subject matter and possible risks (personal distress, breach of confidentiality) of the project. This purpose is similar to the inclusion of the trigger warning expressed at the beginning of this paper – to ensure anybody involved with the research understands the project at hand. I also communicate to my participants that their participation is completely voluntary, and they will be justly compensated.

Outside the informed consent process, however, there are a multitude of other issues I needed to consider that were unique to a mental health research context. First and foremost, I had to give careful thought and consideration to the language I would employ concerning mental health and suicide in particular. Furthermore, by undertaking this project I was assuming the risk that I could encounter a participant who would express suicidal thoughts to me in the course of the interview. This was the issue with which I was the most concerned, due in part to my backing as a peer counselor, but more broadly out of a human concern for the individuals with whom I am working. After consulting with some members of the CAPS Staff and my advisor, Dr. Frances Barg, I developed a sub-protocol should a situation arise where one of my participants expresses thoughts of self-harm, suicide, or intent to harm others. Should this situation arise – and, frankly, I

8 Please refer to Appendix B for my Informed Consent Form

9 At this point, it is important to make clear that this is an anthropological, rather an psychological, research study, and that I am by no means a trained mental health professional. My disciplinary backing influenced how I conceptualized and formed this research, as well as the constraints within which I was working.
hope it will not – I am charged with discontinuing the interview and stepping outside of the role of researcher in order to get my participant more direct and active help from a trained mental health professional.

Given that I am attempting to understand social and cultural factors at play, furthermore, I needed to be somewhat selective about my participants. I am only interested in working with individuals who have completed at least one full academic year at Penn, in order to get a sense of the effect of the ‘Penn culture’. This idea of a Penn culture raises questions about what it means to do a sort of ‘native anthropology’ – that is, a project pertinent to a community of which I am a part. As such, I have access to information that an outsider would not be privy to. This also begs a question about whether the very term Penn Face is emic or etic.

Where are we?

At this point, I have conducted seven semi-structured interviews. Ideally, I want to interview between 20 and 30 individuals, until I hit saturation in the answers I am receiving. I am not aiming to get a representative sample, as representativeness is neither appropriate nor attainable in this setting.

Conclusion: Goal

At present, I have not yet reached a conclusion for my research question. I have completed seven semi-structured interviews and have some significant data; however, I have not yet formally analyzed said data.

I am excited to continue data collection and learn more about the mental health climate at Penn. I return again to the goal of my research:

The goal of this research is to understand what differences there are, if any, in how students present their mental health and well being in a public versus private setting, as well as to understand how these differences are shaped by specific cultural and social factors at the University of Pennsylvania.

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Student Participants

Student members of the Reach-A-Peer Helpline (RAPLine) and the Counseling and Psychological Services Student Advisory Board (CAPSAB)

Works Referenced


Appendix A: Semi-Structured Interview Guide

I am conducting a research study about mental health here at Penn, about how people talk and think about mental health on campus and how that relates to their perceptions of their own mental health and wellness. Essentially, I’m trying to understand how various social and cultural factors here at Penn influence how people think about mental health, both in terms of their own well being and in terms of how mental health conversations play out in the public sphere. Since you are a member of the Penn community, I want to interview you to hear what you have to say about this topic. This conversation should last no more than one hour. I will only need to speak with you once for this research. This research will inform my senior thesis in the department of Medical Anthropology. I am going to ask you a series of questions and have a conversation with you about mental health on campus. I respect all of the information you are going to share with me. I do not need to record your name and your name will not be associated with your answers in any way. The only people who will have access to the information specifically from this interview will be my advisor Dr. Barg and me, and it will not be released to anyone except as required by law. For example, if you tell me that you intend to harm yourself or someone else, I am required to report that information to someone who can help you. If it is okay with you, I will record this interview on my phone so I can transcribe it later. Once I transcribe the interview, I will delete the recording. I will not save the recording of this interview. Please know that participation in this interview is voluntary. If you choose not to participate in this study there will be no negative consequences for you. You may choose at any time to discontinue participation in this study, also with no negative consequences. I will give you my contact information so you can get in touch with me at any time to ask me any questions you may have about my research, or to continue our conversation about mental health, related resources, etc. At the end of this interview, I will provide you with a packet about Penn and local resources relevant to mental health and wellness. If you need to talk to someone urgently I can provide you with information relevant to your situation. a packet about Penn and local resources relevant to mental health and wellness. If you need to talk to someone urgently I can provide you with information relevant to your situation. Do you have any questions at this time? Will you participate in this study?

[wait for affirmation of consent]

Do I have your permission to record this interview? I will transcribe the interview when it is over and then I will delete the recording. I will not store the recording of this interview.

[wait for affirmation of consent]

Thank you for agreeing to participate in this study! Your help is very important to my research. Remember you can stop participating in this study at any time.

[Are you comfortable in this setting? Is there somewhere more comfortable/more quiet that we can go to talk?]

SECTION ONE: Interviewee Personal Background

I. I’d like to start by learning a little bit about you.

a. What are you studying? / What school are you in?

b. Any interest in mental health / medicine / etc

c. How old are you?

d. What was it like where you grew up?

e. Gender Identity

f. Campus involvement

g. Mental health groups?

h. What made you want to participate in this study?

SECTION TWO: Specific Aim #2 – Attitudes toward mental health in general

**this section will be very free and conversation-
II. How are you liking Penn / how has your Penn experience been?

III. Let’s talk about mental health in a general sense. What does the term mental health bring to mind?
   a. How does mental health look at Penn? What does mental health mean here?
   b. What parts of the Penn experience make discussions of mental health relevant?

IV. Can you describe the Penn environment in terms of mental health?
   a. Probing for sources of stress, social and cultural factors relating to how people present mental health

V. Contextualizing mental health/wellness conversation/s; Discussions of mental health
   a. Let’s talk about a time when you were part of a conversation about mental health. Can you describe that scenario to me? Why did the conversation come up
   b. What was the setting like?
   c. What did you think of the conversation?
   d. Were you comfortable in the conversation? Why/why not?
   e. What did you hear in that conversation? Did anything stick out to you?

VI. Contextualizing mental health at Penn
   a. Can you describe the Penn environment in terms of mental health?
      i. Probe for sources of stress, social and cultural factors relating to how people present and perform mental health
   b. Let’s talk about mental health at Penn at large. How do you think this campus deals with issues of mental health?
   c. What are some stereotypes on campus pertaining to mental health/wellness?
   d. Do you think perceptions of mental health are different at Penn than they are other places? What specific factors, in your experience, influence students’ day-to-day mental health on campus?
   e. Have you seen any articles in national publications (ex NYTimes) pertaining to mental health and wellness (especially here at Penn)? Any thoughts?

VII. Can you think about a friend or someone you know here at Penn who has struggled with issues relating to mental health? Without giving me specifics (please don’t tell me their name), let’s talk about what they struggled with and what you think about the situation
   a. What was it like for you to see your friend in that situation?
   b. What stuck out to you about your friend’s experience?
   c. In light of your friend’s experience, what are your reflections on the Penn culture and mental health?
   d. How do Penn students present themselves in terms of mental health? (probe for description of Penn students in relation to mental health / stress/ social and cultural factors)

VIII. Have you heard of the term ‘Penn Face’?
   a. If YES:
      i. Discuss – in what context have you heard the term? What do you think of the term? How do you conceptualize it?
   b. If NO:
      i. Explain – masking mechanism
         1. Is this something that sounds familiar?

IX. How could you discuss mental health with your peers? / Have you had this type of
X. Personal reflection on mental health
(Segue to S3)

a. How often do you think about your own mental health? Do you ‘check in with yourself’?

b. Prior to this conversation, was mental health something you thought about in any concrete sense?

c. How do you feel about your mental health as a member of a community – specifically the community at Penn?

SECTION THREE: Specific Aim #1 – Attitudes toward personal mental health

XI. Have you had any conversations about mental health recently?

XII. Many students experience struggles with mental health, particularly in college. Have you had any sort of experiences with this?

XIII. How do you feel about your own mental health / wellness?

XIV. How do you handle mental health?

a. Notion of stress

XV. Is there anything specific to Penn that sheds light on how you conceptualize your own mental health and wellness?

SECTION FOUR: Miscellany / Wrap Up

XVI. Is there anything else you would like to add? XVII. What’s on your mind?

XVIII. Hand out MENTAL HEALTH RESOURCE PACKET

a. Explain resources

THANK YOU!

Appendix B: Informed Consent Form

Title of the Research Study: The Penn Face: Deconstructing Mental Health at Penn

Protocol Number: 824462

Principal Investigator: (name, address, phone and email) - Dr. Frances Barg – 915 Blockley Hall, 423 Guardian Drive, Philadelphia PA 19104 – 215 746 4273 – bargf@uphs.upenn.edu

Co-investigator: (name, address, phone and email) - Antonia Diener – 4027 Walnut Street, Philadelphia PA 19104 – 570 972 7964 – antonia@sas.upenn.edu

Emergency Contact: (name, address, phone and email) - Dr. Frances Barg – 915 Blockley Hall, 423 Guardian Drive, Philadelphia PA 19104 – 215 746 4273 – bargf@uphs.upenn.edu

You are being asked to take part in a research study. This is not a form of treatment or therapy. It is not supposed to detect a disease or find something wrong. Your participation is voluntary which means you can choose whether or not to participate. If you decide to participate or not to participate there will be no loss of benefits to which you are otherwise entitled. Before you make a decision you will need to know the purpose of the study, the possible risks and benefits of being in the study and what you will have to do if decide to participate. The research team is going to talk with you about the study and give you this consent document to read. You do not have to make a decision now; you can take the consent document home and share it with friends, family doctor and family.

If you do not understand what you are reading, do not sign it. Please ask the researcher to explain anything you do not understand, including any language contained in this form. If you decide to participate, you will be asked to sign this form and a copy will be given to you. Keep this form, in
it you will find contact information and answers to questions about the study. You may ask to have this form read to you.

**What is the purpose of the study?**

The purpose of the study is to learn more about the social and cultural factors that impact students' public and private presentations of self with regard to mental health at the University of Pennsylvania (Penn), which will inform a Senior Honors Thesis for the Department of Anthropology.

**Why was I asked to participate in the study?**

You are being asked to join this study because you are a member of the undergraduate student body at the University of Pennsylvania who has been a member of the undergraduate community for at least one (1) full academic year. Furthermore, you have either responded to one of the recruiting advertisements or have been referred by another participant in the study. You have been selected for this study based on both your willingness for participation and since you represent a diverse student viewpoint.

**How long will I be in the study? How many other people will be in this study?**

The study will take place over a period of 1 year. You will be asked to participate in only one session (this session), the length of which will likely not exceed one hour. There will ideally be a total of 20 participants involved in this research.

**Where will the study take place?**

You will be asked to come to a quiet study room in Van Pelt Library, located at 3420 Walnut Street on a date and time chosen at your convenience.

**What will I be asked to do?**

As part of this project, you will be asked to participate in a single, one-on-one guided conversation with Antonia Diener, a senior in the department of Anthropology. This conversation should not exceed one hour in length, and will be done at a time of your choosing. Conversations will be conducted in a reserved study room in Van Pelt Library (3420 Walnut Street). The content covered in this guided conversation will include your personal attitudes towards mental health, general attitudes toward mental health, how public versus private notions and presentations of mental health differ, and the social and cultural factors at play at the University of Pennsylvania concerning students' mental health. Once this conversation is over, you will be compensated $10 for your time, and nothing else will be required of you.

**What are the risks?**

There are two potential risks associated with participation in this research:

1) **Personal distress** – given the content of these conversations, it is possible you will experience some emotional distress discussing mental health issues. The risk of distress is unlikely given the voluntary nature of this study; however, please know that you may discontinue your participation in this research at any time with no negative consequences. The interviewer is a trained peer counselor, and will be aware of any signals that require follow-up. Should you become intensely distressed during participation, the researcher may prematurely stop your participation. If you mention that you are planning harm to yourself or another person, the researcher is required to escort you to the emergency room so that you can connect with a trained mental health professional. The interviewer also has a list of resources available to students who experience emotional distress.

2) **Breach of confidentiality** – Through this process, it is possible that there will be a breach of confidentiality, meaning that information you have communicated in confidence is no longer confidential (ie your participation in this research is no longer confidential and content from your conversation will inadvertently be associated with identifying personal information). However, please know that the research team has taken several steps to prevent this. First, all information that you provide will be de-identified – your name will not be recorded in association with your conversation transcript, and your name will be
replaced with a code number. All identifying information (for yourself or others) will be removed. The document linking code numbers to participants’ names will be stored in a locked file in a locked room in a security-guarded University building. Furthermore, this informed consent document, as well as the receipt you will receive for compensation confirmation, will likewise be kept separate from the data set and secured in a locked file in a locked room in a security-guarded University building.

How will I benefit from the study?

There is no benefit to you. However, your participation could help us understand how students at the University of Pennsylvania think and talk about mental health, which can benefit you indirectly. In the future, this may help other people to understand students at the University, and shape policy interventions. The completed thesis will be given to the staff of Counseling and Psychological Services (CAPS) as a case-study to shape their understanding of current University of Pennsylvania students.

You will also receive $10 monetary compensation for your participation. Additionally, you will also receive a packet containing information about campus and Philadelphia resources relevant to mental health and well being.

What other choices do I have?

Your alternative to being in the study is to not be in the study.

What happens if I do not choose to join the research study?

You may choose to join the study or you may choose not to join the study. Your participation is voluntary.

There is no penalty if you choose not to join the research study. You will lose no benefits or advantages that are now coming to you, or would come to you in the future. Your therapist, social worker, nurse, doctor or interviewer will not be upset with your decision.

If you are currently receiving services and you choose not to volunteer in the research study, your services will continue.

When is the study over? Can I leave the study before it ends?

The study is expected to end after all participants have completed all visits and all the information has been collected. Your participation ends at the completion of your interview.

You have the right to drop out of the research study at anytime during your participation. There is no penalty or loss of benefits to which you are otherwise entitled if you decide to do so. Withdrawal will not interfere with your future care.

If you no longer wish to be in the research study, please contact Antonia Diener, at 570 972 7964 or antonia@sas.upenn.edu and take the following steps:

- Explain you no longer want to participate in the study
- Receive confirmation you are no longer a part of the study

How will confidentiality be maintained and my privacy be protected?

We will do our best to make sure that the personal information obtained during the course of this research study will be kept private. While we will make every effort to safeguard your privacy, your personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be associated with any data that you provide. The research team will take every precaution to ensure your confidentiality will be maintained. The only people who will have access to study information will be Antonia Diener (who is conducting this research for her senior thesis in the department of Anthropology), Dr. Frances Barg (advisor), and the IRB at the University of Pennsylvania. All participants in this research will be de-identified. After this conversation, your transcript and associated documents (this informed consent form, the receipt from...
compensation) will be given a unique code number to protect your identity. The document linking the code number to your identity will be stored in a locked file in a locked room in a security-guarded University building. Otherwise, your name and other identifying information will NOT be associated with your conversation transcript.

**Will I have to pay for anything?**

There are no costs associated with participating in this study.

**Will I be paid for being in this study?**

You will be compensated $10 for participating in this study. You will receive this compensation upon completion of the guided conversation.

**Who can I call with questions, complaints or if I’m concerned about my rights as a research subject?**

If you have questions, concerns or complaints regarding your participation in this research study or if you have any questions about your rights as a research subject, you should speak with Dr. Frances Barg, the Principal Investigator listed on page one of this form. If a member of the research team cannot be reached or you want to talk to someone other than those working on the study, you may contact the Office of Regulatory Affairs with any question, concerns or complaints at the University of Pennsylvania by calling (215) 898-2614.

When you sign this document, you are agreeing to take part in this research study. If you have any questions or there is something you do not understand, please ask. You will receive a copy of this consent document.

Signature of Subject

Print Name of Subject

Date
Subsistence and Ritual: Paleobotany at the Smith Creek Site
Alexandria Mitchem

This paper examines the paleobotanical samples from the Smith Creek Archaeological Project. The paper will outline the history of excavations at Smith Creek and what they have shown about the site chronology. Additionally, the paper will review both the general and paleobotanical excavation methods, as well as the paleobotanical recovery procedures. Finally, the paper will present the plant materials found at Smith Creek and discuss two of the site’s more unusual finds. In conclusion, this paper will argue that Smith Creek’s botanical samples show a site with normal subsistence patterns, that spans multiple time periods, and in addition, has evidence for ritual activity.

Excavations at Smith Creek

Smith Creek Survey History

The Smith Creek site is located in Wilkinson County, Mississippi on the bluff edge overlooking the Mississippi River floodplain. It consists of three mounds A, B, and C, dating to the Coles Creek period surrounding an open plaza, which is typical of Coles Creek sites (Figure 1).

Recently, in 2013, Mounds A and C and the eastern edge of the plaza were investigated as part of the Mississippi Mound Trail by the University of North Carolina, Chapel Hill. These various surface collections and initial excavations indicated that the site was rich in pottery and organic materials (Kassabaum, Steponaitis, and Melton 2014). From the pottery types uncovered in these excavations and a series of radiocarbon dates from the Mississippi Mound Trail Project, the site was assumed to be primarily Coles Creek. Excavations in 2015 in Mounds A and C further confirmed this date and 2013 and 2015 excavations in eastern and southern plaza were found to contain mixed Coles Creek and Plaquemine deposits.

2015 Field Season

2015 was the first season for the University of Pennsylvania’s Smith Creek Archaeological Project. A unit was opened half way up the eastern slope of Mound A, 1046R466, and the western slope of Mound C, 1077R625. Two contiguous units, 989R546 and 991R546, were opened in the southern portion of the plaza. The goals of these excavations were to determine more about the nature of the society during the Coles Creek period, which could then be applied to answering larger questions about how social structure and subsistence changed from the periods surrounding it.

General Conclusions: Site Chronology

During the 2015 season, the mounds were confirmed to be Coles Creek, due to stylistic dating of pottery and, in the case of Mound A, Accelerator Mass Spectrometry (AMS) radiocarbon dating of plant material from the midden. AMS dating is a specific type of radiocarbon dating. It requires smaller sample sizes and gives more precise dates than other forms of carbon dating making it ideal for plant remains (Beta Analytic Radiocarbon Dating).

The chronology of the South Plaza proved to be more complicated. Over the initial weeks of excavation, sherds with clear Plaquemine designs were found in the dry screen in significant enough numbers that the area began to look like a later deposit. Once corn was found in a water screening sample from the same unit, this suspicion seemed confirmed. However, we were also recovering significant amounts of Coles Creek ceramic material. AMS radiocarbon dates on plant material from the midden and features uncovered in the South Plaza indicated that at least part of the plaza occupation took place during the Coles Creek period, as originally suspected, while some activity undoubtedly continued into Plaquemine. Further excavations in subsequent seasons will help elucidate this.

South Plaza (989R546 and 991R546)

The South Plaza was excavated in an attempt to discern what off-mound activities were taking place at Smith Creek. Feltus, a contemporary site 35 miles to the north, showed significant ritual activity in its southern plaza (Kassabaum 2014). Furthermore, Joe Collins’s excavations in the Smith Creek south plaza found a line of
posts, significant midden, and evidence of charcoal pits (Boggess and Ensor 1993). Combined, this evidence suggested that the South Plaza had the potential to provide important information about the use of the Smith Creek landscape more broadly.

The 2015 units yielded a thick midden, rich in pottery and paleobotanical remains, with 31 possible features beneath. Some of these proved to be false features when excavated, and some could be seen extending higher into the profile and therefore had likely been missed at their tops in the previous level. Figure 2 shows a profile map of the units’ walls, showing the stratigraphy and some features which were bisected by the excavation limits. The stratigraphy shows a plow zone, which contained modern and historic contaminant, on top of a midden zone rich in archaeological material. The A horizon, which would have been the topsoil during prehistoric occupation, is unidentifiable, however the E horizon, which would have lain between the topsoil and sterile subsoil, and the Bt Horizon, which is the sterile subsoil are clearly visible. Figure 3 shows a plan view map of the units’ floor containing features. These features are a combination of 5 pits (Features 9, 15, 21A and B, 27, 28) and 24 possible post holes (Features 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 13, 14, 16, 17, 18, 19, 20, 22, 23, 24, 26, 29, 30, 31), some of which yielded pottery and botanical remains. For this study, all of the flotation samples were taken from Level 3 excavations in both units, which comprises 53 to 76 cm below the datum and falls entirely within the midden layer, and from Feature 9, a small charcoal pit in the southeastern corner of the excavation.

Without further excavations it is difficult to know exactly when the features were dug and the midden was laid down. The best conclusion at the present is that the southern plaza area of the site was used, substantially, in at least two different time periods, Coles Creek and Plaquemine.

**Paleobotanical Recovery**

The material examined in this paper was recovered during the 2015 excavations. The vast majority of the paleobotanical remains were recovered via flotation. In a unique case, some carbonized material was found in situ in Feature 9, a small charcoal-filled pit. This was carefully extracted with much of the surrounding soil matrix, packaged, and brought back to the laboratory. Additionally, paleobotanical materials were recovered from both the dry and water screens when noted, though that material is not included in my formal analyses.

The methods used for in-field recovery were consistent with the standard practices for this region. Each level below the perceived plow zone was sampled for water screening and flotation. Water screening samples consisted of five five-gallon buckets, and were screened with a hose through 1/4 and 1/16th inch screens in the field. The presence of corn in the water screening sample from Level 3 in 989R546 provided the basis for this research’s focus on the South Plaza.

Flotation is a method by which water is agitated, either mechanically or manually, causing the now cleaned carbonized plant remains in a sample to either sink to the bottom of a tank, comprising a part of the heavy fraction along with ceramics, stone, and other artifactual materials, or float to the top to be skimmed off into the light fraction. Since the introduction of this technique much finer and more diverse sets of botanical remains have been recovered from sites (Marston, Warinner, and Guedes 2014). Flotation samples at Smith Creek were generally 10 liters and were processed in the field with a mechanized flotation machine. In the case of certain features, the entire context was floated, resulting in samples of more or less volume. In the case of large features, left over soil was either water screened or dry screened depending on the discretion of the unit supervisor.

Both recovery methods introduce an artificial bias to the sample. The deposition itself contains a limited number of the plants that would have been utilized prehistorically, a number that would be further decreased by archaeological sampling and subsequent processing. While methods were chosen in an attempt to recover the most comprehensive sample, all data is, by its nature, partial.
Figure 1: Map of Smith Creek (22Wk526)

Figure 2: Stratigraphy of the South Plaza, Units 989R546 and 991R546

Figure 3: Floor map of the South Plaza, Units 989R546 and 991R546, with features labeled
Samples were further processed in the Center for the Analysis of Archaeological Materials at the University of Pennsylvania's Museum of Archaeology and Anthropology. All plant material recovered was carbonized, and anything that was not was dismissed as modern contamination. Only one bag of water screened material was examined (Bag 41), and only the 1/16th-inch fraction was studied due to the presence of corn noted in the field. This sample was scanned for corn and the other material was replaced for further sorting at a later time. The other samples examined were the light and heavy fractions of flotation samples. Both the remainder of this sample and the other water screening samples still contain large amounts of unsorted botanical material, which could be interesting if examined for another project.

For both the flotation and water screening, all sorting was done with either the naked eye, a low-magnification binocular head magnifier, or a low-powered light microscope. Botanical remains were identified to the species level when possible. When not possible, some were put into a category of multiple possible species, or genus or family-level designations. Samples were sorted by the author and then checked for accuracy by Megan Kassabaum. Resources used to identify plant remains include Martin and Barkley’s seed identification manual (1961) and Fritz’s Paleoethnobotany laboratory guide (2007). Initially the intent was to sort samples from multiple areas on the site, however the South Plaza produced unexpected information that merited the sole consideration of a thesis of this sort.

Data are split into the following major categories: nuts, starchy and oily seeds, fruits, and miscellaneous. The four species of nuts identified are native to the region and commonly found at Coles Creek sites, making them an expected find. Five starchy and oily seed species, that would likely have been eaten for food, were identified. Again, all were expected local plants.

**Conclusion**

Smith Creek fits the expected subsistence strategy for a Coles Creek site, with some exceptions. The presence of corn on site, however, indicates a later usage by Plaquemine people, though the extent of this occupation is still unknown. The presence of sweet gum poses interesting questions about ritual plant use on site, as it has no nutritional properties and cannot be used as food. While it was likely used as a medicine, the context in which it was recovered suggests something else was occurring.

Overall the Smith Creek site was well understood from excavations in 2013 and 2015. However, it is only in conjunction with paleobotanical analysis that the complicated use and reuse of the site has come to attention, and it is likely through further paleobotanical analysis that answers to remaining questions will be obtained.

**Plants Recovered at Smith Creek**

Discussed in this article are the plants recovered at Smith Creek during the 2015 field season. All plants recovered are listed in Table 1 and the provenience of each sample is shown in Table 2.

The data examined in this section are from four of the Smith Creek samples from 989R546 and 991R546, both in the southern plaza. Because all of these samples essentially come from one area on the site and from the same stratigraphic context, no intrasite comparisons were made and the data are treated as one set. The purpose is less for comparing concentrations of any plant, and more to discuss the plants present at Smith Creek in general.
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Usages</th>
<th>Taxonomic Name</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nuts</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acorn</td>
<td>Nut (Starchy)</td>
<td><em>Quercus</em> spp.</td>
</tr>
<tr>
<td>Hickory</td>
<td>Nut (Oily)</td>
<td><em>Carya</em> spp.</td>
</tr>
<tr>
<td>Pecan</td>
<td>Nut (Oily)</td>
<td><em>Carya illinoensis</em></td>
</tr>
<tr>
<td>Walnut</td>
<td>Nut (Oily)</td>
<td><em>Juglans nigra</em></td>
</tr>
<tr>
<td><strong>Starchy and Oily Seeds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amaranth</td>
<td>Seeds (Starchy)/Greens</td>
<td><em>Amaranthus</em> sp.</td>
</tr>
<tr>
<td>Chenopod</td>
<td>Seeds (Starchy)/Greens</td>
<td><em>Chenopodium</em> sp.</td>
</tr>
<tr>
<td>Cheno-am</td>
<td>Seeds (Starchy)/Greens</td>
<td><em>Chenopodium/Amaranthus</em> sp.</td>
</tr>
<tr>
<td>Maygrass</td>
<td>Seeds (Starchy)/Greens</td>
<td><em>Phalaris caroliniana</em></td>
</tr>
<tr>
<td>Smartweed/Knotweed</td>
<td>Seeds (Starchy)/Greens</td>
<td><em>Polygonum</em> spp.</td>
</tr>
<tr>
<td>Squash</td>
<td>Seeds (Oily)</td>
<td><em>Cucurbita</em> sp.</td>
</tr>
<tr>
<td><strong>Fruits</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grape</td>
<td>Fruit</td>
<td><em>Vitis</em> sp.</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bedstraw</td>
<td>Medicinal</td>
<td><em>Galium</em> sp.</td>
</tr>
<tr>
<td>Corn</td>
<td>Vegetable</td>
<td><em>Zea mays</em></td>
</tr>
<tr>
<td>Crabgrass</td>
<td>Weed</td>
<td><em>Digitaria</em> sp.</td>
</tr>
<tr>
<td>Purslane</td>
<td>Medicinal</td>
<td><em>Portulaca</em> sp.</td>
</tr>
<tr>
<td>Sweet Gum</td>
<td>Medicinal/Ritual</td>
<td><em>Liquidambar</em> stryaciflua</td>
</tr>
</tbody>
</table>

Table 1: Species identified as Smith Creek

<table>
<thead>
<tr>
<th>Catalog Nos. Heavy</th>
<th>Catalog Nos. Light</th>
<th>Analysis Unit</th>
<th>Volume (L)</th>
<th>Plant Weight (g)</th>
<th>Wood Weight (g)</th>
<th>Other Weight (g)</th>
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</thead>
<tbody>
<tr>
<td><strong>South Plaza, Midden</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>39</td>
<td>989R546</td>
<td>10</td>
<td>1.29</td>
<td>0.69</td>
<td>67.28</td>
</tr>
<tr>
<td>67</td>
<td>68</td>
<td>991R546</td>
<td>10</td>
<td>0.86</td>
<td>0.41</td>
<td>51.45</td>
</tr>
<tr>
<td><strong>South Plaza, Feature 9</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>108</td>
<td>109</td>
<td>989R546</td>
<td>16</td>
<td>16.30</td>
<td>0.96</td>
<td>6.23</td>
</tr>
</tbody>
</table>

Table 2: Provenience of samples at Smith Creek
Works Referenced


Boggess, Elizabeth M., and Bradley E. Ensor 1993 Archaeological Investigations at the Fort Adams Volunteer Fire Department, Inc. Firehouse Site: Smith Creek Site 22Wk526. Report on file, Mississippi Department of Archives and History, Jackson.


Fritz, Gayle J. Paleoethnobotany Laboratory Guide, Department of Anthropology, Washington University in St. Louis https://pages.wustl.edu/peblabguide


Williams, Michele L. 2000 Evidence for Medicinal Plants in the Paleoethnobotanical Record of the Eastern United States during the Late Woodland through Mississippian Periods. Unpublished Ph.D. dissertation, Department of Anthropology, Washington University, St. Louis, Missouri.
Time and Place at Smith Creek:  
A Brief Analysis of Lower Mississippi Valley Pottery  
Zhenia Bemko

Abstract:
The Smith Creek Archeological Project offered a perfect opportunity to study prehistoric Native Americans. This particular mound site is located in the Lower Mississippi River Valley, and what is known from preliminary excavations is that the site was primarily occupied during the Coles Creek period, roughly 700-1200 AD. It is also known that this was a time of great transformation in the prehistoric American South. According to scholar Ian Brown (1973), it is important to analyze undecorated sherds as well as decorated because, “the combination of the period and phase marker percentages tells the archeologist what was occurring in the overall period.” Because this project endeavors to strengthen and extend current knowledge regarding this period I hope to add what knowledge and assistance I can. As a result, I have spent much time under the guidance of Dr. Meg Kassabaum, along with various finding aids and publications, analyzing the diagnostic or decorated pottery sherds retrieved during Smith Creek Archeological project’s most recent field season. After developing a simple analytical model, my preliminary findings support the prediction that cultural occupation was continuous despite its dynamic variation.

Preface and Acknowledgements:
During the summer of 2015 from late May to late June I participated in the Smith Creek Archeological project. Having mainly focused on Historical Native American ethnographic material from the Northeast I found myself particularly out of my depth during the expedition. However, I coveted field school experience, so I jumped at the opportunity to unearth prehistoric materials from the Lower Mississippi Valley. The abbreviated season was completed in 4 weeks, and although quite a bit of washing was done in the field the majority of the lab work was conducted at the University of Pennsylvania under the supervision of Dr. Meg Kassabaum. Due the expert assistance of Sheridan Small, Ashely Terry, Arielle Person, Alex King, Zhenia Bemko and Dr. Kassabaum’s Intro to Archeology classes the lab work was completed in short order. Under the dedicated, careful and watchful eye of Dr. Kassabaum much of the ceramic analysis and rim drawing is currently being completed through the assistance of Zhenia Bemko, Alex King and Arielle Person.

Introduction:

Site
The site is located roughly fourteen miles west of Woodville, Mississippi, where route 24 runs right through it. Smith Creek (22Wk526), named for the small river that also runs through the site, is about four miles northeast of the Mississippi River, which acts as one of the borders to Louisiana. The site was chosen because of previous investigations led by the University of North Carolina at Chapel Hill, during the Mississippi Mound Trail and the need for further information.

The site consists of three pre-historic Indian mounds with a large plaza nestled in the center. Mound A is roughly 10 m tall, located to west, and was damaged by construction of route 24 in 1960. Mound B is located to the north, surrounded by a moat and a stand of trees. It was excavated in the 1960s by Mr. J Ashely Sibley and the Junior Archeological Society. Mound C is located to the East, and partially eroded by Smith Creek. The South Plaza located in the South is thought to have the latest occurrence of inhabitation. (Kassabaum 2014)

Excavation and Laboratory Methods
Excavations took place, between May 25th and June 20th 2015, at three separate locations on the site while various surface collections and Oakfield cores (generally mapping out the North Plaza) were used to flesh out our data set. The mounds were excavated in 1 x 2 m units and the Plaza in two adjacent 2 x 2 m units. All digging was conducted by hand using primarily shovels and trowels in arbitrary 20 cm levels, however, due previous test excavations on Mound C stu-
dents were able to follow two mound surfaces. Soils on Mound C and the South Plaza were dry screened through half inch mesh where Mound A was eventually screened with quarter inch mesh. Midden layers, features and surfaces were water screened through sixteen-inch mesh and several 10-liter flotation samples were taken (all consistent with the Mississippi Mound Trail).

Processing and analysis of recovered materials takes place at the University of Pennsylvania. July to November 2015 was devoted to material processing, while material analysis is currently being conducted. Also, an array of materials were recovered, including decorated and non decorated ceramics, bone fragments, fired clay, stone tools and lithics, shells, charcoal and various concretions. However, for the purposes of this document, serving as a preliminary confirmation of site inhabitance, it was prudent to focus primarily on ceramics. Classifications were based on the nomenclature created by Phillips (1970) and elaborated by Williams and Brain (1973) to identify ceramic types and varieties.

Background:

Culture

For contextual information it is beneficial to provide a brief discussion of characteristics of the prehistoric cultures existing during Neo-Indian era. This era can be broken into six periods, five of which are thought to be represented at Smith Creek, seen in Figure 1.1. This knowledge is important because the breakdown of cultural periods informs pottery classification and vice versa. First among them was Poverty Point which was more socio-politically complex than bands of hunter gatherers as represented by their earthworks and extensive trade networks. These people greatly utilized their flora and faunal resources, and relied less on stone tools. During the Poverty point culture bone objects are rare which greatly differs from the Tchefuncte culture. Next the Tchefunte culture, although regarded as less complex than Poverty Point, is recognizable by its proliferation and use of pottery. It’s interesting that most sources state that cultural transitions occur due to a degeneration, decline or collapse of the previous culture, however, they acknowledge influences from regional expression of subsequent cultures. (Jones 1989, Brown 1973, Ford 1936, Neuman 1984, Toth 1988) For example, the Poverty Point culture is said to have degenerated and collapsed yet the introduction of influences from both the Tchefuncte and Hopewellian cultures imply a level of continuity (Brown 1973).

However, as a result of Hopewellian interactions, which were known for a great deal of mobility and trade, artifacts were transported widely. The Marksville culture is simply a southern regional expression of the Hopewell culture, represented in very distinctive decorative motifs on pottery. The Marksville culture is known for its complex type of sites and characteristic conical mounds.

But, interactions decreased as agriculture and self reliance increased leading to innovation ushering in what is known to be a transitional period called Troyville or Baytown. Platform mounds are common during this period. In spite of distinctive ceramic motifs Baytown leads to the Coles Creek florescence.

Although, it is thought that the Coles Creek culture was agricultural there is no evidence of such at Smith Creek. This period is seen through the widespread use of pyramidal mounds. Whose blending with the Plaquemine culture gave way the Plaquemine culture. Coles Creek culture eventually gives way to Plaquemine culture.

The framework used for ceramic chronology of the Natchez Bluffs Region, shown in Figure 1.1 was established by Brown (1998) in concert with many other scholars. The basic foundation suggests that:

> Classification that uses the type-variety concept involves a taxonomic approach, wherein classes of whole artifacts are hierarchically arranged and define …[t]he fundamental criterion in the formation of types is the “decorative idea” (technique and style)…This hedging is a matter of practicality, in order to establish parameters for the rather limited range of decorative ideas and the reutilization of certain basic ones through time and space. The underlying consideration, then, in...
the establishment of types is a certain decorative identity that may also be presumed to demonstrate a reasonable degree of spatial-temporal continuity and thus the dimensions of the same idea.... (Williams 88)

This method also relies heavily on Philips’ (1970) work.

<table>
<thead>
<tr>
<th>Date</th>
<th>Natchez Bluffs Phase</th>
<th>Lower Yazoo Phase</th>
<th>Culture</th>
</tr>
</thead>
<tbody>
<tr>
<td>AD 1730</td>
<td>Natchez</td>
<td>Russell</td>
<td></td>
</tr>
<tr>
<td>AD 1682</td>
<td>Emerald</td>
<td>Wasp Lake</td>
<td></td>
</tr>
<tr>
<td>AD 1500</td>
<td>Foster</td>
<td>Lake George</td>
<td></td>
</tr>
<tr>
<td>AD 1350</td>
<td>Anna</td>
<td>Winterville</td>
<td></td>
</tr>
<tr>
<td>AD 1200</td>
<td>Gordon</td>
<td>Crippen Point</td>
<td>Plaquemine / Mississippian</td>
</tr>
<tr>
<td>AD 1100</td>
<td>Balmoral</td>
<td>Kings Crossing</td>
<td>Coles Creek</td>
</tr>
<tr>
<td>AD 1000</td>
<td>Ballina</td>
<td>Aden</td>
<td></td>
</tr>
<tr>
<td>AD 850</td>
<td>Sundown</td>
<td>Bayland</td>
<td></td>
</tr>
<tr>
<td>AD 750</td>
<td>Hamilton Ridge</td>
<td>Deasonville</td>
<td>Baytown</td>
</tr>
<tr>
<td>AD 400</td>
<td>Issaquena</td>
<td>Issaquena</td>
<td>Marksville</td>
</tr>
<tr>
<td>AD 200</td>
<td>Grand Gulf</td>
<td>Anderson Landing</td>
<td>Tchefuncte</td>
</tr>
<tr>
<td>AD 1</td>
<td>Panther Lake</td>
<td>Tuscola</td>
<td></td>
</tr>
</tbody>
</table>

Figure 1.1 Chronology
Data:

The chart below depicts the number of decorated sherds classified into their respective type-varieties based on the location of their recovery. Also, the totals have been placed with respect to which phase the type-variety is prevalent in. Using Figure 1.1 allows the reader to better understand the cultures associated with each type-variety and phase.

<table>
<thead>
<tr>
<th>Phase/Type-Variety</th>
<th>Mound A</th>
<th>Mound C</th>
<th>South Plaza</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panther Lake</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Alexander Incised, var. Green Point</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alexander Pinched, var. Castine Bayou</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Issaquena</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alligator Incised, var. Alligator</td>
<td></td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Evansville Punctated, var. Evansville</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Marksville Stamped, var. Mabin</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Marksville Stamped, var. Manny</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Marksville Stamped, var. Troyville</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Hamilton Ridge</td>
<td></td>
<td>38.331</td>
<td>29.082</td>
</tr>
<tr>
<td>Coles Creek Incised, var. Chase</td>
<td>5</td>
<td>2.25</td>
<td>4.75</td>
</tr>
<tr>
<td>Coles Creek Incised, var. Hunt</td>
<td>2</td>
<td>1.5</td>
<td>2</td>
</tr>
<tr>
<td>Coles Creek Incised, var. Judd Bayou</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Coles Creek Incised, var. Phillips</td>
<td>17.33</td>
<td>7.33</td>
<td>22.999</td>
</tr>
<tr>
<td>French Fork Incised, var. Wilzone</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Landon Red on Buff, var. unspecified (Landon)</td>
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<td>2</td>
<td></td>
</tr>
<tr>
<td>Larto Red Slipped, var. Larto</td>
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<td>4</td>
<td>4.5</td>
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<tr>
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<td>5</td>
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<tr>
<td>Mulberry Creek Cordmarked, var. unspecified</td>
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<td>3</td>
<td>10</td>
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<tr>
<td>Woodville Zoned Red, var. Woodville</td>
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<td>6</td>
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<tr>
<td>Sundown</td>
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<tr>
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</tr>
<tr>
<td>Coles Creek Incised, var. Chase</td>
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<td>6.75</td>
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<tr>
<td>Coles Creek Incised, var. Coles Creek</td>
<td>3</td>
<td>0.5</td>
<td>7.75</td>
</tr>
<tr>
<td>Coles Creek Incised, var. Hunt</td>
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<td>1.5</td>
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<td>Coles Creek Incised, var. Judd Bayou</td>
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<td>2</td>
<td>2</td>
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<td>17.33</td>
<td>7.33</td>
<td>22.999</td>
</tr>
<tr>
<td>Coles Creek Incised, var. Stoner</td>
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<td>0.75</td>
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<tr>
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<tr>
<td>French Fork Incised, var. Wilzone</td>
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<td>Larto Red Slipped, var. Larto</td>
<td>1.5</td>
<td>4</td>
<td>4.5</td>
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</tbody>
</table>

Note: because many type-varieties span two or more phases the author has proportioned the sherds accordingly. For example, Coles Creek, Incised var. Philips exists in the Hamilton Ridge, Sundown and Ballina phases, so one sherd is divided and a third of a sherd is listed in each of the phases.
<table>
<thead>
<tr>
<th>Variation</th>
<th>Count1</th>
<th>Count2</th>
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**Ballina**

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<td>1.5</td>
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<tr>
<td>Coles Creek Incised, var. Coles Creek</td>
<td>9</td>
<td>1.5</td>
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<tr>
<td>Coles Creek Incised, var. Phillips</td>
<td>17.331</td>
<td>7.332</td>
<td>22.999</td>
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<tr>
<td>Coles Creek Incised, var. Stoner</td>
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<td>1.5</td>
<td>8</td>
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<tr>
<td>French Fork Incised, var. French Fork</td>
<td>1.5</td>
<td>1.5</td>
<td>3</td>
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<tr>
<td>French Fork Incised, var. Laborde</td>
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<td>0.5</td>
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<td>6</td>
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<tr>
<td>Mazique Incised, var. Mazique</td>
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**Balmoral**

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<tr>
<td>Coles Creek Incised, var. Blakely</td>
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<tr>
<td>Coles Creek Incised, var. Greenhouse</td>
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<td>1</td>
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<td>Evansville Punctated, var. Rhinehart</td>
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<td>Mazique Incised, var. Kings Point</td>
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**Gordon**

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<tr>
<td>Avoyelles Punctated, var. Tatum</td>
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<tr>
<td>Chevalier Stamped, var. Perry</td>
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<td>Coleman Incised, var. Coleman</td>
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<td>1</td>
<td>4</td>
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<td>Coles Creek Incised, var. Hardy</td>
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<td></td>
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**Anna**

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<td>26</td>
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<td>Anna Incised, var. Australia</td>
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<tr>
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<tr>
<td>Anna Incised, var. unspecified</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Carter Engraved, var. Carter</td>
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<td></td>
<td>9</td>
</tr>
<tr>
<td>Carter Engraved, var. unspecified</td>
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<tr>
<td>L'eau Noire Incised, var. Bayou Bourde</td>
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<td>3</td>
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<td>L'eau Noire Incised, var. L'eau Noire</td>
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</tr>
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</table>
Mazique Incised, var. Manchac 0.5 0.5 1.75
Old Town Red, var. unspecified 1
Plaquemine Brushed, var. Plaquemine 0.75 1.5 132
Plaquemine Brushed, var. unspecified 5.25 4.5 40.5

**Figure 1.2**

*Analysis:* As a result of an exercise conducted during an independent study of the material, the author created an excel database for data regarding decorated pottery. Figure 1.3 is a linear graph that expresses the frequency of sherds found at each location based on the phase or phases that they are attributable to. The exact number of sherds corresponds to the totals found in Figure 1.2.

![Figure 1.2](image-url)

**Figure 1.3**

*Interpretation:*

The data conveyed in Figure 1.3 supports the initial interpretations drawn during The Mound Trail. (Kassabaum 2014) The site was used heavily both on and off the mounds. We were unable to ascertain any distinct “construction episode” from the Anna Phase on Mound A. This might be due to the location of our unit on that mound. We placed the unit in a step created by the construction of route 24; therefore, digging did not begin from the top of the mound. There seems to be a peak of construction during the Sundown phase. Also, our field school did not reach the bottom of Mound A, so initial construction may have occurred during the Issaquena phase or perhaps earlier. As in the Mound Trail, Mound B was not targeted for this season. Although, surface collections were retrieved from various locales on the site, including Mound B. I acknowledge that there are many problems with the reliability of surface collection being accurately representative, so those results maintain a periphery role. The field school managed to hit the bottom of Mound C which suggests mound construction began during the Panther Lake phase. However, due to the small number of examples found there could be any number of reasons for their existence at the site. For instance, they may be from an heirloom pot. As with Mound A and the South Plaza there seems to be a construction peak occurring throughout the Sundown phase. Yet, like Mound A as well, the unit location may have
effected the occurrence of later type-varieties. The field school also hit the bottom of the South Plaza. Although, accumulation has occurred over a long period of time there appears to be two distinct episodes of “high traffic” inhabitance, once during the Sundown phase and another during the Anna phase. The author acknowledges that more data needs to be collected in order to confidently draw these conclusions. So, after plain sherds are thoroughly analyzed and drawn the next eventual step is to combine stratigraphic location with type-varieties and phase thereby determining a possible time frame for when each layer of the mounds and plaza was in construction and/ or in use.

Works Referenced


The Legacy of the Junior Archeological Society on Lower Mississippi Valley Archaeology

Ashley L. Terry

The Junior Archeological Society of Baton Rouge, which operated from 1959 through the mid-1970s, afforded middle- and high-school students an opportunity to learn about anthropology, archaeology, history, and a wide range of other topics. The Society was sponsored by J. Ashley Sibley, Jr., an avocational archaeologist and teacher. He encouraged Society members to learn through research and practice – to this end, he led them on excavations of several Native American sites in Louisiana and Mississippi. Excavated materials were, in turn, exhibited in a museum of the Society’s own styling (eventually relocated to Sibley’s property at Grindstone Bluff). Though my project initially focused on the JAS’s main locus of excavation, Smith Creek site in Wilkinson County, Mississippi, I have since chosen to broaden its scope. I now aim to characterize the formation and operation of the Junior Archaeological Society, as well as the impact it had on its members. In doing so, I have consulted both former members and archival materials.

Though the Junior Archaeological Society (JAS) certainly had a measurable impact on the archaeology of the Lower Mississippi Valley, the title of this paper is not appropriately nuanced. A more fitting one would be, “The Legacy of the Junior Archeological Society on Lower Mississippi Valley Archaeology and the Reciprocal Effect of the Practice of the Latter on the Former”. Title issues aside, I hope that this paper will provide the reader with an understanding of the Junior Archaeological Society’s endeavors, archaeological, organizational, and otherwise. This project arose out of my participation in the Smith Creek Archaeological Project, which Dr. Megan Kassabaum led during the summer of 2015. Smith Creek site (22Wk526) is located in Wilkinson County, Mississippi, in the southwest corner of the state. It consists of three mounds (A, B, and C) flanking a central plaza, and dates to the Coles Creek period (approximately 700CE-1200CE). During the 2015 excavation season, the Smith Creek crew opened a total of four units on the site: one on Mound A, one on Mound C, and two in the site’s South Plaza.

Mound B, a burial mound, went unexcavated. Its surface still bore the scars of previous endeavors. These “scars” – a long, sloping trench along the mound’s North-South axis and a series of depressed areas on its summit – had been in place since at least the 1970s, when Jeff Brain and his team of archaeologists conducted the Lower Mississippi Survey (MMT Report 2013). The Mississippi Mound Trial Project noted again, in 2013, the presence of a “slumped area on the south side” of the mound as well as “a number of slumped areas on [its] summit” (MMT Report 2013). Their report attributed these trenches and pits to the Junior Archeological Society of Baton Rouge. The organization had attained, at this point, a semimythological status among archaeologists in the Lower Mississippi Valley – there was an “oral tradition” which incorporated stories of “Sibley’s Bugs” and their scientific misdeeds (Vin Steponaitis and David Floyd, pers. comm.)

Armed with this information, my task was the following: to understand precisely how (and, perhaps, why) the JAS excavated Smith Creek’s Mound B. Interviews with former JAS members seemed the most expedient method of gathering information, and so I set about building a contact list. Fortunately, Dr. Kassabaum was already in contact with one JAS alumna, Mrs. Ginny Benoist of Natchez, Mississippi. Other names – some half-remembered – were offered up by other archaeologists. The bulk of the preliminary list of names, however, came from the object bags filled out with provenience information by Society members. These bags (and the artifacts within) had been gathering dust in a small structure on Sibley’s family property on Grindstone Bluff. The structure had, at one point, served as the museum of the Junior Archaeological Society— in other words, a repository for the artifacts which the Society amassed and the projects they completed. It was also one of the focal points of the “Grindstone Bluff Museum and Environmental Education Center”, Sibley’s project following the JAS’s eventual dissolution. The hut had not been maintained and was falling down; Jeff Girard obtained...
permission to enter it in 2011. Salvageable materials, both archival and artifactual, were passed on to scholars (or, in the case of the skeletons that were recovered, the Louisiana Department of Justice). As previously insinuated, I made use of the object bags that traveled to the University of Pennsylvania.

Having built a list of names, I began to search for contact information (e.g., email addresses, phone numbers, and the like). In some cases, members whom I contacted had current contact information for their fellow alumni. In other cases, I had to rely heavily on Google and my own detective skills.

With contact information obtained, I began contacting former JAS members for interviews. Though I was sometimes able to begin conversations via email, there were several individuals whom I had to contact by telephone from the start (and what calls those must have been to receive). At the outset of the project, I planned to ask interviewees specific questions about the JAS’s involvement at Smith Creek; however, after conducting my first interview, I realized that predetermined questions were unnecessarily limiting. I formulated an interview model which I called the “bold narrative technique”, meaning that I oriented the interviewee to the goals of my project, asked her/him to tell me about her/his involvement, and then intervened as little as possible. The resulting narratives were organic rather than formulaic, and so I gained a greater appreciation of what JAS membership meant to each respective interviewee. Here, I felt the goals of my investigation shifting: rather than focusing solely on Smith Creek, I broadened its purview to include the Junior Archeological Society more generally.

In another unexpected turn of events, I was able to procure a sizable sum of archival materials relating to the operation of the Junior Archeological Society. Jeff Girard shared with me some of the materials he had been able to salvage from the JAS Museum at Grindstone Bluff. Former members – namely Randy Ellis and Janice Pierce – sent me materials as well. Among these archival materials were the Handbook of the Junior Archaeological Society, which was coauthored by J. Ashley Sibley, Jr. and his first wife, Zilda P. Sibley; several copies of The Junior Archaeologist, a mimeographed journal in which JAS members self-published their respective independent research projects; two editions of the Society’s Constitution; a packet of meeting minutes which illuminate the Society’s quotidian operations; and a handful of original photographs which show the JAS at work. In reviewing these materials and synthesizing them with interview data, I built a robust picture of the Society and its endeavors.

J. Ashley Sibley, Jr. and his successive wives were the driving force behind the Junior Archeological Society. All three individuals (J. Ashley, Zilda, and later Anna May) were educators at the elementary level in the Baton Rouge school system. The Society began in 1958 when a group of roughly twenty young boys approached Zilda, Sibley’s first wife, and asked if she and her husband would be willing to co-sponsor their envisioned organization (Randy Ellis, pers. comm.). Unfortunately, Zilda passed away in January of 1961 (Handbook of the Junior Archeological Society). Sibley remarried on February 1st, 1963 – meeting minutes reveal that the members of the Junior Archeological Society were invited to attend. At a JAS meeting shortly following their marriage, “…a celebration over the Sibley’s [sic] wedding was held with refreshments. Their wedding gift was given.” (Minutes 2/14/1963).

The Sibleys had “no children of their own, but they lavished attention on [members of the Society]” (David Britt, pers. comm.). Interviewees have stressed the amount of time and personal expense which the Sibleys devoted to the Society – in everything from teaching materials, to transportation costs. And, indeed, they were all gifted teachers and leaders. According to Janice Pierce, “The Sibleys were simply awesome people and incredible educators” (Janice Pierce, pers. comm.). Many accolades were directed at Mr. Sibley specifically: “…[Sibley] impacted many through his love of learning…He was an amazing man in many ways,” “…you ever see people that exude knowledge? And want to transfer it onto somebody? That’s how he was. And he did not care if it was a Saturday or Sunday, 10’o’clock at night” (Bill Mollere, pers. comm.; Randy Ellis,
pers. comm.).

The effort which the Sibleys (as well as each member) put into the Junior Archeological Society was appreciable. The Society kept a tight schedule: “We all join in regular meetings to learn more about our fellowman and plan out activities. Regular meetings are 7:00-to-9:00 p.m. …every other Thursday. Expeditions are usually once per month on Saturdays” (Handbook of the Junior Archeological Society). Society members, who ranged in grade level from sixth to twelfth, were responsible for the majority of expedition and meeting planning. Elected officers – including the Chief (President), the Shaman (Vice-President), and the Trailblazer (Expedition Chairman), among others – were variously charged with the duties of scheduling guest speakers for meetings, presenting preparatory information for upcoming expeditions, and publicizing the Society’s endeavors (Constitution of the JAS, 1961).

Members also participated in Louisiana’s state science fairs. They wrote reports based on independent research and, in some instances, built displays and dioramas to showcase their findings (David Britt, pers. comm.). The Sibleys, along with other members, offered constructive criticism throughout project-building process. This careful scrutiny probably explains why “…the Junior Archeological Society…[mopped] it up by comparison [to other competitors]” (Janice Pierce, pers. comm.). After the science fairs, these displays frequently made their way into the Society’s Museum (and, in fact, some were recovered at Grindstone Bluff). An officer termed the “Museum Curator” was in charge of arranging and accounting for these cases and all other Museum objects.

JAS members were held to high standards of scholarship and conduct; it is fitting, then, that each prospective member was required to “…complete a six-week working test period and take the necessary training to prepare [her/him] to be a member in good standing” (Handbook of the Junior Archeological Society). This training period encompassed instruction on Lower Mississippi Valley history and archaeology, as well as on the practice of archaeology itself. Society guidelines also encouraged candidates to practice good etiquette, self-respect, respect for others, and the like. This instruction emphasized, at every turn, the Society’s motto: “Knowing the past…betters the future!”. The highlight of membership in the Junior Archeological Society was, according to many of my interviewees, the expeditions. Members visited sites throughout Mississippi and Louisiana, along with some in neighboring states: Little Stave Creek, a paleontological site in Alabama; Poverty Point, a Louisiana site which has since become a World Heritage Site; and Sibley’s own property at Grindstone Bluff (which he called Sibleyshire). The Society also ventured to Mexico a handful of times throughout its existence – members recall being able to “clamber[…] all over [historic sites] with no restraint whatsoever, from Teotihuacan to many others” (David Britt, pers. comm.).

Though the Mexico trips were exciting, Society members always looked forward to returning to their “home base” – Smith Creek. The first volume of The Junior Archaeologist describes the site’s constituent structures as "...a great truncated temple mound, a large burial mound, and another mound which may be a habitation mound of a chief" (The Junior Archaeologist). These mounds, particularly the burial mound, were “a treasure-trove for the young archeologists, and [provided] a practical lesson in the science of archaeology” (The Junior Archaeologist).

The young excavators had, as it turned out, observed proper archaeological procedure to the best of their ability. Additionally, Sibley made a point of emphasizing the importance of backfilling trenches and pits. So how might we explain the aforementioned “scars” on the surface of Mound B? As it turns out, pothunters had also been visiting the mound. Janice Pierce’s field notebook placed the first instance of this destruction in 1970: Randy Soileau, who succeeded Janice, noted that “...in the final years at Smith Creek [they] seemed to be competing with […] pot hunters who would obliterate the burial mound between [their] trips” (Janice Pierce, pers. comm.; Randy Soileau, pers. comm.).

On a lighter note, the Junior Archeological Society also made use of Mound C – the “temple mound. It was their locus of new member induc-
tion and officer installation rituals. As part and parcel of these rituals, members wore their own hand-made “Indian attire”, including headdresses and breechcloths. It is clear that Smith Creek was important to the Junior Archeological Society – we should, perhaps, refrain from writing off their excavations at the site so quickly.

The scope of this project was, as I have previously stated, much broader than I originally intended. It was very valuable, I believe, to contextualize the Society’s work at Smith Creek within the larger sphere of its operations. The Society was one of very few avenues through which middle- and high-school-aged children could learn about (and practice) social sciences. The Sibleys instructed JAS members in a way which was both informative and memorable – that interviewees were able to recount in detail their experiences in the Society is a testament to this fact. It is simple, perhaps, to brush off the Junior Archeological Society as a coalition of haphazardly-digging “bugs” – especially if one looks only to the damage on Smith Creek’s Mound B. However, to do so would be to sell the Society short.

*May the Great Spirit grant that we, as brother Junior Archeologists, go forth and spread what we have learned, and encourage others to join with us in sharing the great adventure of “knowing the past – to better the future”.*
Smith Creek Lithic Tool Analysis

Ben Reynolds

Background:
This paper discusses my analyses of the lithic artifacts gathered from excavations from the Smith Creek site between May and June 2015. Smith Creek is a Coles Creek period mound site located in Southwest Mississippi which consists of three mounds surrounding a central plaza and was occupied between 700-1300AD (Kassabaum et al, 2014). Coles Creek culture is associated with the transition between the Woodland and Mississippi periods (Kassabaum et al, 2014; Kidder, 1992; Milner, 2004). This transition saw a good deal of social and technological changes such as the shift to more centralized political organization based on ascribed status, as well as the adoption of intensive maize cultivation in most (but not all) areas (Milner, 2004). Smith Creek and its contemporary sites could potentially yield evidence for how and why these transitions occurred.

My research is focused mainly on complete tools and tool fragments although I will pay some attention to production fragments as well. The majority of the tools were gathered from mound A, mound C, and the south plaza site areas of Smith Creek, although there were a few that came from surface collections from around the site. All of the complete tools and larger production fragments were collected by sifting soil samples through a ½” dry screen, smaller flakes and debitage were collected by sifting through a ¼” dry or wet screen. Upon returning to Penn the lithic materials were separated from non-lithic materials and bagged according to their respective site area, screen size, and type (tool, tool fragment, flake, debitage).

Totals of lithic materials:

Tools

<table>
<thead>
<tr>
<th>Site Area</th>
<th>Count</th>
<th>Weight (g)</th>
<th>Average (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mound A</td>
<td>10</td>
<td>45.4g</td>
<td>4.54g</td>
</tr>
<tr>
<td>Mound C</td>
<td>6</td>
<td>119.7g</td>
<td>19.83g</td>
</tr>
<tr>
<td>South Plaza</td>
<td>4</td>
<td>7.9</td>
<td>1.97g</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>2</td>
<td>1.8g</td>
<td>0.9g</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>174.8g</td>
<td>7.94g</td>
</tr>
</tbody>
</table>

Flakes ½” Screen

<table>
<thead>
<tr>
<th>Site Area</th>
<th>Count</th>
<th>Weight (g)</th>
<th>Average (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mound A</td>
<td>40</td>
<td>71g</td>
<td>1.785g</td>
</tr>
<tr>
<td>Mound C</td>
<td>27</td>
<td>36.3g</td>
<td>1.344g</td>
</tr>
<tr>
<td>South Plaza</td>
<td>82</td>
<td>135.2g</td>
<td>1.648g</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>21</td>
<td>37.9</td>
<td>1.804g</td>
</tr>
<tr>
<td>Total</td>
<td>170</td>
<td>280.8g</td>
<td>1.651</td>
</tr>
</tbody>
</table>

Flakes ¼” Screen

<table>
<thead>
<tr>
<th>Site Area</th>
<th>Count</th>
<th>Weight (g)</th>
<th>Average (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mound A</td>
<td>124</td>
<td>49.8g</td>
<td>.393g</td>
</tr>
<tr>
<td>Mound C</td>
<td>14</td>
<td>4.7g</td>
<td>.335g</td>
</tr>
<tr>
<td>South Plaza</td>
<td>45</td>
<td>14.8g</td>
<td>.328g</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>5</td>
<td>5.1g</td>
<td>1.02g</td>
</tr>
<tr>
<td>Total</td>
<td>188</td>
<td>74.4g</td>
<td>.395g</td>
</tr>
</tbody>
</table>

Debitage ½” Screen

<table>
<thead>
<tr>
<th>Site Area</th>
<th>Count</th>
<th>Weight (g)</th>
<th>Average (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mound A</td>
<td>56</td>
<td>322.8g</td>
<td>5.7g</td>
</tr>
<tr>
<td>Mound C</td>
<td>34</td>
<td>120.5g</td>
<td>3.5g</td>
</tr>
<tr>
<td>South Plaza</td>
<td>135</td>
<td>771g</td>
<td>5.7g</td>
</tr>
<tr>
<td>Mound B</td>
<td>3</td>
<td>40.9g</td>
<td>13.6g</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>30</td>
<td>155.8g</td>
<td>5.1g</td>
</tr>
<tr>
<td>Total</td>
<td>258</td>
<td>1,411g</td>
<td>5.4g</td>
</tr>
</tbody>
</table>

Debitage ¼” Screen

<table>
<thead>
<tr>
<th>Site Area</th>
<th>Count</th>
<th>Weight (g)</th>
<th>Average (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mound A</td>
<td>147</td>
<td>63.2g</td>
<td>.429g</td>
</tr>
<tr>
<td>Mound C</td>
<td>19</td>
<td>6.3g</td>
<td>.331g</td>
</tr>
<tr>
<td>South Plaza</td>
<td>39</td>
<td>19.4g</td>
<td>.497g</td>
</tr>
<tr>
<td>Elsewhere</td>
<td>5</td>
<td>4.7g</td>
<td>.94g</td>
</tr>
<tr>
<td>Total</td>
<td>210</td>
<td>93.6g</td>
<td>.445g</td>
</tr>
</tbody>
</table>
Next it was necessary to determine exact amounts and weights of each category of materials. I added up the total counts and weights of tools/tool fragments, flakes, and debitage and used that to determine the average weight of each tool or production remnant according to each site area. While I did this for materials that were gathered from both ½" and ¼" screens I focus most of my attention towards ½" materials for these purposes because ¼" screening was used at some site areas more than others whereas ½" screening was used more or less universally at each site area and would provide a more accurate picture of lithic use and production at each site area. This permits us to gain at least a superficial idea of the intensity of lithic use and manufacture at the site and make comparisons between each site area. The most immediate deductions one can draw by examining the data is that South Plaza appeared to have the most intensive tool manufacture compared to the other site areas given the considerably larger amount of production remnants such as flakes. Mound A and C on the other hand yielded the greatest number of complete tools and tool fragments.

The Tools:
Functional Types

<table>
<thead>
<tr>
<th>Bag #</th>
<th>Site Area</th>
<th>Level/Zone</th>
<th>Functional Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.2.3</td>
<td>South Plaza</td>
<td>1</td>
<td>Point Fragment</td>
</tr>
<tr>
<td>7</td>
<td>South Plaza</td>
<td>1</td>
<td>Unknown Biface</td>
</tr>
<tr>
<td>20.1.4</td>
<td>South Plaza</td>
<td>2</td>
<td>Point</td>
</tr>
<tr>
<td>20.3.4</td>
<td>South Plaza</td>
<td>2</td>
<td>Point Fragment</td>
</tr>
<tr>
<td>34.1.3A</td>
<td>South Plaza</td>
<td>3</td>
<td>Point</td>
</tr>
<tr>
<td>34.1.3B</td>
<td>South Plaza</td>
<td>3</td>
<td>Point</td>
</tr>
<tr>
<td>50.1.2</td>
<td>Mound A</td>
<td>4</td>
<td>Point</td>
</tr>
<tr>
<td>114</td>
<td>Mound A</td>
<td>6</td>
<td>(wall-cleaning)Point</td>
</tr>
<tr>
<td>121.1.2</td>
<td>Mound A</td>
<td>7</td>
<td>(possible broken point-scaper.)</td>
</tr>
<tr>
<td>215</td>
<td>Mound A</td>
<td>8</td>
<td>Point Fragment</td>
</tr>
<tr>
<td>216.1.2</td>
<td>Mound A</td>
<td>8</td>
<td>Point</td>
</tr>
<tr>
<td>217</td>
<td>Mound A</td>
<td>8</td>
<td>(wall-cleaning)Point</td>
</tr>
<tr>
<td>229</td>
<td>Mound A</td>
<td>8/9 interface</td>
<td>Biface Fragment</td>
</tr>
<tr>
<td>232</td>
<td>Mound A</td>
<td>9</td>
<td>Scraper</td>
</tr>
<tr>
<td>8</td>
<td>Mound C</td>
<td>1</td>
<td>Point Fragment</td>
</tr>
<tr>
<td>161</td>
<td>Mound C</td>
<td>7</td>
<td>Point</td>
</tr>
<tr>
<td>185</td>
<td>Mound C</td>
<td>8</td>
<td>Awl</td>
</tr>
<tr>
<td>233</td>
<td>Mound C</td>
<td>11</td>
<td>Gorget Preform</td>
</tr>
<tr>
<td>238 A</td>
<td>Mound C</td>
<td>11</td>
<td>Unknown Preform</td>
</tr>
<tr>
<td>238 B</td>
<td>Mound C</td>
<td>11</td>
<td>Point</td>
</tr>
<tr>
<td>241</td>
<td>SE corner of site</td>
<td>Surface</td>
<td>Point</td>
</tr>
<tr>
<td>242</td>
<td>NE corner of site</td>
<td>Surface</td>
<td>Unknown Fragment</td>
</tr>
</tbody>
</table>
Once the lithic materials had been sorted and counted, I shifted my attention to determining a functional category for the tools that were mostly intact. This was of variable difficulty for each tool as there were some which were quite obvious such as points and other tools were especially ambiguous yet had clearly been worked. The majority of the tools recovered from all site areas were points, the types of which I will discuss later. Mound A yielded four intact points, two scrapers (the shape of one of which suggests it may have been a point reworked into a scraper), and two fragments. Mound C contained the largest lithic tools which were also of the greatest range of functions; one (likely) gorget preform, one ambiguous tool preform, one particularly large point, an awl, one point and one point fragment. The two preforms are significant because they are evidence of on-site tool manufacture, particularly since they were found at or near midden layers. Finally the South plaza yielded three intact points, two point fragments, and a biface fragment. There were also two objects found at the surface throughout the site, one point was found at the Southeast corner of the site, and a tool fragment was found at the Northeast corner of the site.

Point typing is particularly important because of the large proportion of tools which are points that were found at the site and because the distinct stylistic features of points provide a means comparing them to point types associated with particular cultural periods. Of the intact projectile points, all but one appear to be of a type associated with the Late Woodland period which is in agreement with the suggested occupation period of approximately 700-1300ya. The lone exception is a late-archaic point that was found in the south plaza, which is indicated by its larger size, ovate-triangular blade, and side notching (McGahey, 2000; DeMasi, 2013). Given its position in a fill level this can easily be attributed to being a product of mound construction; the point was likely dug up along with soil from elsewhere and deposited at the site as fill.

Of the Woodland points, the most common type were Collins points of a few different sub-varieties. The broader characteristics of these points are narrow triangular blades, side notching, and expanding stems (McGahey, 2000; DeMasi, 2013) their classification as particular sub-varieties are dependent pri-

### Point Types

<table>
<thead>
<tr>
<th>Bag #</th>
<th>Site Area</th>
<th>Level/Zone</th>
<th>Type</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>20.1.4</td>
<td>South Plaza</td>
<td>2</td>
<td>Delhi</td>
<td>Late-Archaic</td>
</tr>
<tr>
<td>20.3.4</td>
<td>South Plaza</td>
<td>2</td>
<td>Morris</td>
<td>Late-Woodland</td>
</tr>
<tr>
<td>32.1.3A</td>
<td>South Plaza</td>
<td>3</td>
<td>Alba</td>
<td>Woodland</td>
</tr>
<tr>
<td>32.1.3B</td>
<td>South Plaza</td>
<td>3</td>
<td>Collins-Serrated</td>
<td>Late-Woodland</td>
</tr>
<tr>
<td>50.1.2</td>
<td>Mound A</td>
<td>4</td>
<td>Catahoula</td>
<td>Late-Woodland</td>
</tr>
<tr>
<td>114</td>
<td>Mound A</td>
<td>6</td>
<td>Collins-Serrated</td>
<td>Late-Woodland</td>
</tr>
<tr>
<td>216.1.2</td>
<td>Mound A</td>
<td>8</td>
<td>Collins-Clairborne</td>
<td>Late-Woodland</td>
</tr>
<tr>
<td>217</td>
<td>Mound A</td>
<td>8</td>
<td>Marcos</td>
<td>Late-Woodland</td>
</tr>
<tr>
<td>161</td>
<td>Mound C</td>
<td>7</td>
<td>Uncertain</td>
<td>Uncertain</td>
</tr>
<tr>
<td>238B</td>
<td>Mound C</td>
<td>11</td>
<td>Collins (?)</td>
<td>Woodland (?)</td>
</tr>
<tr>
<td>241</td>
<td>SE corner of site</td>
<td>Surface</td>
<td>Scallorn</td>
<td>Late-Woodland</td>
</tr>
</tbody>
</table>
marily on the shape of the blade however it has more recently been proposed however that these different varieties are more accurately described as representing different stages of reductions (DeMasi, 2013). Other Late Woodland types that were common were wide-triangular blade varieties such as Catahoula, Marcos, Morris, and Scallorn types (McGahey, 2000; DeMasi, 2013). One notable find is a large heavy Collins variety point found in Mound C (238B), it is much too large and heavy to be an effective projectile point so it is likely this was meant to be used with a hand-thrust spear. It is important to consider the possibility given the context in which the point was located (level 11, close to a midden layer) that it only on superficially resembles a Collins point and is a considerably earlier type of point. It was also located on the same level as two rejected tool preforms so it possible that this is also a rejected point.

Interpretation:

Lithic artifacts are generally a rarity at Coles Creek period sites given the relative scarcity of raw materials (Kidder, 1992). However at Smith Creek they have so far been relatively abundant. Considered along with the presence of tool preforms and a large amount of flakes anddebitage it would be fairly appropriate to conclude that tool manufacture was occurring on-site. It is not likely the preforms would have originated elsewhere and been deposited on site as mound fill, because they were found at or near midden layers, which suggests that is where they would have been originally discarded. Given the lack of desirable sources for raw materials in the area, it would be interesting to learn from where the occupants of Smith Creek were acquiring their lithic materials. This could be a potential subject for further research. Additionally, aside from one (easily accounted for) lone exception all of the point characteristics correspond to types associated with the Late Woodland period, which is in agreement with the proposed dating of the site.

Works Referenced


